



**MIRADOR COPPER-GOLD PROJECT**  
**30,000 TPD FEASIBILITY STUDY**

Zamora-Chinchipe Province  
Ecuador

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## **1.0 SUMMARY**

### **1.1 General**

This National Instrument 43-101 compliant study reports the economics of mining the Mirador deposit using current capital cost estimates and waste-dump, pit shell, and tailings management facility (TMF) designs revised from those described in the most recent Feasibility Study on the project, written by SNC-Lavalin ("SNC") for Corriente Resources Inc. ("Corriente") in 2007. Most significantly, the process plant throughput has been upgraded to 30,000 tonnes per day (tpd). The objective is to provide a current summary and statement of in-pit resources for the Mirador Project, which will supercede previous reports by AMEC (2005) and Sivertz et al. (2006a and b).

There are several items relating to the mine plan that require additional field testing and engineering work to meet Feasibility-level standards. These items lack the detail of the other elements of the project because work in the study area was suspended in late 2006. They include the costs and capacities of the waste dumps, costs and construction requirements of the haul roads outside of the pit limits, and certain geotechnical characteristics of the saprolite within the project area.

The study is compliant with international social and environmental standards and identifies options that would optimize the stakeholder returns and provide social and economic benefits to the communities in the region.

### **1.2 Property Description and Location**

The Mirador porphyry copper-gold deposit is located in the province of Zamora-Chinchipe, in southeast Ecuador. The concessions are approximately 340 km south of Ecuador's capital city of Quito and 70 km east-southeast of the city of Cuenca. The eleven concessions are in two blocks and cover an area of 9230 hectares. The claims are registered with the National Directorate of Mining and have not been legally surveyed.

The area has a wet equatorial climate with a reported rainfall of 2,300 millimetres (mm) per year. The elevations of the property range from about 800 to 1,800 metres above sea level (masl). The property supports second-growth tropical forest, although there are numerous clearings at lower elevations.

### **1.3 Geology and Mineralization**

The copper-gold-silver mineralization of the Mirador deposit is hosted by Late Jurassic granite and porphyries of the Zamora Batholith. Mineralization is mainly disseminated and fine-fracture controlled chalcopyrite with supergene chalcocite increasing copper grades within an enrichment blanket of variable thickness. The host rock within the mineralized zone is mainly equigranular Zamora granite/granodiorite, with some minor leucogranite dikes along the west and southwest margins, and rare diabase dikes up to two metres in width. The oldest porphyritic rocks that intrude Zamora granite within the limits of the Mirador deposit are trachytic hornblende-feldspar dikes. Off-centre of the mineralized system is a large vertical diatreme of breccia (unit "brmn") composed of angular fragments of the early porphyry dikes, Zamora



granite, and quartz-vein fragments. Post-mineralization, northeast-striking, northwest-dipping hornblende-feldspar porphyry dikes (unit “Jhbp”) cut the breccia and the wall rocks of the deposit. The youngest rocks are post-mineral hydrothermal breccia dikes and irregular diatremes (unit “brpm”). These breccias are characterized by a polymictic clast assemblage of mineralized and unmineralized rock.

#### **1.4 Exploration History**

Corriente has carried out exploration on the Mirador property since April 2000. The work completed includes geological mapping, geochemical soil sampling, rock chip sampling, and the completion of 36,284 m of core drilling in 143 diamond drill holes in three main programs. Corriente, through its wholly-owned subsidiary company in Ecuador, EcuaCorriente S.A., holds a 100% interest in the Mirador property, subject only to a 2% Net Smelter Royalty interest (“NSR”) held by BHP Billiton in the Mirador deposit.

#### **1.5 Resource Estimation History**

The Feasibility Study of AMEC (2005) developed a mine plan based on a mining rate of 25,000 tpd and 111 million tonnes (MT) of in-pit resources grading 0.67% Cu and 0.22 grams per tonne (g/t) Au, using the resource estimate of Lomas (2004) as a basis. It was estimated 91 MT of waste rock would be removed over the 12-year mine life, resulting in an average strip ratio of about 0.8:1. The mine life was limited so that the capital costs were kept down to a level that would be within the development scope of a medium sized mining company.

In the fourth quarter of 2005, Corriente retained Mine Development Associates (“MDA”) of Reno, Nevada to prepare a current mineral resource estimate that would incorporate the new data from the fifty-two additional drill holes completed in 2005 into the resource model and mine plan previously reported by AMEC (2005). Corriente compiled the drill-hole and surface data and constructed the geological model solids used for the estimation.

MDA completed the current resource estimation in May 2006 (Sivertz *et al.*, 2006a) and also conducted pit optimization studies and an in-pit resource estimate. MDA reported Measured and Indicated Mineral Resources of 437,670,000 tonnes grading 0.61% Cu, 190 parts per billion (ppb) gold, and 1.5 parts per million (ppm) silver, at a 0.40% copper cut-off grade. Additional Inferred Mineral Resources, also at a 0.40% Cu cut-off, were estimated as 235,400,000 tonnes grading 0.52% Cu, 170 ppb gold, and 1.3 ppm silver.

Based on the pit optimization studies, MDA estimated in-pit resources for Mirador at 347 MT at 0.62% Cu, 0.196 g/t Au, and 1.57 g/t Ag. These resources are contained within designed pits, which include haul roads, ramps and use variable pit slopes based on geotechnical studies. Measured and Indicated materials were allowed to make a positive economic contribution, and Inferred material was considered waste.

The significant change from the AMEC feasibility was an increase in pit size (111 MT to 347 MT), which was the result of not limiting the mine life. The mine life for the 347 MT scenario would be 39 years at 25,000 tpd, or 22 years if the milling rate is increased to 50,000 tpd in Year 6 of operations.

Most recently, in early 2007, MDA recalculated in-pit resources of 181 MT based on a 27,000 tpd milling rate over a 19-year mine life (SNC-Lavalin, 2007). The in-pit resources were limited again to 181 MT to keep capital costs down. As before, only Measured and Indicated materials were allowed to make a positive economic contribution, and Inferred material was considered waste. The 181 MT of ore would grade 0.62% copper, 0.2 g/t gold, 1.6 g/t silver, and would be mined at a 0.8:1 strip ratio.

### **1.6 Current In-Pit Resource and Mine Plan**

Moose Mountain Technical Services ("MMTS") was asked by Ecuacorriente S.A. ("ECSA") to develop a mine plan, production schedule, mine operating costs and mine capital costs for the Mirador deposit based on the previous MDA work for the 181 MT mine plan, but at an increased milling rate of 30,000 tpd, and adopting the preliminary waste dump designs from Piteau. ECSA is the owner of the Mirador Project and is a wholly-owned subsidiary of Corriente.

The in-pit mine resources are listed below in Table 1-1:

**Table 1-1: In-Pit Mine Resources**

Total Ore	k-tonnes	180,981
Cu Grade	%	0.62
Au Grade	ppb	199
Ag Grade	gm/t	1.63
Total Waste	k-tonnes	145,820

There will be three pit phases and the final stripping ratio will be 0.8:1. First production occurs at a location within the Phase 1 design, where ore is exposed from pre-stripping and copper grades are high to maximize cash flow in the initial years. At the higher milling rate, the mine life will be 17 years, not including the pre-production period in Year 0 and 1. Annual production over the first 10 years of the mine life will average 11 MT of concentrate, containing 137 Million lbs of copper, 34,000 oz gold, and 394,000 oz silver.

### **1.7 Mineral Processing and Metallurgy**

A significant amount of metallurgical test work has been completed on mineralized samples from the Mirador deposit since 2001, including supportive bench-scale flotation test work, mineralogical modal analysis, and Bond ball mill work index test work.

The Bond ball mill work index averages 14.5 to 15.6 kWh/t and ranks the ore in ball milling as medium in hardness relative to other copper porphyry ores, with relatively low variability.

As a result of the SGS Lakefield grinding and throughput simulations at 30,000 tpd, an 80% passing feed size of 176 microns was used to as the primary grind for the flotation feed. The grind-recovery relationship at several grind sizes on the four variability composites "super

composites” based on data from the “An Update on Metallurgical Testing of Mirador Ores” report, prepared by SGS Lakefield for ECSA in September, 2004 indicated an average copper recovery of 89.7% and an average gold recovery of 46.3% to the final copper concentrate would be expected. A silver recovery was estimated to be 67% from the 2004 SGS Lakefield testing using the average copper concentrate weight and silver grade produced by the four variability “super composites” SGS locked cycle tests and head assays.

Concentrates produced are predicted to average 29.5% Cu, 4.9 g/t Au and 58 g/t Ag. Levels of detrimental elements in the concentrates were below the limits for which smelter penalties would be applied.

### **1.8 Process Design and Material Handling**

The major unit operations are the primary crusher, SAG and ball mill grinding with a pebble crushing plant, flotation and regrinding, concentrate thickening and filtration. Processing operations are scheduled to process a nominal throughput of 30,000 tpd copper ore. The basis for nominal mill throughput is estimated using the instantaneous maximum grinding circuit design forecast tonnage of 36,000 tpd combined with 92% availability typical of a SAG mill and ball mill circuit less a 10% compensation factor to accommodate expected ore variability.

The flotation circuit consists of one rougher-scavenger bank, regrinding and three cleaner flotation stages for the grinding circuit product. To accommodate the possibility of a future process plant with a 60,000 tpd capacity, the crusher and overland conveyor were identified as areas which would require additional equipment.

Fresh water is provided by an intake on the Rio Wawayme through to a fresh-water head tank at a maximum of 120 l/s. Reclaim water is provided from the tailings pond reclaim barge to a reclaim water head tank at a nominal 700 l/s. A solid reagent storage and preparation plant is included.

Copper concentrate production is expected to average 29.5% Cu, 4.9 g/t of Au and 58 g/t of Ag. A total of 2,208 million lbs of copper and 535,500 oz of Au would be recovered to the copper concentrate over the mine’s life. The wet copper concentrate will be transported 418 km, over mostly paved roads, by trucks with 32 MT capacities to the port of Machala on the Pacific Coast.

### **1.9 Mine Infrastructure**

The Mirador Copper Project’s camp would include housing for a peak of approximately 220 live-in employees, housed at an onsite camp. Local labour and workers from outside the area would use either the public transportation system, or a private system funded by the company, to travel to the Mirador Project property. Fresh water for the camp would be obtained from one of the local aquifers.

ECSA has completed engineering designs for a bridge to span the Rio Zamora where the current ferry crossing is located. A barge capable of 100 tonne loads will be built prior to construction and used to transport some of the mining equipment to the site while the Rio

Zamora bridge is under construction. The access road from the project camp to the paved highway will have to be widened and resurfaced.

Access from the project area to the coast, through Loja, uses the national road system, which is paved and adequate for light loads. It will handle the concentrate trucks which are estimated to weigh 52 t gross. All bridges along the Loja route have been evaluated for the heavier construction loads that will initially come in to the project, and reinforcements have been planned where needed.

The closest airport is a military airstrip, about a 45-minute drive from the Mirador Project. It is tarmac, 2,075 m long and is capable of being used by Hercules and 737 type aircraft.

### ***1.10 Tailings Management Facility***

Two separate tailings streams will be produced: the geochemically innocuous Rougher tailings, which account for approximately 87% of the tailings, and the potentially acid-generating Cleaner tailings, which account for the remaining 11%. Approximately 2% of the ore will be recovered as concentrate.

For the initial 6 years of operation both tailings streams will be stored in the Rio Quimi TMF, adjacent to the Mill. The Rougher tailings will be redirected to the Pangui TMF in Year 7 of operations, approximately 10 km from the Mill, through a pipeline laid alongside the Rio Quimi. The Cleaner tailings will continue to be discharged into the Rio Quimi TMF, where they will be maintained beneath the supernatant pond, to mitigate any potential for oxidation.

The starter embankments for both facilities and the basin liner at the Rio Quimi TMF will be constructed from low permeability local borrow (Residual Soil). The initial construction for the Rio Quimi TMF will be completed using the Mine Fleet. Ongoing embankment raises will preferentially use the sand fraction of the Rougher tailings, obtained by cycloning at the TMF, or else using local borrow placed by a Contractor. The cyclone overflow, and bulk Rougher tailings during periods when cyclones are not operating, will be discharged directly into each TMF from multiple points around the confining embankments.

A Feasibility Design Report for the tailings facilities (KP Ref. No. VA201-78/09-6) has previously been completed for the 27,000 tpd mine plan. The results of geotechnical investigations carried out in 2006 at the Rio Quimi TMF site, and in 2005 at the Pangui TMF site, are included as part of the above referenced feasibility report.

A TMF Risk Assessment identified the most significant risks relating to construction of the initial Rio Quimi TMF as (1) the availability of material suitable for construction of the Rio Quimi TMF; (2) unexpected foundation conditions at the TMF site during construction; (3) unusually poor weather during construction and (4) unsatisfactory Contractor performance. During ongoing operations, the greatest risks for tailings management are seen to be (1) failure of the waste dump(s) upslope of the Rio Quimi TMF; (2) acid rock drainage developing in the waste dump(s) and impacting site water quality; (3) rupture or leakage from the pipelines and pump station that are established in the Rio Quimi River corridor and (4) failure of the bridge crossing on which these pipelines are carried across the Rio Zamora to the Pangui TMF.

### **1.11 Concentrate Handling, Transportation, and Marketing**

Mirador concentrate production is estimated to average 563 tpd on a dry basis or 620 tpd on a wet basis, during the life of mine. The concentrate will be hauled 418 km via trucks to the Pacific coast. The concentrate haulage trucks will haul an average of 32 t of wet concentrate per trip, with a gross weight including the truck at about 52 t.

The port of Machala was selected because it satisfied the criteria of low cost and convenient access. The key advantages of this location include a large buffer zone between the port facilities and the community, the potential for additional development and construction of two new road accesses paid for by the government, a history of industrial use for permitting purposes, and relatively little dredging would be required as compared to port requirements in Guayaquil.

The port facility will be developed for a loading rate of 1 000 t/h and storage capacity of 15 000 t of concentrate. A small laboratory will be located on-site for quick testing of the concentrate for critical physical and chemical properties.

The specifications of concentrate from the Mirador porphyry copper-gold deposit are provided in Table 1-2. The concentrate is free of deleterious elements and has copper, sulphur, gold and silver contents that make it saleable to all smelters and desirable as a blending concentrate. Typical filter press moisture content for a fine-grind, porphyry-copper concentrate is usually between 9 to 9.5% by weight. It is estimated the concentrate moisture from the filter press will be 9.2%. The transportable moisture limit of the concentrate was measured by SGS at 10.9%.

**Table 1-2: ECSA Copper Concentrate Quality - Mirador (Dry Basis)**

<b>Parameter</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Average</b>
Cu, %	30	25	29.5
Fe %	32	25	29
S, %	35	26	32
Au, g/t	1.3	0.5	0.8
Ag g/t	62	35	48

### **1.12 Power Supply**

The electrical demand of Mirador Copper Project is estimated at 28.8 MW and 205 GWh/a. The average total energy cost for hydroelectric power is typically around \$0.057/kWh. ECSA is analyzing multiple Power Purchase Agreement (PPA) options with both private and public hydroelectric power suppliers.

The power required can either be purchased from an existing hydroelectric generator, or can be supplied by a project developed for the mine. Approximately 50% of Ecuador's power demand is supplied by hydroelectric generation and it is the least expensive form of energy commercially available in Ecuador. Many promising hydroelectric projects have been identified, in addition to those currently operating. Several are located near the Mirador Project. Corriente reports that

its strategic power plan includes utilizing low cost, environmentally friendly, and readily available hydropower to supply the Project's power demand.

Whether Corriente develops its own hydroelectric project or purchases power from an existing hydroelectric generator, the strategy is to interconnect with the Ecuadorian electrical grid: *Sistema Nacional Interconectado* ("SNI"). This allows the mine to purchase power from an alternate source should the primary source be unavailable, and allows the sale of excess energy in the case of a Corriente owned hydroelectric plant.

The conceptual design for the interconnection from the project to SNI is a new 111 km, 230 kV transmission line that would connect Sinincay with the substation at the project site. The transmission-line route follows an existing 138 kV transmission line connecting Cuenca to Limón, and then continues south to the project site. Sinincay is directly connected to the Paute generating complex through Zhoray at 230 kV and is one of the strongest, most stable SNI interconnections in Ecuador.

### **1.13 Closure Plan**

The closure plan will lay out the closure measures and estimated closure costs as input to the project feasibility study. It will form part of the Environmental Impact Assessment to indicate the post-mining reclamation activities that will mitigate potential environmental impacts. In general, site reclamation objectives will include the following:

- Protection of air, surface water, groundwater, flora, and fauna;
- Protection of public and worker health and safety;
- Restoration of wildlife habitat;
- Design and restoration of a post-mining topography that is comparable with pre-mining conditions;
- Restoration of the area in an aesthetically acceptable manner that generally blends within the surrounding habitat; and
- Establishment of post-closure vegetation that is suitable and comparable to pre-mining conditions.

The open pit mine will be allowed to fill with water when mining operations cease. Waste dumps will have a cap of impervious material applied as soon as final surfaces are created, at which time they will also be vegetated. The tailings impoundment facilities will be designed such that upon completion of the mining operations, the tailings surfaces will be made trafficable and the potential for wind and water erosion minimized. This existing water quality monitoring plan will form the basis of an environmental management and environmental effects monitoring plan during and after the life of the operation.

Closure activities after the end of mine life will also include removal of all facilities and infrastructure that is not planned to be left for other uses or is needed for post-closure maintenance, and reclamation of all disturbed areas.

### **1.14 Environmental and Permitting**

Two major types of licensing vehicles exist for Ecuadorian mine projects (1) Permits/Licenses/Permissions (generally referred to as “permits”), and (2) Environmental Impact Assessments (EIAs). Both permits and EIAs are required for a typical open pit mine operation in order to move from exploration through operations and closure.

Both the exploration phase and the operations phase of the project require approved EIAs. Various permits may be required for exploration. Exploration operations that propose to use significant surface or ground water resources during drilling, divert water for use, build roads etc. would require permits to address activities.

Of the total 39 permits identified as being necessary to commence activities, four (4) are considered Priority Permits (Table 1-3). Priority Permits would likely be required of most major mine operations.

**Table 1-3: List of Priority Permits Required for a Major Mine Project in Ecuador**

No.	PERMIT	GRANTING INSTITUTION	APPROVAL TIME/STATUS	REMARKS
1	Environmental License (EIA and risk analysis approved)	Ministry of Mines and Petroleum, if the Project is not in Protected Areas, National Parks, Forest Reserves, in this case is the Ministry of Environment.	Up to 60 days, can take almost a year.	The Environmental Licenses is submitted once the EIA is approved and the license fees have been paid.
2	License of forest Wood use	Ministry of Agriculture (MAG). Ministry of Environment (ME)	Up to 30 days in MAG and up to 45 days in ME; Applications submitted;	In the case of MAG, they need Environmental Plans approved.
3	Water concessions	National Council for Hydrological Resources (Consejo Nacional de Recursos Hídricos)	Up to 180 days	
4	Concession of water benefic right	National Council for Hydrological Resources (Consejo Nacional de Recursos Hídricos)	From 45 up to 90 days; permission granted	Any amendment must have prior authorization of the National Council for Hydrological Resources.

Under Ecuadorian Mining Law and Mining Environmental Regulations, the Ministry of Mines and Petroleum handles the environmental approval system for new mining projects.

The Mirador mining EIA and all supporting documents were submitted to the Ministry of Mining and Petroleum, or “MMP” (formerly known as the Ministry of Energy and Mines), in Quito, Ecuador, in December 2005. The EIA covered both the environmental aspects of proposed 25,000 tpd mining operations at Mirador, and community and social plans associated with the Mirador Project. This EIA did not include Mirador Norte. The Ecuadorian government approved the EIA on May 4, 2006 and the letter acknowledging receipt of the bond was received by the MMP on June 12, 2006.

Corriente submitted an amended EIA (EIAA) to the government on September 29, 2006, to allow for mill, tailings and dump location changes to the original mine plan. Subsequent public consultations were successful. In May 2007, the company was advised by the MMP that this amended EIA will require further study. It is currently being revised for re-submittal, and during this ongoing review process the company continues to operate under the terms of the original EIA.

Terrambiente, a Quito-based environmental firm, completed an environmental baseline assessment for the Mirador Copper Project in 2005. Baseline data collection commenced in March 2004 and collection of data from baseline sampling points continued until the project suspension in November 2006. Supplemental baseline data has been collected for much of the footprint of the revised 2006 mine plan presented in this report.

### **1.15 Socio-economic**

The principal needs of the population are employment and infrastructure development. The communities suffer from a constant migration of able workers to other more prosperous regions in the country, as well as overseas. Low levels of education and poor health care services also impact the region.

The Project would generate up to 1,200 jobs during the construction period and is expected to create annual employment of over 415 direct and almost 2,700 indirect jobs during the 20-year Project life.

In December of 2006 the project was suspended due to local social unrest. The company is endeavouring to resolve this issue with ongoing discussions with all levels of government and the local communities.

### **1.16 Capital Costs**

The initial capital cost of the Mirador Project is estimated at \$418 million, including working capital of \$19 million, and value added taxes (VAT) and duties. Total capital expenditures, which includes sustaining capital, working capital, closure costs, and related taxes and duties, are estimated at \$533 million. The majority of the estimated CAPEX costs expressed above are the product of 2006 blended dollars, with the exception of the TMF estimate, which was updated in 2007.

The initial mine capital cost estimate totals \$61.4 million (not including VAT), of which \$36.1 million will be for mine equipment and \$25.2 for pre-production, which includes site preparation and pre-stripping. Exclusions from the mine capital costs are water management costs, tailings dam and pond access and related activities, access to the plant site, access and installation of the crusher/ conveyor, and basic mine infrastructure.

For the purpose of this study, the 2006 mining equipment unit prices are used for consistency, and to simplify costs comparisons with other case studies. Current equipment pricing will be used in the next level of study.



Direct mining and GME cost in years 0 and 1 are pre-production capital costs, and include pre-strip 8 million tonnes, construction of the initial access road from the rock quarry (for road surfacing material) to plant site, initial ore and waste haul roads from Phase 1 pit, and site preparation of the Crusher Dump foundation. Mine equipment used for pre-production will be the owner's fleet, and will have to be purchased in advance.

The project will require two staged Tailings Management Facilities (TMF) and these will cost an estimated \$88.5 million. The initial, Rio Quimi TMF is estimated to cost \$38.2 million and is included in the initial capital costs, while the Pangui TMF is estimated at \$50.2 million and is included in the sustaining capital costs. KP reviewed the TMF cost estimates developed for the Mirador 27,000 tpd Feasibility Study and adjusted the costs to reflect the most recent 30,000 tpd mine plan. The costs were developed in 2006 assuming construction commencing in mid to late 2007. The contingency amount has been increased from 15% to 20% for this study, relative to the SNC Feasibility Study, to reflect the possible error introduced when scaling up to the new mine throughput.

Costs for the following systems were increased to correspond to the increased throughput:

- Tailings transport and discharge pipeworks
- Tailings booster pump station
- Cyclone sand plant
- Reclaim water systems
- Electrical power, and instrumentation and control

The costs were increased to accommodate the larger equipment sizes likely required for the higher throughput. The scaling factor was developed by considering the increased size of pumps, pipelines, and fittings while maintaining similar slurry velocities and pressure ratings.

### **1.17 Operating Costs**

The life of mine (LOM) mining operating costs are estimated at \$474 million, including initial pre-production costs, direct costs, and general maintenance and engineering. The LOM mining operating costs are \$2.48 per tonne of mill feed and \$1.41 per tonne for all material (waste plus ore). Mine operating costs are derived using MDA and MMTS labour and equipment data cost estimates.

The Mill operating costs are estimated to be \$2.46 per tonne of ore processed and tailings management costs are estimated to be \$0.48 per tonne of ore processed. The major changes in the operating costs for tailings management were driven by increased power requirements and accelerated earthworks construction schedule. Minor adjustments were also made to the schedule for equipment maintenance and replacement costs.

Operating costs for the mine, mill, and tailings areas are exclusive of “expat” and management labour costs, which are included in the G&A component of \$0.86 per tonne of ore. The total operating costs for the Life of Mine (LOM) will be \$1.2 billion, or \$6.44/t ore. By considering additional local IVA Tax, the total unit operating costs will be \$7.05/t ore.

The average operating cash cost net of co-credits; inclusive of BHP royalties, smelting, marketing and transportation, and non-asset taxes, is \$0.835 per pound of copper produced over the LOM.

### **1.18 Economic Evaluation**

In this Feasibility Study, un-hedged pricing assumptions for Life of Mine of \$1.75 US/lb for copper, \$550 US/oz gold and \$7.50 US/oz silver are used for the economic evaluation (the “Base Case”).

The copper price used herein considers current market dynamics, three, five and seven year historical copper pricing, and financial and mining industry forecasts and views of future copper pricing. Corriente chose \$1.75 US/lb to remain conservative in its Life of Mine copper-pricing assumptions. The impact of variations to this pricing is reported in the sensitivity analysis details table in Section 19.

The financial outcome summary is presented in Table 1-4. A projected payback period for the Base Case scenario is four years. Using an 8% discount rate, the post-tax net present value (NPV) is \$265 million, and the post-tax internal rate of return (IRR) is 17.7%.

**Table 1-4: Financial Outcomes Summary**

<b>Pre-tax NPV</b> <b>(\$ '000s)</b>	<b>Pre-tax IRR</b> <b>(%)</b>	<b>Post-tax NPV</b> <b>(\$ '000s)</b>	<b>Post-tax IRR</b> <b>(%)</b>
391,542	21.3	265,016	17.7

### **1.19 Conclusions and Recommendations**

The Mirador Project shows positive economics based on the 30,000 tpd milling rate and associated mine plan presented in this report. A total of 181 MT of ore will be mined over approximately 17 years at a relatively low strip ratio of 0.8:1. The average grades will be 0.62% copper, 0.2 g/t gold, and 1.63 g/t silver.

Total capital expenditures for the project are estimated to be \$533 million, which includes initial capital, working capital, sustaining capital, and post-closure costs and taxes. Total operating costs are estimated at \$1.2 billion, which includes processing, mining, TMF, and G&A.

At an 8% discount rate, the after tax IRR will be 17.7% and the NPV will be \$US 265 million. The Project’s annual cashflow is summarized in Figure 1-1. The economics are most sensitive to copper price, as shown in **Error! Reference source not found..**

Figure 1-1: Mirador Project Cash Flow Summary

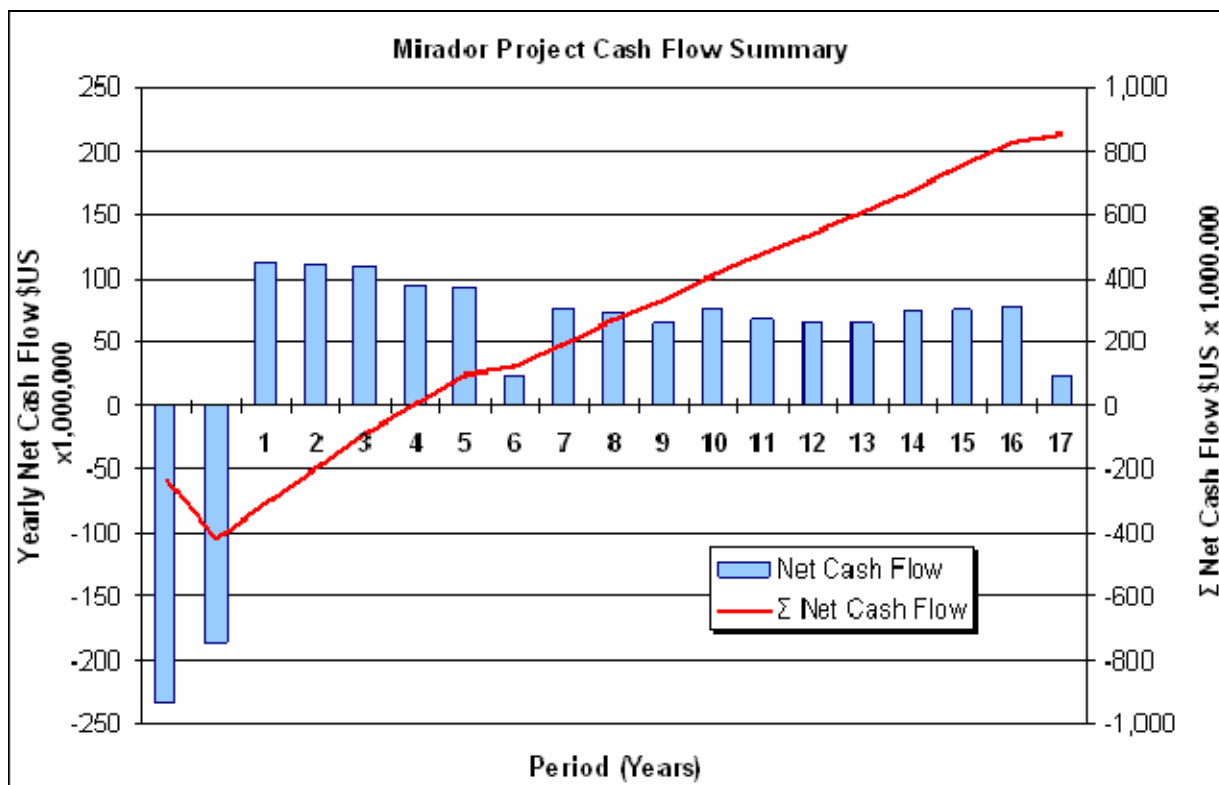


Table 1-5: Copper Price Sensitivity Analysis Details

Cu Price US\$/lb	NPV US\$ million	IRR %
1.25	(43,495)	6.1%
1.50	116,081	12.6%
<b>1.75</b>	<b>265,016</b>	<b>17.7%</b>
2.00	427,189	22.8%
2.25	592,672	27.5%
2.50	758,155	32.0%
2.75	923,638	36.3%
3.00	1,089,121	40.4%

The project has significant potential for expansion, based on currently defined resources at both the Mirador deposit and the neighboring Mirador Norte deposit, which is located three kilometres to the northeast but not included within the scope of this study, of 609 MT at 0.58% copper and 0.17 g/t gold, at a 0.4% copper cut-off. Additional Inferred resources for these two deposits together total 281 Mt at 0.52% copper and 0.15 g/t gold.

The current process design circuit can be expanded cost-effectively to 60,000 tpd by doubling the linear milling and flotation circuits and adding equipment to the crusher and overland conveyors.

An updated Feasibility Study will need to be completed before the project is developed, and a summary of recommendations is listed below to bring all elements of the current mine plan to the same level of design detail. These recommendations are estimated to cost \$3.25 million.

- 1) Increase the drill-hole density with angled holes in the area of the Phase 1 pit, to convert more resources to the Measured category.
- 2) Re-model the deposit and develop a partial block model using information from the new drilling described above.
- 3) Write a revised mine plan and production schedule based on complete, feasibility-level geotechnical studies on the waste dump areas, access roads, TMFs, and pit area hydrogeology.
- 4) Conduct additional metallurgical studies to further determine the optimum process for the enriched-zone resource.
- 5) Continue and expand the humidity cell test work, including more material from what will be the pit margins.
- 6) Continue gathering surface hydrological and climate data to monitor and generate a hydrological model for the basins containing the mine infrastructure.

Geotechnical and environmental studies and construction activities will resume on the site as soon as total access is granted by authorities.

## **2.0 INTRODUCTION**

### **2.1 *Scope of Study***

This study reports the economics of mining the Mirador deposit using updated capital cost estimates and revised waste dump, pit shell, and tailings management facility (TMF) designs, as well as increasing the milling rate to 30,000 tonnes per day from 27,000 tonnes per day. The objective is to provide a current evaluation of the project, which will supercede previous mine plan and economic studies by AMEC (2005) and MDA (2006).

This work summarizes those elements of the mine plan provided by MDA and included in the most recent Mirador Feasibility Study by SNC-Lavalin ("SNC") for Corriente Resources in 2007 that are not affected by the increased milling rate. There are several items relating to the mine plan and in-pit resources that require additional field testing and engineering work to meet Feasibility-level standards. These include the costs and capacities of the waste dumps, costs and construction requirements of the haul roads outside of the pit limits, and certain characteristics of the saprolite within the project area. These items lack the detail of the other elements of the project because work in the study area was suspended in late 2006.

### **2.2 *Project Description***

The Mirador porphyry copper-gold deposit is located in the province of Zamora-Chinchipe, in southeast Ecuador. Corriente Resources Inc. ("Corriente") engaged Moose Mountain Geotechnical Services ("MMTS") to provide a current mine plan based on a revised nominal milling rate of 30,000 tpd for the Mirador deposit. The resource estimates for this study, as well as the basic mine plan, are based on previous work by Mine Development Associates ("MDA") of Reno, Nevada using a milling rate of 25,000 tpd (Sivertz et al., 2006a and 2006b). Thus this study is based on a mineral resource estimate in compliance with the CIM Mineral Resource and Mineral Reserve definitions referred to in National Instrument 43-101 ("NI 43-101").

MDA reported Measured and Indicated resources of 437,670,000 tonnes grading 0.61% Cu, 190 ppb gold, and 1.5 ppm silver at a 0.4% Cu cutoff grade. Additional Inferred resources, also at a 0.40% Cu cutoff, were reported to be 235,400,000 tonnes grading 0.52% Cu, 170 ppb gold, and 1.3 ppm silver.

### **2.3      *Terms of Reference***

Several authors contributed to this report:

Robert Fong of MMTS prepared the sections on the mine plan, waste dumps, and other aspects of the mining operation. John Hoffert of Hoffert Processing Solutions ("HPS") prepared the sections on metallurgy, mineral processing, operating costs, and economic evaluation. Knight Piésold (KP) prepared the sections on water management and tailings facilities. Merit Consultants International Inc. ("Merit") reviewed the capital costs and provided editorial control.

MDA completed a NI 43-101-compliant resource estimate for the Mirador deposit in 2005, and also conducted pit optimization studies, in-pit resource estimation, and a review of the quality assurance/quality control procedures used by Corriente in the 2005 drilling program at Mirador. The sections of this report that discuss these studies (Sections 14, 17, and the pertinent sections of the Summary, Conclusions, and Recommendations) are based on the work done by MDA in 2005. John Drobe, P.Geo, Chief Geologist for Corriente, serves as the Qualified Person responsible for reporting the MDA resource estimate.

The basis for the process design for a throughput of 30,000 tpd was developed by SNC Lavalin Chile S.A. (SNC) and KP, and is included in Appendix 5G in the SNC Mirador Feasibility Study, available upon request from Corriente.

Neither MDA, KP, HPS, Merit, nor MMTS are associated or affiliated with Corriente or ECSA, or any related companies. Any fees paid to these entities for the work done and reported on in this Technical Report are not dependent in whole or in part on any prior or future engagement or understanding resulting from the conclusions of this report. The fees are in accordance with industry standards for work of this nature.

The report is also based in part on personal communications with Mr. Ken Shannon, P. Geo., C.E.O. of Corriente.

All currency is expressed in United States (US) dollars unless stated otherwise.

The coordinate system in use on the property and in all maps and references in this report is UTM zone 17 S, Provisional South American Datum (PSAD) 1956. The estimated costs in the Recommendations section include Ecuadorian taxes where applicable.

### **3.0 RELIANCE ON OTHER EXPERTS**

This preliminary assessment has been assembled by a group of consultants on behalf of Corriente with assistance and information from:

- Officers, contractors and employees of Corriente, including members of the ECSA staff in Quito, Ecuador.
- Reports and memoranda prepared for Corriente on operating costs, metallurgical information, offsite infrastructure, and environmental and socio-economic subjects

The independent Ecuadorian law firm of Trejo, Rodríguez y Asociados, Abogados Cia. Ltda. provided legal opinions on land tenure, environmental liabilities, and the status of permits.

This report contains opinions of the contributors that are based upon information available at the time of preparation. The quality of the information, conclusions and estimates contained herein is consistent with the intended level of accuracy as set out in this report, as well as the circumstances and constraints under which the report was prepared, and which are also set out herein.

This report is intended to be read as a whole, and sections should not be read or relied upon out of context.

## **4.0 PROPERTY DESCRIPTION AND LOCATION**

### **4.1 *Property Location***

The Mirador property is centered 10 km east of the Rio Zamora (Zamora River) in the Zamora-Chinchipec Province of southeast Ecuador, adjacent to the border with Perú (Figure 4-1). The concessions are approximately 340 km south of Ecuador's capital city of Quito and 70 km east-southeast of the city of Cuenca.

The center of the Mirador concession group has UTM coordinates 9,604,200 N and 785,000 E (UTM Zone 17S, Provisional South American Datum 1956). Nine contiguous concessions with an area of 8900 hectares (Ha) cover the mine area; and two concessions totaling 1030 Ha lie to the west and cover the Pangui tailings management area. The concessions are registered with the National Directorate of Mining and have not been legally surveyed.

Corriente is not aware of any historic mine workings or tailings within the Mirador mineral concessions.

### **4.2 *Mineral Tenure***

Billiton Ecuador B.V., now BHP Billiton ("Billiton"), began exploration in southeastern Ecuador in 1994 and registered concessions over a number of possible porphyry copper targets in the region. In April 2000, Billiton and Corriente entered into a joint venture agreement covering 230 sq km of mineral concessions in the southern part of the region, including the area of the Mirador property.

Under various agreements signed and completed with certain Ecuadorian subsidiaries of BHP Billiton Plc ("BHP Billiton"), the company has earned a 100% interest in BHP Billiton's mineral properties located in the Rio Zamora copper porphyry district in Ecuador, including the Mirador property. This required the issue of shares to BHP Billiton and the expenditure of exploration funds under the terms of these agreements. Additionally, the mineral properties are subject to a 2% NSR payable to BHP Billiton, though the company has options to reduce the NSR to 1% for the Mirador/Mirador Norte, Panantza and San Carlos mineral properties upon the payment of \$2 million to BHP Billiton for each such option exercised.

