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**GOLDQUEST MINING CORP.**

# PRELIMINARY ECONOMIC ASSESSMENT (PEA) FOR THE ROMERO PROJECT, TIREO PROPERTY, PROVINCE OF SAN JUAN, DOMINICAN REPUBLIC

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# Table of Contents

# List of Tables

## List of Figures

**Page**

# LIST OF ABBREVIATIONS

| Abbreviation | Unit or Term |
|---|---|
| ' | minutes of longitude or latitude |
| ~ | approximately |
| % | percent |
| < | less than |
| > | greater than |
| º | degrees of longitude, latitude, compass bearing or gradient |
| ºC | degrees Celsius |
| 2D | two-dimensional |
| 3D | three-dimensional |
| µm | microns, micrometres |
| ac | acre |
| AAS | atomic absorption spectroscopy |
| ABA | acid base accounting |
| Acme | Acme Analytical Laboratories Ltd. |
| ADR | adsorption, desorption and recovery |
| Ag | silver |
| As | arsenic |
| Au | gold |
| AuEq | equivalent gold grade, all metal values summed and expressed as gold grade |
| BD | bulk density |
| MBA | bulk mineral analysis |
| MBAL | bulk mineral analysis with liberation |
| BOX | bacterial oxidation |
| CAPM | capital asset pricing model |
| CDN$ | Canadian dollar(s) |
| CIM | Canadian Institute of Mining, Metallurgy and Petroleum |
| cm | centimetre(s) |
| Conus | continental USA datum |
| Cu | copper |
| d | day |
| dmt | dry metric tonnes |
| DGM | Dirección General de Minería (General Mining Directorate) |
| DR | Dominican Republic |
| DTM | digital terrain model |
| E | east |
| EM | electromagnetic |
| et al. | and others |
| $F_{80}$ | feed, 80% passing size |
| FA | fire assay |
| Fe | iron |
| ft | foot, feet |
| Ga | billion years |
| g | grams |
| g/$cm^3$ | grams per cubic centimetre |
| g/t | grams per tonne |
| g/t Au | grams per tonne of gold |
| GW | gigawatt |
| GPS | global positioning system |

| Abbreviation | Unit or Term |
|---|---|
| h | hour(s) |
| ha | hectare(s) |
| h/d | hours per day |
| HDPE | high density polyethylene |
| HQ | H-sized core, Longyear Q-series drilling system |
| ICP | inductively coupled plasma |
| ICP-AES | inductively coupled plasma-atomic emission spectrometry |
| $ID^2$ | inverse distance to the power of 2 grade interpolation |
| in | inch(es) |
| IP | induced polarization geophysical surveys |
| IRR | internal rate of return |
| ISRM | international society for rock mechanics |
| IT | information technology |
| $k_{80}$ | 80% passing size |
| kg | kilogram(s) |
| km | kilometre(s) |
| $km^2$ | square kilometre(s) |
| kW | kilowatt |
| kWh | kilowatt hours |
| L | litre(s) |
| lb | pound(s) |
| LCT | locked cycle test |
| LIMS | laboratory information management system |
| LOM | life-of-mine |
| m | metre(s) |
| $m^3$ | cubic metre(s) |
| m/s | metres per second |
| M | million(s) |
| Ma | million years |
| masl | metres above sea level |
| mg | milligram |
| mm | millimetre(s) |
| mL | millilitre(s) |
| mV | millivolt |
| Mn | manganese |
| Mo | molybdenum |
| Mt | million tonnes |
| Mt/y | million tonnes per year |
| MW | megawatt |
| N | north |
| n.a. | not applicable, not available |
| Na | sodium |
| NAA | neutron activation analysis |
| NAG | net acid generation |
| NI 43-101 | National Instrument 43-101 |
| NPV | net present value |
| NQ | N-sized core, Longyear Q-series drilling system |
| NSR | net smelter return (royalty) |
| OK | ordinary kriging grade interpolation |
| oz | troy ounce(s) |

| Abbreviation | Unit or Term |
|---|---|
| oz/ton | troy ounces per short ton |
| $P_{80}$ | product, 80% passing size |
| PAX | potassium amyl xanthate |
| Pb | lead |
| pH | concentration of hydrogen ion (level of acidity) |
| PIMA | portable infrared mineral analyzer |
| PMA | particle mineral analysis |
| POX | pressure oxidation |
| ppb | parts per billion |
| ppm | parts per million, equal to grams per tonne (g/t) |
| QA/QC | quality assurance/quality control |
| QP | qualified person |
| RBC | rotary biological contactor |
| RC | reverse circulation |
| RD$ | Dominican peso |
| RMR | rock mass rating |
| ROR | run-of-river |
| RQD | rock quality designation (data) |
| s | second |
| S | south |
| S | sulphur |
| Sb | antimony |
| SCADA | supervisory, control and data acquisition |
| SD | standard deviation |
| SEM | scanning electron microscope/microscopy |
| SG | specific gravity |
| SI | International System of Units |
| t | tonne(s) (metric) |
| t/h | tonnes per hour |
| t/d | tonnes per day |
| $t/m^3$ | tonnes per cubic metre |
| t/y | tonnes per year |
| TMF | tailings management facility |
| ton, T | short ton |
| US | United States |
| US$ | United States dollar(s) |
| US$/oz | United States dollars per ounce |
| US$/t | United States dollars per tonne |
| USCS | unified soil classification system |
| VLF-EM | very low frequency - electromagnetic geophysical surveys |
| W | west or watt |
| Wi | work index |
| WACC | weighted average cost of capital |
| wt % | percent by weight |
| y | year |
| Zn | zinc |
| µm | micrometre |

The conclusions and recommendations in this report reflect the authors' best judgment in light of the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

This report is intended to be used by GoldQuest Mining Corp. (GoldQuest) to support its press release of a Preliminary Economic Assessment on May 27, 2014 and to file it as an NI 43-101 Technical Report with the Canadian Securities Regulatory Authorities pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

The requirements of electronic document filing on SEDAR (System for Electronic Document Analysis and Retrieval, www.sedar.com) necessitate the submission of this report as an unlocked, editable pdf (portable document format) file. Micon accepts no responsibility for any changes made to the file after it leaves its control.

# 1.0 SUMMARY

## 1.1 INTRODUCTION

This report was prepared by B. Terrence Hennessey, P.Geo., Alan J. San Martin, MAusIMM(CP), Richard M. Gowans P.Eng., Christopher Jacobs C.Eng. and Catherine Dreesbach P.E., of Micon International Limited (Micon) at the request of GoldQuest Mining Corp. (GoldQuest) of Canada. Micon was retained to produce a preliminary economic assessment (PEA) for the Romero and Romero South (the latter formerly known as La Escandalosa) deposits at GoldQuest's Tireo property in the Province of San Juan, Dominican Republic, and to prepare a Technical Report as defined in the Canadian Securities Administrators' National Instrument 43-101 (NI 43-101), and in compliance with Form 43-101F1, to support its release to the public.

The results of the PEA were summarized in a press release dated May 27, 2014. The project is based on the underground mining of the Romero and Romero South deposits and an on-site processing facility to produce a copper flotation concentrate containing gold and silver as well as a precious metals bearing oxidized pyrite concentrate, which will be transported off-site to recover gold and silver.

## 1.2 PROPERTY DESCRIPTION AND LOCATION

The Romero deposits on the Tireo property are located in the Province of San Juan, Dominican Republic, on the island of Hispaniola in the Greater Antilles of the Caribbean Sea. They are 165 km west-northwest of Santo Domingo, the capital of the Republic, at geographical coordinates 19° 07' 00" north, 71° 17' 30" west.

GoldQuest owns a 100% interest in the Tireo property and Romero project through its wholly-owned Dominican subsidiary, INEX Ingeniería y Exploración, S.R.L. (INEX), via GoldQuest Mining (BVI) Corp., a British Virgin Islands company. The Romero project is located within the La Escandalosa exploration concession of the Tireo property which has an area of 3,997.0 hectares (ha). It was granted to GoldQuest on November 9, 2010 and was applied for on May 14, 2010 to replace a previous exploration concession called Las Tres Palmas which was granted on May 30, 2005 and expired on May 30, 2010, shortly after the Phase 3 drill program was completed. There are three granted concessions and 12 concession applications on the Tireo property.

Concession taxes are RD$0.20 (twenty Dominican centavos, equal to about US$0.0047 or 0.47 US cents at the current exchange rate of RD$42.40 to US$1.00) per hectare per six-month period, equivalent to US$18.85 per year for La Escandalosa. An exploitation concession may be requested at any time during the exploration stage and is granted for 75 years.

Exploitation properties are subject to annual surface fees and a net smelter return (NSR) royalty of 5%. A 5% net profits interest (NPI) is also payable to the municipality in which mining occurs as an environmental consideration. The 5% NSR is deductible from income tax and is assessed on concentrates, but not smelted or refined products. Income tax payable is a minimum of 1.5% of gross annual proceeds. Value added tax is 18%. The La Escandalosa concession is also subject to a 1.25% NSR royalty in favour of Gold Fields Limited (Gold Fields).

GoldQuest discovered gold mineralization in the creeks at the Romero trend in late 2003 as the result of a regional stream sediment exploration program carried out in a joint venture with Gold Fields. This discovery was originally called La Escandalosa.

The joint venture with Gold Fields was terminated in November, 2009 and GoldQuest regained 100% ownership of the property, subject to the 1.25% NSR royalty.

There are historical records of gold mining in the region about 500 years ago, but no record of any significant exploration or production until the GoldQuest/Gold Fields work.

## 1.3 GEOLOGY AND MINERALIZATION

Romero is located on the south side of the Central Cordillera of Hispaniola and is hosted by the Cretaceous-age Tireo Formation volcanic rocks and limestones, which formed in an island arc environment. The deposit geology is a relatively flat lying sequence of intercalated subaqueous, intermediate to felsic volcanic and volcaniclastic rocks and limestones on the east side of thick rhyolite flows or domes. Mineralization is relatively stratabound and flat lying and is mainly hosted by a dacite breccia tuff.

Mineralization outcrops in a number of places where eroded by rivers and streams, and continuity under barren cap rock has been demonstrated by drilling. Hydrothermal alteration and gold mineralization can be traced for about 2,200 m from Romero to Romero South. The thickness of the altered dacite tuff breccia horizon is up to about 65 m at Romero South and up to more than 200 m (open) at Hondo Valle and Romero. The mineralized horizon is capped by limestone or dacite to andesite lavas, and underlain by rhyolite or limestone. The only intrusive rock identified is a single andesite dyke.

Mineralization is intermediate sulphidation epithermal in style. The mineralization is associated with quartz-pyrite, quartz-illite-pyrite and illite-chlorite-pyrite alteration. Alteration is strongest in the upper part of the mineralized zone and decreases in intensity with depth. Gold mineralization is associated with disseminated to semi-massive sulphides, sulphide veinlets and quartz-sulphides. The sulphides comprise pyrite with sphalerite, chalcopyrite and galena. Oxidation is shallow, to a depth of 10 m to 15 m.

## 1.4 MINERAL PROCESSING AND METALLURGICAL TESTING

A metallurgical testwork program, specifically designed to support the PEA, was undertaken at ALS Metallurgy, Kamloops, British Columbia (ALS Metallurgy) in 2013 and 2014. Three metallurgical composite samples were prepared and forwarded to ALS Metallurgy to be used for the development of a process flowsheet to recover copper and gold. The three composites were selected by GoldQuest and Micon to represent Romero Indicated Resources, Romero Inferred Resources and Romero South Resources. The results from this program of testwork, which was completed in June, 2014, were used as a basis process design selected by Micon for the PEA.

The flowsheet selected for the PEA comprises the recovery of copper and gold to a saleable copper sulphide concentrate and the recovery of the remaining gold to a pyrite concentrate. The pyrite concentrate, which contains approximately 30% to 39% of the gold, appears to be refractory and will require oxidizing to release the gold in a recoverable form. Both POX and BOX were tested and gave encouraging results.

The estimated gold and copper recoveries into a 20% copper concentrate and a pyrite concentrate for the three mineralized composites samples are summarized in Table 1.1.

**Table 1.1**
**Summary of Metallurgical Recoveries**

| Product | Romero Indicated | | Romero Inferred | | Romero South | |
|---|---|---|---|---|---|---|
| | Copper (%) | Gold (%) | Copper (%) | Gold (%) | Copper (%) | Gold (%) |
| Cu Concentrate | 93.4 | 56.6 | 83.6 | 34.8 | 78.5 | 40.3 |
| Pyrite concentrate | - | 29.5 | - | 38.7 | - | 33.7 |
| Total | 93.4 | 86.1 | 83.6 | 73.5 | 78.5 | 74.0 |

The final copper concentrates produced during testwork program generally showed low levels of common penalty elements.

## 1.5 MINERAL RESOURCES

The mineral resource estimates for the Romero and Romero South deposits on which the PEA is based were most recently reported by Micon in the NI 43-101 Technical Report issued on December 13, 2013.

The mineral resources as estimated by Micon at Romero and Romero South are summarized in Table 1.2.

**Table 1.2**
**Romero Project Mineral Resources**

| Category | Zone | Tonnes (x 1,000) | Au (g/t) | Cu (%) | Zn (%) | Ag (g/t) | AuEq (g/t) | Au Ounces (x 1,000) | AuEq Ounces (x 1,000) |
|---|---|---|---|---|---|---|---|---|---|
| Indicated | Romero | 17,310 | 2.55 | 0.68 | 0.30 | 4.0 | 3.81 | 1,419 | 2,123 |
| | Romero South | 2,110 | 3.33 | 0.23 | 0.17 | 1.5 | 3.80 | 226 | 258 |
| **Total Indicated Resources** | | **19,420** | **2.63** | **0.63** | **0.29** | **3.7** | **3.81** | **1,645** | **2,381** |
| | | | | | | | | | |
| Inferred | Romero | 8,520 | 1.59 | 0.39 | 0.46 | 4.0 | 2.47 | 437 | 678 |
| | Romero South | 1,500 | 1.92 | 0.19 | 0.18 | 2.3 | 2.33 | 92 | 112 |
| **Total Inferred Resources** | | **10,020** | **1.64** | **0.36** | **0.42** | **3.8** | **2.45** | **529** | **790** |

The present report and mineral resource estimates are based on exploration results and interpretation current as of October 10, 2013. The effective date of the mineral resource estimate is October 29, 2013.

It is Micon's opinion that there are no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which exist that would adversely affect the mineral resources presented above. However, the mineral resources presented herein are not mineral reserves as they have not been subject to adequate economic studies to demonstrate their economic viability. They represent in-situ tonnes and grades, and have not been adjusted for mining losses or dilution.

## 1.6 MINING

Mineralization at Romero and Romero South will be extracted by underground mining methods. The two deposits are separated by approximately 1.5 km and will be accessed separately from the surface. Both deposits are located a little over a kilometre from the proposed location of the processing plant.

Romero is the larger of the two deposits and will be mined at a nominal rate of 3,800 t/d at full production and will have a mine life of approximately 14 years. Romero South will come into production as Romero is ramping down. It will operate at an average production rate of 2,700 t/d for two years, extending the overall mine life by about a year and a half.

The potentially mineable portion of the Romero resource extends along the strike length of the deposit for approximately 750 m, and about 350 m vertically from the 680 level to the 1020 level. The potentially mineable portion of the Romero South resource is tabular in shape, and extends approximately 600 m north-south, 200 m east-west, and is 30 m thick.

Using the Romero and Romero South block models, Micon has developed conceptual mine plans for both deposits.

Access to the Romero mine will be via decline for personnel and materials, and a production shaft for skipping plant feed material. The deposit will be mined using transverse longhole stoping. The Romero South mine will be accessed via three portals in the outcrop on the west side of the deposit, and mined using a modified room and pillar approach. Both mines will employ the use of backfill.

## 1.7 RECOVERY METHODS

The conceptual flowsheet developed and selected for the PEA is based on the metallurgical testwork described in Section 13 of this report. The process will produce a copper concentrate containing approximately 20% copper with material gold and silver credits. Additional gold will be recovered into a pyrite flotation concentrate which will be oxidized on site using bacterial oxidation technology and the oxidized residue containing the gold will be transported off-site to a facility for gold extraction and production of doré.

The crushing, grinding, flotation and pyrite oxidation processing facility at Romero is designed to operate for 350 days per year at a design throughput of 4,000 t/d or 1,400,000 t/y. The design utilization for the crushing plant is 65% for a design throughput rate of 256 t/h, while the utilization factor selected for the remainder of the process plant is 90% with a design nameplate throughput rate of 185 t/h.

## 1.8 INFRASTRUCTURE

The PEA includes the following surface infrastructure elements:

- Permanent access road.
- Local hydro-electric power stations.
- Overland power line connecting to the power grid.
- Dry stacked tailings storage facility.
- Fresh water supply system.
- Mine site facilities including:
    - General site development.
    - Plant site utilities.
    - Emergency power generation.
    - Administration building.
    - Warehouse.
    - Maintenance shop.
    - Laboratory.
    - Truck scale and gatehouse.
    - Sewage treatment system.
    - Fuel storage.
    - Explosives storage.
    - Communications.

### 1.8.1 Access Road

The access road preliminary design and costing was provided by an engineering contractor. The route proposed for the PEA basically covers the existing road from the Sabaneta dam to the Hondo Valle Camp, which measures 25.5 km, but with an additional 5 km to flatten the steepest portion of this route. The road will have a minimum 6 m width and be designed for a maximum trucking load of 20 t.

### 1.8.2 Power Supply

The power requirement estimated by Micon for the Romero Project mine site is approximately 14 MW. A number of alternatives were reviewed to supply power to the site including diesel generators, line power connected to the national grid and harnessing the local hydro-electric potential from the San Juan River. A preliminary hydro-electric study was completed in June 2014, which considered the installation of five run-of-river (ROR) hydro-electric facilities which will provide excess power in the wet season for potentially sales to the national grid and to maximize the dry season yield, thus minimizing the supply of more expensive electrical power from elsewhere.

### 1.8.3 Tailings Disposal

Tailings from the Romero project are proposed to be disposed of underground in the mine as back fill and on the surface in a tailings management facility (TMF). Dry (filtered) tailings disposal was the selected method to manage the surface containment of the residue produced by the processing facility because of the rugged terrain and the need to minimize potential environment impacts.

The location of the proposed TMF relative to the two underground mines and the processing facility is presented in the conceptual site plan (Figure 1.1)

## 1.9 Environmental and Social Aspects

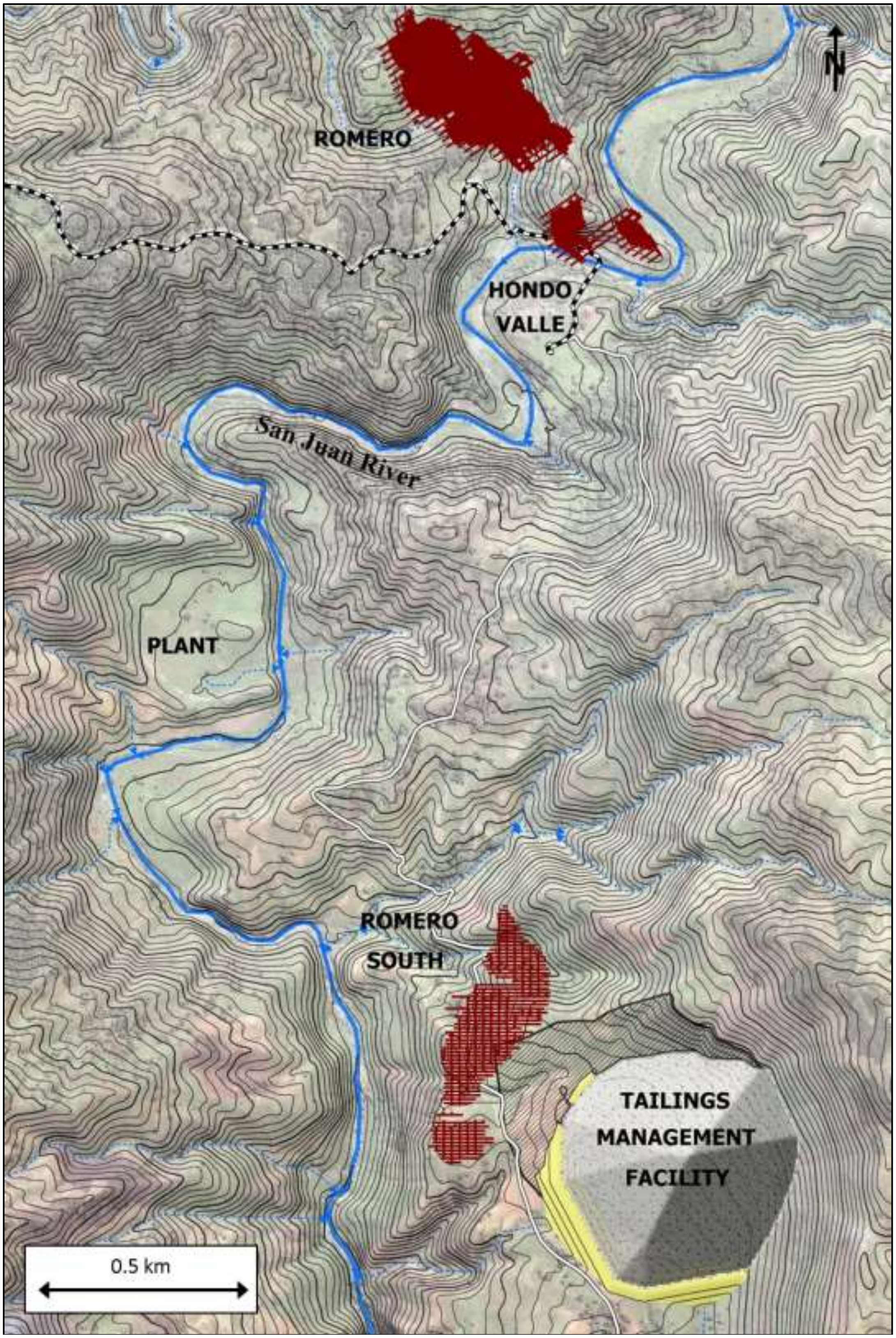
Initial baseline environmental studies began in 2013. The project is in close proximity to two National Parks, José del Carmen Ramírez National Park and Armando Bermudez National Park. The project will need to develop facilities in a manner that does not impact the parks.

The Romero Project is also located on the San Juan and La Guama Rivers, upstream of the Sabaneta reservoir that provides irrigation to downstream agricultural lands. At least three small villages use the San Juan River. Water and waste management planning will need to protect the San Juan River watershed flows and water quality for the surrounding villages and the Sabaneta reservoir users.

The project proposed in this PEA is not expected to require any resettlement. Some land acquisitions will likely be necessary for the proposed tailings facility, mill site, and ancillary facilities.

Permitting of a new mine carries some risk due to the the proximity of the project to a national park and the San Juan and La Guama Rivers. As project plans progress, it will be important to not encroach on the park, to complete thorough and scientifically defensible baseline environmental studies and to conduct an effective engagement and consultation program from the community to the national level.

**Figure 1.1**
**Conceptual Site Plan**



## 1.10 CAPITAL AND OPERATING COST ESTIMATES

The life-of-mine capital cost estimate is summarised in Table 1.3. The estimate is given in US dollars, with a base date of second quarter, 2014.

**Table 1.3**
**Life-of-Mine Capital Estimate**

| Area | Initial Capital ($'000) | Sustaining Capital ($'000) | Total Capital ($'000) |
|---|---|---|---|
| Mining | 57,851 | 42,398 | 100,249 |
| Processing | 110,034 | - | 110,034 |
| Infrastructure | 55,428 | (15,020) | 40,408 |
| Indirect Costs | 57,776 | 13,000 | 70,776 |
| Contingency | 52,409 | - | 52,409- |
| **TOTAL** | **333,499** | **40,378** | **373,877** |

The capital cost estimate for this project presented in this report is considered to be at a scoping level with an accuracy of +50% -35%.

The estimated life-of-mine total project operating costs are summarized in Table 1.4

**Table 1.4**
**Summary of Life-of-Mine Average Project Operating Costs**

| Category | LOM Total $ 000 | $/t Milled |
|---|---|---|
| Mining | 583,549 | 31.61 |
| Processing | 281,396 | 15.24 |
| G&A | 32,536 | 1.76 |
| **Total Mine Site Costs** | **897,480** | **48.62** |
| Transport, smelter/refining costs | 185,926 | 10.07 |
| **Total Cash Operating Costs** | **1,083,407** | **58.69** |
| Royalties | 27,025 | 1.46 |
| **Total Production Costs** | **1,110,432** | **60.15** |

## 1.11 FINANCIAL EVALUATION

Micon has prepared its assessment of the Romero project on the basis of a discounted cash flow model, from which Net Present Value (NPV), Internal Rate of Return (IRR), payback and other measures of project viability can be determined.

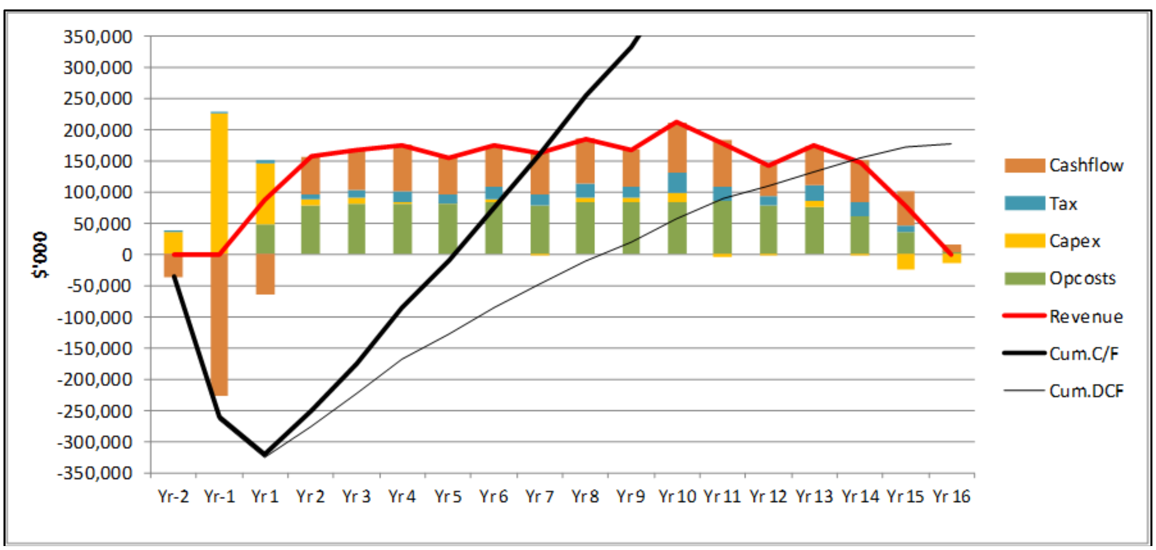
The PEA economic analysis is preliminary in nature and includes inferred resources that are insufficiently defined by drilling and sampling to be classified as measured and indicated resources. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the results of the economic assessment will be realized.