Corriente also entered into an exploration management arrangement where Lowell Mineral Exploration ("Lowell") could earn up to 10% of Corriente's interest in certain properties in exchange for managing the exploration of the properties. Corriente, in December 2003, granted Lowell the option to exchange its 10% interest in the Corriente mineral concessions, including Mirador, for a 100% interest in the Warintza property. In June 2004, Lowell exercised that option. Corriente, through its wholly-owned subsidiary companies in Ecuador, now holds a 100% interest in the Mirador property, subject only to the BHP Billiton NSR interest in the Mirador deposit.



Figure 4-1: Location Map



The location of the eleven individual concessions that make up the Mirador property is shown in Figure 4-2. The state code numbers, area in hectares, property registration dates and ownership of the Mirador concessions are as indicated in Table 4-1. The company listed in Table 4-1, Ecuacorriente S.A., is wholly owned by Corriente. The Mirador deposit is located along the boundary between the Mirador 1 and Mirador 2 concessions. Previously there were just six concessions in this block, but, in late 2006, they were subdivided and the Caya 36 concession was transferred to the Corriente subsidiary Minera MidasMine S.A. Ownership of Minera MidasMine S.A. was transferred to Corriente shareholders in a Plan of Arrangement transaction which closed June 18, 2007. Other changes to concession ownership between Ecuacorriente S.A. and ExplorCobres S.A. (another Corriente subsidiary) are outlined in Trejo (2008).

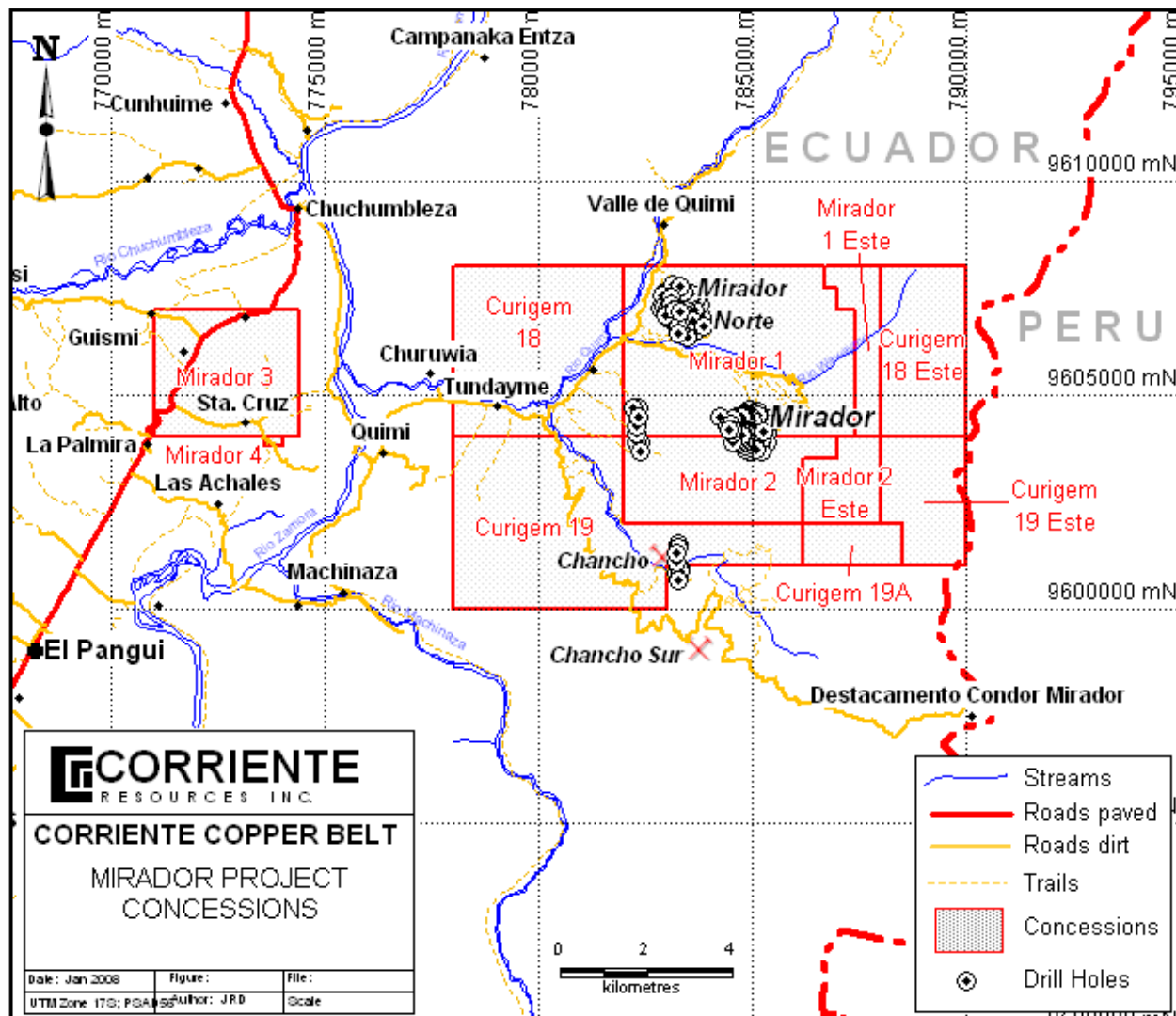
The concessions cover an area of 9230 hectares (9.2 sq km). All the concessions are within Zamora-Chinchipe Province.

According to Ecuadorian Mining Law, concessions registered against title to mining properties have a term of 30 years, which can be automatically renewed for successive 30-year periods, provided that a written notice of renewal is filed by the registered concession holder before the expiry date.

**Table 4-1: Mirador Concession Locations and Areas**  
**(from Trejo, 2008)**

Concession	Hectares	Owner	Registration Date
Mirador 1	2,105	Ecuacorriente S.A.	February 7, 2003
Mirador 1 Este	295	Ecuacorriente S.A.	November 28, 2006
Mirador 2	880	Ecuacorriente S.A.	February 7, 2003
Mirador 2 Este	320	Ecuacorriente S.A.	November 28, 2006
Mirador 3	1020	Ecuacorriente S.A.	May 12, 2006
Mirador 4	8	Ecuacorriente S.A.	January 9, 2006
Curigem 18	1,600	Ecuacorriente S.A.	August 23, 2001
Curigem 18 Este	800	Ecuacorriente S.A.	February 3, 2003
Curigem 19	2,120	Ecuacorriente S.A.	August 23, 2001
Curigem 19 Este	550	Ecuacorriente S.A.	November 28, 2006
Curigem 19A	230	Ecuacorriente S.A.	December 10, 2007

Figure 4-2: Concession Location Map



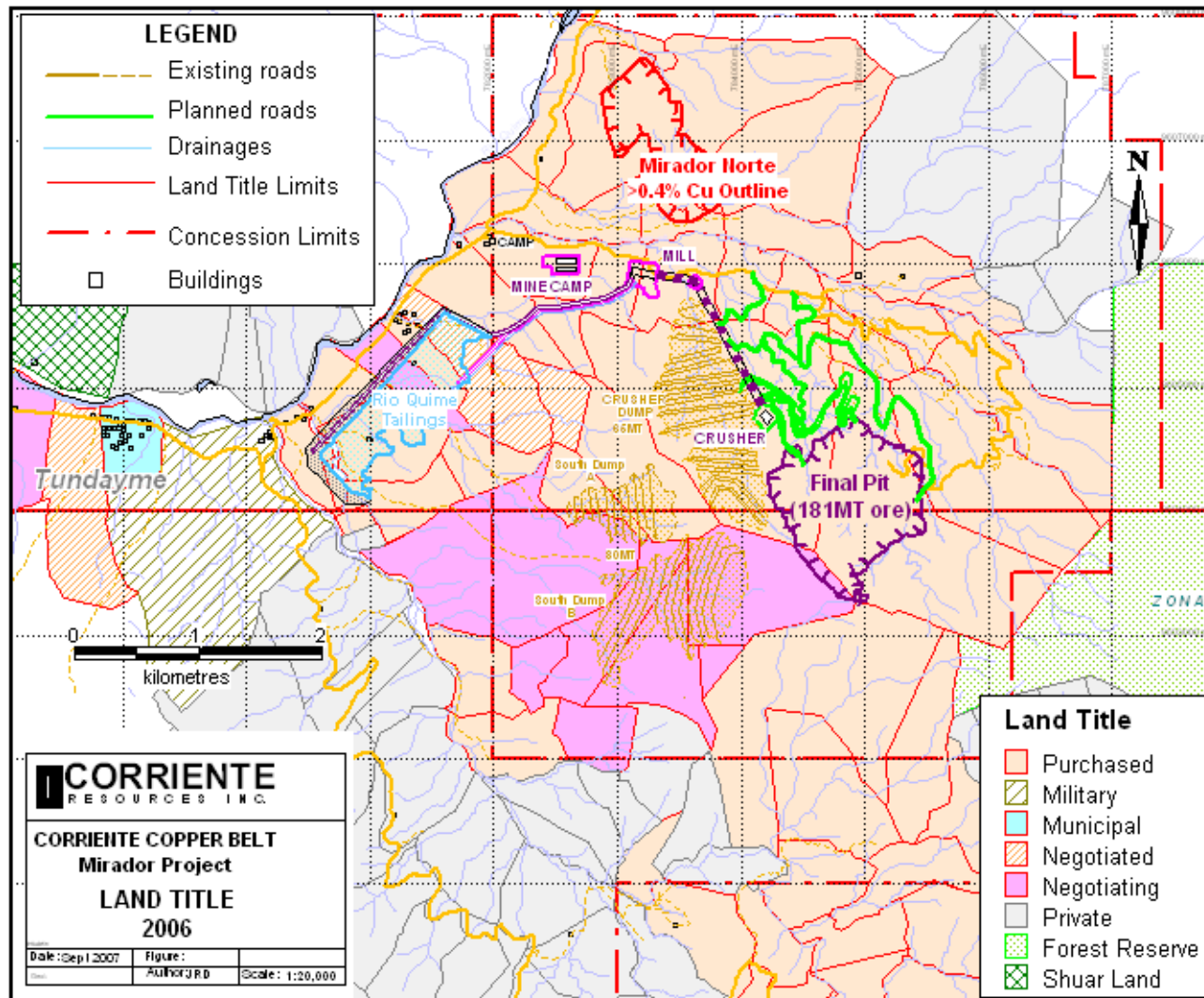
Each year, owners of mining concessions in Ecuador must pay an “annual conservation patent fee” for each hectare of area that is covered by their concessions. The fees are payable during the month of March. When the appropriate fees are paid, the registration of each concession is renewed in the name of the present holder for another one-year term. The patent fees are shown in Table 4-2 below (P&T Asesores Legales, 2005). According to Corriente, the eleven Mirador concessions are currently in good standing with respect to the payment of the conservation patent fees.

**Table 4-2: Annual Conservation Patent Fees Payable for Mineral Concessions in Ecuador**

<b>From (Year of Registered Ownership)</b>	<b>To (Year of Registered Ownership)</b>	<b>Conservation Patent Fee per hectare per year (\$)</b>
Zero	Third	1.00
Fourth	Sixth	2.00
Seventh	Ninth	4.00
Tenth	Twelfth	8.00
Thirteenth	Onwards	16.00

Corriente has acquired copies of the land maps that show the surface rights holdings in the Mirador area (Figure 4-3). The surface rights for all land that may be affected by proposed mining, construction sites, dumps and other infrastructure needed for the Mirador Project have been purchased by Corriente, or are in the process of negotiation for purchase, or are being registered and verified. Figure 4-3 illustrates the status of surface rights acquisition. The different colors show the status of the surface rights. Gray represents areas with independently owned surface rights, and pink indicates areas that have been purchased by Corriente. The areas that are in the process of being negotiated or acquired by Corriente are shown in magenta.

Figure 4-3: Map of the Mirador Project Property Rights



### 4.3 Permits and Agreements

The following permits have been obtained for the Mirador Project:

1. Approval of EIA for exploitation (MMP)
2. Certificate of non-intersection with National Protected Areas (MAE)
3. Permit for archaeological research and rescue (INPC)
4. Municipal Patents (Municipality of El Pangui)
5. Mining Rights (MMP)
6. Forest Wood Use (MAE) for a determined amount of wood

The remaining permits needed for the Mirador Project are listed in Table 4-3.

**Table 4-3: List of Major Permits required for the Project**

No.	LICENSES, PERMISSIONS AND AUTHORIZATIONS	GRANTING INSTITUTION	REQUIREMENTS	ESTIMATED TIME FOR APPROVAL
1	Environmental License	Ministry of Mines and Petroleum, if the Project is not in Protected Areas, National Parks, Forest Reserves, in this case is the Ministry of Environment.	Approval of EIA and Risk Assessment	30 days after EIA approval and payment
2	Forest Wood Permits	Ministry of Environment (MAE) Ministry of Agriculture (MAG)	Forestry Inventory	Submitted the application, up to 30 days in MAG. Submitted the application, up to 45 days in ME
3	Water concessions and permits	National Council for Hydrological Resources (Consejo Nacional de Recursos Hídricos)	Written Request of water use in CNRH	Up to 180 days
4	Road Construction permits	Ministry of Public Works. Municipality of the town. Provincial Council of the Town. Director of Public Works when it comes to state roads, if the provincial road network is competent Province Council and if the municipality to County Council.	Written Request before Ministry and Municipality	Time depends of place, at least 30 days, no more than 90 days.
5	Explosive importation, storage, use and transport	Joint Command of Logistics Management/Naval and Air Zone Command Squad (Dirección de Logística del Comando Conjunto de las Fuerzas Armadas, dirección Logística o por los Comandos de Brigada y de las Zonas Naval y/o Aérea en sus respectivas Jurisdicciones.)	Written Request before the Military authority	Up to 60 days. Compliance with safety regulations.
6	Electrical Generation and Transmission permits	CONELC – National Council of Electricity	Use of Water-CNRH; EIA Construction and Operation Permits - CONELC; Environmental License and Forestry Permit - Min.Environment; Municipality Permits; Explosives Use-Min. Defense; Customs Ecuador - CAE; Ministry of Public Health).; Municipalities; TRANSELECTRIC;	Variable depending on project size
7	Private telecommunications system permits	Telecommunications National Council CONETEL. SENATEL		

No.	LICENSES, PERMISSIONS AND AUTHORIZATIONS	GRANTING INSTITUTION	REQUIREMENTS	ESTIMATED TIME FOR APPROVAL
8	Municipalities patents	Municipalities where the project is located	Annual payment	1 week
9	Permit to discharge	Ministry of Environment	Approved EIA, annual renewal	Up to 45 days. It must be requested after one year of obtaining the license.
10	Industrial Safety and waste management	Ministry of Labor, Ministry of Environment, Ministry of Mines and Petroleum	Approved EIA	Variable

#### **4.4 Environmental Impact Assessment**

The Mirador Project mine EIA and all supporting documents were submitted to the MMP in Quito, Ecuador, in December 2005. The EIA covered both the environmental aspects of proposed 25,000 tpd mining operations at Mirador, and community and social plans associated with the Mirador Project. This EIA did not include Mirador Norte. The Ecuadorian government approved the EIA on May 4, 2006 and the letter acknowledging receipt of the bond was received by the MMP on June 12, 2006.

Corriente submitted an amended EIA ("EIAA") to the government on September 29, 2006, to allow for mill, tailings and dump location changes to the original mine plan. Subsequent public consultations were successful. In May 2007, the company was advised by the Ministry of Mines and Petroleum that this amended EIA will require further study. It is currently being revised for re-submittal, and during this ongoing review process the company continues to operate under the terms of the original EIA.

Terrambiente, a Quito-based environmental firm, completed an environmental baseline assessment for the Mirador Copper Project in 2005. Baseline data collection commenced in March 2004 and collection of data from baseline sampling points continued until the project suspension in November 2006. Supplemental baseline data has been collected for much of the footprint of the revised 2006 mine plan presented in this report.

Corriente is not aware of any environmental factors that could negatively affect the development of this project. The following environmental study activities were ongoing at the Mirador property up to the time of suspension in late 2006, and will continue upon resumption of activity:

- Weekly measurements collected from five vibrating wire piezometers installed in drill holes in 2004.
- Rainfall data collected from two automated tipping rain buckets, one located on the deposit itself, and the other located one kilometer to the north.
- Complete weather data collected by manual and automated means from a weather station located in the Mirador camp.

- Automated water level, manual staff gauge, and total solids measurements taken from five stations located at various points around the deposit.
- Water quality samples collected from three streams draining the deposit; there are another 16 regional sample points outside the area of mineralization.

The Mirador Copper Project is located on the slopes of the Cordillera del Condor, which is considered ecologically important because of its high biological diversity and presence of endemic species. However, the slopes of the Cordillera within the project area have seen extensive human-caused alteration of the landscape. The upper plateaus, or mesas, of the Cordillera are still relatively pristine and almost entirely outside the area of influence of the project.



## **5.0 ACCESSIBILITY, CLIMATE, PHYSIOGRAPHY AND INFRASTRUCTURE**

### **5.1 *Accessibility***

Access to the Mirador property from Quito, the capital city of Ecuador, can be gained by road or by a combination of air and road travel (Figure 5-1). There is scheduled air service from Quito to Cuenca and Loja, the cities northwest and southwest of the property. From these centres, small aircraft can be chartered to fly to Gualaquiza, the nearest airfield to the deposit.

There is road access from Quito to Cuenca for the transport of samples or heavy equipment. Paved and gravel roads from Cuenca lead to the village of Tundayme, 6 km from the project site. The road distance is approximately 230 km and the travel time is about five to six hours, including a short ferry trip across the Rio Zamora. There is also road access from Tundayme to the Pacific Ocean port of Machala, via 11 km of dirt road to the town of Chuchumbleza, and then by paved highway south through Pangui and Zamora, then crossing the Andes west up to Loja and continuing down to the coast.

Corriente constructed a six-kilometre pilot road in 2005, to access the east side of the Mirador deposit. Short trails from the end of this road provide access to most of the critical sectors of the project area.

### **5.2 *Climate***

The area has a wet equatorial climate with a reported rainfall of 2,300 millimetres (mm) per year. Rainfall can exceed 60 mm in a 24-hour period. Variations in the local terrain exert a strong influence over rainfall, so the area has many different local rain regimes. Fieldwork is possible all year round. The best time for airborne surveys or road and trail construction is from October to December, because of clearer skies and drier weather conditions.

### **5.3 *Physiography***

Tributaries of the Rio Zamora drain the central and western parts of the Mirador property. The flanking highland areas of the Paramos de Matanga on the west, and the Cordillera de Condor on the east, rise to maximum elevations of 4,200 and 1,800 metres above sea level (masl), respectively. The elevations of the property range from about 800 to 1,800 masl. The property supports second-growth tropical forest, although there are numerous clearings at lower elevations.

## **5.4 Infrastructure**

The infrastructure within the immediate area of the Mirador property is shown in Figure 5-1. The Mirador exploration camp is supplied with electricity from the local power grid, with lines that follow the Rio Quimi out past Tundayme to Chuchumbleza.

It is predicted that the Ecuadorian electrical power grid will not be able to supply sufficient power to meet the future needs of the Mirador Project, which for the present mining plan are estimated to be 28.3 megawatts. The balance of power required can either be purchased from an existing hydroelectric generator, or can be supplied by a project developed for the mine. Whether Corriente develops its own hydroelectric project or purchases power from an existing hydroelectric generator, the strategy is to interconnect with the Ecuadorian electrical grid: *Sistema Nacional Interconectado* ("SNI"). This allows the mine to purchase power from an alternate source should the primary source be unavailable, and allows the sale of excess energy in the case of a Corriente owned hydroelectric plant.

The closest existing airstrip is at Gualaquiza, about 25 km (40 km by road) to the northwest of the deposit. It has an asphalt runway 2,075 m long. The availability and sources of water, mining personnel, potential tailings storage areas, potential waste disposal areas and processing plant sites are discussed at length in the May 2005 Feasibility Study Report (AMEC 2005).

Figure 5-1: Access and Physiography



## **6.0 HISTORY**

### **6.1 *Exploration History***

BHP Billiton began regional exploration in southeastern Ecuador in 1994 and identified a number of possible porphyry copper targets in the region. In April 2000, BHP Billiton and Corriente entered into an agreement covering 230 sq km of mineral concessions in the southern part of the region, including the area of the Mirador property.

Corriente has carried out exploration on the Mirador property since April 2000. The work completed included geological mapping, geochemical soil sampling, rock chip sampling, and the completion of 36,284 m of core drilling in 143 diamond drill holes in three main programs. Corriente, through its wholly-owned subsidiary companies in Ecuador, holds a 100% interest in the Mirador property. Billiton holds a 2% Net Smelter Royalty interest in the Mirador deposit.

Corriente conducted 11,935 m of core drilling in 2005, as the last phase of drilling. Much of this 52-hole program involved the drilling of angled infill drill holes that were intended to better define the early porphyry dikes, which account for most of the lower-grade zones in the deposit, and post-mineral dikes. A six-kilometer pilot road was pushed through to the east side of the deposit from the existing access road leading south from the camp, creating better access to the drill platforms.

### **6.2 *National Instrument 43-101 Mineral Resource Estimate History***

Corriente released the first NI 43-101 compliant report on Mirador in February 2003 (Makepeace and Dawson, 2003), entitled “Mirador Project – Order of Magnitude Study”. This was a Preliminary Assessment report and reported a diluted Inferred Resource, at a 0.65% copper cut-off, of 182 MT at 0.76% copper. This estimate used the sectional method and geological solid models created using data from surface mapping and the 62 drill holes that had been completed at that time. For purposes of comparison, an “undiluted” resource was also estimated using a simple “Grade-Thickness” method, which summed intervals of greater than 15 metres of 0.65% copper or higher, and divided the sums by their spatially interpolated grade-thickness averages. This gave an estimate of 128 MT at 0.79% copper.

The first block-model based mineral resource estimate in National Instrument 43-101 (“NI 43-101”) Technical Report format for the Mirador Project was written by AMEC and released in October 2004 (Lomas, 2004). At a 0.4% copper cut-off, Indicated resources were estimated as 310 MT of 0.66% copper and 0.20 g/t gold, with additional Inferred resources of 315 MT of 0.56% copper and 0.17 g/t gold. In November 2003, Corriente commissioned AMEC (Vancouver, Canada) to be the primary consultant for the preparation of a bankable feasibility study for the Mirador Project (AMEC 2005), and the resource estimated by Lomas (2004) was used as the basis for the study. Although the Feasibility Study Report was completed in May

2005, no follow-up NI 43-101 report was completed to convert the in-pit mineral resources to mineral Reserves.

In the fourth quarter of 2005, Corriente retained MDA (Reno, Nevada) to prepare an updated mineral resource estimate and to conduct pit optimization studies followed by a reserve estimate. The purpose of the mineral resource estimate update was to incorporate the new data from the fifty-two new drill holes completed in 2005 into the resource model. MDA relied upon the results of previous work, and, unless there were compelling reasons to do otherwise, used procedures similar to those used by AMEC in the preparation of the 2004 mineral resource estimate (Lomas, 2004).

A NI 43-101-compliant Technical Report for the Mirador Project written by MDA and filed by Corriente on SEDAR in December 2005, but this report was subsequently revised and reissued in May 2006 (Sivertz et al., 2006a), and reported Measured and Indicated Mineral Resources of 437,670,000 tonnes grading 0.61% Cu, 190 parts per billion (ppb) gold, and 1.5 parts per million (ppm) silver, at a 0.40% Cu cut-off grade. Inferred Mineral Resources, also at a 0.40% Cu cut-off, were stated as 235,400,000 tonnes grading 0.52% Cu, 170 ppb gold, and 1.3 ppm silver. The MDA estimate places more material in the Measured and Indicated resource category than was reported by AMEC in 2004, at a slightly lower grade. These changes are the direct result of the inclusion of new data from the 2005 infill drilling program.

The last NI 43-101-compliant Technical Report for the Mirador Project was also written by MDA and filed on SEDAR by Corriente in December 2006 (Sivertz et al., 2006b). This report included the adjacent Mirador Norte porphyry copper deposit within the Mirador Project. It reported the resource estimation on Mirador from the previous Technical Report, together with a current, first-time resource estimation on the Mirador Norte deposit. No pit-shell work has been done at Mirador Norte and therefore this report is based only on resources from the main Mirador deposit.

### **6.3 In-Pit Resource and Mine Plan History**

The Feasibility Study of AMEC (2005) developed a mine plan based on a mining rate of 25,000 tpd and 111 MT of ore grading 0.67% Cu and 0.22 g/t Au, using the resource estimate from Lomas (2004) as a basis. They calculated 91 MT of waste rock would be removed over the 12-year mine life, resulting in an average strip ratio of about 0.8:1. Only Indicated material, as defined by NI 43-101, from the resource estimate was considered in generating the open-pit floating cones.

In 2006, Corriente filed three NI 43-101 technical reports on Mirador in-pit resource estimates, all completed by MDA (see Sivertz et al. 2006a and 2006b); these are tabulated in Table 6-1. The resources listed are contained within designed pits, which include haul roads, ramps and use variable pit slopes based on geotechnical studies. Measured and Indicated materials were allowed to make a positive economic contribution, and Inferred material was considered waste.

**Table 6-1: MDA 2006 Mirador In-Pit Resources for Various Scenarios**

Report Date 2006	Milling Rate (000's)	Tonnes (million)	Cu %	Au (ppb)	Ag (g/t)	Strip ratio
January	25	320	0.62	197	1.58	1.4
May	25	347	0.62	196	1.57	1.4
December	25 and 50	347	0.62	196	1.57	1.4

The significant change from the AMEC feasibility was an increase in pit size (111 MT to 347 MT), which was the result of not limiting the mine life. The mine life for the 347 MT scenario would be 39 years at 25,000 tpd, or 22 years when the milling rate is increased to 50,000 tpd in Year 6 of operations. The floating cone parameters are shown in Table 6-2.

**Table 6-2: Floating Cone Parameters**

Item	Value
<b>Copper Processing</b>	
Mill recovery %	91.4%
Concentrate grade %	30%
Concentrate moisture %	8%
Concentrate losses %	0.25%
Concentrate transport \$/WMT	\$81.62
Concentrate transport \$/DMT	\$88.72
Smelting \$/DMT	\$75.00
Smelter recovery %	96.5%
Refining \$/lb	\$0.08
<b>Gold Processing</b>	
Mill recovery %	47%
Smelter payable %	95%
Refining \$/oz	\$6.00
Process cost with G&A \$/DMT	\$3.90
Mining \$/DMT	\$0.89
Copper price \$/lb	\$0.65-\$1.50
Gold price \$/oz	\$400
Overall pit slope angles	35°-42°
DMT = Dry Metric Tonne WMT = Wet Metric Tonne	

MDA designed an ultimate pit using the base-case floating cone (Cu \$1.00/lb, Au \$400/oz) as a template. Haul roads were designed with a maximum 10% grade and a width of 22 m. This should accommodate haul trucks of 90-tonne capacity, which are about 7-m wide.

AMEC reported preliminary pit slope angles and designs in the 2005 feasibility. These slopes, adjusted for inclusion of ramps were used in the MDA floating cone runs. Corriente engaged Piteau Associates (“Piteau”) to continue with the geotechnical work and recommend final pit slopes, a work that was still in process at the time of MDA’s report writing. Piteau provided preliminary slope-angle ranges and design sectors, the more conservative of which were used in these pit designs. The conservative Piteau angles were similar to the AMEC slopes.

Most recently, in early 2007, MDA recalculated in-pit resources based on a 27,000 tpd milling rate on 181 MT of ore over a 19-year mine life (SNC-Lavalin, 2007). In-pit resources were developed by applying relevant economic and engineering criteria to MDA’s estimated Measured and Indicated resources. The in-pit resources were limited to 181 MT primarily to keep capital costs down, which are dependant on, amongst other things, concentrate haulage volumes and waste rock management. As before, only Measured and Indicated materials were allowed to make a positive economic contribution, and Inferred material was considered waste. The 181 MT of ore would grade 0.62% copper, 0.2 g/t gold, 1.6 g/t silver, and would be mined at a 0.8:1 strip ratio.



## **7.0 GEOLOGICAL SETTING**

### **7.1 *Regional Geology***

The copper-gold-silver mineralization of the Mirador deposit is hosted by Late Jurassic granite and porphyries of the Zamora Batholith. This batholith is one of a number of Jurassic intrusions in the Cordillera Real and sub-Andean regions of Ecuador that have been mapped as members of the Abitigua Subdivision. Isotopic age dates for the younger Late Jurassic porphyry intrusive phases of the Zamora Batholith range from 152 to 157 Ma.

To the south of the Mirador deposit, quartz sandstone of the Cretaceous Hollin Formation forms 50-m to 80-m high cliffs. This resistant unit unconformably overlies the Jurassic intrusive rocks of the Zamora batholith and covers the southern limits of the Mirador alteration/mineralization complex.

### **7.2 *Local and Property Geology***

The Zamora batholith forms the wall rocks of the Mirador porphyry copper-gold system. Within the mineralized zone, the intrusion comprises mainly equigranular Zamora granite/granodiorite (unit "Jzgd"), with some minor leucogranite dikes along the west and southwest margins, and rare diabase dikes up to two metres in width. In drill core the Zamora granite appears highly fractured; this is a weathering effect and is due to the hydration of anhydrite to gypsum, which fractures the rock due to the accompanying volume expansion, followed by dissolution of the gypsum from the newly created veinlets. The drill core is relatively competent below the level where anhydrite and gypsum are affected by weathering and leaching. A map and typical cross section that help to illustrate the following geological discussion are presented in Figure 7-1 and Figure 7-2.

The oldest porphyritic rocks that intrude Zamora granite within the limits of the Mirador deposit are trachytic hornblende-feldspar dikes (unit "Jefp"), which strike north and east. A dike in the southern part of the deposit appears to be slightly older than the northern dikes, based on its degree of mineralization. In highly altered zones and in leached surface exposures, the porphyritic dikes are distinguished from the Zamora granite mainly by their large hornblende phenocrysts and equant feldspar crystals.

Off-centre of the mineralized system is a large vertical diatreme of breccia (unit "brmn") composed of angular fragments of the early porphyry dikes, Zamora granite, and quartz-vein fragments. The early porphyry dikes can be traced into the breccia but the brecciation obscures the contacts between the granite and early porphyry. The breccia is mostly fragment-supported, and the matrix consists of rock flour and fine rock and vein fragments. The matrix also contains sulfide-filled vugs, which, together with the quartz-vein fragments, allow mapping of the unit in weathered surface exposures. Fragments are angular to sub-angular and show potassic alteration.



**LEGEND**

**POST-MINERALIZATION**

- Hollin sandstone
- Breccia (unaltered, polymictic)
- Diabase/andesite dikes

**SYN- TO POST-MINERALIZATION**

- Late hornblende-feldspar
- quartz porphyry

**PRE- TO SYN-MINERALIZATION**

- Breccia (Jepp and Jagd clasts)
- Early hornblende-feldspar
- porphyry

**Zamora granodiorite to quartz monzonite**

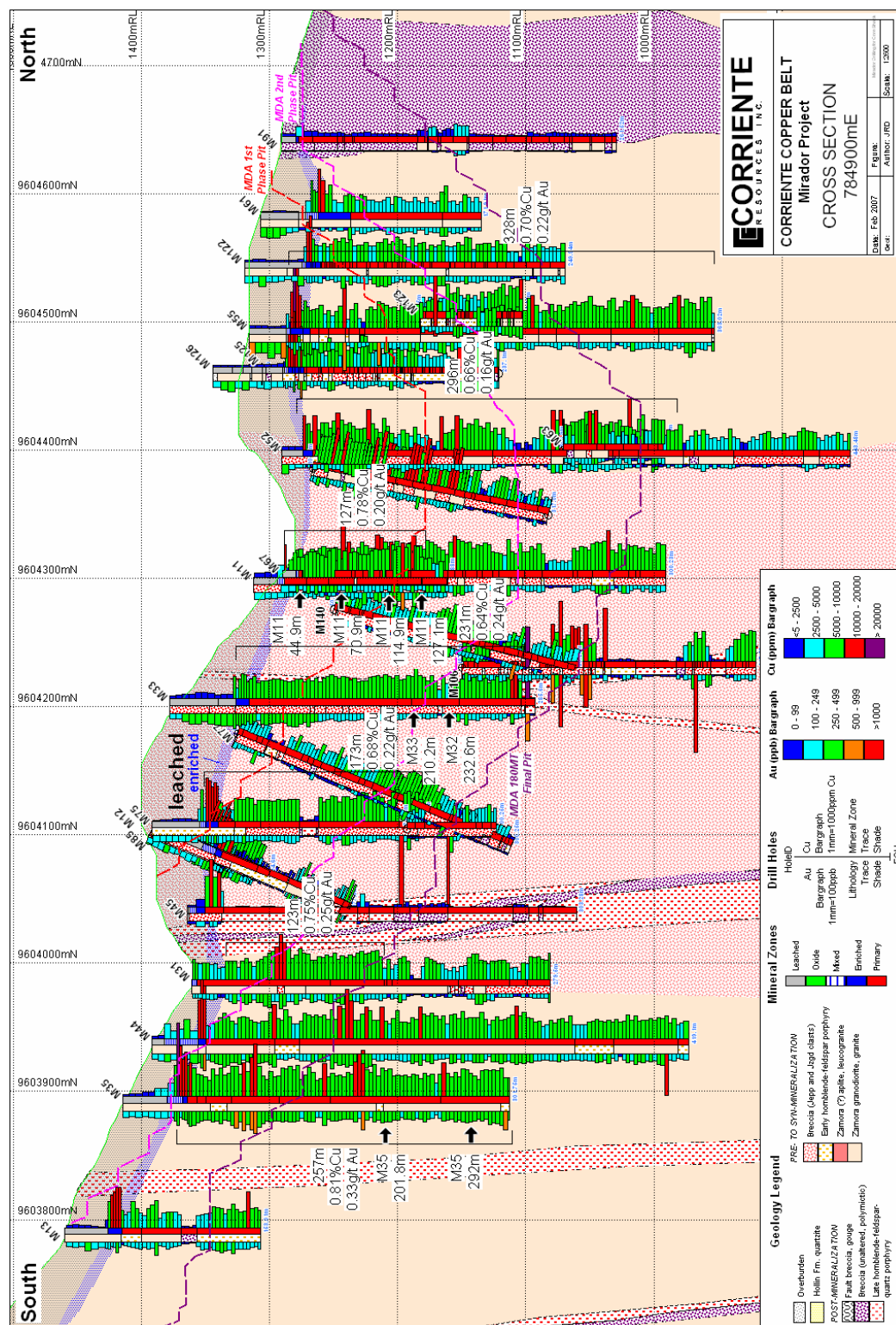
**Resource Holes**

- M60
- M87

**Geotechnical Holes**

- M37
- M40

Figure 7-2: Typical Cross Section (450) - Geology



Northeast-striking, northwest-dipping hornblende-feldspar porphyry dikes (“Jhbp”) cut the breccia and the wall rocks of the deposit. Based on their degrees of alteration and mineralization, these dikes are believed to have relative emplacement ages ranging from syn-mineral to post-mineral. These dikes are larger and more numerous along the southeast and northwest margins of the mineralization. A quartz-rich variety appears to be the youngest in the series. These rocks are sparsely fractured relative to the mineralized rocks and lack any quartz veining or high-temperature alteration. Outcrops are blocky and resistant and weather to a characteristic bright red clay due to the oxidation of abundant magnetite.

The youngest rocks are post-mineral hydrothermal breccia dikes and irregular diatremes (“brpm”). These breccias are characterized by a polymictic clast assemblage of mineralized and unmineralized rock, the relative quantity of each clast type being dependent on whether the breccia intruded mainly mineralized rocks, or post-mineral intrusions. The matrix is finely ground rock; in some places the matrix also contains milled sulfide minerals. The breccia dikes and diatremes have preferentially intruded post-mineral dikes and are most common along the southeast margin of the deposit. Intrusive breccia also occurs as irregular plugs around the north and northeast margins of the mineralized zone, with the largest plug occurring north of the deposit but outside of mineralization. Copper grades within the intrusive breccia range from very low to slightly less than the deposit average, depending on the amount of mineralized rock incorporated. Outcrops of this breccia are massive and very sparsely fractured. In drill core, the breccia is the least fractured lithology in the deposit.

## **8.0 DEPOSIT TYPES**

The host rock, alteration, and mineralization at the Mirador deposit are characteristic of a calc-alkaline porphyry copper system. Copper deposits of a similar style are widespread in the Cordilleras of North and South America.

## **9.0 MINERALIZATION**

Most of the Mirador mineralization is exposed as weathered, leached laterite in the numerous drill trail and road exposures. Unevenly developed zones of supergene copper (and possibly silver) enrichment lie beneath a leached, lateritic “cap” with a relatively flat lower boundary. Thus this leached zone is thickest under ridge crests and nonexistent in any significant drainage bottom. Primary and supergene mineralization are only preserved in creek bottom outcrops, where the drainages have cut down through the overlying laterite.

The copper-gold-silver mineralization of the Mirador deposit is present mostly as disseminations and fine fracture-fillings of chalcopyrite, secondary chalcocite, and pyrite. Gold occurs as fine inclusions in chalcopyrite and pyrite, as well as native. Molybdenite is present in systems of early-stage quartz veins that have a preferred east-west orientation. These veins occur as stockwork in both Zamora granite and early porphyry dikes.

The sequence of mineral deposition at Mirador has been divided into early-stage molybdenum, early-stage copper ± gold, and late-stage copper-gold events, with a final weak polymetallic vein stage.

## **10.0 EXPLORATION**

Since April 2000, Corriente has carried out all of the exploration work on the Mirador property. The work completed has included geological mapping, pan concentrate sampling of stream sediments, soil geochemical sampling, rock chip sampling and the completion of 36,284 m of core drilling in 143 diamond drill holes at Mirador proper.

### **10.1 2000**

In May 2000, the first phase of drilling at Mirador began, under the supervision of J. David Lowell, who was under contract to Corriente. A total of 5,383 m of drilling was completed in 30 core holes (M01 to M30).

### **10.2 2001**

Between January and May of 2001, the second phase of drilling was carried out. Twenty-two core holes (M31 to M52) was completed, with an aggregate length of 8,136 m.

### **10.3 2002**

The third phase of drilling was conducted between February and April of 2002, and 10 core holes (M53 to M62) were drilled, totalling 2,739 m. In October 2002, Corriente assumed the management of all aspects of the project.

### **10.4 2003**

No further drilling was undertaken until the end of the year (see 2004 below). Surface mapping and remapping of drill trails continued.

In July, Sumitomo of Japan completed independent metallurgy tests showing favourable concentrate potential. AMEC reviewed this work and found it to be done to industry standard, and subsequent follow-up work has confirmed its conclusions. Metallurgy is discussed in detail in Section 16 of this report.

### **10.5 2004**

A fourth phase of drilling was conducted at Mirador between December 2003 and April 2004. A total of 8,091 m of core drilling was completed in 29 holes (M63 to M90, including M74 and M74A).

**10.6 2005**

Corriente conducted a fifth phase of drilling in 2005, and completed 11,935 m of core drilling in 52 holes (M91 to M141, including M139 and M139A). Much of this program involved the drilling of angled infill drill holes that were intended to better define the early porphyry dikes, which account for most of the lower-grade zones in the deposit. The data from the holes that intersected the dikes, together with new information from outcrops exposed during the construction of new drill trails, helped to confirm and refine contacts of known early porphyry dikes, particularly in the northern sector. A few holes targeted the late breccia dikes in the north part of the deposit, to better locate and define the contacts and to explore for potentially economic copper mineralization along the dike margins. The 2005 holes did not intersect any significant new dikes or any new areas of mineralization.

In addition to the drilling at Mirador, there was ongoing mapping of new drill trail exposures and re-mapping of outcrops exposed in stream channels. A six-kilometer pilot road was constructed to the east side of the deposit from the existing access road leading south from the camp. This created large new exposures of mostly weathered and leached rock. Re-mapping of outcrops in stream channels north and west of the deposit was completed, allowing more accurate control of contact locations and increased understanding of alteration styles there.

No further exploration or resource development has been done at Mirador since the 2005 drill program.



## **11.0 DRILLING**

The Mirador deposit has been tested by 143 diamond drill holes totalling 36,284 m, arranged in a rough grid on approximately 75-m to 100-m centres. Diamond drills belonging to the contractor Kluane International Drilling Inc. ("Kluane") of Canada were used to complete all the diamond-drilling programs. Kluane used a Hydracore man-portable wire-line drill, and all platforms were accessed via hand-built trails.

Until 2005, there was no road access to the drill pads and access was gained by walking 1,500 m along a trail from the road. A rough access road now leads into the east section of the drill area, and the drill platforms can be reached by short trails from the head of the road.

Drill core was recovered in standard NTW (5.7 cm) and BTW (4.2 cm) core tubes. The smaller BTW core was recovered from the lower parts of the deeper drill holes, after the rod string was changed to BTW diameter. Standard HQ size core (6.35 cm) was taken from a few of the geotechnical holes.

Most of the early drill holes at Mirador were drilled vertically. As the geological knowledge of the deposit increased, various geologic features with sub-vertical geometry were recognized, such as syn-mineral to post-mineral dikes and late-stage quartz-sulfide veinlets. Accordingly, in the 2004 and 2005 drilling programs, a greater percentage of holes with angles of -60° to -80° were drilled to help define such features.

Fifty of the one hundred and forty two drill holes had no down-hole surveys. Of the remainder, twenty holes in the second and third phases of drilling were surveyed using a Tropari instrument, and the holes drilled in 2004 and 2005 were surveyed using a Sperry-Sun instrument. Five of the un-surveyed drill holes were drilled at angles between -60° and -70° (M01, M25, M25, M39, and M62) and are located on the periphery of the deposit. Survey data indicates the vertical holes show negligible deviation, and the holes angled between -70 and -60 degrees typically deviate one metre per hundred metres of length in declination, and two degrees in azimuth.

After the drill holes were completed, the collar locations were marked with a large PVC pipe capped with a plastic cover. The drill-hole collars were surveyed by Segundo Toledo Peláez of Topcon Survey S.A., using a total station brought in from differential GPS control points with a reported instrument accuracy of  $\pm 1$  m (X-Y) and  $\pm 2$  m (Z).

Core recovery is good for this type of deposit, and averages about 91% overall. Recovery exceeds 95% in the zones of hypogene mineralization, but relatively low core recovery is common in the leached rock near the surface. The RQD measurements indicate that the rock quality is very low through much of the deposit; the average of all RQD measurements is 38% (pers. comm., John Drobe, Corriente). Largely, the poor RQD is the result of the rock literally falling apart after the hydration of veinlet-hosted anhydrite to gypsum and the subsequent solution of the gypsum by groundwater.



## **12.0 SAMPLING METHOD AND APPROACH**

The following field procedures were used in all of the Corriente drilling campaigns from 2001 to 2005:

- Core from the core tube is placed in wooden boxes, each holding five metres of core. When picked up at the drill, all the core box lids were secured and the boxes were packed out on mules or on foot by workers to the road, then loaded onto trucks and delivered to the Mirador camp. Corriente staff then opened the boxes and converted the drill hole depth markers from feet to metres. The core boxes were then placed on a stand and photographed in natural light.
- The core was marked at one-metre intervals by a geotechnician, who then measured the core recoveries and RQD. Technicians completed a preliminary drill log, wherein they recorded the core recovery, structural features, fracture density and orientation, and rock quality designation (RQD).

Each one-meter interval of core was assigned a sample number. Based on the style of mineralization, the individual one-meter samples were physically combined into composite samples of different lengths. The entire lengths of all the drill holes were sampled in this manner. The categories of mineralization used and the corresponding composite sample lengths were as follows:

- Leached zone (cap): five metres;
- Supergene copper-enriched zone: two metres;
- Hypogene (primary sulfide) zone: three metres; and
- Post-mineral dike: five metres.

The sample intervals were recorded and assigned sample numbers. The core was split longitudinally using a diamond saw. No line was marked on the core to guide the splitting process. In cases where the core fragments were too small to be sawn, core fragments representing one-half of the core volume were randomly picked out of the core boxes by hand.

Each core sample was placed in its own plastic bag, and each bag was weighed and marked with the sample number. For the first four phases of drilling, the samples were sent to a preparation laboratory in Quito, Ecuador. During the fifth phase of drilling, Corriente used the Acme preparation laboratory in Cuenca, Ecuador. Upon arrival in Cuenca, the truck driver reported to the office manager at ECSA's offices. The truck then proceeded to the preparation laboratory, where the office manager prepared a list for the insertion of the duplicate and standard reference material (SRM) and QA/QC samples, and presented that list, and a sample shipment form, to the manager of the preparation facility. The lab manager confirmed the sample shipment and the work orders, and lab batch numbers were scanned and forwarded to Corriente via email. The sampling programs conducted between 2000 and 2005 were planned and executed in a satisfactory manner.

### **13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY**

In all the drilling campaigns, Corriente used consistent strategies for sampling, sample preparation, and sample analysis. Split drill core samples were sent to preparation facilities in Ecuador, and 100-gram pulp sub-samples were shipped to analytical laboratories in Vancouver, Canada. Copper was analyzed by atomic absorption spectroscopy (“AAS”) methods, and gold was determined by fire assay on a 30g sample with an AAS finish. The laboratories used were Bondar Clegg and Chemex, and then the merged lab ALS Chemex, for the early drill programs, and ACME for the 2005 drilling. There are a total of 11,179 assayed drill intercepts, not including internal duplicates and standards.

In all five phases of drilling, drill core samples remained under the control of authorized Corriente personnel from the time they left the drill platforms until they were delivered to the preparation laboratory. For shipment, the individual sample bags were put into woven polypropylene bags. Each of these bags was marked with the project number, the drill-hole number and a number identifying its place in the sequence of bags in the sample shipment. The shipment bags were secured with tape and rope, and were sent to the preparation laboratory in a contracted vehicle. In 2005, the practice of marking the shipment bags with the drill hole number was discontinued, and shipment bags were secured by number-coded nylon “zip” ties before shipment.

## **14.0 DATA VERIFICATION**

The quality assurance/quality control (“QA/QC”) procedures used by Corriente became more sophisticated with successive drill campaigns. The early exploratory drill programs (2000-2002) did not incorporate fully adequate QA/QC procedures. To compensate for this, 5% of the sample pulps from these drill programs were sent to ALS Chemex in Vancouver, Canada in 2004 for re-analysis. The copper and gold grades from the re-analyzed check samples compared well to the grades from the original samples. Consequently, all of the original sample assays were considered to be sufficiently accurate to be used for mineral resource estimation purposes.

A more comprehensive QA/QC program was adopted by Corriente in 2004, following procedures recommended by AMEC. AMEC reviewed the duplicate sample analyses and concluded that the analytical results for copper indicated that the drill core sampling, sample preparation, and analytical procedures in use would lead to good quality copper analytical results for all samples. However, AMEC also noted that the gold data for the Mirador pulp duplicate samples indicated that, for 90% of the samples, there is an average difference of 15% between the gold grades of the pulp duplicate samples and the grades of the original pulp samples. AMEC concluded that this reflected a relatively low level of precision and suggested that the causes of the effect were probably the relatively small weight of the sample shipped to the assay laboratory (100 grams), and the small fire assay aliquot weight (30 grams).

AMEC completed a data quality check on 5% of the sample database used for the 2004 resource estimation. The data were found to be of excellent quality and adequate for AMEC’s resource estimation purposes.

The 2005 phase five drilling program involved the drilling of 11,935 m in 52 core holes (M91 to M141). MDA (2006) reviewed the results of the 2005 drilling program but did not take independent check samples from the 2005 drill holes. MDA did take independent samples from prior drilling campaigns.

For the 2005 drilling program, Corriente generally followed the QA/QC guidelines recommended by AMEC.

Sivertz (2006a) concluded:

“the sample preparation procedures are appropriate and well done, and the assays and analyses are of good quality. Based on the results of the analyses of standard samples inserted into the sample stream, there does not appear to be any significant bias in the analytical data. The results from the inserted blank samples indicate that the sample preparation procedures are conducted with appropriate care. Copper analyses of pulp duplicates reproduce well, while gold fire assays of pulp duplicates show modest variability. Although MDA does not believe that the modest variability in the reproducibility of gold assays has instilled any material bias or skewed the results, it is suggested that this be investigated with a set of metallic screen sample assays.”

## **15.0 ADJACENT PROPERTIES**

Other than the mineral prospects and exploration activities of Corriente itself, there are no known mineral deposits or advanced mineral exploration projects immediately adjacent to the Mirador property. Aurelian Resources Inc. (“Aurelian”), a publicly owned Canadian mineral exploration company, has acquired mineral concessions adjacent to the Mirador property. According to information posted on the Aurelian website, these are part of a large group of concessions that Aurelian has been exploring for precious and base metals ([www.aurelian.ca](http://www.aurelian.ca)).

The most successful exploration project nearest to Mirador is Aurelian’s ‘Fruta del Norte’ epithermal gold discovery, made in early 2006. This is located about 22 kilometres to the southwest of Mirador. Aurelian recently announced Inferred resources at Fruta del Norte of 58.9 million tonnes grading 7.23 g/t gold (Au) and 11.8 g/t silver (Ag) for 13.7 million ounces of contained gold and 22.4 million ounces of silver.

## 16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

### 16.1 *Historical Metallurgical and Mineral Test Work*

A significant amount of metallurgical test work has been completed on mineralized samples from the Mirador deposit since 2001. SGS Lakefield Research ("SGS"), in Lakefield, Ontario, Canada, carried out the main feasibility testing metallurgical and grindability program between December 2003 and September 2004. G&T Metallurgy ("G&T") in Kamloops, British Columbia, Canada did some supportive bench-scale flotation test work, mineralogical modal analysis, and Bond ball mill work indexes in 2004.

The groups responsible historically for the metallurgical testing aspects of the project are summarized below in Table 16-1:

**Table 16-1: History of Metallurgic Studies at Mirador**

Date	Source	Location	Test
May 2001	Geomet S.A.	Santiago, Chile	scoping batch rougher tests
May 2002	Resource Development Inc. (RDI)	Colorado, USA	scoping batch rougher tests
July 2003	Sumitomo Metal Mining Co, Limited,	Japan	scoping batch rougher and cleaner test, concentrate chemical and mineralogical analysis, composite bond ball work index (BWI)
Dec 2003 – Sept 2004	SGS Lakefield Research Limited	Lakefield, Ontario, Canada	feasibility bench-scale flotation test program (batch and locked cycle flow sheet development and locked cycle variability testing), comminution testing (BWI, RWI, CWI, Ai and JK and SMC drop-weight testing) and modeling (JK SimMet), QEM*SEM characterization of composite samples for variability testing, concentrate characterization and dewatering.

Date	Source	Location	Test
April – Sept 2004	G&T Metallurgical Services Limited	Kamloops, BC, Canada	supporting bench-scale flotation test work, mineralogical modal analysis.
July 2004	MinnovEX Technologies Inc.	Toronto, Ontario, Canada	comminution testing (SPI) and modeling (CEET)

The metallurgical and grindability testing done at SGS formed the basis for the feasibility design:

- feasibility bench-scale flotation test program (batch and locked cycle flow sheet development and locked cycle variability testing),
- comminution testing (BWI, RWI, CWI, Ai and JK and SMC drop-weight testing) and modeling (JK SimMet),
- QEM\*SEM characterization of composite samples for variability testing,
- concentrate characterization and dewatering, and
- MinnovEX Technologies Inc, comminution testing (SPI) and modeling (CEET).

In the report by AMEC – May 2005, “Mirador Copper Project Feasibility Study Report” the following metallurgical and grindability conclusions were made:

*“Four master composites were produced from the core samples for an initial flow sheet and design criteria development program. This indicated the mill flow sheet for Mirador will be a conventional copper-gold porphyry flows sheet, with relatively coarse primary SAG and ball mill grinding to about 150 µm followed by copper rougher flotation, concentrate regrind to 30 µm, and cleaner flotation and dewatering. Metallurgical testing and mineralogical quantitative modal liberation analysis, conducted by G&T, supported the selection of the primary grind and regrind parameters.*

*A recovery and mineralogical variability mapping program completed during the third quarter of 2004 subsequently confirmed that the metallurgy and mineralogy of the ore body is quite simple and homogenous, and the samples tested responded consistently well to the conventional flow sheet and reagent scheme selected. Over 44 variability sub-composite samples were produced from 17 drill holes and tested by hole and depth. Each sample was subjected to chemical and QemSCAN*

*(Quantitative Evaluation of Mineralogy by Scanning Electron Microscopy) mineralogical analysis, grindability testing, and locked cycle flotation. Locked cycle concentrates were subjected to mineralogical, chemical, pyroforicity, and dewatering testing.*

*Chemical analysis of the head samples indicated a range of copper grades from 0.20% to 1.07%, with average overall grade of 0.67%. Gold grades ranged from 0.05 g/t to 0.43 g/t with an average value of 0.22 g/t.*

*Concentrates produced are predicted to average 29.8% Cu at a recovery of 91%. The average gold grade and recovery was 5.2 g/t and 47.2%, respectively. A gold behaviour model developed from the flotation test data suggests gold tracks chalcopyrite, pyrite, and gangue, with near equal weighting throughout the process.*

*There is good reconciliation between the test gold recovery data and that predicted by quantitative mineralogy. A laboratory analysis of the individual locked cycle concentrate products indicated that no significant deleterious penalty element impurities were present and this is in good agreement with mineralogical mapping. Concentrate thickening and filtration test work was conducted. The concentrates settled rapidly and no dewatering problems were identified. Pyroforicity results indicated the concentrate is not expected to be self heating.*

*Grindability tests were conducted on the sub-composite intervals of core from individual drill holes. Two dedicated whole core geotechnical and comminution holes were also drilled and used for additional grinding test work, including Bond Work and Abrasion Indices, JK drop-weight and MinnovEX SPI testing.*

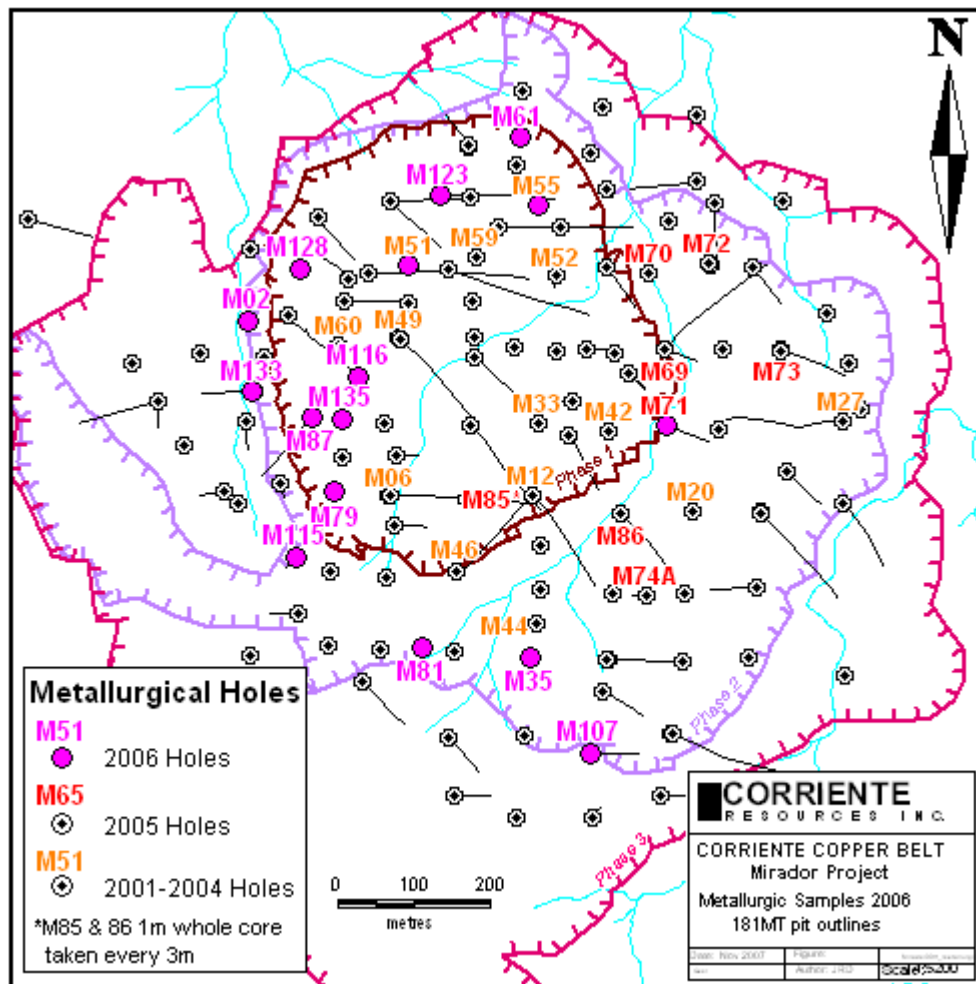
*Most of the ore in the pit falls geologically in an alteration zone of intense gypsum depletion. This is indicated by low RQD data and poor rock quality observed in drill core boxes. Comparative Bond low energy impact (CWI) and drop-weight test data also indicates the +150 mm ore lumps will break relatively easily at low-energy, but that the resulting reduction may be small. On this basis it is reasonable to assume the SAG mill feed granulometry will be relatively finer than the copper porphyry industry average.*

*JK and SPI testing data ranked the samples in the medium range of resistance to impact breakage for SAG milling. The ore exhibits low to moderate abrasivity. The average Bond ball mill work index is about 14.5 kWh/t and ranks the ore in hardness to ball milling as moderately soft relative to other copper porphyry ores in Lakefield's industry database and with relatively low variability. The JKTech drop weight and SPI test SAG mill parameters, and ball mill work indices, were used in JK SimMet and CEET simulation software models to confirm the grinding circuit design basis, and there was good agreement between both approaches."*

## 16.2 Recent Metallurgical and Grindability Test Work

The recent metallurgical test work by G&T in 2007 done on samples obtained during the 2006 drill program by Corriente (see Figure 16-1: 2006 Metallurgical DDH at Mirador) characterized the metallurgical behaviour in locations of the Mirador deposit that were outside and deeper than the original test work done by SGS, as well as concentrated within the Phase 1 pit.

Figure 16-1: 2006 Metallurgical DDH at Mirador



Twenty-one samples were tested separately to obtain a range of variability in hardness and flotation responses. Confirmation locked cycle testing was done on three master composites; two in primary sulphides and one in enriched copper mineralization. Due to the general homogeneity of the deposit this test work did not associate the metallurgical behavior with lithology or alteration types typically found within the pit shell limits.

In the July report by G&T (2007), "Metallurgical Assessment of Mirador Ores – KM1851", the following metallurgical and grindability results were reported:



*“The variability composites had an average Bond ball mill work index of 15.6 kWh/tonne. The standard deviation for the data set was  $\pm 1.5$  kWh/tonne. This ore is relatively uniform in hardness and is generally of medium hardness.*

*Flotation response of the variability composites in the open circuit batch cleaner tests was variable with between 70 and 92 percent of the copper recovered into a 25 percent copper grade final concentrate. Three of the variability composites did not achieve a final concentrate copper grade of 25 percent.*

*Locked cycle testing on 3 Master composites produced good metallurgical results. Copper recoveries ranged from 85 to 92 percent at a final concentrate grade of between 30 and 40 percent by weight copper. One of the Master composites produced a final concentrate copper grade of 40 percent indicating the presence of secondary copper mineralization.*

*Gold recoveries to the final concentrates, in the locked cycle tests, ranged from 48 to 65 percent.”*

The testing at G&T supported the historical work reported by AMEC within the expected variability of sample types and head grades.

The recoveries and grades from the Locked Cycle Tests (LCT) done on the three master composite samples are shown in Table 16-2 Composite 3 had elevated levels of primary sulphides and oxide copper with expected lower copper recovery compared to samples 1 and 2 which display similar chemical compositions with higher copper recovery.

**Table 16-2: LCT Average Grade and Metallurgical Recovery**

Composite	Head				Recovery		Conc.
	TCu %	ACu %	ACu/TCu	Au g/t	TCu %	Au %	TCu %
1	0.63	0.01	1.6	0.21	92.1	55.5	30.0
2	0.58	0.01	1.7	0.25	89.1	46.6	29.7
3	1.27	0.15	11.8	0.37	83.6	65.2	39.5

- 1) G&T – July 2007, “Metallurgical Assessment of Mirador Ores – KM1851”
- 2) Estimated recovery for Composite 3 at 30% concentrate grade is approximately 85%.

The grindability test work which was done by SGS in 2007 and G&T on the samples obtained during the 2006 drill program by Corriente Resources is summarized in Table 16-3.

**Table 16-3: Grindability Test Summary**

No.	Drill Hole	From	To	RWI (kWh/mt)	BWI (kWh/mt) Bond / Norm	AI (g)	
1	M02	75	135	14.1	16.3	15.7	0.285
2	M02	135	196	14.6	16.7	16.1	0.308
3	M35	201	302	14.8	16.3	15.7	0.351
4	M51	274	376	14.1	15.8	15.2	0.333
5	M55	253	363	14.3	15.5	14.9	0.306
6	M61	50	146	13.6	15.8	15.2	0.185
7	M71	214	300	15.2	17.6	16.9	0.314
8	M79	25	59		12.4	11.9	
9	M81	190	256	14.8	17.0	16.4	0.307
10	M87	174	237	13.9	15.9	15.3	0.330
11	M87	237	300	14.8	16.2	15.6	0.297
12	M107	167	250	13.9	16.3	15.7	0.339
13	M115	102	201	15.0	16.4	15.8	0.302
14	M116	60	90		11.1	10.7	0.002
15	M116	250	312	14.1	14.4	13.9	0.249
16	M116	313	373	12.0	15.2	14.6	0.245
17	M128	38	101	14.1	16.0	15.4	0.239
18	M131	99	162	13.2	16.3	15.7	0.282
19	M131	162	226	14.0	16.5	15.9	0.310
20	M135	65	93		15.4	14.8	0.353
	Mean			14.1	15.7	15.1	0.281
	Median			14.1	16.1	15.5	0.306
	StDev			0.8	1.5	1.5	0.080
	Number			17	20	20	19
	Maximum			15.2	17.6	16.9	0.353
	Minimum			12.0	11.1	10.7	0.002
	75th Percentile Est Error ±			0.9	1.8	1.7	0.095
	90th Percentile Est Error ±			1.3	2.6	2.5	0.138
	90th Percentile % Rel Error ±			9.5%	16.6%	16.6%	49.1%

The samples were submitted for the Bond rod mill grindability test (RWI) as well as the Bond abrasion test (AI) at SGS. Bond ball mill grindability tests (BWI) were done at G&T. The closing size for the G&T BWI tests was 106 µm which was normalized to 150 µm using the RWI relationship derived from previous testing. The samples fell in the medium range of hardness with respect to the RWI and were considered abrasive with respect to the AI.

## 17.0 MINERAL RESOURCE AND RESERVE ESTIMATE

### 17.1 Introduction

Corriente requested in late 2005 that MDA complete a resource and reserve update on the Mirador Project. The incentive for the update was the inclusion of 52 new drill holes completed in 2005, encompassing drill holes M91 through M141, for which there were 3,592 new assay intervals. MDA's involvement with the Mirador Project began in early 2005 with a site visit and a project review on behalf of a potential joint venture partner.

The work done by MDA included a review of Corriente's geologic model and a QA/QC analysis, resource estimation, pit optimization, and pit design. MDA relied on previous work completed by AMEC, an independent mining and consulting group. In all cases, MDA attempted to utilize the same procedures unless compelling evidence suggested otherwise. The most important procedural changes were the definition of the lithologic, grade, and material-type zones, coding of the samples, and sub-blocking. Of less importance were the estimation parameters and the use of inverse distance to the fourth power instead of to the eighth power.

Technical reports for Mirador were issued in May 2006 (Sivertz et al., 2006a) and again in December 2006 (Sivertz et al., 2006b), the latter containing new information from the adjacent Mirador Norte porphyry deposit, located three kilometres to the northwest of the Mirador deposit.

The sections that follow are taken *verbatim* from the May 2006 report, which deals exclusively with the resources at the Mirador deposit. Some tables and figures were left out for brevity, with explanations given in italics.

### 17.2 Corriente Geology Model

A combination of material types, mineral domains, and lithologic codes (listed in Table 17-1 and illustrated in Figure 17-1 and Figure 17-2) were used to control grade estimation and assign density values. Material-type domains consist of the leached, mixed, and enriched zones in the weathered profile. For copper, mineral domains included grade shells and lithologic groups (pre-mineral dikes, post-mineral dikes, and post-mineral breccias) in the hypogene mineralization. Copper was modeled separately in each of the three weathered zone material types. Gold and silver were modeled identically to copper in the hypogene material using the same copper-grade shells and lithologic groups, but were modeled differently from copper in the weathered zones.

The rock unit "brmn" is the central breccia. While it is a distinct geologic unit, it has not been shown to have an effect on specific gravity, grades or metallurgy. Therefore, while it was modeled by solids, it was not used in any estimation and hence was not given a code.

In the hypogene material, the main grade shell, used for copper, gold, and silver, is defined by the change from grades dominantly above ~0.4% Cu to grades dominantly below ~0.4% Cu. This shell appears to be related to stockwork-dominated mineralization (above ~0.4% Cu), as opposed to disseminated-dominated mineralization (below ~0.4% Cu). A clear, albeit gradational (~0.2% Cu to ~0.6% Cu) separation is shown on quantile plots of the copper distribution. To compensate for the gradational changes in grade, two more shells were defined at ~0.2% Cu and ~0.6% Cu. These shells were defined manually (as opposed to using estimation, *i.e.*, using indicators, to account for local changes and variable drill hole and sample spacing).

**Table 17-1: Coding and Description of the Geologic Model**

<b>Copper</b>	
<b>Code</b>	<b>Description</b>
<b>1000</b>	Hypogene “unmineralized”: the material outside the mineralized shell (200)
<b>1200</b>	Hypogene “mineralized”: made up principally of disseminated and stockwork mineralization inside a shell defined by ~0.4 %Cu
<b>1030</b>	Early (pre-mineral) dikes (Jefp) which have similar though different styles of mineralization to the enclosing 1000 and 1200
<b>1040</b>	Late dikes (Jhbp) that post-date the mineralization but have incorporated some mineralization during intrusion/stopping
<b>1050</b>	Late breccias (brpm) that post-date the mineralization but have incorporated some mineralization during intrusion/stopping
<b>2000</b>	The enriched or supergene zone, which includes all lithologies
<b>3000</b>	The mixed zone, which includes all lithologies
<b>4000</b>	The leached zone, which includes all lithologies
<b>Gold and Silver</b>	
<b>Code</b>	<b>Description</b>
<b>30</b>	These are early (pre-mineral) dikes (Jefp) which have similar but somewhat different styles of mineralization to the enclosing 12340 and 12342
<b>40</b>	These are late dikes (Jhbp) that post-date the mineralization but have incorporated some mineralization during intrusion/stopping
<b>50</b>	These are late breccias (brpm) post-date the mineralization but have incorporated some mineralization during intrusion
<b>12340</b>	All (external to the previous zones) “unmineralized”: this is the material outside the copper mineralized shell (200) <sup>1</sup> and the dikes and late breccias
<b>12342</b>	All (external to the previous zones) “mineralized”: this is made up principally of disseminated and stockwork mineralization <sup>2</sup>

<sup>1</sup> A visual assessment suggests that this is an appropriate methodology and is consistent with the geology and mineralization of the deposit.

<sup>2</sup> ditto

Figure 17-1: Schematic Illustration of Rock and Mineral Zones Used for Estimation – Copper

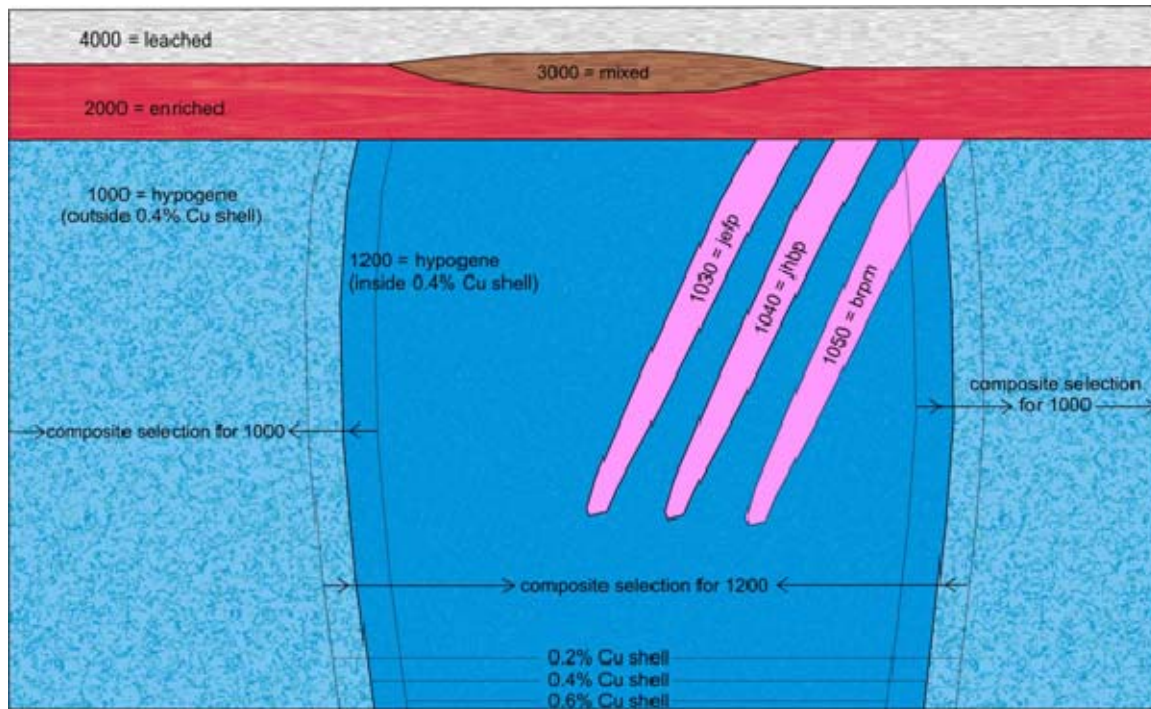
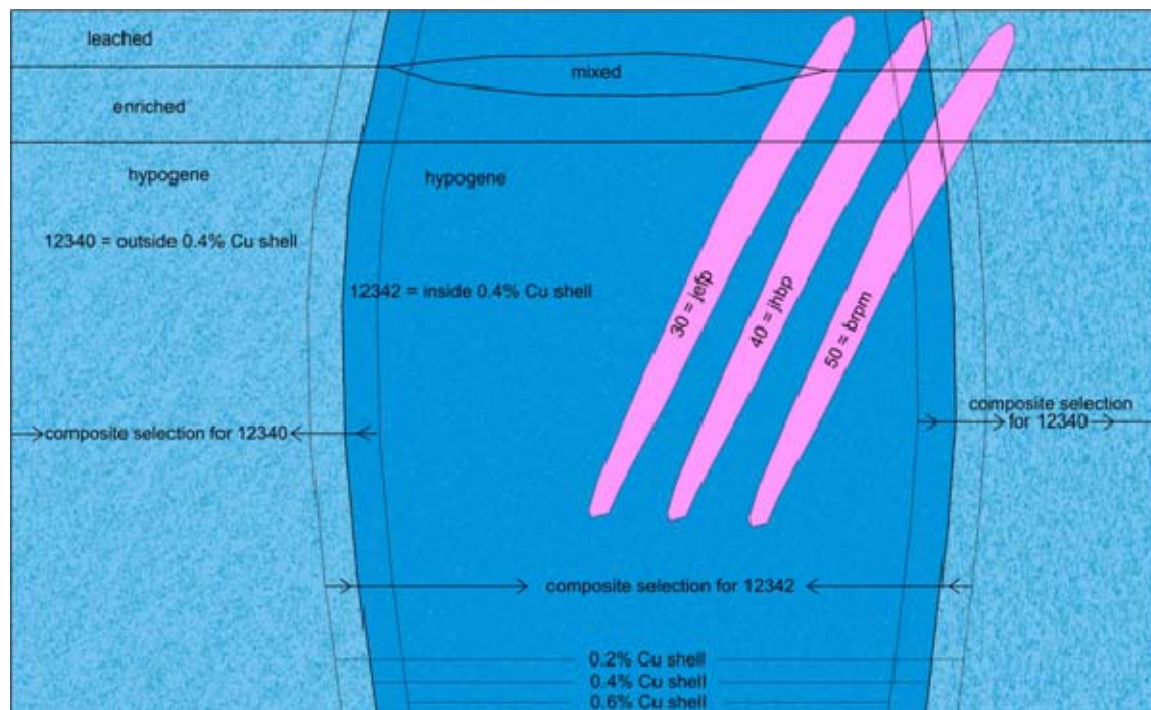


Figure 17-2: Schematic Illustration of Rock and Mineral Zones Used for Estimation – Gold and Silver



In the enriched, mixed, and leached zones, the copper has been remobilized. Gold seems to have maintained its original (pre-weathering) distribution. Silver distribution is most similar to gold distribution though a minor amount of remobilization does seem to have occurred<sup>3</sup>.

The style of mineralization just described gave rise to the following modeling criteria. In the weathered zones near the surface, there are sharp geologic and grade contacts between the hypogene and enriched types, and between the enriched or mixed and leached material types. These contacts were modeled using lithologic and grade criteria. All lithologies (*i.e.*, dikes and breccias) in the enriched, mixed, and leached material types were treated for copper estimation as parts of each of the enriched, mixed or leached material types. In the hypogene rocks, each lithology (*i.e.*, country rock, dikes, and breccias) was estimated separately for copper. Gold and silver modeling honored all lithology types while ignoring material types.

Corriente constructed solids (30, 40, 50, 1000, 1200, 2000, 3000, and 4000) for the above-described units. While the weathering zones (1000, 2000, 3000, and 4000) were relatively simple and were used to clip each other to produce valid, non-overlapping solids, the porphyry dike and breccia solids (30, 40 and 50) were too complex for clipping because the solids overlap in too many ways. Therefore, a priority was assigned to these solids so that all coding was done in geologically chronological order (30 then 40 and then 50) for composite and block coding.

The previously described styles and interpretations of mineralization have statistical support, as there is sufficiently good correlation (statistically) between hypogene precious metal and copper mineralization to utilize the same shells for both.

### **17.3 Sample Coding and Compositing**

Two grade shells (~0.2% Cu and ~0.6% Cu) were used to code samples, while only one shell (~0.4% Cu) was used for controlling the estimation and model block coding. Those samples lying outside the 0.6% Cu shell were used to estimate blocks outside the 0.4% Cu shell while those samples lying inside the 0.2% Cu shell were used to estimate grades inside the 0.4% Cu shell. Table 17-1 provides a schematic illustration of this. By coding and using samples in this manner, gradational changes were instilled in the model around the 0.4% Cu grade shell.

Overall, the deposit mineralization is evenly distributed and requires little capping or grade-projection constraints for the estimation process. Sample descriptive statistics were calculated for copper, gold, and silver for each of the modeled units and are presented in Attachment C.

Compositing was done to six metres (one-half of the final block size) honoring all material type, grade shell, and lithologic contacts after capping. The volume inside the main hypogene mineralization (~0.4% Cu shell) was estimated using composites from inside the 0.2% Cu shell.

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<sup>3</sup> As the silver does not make a major contribution to the economics of the deposit and the remobilization is small enough, the lack of specific attention to remobilization during modeling is likely not an important omission. There does, however, seem to be a slight enrichment of silver in the enriched zone and the users of the model should be cognizant of this.

The volume outside the main hypogene mineralization (outside the ~0.4% Cu shell) was estimated using all composites from outside the 0.6% Cu shell.