LOM cash flows and unit costs are presented in Table 1.5. Annual cash flows are summarized in Figure 1.2.

**Table 1.5**
**LOM Production and Cash Flow**

| Item | Units | LOM total ($) | $/t milled | $/oz Au |
|---|---|---|---|---|
| Production | 000 t | | 18,461 | |
| Payable Gold / Au Eq. | 000 oz | | | 1,264 |
| Gross Revenue - Gold only | $ 000 | 1,643,438 | 89.02 | 1,300 |
| Mining | | 583,549 | 31.61 | 462 |
| Processing | | 281,396 | 15.24 | 223 |
| G&A | | 32,536 | 1.76 | 26 |
| **Direct site costs** | **$ 000** | **897,480** | **48.62** | **710** |
| Transport, TC/RC | | 185,926 | 10.07 | 147 |
| By-product credits | | (704,513) | (38.16) | (557) |
| Silver | | 9,952 | 0.54 | 8 |
| Copper | | 694,561 | 37.62 | 549 |
| **Cash Operating Costs** | **$ 000** | **378,894** | **20.52** | **300** |
| Royalties | | 27,025 | 1.46 | 21 |
| Total Cash Op. Costs | $ 000 | 405,919 | 21.99 | 321 |
| Sustaining Capital | | 40,378 | 2.19 | 32 |
| **All in sustaining costs** | **$ 000** | **446,297** | **24.18** | **353** |
| Capital expenditure (initial) | | 333,499 | 18.07 | 264 |
| All in costs plus initial capital | $ 000 | 779,796 | 42.24 | 617 |
| Pre-tax Cash Flow | | 863,642 | 46.78 | 683 |
| Taxation | | 268,565 | 14.55 | 212 |
| **Net Cash Flow After Tax** | **$ 000** | **595,077** | **32.23** | **471** |

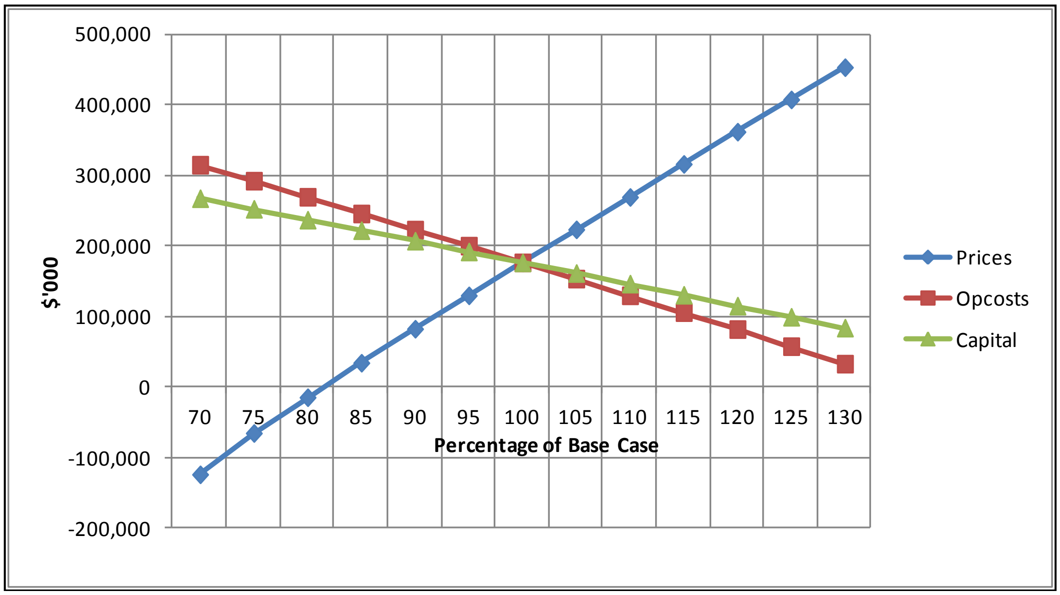
**Figure 1.2**
**Annual Cash Flow Summary**



The base case cash-flow analysis shows a net present value at 8% discount rate ($NPV_8$) of \$318 million before tax, \$176 million after tax, an undiscounted payback of 5.6 years, and an IRR of 19.7% before tax and 15.1% after tax.

Sensitivity analyses for metal prices (which may also be taken as a proxy for head grade and process recovery factors), capital cost, and operating cost were carried out, as shown in Figure 1.3.

**Figure 1.3**
**Sensitivity to Revenue, Capital and Operating Costs**




It will be noted that the economic return is most sensitive to metal prices, less sensitive to operating costs and least sensitive to capital costs. NPV remains positive for adverse changes of up to 30% in capital or operating costs, and for metal prices around 18% lower than the base case.

## 1.12 INTERPRETATION AND CONCLUSIONS

The Tireo property contains stratabound gold mineralization with copper, silver and zinc of intermediate sulphidation epithermal style. The source of the mineralizing fluids remains unknown and there is exploration potential for the discovery of mineralization in structural feeder zones, additional similar deposits or, possibly, in a porphyry copper-gold type system.

Direct current induced polarization (DCIP) ground geophysical surveys have identified a corridor some 3.0 km long extending north to south with anomalies in conductivity and chargeability. Further IP surveys undertaken between 2012 and 2014 have refined this picture. Alteration and mineralization has been traced within this corridor for 2.2 km from Romero to La Higuera. Seven phases of drilling have been completed since 2006 to indicate the presence of mineralization in the Romero and Romero South zones.

Using the data from drilling Phases 1 to 7, and in accordance with CIM standards and definitions, Micon has estimated indicated and inferred mineral resources at both Romero and Romero South. The defined mineral resource at Romero has a strike length of about 1,000 m and that at Romero South has a strike length of about 750 m. Both occur relatively near surface but, due to local topography, would probably be more amenable to conventional underground mining methods, such as sublevel open stoping or room and pillar mining, respectively.

The drilling completed on the 2.2-km-long Romero trend has indicated anomalous base and precious metals outside of the currently defined mineral resources. These positive results in the Romero area warrant further exploration work.

On behalf of GoldQuest, Micon has prepared a PEA for the Romero Project (the Project) on the Tireo property in San Juan Province, Dominican Republic. The basis for the Project is the mineral resources presented in Table 1.2.

The Project comprises the underground mining of the Romero South deposit (formerly known as the Escandalosa deposit) and the Romero deposit, and an on-site processing facility to produce a copper flotation concentrate containing payable gold and silver credits and a pyrite concentrate, also containing gold and silver. The PEA assumes the shipping and sale of the copper concentrate and the transportation and off-site processing of an oxidized pyrite concentrate to recover gold in a doré product.

The results of the PEA shows that the Romero Project has potential for positive economic returns at current metal prices, and is sufficiently robust to withstand adverse changes in capital and operating costs within the range of accuracy of the estimates. The project is more sensitive to metal prices and the gold price in particular. Nevertheless, at a discount rate of 8%, net present value remains positive at forecast gold prices above $1,000/oz.

Micon concludes that the project is worthy of further development.

### 1.13 RECOMMENDATIONS

GoldQuest has produced a plan for further exploration and advancement of the Tireo property. The plan includes both regional exploration and further work on the Romero trend, concentrating on the Romero and Romero South deposits. This plan and the associated budget are summarized in Table 1.6; details are included in Section 26.

The positive results of the PEA show that the project is worthy of further development. In order to advance the project to the next stage, work will need to be undertaken to obtain a higher level of project definition and accuracy.

The plan to develop the project to the next level (pre-feasibility study) and the associated budget are summarized in Table 1.7, details are provided in Section 26. This budget does not address the mineral resource development and exploration program which are included in Table 1.6.

**Table 1.6**
**Tireo Property Exploration and Development Budget**

| Activity | Budget (US$) |
|---|---|
| **Regional** | |
| Mapping and sampling | 100,000 |
| Ground IP surveys | 300,000 |
| Regional data compilation | 50,000 |
| **Romero Project** | |
| Exploration and infill drilling | 2,000,000 |
| Geotechnical logging | 100,000 |
| Petrography | 30,000 |
| Physical properties study | 20,000 |
| Metallurgical testwork | 150,000 |
| **Total** | **2,750,000** |

**Table 1.7**
**Romero Project Development Budget**

| Activity | Budget (US$) |
|---|---|
| Metallurgical testwork | 300,000 |
| Access road studies | 50,000 |
| Hydro-electric study | 100,000 |
| TMF studies and design | 150,000 |
| Geotechnical drill program | 500,000 |
| Geotechnical testing | 100,000 |
| Detailed mine design and planning | 150,000 |
| Hydrogeological study and ground water modelling | 100,000 |
| Environmental studies and data gathering | 250,000 |
| Engineering, design, costing and report | 850,000 |
| **Total** | **2,550,000** |

The two budgets summarized in the tables above do not consider general and administrative costs for the company’s offices in Toronto or Santo Domingo, concession and other mineral rights payments, costs for community and government relations, or project generation and evaluation activities outside of the project area. Concession costs are reported in Section 4 of this report.

Micon has reviewed the proposed programs submitted by GoldQuest and find them to be reasonable and justified in light of the observations and conclusions presented in this report. Should it fit with management’s strategic goals, it is Micon’s recommendation that GoldQuest conduct the proposed exploration program and, depending on the results from this program and the Company’s development philosophy, GoldQuest should also consider the pre-feasibility project development programs.

# 2.0 INTRODUCTION

GoldQuest Mining Corp. (GoldQuest) has retained Micon International Limited (Micon) to prepare a preliminary economic assessment (PEA) for the Romero Project (the Project) on the Tireo property in San Juan Province, Dominican Republic. The Tireo property (also sometimes known as the San Juan concessions) is located in the Central Cordillera of the Dominican Republic near the San Juan provincial capital of San Juan de La Maguana. It is currently owned 100% by GoldQuest but is subject to a net smelter return (NSR) royalty as well as certain government taxes and royalties (see Section 4).

The Project comprises the underground mining of the Romero South deposit (formerly known as the Escandalosa deposit) and the Romero deposit, and an on-site processing facility to produce a copper flotation concentrate containing payable gold and silver credits and a pyrite concentrate, also containing gold and silver. The PEA assumes the shipping and sale of the copper concentrate and the transportation and off-site processing of an oxidized pyrite concentrate to recover gold in a doré product.

## 2.1 STUDY TERMS OF REFERENCE AND PARTICIPANTS

The Tireo property has been the subject of two previous independent Technical Reports. These were entitled:

"Mineral Resource Estimate for La Escandalosa Project, Province of San Juan, Dominican Republic", dated 14 August, 2012, by J. Steedman MAusIMM (CP) and R. M. Gowans P.Eng., of Micon. (The La Escandalosa deposit is now known as the Romero South deposit).

"A Mineral Resource Estimate For The Romero Project, Tireo Property, Province of San Juan, Dominican Republic", dated 13 December, 2013, by B. Terrence Hennessey, P.Geo.:, Alan J. San Martin MAusIMM(CP) and R. M. Gowans P.Eng. of Micon.

These reports were filled on the Canadian System for Electronic Document Analysis and Retrieval (SEDAR).

The PEA study is based on the following:

- The most recent mineral resource estimates for the Romero and Romero South deposits prepared by B. Terrence Hennessey, P.Geo. and Alan J. San Martin, MAusIMM(CP) of Micon. Details of these resource estimates were published in the December 13, 2013 Technical Report (Micon, 2013).

- Underground mine designs, schedules and cost estimates prepared by Catherine Dreesbach P.E., Senior Mining Engineer with Micon.

- Metallurgical testwork undertaken at ALS Metallurgy, Kamloops, BC. This work was supervised by Richard Gowans P. Eng., President and Principal Metallurgist of Micon.

- Preliminary tailings management design and costing by Barr Engineering Company of Minneapolis, Minnesota. This work was completed under the direct supervision of Richard Gowans P. Eng.,

- Preliminary environmental baseline studies and a desktop issues assessment was completed by AMEC Earth & Environmental UK Ltd. This work was reviewed by Jenifer Hill R.P.Bio., Senior Environmental Scientist with Micon.

- Preliminary access road design and costing by Elsamex Internacional. This work was reviewed by Richard Gowans P.Eng.

- Preliminary review and conceptual design of potential hydro-electric installations in the Project area. This work was reviewed by Richard Gowans P.Eng.

- Financial model prepared by Chris Jacobs CEng., MIMMM, Vice President at Micon.

## 2.2 QUALIFIED PERSONS AND SITE VISITS

This report was prepared in accordance with the reporting standards and definitions required under Canadian National Instrument 43-101 (NI 43-101), to support the release of the PEA to the public. The Qualified Persons (QPs) for this Technical Report are the following:

- B. Terrence Hennessey, P.Geo.: geology, sample preparation and QA/QC.

- Alan J. San Martin, MAusIMM(CP): mineral resource estimate and all aspects of the resource database.

- Richard Gowans, P.Eng.: metallurgical testwork, mineral processing, infrastructure, processing and infrastructure capital and processing operating cost estimates.

- Catherine Dreesbach P.E.: mining, and mine capital and operating cost estimates.

- Christopher Jacobs CEng, MIMMM: economic evaluation.

Richard Gowans P.Eng. is responsible for preparing and supervising the preparation of the Technical Report.

Site visits to the Tireo property have been carried out on the following dates:

- Mr. Hennessey from January 9 to 12, 2013.
- Mr. Gowans from July 6 to 8, 2011 and again from November 27 to 28, 2013.
- Ms. Dreesbach from November 26 to 28, 2013.
- Messrs. San Martin and Jacobs have not visited the project.

## 2.3 CURRENCY AND UNITS OF MEASURE

All currency amounts in this report are stated in US or Canadian dollars (US$, CDN$), as specified, with commodity prices in US dollars (US$). Quantities are generally stated in SI units, the Canadian and international practice, including metric tons (tonnes, t), kilograms (kg) or grams (g) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, litres (L) for volume and grams per tonne for gold (g/t Au) and silver (g/t Ag) grades. Base metal grades are usually expressed in weight percent (%). Geochemical results or precious metal grades may be expressed in parts per million (ppm) or parts per billion (ppb) (1 ppm = 1 g/t). Elevations are given in metres above sea level (masl). Precious metal quantities may also be reported in troy ounces (ounces, oz) and copper quantities in pounds (lb) a common practice in the mining industry.

# 3.0 RELIANCE ON OTHER EXPERTS

Micon has reviewed and analyzed exploration data, reports and a geological model provided by GoldQuest its consultants, and has drawn its own conclusions therefrom, augmented by its direct field examination. Micon has not carried out any independent exploration work, drilled any holes or carried out any significant program of sampling and assaying. However, the presence of copper-bearing mineralization is substantiated by visual review of the drill core and precious and base metals mineralization by a limited confirmation sampling program undertaken by Micon.

The various agreements under which GoldQuest holds title to the mineral lands for this project have not been thoroughly investigated or confirmed by the authors and no opinion is offered as to the validity of the mineral title claimed. The descriptions were provided by GoldQuest.

The description of the property is presented here for general information purposes only, as required by NI 43-101. The authors are not qualified to provide professional opinion on issues related to mining and exploration lands title or tenure, royalties, permitting and legal and environmental matters. Accordingly, the authors have relied upon the representations of the issuer, GoldQuest, for Section 4 of this report, and have not verified the information presented therein.

The conclusions and recommendations in this report reflect the authors' best judgment in light of the information available at the time of writing. The authors reserve the right, but will not be obliged, to revise this report and conclusions, except as required by provincial securities legislation, if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

Those portions of the report that relate to the location, property description, infrastructure, history, deposit types, exploration, drilling, sampling and assaying (Sections 4 to 11) are taken, at least in part, from previous Technical Reports prepared by Micon as well as updated information provided by GoldQuest.

# 4.0 PROPERTY DESCRIPTION AND LOCATION

## 4.1 PROPERTY LOCATION

The Tireo property, and the contained Romero project, is located in the Province of San Juan, Dominican Republic, on the island of Hispaniola in the Greater Antilles of the Caribbean Sea. Romero is 165 km west-northwest of Santo Domingo, the capital of the Republic, and 35 km north of San Juan de la Maguana, the capital of the Province (Figure 4.1). The geographical coordinates of GoldQuest's Hondo Valle Camp servicing the Romero project are 19° 07' 00" north, 71° 17' 30" west, and the Universal Transverse Mercator (UTM) coordinates are 258,730 east, 2,115,543 north (North American Datum 1927 (NAD 27) Conus (Continental USA), Zone 19Q).

**Figure 4.1**
**Location Map of the Romero Project and La Escandalosa Concession**


Map supplied by GoldQuest (2010).

## 4.2 PROPERTY DESCRIPTION

### 4.2.1 Property Status

GoldQuest owns a 100% interest in the Tireo property and Romero project through its wholly owned Dominican subsidiary, INEX Ingeniería y Exploración, S.R.L. (INEX). INEX is owned by GoldQuest Mining (BVI) Corp., a British Virgin Islands company, which is, in turn, wholly owned by GoldQuest. The Romero and Romero South deposits are located on the La Escandalosa exploration concession which has an area of 3,997.0 ha and is shown on a map in Figure 4.2. It was granted on November 9, 2010. The concession was applied for on May 14, 2010 to replace a previous exploration concession called Las Tres Palmas which expired on May 30, 2010, shortly after the Phase 3 drill program was completed. Under Dominican mining law it is permitted to re-apply for an exploration concession between 30 and 1 day(s) before the expiry of an existing concession.

The concession is part of the Tireo property in San Juan owned by GoldQuest. It is comprised of 15 exploration concessions or applications: La Escandalosa, Loma Los Comios (formerly called Los Comios), Descansadero (formerly called Los Chicharrones), Los Lechones (formerly called La Bestia), Aguita Fria (formerly called Jengibre), Loma El Cachimbo (formerly called Loma Viejo Pedro), Los Gajitos (formerly called El Crucero), Valentin (formerly called El Barrero), Tocon de Pino, Las Tres Veredas, Patricio, Piedra Dura, La Fortuna, Toribio and La Pelada. (See Table 4.1 and Figure 4.3).

**Table 4.1**
**Description of Tireo Property Exploration Concessions**

| Name | Status | Area (ha) | Application Date | Title Date | Mining Registry Date | Resolution Number | Expiry Date |
|---|---|---|---|---|---|---|---|
| Las Tres Palmas / La Escandalosa | Granted (40494) | 3,997 | 14-May-10 | 09-Nov-10 | 12-Nov-10 | IV-10 | 09-Nov-15 |
| Los Comios / Loma Los Comios | Granted (41579) | 2,028 | 01-Oct-12 | 01-Dec-2013 | 11-Nov-13 | VI-13 | 01-Nov-18 |
| La Bestia/ Los Lechones | Under Reapplication | 550 | 5-July-13 | | | | |
| Jengibre / Aguita Fria | Under Reapplication | 1,384 | 5-July-2013 | | | | |
| Loma Viejo Pedro / Loma El Cachimbo | Under Reapplication | 3,514 | 21-Dec-2009 | | | | |
| Los Chicharrones / Descansadero | Granted (41621) | 725 | 25-Oct-2012 | 13-Dec-2013 | 08-Jan-2014 | II-14 | 13-Dec-2018 |
| El Crucero / Los Gajitos | Under Reapplication | 370 | 1-Oct-2012 | | | | |
| El Barrero/Bartola/ Valentin | Under Reapplication | 300 | 25-Oct-2012 | | | | |
| Tocón de Pino | Under Application | 744 | 17-Nov-2008 | | | | |
| Las Tres Veredas | Under Application | 790 | 20-June-2012 | | | | |
| Patricio / La Guinea | Under Application | 2,768 | 12-Feb-2014 | | | | |
| Piedra Dura | Under application | 362 | 21-Apr-2014 | | | | |
| La Fortuna | Under application | 335.5 | 21-Apr-2014 | | | | |
| Toribio | Under application | 2,351.45 | 29-May-2014 | | | | |
| La Pelada | Under application | 631 | 29-May-2014 | | | | |
| **Total** | | **20,849.95** | | | | | |

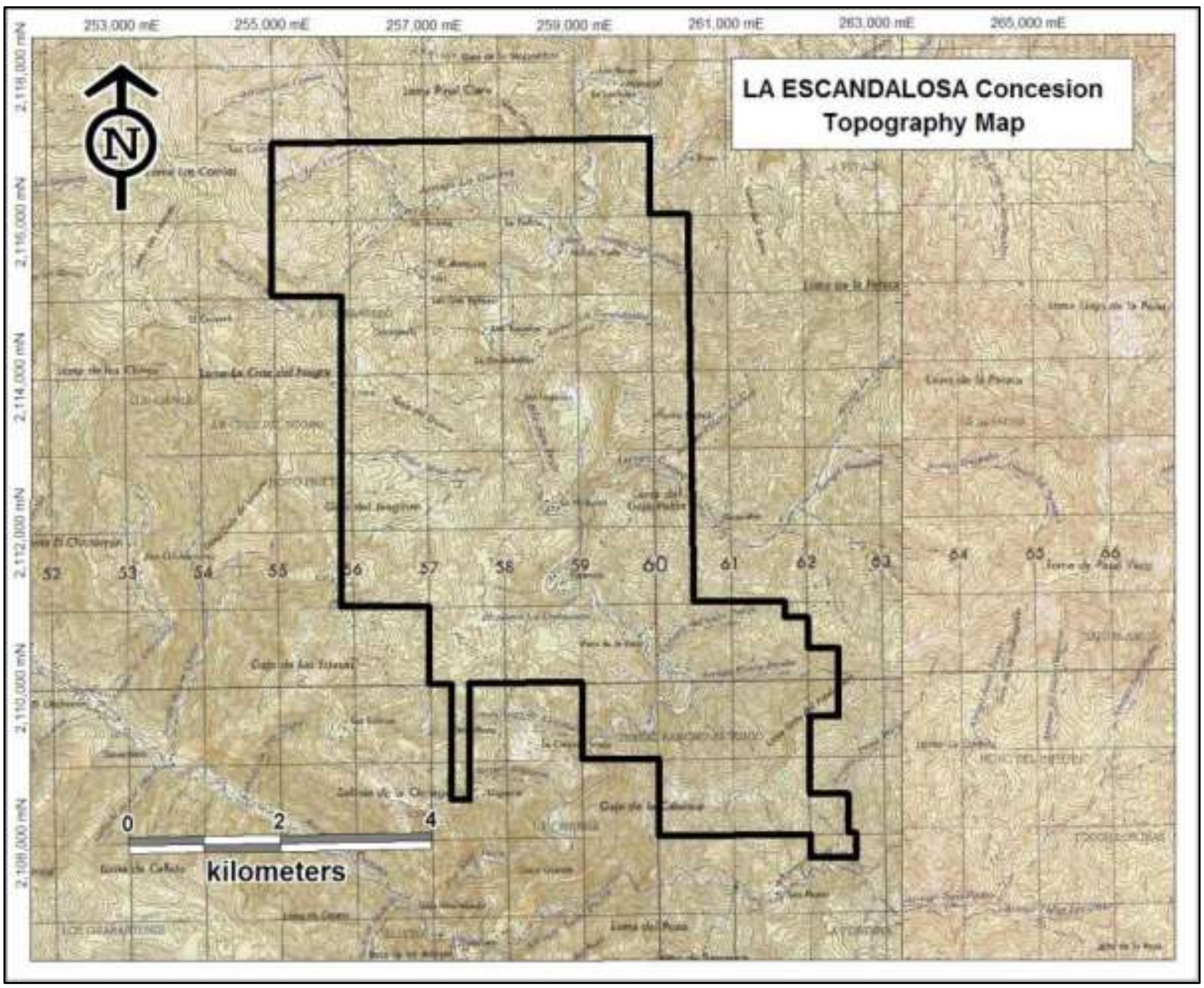
Table supplied by GoldQuest (2014)

Concession taxes are RD$0.20 (twenty Dominican centavos equal to about US$0.0047 or 0.47 US cents at the current exchange rate of RD$42.40 to US$1.00) per hectare per six-month period, equivalent to about US$18.85 per year for La Escandalosa. An exploitation concession may be requested at any time during the exploration stage and is granted for 75 years.

Exploitation properties are subject to annual surface fees and a net smelter return royalty of 5%. A 5% net profits interest is also payable to the municipality in which mining occurs as an environmental consideration. The 5% NSR is deductible from income tax and is assessed on concentrates, but not smelted or refined products. Income tax payable is a minimum of 1.5% of gross annual proceeds. The value added tax is 18%.