#### **17.4 Specific Gravity Model**

MDA assessed the specific gravity (SG) data in context of the defined lithologic and material types. Unless compelling reasons were found to change the methodology, MDA used the same methodology as in past estimates. MDA did have a different database and as a result, the mean specific gravity values of the various lithologies and material types were different from before. MDA decreased the measured mean specific gravity by 2% to account for the unavoidable sample selection bias<sup>4</sup> introduced when choosing samples for density measurements. Table 17-2 presents the specific gravity values used in this resource estimate.

**Table 17-2: List of Specific Gravity Values Used in Model**

<b>Zone/Lith</b>	<b>No. Samples</b>	<b>SG*</b>	<b>SG***</b>
<b>1000&amp;1200</b>	962	2.63**	2.58**
<b>1030</b>	142	2.65	2.60
<b>1040</b>	121	2.63	2.58
<b>1050</b>	103	2.61	2.56
<b>2000</b>	109	2.52	2.47
<b>3000</b>	75	2.46	2.41
<b>4000</b>	154	2.38	2.33

\* before the 2% reduction;

\*\* estimated into each block by inverse distance

\*\*\* post-2% reduction

#### **17.5 Resource Model and Estimation**

The dikes and breccias are barren to weakly or erratically mineralized, and so are distinctly different from the main mineralization. The geological conditions in the deposit are probably much more complex than the interpretation that is presented in this model, in spite of Corriente's valiant efforts to accurately model pre- and post-mineral dikes and breccias. There are likely slightly fewer tonnes and slightly higher grade in the resource than is estimated, but at the scale of mining this may or may not be noticeable.

The block model was constructed with sub-blocks measuring 3.75 m by 3.75 m by 3 m (high). After estimation, the sub-blocks were re-blocked into blocks 15 m by 15 m by 12 m high; this is the same block size as the 2004 AMEC model. The model sub-blocked only when the contacts transected blocks. This procedure of re-blocking allows for better representation of the rapid

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<sup>4</sup> When sampling for specific gravity testing, one can only test material that is intact, and not material that is broken, fractured, brecciated, *etc.* This type of material has lower specific gravity.

grade changes across the pre- and post-mineral dikes and breccias and allows for local dilution at and across the contacts. If mining could execute effective grade control at block sizes of less than 15 m, then re-blocking the model to blocks smaller than 15 m by 15 m by 12 m (high) would be appropriate.

Historic work by AMEC in 2004 emphasized geostatistics. MDA relied on AMEC's geostatistical results if nothing contradictory was found, but MDA still performed geostatistics to assess the applicability of the historic estimation parameters. Variograms were calculated for all zones, but only those with sufficient samples, which include the main mineralized zone and the surrounding low grade, could be modeled. The lack of sufficient samples, compounded by the fact that there might be poorer grade continuity, prevented the development of good variogram structures in the enriched, mixed, leached material types and in the post-mineral dikes and breccias. The variograms were used to support the chosen search ranges used in estimation.

Both the 2004 AMEC estimate and this estimate used inverse distance estimation for the final and reported estimate. Since the variograms did support the ranges used in the previous estimate, and since it was desirable to maintain consistency, MDA used similar search ranges. During this study, it was found that while copper does display some anisotropy (400 m in a northeast direction and 200 m in the northwest direction), gold and silver grade distribution is isotropic.

MDA estimated numerous models to assess the impacts of: 1) the new grade shell and lithologic solids, 2) the varying estimation parameters, and 3) the 2005 drilling.

MDA estimated two models for each of those listed above; one used inverse-distance squared and one used the nearest-neighbour method. Modifications were made to the final estimate based on the results and comparisons of each of the interim models. No Kriging was done, as most zones did not produce variogram structures that could be modeled. The estimation parameters used in the final estimate are given in Table 17-3, Table 17-4 and Table 17-5.

MDA initially used an inverse distance power of three ( $ID^3$ ) and noted a rather steep relative drop in the amount of material grading over 0.7% Cu compared to the previous estimate, which used the power of eight in inverse distance estimation. This latter high power has a tendency to eliminate smoothing, approaching a nearest neighbor or polygonal estimate. Because this deposit has few high-grade outliers and is a relatively well-behaved deposit with respect to grade continuity, MDA felt that a lower power would be more appropriate. Due to a desire to maintain a certain amount of continuity in estimation techniques, MDA assessed the differences in estimation parameters<sup>5</sup>. The model was run at inverse powers of 3, 4, and 8 to study the sensitivities to heavily localizing the estimation. Based on the results of comparisons of these other models and on point validation studies, there was no compelling reason to choose  $ID^3$  over  $ID^4$ . Therefore,  $ID^4$  methodology was chosen to maintain a certain amount of consistency with previous estimates, while also aiming to move away from a polygonal type of estimate. See Sivertz et al. (2006a) for illustrations of cross sections through the block model.

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<sup>5</sup> Search distance, inverse distance power, number of samples, minimum number of samples, and maximum number of samples per hole.



**Table 17-3: Estimation Parameters for Copper by Mineral Domain**

Description	Parameter
<b>Main Hypogene Mineralization – disseminated low-grade (12340) Copper</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor	200 / 200 / 200
Inverse distance power	4
High-grade restrictions	None
<b>Main Hypogene Mineralization – disseminated and stockwork (12342): Copper</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor (vertical)	200 / 200 / 200
Inverse distance power	4
High-grade restrictions	None
<b>Enriched Mineralization – (2000) Copper</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 50
Inverse distance power	4
High-grade restrictions	None
<b>Mixed Mineralization – (3000) Copper</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor (vertical)	200 / 200 / 50
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	None
<b>Leached Zone – (4000) Copper – Pass 1</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 50
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	Only comps <=0.2% Cu
<b>Leached Zone – (4000) Copper – Pass 2</b>	
Samples: minimum/maximum/maximum per hole	2 / 14 / 5
Rotation/Dip/Tilt (searches)	140° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	20 / 20 / 20
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	None

**Table 17-3: Estimation Parameters for Copper by Mineral Domain (continued)**

Description	Parameter
<b>Pre-Mineral Porphyry – disseminated and stockwork (30, Jefp): Copper</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	110° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	None
<b>Post-Mineral Porphyry (40, Jhbp): Copper – Pass 1</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	140° / -90° / 0°
Search (m): major/semimajor/minor (vertical)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	Only comps <=0.1% Cu
<b>Post-Mineral Porphyry (40, Jhbp): Copper – Pass 2</b>	
Samples: minimum/maximum/maximum per hole	2 / 14 / 5
Rotation/Dip/Tilt (searches)	140° / -90° / 0°
Search (m): major/semimajor/minor (vertical)	20 / 20 / 20
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	None
<b>Post-Mineral Breccia (50, brpm): Copper – Pass 1</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	130° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	Only comps <=0.1% Cu
<b>Post-Mineral Breccia (50, brpm): Copper – Pass 2</b>	
Samples: minimum/maximum/maximum per hole	2 / 14 / 5
Rotation/Dip/Tilt (searches)	130° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	20 / 20 / 20
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	None

**Table 17-4: Estimation Parameters for Gold by Mineral Domain**

<b>Main Hypogene Mineralization – disseminated low-grade (12340) Gold</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor	200 / 200 / 200
Inverse distance power	4
High-grade restrictions	None
<b>Main Hypogene Mineralization – disseminated and stockwork (12342): Gold</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor (vertical)	200 / 200 / 200
Inverse distance power	4
High-grade restrictions	None
<b>Pre-Mineral Porphyry – disseminated and stockwork (30, Jefp): Gold</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	110° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in ppb Au and distance in m)	None
<b>Post-Mineral Porphyry (40, Jhbp): Gold – Pass 1</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	140° / -90° / 0°
Search (m): major/semimajor/minor (vertical)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in ppb Au and distance in m)	Only comps <=40 ppb Au
<b>Post-Mineral Porphyry (40, Jhbp): Gold – Pass 2</b>	
Samples: minimum/maximum/maximum per hole	2 / 14 / 5
Rotation/Dip/Tilt (searches)	140° / -90° / 0°
Search (m): major/semimajor/minor (vertical)	20 / 20 / 20
Inverse distance power	4
High-grade restrictions (grade in ppb Au and distance in m)	None
<b>Post-Mineral Breccia (50, brpm): Gold – Pass 1</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	130° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in Cu% and distance in m)	Only comps <=40 ppb Au
<b>Post-Mineral Breccia (50, brpm): Gold – Pass 2</b>	
Samples: minimum/maximum/maximum per hole	2 / 14 / 5
Rotation/Dip/Tilt (searches)	130° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	20 / 20 / 20
Inverse distance power	4
High-grade restrictions (grade in ppb Au and distance in m)	None

**Table 17-5: Estimation Parameters for Silver by Mineral Domain**

<b>Main Hypogene Mineralization – disseminated low-grade (12340) Silver</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor	200 / 200 / 200
Inverse distance power	4
High-grade restrictions	None
<b>Main Hypogene Mineralization – disseminated and stockwork (12342): Silver</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	0° / 0° / 0°
Search (m): major/semimajor/minor (vertical)	200 / 200 / 200
Inverse distance power	4
High-grade restrictions	None
<b>Pre-Mineral Porphyry – disseminated and stockwork (30, Jefp): Silver</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	110° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in ppm Ag and distance in m)	None
<b>Post-Mineral Porphyry (40, Jhbp): Silver – Pass 1</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	140° / -90° / 0°
Search (m): major/semimajor/minor (vertical)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in ppm Ag and distance in m)	Only comps <=0.4 ppm
<b>Post-Mineral Breccia (40, Jhbp): Silver – Pass 2</b>	
Samples: minimum/maximum/maximum per hole	2 / 14 / 5
Rotation/Dip/Tilt (searches)	140° / -90° / 0°
Search (m): major/semimajor/minor (vertical)	20 / 20 / 20
Inverse distance power	4
High-grade restrictions (grade in ppm Ag and distance in m)	None
<b>Post-Mineral Breccia (50, brpm): Silver – Pass 1</b>	
Samples: minimum/maximum/maximum per hole	1 / 14 / 4
Rotation/Dip/Tilt (searches)	130° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	200 / 200 / 100
Inverse distance power	4
High-grade restrictions (grade in ppm Ag and distance in m)	Only comps <=0.4 ppm
<b>Post-Mineral Porphyry (50, brpm): Silver – Pass 2</b>	
Samples: minimum/maximum/maximum per hole	2 / 14 / 5
Rotation/Dip/Tilt (searches)	130° / -90° / 0°
Search (m): major/semimajor/minor (“vertical”)	20 / 20 / 20
Inverse distance power	4
High-grade restrictions (grade in ppm Ag and distance in m)	None

## 17.6 Resource Classification

The resource was classified to CIM standards. For consistency and a lack of compelling reasons to do otherwise, the resource classification used the same criteria as the previous estimate, except that MDA considered that some material should be classified as Measured. Because copper adds the greatest value to the deposit, all classification is based on the copper while gold and silver are carried along with the copper. The classification is demonstrated in Table 17-6. While there is gold in the leached zone, all blocks in the leached zone are unclassified for metallurgical reasons and there is no plan to extract gold from the leached zone.

**Table 17-6: Criteria for Resource Classification**

<b>All – <u>Measured</u></b>	
Minimum no. of samples /minimum no. of holes / maximum distance	2 / 1 / 20
<b>Hypogene – <u>Indicated</u></b>	
Minimum no. of samples /minimum no. of holes / maximum distance	2 / 2 / 100
Or	
Minimum no. of samples /minimum no. of holes / maximum distance	2 / 1 / 35
<b>Enriched (supergene) and Mixed – <u>Indicated</u></b>	
Minimum no. of samples /minimum no. of holes / maximum distance	2 / 2 / 75
Or	
Minimum no. of samples /minimum no. of holes / maximum distance	2 / 1 / 35
<b>All material not classified above is <u>Inferred</u></b>	
<b>Leached – modeled but unclassified; all Leached material is considered to be waste</b>	

The inclusion of Measured material in this resource update demonstrates an increased level of confidence, conveyed by the observations that a) the geology is relatively well understood; b) grade continuity is good; c) the deposit is relatively predictable; and d) the sampling is of good quality. On the other hand, the relatively small amount of Measured material (~15% of the total Measured and Indicated) is a consequence of the need to portray some of the risks incorporated in the model, which are the consequence of these facts:

- estimation of the volumes of the vertical dikes and breccias is risky, because the majority of the drill holes were vertical;
- the check sampling on gold grades demonstrates only modest reproducibility; and
- there are no down-hole surveys for 50 of the drill holes.

*For a comparison between the 2004 AMEC resource estimate, please see Sivertz et al. 2006a).*

**Table 17-7: Mirador Copper, Gold and Silver Resources – Measured**

**Total Measured**

Cutoff	Tonnes	Cu (%)	lbs Cu	Au (ppb)	oz Au	Ag (ppm)	oz Ag
0.30	62,680,000	0.60	831,000,000	200	400,000	1.5	3,080,000
0.35	57,610,000	0.63	795,000,000	200	380,000	1.6	2,930,000
<b>0.40</b>	<b>52,610,000</b>	<b>0.65</b>	<b>753,000,000</b>	<b>210</b>	<b>360,000</b>	<b>1.6</b>	<b>2,770,000</b>
0.45	47,900,000	0.67	709,000,000	220	330,000	1.7	2,590,000
0.50	42,810,000	0.69	656,000,000	220	310,000	1.7	2,370,000
0.55	36,620,000	0.72	584,000,000	230	270,000	1.8	2,090,000
0.60	30,360,000	0.75	505,000,000	240	230,000	1.8	1,790,000
0.65	24,440,000	0.79	424,000,000	240	190,000	1.9	1,480,000
0.70	18,140,000	0.83	330,000,000	250	150,000	1.9	1,130,000
0.75	11,950,000	0.88	231,000,000	260	100,000	2.0	769,000
0.80	7,910,000	0.93	162,000,000	270	68,000	2.1	522,000
0.85	5,090,000	0.99	111,000,000	270	44,000	2.1	340,000
0.90	3,220,000	1.06	75,000,000	290	30,000	2.1	215,000
0.95	2,000,000	1.14	50,000,000	300	20,000	2.0	131,000
1.00	1,470,000	1.21	39,000,000	310	15,000	2.0	97,000

Cutoff in %Cu

**Table 17-8: Mirador Copper, Gold and Silver Resources – Indicated**

**Total Indicated**

Cutoff	Tonnes	Cu (%)	lbs Cu	Au (ppb)	oz Au	Ag (ppm)	oz Ag
0.30	491,510,000	0.55	5,958,000,000	180	2,810,000	1.4	21,970,000
0.35	441,080,000	0.58	5,596,000,000	180	2,610,000	1.4	20,530,000
<b>0.40</b>	<b>385,060,000</b>	<b>0.60</b>	<b>5,134,000,000</b>	<b>190</b>	<b>2,380,000</b>	<b>1.5</b>	<b>18,760,000</b>
0.45	335,680,000	0.63	4,672,000,000	200	2,150,000	1.6	16,890,000
0.50	283,610,000	0.66	4,126,000,000	210	1,890,000	1.6	14,770,000
0.55	230,250,000	0.69	3,507,000,000	210	1,590,000	1.7	12,400,000
0.60	176,780,000	0.73	2,831,000,000	220	1,260,000	1.7	9,910,000
0.65	129,500,000	0.76	2,181,000,000	230	950,000	1.8	7,560,000
0.70	90,220,000	0.80	1,598,000,000	240	680,000	1.9	5,420,000
0.75	55,700,000	0.85	1,047,000,000	240	435,000	1.9	3,441,000
0.80	33,300,000	0.91	666,000,000	250	270,000	2.0	2,124,000
0.85	18,670,000	0.97	401,000,000	260	157,000	2.0	1,208,000
0.90	10,700,000	1.05	248,000,000	270	92,000	2.1	710,000
0.95	6,650,000	1.13	165,000,000	270	57,000	2.1	452,000
1.00	4,550,000	1.20	120,000,000	270	40,000	2.1	308,000

Cutoff in %Cu

**Table 17-9: Mirador Copper, Gold and Silver Resources – Measured and Indicated**

**Total Measured and Indicated**

Cutoff	Tonnes	Cu (%)	lbs Cu	Au (ppb)	oz Au	Ag (ppm)	oz Ag
0.30	554,190,000	0.56	6,789,000,000	180	3,210,000	1.4	25,050,000
0.35	498,690,000	0.58	6,391,000,000	190	2,990,000	1.5	23,460,000
<b>0.40</b>	<b>437,670,000</b>	<b>0.61</b>	<b>5,887,000,000</b>	<b>190</b>	<b>2,740,000</b>	<b>1.5</b>	<b>21,530,000</b>
0.45	383,580,000	0.64	5,381,000,000	200	2,480,000	1.6	19,480,000
0.50	326,420,000	0.66	4,782,000,000	210	2,200,000	1.6	17,140,000
0.55	266,870,000	0.70	4,091,000,000	220	1,860,000	1.7	14,490,000
0.60	207,140,000	0.73	3,336,000,000	220	1,490,000	1.8	11,700,000
0.65	153,940,000	0.77	2,605,000,000	230	1,140,000	1.8	9,040,000
0.70	108,360,000	0.81	1,928,000,000	240	830,000	1.9	6,550,000
0.75	67,650,000	0.86	1,278,000,000	250	535,000	1.9	4,210,000
0.80	41,210,000	0.91	828,000,000	260	338,000	2.0	2,646,000
0.85	23,760,000	0.98	512,000,000	260	201,000	2.0	1,548,000
0.90	13,920,000	1.05	323,000,000	270	122,000	2.1	925,000
0.95	8,650,000	1.13	215,000,000	280	77,000	2.1	583,000
1.00	6,020,000	1.20	159,000,000	280	55,000	2.1	405,000

Cutoff in %Cu

\*total Measured plus Indicated were calculated from rounded Measured and rounded Indicated resources and hence some apparent differences are rounding related.

**Table 17-10: Mirador Copper, Gold and Silver Resources –Inferred**

**Total Inferred**

Cutoff	Tonnes	Cu (%)	lbs Cu	Au (ppb)	oz Au	Ag (ppm)	oz Ag
0.30	417,300,000	0.45	4,124,000,000	150	1,960,000	1.1	15,130,000
0.35	338,390,000	0.48	3,559,000,000	150	1,670,000	1.2	13,220,000
<b>0.40</b>	<b>235,400,000</b>	<b>0.52</b>	<b>2,708,000,000</b>	<b>170</b>	<b>1,250,000</b>	<b>1.3</b>	<b>9,900,000</b>
0.45	175,230,000	0.56	2,147,000,000	180	980,000	1.4	7,820,000
0.50	122,290,000	0.59	1,593,000,000	180	710,000	1.5	5,790,000
0.55	70,270,000	0.64	993,000,000	190	440,000	1.5	3,470,000
0.60	37,890,000	0.71	587,000,000	190	230,000	1.6	1,970,000
0.65	22,020,000	0.76	369,000,000	190	140,000	1.7	1,200,000
0.70	14,710,000	0.81	260,000,000	190	90,000	1.8	824,000
0.75	9,450,000	0.85	177,000,000	200	60,000	1.9	561,000
0.80	5,750,000	0.90	114,000,000	210	39,000	2.0	370,000
0.85	4,020,000	0.93	82,000,000	210	28,000	2.1	266,000
0.90	2,530,000	0.96	54,000,000	210	17,000	2.1	170,000
0.95	1,290,000	1.00	28,000,000	220	9,000	2.2	90,000
1.00	530,000	1.04	12,000,000	220	4,000	2.2	38,000

Cutoff in %Cu

It is important to note that:

- The deepest drill holes extend to the ~850 m elevation, and are also mineralized;
- The lowest estimated Indicated material is at ~750 m;
- MDA modeled to 650 m; and
- “Reasonable but optimistic” pit optimization parameters yield a pit that goes to ~750 m on Measured and Indicated material only.

Consequently, MDA has reported resources to the 750 m elevation and no deeper in spite of the indications that the mineralization is open to depth. Pit optimization shells bottom out at 650 m (the bottom of the estimated model) when considering the Inferred material in the pit optimization and using “reasonable but optimistic” pit optimization parameters, 200 m below the deepest drill intercept.

Checks were made on the model in the following manner:

- Cross sections with the zones, drill hole assays and geology, topography, sample coding, and block grades with classification were plotted and reviewed for reasonableness;
- Block model information, such as coding, number of samples, and classification were checked by zone and lithology on a bench-by-bench basis on the computer;
- Quantile-quantile plots of assays, composites, and block model grades were made to evaluate differences in distributions of metals;
- The updated model and estimation parameters were compared to the previous model and estimation parameters<sup>6</sup>; and
- Multiple estimation iterations were done comparing the models with and without the 2005 drill holes as well as changing the estimation parameters.

It became evident from comparing the models that several factors impacted the 2005 model relative to the 2004 model. These are described in order of decreasing impact.

1. The greatest impact on the changes to estimated resources was caused by more rigid controls on the estimation through the use of better-defined grade and lithologic shells manually modeled rather than indicator modeled.
2. The 2005 drill holes, which were located principally along the margins of the deposit, had the effect of limiting the projection of the higher grades and decreasing the mean grade of the resource. The 2005 drilling was the only reason for the large increase in Indicated material. The new drilling and continued efforts by Corriente allow for the inclusion of Measured material in this resource estimate update.

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<sup>6</sup> Note that there is an increase in total tonnes for all categories at a cutoff of 0.4%Cu of 50 million.



3. The incorporation of dilution along the margins of the mineralized material affected the overall grade in a negative way, thereby more closely approaching what will be mined on blocks of 15 m by 15 m.
4. The change from ID<sup>8</sup> to ID<sup>4</sup> reduced the tonnage of the higher-grade (over ~0.7%Cu) material due to allowing for some grade averaging (smoothing) during estimation.

### **17.7 In-Pit Resources**

In-pit resources for the Mirador Project were developed by applying relevant economic and engineering criteria to MDA's report on estimated Measured and Indicated resources, in order to define the economically extractable portions.

The in-pit resource is calculated from Measured and Indicated Resources estimated in the block model and ultimate pit design provided by MDA, and summarized in Table 17-11.

**Table 17-11: Mirador In-pit Resources at 30,000 TPD**

Class	Tonnes (000)	Cu %	Au (ppb)	Ag (g/t)	Waste Tonnes (000)	Total Tonnes (000)	Strip ratio
Measured	36,584	0.64	208	1.68			
Indicated	144,398	0.61	196	1.62			
<b>Total</b>	<b>180,982</b>	<b>0.62</b>	<b>199</b>	<b>1.63</b>	<b>145,820</b>	<b>326,802</b>	<b>0.81</b>

### **17.8 Socio-Economic Considerations**

Corriente conducts its mineral exploration and development activities in compliance with applicable environmental protection legislation, and in consideration of exploration best practice. Corriente is not aware of any existing environmental problems related to any of its current or former properties that may result in material liability to the company.

The Mirador Project is located in Ecuador and therefore is subject to certain risks, including currency fluctuations and possible political or economic instability, which may result in the impairment or loss of mineral concessions or other mineral rights. In recent history, Ecuador has undergone numerous political changes at the presidential and congressional levels. Also, mineral exploration and mining activities may be affected in varying degrees by political instability and government regulations relating to the mining industry. Any changes in regulations or shifts in political attitudes are beyond the control of the company and may adversely affect its business. Exploration may be affected in varying degrees by government regulations with respect to restrictions on future exploitation and production, price controls, export controls, foreign exchange controls, income taxes, expropriation of property, environmental legislation and mine and/or site safety.

In November 2006, Rafael Correa won the Ecuador Presidential run-off election over Alvaro Noboa, but did not officially take office until January 15, 2007. During this transition period, the administration of President Alfredo Palacio experienced a number of protests in southeast Ecuador which eventually resulted in the suspension of the company's fieldwork in general and development activities at the Mirador Project.

Since President Correa's January 15, 2007 inauguration, his administration has focused primarily on exacting electoral and governmental reforms, which have resulted in the creation of a Constitutional Assembly which will re-write the Ecuador Constitution.

While management believes that the current political climate in Ecuador is stabilized, there can be no certainty that this will be the case in the near future. Presently, management believes that the company's Ecuador operations will not be affected in the long-term and that any disruption to its projects will be resolved. In recent press releases, President Correa has declared that copper mining is an important means to relieve poverty in the southeast area of Ecuador where the Mirador Project is located.

Community expectations of positive impacts from the mine presence are high and include items such as improvements to the local road network and the provision of sanitary and potable water treatment systems.

## 18.0 OTHER RELEVANT DATA AND INFORMATION

Other relevant data and information for the Mirador Project are published in the report titled “Mirador Copper Project - Feasibility Study Report” (SNC-Lavalin, 2007). This feasibility study is relevant because it provides some details on infrastructure, costs, potential mining and processing methods that have not changed since that report, and which are not covered and/or updated in this report. These details are summarized in Section 1 of this report.

The density factors used in the January 2006 Mirador model were based on density measurements from un-dried samples. MDA (2006) felt that, while this will have little effect on the primary mineralization, which is by far the bulk of the reserve, it will reduce the enriched tonnage and mixed tonnage more than the primary. There is no information on which to base an adjustment factor, but it is expected that the adjustment would be approximately one or two percentage points for the primary sulfide mineralization and it could be two to four percentage points for the weathered rock. Due to the higher porosity of leached material (waste), the reduction in tonnage would likely be greater for this material than for the enriched zone (mineralized rock).

The current mine plan uses in-pit resources capped at 181 MT to keep the project at a size that keeps the capital costs down and allows more options for financing. The Measured and Indicated resources are much larger and previous studies have examined a scaled-up operation. In 2006 MDA ran a mine plan which estimated 347 MT of Measured and Indicated resources within a designed pit; see Table 18-1. The Pangui TMF was expanded for this mine plan to accept the amount of tailings that 347 MT of milling would produce.

**Table 18-1: Measured and Indicated Resources within the Optimized Pit**

	Ore Tonnes (000)	Cu %	Au (ppb)	Ag (g/t)	Waste Tonnes (000)	Total Tonnes (000)	Strip ratio
Total	346,995	0.62	196	1.57	491,393	838,38	1.4

In addition to these resources at Mirador, Indicated and Inferred resources have also been estimated for the Mirador Norte deposit, located three kilometres northwest of the Mirador deposit, and only a kilometre from the proposed mill site. Mirador Norte has similar geology and nearly identical styles of mineralization and alteration as Mirador. Preliminary metallurgical testing also indicates the material has virtually the same metallurgy as Mirador. MDA ran their estimation using the same methodology as at Mirador and reported Indicated resources at a 0.4% copper cut-off of 171 MT at 0.51% copper and 0.09 g/t gold, with additional Inferred resources of 46 MT of 0.51% copper and 0.07 g/t gold (Sivertz et al., 2006b). To date, no mine plan has included the Mirador Norte resources and evaluated their economic impact to the Mirador Project.

The current process design circuit can be expanded cost-effectively to 60,000 tpd by doubling the linear milling and flotation circuits and adding equipment to the crusher and overland conveyors. The initial milling rate used in the SNC feasibility study was 25,000 tpd, with the possibility to develop a mirror-image process plant expansion to 50,000 tpd in Year 6. The initial 25,000 tpd design required additional engineering to avoid any major production disruption during the expansion. The areas with extra capacity identified by SNC in their design were the primary crusher, overland conveyor, coarse ore stock pile, and the linearization of the milling and flotation circuits.

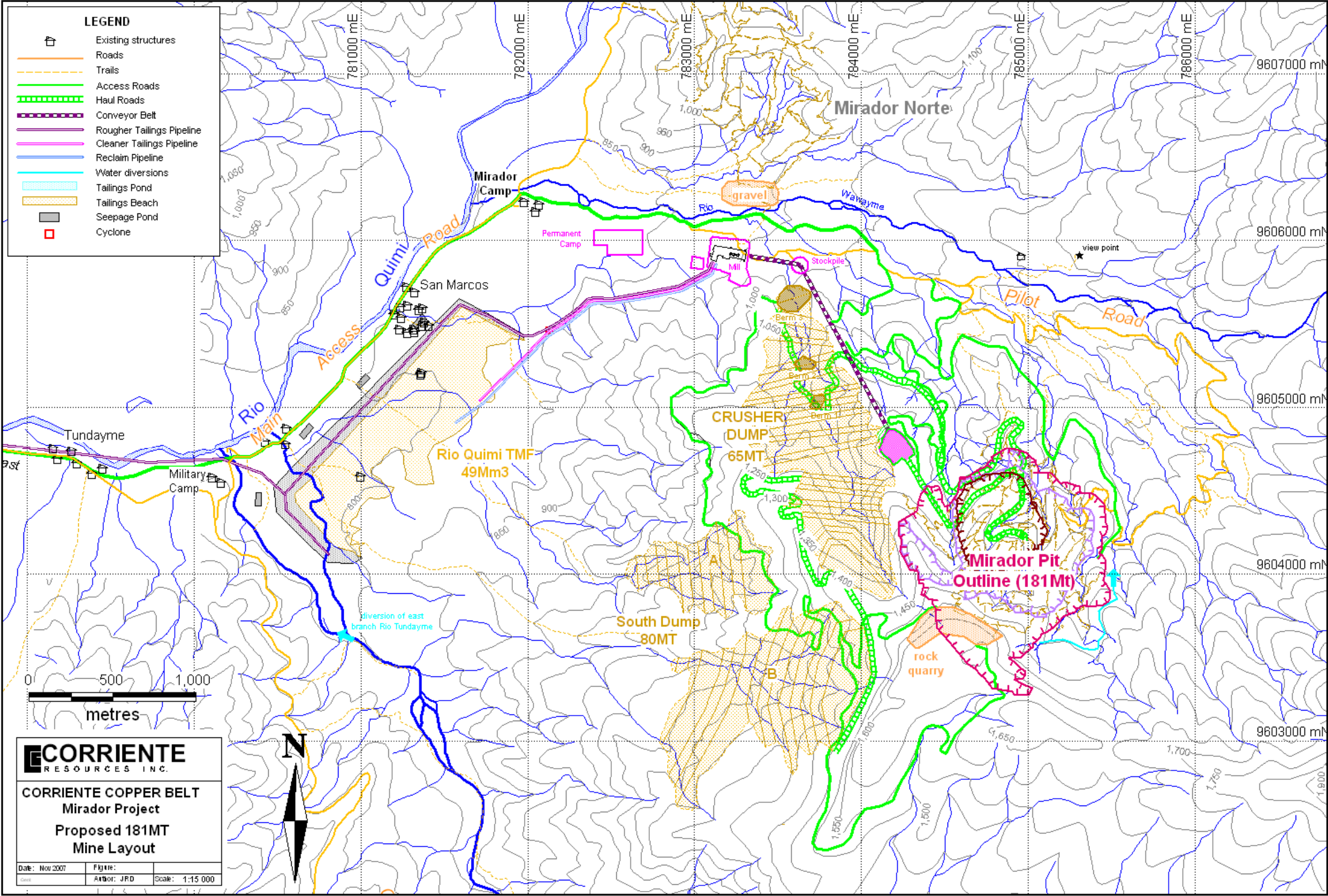
## **19.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES**

### **19.1 General**

The Basic Engineering done in 2007 by SNC-Lavalin Chile S.A. (SNC) at the request of ECSA was to develop the Mirador Project Process Plant at a milling rate of 27,000 tonnes per day (tpd). To further optimize the economics of the project, a mining plan with an average milling rate of 30,000 tpd was also evaluated in an addendum to the report. This section is based on the 30,000 tpd mine plan and uses current capital and operating costs, and a revised mine schedule. The major processing unit operations are primary crushing, SAG and ball mill grinding with a pebble crushing plant, flotation and regrinding, concentrate thickening and filtration. Processing operations are scheduled to operate at 92% availability with a nominal throughput of 30,000 tpd of copper ore containing 0.62% Cu, 0.20 g/t Au and 1.6 g/t Ag for approximately 17 years. A total of 181 MT of ore would be processed over the life of the mine (LOM).

Much of the following has been summarized from the SNC Feasibility report, and only updated where required to reflect the higher milling rate proposed in this report. Figure 19-1 shows the overall mine layout.

### Figure 19-1: Mine Layout



## 19.2 Mine Plan

### 19.2.1 Overview

MDA completed a mining study on the Mirador deposit – “Mine Plan, Production Schedule, Mine Operating Costs and Mine Capital Costs for Mirador Project” in December, 2006. Moose Mountain Technical Services (“MMTS”) was asked by ECSA to update the mining study to reflect the following changes:

- Increase the ore production rate to 30,000 tpd from 27,000 tpd;
- Adopt the preliminary waste dump design recommendations from Piteau for waste disposal;
- Revise the mine operating and capital costs estimates.

All other components of the MDA study remain the same, specifically the mine resource estimates, pit designs and pit phases. Mine operating and capital costs are revised for the changes to the ore production rate and waste disposal plan. The baseline unit costs to develop these estimates are from the MDA study. MMTS has not verified them and is relying on MDA for completeness, accuracy of the data, calculations, and information set forth in its report.

MDA stated that haul road and waste dump designs are not to a feasibility level study. MMTS revised some of the road layouts, but the level of design work is still conceptual as no additional detail is added. Field studies, geotechnical and hydrological evaluation of the sites are still necessary before major access roads, haul roads and waste dumps are designed to feasibility study level.

The word “ore” is used here as referring to the mineralized material mined from in-pit resources.

### 19.2.2 In-Pit Resources

The in-pit resources are calculated from Measured and Indicated Resources estimated in the block model and ultimate pit design provided by MDA, and summarized in Table 19-1. Only Measured and Indicated materials were allowed to make a positive economic contribution, and Inferred material was considered waste.

Table 19-1: In-Pit Mine Resources

Total Ore	k-tonnes	180,981
Cu Grade	%	0.62
Au Grade	ppb	199
Ag Grade	gm/t	1.63
Total Waste	k-tonnes	145,820

19.2.3 Production Schedule

The ore production rate for this study will be 30,000 tpd based on projected mill throughput. This is a revision to the 27,000 tpd ore schedule produced by MDA in their December 2006 study. At the higher rate, the mine life will be 17 years, not including the pre-production period. Table 19-2 summarizes the production schedule for the life of mine.

MMTS developed the 30,000 tpd ore production schedule following the design basis in the MDA study. Pit designs, ore and waste quantities, and ore grades, are provided by MDA. Pre-production mining takes place in Year 0 and Year 1 in Phases 1 and 3. The pre-production mining tonnage is set to smooth the mine haul truck fleet requirements in the first 5 years of production. First production occurs at a location within the Phase 1 design where ore is exposed from pre-stripping and copper grades are high to maximize cash flow in the initial years. There is no low grade ore stockpile in this production plan as there is concern for ore degradation.

Development of the subsequent pit phases follows the general sequence by MDA. The ore production by phase is shown in Table 19-2. Accesses to pit phases are through roads external to the pit as planned and described by MDA in their report. MMTS did not confirm the viability of these roads, and would prefer to re-design them on the pit walls of each phase instead of external to the pit. This alternative method of accessing subsequent pit phases will reduce road construction costs significantly, and will be examined in future studies.



Table 19-2: Mirador 30,000 tpd Estimated Production Schedule

Year	Mine Plan					Head Grade			Payable Metal			Cu Concentrate	
	Waste t/y x 1000	Hypogene t/y x 1000	Enriched t/y x 1000	Total Ore t/y x 1000	Strip Ratio	%Cu	Au (g/t)	Ag (g/t)	Cu lb/y x 1000	Au troy oz x 1000	Ag troy oz x 1000	Dry t/y	Wet* t/y
0													
1	8,000												
2	13,400	6,757	4,194	10,951	1.22	0.77	0.221	2.00	166,191	36.0	478.0	255,538	281,430
3	9,900	9,555	1,396	10,951	0.90	0.71	0.231	1.60	154,461	37.7	445.3	237,502	261,566
4	9,900	8,684	2,267	10,951	0.90	0.68	0.224	1.84	146,786	36.4	423.3	225,700	248,568
5	9,900	10,011	940	10,951	0.90	0.60	0.224	1.92	129,917	36.4	375.8	199,763	220,004
6	10,600	10,116	835	10,951	0.97	0.60	0.183	1.87	130,805	29.8	376.6	201,128	221,507
7	11,000	10,606	345	10,951	1.00	0.59	0.182	1.67	128,665	29.7	370.5	197,838	217,883
8	10,500	10,727	224	10,951	0.96	0.61	0.195	1.56	132,014	31.8	380.5	202,988	223,555
9	10,300	10,253	698	10,951	0.94	0.62	0.198	1.55	133,520	32.3	384.9	205,302	226,104
10	11,200	10,391	560	10,951	1.02	0.54	0.196	1.46	116,719	32.0	337.4	179,470	197,654
11	13,955	10,415	536	10,951	1.27	0.59	0.236	1.50	127,117	38.5	368.4	195,457	215,262
12	8,556	10,368	583	10,951	0.78	0.59	0.195	1.50	126,934	31.8	366.2	195,176	214,952
13	6,971	10,681	270	10,951	0.64	0.56	0.165	1.43	121,572	26.8	349.8	186,932	205,872
14	4,758	10,945	6	10,951	0.43	0.56	0.166	1.48	121,591	27.0	349.8	186,897	205,834
15	3,234	10,951	-	10,951	0.30	0.59	0.190	1.54	128,809	31.0	371.3	198,059	218,127
16	2,198	10,951	-	10,951	0.20	0.61	0.199	1.53	131,558	32.5	379.4	202,286	222,782
17	1,158	10,951	-	10,951	0.11	0.63	0.191	1.57	136,415	31.1	392.7	209,755	231,007
18	292	5,765	-	5,765	0.05	0.66	0.168	1.77	75,031	14.4	215.3	115,368	127,058
Total	145,820	168,127	12,853	180,981	0.81				2,208,106	535.5	6,365.1	3,395,160	3,739,162
Average						0.617	0.199	1.63				563t/d	620t/d

\*Bases - 9.2% Concentrate Moisture

**Table 19-3: Ore Production by Phase**

	Phase 1	Phase 2	Phase 3	Total
Y0	-	-	-	-
Y1	-	-	-	-
Y2	10,950	1	-	10,951
Y3	10,584	367	-	10,951
Y4	5,954	4,997	-	10,951
Y5	398	10,553	-	10,951
Y6	-	10,951	-	10,951
Y7	-	10,951	-	10,951
Y8	-	10,709	242	10,951
Y9	-	8,896	2,055	10,951
Y10	-	3,900	7,051	10,951
Y11	-	-	10,951	10,951
Y12	-	-	10,951	10,951
Y13	-	-	10,951	10,951
Y14	-	-	10,951	10,951
Y15	-	-	10,951	10,951
Y16	-	-	10,951	10,951
Y17	-	-	10,951	10,951
Y18	-	-	5,765	5,765
<b>Total</b>	<b>27,886</b>	<b>61,325</b>	<b>91,770</b>	<b>180,981</b>

**19.3 Process Design and Material Handling**

ECSA requested SNC in 2006 to develop the Basic Engineering for the Mirador Project Process Plant, including mass balances, flow sheets, general arrangements, preliminary mechanical and civil specifications, and equipment specifications. This report expands the basic SNC 27,000 tpd design to 30,000 tpd.