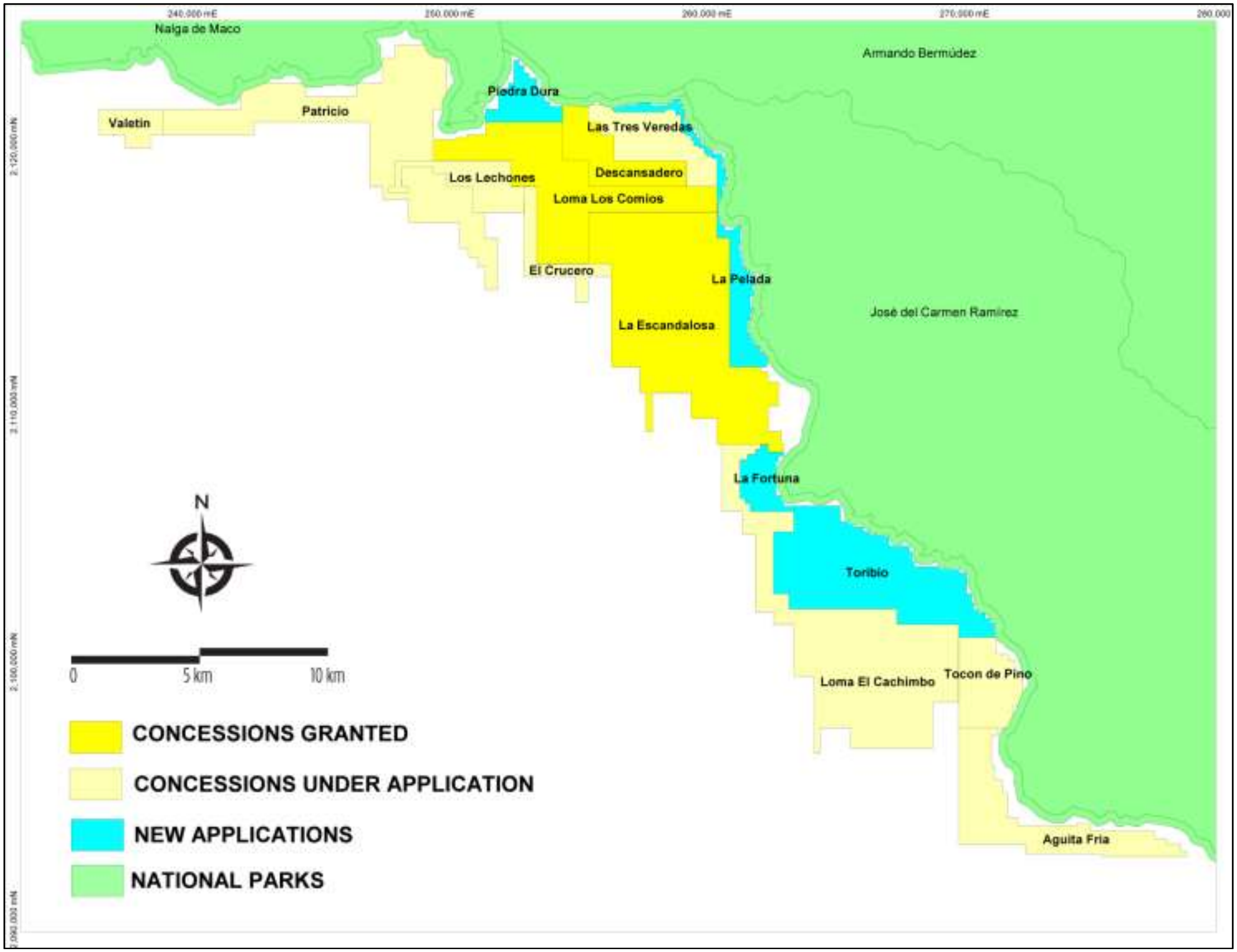
The concession is also subject to a 1.25% NSR royalty in favour of Gold Fields Limited. More detail on taxes and royalties is provided below.

**Figure 4.2**
**Map of La Escandalosa Exploration Concession**
**(1:50,000 topographic map, 1 km grid squares)**




Map supplied by GoldQuest (2010), grid is UTM NAD27 Conus.

**Figure 4.3**
**Map of the Tireo Property, Including La Escandalosa Concession**




Map supplied by GoldQuest (2014, grid is UTM NAD27 Conus.

### 4.2.2 Property Legal History

GoldQuest's subsidiary company Exploration and Discovery Latin America (Panama) Inc. (EDLA), a private company registered in Panama, started exploring for gold in the Dominican Republic in 2001, through its subsidiary INEX. Later in 2001, EDLA was acquired by MinMet plc (MinMet), a company registered in Dublin, Ireland, and whose shares were traded on the Irish Venture Exchange and, later, also on the Alternative Investment Market (AIM) of the London Stock Exchange. In 2004, MinMet spun off EDLA and its Dominican Republic assets into Wellington Cove Explorations Ltd., a company registered in Canada, by means of a reverse takeover with a name change to GoldQuest Mining Corp. This was followed by an application to list the shares for trading on the TSX Venture Exchange (TSXV) of the Toronto Stock Exchange (TSX).

EDLA formed a joint venture with Gold Fields on June 1, 2003 to carry out a regional exploration program for gold in the Tireo Formation of the Central Cordillera of the Dominican Republic, with EDLA as the initial operator. This program led to the discovery of mineralization at La Escandalosa (now known as the Romero South deposit) in late 2003.

The Las Tres Palmas exploration concession was staked by INEX on December 13, 2003 and a formal application was made on May 18, 2004. Title was granted on May 30, 2005 and was valid for three years until May 30, 2008, with two extensions of one year each being granted which extended the title up to May 30, 2010. The concession was originally held in the name of Minera Duarte S.A., a Dominican corporation which was also owned by GoldQuest, and it was transferred to INEX in November, 2006 as part of an internal corporate reorganization.

On January 31, 2006 GoldQuest entered into a Joint-Venture Letter of Intent (LOI) with Gold Fields to explore certain properties in the Dominican Republic, including Las Tres Palmas, Los Comios, Los Chicharrones, La Bestia, El Crucero, Loma Viejo Pedro and Jengibre. The LOI superseded all prior agreements with Gold Fields. The terms of the LOI were formalized in a Mining Venture Agreement which was signed in March, 2007 with an immediate effective date.

Under the terms of the agreement, Gold Fields had the right to earn a 60% interest in the selected projects held by GoldQuest in the Dominican Republic by expending US$5 million over three years. Gold Fields assumed direct project management on May 31, 2007.

Subsequent to vesting its 60%, Gold Fields had the right to choose up to four projects whereby it could earn an additional 15% by expending a further US$5 million on each. GoldQuest had the right to maintain a 40% interest in one of the designated projects of its choice by fully funding its share of expenditures up to bankable feasibility study. At GoldQuest's election, upon completion of the additional 15% earn-in, Gold Fields would arrange funding of GoldQuest's proportionate share of subsequent development and construction expenditures. In return, Gold Fields would be granted an additional 5% interest in the specific project (to 80%) and the funding would be deemed a loan, payable out of 90% of GoldQuest's profits from production. In the case of GoldQuest contributing on one project to bankable feasibility study, Gold Fields could earn an extra 5% (i.e. to 65%) by arranging funding of GoldQuest's proportionate share of the subsequent bankable feasibility study. Development and construction expenditures and the funding would be deemed a loan, payable out of 90% of GoldQuest's profits from production.

On November 26, 2008, Gold Fields advised GoldQuest that it had completed its US$5 million expenditure requirement and had earned a 60% interest in the properties. Gold Fields also informed GoldQuest that it had chosen not to proceed with any further exploration in the Dominican Republic.

On August 5, 2009, GoldQuest entered into a purchase agreement with Gold Fields Dominican Republic BVI Limited to purchase Gold Fields' 60% interest of the Dominican Joint Venture and thereby regain 100% ownership of the properties. The purchase price was the issue of 8.6 million shares in GoldQuest from treasury, representing approximately 12.3% of the issued and outstanding common share capital of GoldQuest at that date, and the grant of a 1.25% NSR royalty on the properties. The transaction was closed on November 18, 2009.

In 2009, GoldQuest reorganized its subsidiaries through a new British Virgin Islands (BVI) company, GoldQuest Mining (BVI) Corp. (GQC-BVI), which became the owner of INEX. The Panamanian subsidiaries EDLA and GoldQuest (Panama) Inc. were subsequently wound up. In 2010 INEX changed from a Public Limited Company (Sociedad Anónima or S.A.), INEX, Ingeniería y Exploración, S.A., to a Limited Liability Company (Sociedad de Responsibilidad Limitada or S.R.L.), INEX, Ingeniería y Exploración, S.R.L.

The Las Tres Palmas concession expired on May 30, 2010, shortly after the Phase 3 drill program was completed. INEX applied for the La Escandalosa exploration concession to replace Las Tres Palmas on May 14, 2010. It was granted on November 9, 2010.

### 4.3 DOMINICAN REPUBLIC MINING LAW

Mining in the Dominican Republic is governed by the General Mining Law No. 146 of June 4, 1971, and Regulation No. 207-98 of June 3, 1998. The mining authority is the General Mining Directorate (Dirección General de Minería - DGM) which is part of the Ministry of Industry and Commerce (formerly called the Secretary of State of Industry and Commerce until 2010).

The properties are simply known and recorded in their respective property name under a Licence of Metallic Exploration Concession. Title is valid for three years. Two separate one-year extensions are allowed. After five years the concessions may be reapplied for giving the concessions a further three to five years. Concession taxes are 20 Dominican centavos (RD$ 0.20) per hectare, per six-month period for concessions between 1,000 and 5,000 ha in size, equivalent to about US$0.0047 per hectare per year (at the current exchange rate of RD$42.40 to US$1.00). The taxes are paid every six months during the first weeks of January and June. Due to the small amounts involved, the full yearly amount is paid at the start of the year. A report has to be submitted to the DGM every six months summarizing the work completed during the previous six months, work plans and budget for the next six months, and any geochemical data. There is no specified level of work commitment per concession.

The concessions have not been surveyed, however, the claim owner, INEX, has erected a reference monument centrally within the property, as required in the claim staking process, and this is surveyed by the DGM. A detailed description of the staking procedure follows:

- The claim system revolves around one principal survey Departure Point (Punto de Partida or PP), as opposed to staking all corner points with a physical stake as would be done in Canada.

- Three types of survey points need to be calculated, a Departure Point (PP), a Reference Point (Punto de Referencia or PR) and three visually recognizable Visual Points (Visuales, V1, V2 and V3).

- The PP point is a visual point from which the proposed claim boundary point can be clearly seen by line of sight. The PP point is usually a topographic high with a distance to the proposed claim boundary greater than 100 m.

- From the PP point a second point, the PR is selected. The PR point is usually another topographic high or a distinctive topographic feature such as river confluence or a road/trail junction. The bearing and distance between the PP and PR points are calculated and tabulated.

- From the PR point three separate visually identifiable points, V1, V2 and V3, are selected, usually distinctive topographic feature such as confluences of rivers or road/ trail junctions. The bearing and distances between the PR point and three visual points, V1, V2 and V3, are calculated and tabulated.

- From the PP point the distance to the proposed claim boundary a north-south or east-west line of not less than 100 m is calculated. The corner points of the claim are calculated from the point at which this line intersects the claim boundary. The corner points (Puntos de connección) are defined by north-south or east-west lines from the point at which the line intersects the boundary and then from each other until the boundary is completed. There is no limit to the number of points that can be used and no minimum size of claim.

- A government surveyor is sent out to review all survey points in the field after legal and fiscal verification of the claim application by the mines department.

The exploration concession grants its holder the right to carry out activities above or below the earth's surface in order to define the areas containing mineral deposits by using any technical and scientific methods. For such purposes the holder may construct buildings, install machinery, communication lines and any other equipment that the exploration work requires. No additional permitting is required until the drilling stage, which requires an environmental permit.

An exploitation concession may be requested at any time during the exploration stage, and this grants the right to prepare and extract all mineral substances found in the area, allowing the beneficiary to exploit, smelt and use the extracted materials for any business purpose. This type of concession is granted for a period of 75 years.

Exploitation properties in the Dominican Republic are subject to annual surface fees and a net smelter return of 5%. A 5% net profits interest is also payable to the municipality in which mining occurs as an environmental consideration. The value added tax is 18%. The NSR is deductible from income tax and is assessed on concentrates, but not smelted or refined product. Income tax payable is a minimum of 1.5% of annual gross proceeds (Pellerano and Herrera, 2001).

### 4.4 ENVIRONMENTAL REGULATIONS AND LIABILITIES

The environment is governed by the General Law of the Environment and Natural Resources No. 64-00 of August 18, 2000. The environmental authority is the Vice-Minister of Environmental Affairs of the Ministry of the Environment and Natural Resources (formerly called the Subsecretary of Environmental Affairs of the Secretary of State of the Environment and Natural Resources until 2010).

An environmental permit is required for trenching and drilling. The main steps in the procedure to obtain this are as follows:

1. Complete the Prior Analysis Form with the project data including name of the project, name of the company, location on a 1:50,000 scale map and name of the legal representative.

2. Present a description of the planned work including type of equipment to be used, size of the drill platforms, amount of water that will be required, environmental management plans for fuel, oil and grease, and recirculation of water.

3. Obtain authorization of the land owners with copy of property title.

4. Pay a tax of RD$5,000.00 (about US$118).

5. Obtain a copy of the Resolution of the exploration concession title.

6. Provide UTM coordinates of the vertices of the exploration concession.

INEX obtained the required permits for the different phases of trenching and drilling at the La Escandalosa concession.

Water Management Consultants Ltda., of Santiago, Chile carried out a hydrological and hydrochemical baseline survey at La Escandalosa in 2006 (Water Management Consultants, 2006). Currently the company is working with AMEC to monitor on-going baseline studies.

INEX carried out trenching by hand. The trenches were back filled and re-vegetated. The company used man-portable drill rigs for all drilling phases. No access roads were made. The rigs were moved using existing roads, and then by hand on footpaths to the drill sites. Drill platforms were cut by hand where necessary, and were back filled and re-vegetated after drilling was finished. Sumps were dug by hand to allow settling of rock cuttings and drill mud from returned drill water, and were subsequently filled in and re-vegetated.

An archaeological survey has not been carried out.

# 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The information in Section 5 has been taken and amended from Steedman and Gowans (2012).

## 5.1 ACCESSIBILITY

The Romero and Romero South deposits are located on GoldQuest's Tireo property in the Province of San Juan, Dominican Republic. The property is situated 165 km west-northwest of Santo Domingo, the capital of the Republic, and 35 km north of San Juan de la Maguana, the capital of the Province and nearest large town (urban population 145,885 in 2008, see Figure 4.1). The geographical coordinates of GoldQuest's field camp at the village of Hondo Valle on the La Escandalosa concession are 19° 07' 00" north, 71° 17' 30" west, and the Universal Transverse Mercator coordinates are 258,730 east, 2,115,543 north (datum NAD 27 Conus, Zone 19Q).

The total distance by road from Santo Domingo to Hondo Valle is 240 km and takes 5 to 6 hours by four-wheel drive vehicle. The route is summarized in Table 5.1 and is described in the following paragraphs.

**Table 5.1**
**Summary of the Road Access to the Romero Project**

| From | To | Road | Distance (km) | Time (hours) |
|---|---|---|---|---|
| Santo Domingo | San Cristóbal | Route 6, multi-lane, paved | 28 | 0 h 30 m |
| San Cristóbal | Cruce de Azua | Route 2, Sánchez Highway, multi- and 2 lane, paved | 99 | 1 h 10 m |
| Cruce de Azua | San Juan | 2 lane, paved | 64 | 0 h 45 m |
| San Juan | Sabaneta | Minor, paved | 20 | 0 h 30 m |
| Sabaneta | Boca de los Arroyos | Minor, unpaved | 12.7 | 0 h 30 m |
| Boca de los Arroyos | Hondo Valle | Track, unpaved | 16.3 | 1 h 35 m |
| **Total** | | | **240** | **5 h 0 m** |

Flying time to the project, by helicopter from Santo Domingo, is 1 hour and helicopters can land at Hondo Valle and other points in the project area.

Access from Santo Domingo is by multi-lane highway to San Cristóbal (Route 6, 28 km, 30 minutes), then the two-lane highway (Route 2 or the Sánchez Highway) via Baní (32 km, 30 minutes; being upgraded to multi lane), Azua de Compostela (52 km, 40 minutes) and the Cruce de Azua (Azua Turning – 15 km, 10 minutes), and from there to San Juan de la Maguana (64 km, 45 minutes). From San Juan, a minor paved road goes north through the villages of Juan de Herrera, La Maguana and Hato Nuevo to Sabaneta (20 km, 30 minutes) at the Sabaneta Dam. From there an unsurfaced road in generally poor condition is taken along the west side of the reservoir through the communities of Ingeñito and La Lima to Boca de los Arroyos (12.7 km, 30 minutes), which is the end of the useable road for most trucks.

From Boca de los Arroyos an unsurfaced dirt road in very poor condition goes north to Hondo Valle (16.3 km, 1 hour plus) and is only passable by four-wheel drive vehicles when dry. This road has very steep grades and climbs over 1,000 m up to 1,712 m altitude on the ridge of Subida de la Ciénaga, including a 663 m climb in a 2.0 km distance (average 1 in 3 grade). The road then proceeds along the ridges of Gajo de las Estacas (1,606 m altitude), Hoyo Prieto (1,562 m altitude), Gajo del Jenjibre and Loma La Cruz del Negro (1,712 m altitude).

The ridges are covered in saprolite and the ridge-top road becomes very slippery to impassable when heavy rains occur. The road from Boca de los Arroyos to Hondo Valle was built in 2000 and was reopened by GoldQuest in 2004. It requires continual maintenance to keep open. A 2.9 km branch from this road was later completed from the Subida de la Ciénaga to La Higuera village, but this route still has the very steep initial climb from Boca de los Arroyos. A 5-km section of road was recently completed by the Catholic church, from Hondo Valle directly to La Higuera on the east side of the San Juan river, creating a complete circle route. This road can be used to access both the Romero and Romero South deposits. There are no other roads in the concession area and access is by foot or mule.

Figure 5.1 shows the village of Hondo Valle, GoldQuest's field camp and core storage area (yellow arrow) and a red ellipse outlining the approximate location of the Romero deposit. The San Juan River flows through the foreground.

**Figure 5.1**
**Hondo Valle Camp and Village, Looking North**

Image from GoldQuest. Red ellipse shows approximate location of Romero deposit. Yellow arrow shows camp.

The Romero South deposit is located approximately 950 m south of Romero under a small plateau on the east side of the San Juan river. A view of the landscape around Romero South can be seen in Figure 5.2. The canyon of the San Juan River lies beyond the plateau.

**Figure 5.2**
**View of Las Lagunas Plateau Looking Southwest**

Image provided by GoldQuest. The drill rig is on hole LTP-24, blue spot under the yellow arrow.
The red ellipse shows the approximate location of the Romero South deposit.

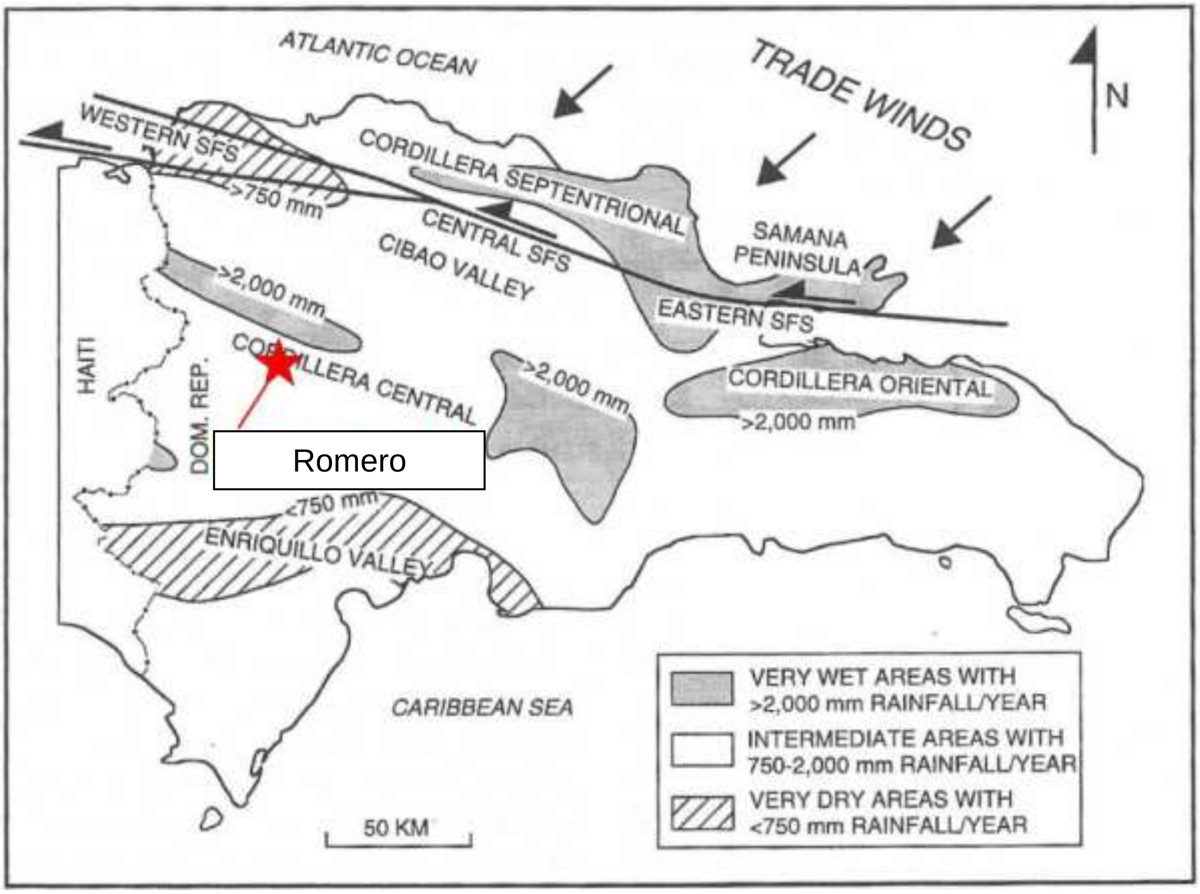
## 5.2 CLIMATE

The climate in the Romero area is temperate to hot at lower elevations (below 1,000 m). Northeast trade winds from the Atlantic Ocean bring moisture to the island with the highest rainfall on the northeast side of the Central Cordillera and a rain shadow in the San Juan valley (see Figure 5.3). The nearest climatic data available are for San Juan, 25 km to the south at a lower altitude of 400 m. The average annual rainfall there is 961 mm with 91.5 days of rain per year mostly between May and October, and an average temperature of 24.9°C. There is a dry season from December to March and a rainy season from April to November (García and Harms, 1988). The climate at Hondo Valle is wetter and cooler. Precipitation increases from south to north in the Central Cordillera from 970 to 1,800 mm per year, with a corresponding temperature decrease from 24°C to 18°C related to increasing altitude (Bernárdez and Soler, 2004).

As part of a baseline monitoring program, GoldQuest has recently established a weather station at Hondo Valle and is gathering more detailed data (wind velocity, precipitation, temperature and atmospheric pressure).

The country is prone to hurricanes with September being the peak month. The worst hurricanes in recent years were Georges in 1998 (Category 3 on the Saffir-Simpson Hurricane Wind Scale of 1 to 5, with 5 being the most intense), and David in 1979 (Category 5).

**Figure 5.3**
**Annual Rainfall in the Dominican Republic**




The Romero project is located on the southern side of the Central Cordillera; (Mann et al., 1998).

The life zone is neotropical montane forest, zoned by altitude, with subtropical wet forest below 800 m, lower montane wet forest at 800 m to 2,100 m in the project area and upper montane wet forest above this. The lower montane forest is a broadleaf forest and pine forest, the latter dominated by the native Hispaniolan pine (Pinus occidentalis, also called Haitian or Criollo pine). These occur in pure stands in the upper montane forest. Much of the forest in the region has been cut and burned for agriculture, but remnants exist on some ridges and peaks. The forest is preserved intact within the José del Carmen Ramírez National Park (764 km$^2$), created in 1958, which borders the east side of the La Escandalosa concession, and the Armando Bermúdez National Park (766 km$^2$), created in 1956, on the north and east sides of GoldQuest's San Juan claims (Figure 4.3).

The steep valley sides in the project area are cultivated, with regular burning to clear old crops, while the upper land is now mostly open grassland. Agricultural commodities in the valley are black beans (habichuela) and pigeon peas (guandulies), which are important cash crops and give three harvests a year. Maize, yuca, plantain, bananas and coffee are also grown. Cattle, goats and pigs are raised, oxen are used for ploughing and wild pigs are hunted.

Land ownership is in large tracts of both private and government land, few of which have well defined boundaries or clear legal title. GoldQuest has made a map of land owners in the main areas of interest of the project for the purposes of negotiating access agreements.

## 5.3 LOCAL RESOURCES AND INFRASTRUCTURE

The nearest large town to the project is San Juan de la Maguana, 25 km to the south. There are three villages within the concession area at Hondo Valle (population about 80), La Higuera (population about 200) and La Ciénaga Vieja (population about 100), although their population varies seasonally. Hondo Valle was built by relief aid following Hurricane Georges in 1998 for displaced people, and previously had only a few houses. There are no longer any villages upriver of Hondo Valle. All local transport is by mule and horse. There are primary schools in the villages, but no health centres, electricity supply, phone or other basic services. The population is Dominican of mixed Taino Indian, African and Spanish-European descent, with seasonally migrant Haitian labour of African origin.

GoldQuest built a small field camp at Hondo Valle (1,086 m altitude) in November, 2006, comprising wooden huts with cement floors and lower walls, core shack, secure core storage and a gasoline generator. Previously the company rented small houses in the village. Communication is managed via a VSAT (Very Small Aperture Terminal) system which is comprised of a 2.4 m satellite dish installed at the camp. Hand-held satellite phone can also be used. A cell phone signal can be obtained on the high parts of the access road and on some high ridges.

The San Juan River is dammed 15 km south of Hondo Valle at Sabaneta to form the Sabaneta Reservoir (Presa de Sabaneta), built in 1975 to 1981, at 584 m altitude at the edge of the Central Cordillera. This has 6.3 megawatts (MW) of hydroelectricity generation capacity, and also provides irrigation for the San Juan valley. The average annual rainfall at the Sabaneta Reservoir is 1,086 mm. The average flow is 8.13 cubic metres per second ($m^3/s$), and varies from 4.0 $m^3/s$ in March to 16.82 $m^3/s$ in September (ACQ & Asociados, 2006).