A simplified schematic process diagram for ore is shown in Figure 19-2 and Figure 19-3. Recoveries are estimated to be 89.7% Cu, 46.3% Au and 67% Ag to the copper concentrate. Copper concentrate production is expected to average 29.5% Cu, 4.9 g/t of Au and 58 g/t of Ag. A total of 2,208 million lbs of copper and 535,500 oz of Au would be recovered to the copper concentrate over the mine’s life. The wet copper concentrate will be transported 418 km, over mostly paved roads, by trucks with 32 MT capacities to the port of Machala on the Pacific Coast.

Processing operations are scheduled for 24 h/d, 365 d/y at 92% feed rate availability. The major units operations are primary crushing, SAG and ball mill grinding with a pebble crushing plant, flotation and regrinding, concentrate thickening and filtration.

SGS was commissioned by ECSA in 2007 to evaluate a mill throughput of 1505 tonnes per hour (tph) at 92% availability, and 10% compensation factor to accommodate expected ore variability to give a nominal 30,000 tpd rate.

The tonnage throughput calculations were based on the 2004 ore hardness variability data and the JKSimMet grinding modeling software as follows:

Model design basis = 1505 tph for 24 hours/day = 36,120 tpd

36,120 tpd at 92% feed rate availability = 33,239 tpd

Process design = 33,239 tpd less a 10% Compensation Factor = 30,000 tpd

The SGS report “Variability Simulations for the Mirador Circuit Based On Small-Scale Data”, completed in March 2007, considered a 32’ diameter by 14’-6” EGL, with two variable speed 4.8 MW drives, and a 22’ diameter by 36’ EGL ball mill with two fixed speed 4.8 MW drives. In the simulations, the minimum feed rate was above 30,000 tpd for a fixed final grind of 176 microns.

In summary, the SGS report concluded:

*“The average SAG mill speed at 30,000 and 33,000 tpd would be 73.9 and 77.1% (of critical), respectively, requiring 8.4 MW or 8.8 MW of the total 9.6 MW installed. The ball mill should achieve a final grind P80 of 146 microns at 30,000 tpd, or 176 microns at 33,000 tpd.”*

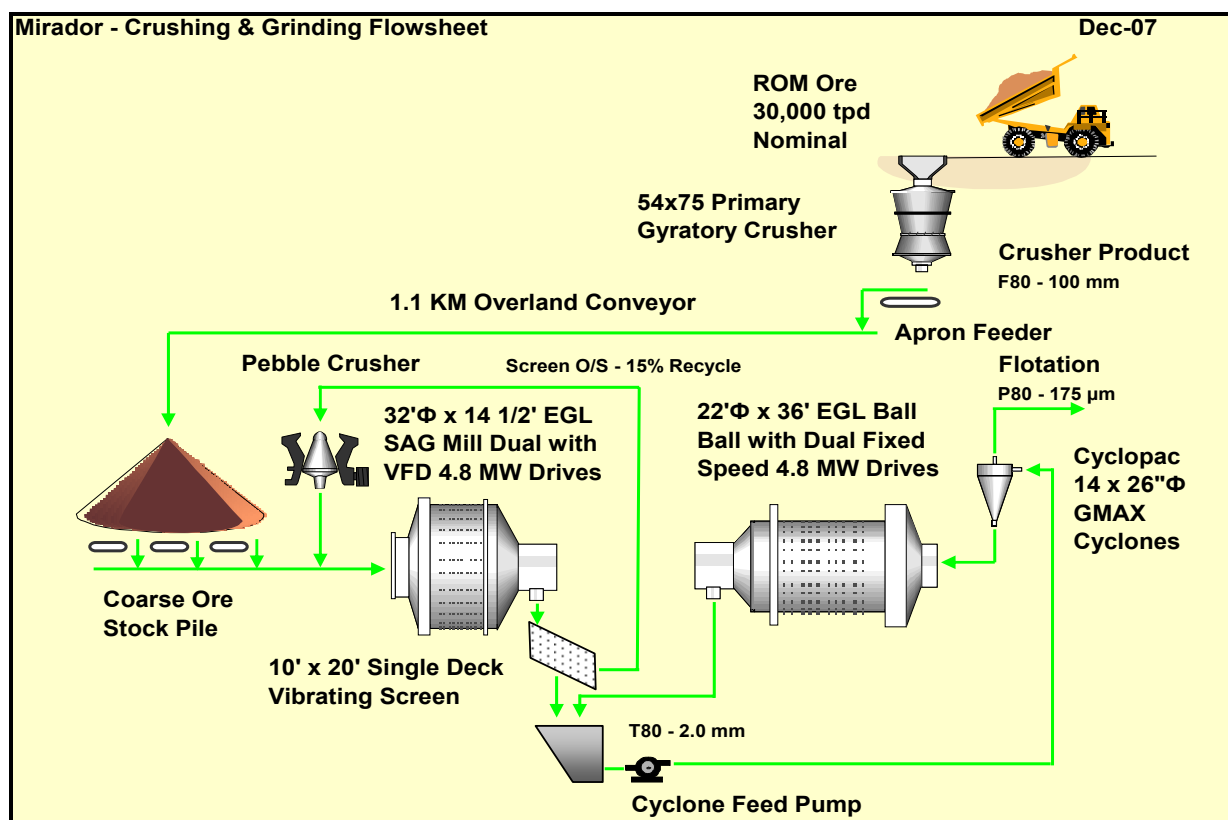
As a result of the SGS simulations, a flotation feed size of 176 microns was used to estimate the effect of higher mill throughput and the resulting coarser flotation feed size on recovery based on data from the “An Update on Metallurgical Testing of Mirador Ores” report, prepared by SGS for ECSA in September, 2004. The grind-recovery relationship at several grind sizes on the four variability “super composites” indicated a slightly lower copper and gold recovery would be obtained at a coarser grind. The average recovery to the final copper concentrate was reduced by 1.3% to 89.7% for copper, and by 0.7% to 46.3% for gold. A silver recovery was estimated to be 67% from the 2004 SGS Lakefield testing using the copper concentrate weight and silver grade produced by the four variability “super composites” SGS locked cycle tests and head assays.

The following new equipment is required to process 30,000 tpd according to the SNC “Technical Report for 30,000 tpd Process Plant”, N° 9634-000-49-RA-0003:

- *“Grinding cyclone cluster. Two additional cyclones are needed. A cluster with 14 cyclones (12 in operation and 2 stand-by) is considered.*
- *Grinding cyclone feed pumps. Flow increases from 5,700 m<sup>3</sup>/h to 6,840 m<sup>3</sup>/h and power from 1,500 kW to 1,600 kW. Two new pumps are considered (1 in operation, one spare).*
- *Rougher flotation. One additional cell of 200 m<sup>3</sup> is required to reach the nominal flotation time. So, a total of 9 cells line is considered.*

- *Regrinding Mill. To maintain 30  $\mu\text{m}$  as regrinding product a 1,250 hp vertical mill is required instead of a 1,000 hp. For product classification no change is required in the regrinding cyclone cluster.*
- *Regrinding cyclone feed pumps. A new flow of 1,264  $\text{m}^3/\text{h}$  is required and pumps power increases from 110 kW to 150 kW. Two new pumps are considered (1 in operation, one spare).*
- *Scavenger Cleaner flotation stage. An additional cell of 100  $\text{m}^3$  is required to reach the nominal flotation time. So, a line of 3 cells is considered.*
- *Second cleaner flotation stage. An additional cell of 10  $\text{m}^3$  is required to reach the nominal flotation time. So, a line of 5 cells is considered. For third cleaner stage no changes are required.*
- *Concentrate thickener. A 22 m diameter thickener is required instead of one of 20 m.*
- *Lime plant. A 1.56 t/h capacity lime plant is required instead of one of 1.36 t/h."*

**Figure 19-2: Crushing and Grinding Flow Sheet**



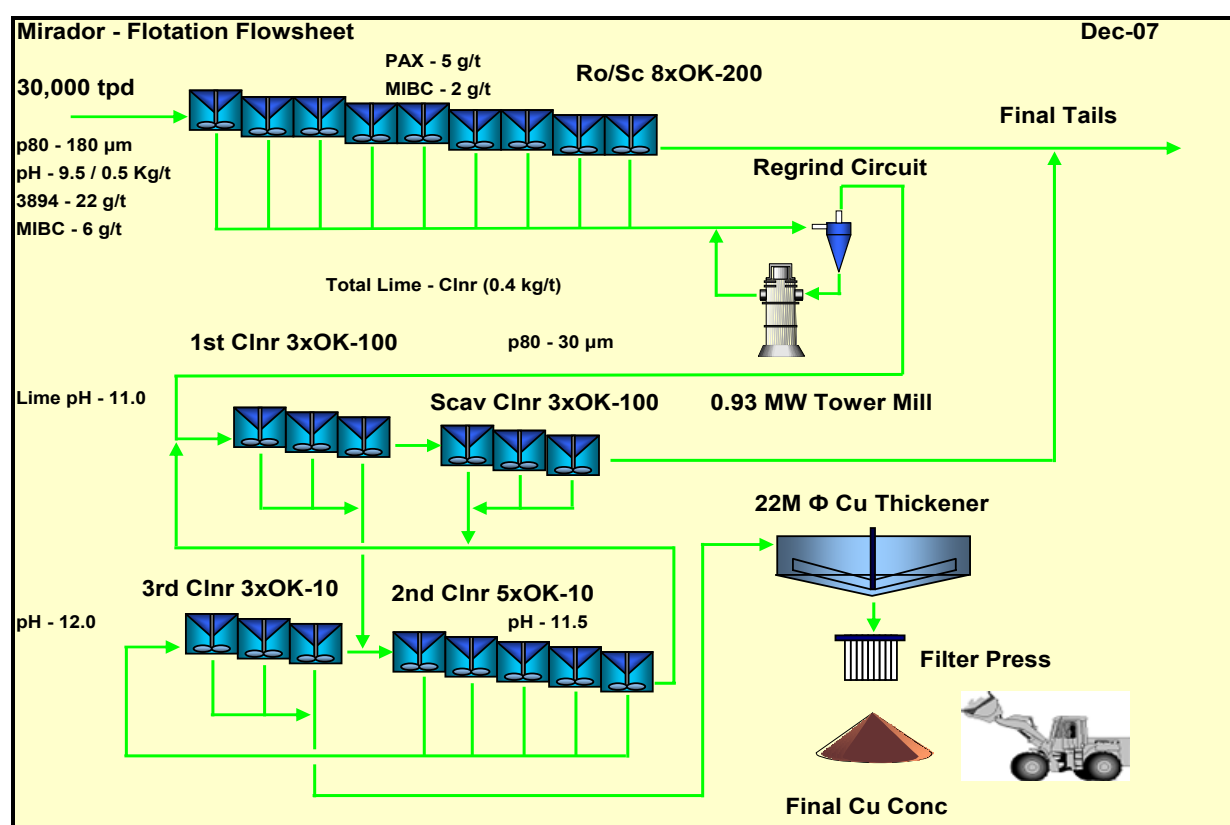
An overland conveyor would feed ore from the primary crusher to the 50,000 t coarse ore stockpile. This conveyor is 1,120 m long with a 1372 mm (54") wide belt with a capacity of 3750 t/h. The routing selected for the overland conveyor follows a ridge line from the crusher apron feeder to the coarse ore stockpile at 939 masl.

The designed configuration for the conveyor has the drives (3000 kW) and brakes located near the tail end of the conveyor and a gravity take-up located near the head. The conveyor will generate power as the ore is conveyed downhill, but will require power to run empty. The drive will provide dynamic breaking, and brakes are provided to stop the conveyor if there is a drive failure, as well as to park the conveyor if stopped when loaded.

The Mirador primary crusher would have a 3000 t/h capacity, through a 54" x 75" gyratory crusher in open circuit, which reduces the ore from 100% passing 1,000 mm (40") to 100% passing 250 mm (10"). The crusher has the ability to accommodate crusher ROM ore from 240 t trucks on two opposing sides. Crushed ore is transported down a 1.2 km regenerative overland belt conveyor to a 120,000 t capacity mill feed coarse ore stockpile.

The nominal 80% passing 100 mm rock from the stockpile is fed to a single 32'  $\Phi$  x 14½' EGL SAG mill with dual 4.8 MW variable speed motors. The SAG mill discharge passes over a 10' x 20' single deck vibrating screens which takes out the coarse material for recycle back through an HP 800 crusher then back to the SAG mill. The defined normal operation circuit is SABC-A, where the crushed pebbles return to the SAG mill. There would be two options to bypass the pebble crushing plant, which is either returning the uncrushed pebbles to SAG mill or discharging them onto the floor. The fines from the screens are pumped along with the ball mill discharges to Krebs 26"  $\Phi$  GMAX cyclones with 14 cyclones in the primary cyclopac to make a flotation feed of approximately 80% passing 175  $\mu$ m material. The cyclone underflow feeds a 22'  $\Phi$  x 36' EGL ball mill with dual drive motors, 4.8 MW apiece. The primary grinding circuit has 19.2 available MW for grinding.

**Figure 19-3: Copper Flotation Flow Sheet**



The flotation circuit consists of one rougher-scavenger bank, regrinding and three cleaner flotation stages for the grinding circuit product. Flotation includes the following major equipment:

- One rougher-scavenger line, with nine 200 m<sup>3</sup> tank cells in a (1+2+2+2+2) arrangement;
- One regrind cyclopac, with six 15"  $\Phi$  cyclones each;
- One – 930 kW Vertimill VTM1250's for regrinding;
- One line with six 100 m<sup>3</sup> tank cells in a 1+1+1 and 1+1+1 arrangement; the first three cells operate on the first cleaner stage and the final three cells are for scavenger cleaner flotation; and
- One line with eight 10 m<sup>3</sup>, conventional cells in a 1+1+1 and 1+1+1+1+1 arrangement. The first three cells operate in the third cleaner stage and the following five cells operate in second cleaner flotation.

- Copper concentrate thickening includes one 22 m diameter conventional thickener which feeds a 40 plate VPA 1540 Metso filter press.

Fresh water is provided by an intake on the Rio Wawayme through to a fresh water head tank at a maximum of 120 l/s. Reclaim water is provided from the tailings pond reclaim barge to a reclaim water head tank at a nominal 700 l/s.

Installations are provided for the storage, preparation and distribution of hydrated lime. This includes a compact plant with a storage bin (3 days operating capacity), slaking-mill system and dilution tank. The distribution system includes one tank with a distribution loop to feed the consumption points on the SAG grinding and flotation plant.

A solid reagent storage and preparation plant is included. For liquid reagents, storage tanks are provided with pumping systems to feed the dosing tanks at the concentrator. The reagents included are the principal copper collector (3894), secondary copper collector (xanthate), and frother (MIBC).

#### **19.4 Waste Material Handling**

The waste disposal plan is based on the design concept recommended by Piteau Associates ("Piteau") in their report: "Preliminary Waste Dump Design Criteria for 181 MT Open Pit", July 19<sup>th</sup>, 2007. Piteau (2007) maintains that the recommendations from the report are for scoping level studies, and need to be verified by field investigations before they can be considered viable. Figure 19-1 shows the locations of the waste dumps for this plan. Three dumps are planned: the "Crusher" dump, in the deep valley just west of the ridge where the crusher will be located, and the two "South" dumps A and B, located in broader valleys south of the Crusher dump. These are based on previous design work by MDA using the Crusher Dump and the South dumps to store all of the waste from the pit.

##### **19.4.1 Crusher Dump**

The first dump that will be used is the Crusher Dump, and has a capacity of approximately 49 million m<sup>3</sup>, or close to 10 years of storage. The waste material destined to this dump will be predominantly saprolite, which is less competent than the bedrock. It is estimated that approximately 20% of the hypogene waste rock is geotechnically weak and will also be placed in this dump. Piteau recommends that this dump be constructed using the bottom to top sequence in lifts no greater than 25 metres in height.

The dump will be constructed in three phases, each phase buttressed with a toe berm. The first toe berm will be located at approximately 1075 m elevation. Initial pit waste will be placed in 25 m lifts starting from this toe berm. The second toe berm will be at the 1040 m elevation for second construction phase of this dump, and the final berm will be at approximately 1000 m elevation. The final toe berm will also be part of the Impact Berm, that will have to be constructed first to catch roll out material during the site

preparation stage. A detailed description of the construction sequence is provided in the report, “Preliminary Waste Dump Design Criteria for the 181 MT Open Pit”, July 19, 2007) available from Corriente.

As recommended by Piteau, toe berms will be constructed of high quality material, and it will be sourced from Hollin quarry. The approximate quantities for the toe berms are in Table 19-4.

**Table 19-4: Toe Berm Quantities**

	Cubic metres
Initial Toe Berm	38,000
Phase 2 Toe Berm	87,000
Final Toe Berm (Impact Berm)	383,000

#### 19.4.2 South Dumps

The South dumps are designed to contain waste material with stronger geotechnical characteristics than those to be placed in the Crusher Dump. The waste material will consist of all the dyke and majority of the hypogene rock. The dumps will be constructed in 50 metre lifts at an overall slope of 2.5 horizontal (h):1 vertical (v). No toe berms will be required for the South Dump. The total volume of the two dumps will be about 60 million m<sup>3</sup>, or 80 MT.

There is an allowance for minor quantities of poor quality material that can be placed at the upper portion of the dump, buttressed below by good quality rock. The poor quality material must be placed in 25 metre lifts, at an overall slope 3h:1v.

#### 19.4.3 Haul Roads to Waste Dump

The initial haul road from the Phase 1 Pit to the Crusher Dump is shown in Figure 19-1. This road layout is preliminary, and is not designed to a feasibility level. Detailed cut and fill volumes have not been calculated for this road. MDA indicated that roads have been designed to access various other points to the Crusher Dump. Access to the second and final pit phases depends on having the Crusher Dump in place because the haul roads are built on top of the dump at the 1250 m and 1400 m elevations. MMTS has not verified the feasibility of these access roads and relies on MDA for the completeness of the designs.

As recommended by Piteau, permanent haul roads will be constructed with a sub base consisting of coarse, angular rock. The source of this material will be from a quarry in the Hollin formation located southwest of the pit. Two possible quarry sites are shown in Figure 19-1. Good quality pit waste can be used for the base and capping of roads in the later years of the mine.



#### **19.4.4 Waste Dump Site Preparation**

Prior to disposing waste in the Crusher Dump, its foundation will have to go through rigorous site preparation activities recommended by Piteau in their report. Because of the steepness of the terrain and difficult access onto the footprint of the dump, successful undertaking of these activities may not be possible. Investigations and more detailed planning are necessary to further define some of these activities. The recommendations by Piteau are summarized as follows:

- In areas in the main channel with gradients that can be operated by dozers, <20 degrees, 0.5 metres of surficial soils will be stripped and removed.
- Trees on the side slopes of the channels will be removed. Stumps will remain in place to provide some stability of the slopes.
- Coarse, angular rock will be placed in the main drainage channel and the finger drains. The rock will be sourced from the Hollin quarry. Piteau estimated 239,000 m<sup>3</sup> of quarried rock will be required for the main drainage channel and 165,000 m<sup>3</sup> for the finger drains.
- Coarse and fine filter materials will be layered over the coarse material in the main drainage and finger drains. The source for the filter material will be a gravel pit at the valley bottom. Piteau estimated that 175,000 m<sup>3</sup> of coarse and fine filter material will be required.

The Main Access Road will be constructed from the Hollin quarry at approximately 1600 m elevation to the bottom of the waste dump at approximately 1000 m elevation. The road will be 8 to 10 metres wide, and over 6 km in length. It will serve as the main connection from the mining areas at the top of mine property to the facilities located at the bottom of the valley. Accesses off this main road to various locations on the dump footprint will be constructed as required. Quarry material from Hollin to the various destinations will be hauled by 35 tonne trucks on this road. Therefore a high quality road sub base will be necessary, and coarse angular material from the quarry will be used.

A layout of the Main Access Road is shown in Figure 19-1. A cut and fill design for this road has not been carried out as a part of this study. A detailed design for this road will be done in the next study phase to provide better construction and cost estimates. Because of the steepness of the terrain, poor soil conditions, and the length of the road, it is anticipated that construction of this road will take no less than six months to complete. A fleet consisting of backhoes, track dozers, and a motor grader will be used. This work is highest priority, and should commence immediately once the pre-production development activities have been approved to go ahead.

Site preparation for the South Dumps will be similar to that of the Crusher Dump. However, the dump design is more aggressive due to the better material quality and accessibility issues are expected to be fewer compared with the Crusher dump.

#### **19.4.5 Surface Water Management**

The water management plan is described by KP in Section 19.6. Collection ditches and treatment ponds will intercept the water emanating from the base of the waste dumps and roads prior to release into the environment.

### **19.5 Tailings Management Facility**

#### **19.5.1 General**

The Tailings Management Facilities (TMFs) will be required to accommodate approximately 181 MT of tailings over the operating mine life. Two TMFs will be required for the Project (Figure 19-4). The Rio Quimi TMF, located adjacent to the Mill, will store both Cleaner and Rougher tailings for the initial 6 years of mine operation. The Pangui TMF, approximately 10 km west of the Mill, will come online in Year 8, and store approximately 110 million tonnes of Rougher tailings, over the remaining life of the Project. Beginning in Year 8, the Rio Quimi facility will be used only for the storage of Cleaner tailings and as the principal water management facility for the Project.

The filling schedules for the Rio Quimi and Pangui TMFs, respectively, have been revised to reflect the 30,000 tpd mine plan. This results in an 17 year mine production life, as compared to the previous 18 years. The Rio Quimi TMF would be filled to its ultimate capacity approximately 6 months sooner given the increased production rate, resulting in a transfer of Rougher Tailings discharge to the Pangui TMF starting at the beginning of Year 8. Ongoing capital and operating costs have been accelerated to support these changes.

The studies and supporting investigations have been documented in internal reports prepared for the Corriente Resources Inc (KPL Ref No. VA201-78/09-6 Rev 0) and are available upon request. These reports encompass geotechnical site investigations, feasibility designs, cost estimates and a risk analysis for the TMFs.

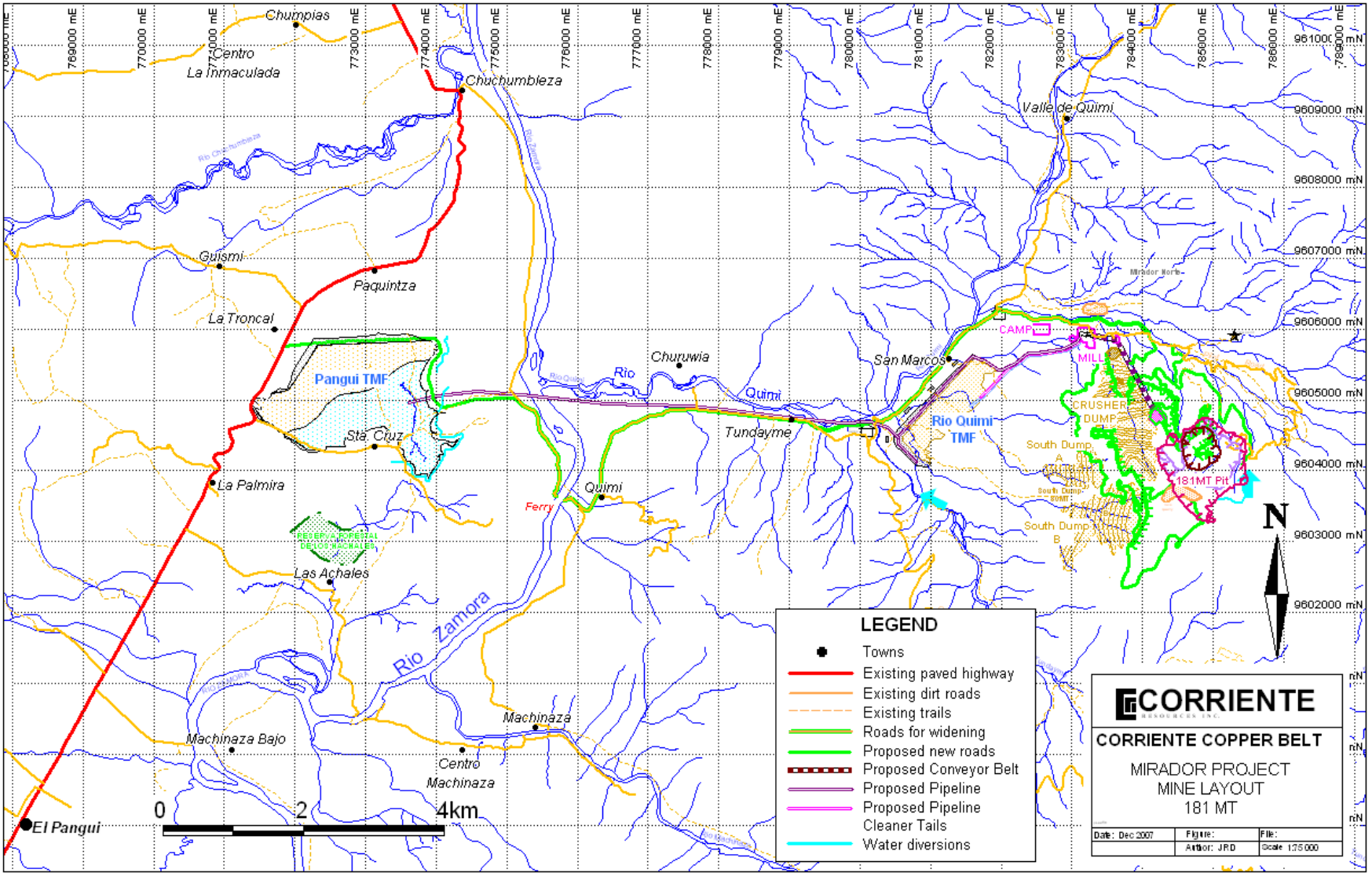
Several simplifying assumptions were made in this revised assessment. The Pre-Production and Construction year previously termed “Year -1” is now “Year 1”, the first year of operation is Year 2, and so on.

The principal objectives of the design for the TMFs are to ensure protection of regional groundwater and surface waters both during operations and in the long term, and to achieve effective reclamation at mine closure. Features taken into account in design include:

- Permanent, secure and total confinement of tailings and process water within an engineered TMF;
- Control, collection and removal of free draining liquids from the tailings during operations, with recycling, to the maximum practical extent, for process use;
- The inclusion of monitoring for all aspects of each facility, to ensure that performance goals are achieved and design criteria and assumptions are met;
- Ongoing (staged) development of the facilities over the life of the Project.

Tailings will be produced from the conventional milling of copper ore. The flotation process will result in two separate tailings streams for disposal in the Tailings Management Facilities: Rougher tailings and Cleaner tailings.

Figure 19-4: Location of Pangui and Rio Quimi TMF Sites and General Mine Layout



General characteristics of the mill feed and the tailings streams include:

- Total solids throughput: 30,000 tpd
- Concentrate: 2% (of initial ore)
- Rougher tailings: 87%
- Cleaner tailings: 11%
- Rougher Tailings slurry percent solids: 33%
- Cleaner Tailings slurry percent solids: 22%
- Solids specific gravity of 2.7 for Rougher tailings (measured), and 3.0 for Cleaner tailings (assumed).

The Cleaner tailings, which would include a potentially reactive pyrite component, would be discharged separately from the Mill and maintained underwater in the Rio Quimi TMF. Their isolation, submergence and ongoing encapsulation by overlying layers of Rougher tailings will help to minimize any potential for oxidation.

At start-up, both the Rougher and the Cleaner tailings will flow by gravity from the Mill to the Rio Quimi TMF. A cyclone plant established near the northeast abutment of the confining embankment, will remove the sand fraction of the Rougher tailings, for use as embankment construction material. The tailings solids settle in the TMF, releasing water to the surface supernatant pond where it mixes with precipitation and runoff from surrounding nondiverted catchments. A floating pump station (reclaim barge) recovers water and returns it to the process plant. Beginning in Year 8, transfer pipelines will carry Rougher tailings and reclaim water between the mill site and the Pangui TMF. The tailings will flow by gravity from the Mill to a sump at a booster pump station located at the lowest point in the pipeline, approximately 9 km from the Mill on the east bank of the Rio Zamora. From this location the tailings will be pumped to a cyclone head tank above the northeast abutment of the Pangui facility. The total pipeline length between the Mill and the cyclone plant will be approximately 12 km. Supernatant water collected in the Pangui TMF will be pumped back into the Rio Quimi TMF. The pipelines between the two facilities will follow the access road between the bridge crossing, the Rio Quimi TMF and the Mill site. Pipelines will be provided with drainage ponds at low sections and be installed in a lined ditch to capture any leakage. A continuous monitoring and leak detection system will be provided. Regular inspection of the pipelines will enable planned maintenance or replacement of worn or damaged sections of the pipelines.

Detailed descriptions of the design and operation of the Rio Quimi TMF and the Pangui TMF are included in KP Reports Ref. No. VA201-78/9-2 and Ref. No. VA201-78/9-3.

#### **19.5.2 Rio Quimi Tailings Management Facility**

The proposed Rio Quimi TMF is designed to store all tailings produced (Rougher and Cleaner tailings) during the initial six years of operations. The Rougher tailings stream will be redirected into the newly constructed Pangui TMF at the start of Year 8. Thereafter, the Rio Quimi facility will be used to store only Cleaner tailings and, in an emergency, Rougher tailings.

The Rio Quimi TMF is located on a terrace, above and to the south of the Rio Quimi, at an elevation of approximately 790 m. The Rio Quimi generally flows 4 to 5 metres below this terrace. The western portion of the embankment footprint crosses the east arm of the Rio Tundayme, which flows into the Rio Quimi. Several small streams also drain into the TMF site from the slopes to the southeast. The terrace on which it is proposed to construct the tailings embankment is mostly free draining, although several waterlogged areas with a high water table were identified, particularly in the northeast part of the site.

The close proximity of the Rio Quimi TMF to the Mill and the higher Mill elevation allow relatively short tailings delivery pipelines with no pumping requirements. The Rougher tailings will flow by gravity through a single HDPE pipeline, to a cyclone plant located near the northeast corner of the facility. The free draining coarse tailings fraction, separated by the cyclones, will be used as embankment construction material. The finer cyclone overflow material will be deposited into the TMF from the embankment crest. Cleaner tailings (high sulphide) will flow from the Mill in a separate pipeline, for discharge towards the back of facility, where sub-aqueous deposition will mitigate oxidation.

Details of the site characteristics, geotechnical, hydrogeological and water balance considerations for the design of the Rio Quimi TMF, pipeworks, embankment seepage collection, and reclamation and closure are included in the Feasibility Report (KP Ref. No. 201-78/09-2).

#### **19.5.3 Pangui Tailings Management Facility**

By the end of Year 7, the capacity of the Rio Quimi facility for the ongoing storage of Rougher tailings will be exhausted. The tailings discharge will be redirected to the newly constructed Pangui TMF, which is designed to store Rougher tailings for Years 8 through 18. The remote location of the Pangui TMF from the Mill requires that the Rougher tailings be transported to the Pangui site through a transfer pipeline approximately 12 km long. The system will include a booster pump station and a crossing of the River Zamora.

The initial embankment at Pangui will be constructed from local borrow, to provide storage capacity for approximately 2 years of operations. Ongoing embankment raises will use the coarse fraction of the Rougher tailings, obtained from a cyclone plant installed adjacent to the TMF. Initial embankment raises will require almost all of the available sand; however, the requirements for sand will decrease rapidly as the

embankment is raised. Both the cyclone overflow and the bulk Rougher tailings, when not used for production of sand, will be continuously discharged into the facility from points around the embankment crest and managed to maintain the surface water pond away from the embankment crest.

Details of the Pangui site characteristics, including geotechnical, hydrogeological and water balance considerations used for TMF design, pipeworks, seepage collection, reclamation and closure are presented in the Feasibility Report (KP Ref. No. 201-78/09-3).

#### **19.5.4 Risk Assessment**

A Risk Assessment was carried out for the proposed TMFs for the Mirador Project. The assessment reviewed key aspects of the design, construction and function of the TMF embankments, storage basins and associated works. Risks specifically associated with personnel, equipment and operating procedures were not evaluated.

Risk is defined as the chance of an event occurring that will have a negative impact on Project objectives. It is measured in terms of both the likelihood and the consequence of each particular hazard identified. A hazard is defined as a potential occurrence or condition that could lead to injury, damage to the environment, project delay, or economic loss.

The most significant risks identified, that relate to the TMFs are: (1) the availability of material required for construction of the Rio Quimi TMF, (2) unexpected foundation conditions at the TMF sites during construction, (3) unusually poor weather during construction, and (4) unsatisfactory Contractor performance.

During operations, the greatest risks are seen to be: (1) failure of the waste dump(s) upslope of the Rio Quimi TMF, (2) acid rock drainage developing in the waste dump(s) and impacting site water quality, (3) rupture or leakage from the pipelines and pump station that are established in the Rio Quimi River corridor between the TMFs, and (4) failure of the bridge crossing that carries these pipelines across the Rio Zamora.

The Risk Assessment in its entirety may be found in KPL Report Ref No. VA201-78/09-6.

## **19.6 Water Management**

### **19.6.1 General**

One of the most significant physical issues associated with mining the deposit is the amount of water that will be encountered, mainly in the form of rainfall. MDA estimated productivity losses equivalent to 22 days per year due to rain based on existing mining operations in other similar wet environments. Actual mining experience with the combination of wet saprolite and high rainfall rates may require adjustment of these numbers. While preliminary estimates show groundwater flows to be lower in volume than surface water, groundwater flows will require attention specifically to ensure that the designed pit slopes can be maintained.

The primary water management objective for the project is to control all water sources that originate within the project area in an environmentally responsible manner and minimize downstream impacts. This includes optimizing the use of available water sources to supply the requirements of the milling process and related mining activities. Best Management Practices (BMPs) will be adopted to ensure that all practicable options for control of mine impacted seepage and surface runoff are utilized.

### **19.6.2 Mine Site**

Un-impacted surface runoff will be diverted away from mine facilities to the extent possible, given the limitations imposed by the natural topography and surficial geology. All water that comes into contact with impacted areas, such as waste dumps, roads, plant site, etc., will be collected and treated appropriately prior to discharge. Treatment processes would vary depending on the nature of the runoff, and may include mechanical and/or chemical treatment.

### **19.6.3 Waste Dumps**

Contact water draining from the waste dumps would be collected in downstream ditches and channels, and would report to a series of collection ponds. This water would report to a neutralization plant where the pH would be adjusted appropriately using a lime slurry. The neutralized water would then be combined with the combined Cleaner tailings and report to the Rio Quimi TMF. Water quality of the waste rock dump runoff would be assessed on an ongoing basis and the treatment method modified as required to maintain acceptable water quality in the Rio Quimi TMF pond.



#### **19.6.4 Tailings Management Facilities**

Seepage from the TMF embankments will be collected in the collection sumps, which are located at low points along the downstream toe of the embankments and returned into the TMF supernatant ponds.

Design provisions to minimize seepage losses from the tailings facilities include:

- Engineered soil liner across the Rio Quimi TMF basin;
- Low permeability starter embankment fill at both facilities;
- Foundation key at the Pangui starter embankment down to low permeability silt and clay;
- Tie-in of the Rio Quimi starter dam with the low permeability soil liner;
- Development of extensive low permeability Rougher tailings deposit upstream of embankments (isolates supernatant pond from the embankment);
- Embankment foundation drains to collect seepage through the cycloned sands (connected to collection and recycle sumps);
- Contingency measures for groundwater recovery and recycle at the Pangui TMF.

Construction of the Rio Quimi TMF Starter Embankment will begin approximately 18 months before mill start-up and be ready for impounding water approximately 9 months later. This will allow sufficient time for approximately 2 million cubic metres of water to be impounded prior to start-up for Mill commissioning and early operations. Water from the Rio Quimi TMF supernatant pond will be returned to the Mill at a nominal flow-rate of approximately 700 l/s using the reclaim barge pumps. A maximum of up to 120 l/s of fresh water would be collected at a “Bocatoma”, or in-stream intake, on the Rio Wawayme.

Construction of the Pangui Starter Embankments will begin approximately 18 months before facility commissioning. Up to 2 million cubic metres of water may be impounded prior to initiating Rougher tailings deposition in the facility, which will aid in a relatively seamless transition from the Rio Quimi TMF. Water will be returned to the mill at a rate of 700 l/s using pumps mounted on a floating barge (reclaim barge) and returned to the Rio Quimi TMF through an approximately 12 km long pipeline. An off-take will provide water for the tailings cyclone plant. Prior to commissioning of the TMF, surplus fresh water not required in the process may be discharged directly from the Pangui facility.

Both tailings facilities would provide adequate storage and freeboard within the TMF for full containment of process water and storm events, including the Probable Maximum Flood. The volume of water stored in the tailings supernatant pond would be optimized to meet operational requirements and post-closure objectives.

#### **19.6.5 Summary**

Project annual water balances completed for average precipitation conditions indicate that the overall project area would operate in a surplus condition (i.e. inflows will be greater than outflows). High annual precipitation and inefficiencies inherent to any diversion system result in an average annual surplus. Surplus water would likely be treated to the extent necessary at the Rio Quimi TMF prior to discharge. In the event that discharge is not possible, adequate storage is available in the TMF impoundments for several months. Once the Pangui TMF is commissioned, it is assumed that all process water requirements are met by reclaiming water from the Pangui TMF, via the Rio Quimi TMF. Future considerations may include the discharge of water to the Rio Zamora that will abide by permits issued by Ecuadorian authorities.

Alternative waste and water management strategies are being developed and studied on an ongoing basis. One alternative is the subaqueous co-disposal of tailings and waste rock in one facility, roughly following the alignment of the Rio Quimi TMF. A study prepared by KP concluded that subaqueous storage of reactive waste rock has the potential to significantly mitigate the onset of acid generation. A conceptual design has been developed for such a facility that considers construction, operation, water management, and water quality predictions. The concept as designed appears to have significant benefits with respect to water management. Ongoing geochemical laboratory test-work is being done to confirm the predicted behavior of Mirador waste rock stored in a subaqueous, anaerobic environment in combination with tailings. The tests have been designed to simulate the conditions expected in a co-disposal facility and to help predict resultant water quality.

Further details pertaining to water management, including more comprehensive systems descriptions may be found in KP reports VA201-78/09-2 and VA201-78/09-3, issued February 2, 2007.

### **19.7 Water Supply**

Up to 10,000 m<sup>3</sup>/d of fresh water may be required at the Process Plant. This would be required to supplement water reclaimed from the supernatant pond and for gland seals, heat exchanger cooling, reagent mixing, and other process requirements. The water will continuously be extracted at an in-stream intake located on the Rio Wawayme, at approximately 975 m elevation. Fresh water drawn into this intake will be transported through an appropriately sized pipeline to a combined fire water/fresh water tank located above the coarse ore stockpile, close to the overland conveyor, and about 80 m above the elevation of the process plant. The location and capacity of this tank will be designed to provide adequate flow and pressure in all plant areas, according to NFPA standards. The water will be gravity fed from the fresh water tank to the plant through two independent piping systems. Fresh water will be pumped from the fire/fresh water tank located at the concentrator into a fire/fresh water tank located in the vicinity of the open pit mine facilities. From there, water will be pumped into two independent networks, one for fire water and the other for open pit mine facilities.

The much smaller quantities of fresh water required during construction for activities such as dust suppression, concrete mixing and soil moisture conditioning will be obtained from local alluvial wells or nearby surface watercourses. A quantity of clean fresh water will also be continuously required for pump gland seals at the Rio Quimi TMF cyclone plant. This may be supplied from local alluvial wells, or could be piped from the Process Head Tank.

At the Pangui TMF, a small continuous flow of fresh water will be required for the cyclone plant and for use as gland seal water on the cyclone feed pumps. This, together with smaller quantities of fresh water required during facility construction for potable use and for construction activities such as dust suppression, concrete mixing and soil moisture conditioning will be obtained from local groundwater wells.

### **19.8 Onsite Infrastructure and Services**

The Mirador Project's minesite would include housing for a peak of approximately 220 live-in employees. This capacity would be required to handle several different shift activities, as well as providing temporary housing during the construction effort. The camp would include a major kitchen and recreation areas, both indoor and outdoor, for the employees. A gymnasium would be built for both hourly and management staff.

Guard facilities would be located both at the entrance and at strategic locations throughout the facility, as needed for security. The main entrance guard house would also control the camp access facilities for the employees passing from the operating areas of the mine and mill back into the camp.

Fresh water for the camp would be obtained from one of the local aquifers. Grey and black water would pass through a treatment facility prior to being discharged according to Ecuadorian water quality discharge laws. A potable water system and a sewage water treatment facility would be constructed on site. A solid waste disposal site would be developed to meet disposal needs.

Local labour and workers from outside the area would use either the public transportation system, or a private system funded by the company, to travel to the Mirador Project.

## **19.9 Offsite Infrastructure**

### **19.9.1 Access**

Access to the project site from the paved trans-Amazon highway is currently via a five- to six-metre wide gravel road, which crosses the Rio Zamora about 11 km west of the site. The entire length of this access road, from the project camp to the paved highway, will have to be widened to 7.2 m and resurfaced with 60-80 cm of gravel with crushed gravel finish. Also, because the road runs through the village of Chuchumbleza, it will probably be rerouted through the pass west of the current Rio Zamora crossing when the Pangui TMF is started, and link more directly with the highway (as shown in Figure 19-4).

The Pacific Coast can be reached via two routes starting from where the gravel access road from the mine intersects with the main highway: to the north through Cuenca, or to the south and through Loja. The southern route is shortest (418 km) and is in better condition because it is mostly paved. Both routes have to pass through mountainous terrain to arrive at the port city of Machala, on the Pacific Coast.

The road system is adequate for light loads and will handle the concentrate trucks which are estimated to weigh 52 t gross. However, the gross weight for loaded trucks associated with construction could exceed 100 t. All bridges along the Loja route have been evaluated for the heavier load and a program has been budgeted to repair and reinforce seven of these. No cost for road maintenance has been allocated.

### **19.9.2 Zamora Bridge**

ECSA has completed engineering designs for a bridge to span the Rio Zamora at the current ferry crossing. At this location the river is about 120 m wide and only a foot bridge exists for pedestrian traffic.

Construction on the Zamora Bridge will commence with the steel reinforced concrete foundations.

### **19.9.3 Barge**

A barge capable of 100 tonne loads will be built prior to construction and used to transport some of the mining equipment to the site while the Rio Zamora bridge is under construction. Vehicles currently use a ferry capable of transporting 30 tonne loads across the river under favourable conditions.

### **19.9.4 Air Transportation**

The closest airport is a military airstrip in Gualaquiza; about a 45-minute drive from the Mirador Project. This asphalt airstrip is 2,075 m long and is capable of being used by Hercules and 737 type aircraft. The strip can be used for private traffic, however, it is not Instrument Flight Rules (IFR) rated.

Helicopter service is available from two locations that are approximately 2.5 hours flight time from the Mirador Project. This can service field activities when required. The helicopters routinely service the oil fields in Ecuador. Additionally, the military has a fleet of helicopters that can be used if necessary.

19.10 Organization and Workforce

Table 19-5 summarizes the subdivision between ECSA’s Head Office, in Quito, and its other divisions.

Table 19-5: Estimated Total Workforce Requirements for Year 1 of Operations

Description	Average
<b>Head Office:</b>	
G&A – Quito Head Office	27
<b>Minesite:</b>	
G&A – Minesite	
Minesite Administration	48
Mill – Staff	11
Mine – Staff	19
Maintenance – Staff	29
<i>Sub-Total G&amp;A Minesite</i>	107
Mill – Hourly	103
TMF – Hourly	6
Mine – Hourly	173
<b>Total Minesite</b>	<b>389</b>
<b>Total Project</b>	<b>415</b>

All mine operating and maintenance personnel would be ECSA employees. Manpower requirements change with production rate variations. All salaried supervisory and technical positions are included in G&A and are not included in this mining work. The Mill Department organization would be managed by a Mill Manager. Mill Department staff employees are included in G&A.

Minesite administration would consist of an operating organization with all of the capabilities required to function as an independent unit. The organization would include both operating and administrative personnel to manage all site administration activities of the mine. All salaried supervisory and technical positions are included in G&A. Manpower requirements change with production rate variations and some hourly employees would be employed on a day-shift basis only.

The Project would generate up to 1,200 jobs during the construction period and is expected to create annual employment of over 415 direct and almost 2,700 indirect jobs during the 20 year-Project life.

### **19.11 Concentrate Handling and Port Selection**

#### **19.11.1 Handling**

Mirador concentrate will be hauled via trucks to the Pacific coast. Two individual companies have performed road studies from the Machala and Guayaquil Ports to the Mirador Project. The first Machala study was performed by Mamut Andino (Mamut), a well-established Ecuador transportation company. This study established that the concentrate haulage trucks will haul an average of 32 t of concentrate per trip, with a gross weight including the truck at about 52 t. Mamut estimates that it would take about 40 hours for a truck to make a round trip to and from the port.

Mamut has estimated the cost to haul concentrate to the port at \$25.80/t. The back haul charges, for materials and supplies, will be approximately 50% of the concentrate hauling charge.

#### **19.11.2 Port Selection**

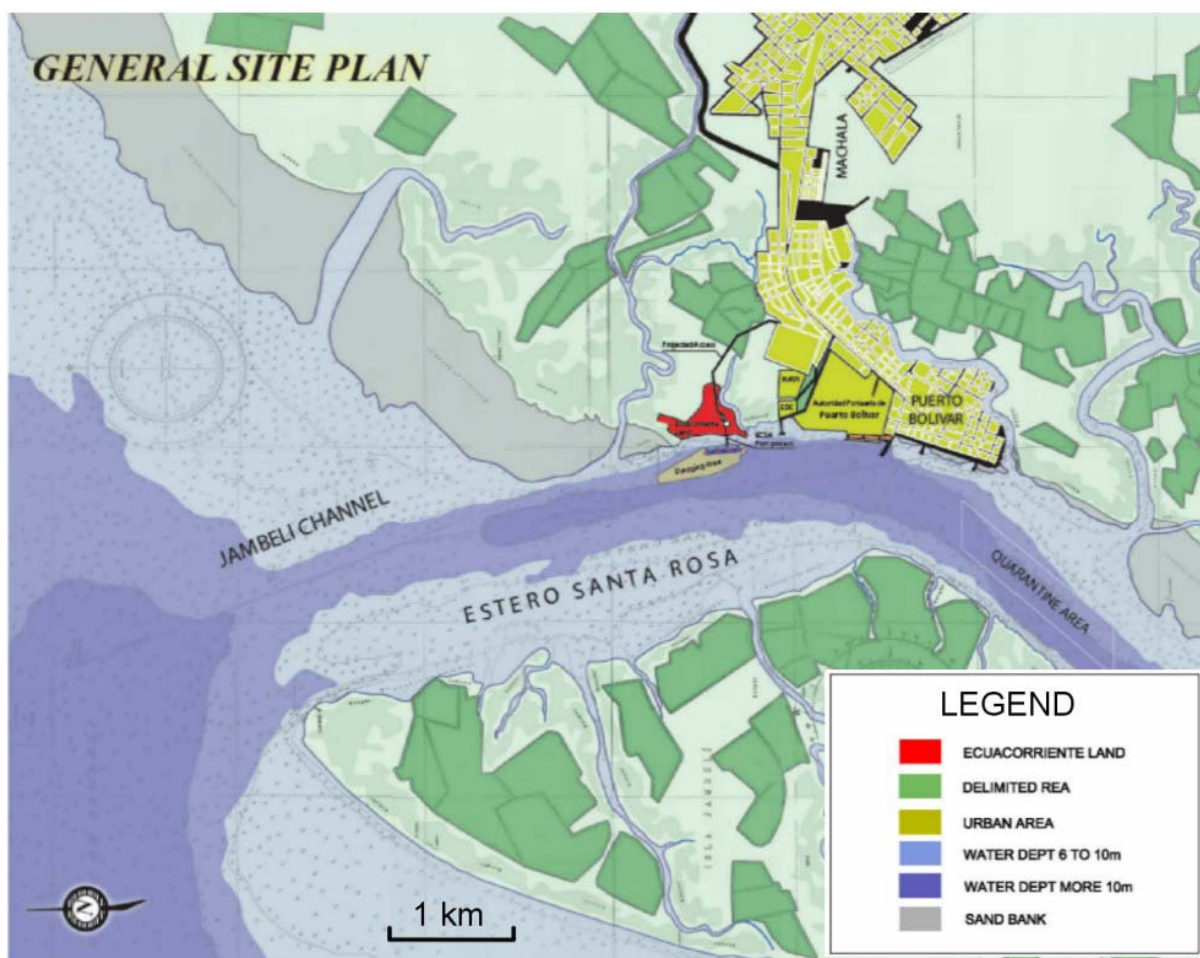
The port selection was based on satisfying the criteria of low cost and convenient access through the city of Machala. The key advantages of this location include:

- A large buffer zone between the port facilities and the community;
- The potential for additional development;
- The potential for the construction of two new road accesses which would be paid for by the government;
- A history of industrial use for permitting purposes;
- Relatively little required dredging compared to port requirements in Guayaquil;
- Proximity to deep waters, enabling anchoring of ships of about 33 000 t capacity;
- Located within a port industrial area.

The Machala port is approximately 418 km from the Mirador Project. The port land has been used for shrimp farming and large semi-filled water ponds exist throughout the 27 hectares. There is over 500 m of water front property and no industrial development exists adjacent to it, even though an existing main port facility is located within 2 km to the south. The main Machala Port is served by the same shipment channel. This channel does not require routine dredging. Based on port reviews by the local engineering firms and ECSA, this is the most practical location for its concentrate shipping port.

In July 2006, ECSA purchased 27 ha at Machala, sufficient for installation of the port facilities (see Figure 19-5). ECSA has obtained legal opinions on its ownership of the required land, and has found that the land is in good legal standing and has unencumbered access.

**Figure 19-5: Map of ECSA's Land Holdings at Machala Port**



The port facility would be developed for a loading rate of 1,000 t/h and storage capacity of 45,000 t of concentrate. A small laboratory would be located on-site for quick testing of the concentrate for critical physical and chemical properties.

An additional advantage of the Machala Port is the possibility of using it as a staging area for back hauling material and supplies to the Mirador mine.



19.12 Concentrate Marketing

19.12.1 Metal Prices

London Metal Exchange (“LME”) Forecasts for copper prices are provided in Table 19-6.

Table 19-6: LME Cash Copper Prices

Item	Copper Price (\$US/lb)							
	2007	2008	2009	2010	2011	2012	2013	thereafter
BME <sup>1</sup>	3.23	3.59	3.61	3.39	na	na	na	na
Survey of Canadian Investment Banks <sup>2</sup>	--	3.24	3.00	2.80	2.50	2.25	2.00	1.75

<sup>1</sup> Source: Bloomsbury Mineral Economics Limited forecast – March 2008

<sup>2</sup> Source: Corriente staff

The custom smelter market represents approximately 40% of the total copper concentrates market. The balance is the integrated / captive market representing mines and smelters which are linked. For example, Xstrata Plc (“Xstrata”) has a number of copper mines and copper smelters in both Canada and Chile. However, Xstrata is a net buyer of copper concentrate from independent copper mines and, thus, would be considered a partially integrated copper producer. The custom smelters market would be the market ECSA targets for the sale of its copper concentrate, but it should be noted that if ECSA sells concentrate to a trading company, then in turn, that trading company would also be selling to the same copper custom smelters that ECSA would sell to.

Copper concentrate treatment charges (TC) and refining charges (RC) for the last six years are provided in Table 19-7 and Table 19-8. Spot contract terms are more volatile than long-term smelter contracts but, on average, are lower than long term smelter contracts. Mirador concentrate is an ideal concentrate for the spot market because of its good quality. Long-term smelter contracts are more desired by bank financiers as they are seen to be more secure and less volatile than spot contracts. ECSA plans to sell a minimum of 50% of its concentrates under long-term smelter contracts and the remainder under short- term spot market contracts.

Table 19-7: Smelter Long Term Contracts

Item	Rate	Year					
		2002	2003	2004	2005	2006	2007
TC	\$ / dmt	69	58	46	85	95	60
RC	¢ / lb	6.9	5.8	4.0	8.5	9.5	6.0
PP	¢ / lb	-1.8	0.3	3.6	9.6	23.5	0

Table 19-8: Smelter Spot Contracts

Item	Rate	Year					
		2002	2003	2004	2005	2006	2007
TC	\$ / dmt	32.9	17.3	55.8	149.6	68.5	41.3
RC	¢ / lb	3.3	1.7	5.6	15.0	6.9	4.1

The high copper prices in 2005 and 2006 resulted in high treatment charges on long term smelter contracts as a result of the typical price participation clause in these contracts. This clause states that the TC/RC terms would be adjusted plus or minus 10% of the difference in the actual copper price and breakpoint copper price of 90 cents. Some 2006 mid-year smelter contracts increased the breakpoint from 90 to 120 cents and capped the price participation at 6 cents a pound. Settlements for 2007 smelter contracts have completely removed price participation but have changed payment terms and gold refining charges.

The economic evaluation provided in Section 19.18 uses a long term average treatment cost of \$75/t of dry concentrate and a refining charge of \$0.075/lb of copper, with price participation of +/- 10% at a breakpoint of 120 cents, with a cap of plus \$0.06/lb of copper.

Gold refining costs are based on a 90% payable factor and a gold refining cost of \$5.00/oz. Silver refining costs are based on a 90% payable factor and a silver refining cost of \$0.30/oz.

In this Feasibility Study, un-hedged pricing assumptions of \$1.75 US/lb copper, \$550 US/oz gold and \$7.50 US/oz silver are used for the economic evaluation (the "Base Case"). Discussions related to the appropriateness of the Base Case copper price considered current and historical copper pricing, as well as forecasts made by noted financial and mining industry groups. The impact of variations from the Base Case copper price is reported in the financial sensitivity details table in Section 19 of this report.

19.12.2 Concentrate Quality

The expected quality of Mirador copper concentrate copper concentrate specifications is shown in Table 19-9. The Mirador copper concentrate was deemed to be very desirable by the smelting community. It was a clean concentrate (virtually free of deleterious elements) and had copper, sulphur, gold and silver contents that would make it saleable to all smelters and desirable as a blending concentrate. Typical filter press moisture content for a fine-grind, porphyry-copper concentrate is usually between 9 to 9.5% by weight. It is estimated the concentrate moisture from the filter press will be 9.2%. The transportable moisture limit of the concentrate was measured by SGS at 10.9%. Further filter press test-work on the concentrate is necessary to provide a more accurate moisture estimate.

Table 19-9: ECSA Copper Concentrate Quality - Mirador (Dry Basis)

Parameter	Maximum	Minimum	Average
Cu, %	30	25	29.5
Fe %	32	25	29
S, %	35	26	32
Au, g/t	1.3	0.5	0.8
Ag g/t	62	35	48

19.12.3 Copper Concentrate

Estimated annual concentrate production from the Mirador Project is provided in Table 19-10. Annual production over the first 10 years of the mine life will average 11 MT of concentrate, containing 137 Million lbs of copper, 34,000 oz gold, and 394,000 oz silver.

Table 19-10: Estimated Concentrate Production

Year	Payable Metal			Cu Conc	
	Cu lb/y x 1000	Au troy oz x 1000	Ag troy oz x 1000	Dry t/y	Wet t/y
0					
1	166,191	36.0	478.0	255,538	281,430
2	154,461	37.7	445.3	237,502	261,566
3	146,786	36.4	423.3	225,700	248,568
4	129,917	36.4	375.8	199,763	220,004
5	130,805	29.8	376.6	201,128	221,507
6	128,665	29.7	370.5	197,838	217,883
7	132,014	31.8	380.5	202,988	223,555
8	133,520	32.3	384.9	205,302	226,104
9	116,719	32.0	337.4	179,470	197,654
10	127,117	38.5	368.4	195,457	215,262
11	126,934	31.8	366.2	195,176	214,952
12	121,572	26.8	349.8	186,932	205,872
13	121,591	27.0	349.8	186,897	205,834
14	128,809	31.0	371.3	198,059	218,127
15	131,558	32.5	379.4	202,286	222,782
16	136,415	31.1	392.7	209,755	231,007
17	75,031	14.4	215.3	115,368	127,058
Total	2,208,106	535.5	6,365.1	3,395,160	3,739,162

### 19.13 Power Supply

The electrical demand of Mirador Copper Project is estimated at 28.8 MW and 205 GWh/a. The transmission line will feed the mine site through an onsite substation. The substation transformer will be sized at 40 MVA, 138 kV / 13.8 kV. The circuit breaker will be SF6 type, and isolation switches and lightning protection will be installed.

Approximately 50% of Ecuador's power demand is supplied by hydroelectric generation. Hydropower is the least expensive form of energy commercially available in Ecuador. In addition to those currently operating, many promising hydroelectric projects have been identified; several located near the Mirador Project. ECSA reports that its strategic power plan includes utilizing low cost, environmentally friendly, and readily available hydropower to supply the Mirador Project power demand.

The balance of power required can either be purchased from an existing hydroelectric generator, or can be supplied by a project developed for the mine. Whether ECSA develops its own hydroelectric project or purchases power from an existing hydroelectric generator, the strategy is to interconnect with the Ecuadorian electrical grid – *Sistema Nacional Interconectado* (SNI). Interconnecting to the SNI offers several strategic advantages over a dedicated or standalone power supply configuration. Under a dedicated power supply scenario the availability of the mine is dependent on the availability of a single power supply. By connecting to the electrical grid, the mine would have the option to purchase power from another generator or from the spot market in the event that the primary source of power is unavailable.

The conceptual design for the project to SNI interconnection is a new 111 km, 230 kV transmission line that would connect Sinincay with the substation at the project site. The transmission line route follows an existing 138 kV transmission line route connecting Cuenca to Limón, and then continues south to the project site. Sinincay is directly connected to the Paute generating complex through Zhoray at 230 kV and is one of the strongest, most stable SNI interconnections in Ecuador.

ECSA is evaluating several promising hydroelectric projects for potential investment. The average total energy cost for hydroelectric power is typically around \$0.057/kWh (SNC-Lavalin, 2007). For a list of power projects in Ecuador, and a map of the transmission system, see Drobe et. al. (2007) and SNC-Lavalin (2007).

#### **19.14 Project Implementation Plan and Schedule**

A project group will be established to undertake the execution of the Mirador Project. It will comprise of ECSA's team working with an experienced EP Services contractor, as well as a CM specialist.

This project group will:

- undertake the engineering, procurement and construction programs;
- develop the project schedule to include project milestones, critical dates and long deliveries;
- establish a cost monitoring and control system for the project;
- contract and administer the construction work; and
- make use of local resources.

Construction of the processing plant and material handling facilities for the project will take about 18 months. Prior to that time, long delivery equipment such as the crusher, mills and main transformer will be ordered, and much of the offsite infrastructure construction will be undertaken and completed during the construction of the plant.

The Project will use competitive tendering and negotiation to obtain the best quality material, equipment, and contractors with competitive pricing. Emphasis will be placed on using local Ecuadorian labour, materials, and equipment wherever reasonable, provided it does not adversely affect cost, schedule, or quality.

#### **19.15 Closure Plan**

The closure and reclamation plan is considered preliminary since some elements of the plan, such as post-closure monitoring requirements and associated cost estimates, may require revision upon project approval. Further, the specific details of the Mine Closure and Reclamation Plan will evolve as mining progresses, and so the plan will be updated periodically during the mine life.

The final plan will be generated several years before mine closure. The closure plan will include both progressive and final reclamation measures. Progressive reclamation will include reclamation following the construction phase and during operation. All borrow pits, quarries, equipment, and storage areas utilized during construction, but not required during mine operations, will be closed out and reclaimed at the end of the construction phase of the project. Prior to disturbing areas, all practically available soil will be salvaged and stockpiled for redistribution during ongoing reclamation and final closure of the mine. As far as practical, disturbed areas will be revegetated incrementally during operations to reduce erosion and improve aesthetics. Areas will be regraded, revegetated, and stabilized, as soon as possible.

The open pit mine will be allowed to fill with water when mining operations cease. There will be a height of exposed pit wall remaining above the final flooded surface. Some of the exposed wall materials could have the potential for acid generation. A pit lake study will be completed prior to closure, when the ultimate mine life and pit configuration are better known and after more extensive geochemical characterization of the pit wall rocks has been carried out.

Waste dumps will have a cap of impervious material applied as soon as final surfaces are created, at which time they will also be vegetated. The waste dumps will be constructed to their final slope angles where possible. Soil salvage will be incremental and concurrent with each phase of waste dump construction, pit development, and waste rock dump development. Acid rock drainage (ARD) will be minimized by the placement of a semi-pervious soil cover on the facilities and by maintaining runoff diversions around the waste dumps. The successful implementation of this strategy will minimize the volume of water that will require ongoing collection and treatment. Collection and treatment of ARD from the waste dumps will continue for as many years as required, until the levels of acidity and metals abate to the extent that they will be acceptable for release or that can be adequately treated by passive systems.

The TMFs will be designed such that upon completion of the mining operations, the tailings surface will be made trafficable and the potential for wind and water erosion minimized. During the final years of operation, the extent of the supernatant pond will be minimized and will be removed during the first year following closure. Water will be removed from the surface pond, if required, treated to an acceptable quality, and released to surface waters. The downstream embankment face will be revegetated and the tailings covered with soils from the stockpiles created during construction and nearby borrow sources, if necessary.

Closure activities after the end of mine life will also include removal of all facilities and infrastructure that is not planned to be left for other uses or is needed for post-closure maintenance, and reclamation of all disturbed areas. Post-operational reclamation will return the disturbed areas to the pre-mine conditions and habitat. Certain mine features may be left in place as permanent control measures to prevent environmental pollution, for long-term community use, or as a post-mining enhancement.

ECSA has developed a water quality monitoring plan at the Mirador site that has been in place for several years. This existing water quality monitoring plan will form the basis of an environmental management and environmental effects monitoring plan during the life of the operation. The plan will be continued as required post-closure.

Maintenance of critical components will also continue post-closure, including inspection and repair of diversion ditches, repairs of any eroded reclaimed areas and repairs to any erosion noted on the tailings pond and waste dump covers, and operation of the water treatment plant and/or passive water treatment systems.

Final closure plans for Mirador will be implemented as soon as the mine reaches the end of its economically viable life.

### **19.16 Capital Cost Estimate**

#### **19.16.1 General**

Corriente contracted Merit to support the preparation of the Capital Cost Estimate (CAPEX) for this Feasibility Study.

#### **19.16.2 Capital Costs (CAPEX)**

The CAPEX was developed by assembling the data from the various project contributors to date:

- SNC for the Process Plant.
- KP for the Tailings Management Facility.
- MMTS for the Preproduction Development and associated sustained mining capital (see Appendix A for annual mine CAPEX).
- ECSA for the Infrastructure Facilities and Owner's Costs.
- Merit for adjustments to the SNC portion of the CAPEX based on historical and current knowledge of South American construction practices.

The total estimated cost to design and build the Mirador copper processing plant described in this report is estimated at \$418.3 million, including duties, IVA taxes and Working Capital, but excluding additional costs required to take the project through to feasibility, is broken down as follows:

Table 19-11: Capital Costs

1	Mining	\$60,340,277
2	Plant Site Infrastructure	\$40,915,385
3	Process	\$105,270,800
4	Ancillaries	\$7,180,466
5	Power Supply & Distribution	\$22,058,662
6	Tailings Management Facility	\$30,141,703
7	Owner's Costs	\$30,568,177
8	Indirect Costs	\$37,791,477
9	Contingency	\$33,426,694
10	IVA Taxes	\$31,508,357
	SUBTOTAL	\$399,201,998
	Working Capital	\$19,101,147
	<b>TOTAL</b>	<b>\$418,303,145</b>

The majority of the estimated CAPEX costs expressed above are the product of 2006 blended US\$ dollars, with the exception of the TMF estimate, which was updated in 2007. Further work will be necessary to update the CAPEX costs for current commodities pricing changes.

There are no allowances for:

- Escalation
- Scope changes
- Interest during construction
- Cost of financing the Mirador Project
- Property costs unless it is covered in the Owner's costs
- Sunk costs unless it is covered in the Owner's costs
- Permitting costs unless it is covered in the Owner's costs



#### *19.16.2.1 Project Definition*

Plant and equipment is designed for a copper plant with a nominal processing rate of 30,000 tpd.

The estimate, Merit review, and assembly of the estimated costs was prepared using project information contained in, but not limited to, the following documentation:

- Mirador Project 27,000 tpd Feasibility Study 2006 Draft 3 – Document # 334484 - SNC.
- Mirador Project 30,000 tpd Study Addendum Document # 6934-000-30RA-0003 dated 28 Mar 2007 - SNC.
- Mirador Project 30,000 tpd Process Plant Capital Cost Estimate Document # 6934-000-32KA-005 that upgraded the 27,000 tpd plant to 30,000 tpd - SNC.
- Project General Arrangements Drawings and Project Flow Sheets as included in the Feasibility Study - SNC.
- Tailings Management Facility Estimate Table 9.1 Rev 1 – Re-issued for 30,000 tpd Study dated 05 Dec 2007 - KP.
- Mine Preproduction Estimate - Schedule 10 dated 26 Nov 2007 - MMTS.
- Mine Equipment Estimate – Schedule 10 dated 26 Nov 2007 - MMTS.
- Dump Preparation Cost included within Preproduction Estimate - MMTS.
- Crusher Pad Preparation Cost included within Preproduction Estimate - MMTS.
- Mirador Project 27,000 tpd CAPEX.Rev.009.Draft dated 10 May 2007 - ECSA.
- Zamora Bridge (Full) Estimated by CAMINOSCA and verified by ECSA.

#### 19.16.2.2 *Basis of Estimate*

Contributions from the various companies to the CAPEX have been based on the following:

- **ECSA:**
  - All Mirador Project related activities started and completed prior to construction are considered to be sunk costs and are not included in CAPEX for the Project.
  - No more exploration work at Mirador.
  - The Machala Port will be built with ECSA funds but established as a separate company.
  - ECSA quotes have been provided by local experienced contractors.
  - All applicable import and IVA taxes have been adjusted for country, labor and transportation.
  - Mining equipment will be used for pre-production activities and the construction of the Rio Quimi tailings starter dam.
- **SNC:**
  - As per the SNC Feasibility Study Section 14.0 Capital Cost estimate Item 14.2.1 Estimate Basis and Assumptions have been, provided by Corriente.
  - As per SNC-Lavalin 30,000 tpd Study Addendum dated 28 Mar 2007, provided by Corriente Resources.
- **KP:**
  - Costs estimates are based on 27,000 tpd study and are simply pro-rated for the increased flow rates.
  - Approximately 50% of the stripping material is assumed to be reused in the soil liner protective layer. The remaining material, including topsoil for reclamation use, would be stockpiled immediately outside the northeast part of the confining embankment.
  - All costs were updated in 2007.

- **MMTS:**

- MMTS developed the 30,000 tpd ore production schedule following the design basis prepared by MDA.
- Pit designs, ore and waste quantities provided by MDA.
- Equipment capital costs are based on unit prices used by MDA in his study. These prices were from quotations from suppliers obtained in the fourth quarter of 2006.

- **MERIT:**

Merit reviewed the SNC estimated costs and established what changes were needed as experienced through recent construction and in-country knowledge. These modifications are shown as a separate line item in the capital cost estimate and are comprised of the following:

- Improved concrete productivities and material pricing
- Improved Structural Steel erection productivities
- Improved mechanical equipment installation productivities
- Improved Abrasion Resistant Plate installation productivities and material pricing
- Additional standby power generation
- Reduced labour costs
- Additional construction equipment allowance

In conjunction with ECSA, Merit reviewed some of their estimated costs and made the following adjustments to the estimates as follows:

- MMTS Preproduction Mining indirect costs for Year 0 and Year 1 were deducted from the estimate as these costs are included in ECSA indirect costs.
- MMTS Mine Equipment costs for Year 0 and Year 1 were increased by 7.5% to allow for duties.
- ECSA Dump Preparation and Crusher Pad construction costs were deducted as these costs are included in the MMTS Preproduction Mining Costs.
- ECSA Zamora Bridge estimate was adjusted to reflect the full construction of the bridge.

- Other Infrastructure and Miscellaneous direct costs not included in the original estimate were identified and added to the ECSA as follows:
  - Crusher Retaining Wall earthworks
  - Open Pit dewatering
  - Truck Fuel Station
  - Solid Waste Disposal
  - Shop Tools

Other indirect costs not included in the original estimate were identified and added to ECSA as follows:

- Room & Board for direct hours not included in SNC estimate
- Adjusted the overall contingency upwards to cover off additions to the capital costs and those areas where the contingency was considered to be too low.

#### 19.16.2.3 Contingency

The contingency amounts are those allowances added to the capital cost estimate to cover unforeseeable costs within the scope of the estimate. This can arise due to presently undefined items of work or equipment, or to the uncertainty in the estimated quantities and unit prices for labour, equipment and materials. Contingency does not cover scope changes, project exclusions or project execution strategy changes.

Merit have reviewed the total CAPEX contingency amounts and established that with the level of moderate to high confidence, as determined by ECSA for all of the contributors to this study, a 10% contingency on all the direct and indirect cost is appropriate.

Contingency for the Project has been developed using:

- Process Plant – **SNC**  
**8.2%** for all Direct and Indirect Costs
- Tailings Management Facility – **KP**  
**20%** for all Direct and Indirect Costs

- Preproduction Mining and mine Equipment  
**15%** for Preproduction Mining - **MMTS**  
**3.5%** for Mine Equipment as indicated by **ECSA**
- Infrastructure and Owner's Costs – **ECSA**
- Direct and Indirect Costs - **Merit**  
**11.2%** for all Direct and Indirect Costs after the adjustments made by Merit.

#### *19.16.2.4 Accuracy*

The level of confidence expressed by the report contributors, and rated by ECSA is as follows:

- SNC – High Level
- KP – High Level
- MMTS – Moderate Level
- ECSA – High Level

The data used for developing the capital cost estimate can be ranked at a level of detail not significantly different than the individual original reports. As such, the accuracy of the preliminary estimate is believed to be between 15% to 20%.

19.16.3      **Area Definitions**

The following areas are in the Scope of Work for the cost estimate.

**Table 19-12: Area Definitions – Direct Costs**

ITEM	Author	Scope
1110	MMTS	Mine Preproduction Development
1130	ECSA	Pit Dewatering
1140	MMT	Mine Equipment
1150	ECSA	Explosive Storage
1160	SNC	Mine Tires Building
1170	ECSA	Truck Fuel Station
2110	SNC	Crushing
2120	SNC	Coarse Ore Handling
2130	SNC	Coarse Ore Storage
2220	SNC	Grinding
2225	SNC	Pebble Crushing
2230	SNC	Flotation & Regrind
2240	SNC	Concentrate Dewatering
2250	SNC	Filter Plant and Concentrate Handling
2260	SNC	Reagent Handling & Storage
2290	SNC	Concentrator Building
3110	KP	Tailings Management Facility - RIO QUIMI
3120	KP	Reclaim System - included in 3110
3130	KP	Cyclone Plant - included in 3110
4110	-	Power Generation - not required
4120	ECSA	Power Line
4130	SNC	Power Supply and Distribution
5110	ECSA	Port Facility
5115	-	Concentrate Pipeline - not required
5120	SNC	Plant Site Preparation and Site Road
5125	ECSA	Plant Site Preparation - Dump and Crusher Areas
5130	ECSA	Access Road & Bridges
5140	SNC	Water Systems
5150	SNC	Sewer Collection & Treatment
5160	ECSA	Solid Waste Disposal
5170	-	Underground Piping - not required
6110	SNC	Truck Shop & Warehouse
6120	ECSA	Plant Miscellaneous Equipment & Shop Tools
6200	SNC	Miscellaneous Buildings
7000	MERIT	SNC CAPEX Direct Costs Review

Table 19-13: Area Definitions – Indirect Costs

ITEM	Author	Scope
8110	SNC, KP, ECSA	Construction Management
8120	SNC	Construction Temporary Facilities and Services (partially included in Labour Rates)
8130	SNC	Construction Equipment (partially included in Labour Rates)
8140	SNC, ECSA	Construction Camp (included in Labour Rates)
8150	SNC, ECSA	Construction Accommodation and Catering (included in Labour Rates)
8210	SNC, KP, ECSA	Engineering & Procurement
8220	SNC, ECSA	Start-up & Commissioning
8310	SNC	Freight
8320	SNC, ECSA	Duties, Customs Charges & Taxes
9110	ECSA	Owners Costs
9120	SNC, ECSA	First Fills and Capital Spares
9130	ECSA	Permanent Camp
9500	SNC, KP, ECSA. MMTS, MERIT	Contingency

19.17 Operating Cost Estimate

19.17.1 Total Costs

The total operating costs for the Life Of Mine (LOM) are \$1.2 billion, or \$6.44/t ore. By considering additional local VAT, the total unit operating costs increase to \$7.05/t ore. The total costs considered for G&A (Including insurance costs) are \$176.4 million. The unit cost for this item is \$0.98/t ore.

19.17.2 Mine Operating Cost Estimate

The LOM mining operating costs are approximately \$448.5 million, (without initial pre-production costs) including direct costs and general maintenance and engineering. The LOM per tonne unit mining operating costs are \$2.48/t for mill feed (not including initial pre-production costs) or \$1.41 /t Mined for all material (waste plus ore – not including initial preproduction costs).

The annual operating costs are provided in Appendix A and the LOM direct costs are given in Table 19-14; indirect costs are part of the ECSA General and Administration (G&A) costs. Separate unit operating costs for mill feed and material are provided on an annual basis in Appendix B and for LOM in Table 19-15. Mine operating costs are derived using MDA’s estimates of the labour and equipment cost data. Costs for equipment consumables, repair and maintenance parts, were sourced from equipment suppliers. Labour rates were provided to MDA by ECSA. Blasting costs are based on

MDA design criteria of 80% ANFO. MMTS believes that a higher percentage of emulsion explosives will be used because of the severe wet conditions, and costs will increase. However, for the purpose of this study this adjustment was not made in order to simplify comparisons with other cost studies.

Table 19-14: Mine Operating Direct Costs – LOM

Item	LOM Cost (X1000)
DRILLING	\$24,791
BLASTING	\$66,119
LOADING	\$37,525
HAULING	\$208,922
MINE MAINTENANCE	\$16,217
MINE OPERATIONS - SUPPORT	\$89,172
GEOTECH	\$3,531
UNALLOCATED LABOUR COST	\$2,206
<b>DIRECT COSTS - Subtotals</b>	<b>\$448,483</b>

Table 19-15: Unit Operating Costs – LOM

Iteme	Mill Feed \$/mt	Material \$/mt
DRILLING	0.14	0.08
BLASTING	0.37	0.21
LOADING	0.21	0.12
HAULING	1.15	0.66
MINE MAINTENANCE	0.09	0.05
MINE OPERATIONS - SUPPORT	0.49	0.28
GEOTECH	0.02	0.01
UNALLOCATED LABOUR COST	0.01	0.01
<b>TOTAL OPERATING COST/TONNE, RUN OF MINE MILL FEED</b>	<b>2.48</b>	<b>1.41</b>

19.17.3 Tailings Management Facility (TMF)

The total LOM costs for the TMF are approximately \$87.2 million, which means a unit TMF cost of \$0.48/t ore. Operating costs of the TMF were re-established based on the increased throughput as well as a more recent estimate of electrical power cost. The power cost estimate has increased from \$54.00/MWh to \$56.50/MWh. Major changes in the operating costs were driven by increased power requirements and accelerated earthworks construction schedule. Minor adjustments were also made to the schedule for equipment maintenance and replacement costs.