## 5.4 PHYSIOGRAPHY

The Romero project is located in the Central Cordillera which is up to 3,087 m altitude on Pico Duarte, 32 km east of the project, the highest mountain in the Caribbean. The concession lies on the west side of Loma de la Petaca mountain (altitude 1,972 m) and is traversed by the San Juan River, which flows south into the San Juan valley. Altitudes in the concession vary from 700 m to 1,789 m.

The Romero and Romero South deposits are located in the valley of the south-flowing San Juan River. The relief within the project area is over 1,000 m with steep slopes. There are three geomorphological zones:

1. Ridges: defined by remnant ridge crests with red clay lateritic tops on the east and west sides of the valley at between 1,300 m to over 1,712 m altitude, and interpreted

to be a remnant plateau. The road from Boca de los Arroyos to Hondo Valle runs along the ridge top on the west side of the valley.

2. Valleys: defined by a wide valley with a plateau on the east side at an altitude of 1,100 to 1,200 m at Los Tomates, and 1,120 m to 1,150 m at Las Lagunas, south of Romero South.

3. Canyons: the actual course of the San Juan River is a series of alternating canyons and broad meanders. The river drops from 1,080 m to 900 m altitude with a gradient of 180 m over 3,200 m (5.6%) from Hondo Valle to La Higuera. The canyons are 100 m to 160 m deep and are often inaccessible. The meandering course is unusual for mountainous terrain. Large meanders with broad terraces or old river channels have formed on outcrops of soft limestone and hydrothermal alteration, and the canyons in harder volcanic rocks, especially rhyolites.

# 6.0 HISTORY

The information in Sections 6.1 to 6.4 is taken from Steedman and Gowans (2012).

## 6.1 HISTORICAL MINING

Hispaniola was first occupied by Taino Indians and divided into five chiefdoms (cacicazgos) ruled by chiefs (caciques), including that of Maguana in the central part. The Indians were of the Arauca group which migrated from northeastern Venezuela through the Lesser Antilles and into the Greater Antilles starting from about 4,000 BC. The Taino Indians arrived in Hispaniola in about 800 AD (Lara and Aybar, 2002). The Taino collected alluvial gold by picking nuggets from the streams, rather than mining or panning it, and had no knowledge of refining or smelting. They created gold artifacts by hammering, few of which have survived.

Alluvial gold is still washed occasionally by locals in Arroyo La Guama, above Hondo Valle, but it is a very limited artisanal activity.

The discovery of Hispaniola by Columbus in 1492 was followed by a Spanish gold rush between 1493 and 1519. San Juan de la Maguana, founded in about 1506, was an important gold mining area (Guitar, 1998). Place names near the south end of the La Escandalosa concession are toponymic evidence of early gold mining, such as Arroyo del Oro (Gold Stream), Loma Los Mineros (Miner's Ridge), La Fortuna (The Fortune) and Loma del Pozo (Mine Shaft Ridge). There is no physical evidence of any historical mining in these areas now. The Spanish mines were of three types: alluvial in rivers, alluvial in dry paleochannels, and underground or pit mines (Guitar, 1998).

San Juan de la Maguana was founded in about 1506 by Captain Diego Velázquez during the second wave of colonization of the island which spread westwards from Santo Domingo in the period 1502 to 1509, following the first wave of colonization from the northwest coast to Santo Domingo (Lara and Aybar, 2002; Moya Pons, 2002). The town was named for Saint John and the Taino chiefdom of Maguana. San Juan was an important early Spanish gold mining area and included important mine owners such as Christopher Columbus' son, Hernando Colón. Indian labour was organized from 1503 under the native encomienda allocation scheme of tribute labour (Guitar, 1999). In 1514 there was a redistribution of Taino labour, and 45 Spaniards at San Juan de la Maguana received a total of 2,067 Indians. African slaves were introduced from 1505 as supervisors and technicians, rather than labourers, bringing their experience of mining, smelting, refining and gold smithing from west Africa (Guitar, 1998). In 1519 all gold mining on the island ended with the exhaustion of the deposits and the near extinction of the Indian labour. That same year San Juan de la Maguana was the scene of the first indigenous revolt in the Americas.

Following the demise of gold mining, San Juan became a centre for sugar cane and cattle production, but was abandoned in 1605 to 1606 during the "Devastations" when the Spaniards withdrew from all of the western and northern parts of the island due to their inability to hold them against attacks by maroons (escaped slaves and Indians) and pirates. The area was later occupied by the French, leading to the present day division of the island of Hispaniola into the Republic of Haiti, founded in 1804, and the Dominican Republic, which became independent in 1844. San Juan de la Maguana was refounded in 1733 in the frontier area and was largely populated with settlers from the Canary Islands.

## 6.2 EXPLORATION IN THE 1960S AND 1970S

Mitsubishi Metals Co. Ltd. of Japan carried out regional exploration of the whole Central Cordillera for copper from 1965 to 1971, although there is no record or evidence of any work in the La Escandalosa concession area (Watanabe, 1972; Watanabe et al., 1974).

A claim post exists at Hondo Valle marked “Marinos XIV” and dated 16 May 1973. No information has been found about this.

## 6.3 SYSMIN REGIONAL SURVEYS IN THE 2000S

The Romero area is covered by the 1:50,000 geological map sheets and memoirs for Arroyo Limon (No. 5973-III; Bernardez and Soler, 2004) and Lamedero (Sheet No. 5973-II; Joubert, 2004), mapped by the European Union funded SYSMIN Program in 2002 to 2004. SYSMIN also carried out a stream sediment sampling program and aeromagnetic and radiometric surveys of the Central Cordillera.

## 6.4 EXPLORATION BY GOLDQUEST

Exploration & Discovery Latin America (Panama) Inc. (EDLA) formed a joint venture with Gold Fields on June 1, 2003 to carry out a regional exploration program for gold in the Tireo Formation of the Central Cordillera of the Dominican Republic, with EDLA as the initial operator. A regional stream sediment exploration program was carried out between June, 2003 and April, 2004. This program and the preliminary results are described in a paper by Redwood et al. (2006). GoldQuest became the owner of EDLA in April, 2004.

Gold mineralization was discovered in the Romero area in late 2003 by the EDLA-Gold Fields joint venture regional stream sediment exploration program. Stream sediment samples gave anomalies of 42 ppb, 36 ppb and 12 ppb Au in Escandalosa Creek, and 21 ppb and 11 ppb Au in Los Jibaros Creek at Hondo Valle, while outcrop samples gave up to 5.62 g/t Au from Hondo Valle and up to 2.2 g/t Au from Escandalosa Creek. The Las Tres Palmas exploration concession was applied for on December 18, 2003 and title was granted on May 30, 2005 for five years. A new exploration application was submitted on May 14, 2010, and the concession was granted for another 5 years on November 9, 2010 according Dominican Mining Law. The project was operated by GoldQuest between 2003 and 2007, by Gold Fields from May 31, 2007 until November, 2009 and since then by GoldQuest.

## 6.5 HISTORICAL RESOURCE ESTIMATES AND PRODUCTION

There are no known historical resource estimates for the property and no known production of base or precious metals beyond the undocumented production of small amounts of placer gold from streams by the local inhabitants.

In 2012 GoldQuest announced an NI 43-101-compliant mineral resource for the Escandalosa deposit (Steedman and Gowans, 2012), which is now known as Romero South. That mineral resource has been superseded by the estimate presented in this report.

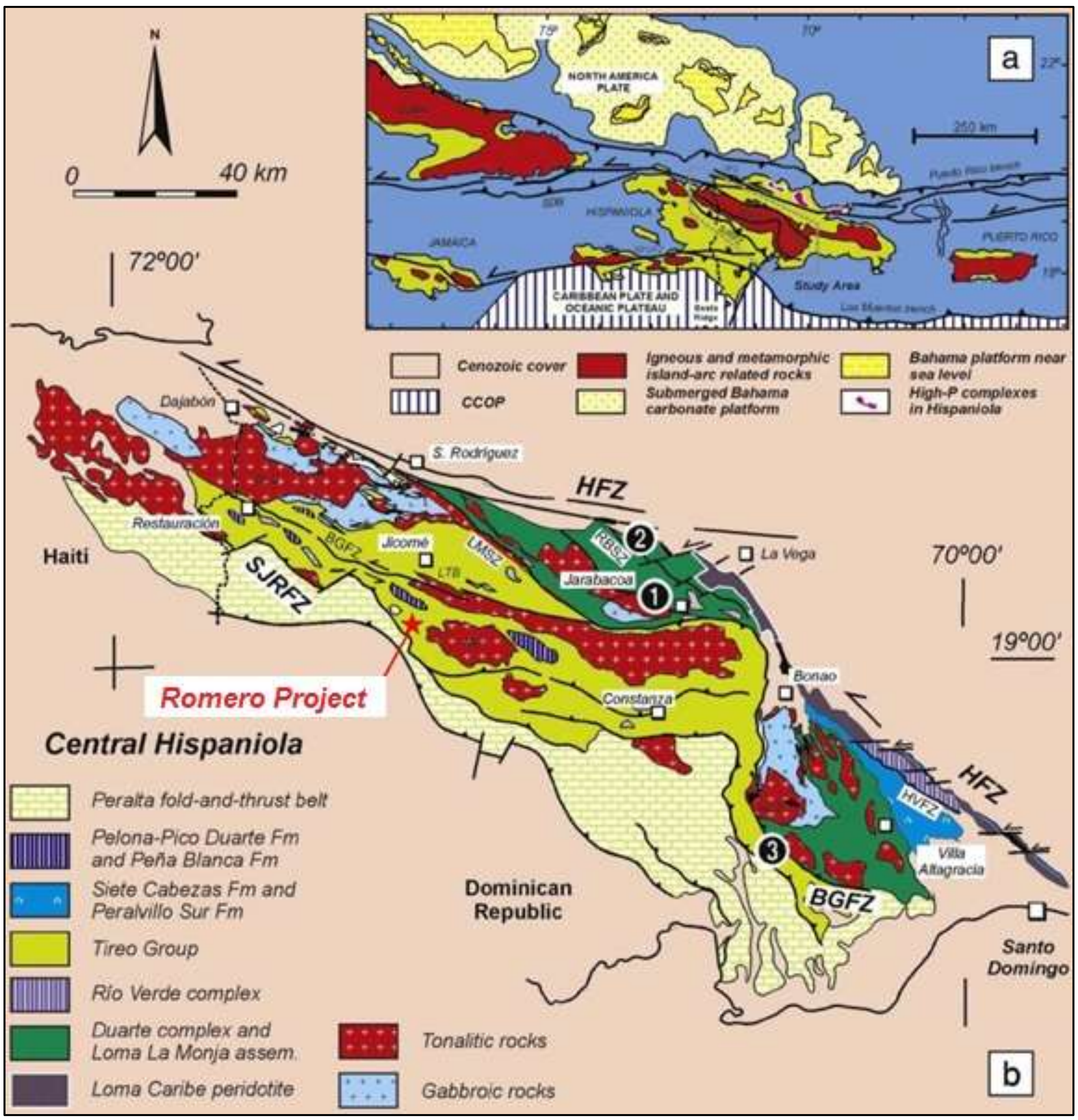
# 7.0 GEOLOGICAL SETTING AND MINERALIZATION

The information in this section is amended from Steedman and Gowans (2012).

## 7.1 REGIONAL GEOLOGY

The Romero project is located on the south side of the Central Cordillera of the island of Hispaniola which is a composite of oceanic derived accreted terrains bounded by left-lateral strike slip fault zones, and is part of the Early Cretaceous to Paleogene Greater Antilles island arc (Figure 7.1).

**Figure 7.1**
**Regional Geological Map**




(a) Plate Tectonic Setting of Hispaniola. (b) Regional Geology Map of the Central Cordillera of Hispaniola showing the Location of the Romero project. (Map from Escuder Viruete et al., 2008, Fig. 1)

Hispaniola is located on the northern margin of the Caribbean plate which is a left-lateral transform plate boundary. The tectonic collage is the result of west-southwest- to southwest-directed oblique convergence of the continental margin of the North American plate with the Greater Antilles island arc, which began in the Eocene to Early Miocene and continues today (Escuder Viruete et al., 2008).

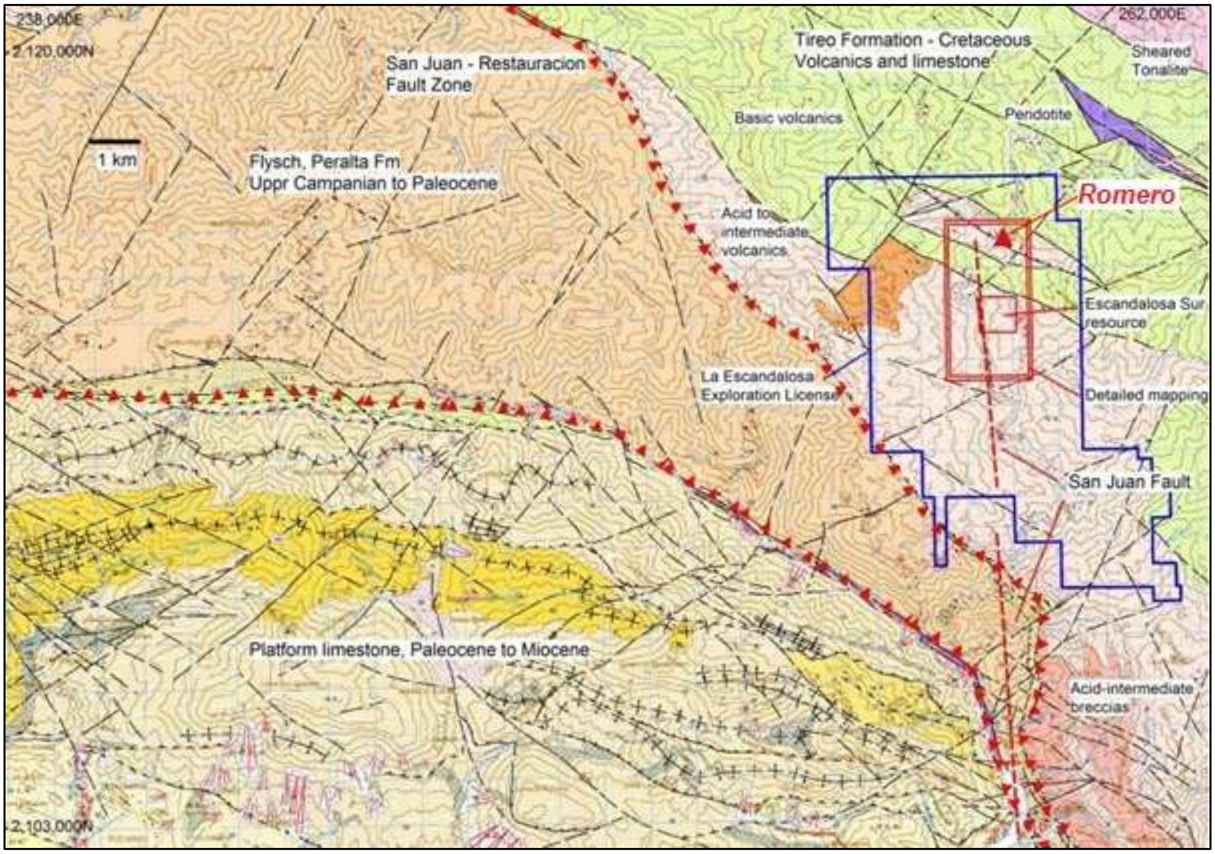
Primitive island arc volcanic rocks of the Early Cretaceous Los Ranchos and Maimón Formations in the Eastern Cordillera are interpreted to be related to northward subduction (Lebron and Perfit, 1994). Cessation of subduction in the mid Cretaceous was marked by accretion of the Loma del Caribe peridotite between the Eastern and Central Cordilleras (Draper et al., 1996) and by early Cretaceous greenstones and intrusions of the Duarte Complex in the Central Cordillera, interpreted to be of metamorphosed ocean island or seamount origin (Draper and Lewis, 1991; Lewis and Jimenez, 1991). This was followed by arc reversal and southward subduction, with formation of calc-alkaline volcanic and sedimentary rocks of the Tireo Formation of late Cretaceous to Eocene age in the Central Cordillera (Lewis et al., 1991). Since then the tectonics of the Central Cordillera have been dominated by a left lateral transpressional strike slip related to the Caribbean-North American plate boundary.

The Romero and Romero South deposits are hosted by Cretaceous-age Tireo Formation volcanic rocks and limestones (Figure 7.2). The Tireo Formation is bounded on the south side by flysch comprising calcareous slates, limestones, sandstones and shales of the Trois Rivieres or Peralta Formation of upper Campanian to Paleogene age. The contact with the Tireo Formation is a northwest-trending, southwest-verging reverse fault, the San Juan-Restauración fault Zone, which represents a transpressional fault bend. South of the Peralta Formation is a block of Paleocene to Miocene marine and platform limestone of the Neiba and Sombrerito Formations forming an antiformal restraining bend structure with reverse faults and folds (Figure 7.2). The Central Cordillera is bounded on the south side of these formations by an east-southeast-trending, south-verging, high angle reverse fault. To the south is the east-southeast-trending San Juan graben with a thick sequence of Oligocene to Quaternary molasse sediments deposited in a marine to lagoon environment, with Quaternary alkaline basalts related to graben extension.

The San Juan valley is a major north-south-trending lineament and fault (Figure 7.2). This may have played a role in the localization of mineralization at Romero. There is a major deflection in the frontal thrust of the Central Cordillera with further transport south on the east side and a sinistral compressional bend. The Trois Rivieres-Peralta Formation is thinned in the fault zone, indicating that this may also reflect a basin depositional margin.

The tectonic deflection coincides with a major north-northwest-trending aeromagnetic and aero radiometric break which lies 3 km to 5 km west of the mineralization at Romero. On the east there is high amplitude magnetic topography with a general east-southeast ridge texture in the Tireo Formation, tonalites and shear zones, against a magnetic low with smooth textures on the west in the Trois Rivieres Formation.

**Figure 7.2**
**Regional Geology of the Romero Area**




Based on 1:50,000 geological map by Bernárdez and Soler, 2004.

The 1:50,000 published geological map shows acid to intermediate volcanic rocks of the Tireo Formation in the south part of the La Escandalosa concession, and basic volcanic rocks of the Tireo Formation in the north part, with a northwest-trending block of acid to intermediate volcanic rocks at Romero (Figure 7.2, Bernárdez and Soler, 2004). The bedding and foliation generally strike northwest and have moderate to steep dips to the northeast. The major structures are northwest-trending faults and thrusts, and north-south- and northeast-trending faults. In contrast, mapping by GoldQuest has shown that the geology comprises felsic to intermediate volcanic rocks and limestones with low to moderate dips.

The nearest intrusive bodies shown on the 1:50,000 published map are 3 km to 7.5 km from Romero and are in the Tireo Formation (Figure 7.2). These comprise a small sheared peridotite and foliated tonalite body, 3 km northeast of Romero; a foliated tonalite pluton at Loma del Tambor (more than 30 km long by 5 km wide) in a west northwest-trending shear zone 5 km northeast of Romero; and the Macutico Batholith tonalite (16 km long by 12 km wide), 7.5 km southeast of Romero, dated at 85 to 92 million years old (Ma) (Late Cretaceous) (Bernárdez and Soler, 2004; Joubert, 2004).

## 7.2 PROJECT GEOLOGY

Geological mapping at Romero has been carried out for GoldQuest at a scale of 1:10,000 (Gonzalez, 2004) and 1:2,000 scale (MacDonald, 2005; Redwood, 2006b, 2006c), with revision and additional mapping by Gold Fields (Dunkley and Gabor, 2008a, 2008b). A geological map at 1:2,000 scale is shown in Figure 7.3. A petrographic study was carried out by Tidy (2006). Infra-red spectrometry (Pima) has been used to aid identification of alteration minerals.

The geology of the Romero area comprises a relatively flat lying sequence of intercalated subaqueous volcanic rocks and limestones which youngs from west to east as a function of erosional level. The oldest rocks are rhyolite flows exposed in the San Juan River on the west side. These are overlain by dacite breccias which contain the gold mineralization. These in turn are overlain by limestones and andesite breccias. The stratigraphy is described from oldest to youngest in this section.

### 7.2.1 Lithological Units

**Rhyolite**

Rhyolite outcrops sporadically for at least 2,000 m of strike length on the west side of the altered horizon from north of Romero to Romero South. There are two apparent rhyolite centres at Romero and Romero South defined by thick rhyolite outcrops, and in between these the flows are thinner with more breccias. The rhyolite is volcanic, rather than intrusive, and has the form of thick flows or lava domes with marginal flows and hyaloclastite breccias. The flows have autobrecciation and flow banding in places. The hyaloclastite tuffs and breccias are intercalated with limestone, andesite and dacite. The extent of rhyolite to the east and north has not been mapped.

The rhyolite is a very siliceous and hard rock with phenocrysts of quartz, plagioclase and green hornblende. The mafic minerals have usually been altered to magnetite and trace pyrite. Petrography shows an andesine composition for plagioclase phenocrysts, with the matrix ones slightly more sodic. The highly siliceous nature is, in part, due to silicification.

**Dacite**

Dacite is most commonly the favourable host horizon for hydrothermal alteration and gold mineralization which can be traced for about 2,200 m from Romero to Romero South on the east side of the San Juan River. The dacitic volcanic rocks overlie rhyolite lavas and are interpreted to be autobreccias and hyaloclastite breccias derived from the rhyolite. The high porosity and permeability of the dacites has evidently made them a receptive host for hydrothermal fluids.

**Figure 7.3**
**Geological Map of Romero**

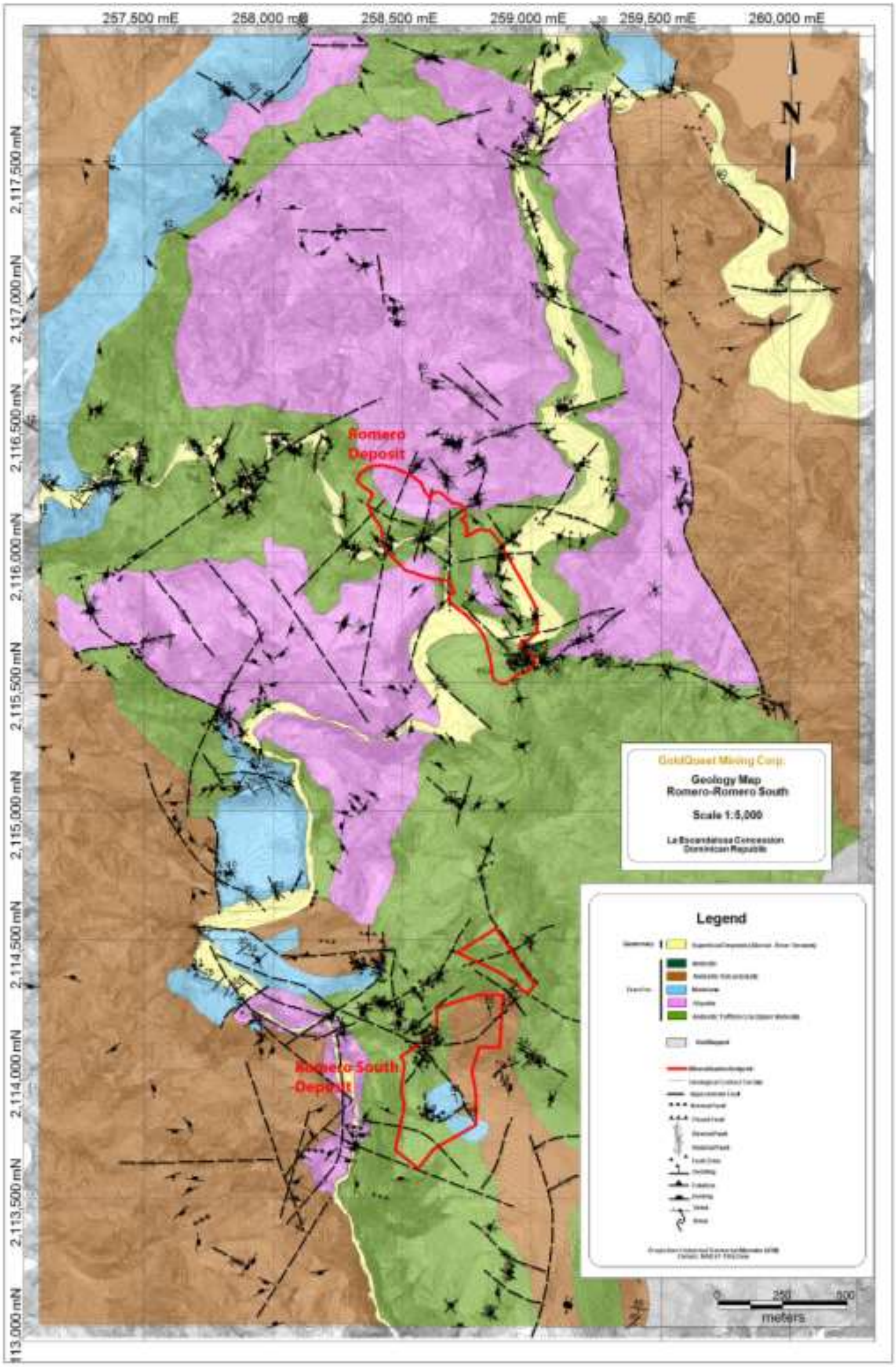



Figure supplied by GoldQuest (2013).

The dacite is overlain by limestone or by andesite breccia. The altered dacite horizon varies from a thick body between rhyolite and andesite at Romero, to a thinner discrete horizon within less strongly altered dacite at Romero South.

At Romero the dacitic volcanics occur above and east of the rhyolite flow/dome and dip from 40° to 50°E near the base to 15°E at the top contact in Jibaros creek. They form a body with a vertical thickness of greater than 200 m. The soft altered dacite is susceptible to landslides, and erosion to form river terraces.

South of the La Escandalosa creek and the Escandalosa fault, the mineralized horizon in the dacite is exposed in a trail at the discovery outcrop where there is strong argillic and sericite-quartz alteration with jarosite after pyrite. Trenching there returned high gold grades. Holes LTP-05 and LTP-06 were drilled on the trenches and returned low grade gold values and are interpreted to be in the lower part of the Romero South zone with land-slipped higher grade material from the upper part in the trenches. Hole LTP-07 was drilled higher up slope and intersected the whole width of the mineralized horizon.

To the west of the discovery outcrop, the mineralized horizon outcrops in a cliff on the east side of the San Juan canyon. The cliff face is a fault plane (strike 355, dip 80°E) with gossan, jarosite and copper carbonate staining of silicified dacite with zones of semi-massive pyrite and abundant sphalerite and chalcopyrite.

There are similar looking outcrops with a low angle of dip on the west side of the San Juan River as well. These are apparently continuous across the canyon with an apparent dip of 10°W, and there does not appear to be any significant displacement across the prominent north to south lineament that forms the San Juan canyon. However, no disseminated gold mineralization has been found west of the river by reconnaissance soil and rock sampling.

Lithologically the dacite breccias generally have a lapilli grain size with varying proportions of:

- Rounded clasts of siliceous rhyodacite probably derived from the rhyolite flow/dome, and commonly with quartz veinlets and disseminated pyrite. They often have a colour change at the rim. There are variations in phenocrysts and texture.

- Green elongate fiamme-like clasts with quartz and plagioclase phenocrysts, which are locally parallel and may define poor bedding. These are interpreted to be glass with diagenetic or post-alteration flattening and alteration of the glass to green illite-chlorite, and some are pyrite-rich. They are interpreted to be hyaloclastite derived from chilling and shattering of the rhyolite lava on contact with water, rather than pumice clasts of pyroclastic origin.

- Rounded pyrite-rich porphyry clasts. These have very fine grained disseminated to semi-massive pyrite and often have a pyrite-rich or colour-changed rim. They are interpreted to be derived from pyrite mineralization.

- Fine grained, aphyric siliceous clasts.

The clast distribution is generally polymict, but varies to monomict, which probably indicates an in-situ hyaloclastite breccia. The matrix of the breccia is fine grained. The clast shape varies from angular to rounded, and sorting is usually poor with clast size from <1 mm up to 100 mm. There are also fine grained tuff to ash sized breccias with a curved convex clasts and shards which are hyaloclastites.

Some weakly altered hyaloclastite breccias have a red limestone matrix (e.g. Los Tomates Ridge). It is possible that the control of the favourable horizon within the dacite breccias was a carbonate matrix which was dissolved by hydrothermal fluids, thus enhancing porosity and permeability and fluid flow.

**Limestone**

Two units of limestone have been mapped, Maroon Limestone and Gray Limestone. They have similar lithofacies and are distinguished by colour and outcrop in different areas. The colour difference is interpreted to due to hydrothermal alteration and bleaching.

The Maroon Limestone is a maroon coloured, fine grained micritic limestone, with fine to medium bedding, thin graded beds of volcanic sandstone (probably a resedimented hyaloclastite or autoclastic sandstone) and red chert or jasperoid beds. The dips are low although there are locally high dips due to folding. The Maroon Limestone occurs in several horizons and is intercalated with dacite breccia, rhyolite flows and hyaloclastites.

The Gray Limestone has a similar lithofacies to the Maroon Limestone and forms a well-defined mappable unit at Romero South. It forms a graben-block bounded by northeast- and northwest-trending faults, with stratigraphic contacts on the southeast and southwest sides. Stratigraphically the Gray Limestone lies directly above the altered and mineralized dacite breccias, and is overlain by andesites. The Gray Limestone is finely bedded (10 cm to 15 cm beds), dark grey, locally maroon coloured, micritic limestone, with laminated dacitic volcanic sandstone beds, and black chert beds. In the drill core there are some beds of fine grained pyrite. The limestones have open folds with dips up to 50° to 60°. The vertical outcrop interval is about 110 m.

The Gray Limestones are bounded on north side by the Escandalosa fault which trends 070° east-northeast with a vertical dip which forms cliffs and can be mapped for 1,200 m, and is interpreted as south-side down. Andesite breccias outcrop on the north side of fault. On the east side the Gray Limestone is in stratigraphic contact with andesite. On the west side the Gray Limestone is bounded against dacite by a fault trending 135° (east-side down) to the north of the Romero South discovery outcrop and holes LTP-05 and LTP-06. The southern contact of the Gray Limestone is the Escandalosa Sur fault which trends 055° with steep dip (north-side down).

On the southwest side of Romero South the Gray Limestone contact over mineralized dacite is stratigraphic (LTP-08, LTP-09) and is exposed in cliffs in the San Juan canyon and on the hill top at platform LTP-08. Gray Limestone outcrop in cliffs continues to south of LTP-09 for an undefined distance, and may be terminated or displaced by the inferred southwest continuation of the Escandalosa Sur fault.

**Andesite**

Coarse grained, green, chlorite-altered andesite breccias are well exposed in the Escandalosa creek and its tributaries and form the ridge on the east side of the mapped area of alteration. The andesites outcrop over a vertical interval of about 220 m to the top of the ridge. They overlie dacite breccias from Romero South to Romero and form the hanging wall to the altered unit.

The lithology is a green volcanic conglomerate or breccia. The green colour is chlorite alteration with carbonate and magnetite. The clasts are gravel to block (30 cm) sized and rounded, in a sandy matrix, but there is no bedding except for a weak low angle parting. The composition is andesite to quartz-phyric dacite.

Further south of Romero South, at La Higuera, the andesites comprises a sequence of andesitic to dacitic lavas or volcanic sandstones/ash tuffs, with texture varying from crowded phenocrysts to fine grained aphyric. The phenocrysts include pyroxene, quartz, plagioclase and other mafic minerals with alteration to chlorite, epidote, magnetite and pyrite.

**Dykes**

The only intrusive rock mapped is a single dyke of plagioclase-phyric andesite with a chilled margin cutting andesitic volcanic rocks at La Laguna (Romero South), with a trend of 128° and 85°E dip.

### 7.2.2 Structure

The principal lineament trends are northeast, northwest and north-south. Faults were mapped in the field. West-northwest-trending faults dominate in the northern part of the area, and northeast-trending faults in the south. The faults are generally steep and show vertical displacement, although it has not been established whether this is normal or reverse movement. However, slickensides often show horizontal to low angle plunge indicating strike slip movement. In places this can also be mapped by lateral offset of units, notably right lateral displacement on the Hondo Valle fault. North-northwest- to northwest-striking low angle reverse faults and thrusts occur at a number of localities in the Romero area, although the scale of thrusting is uncertain.

The thinly bedded limestones have tight folding, and bedding is locally steep or overturned. The hinges dip to the east with reverse faults, shallow east limbs and overturned steep west limbs, indicating west-verging folding and thrusting. The limestones have focused deformation due to low rheological competency, while the massive limestone beds and volcanic units are not folded.

The structural observations are consistent with the transpressional tectonics that have affected the Central Cordillera since the Eocene. This may include strike slip reactivation of older, steeper normal faults.

### 7.2.3 Alteration and Mineralization

#### Silicic and Phyllic Alteration

Phyllic and silicic alteration have been mapped as a continuous zone over about 2,200 m of strike length with a general north-south trend from Romero to Romero South. Gold mineralization with anomalous silver, zinc and copper is associated with the phyllic and silicic alteration. Mapping and drilling support a model of stratabound and stratiform alteration of dacite breccias.

The alteration types are pervasive and are quartz-pyrite alteration (silicification), quartz-illite-pyrite alteration (phyllic) and illite-chlorite-pyrite alteration, with gradations between each type. Discrete zones of silicification can be mapped in places, notably at Romero, but it is usually gradational with, or alternates with phyllic alteration and they have generally been mapped together as phyllic alteration. A similar relationship is seen in drill core where phyllic and silicic alteration can be logged separately in some places, and in others alternate every few metres. Silicification varies from intense, giving a very hard, cherty rock, to moderate and weaker intensities with progressive lowering of hardness and rock quality designation (RQD) measurements of core. Quartz forms irregular veining in phyllic alteration.

Silicification and phyllic alteration appear to be strongest in the upper part of the altered horizon where fluid flow may have been focused. Lower down the alteration becomes weaker and is typically pale blue-green illite and chlorite (confirmed by Pima) with disseminated pyrite and no quartz.

The phyllic-silicic alteration zone is marked by an absence of magnetite due to magnetite destruction by sulphidization.

#### Propylitic Alteration

Propylitic alteration occurs in both the hanging wall and the footwall to the phyllic-silicic alteration zone.

The andesite breccia of the hanging wall has pervasive chlorite alteration with trace to 1% disseminated pyrite giving the rock a dark green colour. It is accompanied locally by epidote, calcite veinlets, quartz veinlets, silicification and magnetite.

The footwall dacite breccias and rhyolites also have propylitic alteration with chlorite-magnetite-(epidote-quartz-pyrite) and local silicification. There is up to 5% magnetite, after hornblende, and widespread barite in veinlets and replacement, especially in the lower part of La Escandalosa creek. Magnetite and barite alteration are stronger in the footwall than the hanging wall.

The first appearance of magnetite in the hanging wall and footwall to the phyllic-silicic zone marks the start of the propylitic zone and is sharply defined in core. The magnetite is a combination of primary igneous magnetite and hydrothermal alteration of mafic minerals.

There is a narrow zone of hematite-silica above and below the phyllic-silicic zone in some holes indicating a redox front. The hydrothermal fluid is interpreted to have been reducing with lateral flow in the main phyllic-silicic horizon, changing to oxidizing with vertical flow into the hanging wall and footwall.

**Hydrothermal Breccias**

There are several types of phreatic hydrothermal breccias with sulphides in the phyllic and silicic alteration zones. These are volumetrically small and are only seen in core and not in outcrop. Most of the breccias at Romero South are volcaniclastic.

Three types of phreatic breccia have been identified in core, listed from oldest to youngest based on cross-cutting relationships:

1. A black jigsaw breccia with a black matrix of silica, fine grained pyrite and a fine grained, black, non-sulphide mineral (biotite?) in zones of tens of centimetres. It is matrix to clast supported.

2. This is cut by quartz-sulphide veinlets which can form a network fracture breccia.

3. A clay-matrix breccia cuts silicified rock and is a jigsaw, clast-supported breccia with angular, milled silicified clasts in a matrix of soft pale grey-green clay-pyrite. It forms irregular breccia veinlets of a few to tens of centimetres width. It is interpreted to be a phreatic breccia rather than a fault breccia due to the matrix of clay (in silicified zones) and pyrite (which does not appeared to be milled), but may in fact be fault breccia.

**Fault Breccias**

Late-stage fault breccias also occur. These have a soft clay matrix when in phyllic alteration zones. Faults in rhyolite form a mylonite of brittle fractured shards. The fault breccias affect and thus postdate alteration and the thick white quartz veins.

**Barite**

White barite is commonly present in veinlets and hydrothermal breccias with quartz and calcite, and in places forms a fine-grained pervasive replacement. It is more abundant in the footwall to the phyllic alteration zone than in the hanging wall. Barium usually does not show in geochemistry due to the insolubility of barite in the acid digestion used for the ICP analyses.

In the San Juan river at Romero South there is a 10-m wide, white barite vein surrounded by a stockwork of barite veinlets, associated with silica and phyllic alteration. Pervasive, very fine-grained white barite occurs with quartz replacing rhyolite in the lower part of the Escandalosa creek.

**Quartz Veining**

There are two types of quartz veining, namely veinlets associated with phyllic alteration, and massive white quartz veins.

The quartz veinlets are white quartz and chalcedony which form irregular veinlets and network veinlet breccias in the phyllic alteration zone. There are also rare straight-sided veinlets. The quartz may have a vuggy texture with a centre line. Quartz is accompanied by white barite, calcite and sulphides. Sulphides may dominate in some veinlets. Minor, late stage quartz veinlets cross-cut quartz-sulphide veinlets.

Massive white quartz veins are locally common in the propylitically altered andesite breccia, especially in the Escandalosa fault zone. The veins are white, massive and multi-directional and may have minor pyrite and chalcopyrite. They are up to at least 2 m wide as shown by abundant river boulders in the Escandalosa creek. Massive white quartz veins can also occur in the phyllic zone, and are distinct from the quartz-chalcedony veinlets described above.

**Calcite Veining**

Calcite veinlets are common in the Maroon and Grey Limestone and are of two types, bedding parallel ptygmatic (strongly deformed), and irregular cross-cutting veinlets with quartz and/or barite. The latter also occur in volcanic rocks.

**Limestone Bleaching**

The Gray Limestone is interpreted as hydrothermally altered and bleached Maroon Limestone based on the restricted outcrop of Gray Limestone in the hanging wall of the phyllic alteration zone. The Gray Limestone has a similar lithofacies to the Maroon Limestone, and has an extensive regional distribution, in contrast to the Maroon Limestone.

It is interpreted that the original colour of the limestone is maroon and that this is indicative of deposition in an oxidizing environment suggesting continental lacustrine rather than submarine conditions. Hydrothermal alteration by a reducing fluid caused a colour change to grey.

**Sulphides**

Coarse-grained pyrite (1 mm to 2 mm) occurs as disseminations in phyllic and silicic alteration and with other sulphides in semi-massive zones up to 50 cm wide, and in sulphide and quartz-calcite-barite veinlets. The other common sulphides are sphalerite, chalcopyrite and galena. The sphalerite is pale brown in colour indicating a low iron and high zinc content. It usually occurs with chalcopyrite in well formed crystals of 1 mm to 2 mm and these are partly replaced by black iron-rich sphalerite.

Pyrite also occurs in a fine-grained, framboidal habit in clasts in volcanic breccia in amounts varying from a few percent as disseminations to massive.

**Oxidation and Enrichment**

Supergene oxidation due to weathering is shallow with a depth of 10 m to 15 m. In zones of silicic alteration, the pyrite is leached giving residual vuggy silica with jarosite and hematite, for example at Romero. Supergene argillic alteration is developed from quartz-illite-pyrite, illite-chlorite-pyrite and propylitic alteration and gives white clay (kaolinite-smectite) with jarosite and hematite, and forms colour anomalies.

Rare copper oxide minerals, such as brochantite and blue copper carbonates, occur in outcrop. There is a thin zone of minor supergene chalcocite coating sulphides below the base of oxidation for 1 m to 2 m.

### 7.2.4 Geomorphology and Overburden

The Romero project is located in the valley of the south-flowing San Juan River. The relief within the project area is over 1,000 m with steep slopes. There are three geomorphological zones, as described in Section 5 above, ridges, valleys and Canyons.

These geomorphological zones are interpreted to indicate a three-stage history of uplift and erosion:

1. Plateau Phase of which the ridge tops with laterite are a remnant. The age of lateritization elsewhere in the Dominican Republic has been dated stratigraphically as Late Tertiary (post-Middle Oligocene).

2. Valley Phase consisting of major uplift and river erosion to form broad valleys.

3. Canyon Phase with the recent uplift and river erosion/down-cutting to form canyons which meander in the Canyon Phase.

The mineralization at the Romero project was exposed relatively recently during the Valley and Canyon Phases. For this reason sulphides are commonly exposed as there has been relatively little time for oxidation.

Unconsolidated Quaternary overburden deposits mapped are active river bed alluvium, river terraces, landslides and colluvium. Landslides are common especially in the Canyon Phase topography.

## 7.3 GOLD AND BASE METALS MINERALIZATION

Gold and associated base metal mineralization forms a stratiform body in dacite breccias. The stratiform style is shown in Figure 7.4. Alteration and mineralization can be traced for about 2,200 m from Romero south to Romero South. The altered unit is more than 200 m thick vertically at Romero.

Gold mineralization is related to quartz and sulphides. Coarse grained pyrite (1 mm to 2 mm) occurs as disseminations in phyllic and silicic alteration and with other sulphides in semi-massive zones up to 50 cm wide, and in sulphide and quartz-calcite-barite veinlets. The other common sulphides are sphalerite, chalcopyrite and galena. The sphalerite is pale brown in colour indicating a low iron and high zinc content. It usually occurs with chalcopyrite in well-formed crystals of 1 mm to 2 mm and these are partly replaced by black iron-rich sphalerite. Pyrite also occurs in a fine-grained, framboidal habit in clasts in volcanic breccia, in amounts varying from a few percent as disseminations to massive.

**Figure 7.4**
**Cross Section through Romero and Romero South**

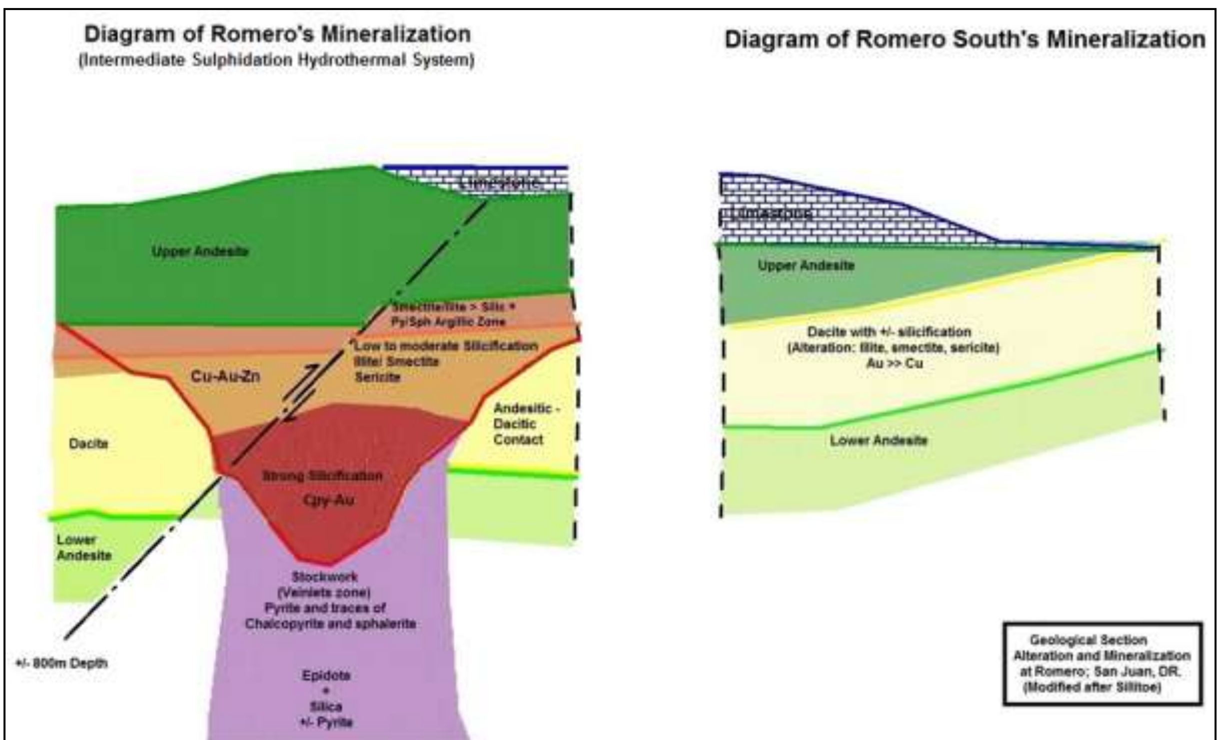



Figure supplied by GoldQuest (2013)

## 8.0 DEPOSIT TYPES

The information in this section is amended from Steedman and Gowans (2012) with more recent observations by R. H. Sillitoe (2013) and GoldQuest staff.

The features of the geological model for alteration and precious/base metals mineralization at Romero are as follows:

- Hosted by the Cretaceous-age Tireo Formation island arc sequence;
- The host rocks are subaqueous, felsic to intermediate volcanic and volcaniclastic rocks (rhyolite to dacite flows, possible domes, autobreccias, hyaloclastite sandstones to breccias) and non-volcanic sediments (limestones);
- Alteration and mineralization are epigenetic and of intermediate sulphidation epithermal style;
- The gold-bearing chalcopyrite mineralization is hosted by silicified and illite-altered dacitic tuffs and underlain by a largely barren, vertically extensive pyritic stockwork Figure 8.1developed in andesitic rocks (Sillitoe, 2013).
- Upwards and laterally at Romero, the chalcopyrite gives way to sphalerite and a gold-zinc association predominates (Figure 8.1).
- Alteration and mineralization is generally stratabound within the dacitic volcaniclastic breccia (lithic lapilli tuff, with variable clast size from ash to block, also hyaloclastites). Bedding and lithological variations can be logged in the altered zones. May also be in massive lava units. The breccia clasts are dacite to rhyolite, hyaloclastic shards, and also mineralized clasts;
- The mineralized clasts in the dacite breccia are silicified with very fine grained pyrite, occasional quartz veinlets and no gold. The clasts were mineralized before being incorporated into the tuff;
- Alteration can be mapped for 2.2 km north to south;
- The alteration is zoned vertically:
    - Propylitic alteration of the hanging wall (chlorite, epidote, quartz and silicification, pyrite and magnetite);
    - Quartz-illite-pyrite and quartz-pyrite in the mineralized zone. Quartz forms irregular veins in competent rock and matrix replacement in breccias. Alteration is stronger in the upper part of the zone and becomes weaker downwards and is pale green illite-chlorite-pyrite. The sulphides comprise

disseminated to semi-massive pyrite with chalcopyrite, sphalerite and galena. The gold grade appears to correlate with silicification or quartz veining; and,

  - Propylitic alteration in the footwall (chlorite-magnetite-epidote-quartz-pyrite-barite) with strong magnetite and barite.

- Gold is associated with silicification and quartz-sulphide veining.

- There are several stages of volumetrically minor hydrothermal breccias with sulphides (although most of the breccias are volcaniclastic).

- Veinlet breccias form in massive lava units.

- Barite is ubiquitous in breccias and veinlets, and forms pervasive fine-grained replacements.

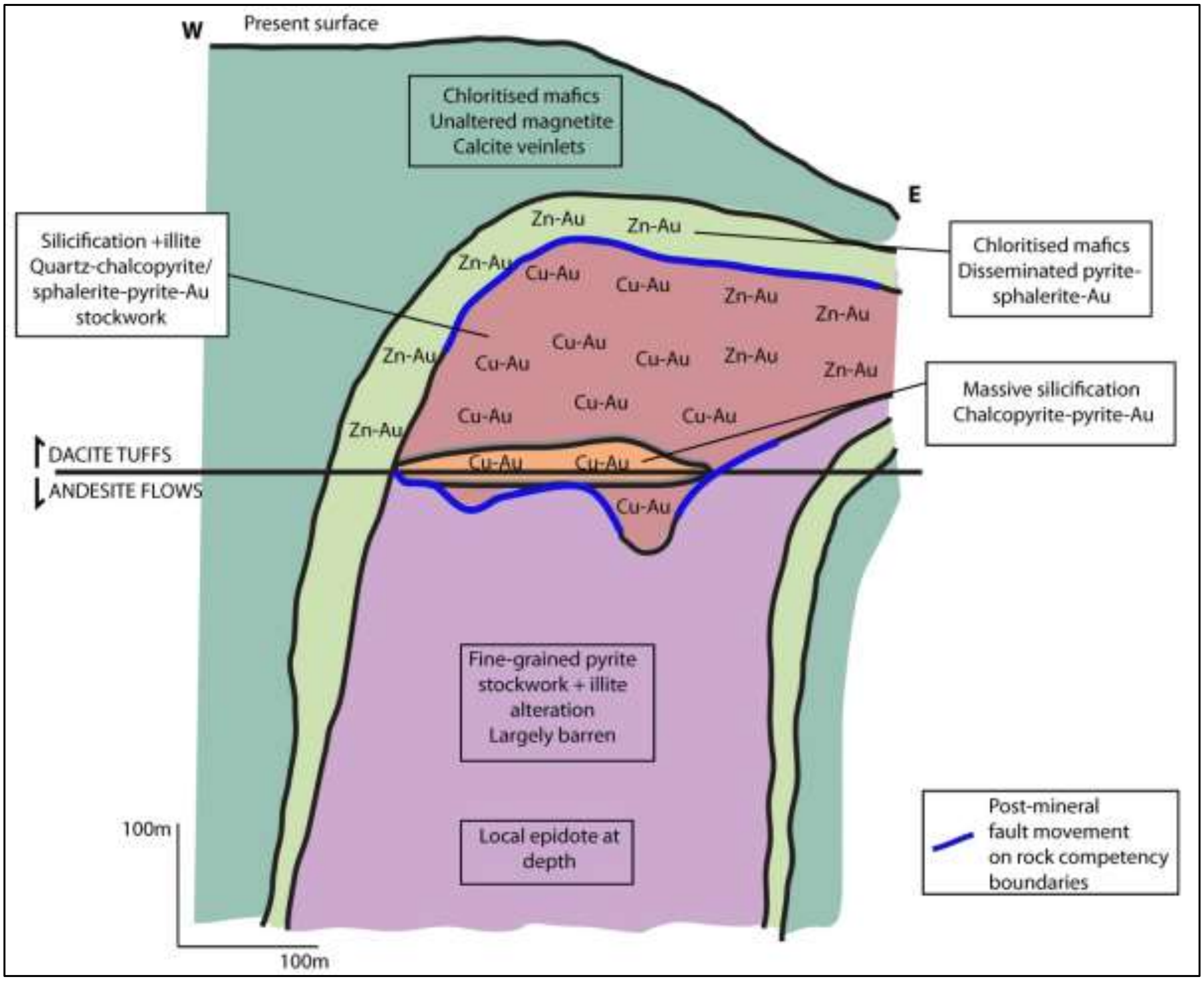
- The alteration zonation shows a stratabound to stratiform geometry and indicates lateral fluid flow.

- There is a redox change in the fluid coincident with the change from quartz-illite-pyrite to propylitic alteration with magnetite. In some holes there is hematite-silica above and below illite. The hydrothermal fluid is interpreted to have been reducing with lateral flow in the main illite-quartz horizon, changing to oxidising with vertical flow into the hanging and footwall.

- The favourable horizon has restricted outcrop and is masked by weakly altered rocks in the hanging wall and footwall.

Flow of the hydrothermal fluids is interpreted to have been lateral and related to the porosity and permeability of the host dacite breccias to form generally stratiform mineralized bodies with intermediate sulphidation epithermal characteristics.