Annual costs for the Rio Quimi TMF are given in Table 19-16. Detailed total costs for the Pangui TMF are in Table 19-17; annual totals at Pangui average \$4.59 million.

Table 19-16: Total Operating Costs for Quimi TMF

ANNUAL OPERATING COST	\$
Manpower - Operations	3,450,000
Equipment	307,200
Pickups	244,800
Flatbed w/ hoist	207,600
Ongoing Earthworks	17,630,734
Power <sup>2</sup>	17,039,000
Maintenance and Replacement	4,945,000
Environmental Compliance	170,000
Engineering Support and Reporting	340,000
Total	43,881,934
Average Cost ¢/tonne milled	23.6

Table 19-17: Total Operating Costs for Pangui TMF

ANNUAL OPERATING COST	\$
Manpower - Operations	4,950,000
Equipment	445,500
Pickups	158,400
Flatbed w/ hoist	138,600
Ongoing Earthworks	5,563,476
Power <sup>2</sup>	22,502,000
Maintenance and Replacement	16,732,500
Environmental Compliance	110,000
Engineering Support and Reporting	220,000
Total	50,523,476
Average Cost ¢/tonne milled	41.9

19.17.4 Mill Operating Costs

The total processing costs are \$445.9 million, including labor, consumables, external services and power. The LOM unit processing mill feed is \$2.46/t ore. Table 19-18 provides the details for the various items included in the estimate.

Table 19-18: Estimated Annual Mill Operating Costs

TOTAL TONNES	180,981	\$/mt
Power	\$220,108	1.216
Maintenance	\$47,561	0.263
Consumables	\$30,855	0.170
Steel	\$90,490	0.500
Liners	\$28,233	0.156
Payroll	\$15,294	0.085
Other	\$13,347	0.074
MILL OPERATIONS TOTAL	\$445,888	2.464

19.18 Economic Evaluation

19.18.1 Introduction

This section has been provided in its entirety by Corriente. It has been reviewed by Merit for content and consistency with the format of the report. Merit has relied on Corriente for completeness and accuracy of the information provided and has not verified the data, calculations or opinions expressed by Corriente herein.

In this Feasibility Study, un-hedged pricing assumptions for Life of Mine of \$1.75 US/lb for copper, \$550 US/oz gold and \$7.50 US/oz silver are used for the Base Case economic evaluation.

The determination of the copper price used was made in consideration of:

- current market supply dynamics and issues such as increasing project development costs
- three, five and seven year historical copper pricing (i.e., looking back from 2007, as quoted by Bloomsbury Minerals Economics Ltd. – March 2008) which showed:
  - three year historical average pricing of \$2.65 US/lb
  - five year historical average pricing of \$2.01 US/lb
  - seven year historical average pricing of \$1.64 US/lb, and
- the various financial and mining industry forecasts for future copper pricing, which range from \$1.50 to \$2.00 US/lb.

In consideration of the above, Corriente chose \$1.75 US/lb, in order to remain conservative in its Life of Mine copper-pricing assumptions. The impact of variations to this pricing is reported in the sensitivity analysis details table below.

A projected payback period for the Base Case scenario is four years. Using an 8% discount rate, the post-tax net present value (NPV) is \$265 million, and the post-tax internal rate of return (IRR) is 17.7%.

Table 19-19 summarizes the parameters and economic outcomes of the Mirador Copper Project.

Table 19-19: Mirador Copper Project Summary

Item	Units
<b>Years -2 and -1</b>	
Mine, Mill and Infrastructure Capital cost (including Working Capital of \$19.1 million)	\$418,303,144
<b>Years 1-17</b>	
Mining throughput (total)	326,801,154 t
Processing throughput DMT (total)	180,980,915 t
Processing throughput DMT (annual average)	10,951,266 t
Concentrate production DMT	3,395,160 t
Concentrate production DMT (annual average)	205,443 t
Concentrate production DMT (Year 1-3 avg.)	239,580 t
Concentrate grade	29.5%
Sustaining Capital and Closure Costs, net of recovery of Working Capital	\$83,060,442
Life of Mine	16.5 years
Life-of-Mine total capital (including initial capital costs, working capital, sustaining capital and closure costs net of working capital recovery)	\$533,411,184
Copper production (total payable)	1,001,581 t
Gold production (total gold payable)	535,507 oz
Silver production (total silver payable)	6,365,051 oz
Net Smelter Return (Including Marketing and Transportation Costs)	\$3,217,402,908
Average Net Smelter Return (\$/t Cu payable)	\$3,212/t; \$1.46/lb
Average copper cash cost (net of co-credits; inclusive of BHP royalties, smelting, marketing and transportation and non-asset taxes)	\$0.84/lb
IRR (pre tax & after profit sharing)	21.3%
IRR (after tax)	17.7%
NPV @ 8%(pre tax & after profit sharing)	\$391,541,971
NPV @ 8%(after tax)	\$265,015,938

No inflation was accounted for in the economic model and key parameters in terms of economics have been kept constant throughout the cash flow model.

Estimated project cash flows were used to determine both pre-tax and post-tax net present value (NPV) and pre-tax and post-tax internal rate of return (IRR) for the Base Case.

#### **19.18.2 Valuation Methodology**

A discounted cash flow (DCF) analysis was used to evaluate the Mirador Copper Project. Using this methodology, mine revenues and costs are projected into the future (in the case of the Mirador Project, the projections have been completed on an annual basis).

Net revenues to the Project are determined by calculating the gross value of payable metals (copper, gold and silver) contained in concentrates and deducting all applicable smelter charges, transport and related costs.

Net annual cash flow is calculated by deducting capital costs, operating costs, royalties, taxes (income, municipal and local) and duties from net revenues. In addition, a statutory requirement for the payment of a net profit share to the Ecuadorian work-force is accounted for in the cash flow. The resulting stream of net cash flow is assumed to be available for distribution to the project sponsor.

The net annual cash flows are discounted back to the date of valuation at a chosen discount rate, and totaled to determine the project's NPV.

The NPV in DCF analysis traditionally involves the application of a Weighted Average Cost of Capital (WACC) applicable to a project or company to the cash flow as the discount rate. In anticipation of the funding plan involving a significant tranche of some form of debt finance (and reflecting the consequential influence of this on WACC), it was determined that a discount rate of 8% per annum would be applied to the project cash flows to establish an NPV.

The date of valuation is normally assumed to be when the decision is made to proceed with project development, which is sometimes identified as the commencement of detailed engineering. Due to some complexity in the timing of project approval for development (primarily caused by the project approval framework in Ecuador and consequent impacts on the final approval and permitting process for the Mirador Project), there are some difficulties with establishing a definitive start date for the Project.

With this in mind, and factoring in a two year construction period for the Project, construction and development expenditures have been allocated across two years prior to operations commencing in the financial model. For the avoidance of doubt, NPVs have been established as at the commencement of Year -2 (beginning of construction), with operations commencing in Year 1, after the two-year construction period, referred to as Years -2 and -1.

An IRR is also calculated for the Project, equivalent to the rate of return at which the NPV equals zero. The payback period is stated in terms of the number of years from the production start date required to pay back the initial capital investment, excluding sunk costs, based on the undiscounted cash flow.

### **19.18.3 Other Assumptions**

#### *19.18.3.1 Working Capital*

An allowance of up to three months estimated operating costs has been made for Working Capital. This amount totals \$19,101,147 prior to Year 1. It is assumed that this amount of Working Capital would be recovered at the end of the Project's mine life (Year 17).

#### *19.18.3.2 Royalties*

At this time of the report, no government royalties are payable in respect of the projected output or revenues from the Mirador Copper Project. However this may change as a result of the Ecuadorian Government's intent to revise mining legislation.

A 1% NSR based royalty is payable to BHP Billiton in respect of the Project. The royalty agreement between the company and BHP Billiton states a net smelter royalty ("NSR") of 2%. However, Corriente has the contractual right, in exchange for a payment of \$2 million to BHP Billiton, to reduce the NSR to 1%. Corriente intends to make such a payment upon a formal decision to mine. Consequently, the Project's NPVs reflect this payment.

#### *19.18.3.3 Salvage Value*

No salvage value has been assumed from mine and field equipment, buildings and infrastructure and mobile equipment.

#### *19.18.3.4 Depreciation*

Depreciation has been calculated in a yearly basis when an asset is purchased or completed.

Property, plant and equipment have been depreciated using the straight line method using annual depreciation rates shown in Table 19-20. Using this method, the cost of the asset (all assets are not considered to have salvage value) is pro-rated over the estimated useful life of the asset over the following estimated economic lives according to the local tax regulations enforce in Ecuador:

Table 19-20: Depreciation Percentages

Item	Annual Depreciation
Building and Infrastructure	5%
Barge	10%
Fixed - Equipment	10%
Furniture and fixtures	10%
Vehicles / Mobile Equipment	20%
Computer equipment and software	33%
Mine Development (Earth Movement)	20%

Mine Property Expenditures Amortization: The principal amortization method used for mining property expenditures (exploration, development and production costs) is the straight line method over a period of five years.

The depreciation charge for each period has been recognized in profit or loss in the financial model.

19.18.3.5 Taxes and Statutory Charges

Table 19-21 shows the estimate of local expenditures in the Ecuadorian economy. The total estimated value of taxes, profit sharing and expenditures within Ecuador, over the twenty year base case LOM, is approximately US\$ 1.8 Billion.

Table 19-21: Estimate of Local Expenditures in the Ecuadorian Economy

Taxes, Profit Sharing and IVA	\$US x 1000
Total Estimated National Expenses	1,170,204
Statutory Profit Sharing	199,251
Income Taxes	282,273
IVA Total	151,334
Other Taxes (Municipal, Superintendence, Export)	19,785
Total National Impact	1,822,847

Table 19-22: Taxes and Statutory Charges Summary

Item	Basis	Referable % or calculation
Export Tax	Net Smelter Return (NSR)	0.50% of NSR
IVA Tax	Refer to separate summary on IVA below	Payable on capital, operating costs and closure costs (12% payable on material, equipment & subcontracted services)
Superintendent of Companies and Municipal taxes	Written down value of assets	0.25% of WDV of assets
Statutory Employee Profit Sharing	Operating profit less Depreciation	15%
Income Taxes	Operating profit, less depreciation, less statutory profit sharing, and other allowable tax deductions	25%

19.18.3.6 IVA Summary

The Ecuadorian “IVA” tax is the equivalent to Value Added Tax (“VAT”) in other countries. Ecuador law establishes that all services and products are subject to IVA tax except labour provision and transport services. The percentage applicable to estimate IVA on goods and services is 12%.

In order to estimate the real amount of IVA to apply both to capital expenditure and operating expenditures for Mirador Copper Project, the costs have been split into labour, material, equipment, transport and subcontractor. Costs for labour and transport are not subject to IVA.

The Project’s total costs are based on all of the Project’s estimated capital expenditures plus the applicable IVA applied to materials, equipment and contracted services.

It is assumed that the IVA tax is not reimbursed based on the past experience of petroleum companies operating in Ecuador. IVA tax is therefore considered as part of the total capital costs of the Project.

19.18.4 Economic Analysis Results

The financial outcome is summarized in Table 19-23.

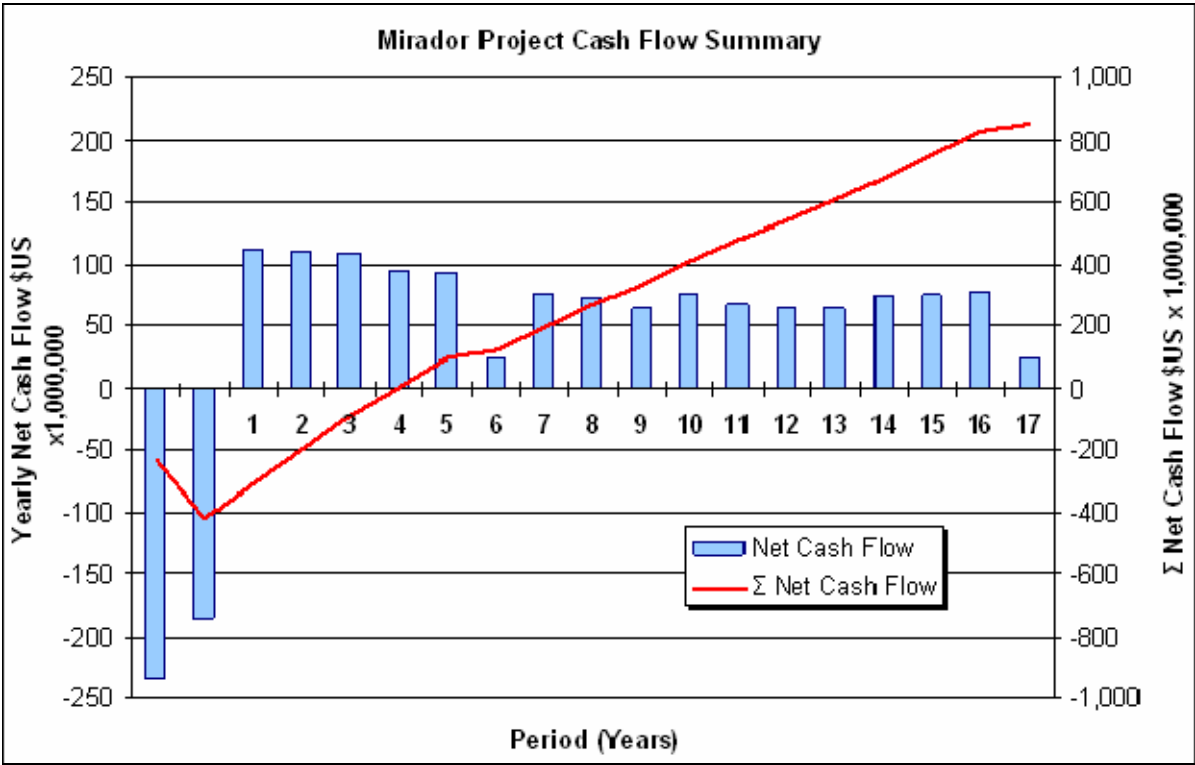


Table 19-23: Financial Outcome Summary

Pre-tax NPV (\$ '000s)	Pre-tax IRR (%)	Post-tax NPV (\$ '000s)	Post-tax IRR (%)
\$ 392,542	21.3	\$ 265,016	17.7

The project has a projected payback period of approximately four years of operation beginning in Year 2 (Figure 19-6).

Figure 19-6: Cash Flow Summary



19.18.5 Sensitivity Analysis

Effects of changes (post-tax) to copper prices, CAPEX, operating cost and copper production were examined in various sensitivity analyses. These analyses indicated the greater sensitivity of the project is to the copper price and recovered copper.

These results are consistent with the overall copper grade of the Mirador Copper Project. The Project is much less sensitive to CAPEX and operating cost fluctuations (see Figure 19-7 and Figure 19-8, Table 19-24 and Table 19-25).

Figure 19-7: NPV Sensitivity Chart

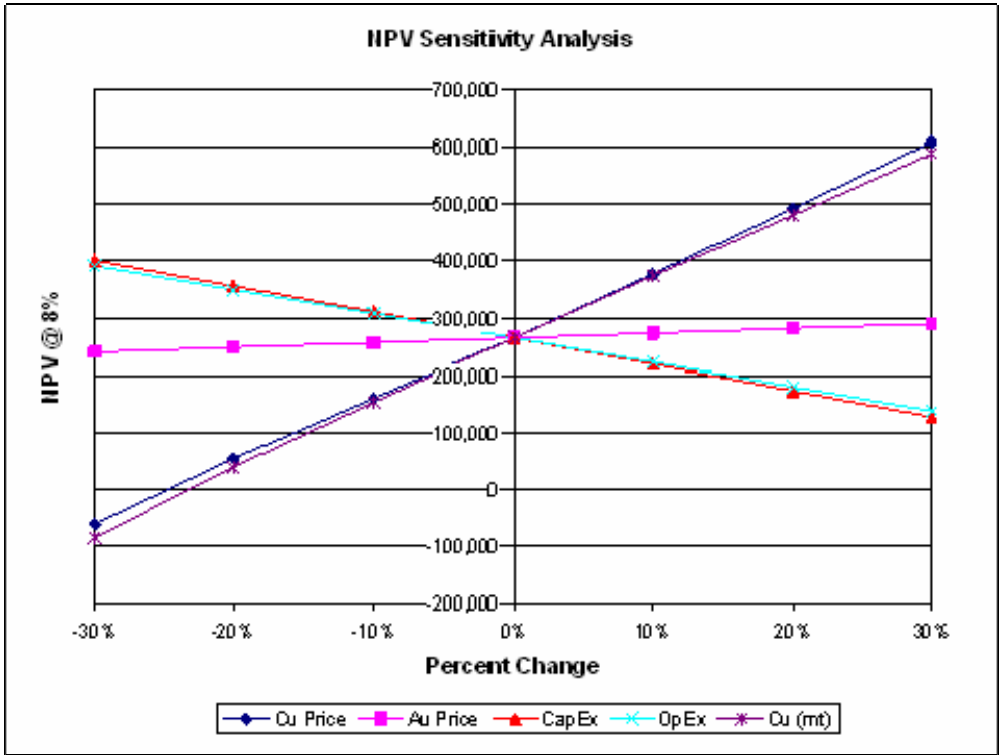


Figure 19-8: IRR Sensitivity Chart

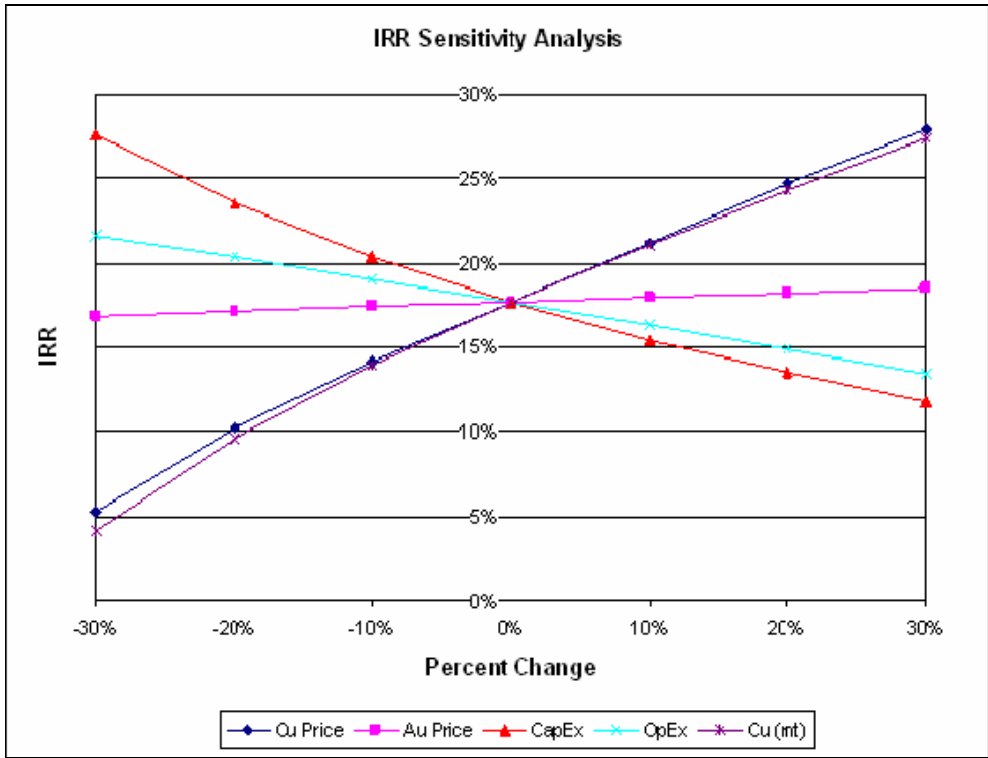


Table 19-24: Sensitivity Analysis Details

Items (*expressed in 000's)	-30%	-20%	-10%	0% Base Case	10%	20%	30%
<b>Cu Price</b>	1.23	1.40	1.58	1.75	1.93	2.10	2.28
Net Present Value	(60,656)	54,886	160,762	265,016	377,544	493,382	609,220
DCF Rate of Return	5.3%	10.2%	14.2%	17.7%	21.3%	24.7%	28.0%
<b>Au Price</b>	385.00	440.00	495.00	550.00	605.00	660.00	715.00
Net Present Value	240,295	248,535	256,776	265,016	273,256	281,496	289,737
DCF Rate of Return	16.9%	17.2%	17.4%	17.7%	18.0%	18.2%	18.5%
<b>CapEx</b>	373,387.8	426,728.9	480,070.1	533,411.2	586,752.3	640,093.4	693,434.5
Net Present Value	401,282	355,946	310,514	265,016	219,376	173,684	127,992
DCF Rate of Return	27.6%	23.6%	20.4%	17.7%	15.5%	13.5%	11.8%
<b>OpEx</b>	5.21	5.96	6.70	7.45	8.19	8.94	9.68
Net Present Value	391,806	349,543	307,279	265,016	222,752	180,489	138,225
DCF Rate of Return	21.6%	20.3%	19.0%	17.7%	16.3%	14.9%	13.4%
<b>Cu Production (mt)</b>	701,113	801,272	901,431	1,001,590	1,101,750	1,201,909	1,302,068
Net Present Value	(84,996)	40,251	154,020	265,016	373,956	481,344	588,732
DCF Rate of Return	4.2%	9.7%	13.9%	17.7%	21.1%	24.3%	27.4%

Table 19-25: Copper Price Sensitivity Analysis Details

Cu Price US\$/lb	NPV US\$ million	IRR %
1.25	(43,495)	6.1%
1.50	116,081	12.6%
<b>1.75</b>	<b>265,016</b>	<b>17.7%</b>
2.00	427,189	22.8%
2.25	592,672	27.5%
2.50	758,155	32.0%
2.75	923,638	36.3%
3.00	1,089,121	40.4%

## 20.0 INTERPRETATION AND CONCLUSIONS

The Mirador copper-gold project shows positive economics based on the 30,000 tpd milling rate and associated mine plan presented in this report. A total of 181 MT of in-pit resources will be mined over approximately 17 years at a relatively low strip ratio of 0.8:1. The average grades will be 0.62% copper, 0.2 g/t gold, and 1.63 g/t silver. Metallurgy indicates an average copper recovery of 89.7% and an average gold recovery of 46.3% with an estimated silver recovery of 67% at a fixed final grind of 176 microns. The Bond ball mill work index averages 14.5 to 15.6 kWh/t. Annual production over the first 10 years of the mine life will average 11 MT of concentrate, containing 137 Million lbs of copper, 34,000 oz gold, and 394,000 oz silver.

The total Measured and Indicated resource for Mirador is currently estimated at 438 MT at 0.61% copper, at a 0.4% copper cut-off grade. The mine plan presented here would only extract less than half of this resource. For this reason, the current design of the process plant can accommodate the possibility of a future process plant with a 60,000 tpd capacity with minimal additional capital costs to the project.

Total capital expenditures for the project are estimated to be \$533,411,184, which includes initial capital of \$399,201,997, working capital of \$19,101,147, sustaining capital (including taxes) of \$102,161,589, and other post closure costs and taxes of \$12,946,451. Total operating costs are estimated at \$1.2 billion (includes: processing, mining, TMF, G&A ).

At an 8% discount rate, the after tax IRR will be 17.7% and the NPV will be \$265 million. The economics are most sensitive to metal prices, and the sensitivities are summarized in the figures in section 19.18.5.

The Project has significant potential for expansion from the current 181 MT mine plan considering the total currently defined resources at both the Mirador deposit and the neighbouring Mirador Norte deposit, three kilometres to the northeast. Estimated Indicated and Measured resources, at a 0.4% copper cutoff, for these deposits are 438 MT of 0.61% Cu, 0.19 g/t gold for Mirador, and 171 MT at 0.51% copper, 0.09 g/t gold for Mirador Norte, for a total of 609 MT at 0.58% copper and 0.17 g/t gold. Additional Inferred resources for these two deposits together total 281 Mt at 0.52% copper and 0.15 g/t gold.

The current process design circuit can be expanded at minimal cost to 60,000 tpd, by doubling the linear milling and flotation circuits and adding equipment to the crusher and overland conveyors.

The resumption of geotechnical and environmental studies and construction activities will resume on the site as soon as total access is granted by authorities.

## 21.0 RECOMMENDATIONS

Certain elements of the Mirador Project mining plan are currently deficient in Feasibility Level engineering, mainly as a result of the suspension of activities in late 2006. The following recommendations are needed to bring all elements of the project to a bankable feasibility level, as well as to improve the current resource estimate by converting more material to the Measured category. The total cost for implementing these recommendations is estimated at \$3.25 million.

### 21.1 *Geology and Resource*

- 1) A program of closely spaced (50m) angle holes in the area of the starter pit will increase confidence in the resources there, converted more from Indicated to Measured, as well as minimize the risks associated with the vertical drill holes under-estimating the number of subvertical post- and syn-mineralization dikes and breccias. The drill program will require about 3400 metres of drilling in the Phase 1 pit area, and an additional 2300 metres in the final pit perimeter. This drilling and sampling is expected to cost about \$1 million.
- 2) Future resource modeling should consider using a partial-block model instead of the current sub-block model, which would require valid and non-overlapping solids, or taking the model to plan levels matching the block height. Making a partial block model is the preferred option, and will cost about \$10,000.

### 21.2 *Mining and Processing*

- 3) The overall mine design must be improved to address in detail the following elements: optimized pit with highwall access to the next phase, pit reserves, design waste dumps and associated haul roads, access roads, pre-strip plan, production scheduling, and water management. A revised mine design, including OpEx and CAPEX estimates, a site visit, and final report, would cost about \$200,000.
- 4) In order to complete item (3) above, and bring all aspects of the mine plan to the same level of engineering, geotechnical work costing about \$800,000 will be carried out on the proposed waste dump areas, haul roads, pit area hydrogeology, and TMF areas.
- 5) Conduct a metallurgical test program to define the grindability and metallurgical characteristics of the enriched ore types compared to the hypogene ore types. This will require approximately 1000 kg of material of each type in the form of PQ drill core. The cost of this testing would be close to \$250,000. This program should be conducted in conjunction with Mirador Norte.

- 6) Detailed ground topography with one-metre contour intervals is needed for all elements of the mine plan, and will also be used to further refine the resource estimate. This is expected to cost about \$200,000.
- 7) Complete the tailings trade off study that is currently in progress. The total for this study is estimated to be \$300,000.
- 8) The project due diligence and updated Feasibility Study report is expected to cost \$500,000.

### **21.3 Environmental**

- 9) The severity of potential acid generation (PAG) from the waste dumps is uncertain, and there is a risk that additional costs may have to be added to the project to manage the effluent from the waste dumps. The PAG of the waste material is currently being studied with on-site humidity cells, and this should continue and be expanded with new material from the on-going geotechnical drilling. The costs for the geotechnical drilling and additional waste material tests are included in item (4) above. Construction of 10-12 on-site humidity cells would cost approximately \$10,000. A laboratory test program has been initiated to simulate subaqueous disposal of tailings and waste rock. Ten columns are being operated for a period of one year at Cantest in Vancouver, BC, Canada.
- 10) Hydrological and climate data gathering should be continued to provide ongoing site specific data. This will allow for further refinement of the water management measures during the detailed design. The cost to advance these studies is estimated to be \$50,000, with approximately \$27,000 per annum in ongoing expenses.

## 22.0 REFERENCES

- AMEC Americas Limited, 2005: Mirador Copper Project Feasibility Study Report. May 2005.
- Drobe, J., Hoffert, J., Fong, R., Haile, J., and Rokosh, J., 2007: Panantza and San Carlos Copper Project, Preliminary Assessment Report, October 2007, NI 43-101 Technical Report prepared for Corriente Resources Inc.
- Makepeace, D.K. and, Dawson, J.M., 2003: Mirador Project, Corriente Copper Belt, Southeast Ecuador. Order-of-Magnitude Study, Part 1, Technical Report. February 2003.
- Lomas, S., 2004: Technical Report, Mirador Project. Morona Santiago Province, Ecuador. AMEC Americas Limited Technical Report prepared for Corriente Resources Inc, October 22 2004.
- P&T Asesores Legales, Abogados 2005: Letter Regarding Certain Corporate Matters and the Status of Title to the Mining Concessions in Ecuador. Prepared for Corriente Resources Inc, December 29, 2005.
- Sivertz, G., Ristorcelli, S., Hardy, S., and Hoffert, J., 2006a: Update on Copper, Gold and Silver Resources and Pit Optimizations, Mirador Project, Ecuador. May 18, 2006.
- Sivertz, G., Ristorcelli, S., and Hardy, S., 2006b: Technical Report Update on the Copper, Gold, and Silver Resources and Pit Optimizations: Mirador and Mirador Norte Deposits, Mirador Project, Ecuador. November 30, 2006.
- SNC-Lavalin, 2007: Mirador Copper Project - Feasibility Study Report, July 2007, Internal report for Corrente Resources Inc.
- TR & Asociados, Abogados 2008: Letter of legal opinion of status of Title of Mining Concessions in Ecuador, for EcuCorriente S.A.. Prepared for Corriente Resources Inc, February 19, 2008.



Table 22-1: Table of Mirador Reports and News Releases – By Date

Item	Author	Description	Date
1	TR & Asociados, Abogados	Letter of legal opinion of status of Title of Mining Concessions in Ecuador, for Ecuacorriente S.A.	February 19, 2008
2	Drobe, J., Hoffert, J., Fong, R., Haile, J., and Rokosh, J.	Panantza and San Carlos Copper Project, Preliminary Assessment Report, , NI 43-101 Technical Report prepared for Corriente Resources Inc	October 30,2007
3	SGS Lakefield Research Limited 2007	The Grindability Characteristics of Samples, Prepared for Corriente Resources Inc.,	July 18, 2007
4	G&T Metallurgical Services Ltd, Canada 2007	Metallurgical Assessment of Mirador Ores, Prepared for Ecuacorriente S.A.,	July 9, 2007
5	SNC-Lavalin, 2007	Mirador Copper Project - Feasibility Study Report, July 2007, Internal report for Corriente Resources Inc.	July 1, 2007
6	SGS Lakefield Research Limited 2007	Variability Simulations for the Mirador Circuit Based On Small-Scale Data, Prepared for Ecuacorriente S.A.,	March 23, 2007
7	Sivertz, G., Ristorcelli, S., and Hardy, S., 2006	Technical Report Update on the Copper, Gold, and Silver Resources and Pit Optimizations: Mirador and Mirador Norte Deposits, Mirador Project, Ecuador,	November 30, 2006
8	Sivertz, G., Ristorcelli, S., Hardy, S., and Hoffert, J., 2006	Update on Copper, Gold and Silver Resources and Pit Optimizations, Mirador Project, Ecuador,	May 18, 2006
8	P&T Asesores Legales, Abogados 2005	Letter Regarding Certain Corporate Matters and the Status of Title to the Mining Concessions in Ecuador. Prepared for Corriente Resources Inc,	December 29, 2005
9	Corriente Resources Inc, 2005	Environmental Impact Assessment for Mirador Project Submitted to Ecuador Government. News Release dated,	December 20, 2005
10	Corriente Resources Inc, 2005	Mirador Mine Life Extended to 38 Years with New Optimization Results for Starter Copper Project. News Release dated,	November 17, 2005

Item	Author	Description	Date
11	Corriente Resources Inc, 2005	Optimization Drilling Completed at Mirador Project. News Release dated,	August 8, 2005
12	Corriente Resources Inc, 2005	High Grade Copper Intersected at Mirador Project. News Release dated,	July 6, 2005
13	AMEC Americas Limited, 2005	Mirador Copper Project Feasibility Study Report. Prepared for Corriente Resources Inc.,	May 31, 2005
14	Corriente Resources Inc, 2005	Optimization Well Underway at Mirador Project, Ecuador. News Release dated,	May 19, 2005
15	Corriente Resources Inc, 2005	Positive Feasibility Study Completed on Mirador Copper-Gold Starter Project, Southeast Ecuador. News Release dated,	April 14, 2005
16	SGS Lakefield Research Limited 2004	Metallurgical Testing of Mirador Ores, Prepared for Corriente Resources Inc.	December 7, 2004
17	SGS Lakefield Research Limited – MacPherson Consultants Ltd. 2004	Proposed Grinding System for the Mirador Comminution Circuit based on Small-Scale Data, Prepared for Corriente Resources Inc.,	November 3, 2004
18	Lomas, S., 2004	Technical Report, Mirador Project. Morona Santiago Province, Ecuador. AMEC Americas Limited Technical Report prepared for Corriente Resources Inc,	October 22, 2004
19	G&T Metallurgical Services Ltd, Canada 2004	A Preliminary Assessment of Metallurgical Response, Prepared for Corriente Resources Inc.,	September 8, 2004
20	SGS Lakefield Research Limited – JKTech Pty Ltd – JKMRC Commercial Division 2004	SMC Test Report on Twenty Five Samples from Mirador Project, Prepared for Corriente Resources Inc.,	August 31, 2004
21	SGS Lakefield Research Limited – Phillips Enterprises, LLC, 2004	Bond Low-Energy Impact Tests, Prepared for Corriente Resources Inc.,	July 30, 2004
22	SGS Lakefield Research Limited – MinnovEx - CEET, 2004	Mirador Project Grinding Circuit Evaluation, Prepared for Corriente Resources Inc.,	July 27, 2004

Item	Author	Description	Date
22	G&T Metallurgical Services Ltd, Canada 2004	A Preliminary Assessment of Metallurgical Response, Prepared for Corriente Resources Inc.,	July 7, 2004
23	G&T Metallurgical Services Ltd, Canada 2004	Optimum Treatment Conditions for Ores from the Mirador Project, Prepared for Corriente Resources Inc.,	April 1, 2004
24	Dawson, J.M., and Makepeace, D.K, 2003	Mirador Project, Corriente Copper Belt, Southeast Ecuador. Order-of-Magnitude Study, Part 1, Technical Report,	February 28, 2003
25	Makepeace, D.K, 2002	Mirador Project, Corriente Copper Belt, Southeast Ecuador. Preliminary Assessment Technical Report,	September 3, 2002
26	Makepeace, D.K, 2001	Corriente Copper Belt Project, Southeast Ecuador, Order-of-Magnitude Study (Preliminary Assessment Technical Report),	June 22, 2001

## 23.0 DATE AND SIGNATURES

Effective Date of report: April 3, 2008

The information upon which the contained resource estimates are based was current as of the Effective Date of October 19, 2006; for the land data in this report, the Effective Date is November 11, 2006.

Signature Date of report: May 8, 2008

*“John Drobe”*  
John Drobe, P. Geo.                      Date Signed: May 8, 2008

*“John Hoffert”*  
John R. Hoffert, P.Eng.                      Date Signed: May 8, 2008

*“Robert Fong”*  
Robert H. Fong, P. Eng.                      Date Signed: May 8, 2008

*“Jay Collins”*  
Jay Collins, P.Eng.                      Date Signed: May 8, 2008

**CERTIFICATE of AUTHOR**

I, John Drobe, P. Geo, do hereby certify that:

1. I am currently employed as Chief Geologist by:

Corriente Resources Incorporated  
#520 – 800 West Pender Street,  
Vancouver, British Columbia, V6C 2V6  
Phone: 604-687-0449 / Fax: 604-687-0827 / E-mail: jdrobe@corriente.com

2. I graduated with a Bachelor of Science degree in Geology from University of British Columbia in 1987 and a Master of Science degree in Geology from Queen's University in Kingston, Ontario in 1991.
3. I have been a registered member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia since 1992.
4. I have practiced my profession continuously since 1991, and have been involved in mineral exploration for base and precious metals continuously since 1994. I have been involved in geological modeling and resource estimation since 2001.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101, and have prepared Sections 4 through to 15 and 17 of this report.
6. I visited the Mirador deposit on several occasions between late 2002 and November 2006 and have reviewed all diamond drill core and mapped the property geology.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I consent to the filing of the Technical Report with any securities regulatory authority, stock exchange and other regulatory authority and any publication by them, including electronic publication of the Technical Report in the public company files on their websites accessible by the public.

Dated at Vancouver, British Columbia, this 8<sup>th</sup> day of May, 2008.

*“John Drobe”*

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MIRADOR PROJECT  
30,000 TPD OPTIMIZATION STUDY

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John Drobe, M.Sc., P.Geo.

**CERTIFICATE of AUTHOR**

I, John R. Hoffert, P.Eng, do hereby certify that:

1. I am currently an independent Metallurgical Engineer, president and owner of:  
  
Hoffert Processing Solutions Inc.  
785 Uplands Court  
Kamloops, B.C., Canada  
V2C 6M8
2. I graduated from the University of British Columbia in 1984 with a Bachelor of Applied Science degree in Mining and Mineral Processing and also hold a Diploma of Technology in Extractive Metallurgy from the British Columbia Institute of Technology obtained in 1975.
3. I am a registered Professional Engineer in the province of British Columbia, Canada (#16726) and a long time member of the Canadian Institute of Mining and Metallurgy
4. I have worked as a metallurgical engineer for a total of 23 years since my graduation from university and have served in various roles in the mining industry for 32 years.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for or was involved with the preparation of Sections 16.0, 19.3, 19.11, 19.12, 19.17 and 19.18 of this technical report titled “Mirador Copper-Gold Project 30,000 tpd Feasibility Study” for Corriente Resources Inc., January 2008 and I am familiar with the metallurgical statements made in the report.
7. I visited the project site on May 1, 2 and 3, 2006 and have personally examined the drill core and found the volume and length of the drill core, the copper mineral characterization and apparent fracture hardness in the drill core to be consistent with the conclusions drawn from the test work in the metallurgical study.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission of which to disclose would make the Technical Report misleading.
9. I have read National Instrument 43-101 and Form 43-101F1, and this Technical Report has been prepared in compliance with that instrument and form.