**Figure 8.1**
**Schematic Geological Section, Romero Deposit**




From Sillitoe (2013).

There are several unusual or undetermined aspects to the deposit model which may have implications for future exploration.

# 9.0 EXPLORATION

The information in this section is taken and amended from Steedman and Gowans (2012) and Hennessey et al. (2013).

## 9.1 TOPOGRAPHY AND IMAGERY

GoldQuest commissioned a detailed topographic map with 2 m contour intervals derived from Ikonos satellite imagery (1 m resolution) which provided a detailed base map for mapping, plotting drill holes and polygons, as well as a high resolution satellite image.

The company also carried out spectral interpretation for alteration mapping of an Aster satellite image (15 m resolution).

## 9.2 GEOLOGICAL MAPPING

Geological mapping at Romero has been carried out for GoldQuest at 1:10,000 scale (Gonzalez, 2004) and at 1:2,000 scale (MacDonald, 2005; Redwood, 2006b, 2006c), with revision and additional mapping by Gold Fields (Dunkley and Gabor, 2008a, 2008b). A petrographic study of 15 samples was carried out by Tidy (2006).

## 9.3 GEOCHEMISTRY

One of the main exploration techniques used in early exploration at Romero has been geochemistry. GoldQuest has taken 40 fine fraction stream sediment samples (minus 200 mesh), 1,090 soil samples and 1,176 rock samples, including channel samples.

Soil geochemical grids have been carried out over most of the areas of outcropping mineralization between Hondo Valle and La Higuera on 100 m by 100 m, and 50 m by 50 m grids and ridge and spur soil samples for reconnaissance. The area sampled on grids is about 2.0 km long north-south by 1.0 km across, and the total area sampled, including ridges and spurs, is about 4.0 km north-south by 3.0 km wide. A total of 1,090 soil samples have been taken.

Hand dug trenches were made to follow up on soil anomalies prior to drilling, and continuous channel samples were taken of the exposed bedrock.

## 9.4 GEOPHYSICS

### 9.4.1 Early Geophysics

GoldQuest obtained a regional airborne magnetic and radiometric survey flown on a 1-km line spacing for the SYSMIN program. Reprocessing was carried out by Gold Fields.

A Direct current induced polarization (DCIP) ground geophysical survey was completed by Quantec Geoscience Ltd, over the Las Tres Palmas project during the summer of 2011. A total of 44 east to west lines spaced at 200 and 100 m (depending on the priorities of the zones) with reading stations at 50 m over the lines which were surveyed, covering 77.75 line km over an area of approximately 15 km$^2$. The objective of the DCIP program was to define the chargeability (IP) and conductivity/resistivity responses of the underlying ground of the survey grid.

The survey delineated two anomalous (chargeability) corridors. The main corridor is coincident with the known mineralization at Romero South and Romero (Hondo Valle). It also coincides with a corridor of low resistivity, both of which had been delineated in a north to south direction for a distance in excess of 3.0 km across the central part of the grid. The second corridor, running parallel to the main corridor, is located at the eastern end of the grid and consists of two subsections, the northern section approximately 1.2 km long and the southern section of 0.8 km. In addition to the DCIP program GoldQuest completed a ground magnetic survey during the first quarter of 2012. The survey was completed using the company's magnetometers (GEM GSM-19 system) and field technicians. A total of 72.0 km of magnetometer survey were completed over the same grid used for the DCIP ground survey. Data were plotted and interpreted by external consultants and GoldQuest geologists. An integration of the ground geophysics (magnetic and DCIP), soil and rock geochemistry, alteration, lithology and structural mapping was used to define the sixth and seventh phases of drilling.

The results of the geophysical surveys are shown in Figures 9.1 to 9.3 of Steedman and Gowans (2012). They have been superseded by the maps from the 2012-2013 surveys. A total of 10 targets were identified for testing, based on chargeability, conductivity (resistivity), and magnetic responses, as well as taking into account the detailed and regional geology, alteration zones, surface geochemistry and the results of previous drill holes.

### 9.4.2 2012 - 2013 Ground IP Survey

In late 2012 and throughout the first half of 2013 GoldQuest contracted Insight Geophysics Inc. to conduct ground IP surveys over the Romero deposit and to expand the coverage to the north and west of the previous Quantec IP survey. The Insight IP survey consisted of 155 km of Gradient IP and 34 km of Insight sections, and produced chargeability and resistivity data looking to a depth of 500 m.

Two different grids were surveyed during the program. A north-south oriented grid at 200-m and 100-m spaced lines was conducted over the known mineralization at Romero to compare to the previous Quantec east-west surveys, and to potentially highlight any east-west trends in the mineralization, controlling structures, and/or an alteration package.

In addition to confirming the Romero trend, a component of north-northwest to south-southeast structures, inferred by resistivity lows, and similar potentially mineralized trends, inferred by chargeability highs, were observed to cross the main north-south Romero trend. These are interpreted to be potential secondary structural controls on the main north-south trend.

Insight sections have provided detailed vertical resolution and potentially resolved the contact between the lower andesite and the dacite lithological units, which is thought to be a nearly flat-lying control at Romero. Further, the altered and mineralized zones lying above this contact at Romero are visible as distinct chargeable anomalies, coincident with resistivity lows that indicate the location of the faults of the main north-south Romero trend.

In addition to this grid, an east-west survey using 200-m spaced lines was conducted over the Romero South deposit and to the north and west of the Romero deposit. This survey identified a new set of northwest-southeast to north-northwest to south-southeast-trending chargeability highs coincident with resistivity highs and lows, which has been named the Guama trend.

The Guama trend has several zones with slightly differently oriented target areas. The southern area strikes to the northwest-southeast and remains open at the limit of the survey. This area is 0.75 km wide by 2.5 km long and mostly occurs in the Loma Los Comios concession. It has not yet been drill tested. The central part of the Guama trend is north-northwest to south-southeast-trending with and is very linear in geometry. It is 0.75 km wide and 2.3 km long and is, via initial drill testing, at this time believed to be related to the flat flying sediments (mudstones) which come closer to surface in the valley of the Guama creek, which cuts through the topography and is coincident with the anomaly. The northern area of the anomaly widens and generally has a circular orientation which is 1.6 km wide by 1.1 km long and open at the northern limit of the survey. It has been interpreted as a possible porphyry centre that could be related to the Romero trend, alteration and mineralized deposit. This area also falls in the Loma Los Comios concession and has not been drill tested to date.

The chargeability map from the 2012-2013 surveys is shown in Figure 9.1, along with the drill hole locations for the Romero and Romero South drilling.

### 9.4.3 Airborne Z-Axis Tipper Electromagnetice (ZTEM) and Aeromagnetic Geophysics

During the first quarter of 2014 Geotech Limited (Geotech) was contracted to complete a 3,195 line-km helicopter-borne geophysical survey over the entire Goldquest concession package in the San Juan valley. The survey design utilized east-west oriented lines of a minimum length of 10 km with a spacing of 200 m, or 100 m over the core Romero Project area.

**Figure 9.1**
**2012-2013 IP Chargeability Results**

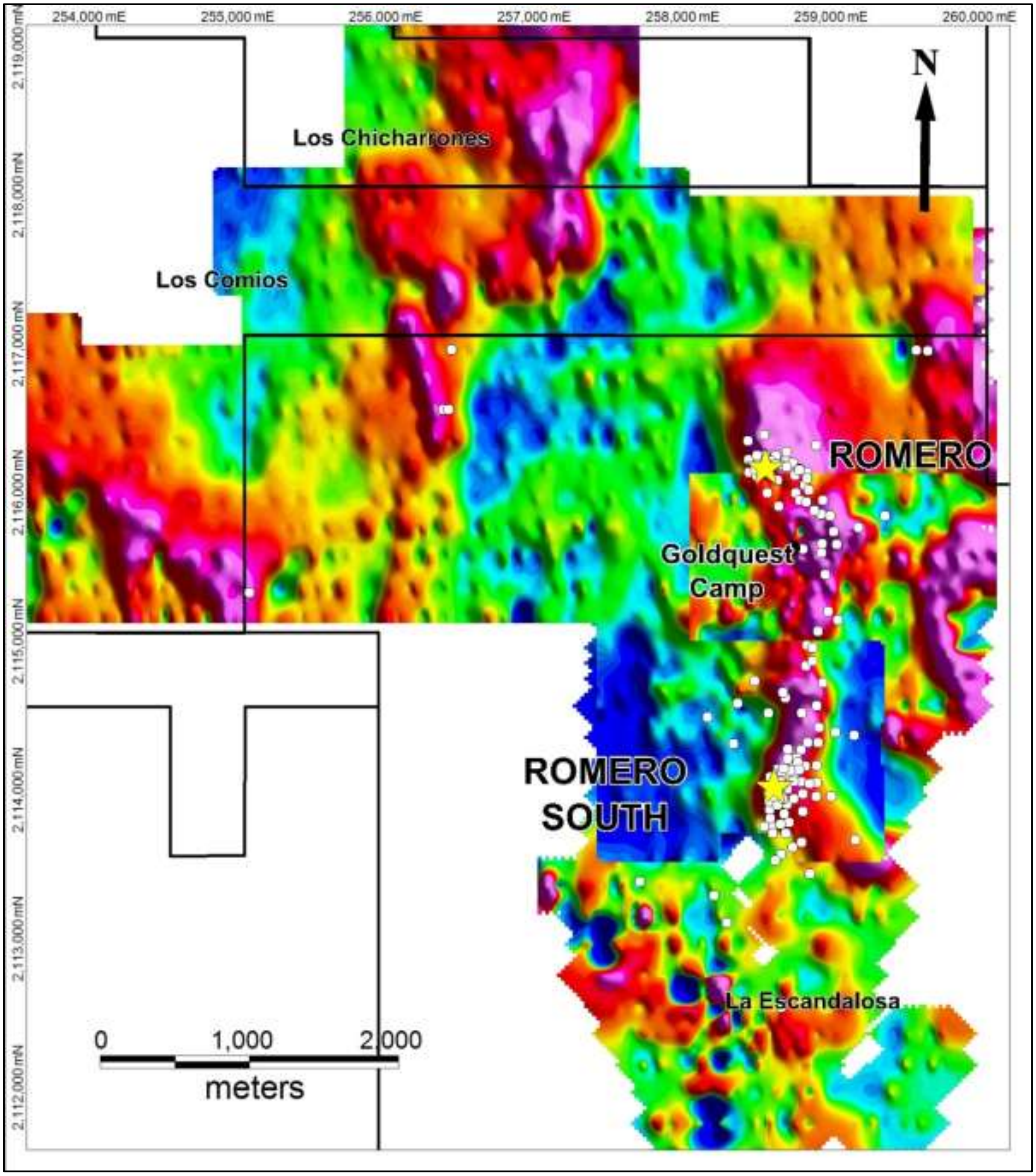



Figure supplied by GoldQuest (2013). White dots are drill hole collars.

In a ZTEM survey, a single vertical-dipole air-core receiver is flown over the survey area in a grid pattern, similar to regional airborne EM surveys. Three orthogonal axis, air-core coils are placed close to the survey site to measure the horizontal EM reference fields. Data from the four coils are used to obtain the Tzx and Tzy Tipper (Vozoff, 1972) components at minimum six frequencies in the 30 to 720 Hz band. The ZTEM data provides useful information on geology using resistivity contrasts while magnetometer data provides additional information on geology using magnetic susceptibility contrasts.

#### 9.4.4 2014 Ground IP Survey

Continuing on from the 2013 Insight IP work, GoldQuest has completed 200-m spaced gradient array coverage to the north and to the west of the Romero and Guama trends. To date the Insight IP survey consists of 94 km of Gradient IP and 19 km of Insight sections. These have produced chargeability and resistivity data looking to a depth of 500 m. A summary map of the compiled IP results can be seen in Figure 9.2.

### 9.5 DEPOSIT MODEL CONFIRMATION

In January, 2013 Dr. Richard Sillitoe visited the project to assist in the determination of a deposit model and any mineralization vectors which could assist in the delineation or discovery of more mineralization in the Romero trend area. In the course of his work, Dr. Sillitoe examined drill core and field exposures of rocks. His findings have been incorporated into the geological interpretations in this report.

### 9.6 SUMMARY OF EXPLORATION RESULTS

Geological mapping, stream sediment and soil geochemistry and geophysics have confirmed a broad zone of gold and base metal mineralization over a strike length of about 2.2 km, with geophysical anomalies extending over 3.0 km. Several targets for further exploration were identified in the area by geophysics, and soil sampling and trenching programs have assisted in the planning and execution of subsequent drilling programs.

**Figure 9.2**
**2014 Ground IP Gradient Chargeability Compilation**

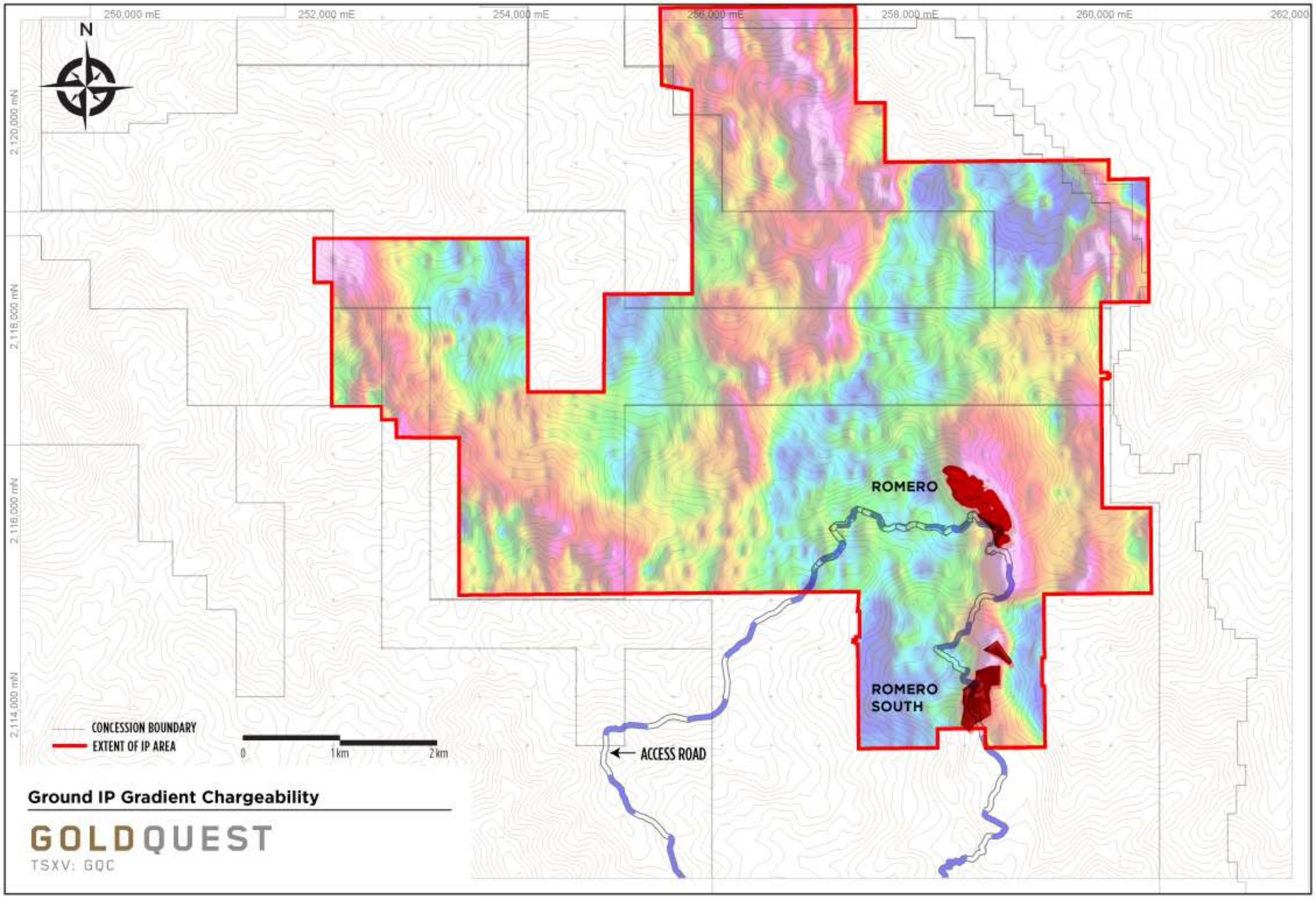



Figure supplied by GoldQuest (2014).

# 10.0 DRILLING

The information in this section is amended from Steedman and Gowans (2012).

## 10.1 ROMERO TREND DRILLING

Seven programs of diamond drilling (Table 10.1) have been carried out in and around the Romero trend, on the Tireo property, by GoldQuest. As of the database freeze date for the present resource estimate this amounted to a total of 39,628.75 m in 150 holes. The average hole length was 264.2 m with holes in the Romero South area generally being shorter than those at Romero. In the preparation of Steedman and Gowans (2012) only drilling results from Phase 1, 2, 3 and 4 had been verified. Drilling in Phases 5 to 7 was completed after Micon's first site visit in July, 2011. Only drilling results from Phases 1 to 4 were employed in the 2012 mineral resource estimate.

**Table 10.1**
**Drill Program Phases**

| Phase | Holes | Dates |
|---|---|---|
| 1 | LTP-01 to LTP-17 | March - May, 2006 |
| 2 | LTP-08 to LTP-33 | November, 2006 - January, 2007 |
| 3 | LTP-34 to LTP-42 | April-May, 2010 |
| 4 | LTP-43 to LTP-66 | December, 2010 - March, 2011 |
| 5 | LTP-67 to LTP-76 | November - December, 2011 |
| 6 | LTP-77 to LTP-91 | February - April, 2012 |
| 7 | LTP-92 to LTP-157* | June, 2012 - October, 2013 |

* - Only results up to hole 150 were available for the mineral resource estimate.

Drilling in Phase 7 continued well into 2013 and was occurring during Micon's 2013 site visit. Its purpose was principally to define the extents of the Romero deposit and to provide enough infill drilling at both Romero and Romero South to model variograms allowing for the planning of the required amount of drilling to raise the mineral resource to the indicated category.

Table 10.2 shows a list of all drill holes on the Romero project trend, broken down by phase. Also indicated are those holes which intersected either the Romero or Romero South mineralized wireframes and were used in the mineral resource estimate presented in this report. Those holes not designated are generally along the mineralized Romero trend, between the two deposits.

**Table 10.2**
**Romero Project Drill Holes**

| Hole-ID | Easting | Northing | Elevation | Length | Az | Dip | Zone Intercept |
|---|---|---|---|---|---|---|---|
| **Phase 1** | | | | | | | |
| LTP-01 | 258892 | 2115598 | 1089.78 | 148.44 | 270 | -65 | Romero |
| LTP-02 | 258890 | 2115598 | 1090.05 | 233.17 | 90 | -70 | Romero |
| LTP-03 | 258965 | 2115680 | 1065.04 | 149.35 | 270 | -60 | Romero |

| Hole-ID | Easting | Northing | Elevation | Length | Az | Dip | Zone Intercept |
|---|---|---|---|---|---|---|---|
| LTP-04 | 258987 | 2115595 | 1098.72 | 150.88 | 270 | -75 | Romero |
| LTP-05 | 258538 | 2114030 | 1076.82 | 19.79 | 270 | -60 | Romero South |
| LTP-06 | 258538.5 | 2114030 | 1076.96 | 99.2 | 310 | -60 | Romero South |
| LTP-07 | 258587 | 2113979 | 1109.6 | 109.73 | 310 | -75 | Romero South |
| LTP-08 | 258526 | 2113920 | 1111.79 | 80.72 | 270 | -80 | Romero South |
| LTP-09 | 258534 | 2113809 | 1104.81 | 79.24 | 304 | -75 | Romero South |
| LTP-10 | 258665 | 2113725 | 1124.67 | 97.62 | 304 | -75 | Romero South |
| LTP-11 | 258118 | 2114434 | 1080.21 | 41.75 | 160 | -60 | not designated |
| LTP-12 | 258321 | 2114527 | 1114.16 | 123.48 | 270 | -65 | not designated |
| LTP-13 | 258434 | 2114677 | 1121.8 | 67.5 | 270 | -60 | not designated |
| LTP-14 | 258929 | 2115143 | 1137.69 | 187.5 | 0 | -90 | not designated |
| LTP-15 | 257660 | 2113326 | 1190.65 | 126.7 | 0 | -90 | not designated |
| LTP-16 | 258246 | 2113051 | 1042.09 | 52.29 | 0 | -90 | not designated |
| LTP-17 | 258161 | 2113232 | 1055.57 | 45.72 | 0 | -90 | not designated |
| **Phase 2** | | | | | | | |
| LTP-18 | 258655 | 2114049 | 1120.61 | 268.3 | 0 | -90 | Romero South |
| LTP-19 | 258655 | 2113948 | 1142.84 | 121.92 | 0 | -90 | Romero South |
| LTP-20 | 258654 | 2113849 | 1129.88 | 102.11 | 0 | -90 | Romero South |
| LTP-21 | 258761 | 2113915 | 1150.79 | 106.68 | 0 | -90 | Romero South |
| LTP-22 | 258760 | 2113800 | 1146.66 | 115.82 | 0 | -90 | Romero South |
| LTP-23 | 258753 | 2113592 | 1126.36 | 105.16 | 0 | -90 | Romero South |
| LTP-24 | 258746 | 2113996 | 1163.89 | 129.54 | 0 | -90 | Romero South |
| LTP-25 | 258852 | 2113993 | 1179.35 | 143.26 | 0 | -90 | Romero South |
| LTP-26 | 258775 | 2114104 | 1115.1 | 307.24 | 0 | -90 | Romero South |
| LTP-27 | 258659 | 2114218 | 1120.73 | 170.69 | 0 | -90 | Romero South |
| LTP-28 | 258640 | 2114561 | 1111.69 | 89.92 | 0 | -90 | Romero South |
| LTP-29 | 258529 | 2114463 | 1082.9 | 85.34 | 0 | -90 | Romero South |
| LTP-30 | 258290 | 2114252 | 996.48 | 100.58 | 240 | -60 | not designated |
| LTP-31 | 258911 | 2115394 | 1103.62 | 150.88 | 0 | -90 | Romero |
| LTP-32 | 258759 | 2115564 | 1078.19 | 100.58 | 280 | -70 | Romero |
| LTP-33 | 259313 | 2115788 | 1186.96 | 251.46 | 0 | -90 | not designated |
| **Phase 3** | | | | | | | |
| LTP-34 | 258550 | 2113700 | 1125.51 | 82.93 | 0 | -90 | Romero South |
| LTP-35 | 258555 | 2113951 | 1093.29 | 89.95 | 0 | -90 | Romero South |
| LTP-36 | 258850 | 2113900 | 1155.05 | 134.16 | 0 | -90 | Romero South |
| LTP-37 | 258950 | 2113900 | 1167.37 | 170.74 | 0 | -90 | Romero South |
| LTP-38 | 259104 | 2114311 | 1275.36 | 323.2 | 180 | -75 | Romero South |
| LTP-39 | 258700 | 2114100 | 1104.31 | 180.2 | 0 | -90 | Romero South |
| LTP-40 | 258852.5 | 2113993 | 1179.48 | 192.09 | 0 | -90 | Romero South |
| LTP-41 | 258619 | 2114011 | 1107.56 | 112.81 | 300 | -75 | Romero South |
| LTP-42 | 258532 | 2113868 | 1108.23 | 74.7 | 0 | -90 | Romero South |
| **Phase 4** | | | | | | | |
| LTP-43 | 258539 | 2113755 | 1118.14 | 108.23 | 0 | -90 | Romero South |
| LTP-44 | 258555 | 2113650 | 1120.62 | 100.58 | 0 | -90 | Romero South |
| LTP-45 | 258498 | 2113696 | 1121.83 | 88.39 | 0 | -90 | Romero South |
| LTP-46 | 258608 | 2113714 | 1123.89 | 74.68 | 0 | -90 | Romero South |
| LTP-47 | 258717 | 2114156 | 1100.35 | 192.02 | 0 | -90 | Romero South |
| LTP-48 | 258700 | 2114050 | 1136.01 | 157.58 | 0 | -90 | Romero South |
| LTP-49 | 258700 | 2114000 | 1148.87 | 129.54 | 0 | -90 | Romero South |
| LTP-50 | 258805 | 2113986 | 1166.82 | 164.59 | 0 | -90 | Romero South |
| LTP-51 | 258646 | 2114089 | 1116.22 | 112.78 | 0 | -90 | Romero South |
| LTP-52 | 258590 | 2114084 | 1087.11 | 106.68 | 0 | -90 | Romero South |
| LTP-53 | 258697 | 2113885 | 1141.38 | 106.68 | 0 | -90 | Romero South |
| LTP-54 | 258632 | 2113783 | 1112.63 | 94.79 | 0 | -90 | Romero South |
| LTP-55 | 258644 | 2113652 | 1103.11 | 92.96 | 0 | -90 | Romero South |

| Hole-ID | Easting | Northing | Elevation | Length | Az | Dip | Zone Intercept |
|---|---|---|---|---|---|---|---|
| LTP-56 | 258590 | 2113842 | 1115.87 | 99.06 | 0 | -90 | Romero South |
| LTP-57 | 258668 | 2114010 | 1130.63 | 152.4 | 0 | -90 | Romero South |
| LTP-58 | 258615 | 2113511 | 1107.62 | 94.49 | 0 | -90 | Romero South |
| LTP-59 | 258810 | 2113381 | 1128.22 | 172.21 | 0 | -90 | not designated |
| LTP-60 | 258691 | 2113559 | 1111.53 | 94.49 | 0 | -90 | Romero South |
| LTP-61 | 258571 | 2113471 | 1102.63 | 143.26 | 0 | -90 | Romero South |
| LTP-62 | 258610 | 2113912 | 1135.91 | 121.92 | 0 | -90 | Romero South |
| LTP-63 | 258853 | 2114108 | 1150.08 | 419.1 | 0 | -90 | Romero South |
| LTP-64 | 258885 | 2115538 | 1104.17 | 178.31 | 0 | -90 | Romero |
| LTP-65 | 258944 | 2115788 | 1076.65 | 187.45 | 0 | -90 | Romero |
| LTP-66 | 258894 | 2115894 | 1071.62 | 172.21 | 0 | -90 | Romero |
| **Phase 5** | | | | | | | |
| LTP-67 | 258566 | 2113901 | 1110.63 | 85.34 | 0 | -90 | Romero South |
| LTP-68 | 258626 | 2113882 | 1133.47 | 108.2 | 0 | -90 | Romero South |
| LTP-69 | 258627 | 2113979 | 1128.13 | 124.97 | 0 | -90 | Romero South |
| LTP-70 | 258597 | 2113945 | 1121.09 | 105.16 | 0 | -90 | Romero South |
| LTP-71 | 258585 | 2114027 | 1098.48 | 73.15 | 0 | -90 | Romero South |
| LTP-72 | 258619 | 2114068 | 1102.79 | 114.34 | 0 | -90 | Romero South |
| LTP-73 | 258726 | 2114128 | 1098.66 | 153.92 | 0 | -90 | Romero South |
| LTP-74 | 258736 | 2114077 | 1105.85 | 124.97 | 0 | -90 | Romero South |
| LTP-75 | 258676 | 2114074 | 1130.16 | 124.97 | 0 | -90 | Romero South |
| LTP-76 | 258526 | 2113971 | 1088.8 | 54.86 | 0 | -90 | Romero South |
| **Phase 6** | | | | | | | |
| LTP-77 | 258746 | 2114213 | 1140.73 | 213.36 | 0 | -90 | Romero South |
| LTP-78 | 258792 | 2114261 | 1179.91 | 300.23 | 0 | -90 | Romero South |
| LTP-79 | 258870 | 2114363 | 1134.76 | 176.78 | 0 | -90 | Romero South |
| LTP-80-A | 259114 | 2113607 | 1144.09 | 243.23 | 0 | -90 | not designated |
| LTP-81 | 258854 | 2114510 | 1135.33 | 216.41 | 0 | -90 | Romero South |
| LTP-82 | 258779 | 2114780 | 1175.57 | 202.69 | 0 | -90 | not designated |
| LTP-83 | 258659 | 2114151 | 1071.44 | 138.68 | 0 | -90 | Romero South |
| LTP-84 | 258862 | 2114262 | 1171.42 | 292.61 | 0 | -90 | Romero South |
| LTP-85 | 258862 | 2115009 | 1183.09 | 97.54 | 0 | -90 | not designated |
| LTP-86 | 258894 | 2114664 | 1159.04 | 211.84 | 0 | -90 | Romero South |
| LTP-87 | 258826 | 2114811 | 1200.82 | 109.73 | 0 | -90 | not designated |
| LTP-88 | 258787 | 2114918 | 1216.03 | 109.73 | 0 | -90 | not designated |
| LTP-89 | 258838 | 2115824 | 1123.72 | 213.36 | 0 | -90 | Romero |
| LTP-90 | 258503 | 2116119 | 1115.17 | 265.23 | 0 | -90 | Romero |
| **Phase 7** | | | | | | | |
| LTP-91 | 258711 | 2115942 | 1077.96 | 234.7 | 0 | -90 | Romero |
| LTP-92 | 258485 | 2116109 | 1108.82 | 398.98 | 0 | -90 | Romero |
| LTP-93 | 258527 | 2116121 | 1119.17 | 432.82 | 0 | -90 | Romero |
| LTP-94 | 258506 | 2116143 | 1124.91 | 406.91 | 0 | -90 | Romero |
| LTP-95 | 258503 | 2116089 | 1096.8 | 287.45 | 180 | -80 | Romero |
| LTP-96 | 258577 | 2116137 | 1131.35 | 381 | 0 | -90 | Romero |
| LTP-97 | 258505 | 2116192 | 1129.82 | 401.42 | 0 | -90 | Romero |
| LTP-98 | 258577 | 2116190 | 1132.59 | 432.82 | 0 | -90 | Romero |
| LTP-99 | 258458 | 2116137 | 1116.87 | 461.66 | 0 | -90 | Romero |
| LTP-100 | 258643 | 2116151 | 1115.97 | 505.05 | 0 | -90 | Romero |
| LTP-101 | 258395 | 2116166 | 1125.46 | 417.58 | 0 | -90 | Romero |
| LTP-102 | 258450 | 2116192 | 1122.56 | 403.86 | 0 | -90 | Romero |
| LTP-103 | 258644 | 2116113 | 1101.64 | 468.82 | 0 | -90 | Romero |
| LTP-104 | 258452 | 2116053 | 1084.67 | 381 | 0 | -90 | Romero |
| LTP-105 | 258587 | 2116026 | 1079.26 | 231.65 | 0 | -60 | Romero |
| LTP-106 | 258520 | 2115942 | 1118.45 | 704.08 | 0 | -70 | Romero |
| LTP-107 | 258708 | 2116060 | 1091.49 | 413.31 | 0 | -90 | Romero |

| Hole-ID | Easting | Northing | Elevation | Length | Az | Dip | Zone Intercept |
|---|---|---|---|---|---|---|---|
| LTP-108 | 258587 | 2116026 | 1079.26 | 449.58 | 0 | -90 | Romero |
| LTP-109 | 258734.6 | 2115880 | 1110.87 | 296.85 | 0 | -90 | Romero |
| LTP-110 | 258587 | 2116026 | 1079.26 | 327.66 | 180 | -60 | Romero |
| LTP-111 | 258771.2 | 2115994.62 | 1116.85 | 528.63 | 0 | -90 | Romero |
| LTP-112 | 258722 | 2116153 | 1117.5 | 522.73 | 0 | -90 | Romero |
| LTP-113 | 258520 | 2115942 | 1118.45 | 621.79 | 0 | -90 | Romero |
| LTP-114 | 258771.2 | 2115994.62 | 1116.85 | 509.03 | 270 | -90 | Romero |
| LTP-115 | 258733.5 | 2116097.5 | 1115.95 | 498.35 | 0 | -90 | Romero |
| LTP-116 | 258440 | 2116098 | 1100.49 | 414.53 | 0 | -90 | Romero |
| LTP-117 | 258800 | 2115963 | 1115.67 | 750.11 | 0 | -90 | Romero |
| LTP-118 | 258735 | 2116096 | 1116.69 | 419.3 | 260 | -75 | Romero |
| LTP-119 | 258399 | 2116080 | 1111.21 | 451.1 | 0 | -90 | Romero |
| LTP-120 | 258543 | 2116157 | 1131.93 | 762.05 | 0 | -90 | Romero |
| LTP-121 | 258735 | 2116096 | 1116.69 | 192.47 | 260 | -75 | Romero |
| LTP-122 | 258800 | 2115963 | 1115.67 | 469.39 | 220 | -70 | Romero |
| LTP-123 | 258618 | 2116128 | 1118.77 | 505.97 | 0 | -90 | Romero |
| LTP-124 | 258789 | 2116039 | 1124.61 | 510.54 | 260 | -70 | Romero |
| LTP-125 | 258625 | 2114600 | 1117.89 | 516.3 | 90 | -60 | Romero South |
| LTP-126 | 258789 | 2116039 | 1124.61 | 522.73 | 0 | -90 | Romero |
| LTP-127 | 258648 | 2116216 | 1135.02 | 650.19 | 0 | -90 | Romero |
| LTP-128 | 258752 | 2114462 | 1092.17 | 530.35 | 135 | -82 | Romero South |
| LTP-129 | 258789 | 2115880 | 1128.31 | 477.62 | 0 | -90 | Romero |
| LTP-130 | 258631 | 2114087 | 1109.26 | 503.22 | 0 | -90 | Romero South |
| LTP-131 | 258789 | 2115879 | 1128 | 535.22 | 250 | -75 | Romero |
| LTP-132 | 258789 | 2115879 | 1128 | 534.94 | 180 | -65 | Romero |
| LTP-133 | 258977 | 2114329 | 1210.84 | 522.73 | 0 | -90 | Romero South |
| LTP-134 | 259132 | 2115711 | 1082.9 | 644.64 | 0 | -90 | not designated |
| LTP-135 | 258997 | 2115087 | 1182.84 | 450.4 | 180 | -65 | not designated |
| LTP-136 | 258598 | 2115851 | 1091.43 | 614.17 | 360 | -80 | Romero |
| LTP-137 | 258499 | 2116330 | 1202.96 | 594.87 | 180 | -75 | Romero |
| LTP-138 | 258387 | 2116289 | 1136.88 | 557.78 | 0 | -90 | Romero |
| LTP-139 | 258565 | 2113972 | 1095.62 | 118.87 | 0 | -90 | Romero South |
| LTP-140 | 258584 | 2116146 | 1132.95 | 573.02 | 200 | -80 | Romero |
| LTP-141 | 258606 | 2113996 | 1118.21 | 150.88 | 0 | -90 | Romero South |
| LTP-142 | 258610 | 2113962 | 1127.99 | 111.25 | 0 | -90 | Romero South |
| LTP-143 | 258584 | 2116146 | 1132.95 | 388.62 | 200 | -70 | Romero |
| LTP-144A | 258648 | 2116117 | 1100.91 | 451.1 | 200 | -80 | Romero |
| LTP-145 | 258648 | 2116117 | 1100.91 | 460.25 | 200 | -70 | Romero |
| LTP-146 | 258835 | 2115822 | 1124.86 | 350 | 190 | -70 | Romero |
| LTP-147 | 258782 | 2115879 | 1130.64 | 377.33 | 0 | 0 | Romero |
| LTP-148 | 258880 | 2115798 | 1108.3 | 262.13 | 0 | 0 | Romero |
| LTP-149 | 258880 | 2115798 | 1108.3 | 316.99 | 0 | 0 | Romero |
| LTP-150 | 258790 | 2116079 | 1140 | 470.92 | 225 | -60 | Romero |
| LTP-151 | 258880 | 2115798 | 1119 | 364.24 | 180 | -70 | Romero |
| LTP-152 | 258880 | 2115798 | 1119 | 411.48 | 120 | -70 | Romero |
| LTP-153 | 258790 | 2116079 | 1140 | 371.86 | 0 | -90 | Romero |
| LTP-154 | 258880 | 2115798 | 1119 | 268.22 | 45 | -70 | Romero |
| LTP-155 | 258824 | 2114902 | 1249 | 548.64 | 95 | -75 | Romero |
| LTP-156 | 258850 | 2116261 | 1210 | 650.75 | 250 | -70 | Romero |
| LTP-157 | 258612 | 2112482 | 992 | 253.9 | 220 | -50 | Higuera |

Easting and Northing are coordinates are in UTM NAD 27 Conus.

Azimuths are in degrees relative to grid north. They were corrected for magnetic declination of 10°19’ west.

The drill contractor for all seven programs was Energold Drilling Corporation of Vancouver using man-portable, hydraulic Hydracore Gopher diamond drills, with NTW (56.0 mm diameter) and BTW (42.0 mm diameter) core (see Figure 10.1). Supplies were brought to the rigs and core, sealed in wooden boxes, was transported out by mules rented from the local farmers.

**Figure 10.1**
**Drill Rig at Romero**

The Phase 1 program comprised 17 drill holes for 1,813.08 m in Hondo Valle, Los Tomates, Romero South and La Higuera (Hoyo Prieto) (holes LTP-01 to LTP-17). They were drilled between March 17, 2006 and May 6, 2006. The program is described in reports by MacDonald (2006) and Redwood (2006a). Magnetic susceptibility readings were taken from 10 holes from the Phase 1 program.

The Phase 2 program comprised 16 holes for a total of 2,349.48 m at Romero South and Hondo Valle (holes LTP-18 to LTP-33). The drilling was carried out between November 16, 2006 and January 29, 2007. The program is described in a report by Vega (2007).

The Phase 3 program was carried out at Romero South and comprised nine holes for 1,360.78 m (holes LTP-34 to LTP-42). It was carried out between April 15, 2010 and May 17, 2010. The program is described in a report by Gonzalez (2010).

The Phase 4 program comprised 24 holes for a total of 3,364.40 m including 21 holes in the Romero South area and three at Hondo Valle which were later added to the Romero interpretation (holes LTP-43 to LTP-66). The drilling was carried out between December 18, 2010 and March 22, 2011. The program is described in a report by Gonzalez (2011).

The Phase 5 program comprised 10 holes for a total of 1,069.88 m at Romero South (holes LTP-67 to LTP-76). The drilling was carried out between November 14, 2011 and December 6, 2011. The program is described in a report by Gonzalez (2011).

The Phase 6 and 7 programs consisted of 74 drill holes for 29,671.13 m at Romero/Hondo Valle, Los Tomates, and Romero South (holes LTP-77 to LTP-150). There principal purpose was the delineation and definition of Romero and Romero South. The holes were drilled between February, 2012 and October, 2013 with intermittent brief breaks. The early portions of the program are described in reports by Gonzalez (2012).

Down hole surveys were carried out from Phase 4 onwards. Drill hole deviations (if any) are expected to be minimal since most of the early drill holes are fairly shallow (i.e. averaging 106.65 m, 146.84 m, 151.20 m and 140.18 m for Phases 1 to 4 respectively) and only a few exceed 250 m.

Plan views of the drill hole locations at Romero and Romero South are shown on satellite photos in Figure 10.2 and Figure 10.3, respectively.

**Figure 10.2**
**Location of Drill Holes at Romero**

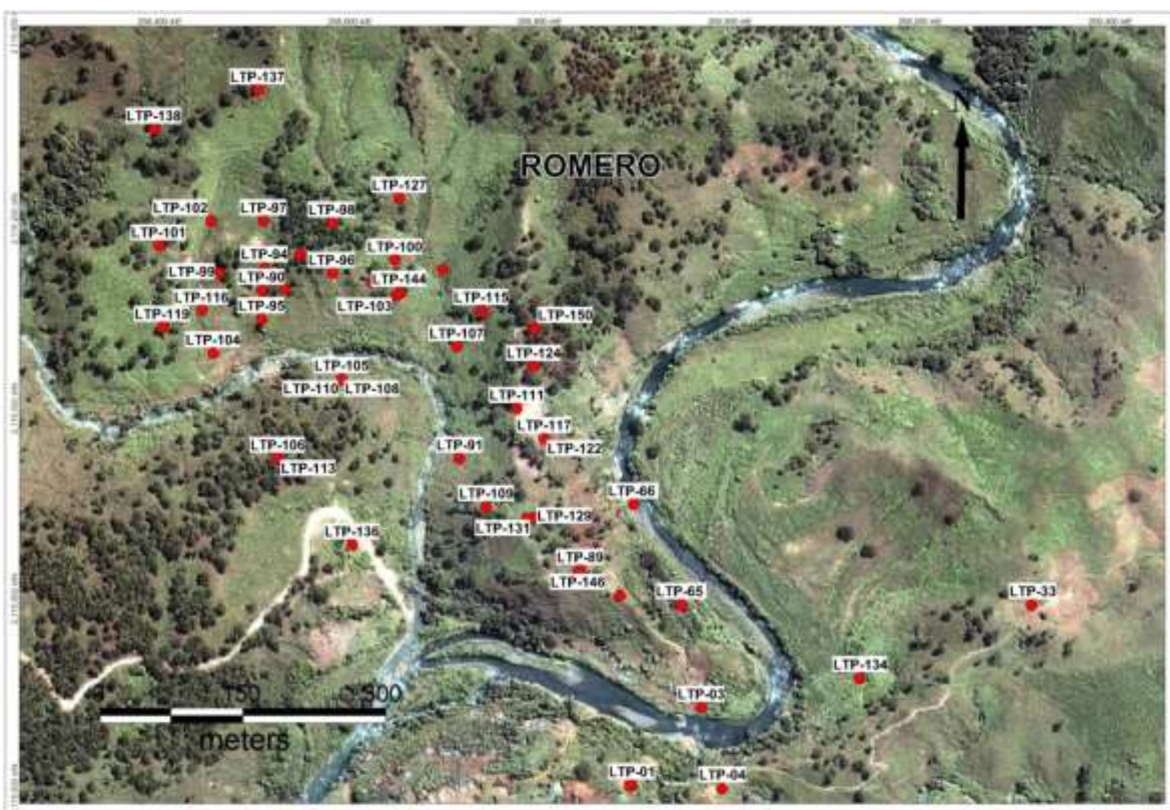



Figure supplied by GoldQuest, 2013.

**Figure 10.3**
**Location of Drill Holes at Romero South**

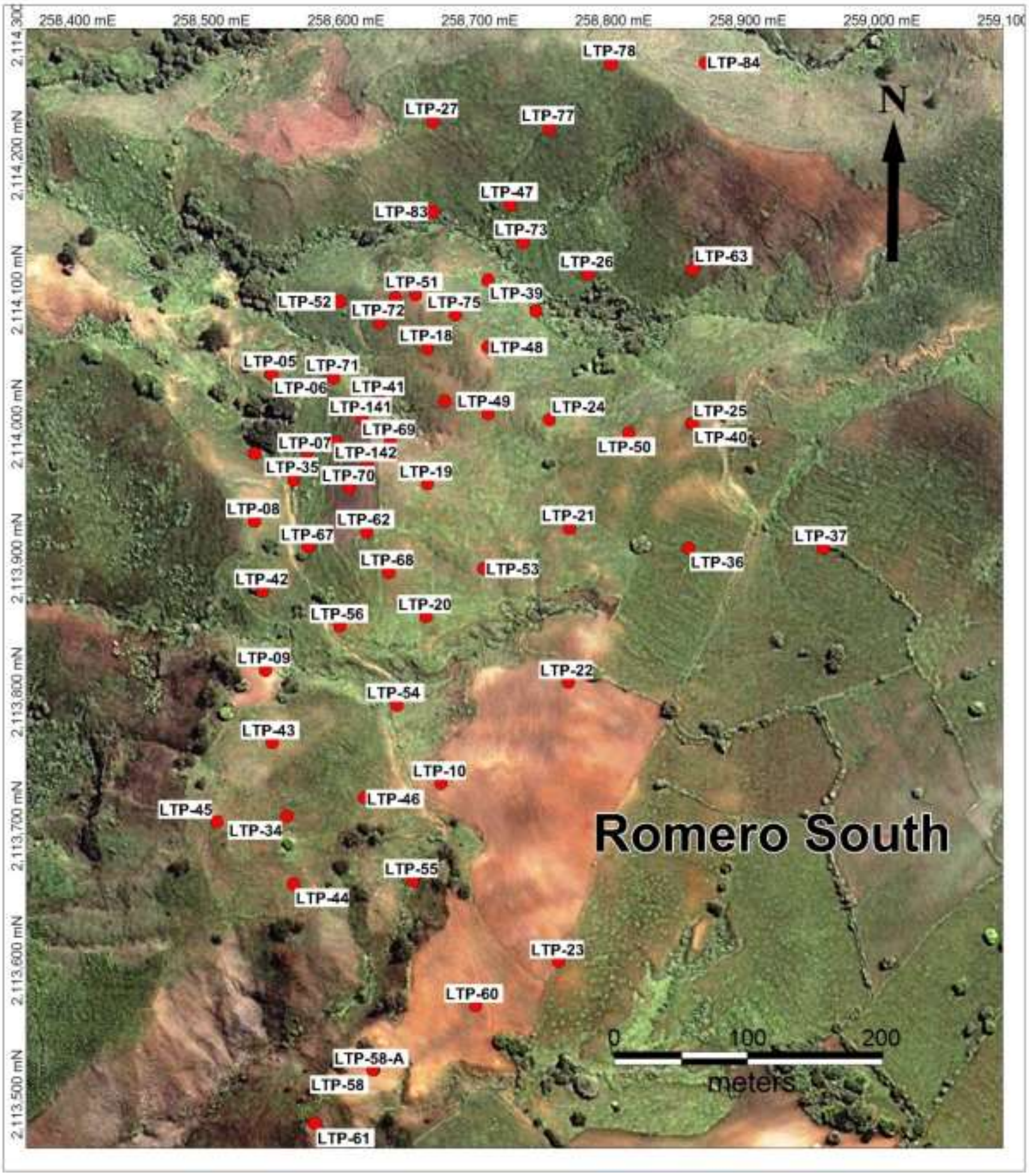


Figure supplied by GoldQuest, 2013.

The geological drill logs record recovery, rock quality designation (RQD), structures, lithology, alteration and mineralization.

Drill platforms, mud sumps and access paths were re-contoured and re-vegetated after use.

Drill holes were capped and marked with plastic pipe set in cement.

Drill hole results, as disclosed in press releases by GoldQuest, are presented in Table 10.3 and Table 10.4 below. Table 10.3 shows those results available as of the 2012 mineral resource estimate (Steedman and Gowans, 2012). Table 10.4 shows those results disclosed afterward. Missing hole numbers were drilled on targets other than Romero and Romero South and are not reported here. GoldQuest did not routinely disclose copper assays until part way through the drill programs when the potential importance of those results became more apparent.

**Table 10.3**
**Table of Significant Gold Intersections from the Romero Project – Phase 1 to Early Phase 6**

| Hole No. | From (m) | To (m) | Interval (m) | Au (g/t) | Cu (%) | Location |
|---|---|---|---|---|---|---|
| LTP-01 | 0.00 | 20.00 | 20.00 | 0.98 | * | Hondo Valle |
| LTP-02 | 0.00 | 42.00 | 42.00 | 1.68 | * | Hondo Valle |
| including | 0.00 | 20.00 | 20.00 | 2.65 | * | |
| LTP-03 | 8.00 | 149.35 | 141.35 | 0.31 | * | Hondo Valle |
| including | 8.00 | 100.00 | 92.00 | 0.35 | * | |
| LTP-05 | 0.00 | 14.00 | 14.00 | 0.50 | * | Escandalosa Sur |
| LTP-06 | 0.00 | 20.00 | 20.00 | 0.26 | * | Escandalosa Sur |
| LTP-07 | 26.00 | 86.00 | 60.00 | 2.07 | * | Escandalosa Sur |
| including | 38.00 | 76.00 | 38.00 | 3.15 | * | |
| including | 38.00 | 56.00 | 18.00 | 6.11 | * | |
| LTP-08 | 38.00 | 64.00 | 26.00 | 0.84 | * | Escandalosa Sur |
| including | 38.00 | 50.00 | 12.00 | 1.74 | * | |
| LTP-09 | 34.00 | 50.00 | 16.00 | 2.10 | * | Escandalosa Sur |
| including | 34.00 | 42.00 | 8.00 | 3.81 | * | |
| LTP-10 | 60.00 | 84.00 | 22.00 | 0.31 | * | Escandalosa Sur |
| LTP-14 | 8.00 | 58.00 | 50.00 | 0.28 | * | Hondo Valle |
| LTP-18 | 60.00 | 108.00 | 48.00 | 0.29 | * | Escandalosa Sur |
| LTP-19 | 78.46 | 110.56 | 32.10 | 0.37 | * | Escandalosa Sur |
| LTP-20 | 65.00 | 87.00 | 22.00 | 0.27 | * | Escandalosa Sur |
| LTP-21 | 78.00 | 104.00 | 26.00 | 0.24 | * | Escandalosa Sur |
| LTP-22 | 74.00 | 112.00 | 38.00 | 0.17 | * | Escandalosa Sur |
| LTP-23 | 62.00 | 70.00 | 8.00 | 0.18 | * | Escandalosa Sur |
| LTP-24 | 102.46 | 129.54 | 27.08 | 0.33 | * | Escandalosa Sur |
| LTP-26 | 124.00 | 153.90 | 29.90 | 0.20 | * | Escandalosa Sur |
| LTP-27 | 115.00 | 127.00 | 12.00 | 0.11 | * | Escandalosa Sur |
| including | 161.00 | 170.69 | 9.69 | 0.15 | * | |
| LTP-28 | 36.00 | 49.28 | 13.28 | 0.15 | * | Los Tomates |
| LTP-30 | 96.00 | 100.58 | 4.58 | 0.13 | * | Los Tomates |
| LTP-31 | 12.00 | 118.00 | 106.00 | 0.11 | * | Hondo Valle |
| including | 12.00 | 35.46 | 23.46 | 0.21 | * | Hondo Valle |
| LTP-32 | 8.00 | 36.45 | 28.45 | 0.36 | * | Hondo Valle |
| including | 26.00 | 36.45 | 10.45 | 0.84 | * | Hondo Valle |
| LTP-34 | 61.02 | 68.11 | 7.09 | 5.85 | 0.30 | Escandalosa Sur |
| LTP-35 | 18.00 | 56.00 | 38.00 | 0.84 | 0.08 | Escandalosa Sur |
| including | 28.00 | 36.00 | 8.00 | 3.12 | 0.33 | |
| LTP-36 | No significant values | | | | | |