10. I consent to the filing of the Technical Report with any securities regulatory authority, stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 8<sup>th</sup> day of May, 2008.

*"John Hoffert"*

---

John R. Hoffert, P.Eng.



**CERTIFICATE of AUTHOR**

I, Robert H. Fong, P. Eng, do hereby certify that:

1. I am an associate of Moose Mountain Technical Services (MMTS), P.O. Box 797, Elkford, B.C. Canada.
2. I am a registered professional engineering in good standing with the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA).
3. I am a graduate of McGill University, Montreal, Quebec, and hold a Bachelor of Engineering Degree - Mining, 1979.
4. I have worked as a mining engineering since graduation from university, and have provided over 12 years of engineering consulting services to projects in Canada, United States, South America, Mexico, Africa and Asia.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and certify that, by reason of my education, relevant work experience, and affiliation with APEGGA, I fulfill the requirements to be a "Qualified Person" as set out by NI 43-101.
6. I am the sole and principal author of Section 19.2 and 19.4 of this report, and am responsible for the technical information described only in this section.
7. I have not visited the project site at the time of issuance of this report.
8. I have not had prior involvement with companies that are the subject of this report, nor have a beneficial interest in the mineral properties that are the subject of this report, nor any adjacent or nearby properties.
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose, which makes the Technical Report misleading.
10. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public.

Dated at Calgary, Alberta, this 8<sup>th</sup> day of May, 2008.

*"Robert Fong"*

Robert H. Fong, P.Eng.

***Knight Piésold***  
CONSULTING

Knight Piésold Ltd.  
Suite 1400  
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Telephone: 604-685-0543  
Facsimile: 604-685-0147  
E-mail: vancouver@knightPiésold.com

**CERTIFICATE of AUTHOR**

I, Jeremy P. Haile, P.Eng, do hereby certify that:

1. I am the President of: Knight Piésold Ltd.  
Suite 1400, 750 West Pender Street,  
Vancouver, B.C. Canada V6C 2T8
2. I graduated with a degree in Engineering Science and Economics from the University of Oxford in 1972. In addition, I have obtained a Master of Science in Soil Mechanics from Imperial College, London University in 1978.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have worked as an engineer for a total of 35 years since my graduation from university.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43 101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I am responsible for the preparation of sections 19.5 through 19.7 of this report, and am responsible for the technical information described in these sections only.
7. I visited the project site during early February 2005.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
10. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

11. I have read National Instrument 43-101 and Form 43-101 F1, and the Technical Report has been prepared in compliance with that instrument and form.
12. <sup>(1)</sup> I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.
- <sup>(1)</sup> If an issuer is using this certificate to accompany a technical report that it will file only with the exchange, then the exchange recommends that this paragraph is included in the certificate.

Dated at Vancouver, British Columbia, this 8<sup>th</sup> day of May, 2008.

*"Jeremy Haile"*

---

Jeremy P. Haile, P.Eng.

**MERIT CONSULTANTS INTERNATIONAL INC.**

#401 - 750 West Pender Street  
Vancouver, B.C., V6C 2T8  
Tel: 604-669-8444  
Fax: 604-669-8434  
Email: joe.rokosh@gmail.com

**CERTIFICATE of AUTHOR**

I, Jay Collins, P.Eng, do hereby certify that:

1. I am President of:  
  
Merit Consultants International Inc.  
#401 - 750 West Pender Street,  
Vancouver, B.C., Canada, V6C 2T8.
2. I graduated with a degree in Bachelor of Science, Commendation,  
Civil Engineering from the University of Portsmouth Polytechnic in 1974.
3. I am a member of the Association of Professional Engineers and Geoscientists of  
British Columbia.
4. I have worked as an Engineer for a total of 33 years since my graduation from  
university.
5. I have read the definition of "qualified person" set out in National Instrument 43 101  
("NI 43-101) and certify that by reason of my education, affiliation with a professional  
association (as defined in NI 43-101) and past relevant work experience, I fulfil the  
requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for managing the study team in preparation of the technical report  
titled Mirador Copper-Gold Project and for the preparation of section 19.16 Capital  
Cost Estimate of this report and for the technical information described in this section  
only. I have visited the project site prior to the issuance of this report.
7. I have been involved in previous reports concerning the Mirador property over the last  
four years.
8. I am not aware of any material fact or material change with respect to the subject  
matter of the Technical Report that is not reflected in the Technical Report, the  
omission to disclose which makes the Technical Report misleading.
9. I am independent of the issuer applying all of the tests in section 1.5 of National  
Instrument 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated at Vancouver, British Columbia, this 8<sup>h</sup> day of May, 2008.

---

Jay Collins, P.Eng.

## 24.0 APPENDICES

Appendix A – Annual Mine Capital and Operating Costs

Appendix B – Unit Operating Costs for Mill Feed and Material

Appendix C – Detailed Project Implementation Schedule

Appendix D – CAPEX Summary Tables

## APPENDIX A

### Annual Mine Capital and Operating Costs

Appendix A  
Annual Mine Capital and Operating Costs

Pre-production				Production																			
	Y0	Y1	SubTotal	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	SubTotal	LOM	
DRILLING	\$ 377,018	\$ 821,183	\$ 1,198,201	\$ 1,763,869	\$ 1,517,529	\$ 1,606,301	\$ 1,606,560	\$ 1,615,865	\$ 1,723,042	\$ 1,687,256	\$ 1,693,711	\$ 1,743,453	\$ 1,927,719	\$ 1,591,948	\$ 1,488,425	\$ 1,309,155	\$ 1,026,492	\$ 1,016,033	\$ 1,015,981	\$ 457,548	\$ 24,790,887	\$ 25,989,088	
BLASTING	\$ 252,408	\$ 625,730	\$ 878,138	\$ 2,989,344	\$ 3,204,222	\$ 3,570,409	\$ 3,993,042	\$ 3,917,767	\$ 4,675,832	\$ 4,613,780	\$ 4,573,635	\$ 4,691,991	\$ 5,158,937	\$ 4,426,741	\$ 4,279,840	\$ 3,992,903	\$ 3,652,733	\$ 3,414,174	\$ 3,175,832	\$ 1,787,649	\$ 66,118,831	\$ 66,996,969	
LOADING	\$ -	\$ 959,953	\$ 959,953	\$ 2,766,856	\$ 2,434,537	\$ 2,431,524	\$ 2,429,958	\$ 2,491,750	\$ 2,529,368	\$ 2,482,310	\$ 2,460,263	\$ 2,543,547	\$ 2,798,772	\$ 2,290,802	\$ 2,141,846	\$ 1,897,201	\$ 1,753,792	\$ 1,656,325	\$ 1,558,487	\$ 857,830	\$ 37,524,968	\$ 38,383,921	
HAULING	\$ -	\$ 6,761,420	\$ 6,761,420	\$ 13,277,093	\$ 15,312,925	\$ 15,317,359	\$ 14,252,934	\$ 15,193,255	\$ 15,694,323	\$ 15,600,035	\$ 15,603,195	\$ 15,933,777	\$ 15,490,624	\$ 10,920,725	\$ 9,498,920	\$ 8,655,102	\$ 8,118,422	\$ 8,082,387	\$ 7,791,077	\$ 4,259,450	\$ 209,921,573	\$ 215,882,993	
MINE MAINTENANCE	\$ 985,220	\$ 1,048,347	\$ 1,613,567	\$ 1,006,421	\$ 1,006,309	\$ 1,006,309	\$ 1,023,390	\$ 1,129,549	\$ 1,000,352	\$ 1,001,499	\$ 998,122	\$ 900,353	\$ 998,060	\$ 894,782	\$ 892,497	\$ 892,497	\$ 893,545	\$ 889,505	\$ 889,505	\$ 17,530,112	\$ 17,530,112	\$ -	
MINE OPERATIONS - SUPPORT	\$ 7,083,699	\$ 6,010,023	\$ 13,093,722	\$ 5,326,062	\$ 5,316,870	\$ 5,335,893	\$ 5,670,466	\$ 5,248,513	\$ 5,269,270	\$ 5,242,440	\$ 5,237,472	\$ 5,290,008	\$ 5,282,453	\$ 5,278,436	\$ 5,264,861	\$ 5,234,836	\$ 5,215,111	\$ 5,185,517	\$ 5,176,826	\$ 4,609,285	\$ 89,172,319	\$ 102,266,041	
SNOW REMOVAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
GEOTECH	\$ 220,704	\$ 220,704	\$ 441,408	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ 220,704	\$ -	\$ 3,631,264	\$ 3,972,672	
UNALLOCATED LABOUR COST	\$ 261,578	\$ 125,287	\$ 386,965	\$ 153,639	\$ 164,396	\$ 160,910	\$ 96,273	\$ 166,986	\$ 141,996	\$ 141,996	\$ 152,229	\$ 152,856	\$ 110,994	\$ 142,902	\$ 81,967	\$ 129,949	\$ 116,989	\$ 128,617	\$ 92,404	\$ 86,354	\$ 124,904	\$ 2,706,765	\$ 2,993,230
DIRECT COSTS - Subtotals	\$ 8,760,727	\$ 16,471,647	\$ 25,232,374	\$ 27,503,978	\$ 29,177,492	\$ 29,709,409	\$ 29,293,327	\$ 29,981,389	\$ 31,245,267	\$ 31,000,163	\$ 30,940,958	\$ 31,324,827	\$ 31,912,464	\$ 25,709,389	\$ 23,919,027	\$ 22,319,387	\$ 21,008,368	\$ 20,537,069	\$ 19,916,566	\$ 12,983,572	\$ 448,482,652	\$ 473,715,026	
Included in G&A																							
Mine Ops G&A - \$'s	\$ 1,330,098	\$ 1,330,098	\$ 2,660,196	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,330,098	\$ 1,000,786	\$ 22,282,354	\$ 24,942,560	
Mine Maintenance G&A - \$'s	\$ 172,428	\$ 172,428	\$ 344,855	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 172,428	\$ 2,931,271	\$ 3,376,126	
Mine Engineering G&A	\$ 754,427	\$ 929,063	\$ 1,683,490	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 929,063	\$ 665,150	\$ 15,530,157	\$ 17,213,647	
Technical Services G&A	\$ 329,561	\$ 329,561	\$ 659,122	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 329,561	\$ 292,301	\$ 292,301	\$ 5,528,014	\$ 6,187,135	
TOTAL GME COSTS	\$ 2,686,513	\$ 2,761,149	\$ 5,347,663	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,761,149	\$ 2,130,664	\$ 46,271,795	\$ 51,619,458	
TOTAL OPERATING COST	\$ 11,347,240	\$ 19,232,796	\$ 30,580,037	\$ 30,265,127	\$ 31,938,641	\$ 32,470,558	\$ 32,054,476	\$ 32,742,538	\$ 34,006,416	\$ 33,761,312	\$ 33,702,107	\$ 34,085,976	\$ 34,673,613	\$ 28,470,538	\$ 26,680,176	\$ 25,080,536	\$ 23,769,517	\$ 23,298,218	\$ 22,640,455	\$ 15,114,236	\$ 494,754,447	\$ 525,334,484	
Pre-production				Production																			
New Capital Capital Summary	Y0	Y1	SubTotal	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	SubTotal	LOM	
Drilling	\$ 494,000	\$ 1,997,201	\$ 2,491,201	\$ -	\$ 1,603,201	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,603,201	\$ 3,994,402	
Loading	\$ -	\$ 1,445,464	\$ 1,445,464	\$ 3,915,584	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,915,584	\$ 5,361,048	
Hauling	\$ -	\$ 11,536,803	\$ 11,536,803	\$ 6,409,335	\$ 3,845,601	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,254,936	\$ 21,791,739	
Mine Maintenance	\$ 4,222,329	\$ -	\$ 4,222,329	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,222,329	
Operations Support	\$ 13,910,598	\$ -	\$ 13,910,598	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,910,598	
Snow Removal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total New Capital	\$ 48,626,927	\$ 14,979,468	\$ 33,606,395	\$ 10,324,919	\$ 5,348,802	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,673,721	\$ 49,280,116	
Replacement Capital Summary				Production																			
Drilling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Loading	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Hauling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Mine Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 168,000	\$ -	\$ -	\$ -	\$ 168,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 168,000	\$ 672,000	
Operations Support	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 171,403	\$ 4,186,624	\$ 1,430,000	\$ 100,000	\$ 850,000	\$ -	\$ 124,403	\$ -	\$ 201,403	\$ 863,622	\$ 464,180	\$ 8,391,835	\$ 8,391,835	
Snow Removal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Replacement Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 168,000	\$ -	\$ -	\$ 171,403	\$ 4,354,624	\$ 1,430,000	\$ 100,000	\$ 850,000	\$ -	\$ 124,403	\$ -	\$ 201,403	\$ 2,477,086	\$ 4,309,781	\$ 14,106,900	\$ 14,106,900	



## **APPENDIX B**

### **Unit Operating Costs for Mill Feed and Material**

APPENDIX B

Unit Operating Costs for Mill Feed and Material

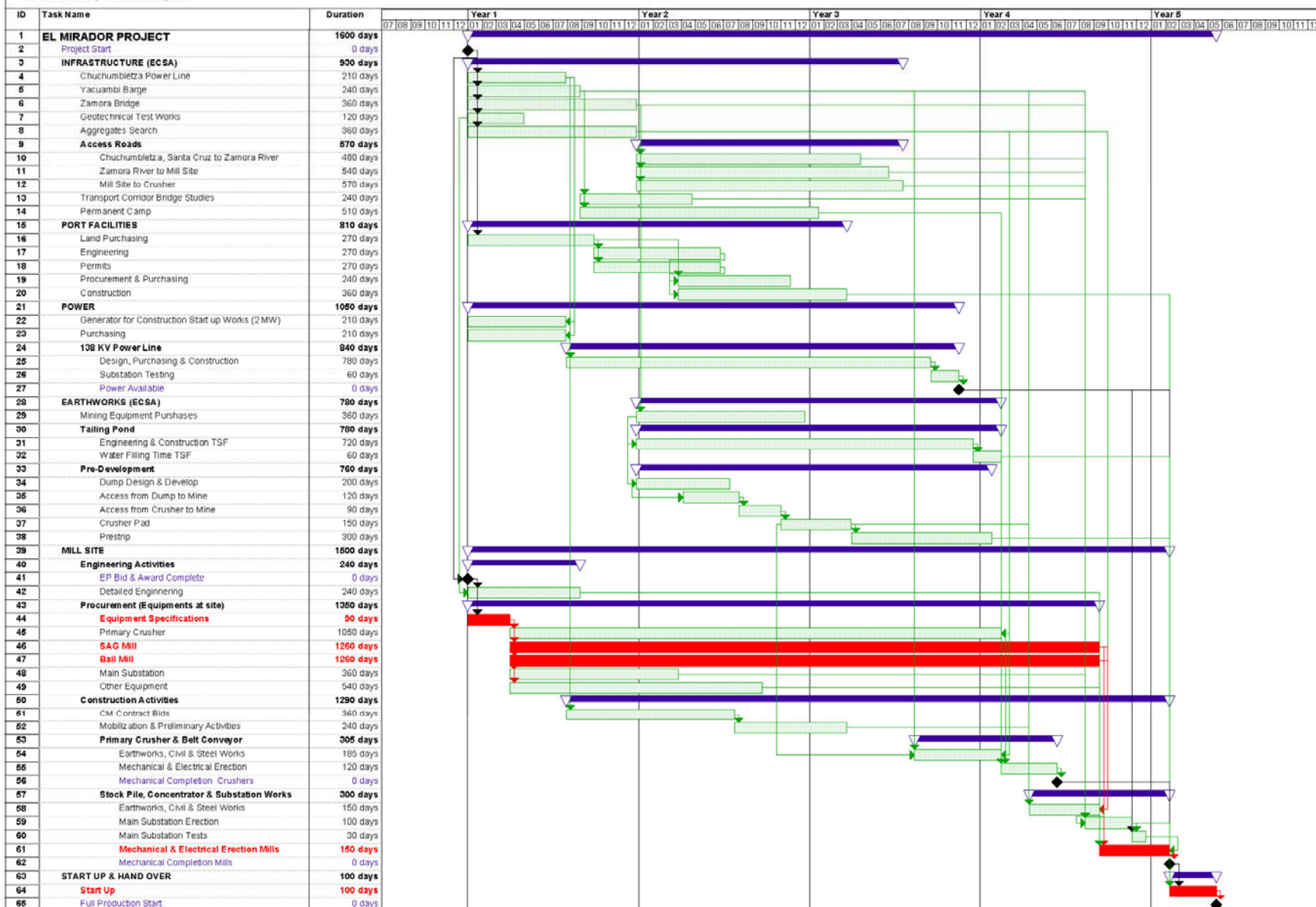
	Pre-production			Production																		
COST / TONNE ROM Mill Feed MINED	Y0	Y1	SubTotal	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	SubTotal	LOM
DRILLING	\$ -	\$ -	\$ -	\$ 0.16	\$ 0.14	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.16	\$ 0.15	\$ 0.15	\$ 0.16	\$ 0.18	\$ 0.15	\$ 0.14	\$ 0.12	\$ 0.09	\$ 0.09	\$ 0.09	\$ 0.08	\$ 0.14	\$ 0.14
BLASTING	\$ -	\$ -	\$ -	\$ 0.27	\$ 0.29	\$ 0.33	\$ 0.36	\$ 0.36	\$ 0.43	\$ 0.42	\$ 0.42	\$ 0.43	\$ 0.47	\$ 0.40	\$ 0.39	\$ 0.36	\$ 0.33	\$ 0.31	\$ 0.29	\$ 0.31	\$ 0.37	\$ 0.37
LOADING	\$ -	\$ -	\$ -	\$ 0.25	\$ 0.22	\$ 0.22	\$ 0.22	\$ 0.23	\$ 0.23	\$ 0.23	\$ 0.22	\$ 0.23	\$ 0.26	\$ 0.21	\$ 0.20	\$ 0.17	\$ 0.16	\$ 0.15	\$ 0.14	\$ 0.15	\$ 0.21	\$ 0.21
HAULING	\$ -	\$ -	\$ -	\$ 1.21	\$ 1.40	\$ 1.40	\$ 1.30	\$ 1.39	\$ 1.43	\$ 1.42	\$ 1.42	\$ 1.45	\$ 1.41	\$ 1.00	\$ 0.87	\$ 0.79	\$ 0.74	\$ 0.74	\$ 0.71	\$ 0.74	\$ 1.15	\$ 1.19
MINE MAINTENANCE	\$ -	\$ -	\$ -	\$ 0.09	\$ 0.09	\$ 0.09	\$ 0.09	\$ 0.10	\$ 0.09	\$ 0.09	\$ 0.09	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.15	\$ 0.09	\$ 0.10
MINE OPERATIONS - SUPPORT	\$ -	\$ -	\$ -	\$ 0.49	\$ 0.49	\$ 0.49	\$ 0.52	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.48	\$ 0.47	\$ 0.47	\$ 0.80	\$ 0.49	\$ 0.57
SNOW REMOVAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GEOTECH	\$ -	\$ -	\$ -	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ -	\$ 0.02	\$ 0.02
UNALLOCATED LABOUR COST	\$ -	\$ -	\$ -	\$ 0.01	\$ 0.02	\$ 0.01	\$ 0.01	\$ 0.02	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.02	\$ 0.01	\$ 0.01
DIRECT COSTS - Subtotals	\$ -	\$ -	\$ -	\$ 2.51	\$ 2.66	\$ 2.71	\$ 2.67	\$ 2.74	\$ 2.85	\$ 2.83	\$ 2.83	\$ 2.86	\$ 2.91	\$ 2.35	\$ 2.18	\$ 2.04	\$ 1.92	\$ 1.88	\$ 1.82	\$ 2.25	\$ 2.48	\$ 2.62
Included in G&A																						
Mine Ops G&A - \$'s	\$ -	\$ -	\$ -	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.17	\$ 0.12	\$ 0.14
Mine Maintenance G&A - \$'s	\$ -	\$ -	\$ -	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.03	\$ 0.02	\$ 0.02
Mine Engineering G&A	\$ -	\$ -	\$ -	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.12	\$ 0.09	\$ 0.10
Technical Services G&A	\$ -	\$ -	\$ -	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.03	\$ 0.05	\$ 0.03	\$ 0.03
TOTAL GME COSTS	\$ -	\$ -	\$ -	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.25	\$ 0.37	\$ 0.26	\$ 0.29
TOTAL OPERATING COST/TONNE ROM MILL FEED MINED	\$ -	\$ -	\$ -	\$ 2.76	\$ 2.92	\$ 2.97	\$ 2.93	\$ 2.99	\$ 3.11	\$ 3.08	\$ 3.08	\$ 3.11	\$ 3.17	\$ 2.60	\$ 2.44	\$ 2.29	\$ 2.17	\$ 2.13	\$ 2.07	\$ 2.62	\$ 2.73	\$ 2.90
	Pre-production			Production																		
COST / TONNE MATERIAL MINED	Y0	Y1	SubTotal	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	SubTotal	LOM
DRILLING	\$ -	\$ 0.10	\$ 0.15	\$ 0.07	\$ 0.07	\$ 0.08	\$ 0.08	\$ 0.07	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.07	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08	\$ 0.08
BLASTING	\$ -	\$ 0.08	\$ 0.11	\$ 0.12	\$ 0.15	\$ 0.17	\$ 0.19	\$ 0.18	\$ 0.21	\$ 0.22	\$ 0.22	\$ 0.21	\$ 0.21	\$ 0.23	\$ 0.24	\$ 0.25	\$ 0.26	\$ 0.26	\$ 0.26	\$ 0.30	\$ 0.21	\$ 0.21
LOADING	\$ -	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.12	\$ 0.13	\$ 0.13	\$ 0.14	\$ 0.12	\$ 0.12
HAULING	\$ -	\$ 0.85	\$ 0.85	\$ 0.55	\$ 0.73	\$ 0.74	\$ 0.68	\$ 0.70	\$ 0.71	\$ 0.73	\$ 0.73	\$ 0.71	\$ 0.62	\$ 0.56	\$ 0.53	\$ 0.55	\$ 0.57	\$ 0.61	\$ 0.64	\$ 0.70	\$ 0.66	\$ 0.66
MINE MAINTENANCE	\$ -	\$ 0.13	\$ 0.20	\$ 0.04	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.04	\$ 0.04	\$ 0.05	\$ 0.05	\$ 0.06	\$ 0.06	\$ 0.07	\$ 0.07	\$ 0.15	\$ 0.05	\$ 0.05
MINE OPERATIONS - SUPPORT	\$ -	\$ 0.75	\$ 1.64	\$ 0.22	\$ 0.25	\$ 0.26	\$ 0.27	\$ 0.24	\$ 0.24	\$ 0.24	\$ 0.25	\$ 0.24	\$ 0.21	\$ 0.27	\$ 0.29	\$ 0.33	\$ 0.37	\$ 0.39	\$ 0.43	\$ 0.76	\$ 0.28	\$ 0.31
SNOW REMOVAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GEOTECH	\$ -	\$ 0.03	\$ 0.06	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.02	\$ 0.02	\$ 0.02	\$ -	\$ 0.01	\$ 0.01
UNALLOCATED LABOUR COST	\$ -	\$ 0.02	\$ 0.05	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.00	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.00	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.02	\$ 0.01	\$ 0.01
DIRECT COSTS - Subtotals	\$ -	\$ 2.06	\$ 3.15	\$ 1.13	\$ 1.40	\$ 1.42	\$ 1.40	\$ 1.39	\$ 1.42	\$ 1.45	\$ 1.46	\$ 1.41	\$ 1.28	\$ 1.32	\$ 1.33	\$ 1.42	\$ 1.48	\$ 1.56	\$ 1.64	\$ 2.14	\$ 1.41	\$ 1.45
Included in G&A																						
Mine Ops G&A - \$'s	\$ -	\$ 0.17	\$ 0.33	\$ 0.05	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.06	\$ 0.05	\$ 0.07	\$ 0.07	\$ 0.08	\$ 0.09	\$ 0.10	\$ 0.11	\$ 0.17	\$ 0.07	\$ 0.08
Mine Maintenance G&A - \$'s	\$ -	\$ 0.02	\$ 0.04	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.03	\$ 0.01	\$ 0.01
Mine Engineering G&A	\$ -	\$ 0.12	\$ 0.21	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.04	\$ 0.05	\$ 0.05	\$ 0.06	\$ 0.07	\$ 0.07	\$ 0.08	\$ 0.11	\$ 0.05	\$ 0.05
Technical Services G&A	\$ -	\$ 0.04	\$ 0.08	\$ 0.01	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.01	\$ 0.01	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.03	\$ 0.02	\$ 0.05	\$ 0.02	\$ 0.02
TOTAL GME COSTS	\$ -	\$ 0.35	\$ 0.67	\$ 0.11	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.13	\$ 0.12	\$ 0.11	\$ 0.14	\$ 0.15	\$ 0.18	\$ 0.19	\$ 0.21	\$ 0.22	\$ 0.35	\$ 0.15	\$ 0.16
TOTAL OPERATING COST/MINED	\$ -	\$ 2.40	\$ 3.82	\$ 1.24	\$ 1.53	\$ 1.56	\$ 1.54	\$ 1.52	\$ 1.55	\$ 1.57	\$ 1.59	\$ 1.54	\$ 1.39	\$ 1.46	\$ 1.49	\$ 1.60	\$ 1.68	\$ 1.77	\$ 1.87	\$ 2.50	\$ 1.55	\$ 1.61

## **APPENDIX C**

### **Detailed Project Implementation Schedule**

**MIRADOR PROJECT ECUADOR  
MIRADOR PLANT  
OVERALL PROJECT SUMMARY SCHEDULE**

LAST UPDATE: Thu 06/12/07, 8:27 AM  
Rev A



## **APPENDIX D**

### **CAPEX Summary Tables**

**CORRIENTE RESOURCES INC.**  
**Mirador Copper Project - 30K tpd**  
**Capital Cost Estimate - Review**



US Dollars

Item	Description	Qty	Unit	Labor Cost		Materials		Equipment		Sub		Other		Total Cost			
				Hrs-Unit	Hrs-Total	Unit Cost	Total Mat. Cost	Unit Cost	Total EQ. Cost	Unit Sub	Total Sub Cost	Unit Other	Total Other Cost				
1000 - 9900 Summary																	
1	Mining				602,907	-\$	2,732,774	\$	783,219	\$	38,636,349	\$	23,653,484	\$	-	\$	60,340,277
2	Plant Site Infrastructure				406,862	\$	5,689,385	\$	4,196,910	\$	4,438,925	\$	26,590,166	\$	-	\$	40,915,385
3	Process				1,148,224	\$	20,151,012	\$	25,255,823	\$	57,853,751	\$	2,010,214	\$	-	\$	105,270,800
4	Ancillaries				202,753	\$	1,112,108	\$	4,585,135	\$	1,483,224	\$	-	\$	-	\$	7,180,466
5	Power Supply & Distribution				58,935	\$	973,659	\$	7,286,586	\$	5,454,022	\$	7,698,164	\$	646,231	\$	22,058,662
6	Tailings Management Facility				280,486	\$	6,566,503	\$	5,786,847	\$	5,137,513	\$	12,650,840	\$	-	\$	30,141,703
7	Owner's Costs				0	\$	-	\$	5,600,000	\$	-	\$	-	\$	24,968,177	\$	30,568,177
8	Indirects				0	\$	-	\$	-	\$	-	\$	-	\$	37,791,477	\$	37,791,477
9	Contingency				0	\$	-	\$	-	\$	-	\$	-	\$	33,426,694	\$	33,426,694
Sub-Total Directs & Indirects (With Contingency)					2,700,168		\$ 31,759,892		\$ 53,494,519		113,003,784		\$ 72,602,867		\$ 96,832,578		\$ 367,693,640
10	Working Capital				0	\$	-	\$	-	\$	-	\$	-	\$	19,101,147	\$	19,101,147
11	IVA Taxes				0	\$	-	\$	-	\$	-	\$	-	\$	31,508,357	\$	31,508,357
Total including Duties, Working Capital and Working Capital					2,700,168		\$ 31,759,892		\$ 53,494,519		\$ 113,003,784		\$ 72,602,867		\$ 147,442,082		\$ 418,303,144
1000 - 6500 Direct Costs																	
1	1110 MMT MinePreproduction Development (MMTS)				630,809	\$	2,523,237	\$	-	\$	-	\$	22,709,134	\$	-		\$25,232,371
1	1120 Mine Water Diversion - not required				0	\$	-	\$	-	\$	-	\$	-	\$	-		\$0
1	1130 ECSA Pit Dewatering (MMTS / CORRIENTE)				2,904	\$	69,600	\$	-	\$	-	\$	162,400	\$	-		\$232,000
1	1140 MMT Mine Equipment (MMTS)				0	\$	-	\$	-	\$	36,126,875	\$	-	\$	-		\$36,126,875
1	1150 ECSA Explosive Storage (CORRIENTE)				12,516	\$	300,000	\$	-	\$	-	\$	700,000	\$	-		\$1,000,000
1	1160 SNC Mine Tires Building (SNC Lavalin)				77,558	\$	249,605	\$	1,438,283	\$	382,043	\$	-	\$	-		\$2,069,931
1	1170 ECSA Truck Fuel Station (CORRIENTE)				8,895	\$	180,445	\$	499,372	\$	527,431	\$	81,950	\$	-		\$1,289,198
3	2110 SNC Crushing (SNC Lavalin)				192,316	\$	3,032,215	\$	3,676,360	\$	4,511,243	\$	1,338,155	\$	-		\$12,557,974
3	2120 SNC Coarse Ore Handling (SNC Lavalin)				67,721	\$	1,253,822	\$	480,315	\$	5,314,886	\$	92,160	\$	-		\$7,141,182
3	2130 SNC Coarse Ore Storage (SNC Lavalin)				149,390	\$	2,294,005	\$	3,828,531	\$	1,305,138	\$	106,158	\$	-		\$7,533,832
3	2220 SNC Grinding (SNC Lavalin)				232,604	\$	4,157,478	\$	3,947,433	\$	30,722,959	\$	434,000	\$	-		\$39,261,870
3	2225 SNC Pebble Crushing (SNC Lavalin)				58,044	\$	1,092,555	\$	1,546,420	\$	2,599,906	\$	-	\$	-		\$5,238,881
3	2230 SNC Flotation & Regrind (SNC Lavalin)				100,008	\$	1,930,579	\$	2,018,856	\$	7,411,853	\$	-	\$	-		\$11,361,288
3	2240 SNC Concentrate Dewatering (SNC Lavalin)				20,389	\$	362,450	\$	431,244	\$	805,008	\$	-	\$	-		\$1,598,702
3	2250 SNC Filter Plant and Concentrate Handling (SNC Lavalin)				79,587	\$	1,512,322	\$	2,075,628	\$	2,502,621	\$	-	\$	-		\$6,090,570
3	2260 SNC Reagent Handling & Storage (SNC Lavalin)				44,530	\$	921,510	\$	633,002	\$	1,588,630	\$	-	\$	-		\$3,143,142
3	2290 SNC Concentrator Building (SNC Lavalin)				203,635	\$	3,594,077	\$	6,618,033	\$	1,091,507	\$	39,740	\$	-		\$11,343,357
6	3110 KP Tailings Management Facility - RIO QUIMI (Knight Piesold)				280,486	\$	6,566,503	\$	5,786,847	\$	5,137,513	\$	12,650,840	\$	-		\$30,141,703
6	3120 KP Reclaim System - included in 3110 (Knight Piesold)				0	\$	-	\$	-	\$	-	\$	-	\$	-		\$0
6	3130 KP Cyclone Plant - included in 3110 (Knight Piesold)				0	\$	-	\$	-	\$	-	\$	-	\$	-		\$0
5	4110 Power Generation - not required				0	\$	-	\$	-	\$	-	\$	-	\$	-		\$0
5	4120 ECSA Power Line (CORRIENTE)				0	\$	-	\$	6,139,191	\$	-	\$	7,182,164	\$	646,231		\$13,967,586
5	4130 SNC Power Supply and Distribution (SNC Lavalin)				58,935	\$	973,659	\$	1,147,395	\$	5,454,022	\$	516,000	\$	-		\$8,091,076
2	5110 ECSA Port Facility (CORRIENTE)				0	\$	-	\$	-	\$	-	\$	10,440,000	\$	-		\$10,440,000
2	5115 Concentrate Pipeline - not required				0	\$	-	\$	-	\$	-	\$	-	\$	-		\$0
2	5120 SNC Plant Site Preparation and Site Road (SNC Lavalin)				254,027	\$	2,941,284	\$	1,897,755	\$	4,014,047	\$	3,610,442	\$	-		\$12,463,528
2	5125 ECSA Plant Site Preparation - Dump and Crusher Areas (CORRIENTE)				77,956	\$	1,192,724	\$	462,960	\$	-	\$	-	\$	-		\$1,655,684
2	5130 ECSA Access Road & Bridges (CORRIENTE)				0	\$	-	\$	-	\$	-	\$	12,133,268	\$	-		\$12,133,268
2	5140 SNC Water Systems (SNC Lavalin)				70,639	\$	1,469,840	\$	1,832,704	\$	301,348	\$	3,291	\$	-		\$3,607,183
2	5150 SNC Sewer Collection & Treatment (SNC Lavalin)				4,241	\$	85,536	\$	3,490	\$	123,529	\$	-	\$	-		\$212,556
2	5160 ECSA Solid Waste Disposal (CORRIENTE)				0	\$	-	\$	-	\$	-	\$	403,165	\$	-		\$403,165
2	5170 Underground Piping - not required				0	\$	-	\$	-	\$	-	\$	-	\$	-		\$0
4	6110 SNC Truck Shop & Warehouse (SNC Lavalin)				57,933	\$	1,017,910	\$	2,055,605	\$	183,224	\$	-	\$	-		\$3,256,739
4	6120 ECSA Plant Miscellaneous Equipment & Shop Tools (CORRIENTE)				0	\$	-	\$	-	\$	1,300,000	\$	-	\$	-		\$1,300,000
4	6200 SNC Miscellaneous Buildings (SNC Lavalin)				144,820	\$	94,197	\$	2,529,530	\$	-	\$	-	\$	-		\$2,623,727
1	7000 MER SNC CAPEX Direct Costs Review (MERIT)				(129,775)	-\$	6,055,662	-\$	1,154,436	\$	1,600,000	\$	-	\$	-		(\$5,610,098)
1000-6500 Total Direct Costs					2,700,168	\$ 11.76	\$ 31,759,892	\$	47,894,519	\$	113,003,784	\$	72,602,867	\$	646,231		\$265,907,292

CORRIENTE RESOURCES INC.  
Mirador Copper Project - 30K tpd  
Capital Cost Estimate - Review



US Dollars

Item	S	Description	Qty	Unit	Labor Cost		Materials		Equipment		Sub		Other		Total Cost	
					Hrs-Unit	Hrs-Total	Total LaborCost	Unit Cost	Total Mat. Cost	Unit Cost	Total EQ. Cost	Unit Sub	Total Sub Cost	Unit Other		Total Other Cost
Summary															\$265,907,292	
7000-9400 Indirect Costs																
8	8110	Construction Management (SNC Lavalin / Knight Piesold / CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$0	
8	8120	Construction Temporary Facilities and Services (SNC / partially included in Labour Rates)			0	\$	-	\$	-	\$	-	\$	-	\$	\$0	
8	8130	Construction Equipment (SNC / partially included in Labour Rates)			0	\$	-	\$	-	\$	-	\$	-	\$	\$361,640	
8	8140	Construction Camp (included in Labour Rates)			0	\$	-	\$	-	\$	-	\$	-	\$	\$0	
8	8150	Construction Accommodation and Catering (included in Labour Rates)			0	\$	-	\$	-	\$	-	\$	-	\$	\$2,229,845	
8	8210	Engineering & Procurement (SNC Lavalin / Knight Piesold / CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$18,018,842	
8	8220	Start-up & Commissioning (SNC Lavalin / CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$1,895,956	
8	8310	Freight (SNC Lavalin)			0	\$	-	\$	-	\$	-	\$	-	\$	\$15,285,194	
8	8320	Duties, Customs Charges & Taxes (SNC Lavalin / CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$0	
7	9110	Owners Costs (CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$22,261,184	
7	9120	First Fills and Capital Spares (WAREHOUSE INVENTORY)(SNC Lavalin / CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$2,706,993	
7	9130	Permanent Camp (CORRIENTE)			0	\$	-	\$	5,600,000	\$	-	\$	-	\$	\$5,600,000	
7000-9400 Total Indirects					0	\$	-	\$	5,600,000	0	\$	-	\$	62,759,654	\$68,359,654	
Total Directs & Indirects (No Contingency)					2,700,168	\$	31,759,892	\$	53,494,519	\$	113,003,784	\$	72,602,867	\$	63,405,884	\$334,266,946
9	9500	Contingency (SNC Lavalin / Knight Piesold / MMTS / CORRIENTE / MERIT)			0	\$	-	\$	-	\$	-	\$	-	\$	\$33,426,694	\$33,426,694
Sub-Total Directs & Indirects (With Contingency)					2,700,168	\$	31,759,892	\$	53,494,519	\$	113,003,784	\$	72,602,867	\$	96,832,578	\$367,693,640
10		Working Capital (CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$19,101,147	\$19,101,147
11		IVA Taxes (CORRIENTE)			0	\$	-	\$	-	\$	-	\$	-	\$	\$31,508,357	\$31,508,357
Total including Duties, Working Capital and Working Capital					2,700,168	\$	31,759,892	\$	53,494,519	\$	113,003,784	\$	72,602,867	\$	147,442,082	\$418,303,144