| Hole No. | From (m) | To (m) | Interval (m) | Au (g/t) | Cu (%) | Location |
|---|---|---|---|---|---|---|
| LTP-37 | No significant values | | | | | |
| LTP-38 | 282.00 | 318.00 | 36.00 | 0.12 | 0.02 | Escandalosa Sur |
| LTP-39 | 66.00 | 92.00 | 26.00 | 11.39 | 0.28 | Escandalosa Sur |
| including | 68.00 | 86.00 | 18.00 | 16.33 | 0.29 | |
| and | 101.63 | 142.00 | 40.37 | 0.21 | 0.07 | |
| LTP-40 | 178.00 | 192.09 | 14.09 | 0.18 | 0.02 | Escandalosa Sur |
| LTP-41 | 25.00 | 78.00 | 53.00 | 3.02 | 0.09 | Escandalosa Sur |
| including | 36.00 | 52.00 | 16.00 | 9.39 | 0.18 | |
| LTP-42 | 35.23 | 58.00 | 22.77 | 1.33 | 0.10 | Escandalosa Sur |
| including | 38.00 | 48.00 | 10.00 | 2.74 | 0.20 | |
| LPT-43 | No significant values | | | | | |
| LPT-44 | No significant values | | | | | |
| LTP-45 | 58.88 | 62.05 | 3.17 | 2.62 | * | Escandalosa Sur |
| LTP-46 | 56.48 | 62.00 | 5.52 | 1.01 | * | Escandalosa Sur |
| LTP-47 | 110.00 | 126.00 | 16.00 | 2.45 | * | Escandalosa Sur |
| LTP-48 | 88.78 | 98.00 | 9.22 | 3.54 | * | Escandalosa Sur |
| LTP-49 | 74.00 | 94.00 | 20.00 | 1.32 | 0.39 | Escandalosa Sur |
| including | 74.00 | 86.00 | 12.00 | 2.04 | 0.24 | |
| LPT-50 | No significant values | | | | | |
| LPT-51 | No significant values | | | | | |
| LTP-52 | 46.00 | 58.00 | 12.00 | 0.32 | * | Escandalosa Sur |
| LTP-53 | 84.00 | 92.00 | 8.00 | 0.46 | * | Escandalosa Sur |
| LTP-54 | 57.00 | 63.00 | 6.00 | 0.40 | * | Escandalosa Sur |
| LPT-55 | No significant values | | | | | |
| LTP-56 | 42.37 | 69.06 | 26.69 | 0.37 | nsv | Escandalosa Sur |
| including | 55.00 | 61.00 | 6.00 | 0.97 | nsv | |
| LTP-57 | 56.68 | 84.00 | 27.32 | 0.17 | nsv | Escandalosa Sur |
| including | 76.00 | 82.00 | 6.00 | 0.38 | nsv | |
| LPT-58 | No significant values | | | | | |
| LPT-59 | No significant values | | | | | |
| LPT-60 | No significant values | | | | | |
| LPT-61 | No significant values | | | | | |
| LTP-62 | 63.50 | 100.00 | 36.50 | 2.74 | * | Escandalosa Sur |
| including | 63.50 | 76.63 | 13.13 | 6.60 | * | |
| LTP-63 | No significant values | | | | | Escandalosa |
| LTP-64 | 1.07 | 56.00 | 54.93 | 0.57 | nsv | Hondo Valle |
| including | 1.07 | 16.00 | 14.93 | 0.78 | nsv | |
| LTP-65 | 50.00 | 79.00 | 29.00 | 2.18 | 0.25 | Hondo Valle |
| including | 58.00 | 75.00 | 17.00 | 3.45 | 0.42 | |
| including | 67.61 | 69.05 | 1.44 | 14.20 | 2.04 | |
| LTP-66 | 111.82 | 133.97 | 22.15 | 0.66 | 0.12 | Hondo Valle |
| LTP-67 | 34.00 | 42.00 | 8.00 | 1.95 | * | Escandalosa Sur |
| | 51.95 | 56.00 | 4.05 | 0.95 | * | Escandalosa Sur |
| LTP-68 | 84.00 | 88.13 | 4.13 | 0.78 | * | Escandalosa Sur |
| LTP-69 | 56.00 | 84.00 | 28.00 | 3.57 | * | Escandalosa Sur |
| including | 56.00 | 76.00 | 20.00 | 4.87 | * | |
| and | 96.00 | 100.00 | 4.00 | 0.98 | * | |
| LTP-70 | 46.00 | 60.00 | 14.00 | 5.34 | * | Escandalosa Sur |
| and | 88.00 | 94.00 | 6.00 | 1.40 | * | |

| Hole No. | From (m) | To (m) | Interval (m) | Au (g/t) | Cu (%) | Location |
|---|---|---|---|---|---|---|
| LTP-71 | 20.00 | 40.00 | 20.00 | 4.04 | * | Escandalosa Sur |
| LTP-72 | 64.00 | 68.00 | 4.00 | 1.51 | * | Escandalosa Sur |
| and | 96.00 | 100.00 | 4.00 | 2.18 | * | |
| LTP-73 | 75.33 | 82.00 | 6.67 | 2.33 | * | Escandalosa Sur |
| and | 100.00 | 116.00 | 16.00 | 3.30 | * | |
| LTP-74 | 70.00 | 88.00 | 18.00 | 1.01 | * | Escandalosa Sur |
| and | 98.00 | 110.00 | 12.00 | 0.83 | * | |
| LTP-75 | 85.78 | 102.00 | 16.22 | 5.50 | * | Escandalosa Sur |
| including | 88.00 | 99.68 | 11.68 | 7.51 | * | |
| LTP-76 | 12.00 | 24.00 | 12.00 | 6.80 | * | Escandalosa Sur |
| LTP-77 | 160.00 | 168.00 | 8.00 | 0.72 | nsv | Escandalosa Sur |
| and | 198.00 | 202.00 | 4.00 | 0.73 | nsv | |
| LTP-79 | 52.27 | 68.00 | 15.73 | 0.91 | nsv | Escandalosa Sur |
| including | 60.00 | 68.00 | 8.00 | 1.28 | nsv | |
| LTP-81 | 154.00 | 166.00 | 12.00 | 0.89 | nsv | Los Tomates |
| and | 194.00 | 198.00 | 4.00 | 0.55 | nsv | |
| LTP-82 | 50.00 | 54.00 | 4.00 | 0.33 | nsv | Los Tomates |
| LTP-83 | 34.00 | 56.00 | 22.00 | 5.99 | 0.23 | Escandalosa Sur |
| including | 38.00 | 52.00 | 14.00 | 9.07 | 0.24 | |
| LTP-84 | 264.00 | 271.90 | 7.90 | 2.96 | 0.52 | Escandalosa Sur |
| and | 278.00 | 282.00 | 4.00 | 0.72 | nsv | |
| LTP-85 | 26.60 | 36.61 | 10.01 | 0.53 | nsv | Hondo Valle |
| LTP-86 | 136.00 | 138.00 | 2.00 | 0.34 | nsv | Los Tomates |
| LTP-87 | 74.00 | 78.00 | 4.00 | 0.38 | nsv | Los Tomates Norte |
| LTP-88 | 64.00 | 70.00 | 6.00 | 0.44 | nsv | Los Tomates Norte |
| LTP-89 | 130.00 | 151.43 | 21.43 | 0.66 | 0.34 | Hondo Valle |
| including | 146.00 | 151.43 | 5.43 | 1.69 | 0.97 | |
| and | 177.00 | 205.00 | 28.00 | 0.67 | 0.13 | |
| including | 195.00 | 205.00 | 10.00 | 1.27 | 0.12 | |

* = no value reported, nsv = no significant values

**Table 10.4**
**Table of Significant Gold Intersections from the Romero Project – Late Phase 6 and Phase 7**

| Hole_ID | From (m) | To (m) | Interval (m) | Uncut Gold Grade (g/t) | Copper (%) | Gold Grade (cut to 50 g/t) |
|---|---|---|---|---|---|---|
| LTP-90 | 33.00 | 264.00 | 231.00 | 2.42 | 0.44 | |
| including | 33.00 | 91.00 | 58.00 | 1.36 | 0.04 | |
| including | 200.00 | 258.00 | 58.00 | 4.70 | 0.78 | |
| including | 103.74 | 264.00 | 160.26 | 2.90 | 0.62 | |
| including | 103.74 | 148.00 | 44.26 | 3.53 | 0.77 | |
| including | 180.00 | 203.97 | 23.97 | 1.14 | 0.78 | |
| including | 216.00 | 258.00 | 42.00 | 6.26 | 1.04 | |
| including | 216.00 | 228.00 | 12.00 | 16.95 | 2.14 | |
| LTP-91 | 186.00 | 222.00 | 36.00 | 1.14 | 0.37 | |
| including | 191.95 | 206.00 | 14.05 | 2.36 | 0.72 | |
| or | 204.00 | 234.70 | 34.70 | 0.48 | 0.17 | |
| LTP-92 | 28.20 | 82.00 | 53.80 | 0.63 | 0.02 | 0.63 |
| and | 120.00 | 144.00 | 24.00 | 7.50 | 0.86 | 6.88 |

| Hole_ID | From (m) | To (m) | Interval (m) | Uncut Gold Grade (g/t) | Copper (%) | Gold Grade (cut to 50 g/t) |
|---|---|---|---|---|---|---|
| and | 212.50 | 372.00 | 159.50 | 4.45 | 0.95 | 4.14 |
| including | 212.50 | 288.00 | 75.50 | 9.01 | 1.06 | 8.35 |
| including | 243.93 | 288.00 | 44.07 | 15.03 | 1.43 | 13.90 |
| including | 320.00 | 346.00 | 26.00 | 0.54 | 2.04 | 0.54 |
| LTP-93 | 44.58 | 100.00 | 55.42 | 1.27 | 0.03 | 1.27 |
| and | 119.97 | 378.00 | 258.03 | 4.47 | 1.27 | 3.44 |
| including | 126.00 | 324.47 | 198.47 | 5.69 | 1.54 | 4.34 |
| LTP-94 | 68.00 | 95.21 | 27.21 | 0.67 | 0.05 | 0.67 |
| and | 131.23 | 366.00 | 234.77 | 7.88 | 1.43 | 4.71 |
| including | 139.00 | 349.00 | 210.00 | 8.77 | 1.56 | 5.21 |
| including | 142.50 | 246.12 | 103.62 | 13.17 | 1.55 | 7.74 |
| including | 142.50 | 178.85 | 36.35 | 28.16 | 1.90 | 14.88 |
| LTP-95 | 24.41 | 42.00 | 17.59 | 1.79 | 0.03 | 1.79 |
| and | 54.00 | 91.75 | 37.75 | 0.60 | 0.01 | 0.60 |
| and | 184.00 | 285.90 | 101.90 | 0.73 | 0.15 | 0.73 |
| LTP-96 | 122.49 | 311.00 | 188.51 | 3.14 | 1.07 | 2.83 |
| including | 169.12 | 203.00 | 33.88 | 14.21 | 1.38 | 12.48 |
| and | 346.84 | 381.00 | 34.16 | 0.45 | 0.59 | 0.45 |
| LTP-97 | 185.48 | 222.59 | 37.11 | 0.57 | 0.28 | 0.57 |
| and | 230.00 | 278.00 | 48.00 | 1.41 | 0.21 | 1.41 |
| and | 312.00 | 391.00 | 79.00 | 2.33 | 0.29 | 2.33 |
| LTP-98 | 184.00 | 294.00 | 110.00 | 0.57 | 0.24 | 0.57 |
| including | 220.00 | 270.00 | 50.00 | 1.00 | 0.32 | 1.00 |
| and | 361.05 | 432.81 | 71.76 | 0.53 | 0.16 | 0.53 |
| LTP-99 | 124.10 | 164.00 | 39.90 | 0.62 | 0.07 | 0.62 |
| and | 254.34 | 335.45 | 81.11 | 0.51 | 1.31 | 0.51 |
| and | 367.86 | 400.81 | 32.95 | 0.45 | 0.03 | 0.45 |
| LTP-100 | 184.00 | 210.00 | 26.00 | 1.13 | 0.30 | 1.13 |
| and | 240.00 | 256.00 | 16.00 | 0.80 | 0.16 | 0.80 |
| and | 353.32 | 476.00 | 122.68 | 2.64 | 0.33 | 2.50 |
| including | 398.00 | 442.00 | 44.00 | 6.35 | 0.53 | 5.97 |
| LTP-101 | 268.00 | 289.00 | 21.00 | 1.89 | 0.07 | 1.89 |
| and | 388.00 | 400.00 | 12.00 | 0.17 | 0.01 | 0.17 |
| LTP-102 | 173.85 | 194.00 | 20.15 | 0.43 | 0.04 | 0.43 |
| and | 228.00 | 274.00 | 46.00 | 1.01 | 0.48 | 1.01 |
| and | 296.00 | 338.00 | 42.00 | 0.46 | 0.64 | 0.46 |
| and | 374.00 | 388.00 | 14.00 | 0.21 | 0.01 | 0.21 |
| LTP-103 | 193.37 | 425.00 | 231.63 | 2.04 | 0.30 | 1.91 |
| including | 193.37 | 229.00 | 35.63 | 5.08 | 0.53 | 5.08 |
| including | 241.00 | 309.00 | 68.00 | 2.84 | 0.24 | 2.38 |
| including | 332.65 | 425.00 | 92.35 | 1.06 | 0.27 | 1.06 |
| LTP-104 | 164.00 | 246.00 | 82.00 | 0.61 | 0.20 | 0.61 |
| LTP-105 | 60.00 | 99.00 | 39.00 | 1.04 | 0.10 | |
| and | 119.47 | 231.65 | 112.18 | 0.87 | 0.43 | |
| including | 119.47 | 149.00 | 29.53 | 2.16 | 0.47 | |
| LTP-106 | 195.00 | 361.00 | 166.00 | 0.67 | 0.16 | |
| including | 203.00 | 287.00 | 84.00 | 0.91 | 0.20 | |
| LTP-107 | 145.00 | 246.00 | 101.00 | 1.60 | 0.74 | |
| including | 206.00 | 242.00 | 36.00 | 3.52 | 1.07 | |

| Hole_ID | From (m) | To (m) | Interval (m) | Uncut Gold Grade (g/t) | Copper (%) | Gold Grade (cut to 50 g/t) |
|---|---|---|---|---|---|---|
| LTP-108 | 64.79 | 109.46 | 44.67 | 1.49 | 0.03 | |
| and | 142.00 | 299.00 | 157.00 | 1.07 | 0.40 | |
| including | 165.50 | 202.69 | 37.19 | 3.31 | 1.00 | |
| LTP-109 | 130.00 | 145.68 | 15.68 | 0.42 | 0.01 | |
| LTP-110 | 97.97 | 109.73 | 11.76 | 0.55 | 0.01 | |
| and | 186.35 | 210.70 | 24.35 | 0.43 | 0.05 | |
| LTP-111 | 163.00 | 243.00 | 80.00 | 0.93 | 0.85 | |
| including | 187.00 | 239.00 | 52.00 | 1.31 | 1.24 | |
| including | 191.75 | 227.00 | 35.25 | 1.58 | 1.65 | |
| including | 191.75 | 223.00 | 31.25 | 1.71 | 1.63 | |
| LTP-112 | 188.75 | 204.00 | 15.25 | 0.27 | 0.03 | |
| and | 511.00 | 515.00 | 4.00 | 1.73 | 0.08 | |
| LTP-113 | No significant results | | | | | |
| LTP-114 | 237.00 | 301.00 | 64.00 | 0.93 | 0.16 | |
| LTP-115 | No significant results | | | | | |
| LTP-116 | 243.00 | 328.00 | 85.00 | 0.79 | 0.89 | |
| LTP-117 | 173.00 | 239.00 | 66.00 | 0.47 | 0.16 | |
| LTP-118 | 201.00 | 418.50 | 217.50 | 0.74 | 0.40 | |
| including | 273.22 | 322.00 | 48.78 | 2.06 | 0.71 | |
| LTP-119 | No significant results | | | | | |
| LTP-120 | 73.00 | 104.84 | 31.84 | 1.02 | 0.03 | |
| and | 131.00 | 165.00 | 34.00 | 0.32 | 0.22 | |
| and | 183.00 | 420.00 | 237.00 | 0.67 | 0.43 | |
| including | 335.00 | 392.00 | 57.00 | 2.16 | 0.85 | |
| LTP-121 | Hole stopped due to drilling problems | | | | | |
| LTP-125 | 63.08 | 68.58 | 5.50 | 0.36 | - | 0.36 |
| and | 354.00 | 369.00 | 15.00 | 0.36 | - | 0.36 |
| and | 407.00 | 413.00 | 6.00 | 0.35 | - | 0.35 |
| LTP-126 | 176.45 | 209.00 | 32.55 | 0.17 | - | 0.17 |
| and | 221.00 | 249.00 | 28.00 | 0.17 | - | 0.17 |
| LTP-127 | 410.00 | 458.00 | 48.00 | 0.17 | 0.04 | 0.17 |
| | 480.36 | 495.00 | 14.64 | 0.28 | 0.17 | 0.28 |
| LTP-128 | 92.00 | 134.00 | 42.00 | 0.57 | - | 0.57 |
| and | 245.00 | 261.00 | 16.00 | 0.28 | - | 0.28 |
| and | 346.00 | 382.00 | 36.00 | 0.61 | - | 0.61 |
| LTP-129 | 210.00 | 216.00 | 6.00 | 1.68 | 0.66 | 1.68 |
| and | 234.00 | 265.00 | 31.00 | 0.45 | 0.13 | 0.45 |
| LTP-130 | 79.35 | 89.46 | 10.11 | 2.72 | 0.09 | 2.72 |
| and | 124.00 | 140.00 | 16.00 | 0.76 | 0.35 | 0.76 |
| LTP-131 | 212.00 | 240.00 | 28.00 | 0.42 | 0.06 | 0.42 |
| LTP-132 | 136.00 | 266.00 | 130.00 | 1.22 | 0.24 | 1.22 |
| including | 185.03 | 202.04 | 17.01 | 6.21 | 0.90 | 6.21 |
| LTP-133 | 281.43 | 318.00 | 36.57 | 0.38 | 0.12 | 0.38 |
| LTP-134 | No significant result | | | | | |
| LTP-135 | 442.80 | 449.58 | 6.78 | 4.62 | 0.01 | 4.62 |
| LTP-136 | 526.00 | 538.00 | 12.00 | 0.63 | 0.07 | 0.63 |
| LTP-137 | 250.87 | 310.22 | 59.35 | 0.53 | 0.06 | 0.53 |
| and | 380.00 | 502.72 | 122.72 | 0.92 | 0.24 | 0.92 |
| including | 400.83 | 466.00 | 65.17 | 1.30 | 0.31 | 1.30 |

| Hole_ID | From (m) | To (m) | Interval (m) | Uncut Gold Grade (g/t) | Copper (%) | Gold Grade (cut to 50 g/t) |
|---|---|---|---|---|---|---|
| LTP-138 | 129.85 | 164.69 | 34.84 | 0.53 | 0.05 | 0.53 |
| and | 210.00 | 243.47 | 33.47 | 0.62 | 0.03 | 0.62 |
| LTP-139 | 21.00 | 42.13 | 21.13 | 4.58 | 0.24 | 4.57 |
| LTP-140 | 127.00 | 396.35 | 269.35 | 2.35 | 0.56 | 2.12 |
| including | 246.00 | 278.00 | 32.00 | 9.95 | 1.58 | 9.95 |
| LTP-141 | 33.55 | 62.00 | 28.45 | 10.11 | 0.31 | 7.03 |
| and | 74.00 | 88.00 | 14.00 | 0.35 | 0.14 | 0.35 |
| LTP-142 | 41.92 | 100.00 | 58.08 | 4.03 | 0.21 | 2.74 |
| including | 46.00 | 76.00 | 30.00 | 7.69 | 0.37 | 5.19 |
| LTP-143 | 118.00 | 333.76 | 215.76 | 2.54 | 0.60 | 2.54 |
| including | 150.00 | 184.00 | 34.00 | 10.94 | 1.87 | 10.94 |
| LTP-144a | 155.00 | 327.00 | 172.00 | 0.99 | 0.33 | 0.99 |
| and | 155.00 | 193.00 | 38.00 | 1.99 | 0.18 | 1.99 |
| LTP-145 | 114.00 | 341.00 | 227.00 | 1.78 | 0.44 | 1.78 |
| including | 131.00 | 178.00 | 47.00 | 6.90 | 0.94 | 6.90 |
| LTP-146 | 103.64 | 223.00 | 119.36 | 0.64 | 0.20 | 0.64 |
| including | 103.64 | 170.00 | 66.36 | 0.84 | 0.32 | 0.84 |
| LTP-147 | 140.00 | 176.00 | 36.00 | 0.65 | 0.07 | 0.65 |
| LTP-148 | 76.77 | 89.00 | 12.23 | 0.79 | 0.02 | 0.79 |
| and | 107.00 | 204.22 | 97.22 | 0.45 | 0.05 | 0.45 |
| including | 115.82 | 169.00 | 53.18 | 0.59 | 0.08 | 0.55 |
| LTP-149 | 88.52 | 203.00 | 114.48 | 0.38 | 0.26 | 0.38 |
| LTP-150 | 153.80 | 225.50 | 71.70 | 3.14 | 0.07 | 3.14 |
| including | 199.78 | 225.50 | 25.72 | 7.8 | 0.17 | 2.24 |
| and | 288.58 | 371.00 | 82.42 | 0.82 | 0.21 | 0.82 |

No results for the seven holes after LTP-150 were available at the time of estimation of the mineral resources used in this PEA. Five of the holes were targeted at generally distal areas around Romero. The sixth was drilled between Romero and Romero South and the seventh was at La Higuera, 1.5 km south of Romero South.

Recoveries of drill core were generally quite high, with the exception of local, isolated problem areas. GoldQuest began recording core recovery with hole LTP-74. From there to hole LTP-150 recoveries have averaged 94%.

It is Micon’s opinion that there are no drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results received. Subject to appropriate analytical results (see Sections 11 and 12 below) the samples recovered are suitable for use in a mineral resource estimate.

Romero South is a relatively flat tabular deposit in which most drill holes intersected at roughly 90º representing approximately true intersections. To the northwest, the zone does roll over into a shallow northwest dip where true widths will be somewhat less than intersected widths.

Romero is a relatively more complex deposit shape in which mineralization has permeated a somewhat permeable host rock. The resulting mineralized shape is amoeba-like but has large contiguous areas of above cut-off mineralization and a relatively consistent dip and strike. Drill holes intersected it from various angles and dips as potential collar locations were limited by steep topography and restrictions about drilling close to creeks and rivers. The combination of the amoeboid shape and varying drill azimuths and dips means that there is no clear or consistent relationship between intersected widths and true widths. Section 14 provides figures which attempt to display the relationship.

### 10.2 OTHER DRILLING

GoldQuest also drilled seven holes on the geophysical targets La Guama (LG-01 to LG-05) and La Rosa (LR-01 and LR-02). La Guama is located about 1.5 km northwest of Romero and La Rosa is approximately 1 km northeast of Romero. Both targets were chargeability highs from IP surveys; however, minimal sulphides were encountered. Thin section work is in progress to investigate the possible presence of subtle alteration minerals to help explain the anomalies. These drill targets and their results do not affect the mineral resource estimate presented in this report and they will not be discussed further.

# 11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

The information in this section is amended from Steedman and Gowans (2012). In the preparation of that report only drilling results from Phases 1, 2, 3 and 4 were verified. Drilling in Phases 5, 6 and 7 was verified for this report.

## 11.1 SAMPLING METHOD AND APPROACH

The initial indications of mineralization on the La Escandalosa concession were found by fine fraction stream sediment sampling and float sampling carried out as part of a regional stream sediment geochemistry exploration program.

The main exploration technique used for definition of drill targets was soil sampling. A total of 1,090 soil samples were taken in several programs between 2005 and 2010 and analyzed for gold and multi-elements. Soil samples were taken from the B horizon and were not sieved. The average sample weight was about 0.5 kg. Sampling was on grids of 50 m by 50 m, and 100 m by 100 m, and along ridges and spurs in reconnaissance areas. The area sampled on grids is about 2.0 km long north-south by 1.0 km across, and the total area sampled, including ridges and spurs, is about 4.0 km north-south by 3.0 km wide.

Rock sampling was carried out as grab samples of outcrop and float, and channel samples from hand-dug pits and trenches. A total of 1,176 rock samples were collected. Samples were 2 kg to 4 kg in weight and were analysed for gold and multi-elements. Surface rock samples are collected to check for the existence of mineralization, but not to quantify it, and were not used for resource estimation.

Diamond drilling was carried out using NTW (56.0 mm diameter) and BTW (42.0 mm diameter) core. Sample intervals in the core were selected by the geologist after geological logging. The sample intervals are generally 2.00 m. Priority was given to geological contacts so that some intervals may be shorter. In areas of low recovery the sample interval is between drill run markers. The median sample length is 2.00 m (n = 3519 samples in the Romero mineralized solid and 532 samples in the Romero South mineralized solid). The minimum sample length at Romero is 0.38 m and the maximum is 6.25 m. The minimum sample length at Romero South is 0.32 m and the maximum is 2.91 m. The core samples were cut lengthwise by diamond saw and one-half of the core was sampled, and the other half left in the core box for reference. Samples were collected in heavy duty clear plastic sample bags which were sealed with plastic cable-ties. A sample ticket was glued on the core box at the start of the sample interval. Another sample ticket was inserted in the bag and the number written on the outside of the bag with indelible marker pen.

The upper part of two holes were not sampled or analysed, although they were marked up with sample numbers; these were LTP-38 from 0 to 220 m due to no mineralization, and LTP-40 from 0 m to 142.36 m as it was a twin of hole LTP-25 designed to drill deeper to reach the target. In Phase 1 to 7, there were 14,474 analyses for core as well as 1,608 blanks, 265 pulp and 327 field duplicate samples, as well as 3,556 standards inserted.

## 11.2 SAMPLE SECURITY AND CHAIN OF CUSTODY

Soil and rock samples were collected in heavy duty paper and plastic sample bags respectively, sealed with wire ties and plastic cable ties respectively. A detailed sample description form was filled in for each sample, and a tear-off sample ticket inserted in the bag.

Core samples were placed into wooden core boxes by the drillers. Core was collected from the drill rig by GoldQuest field assistants and taken to the core shack at Hondo Valle for logging and sampling.

The core was logged and marked for sampling by GoldQuest geologists. The core samples were cut lengthwise by diamond saw and one-half core was sampled. The other half was left in the core box for reference. All of the split core is stored at GoldQuest's core storage facility at Hondo Valle.

Stream sediment, soil, rock and core samples from the Phase 1 and 2 drill programs (holes LTP-01 to LTP-33) were shipped to ALS Chemex Ltd (ALS Chemex), Vancouver, Canada for preparation and analysis. This laboratory is independent of GoldQuest and complies with the requirements of international standards ISO 9001:2000 and ISO 17025:1999. The whole sample was shipped as there was no sample preparation facility in the Dominican Republic at that time.

The samples were bagged in nylon sacks and taken by GoldQuest vehicle to the GoldQuest office in Santo Domingo, where standard and blank samples were inserted and sample shipment forms prepared. The samples were then taken to Punta Cana by GoldQuest vehicle, about a four hour drive, and sent by air to Vancouver. It was found that the best air freight rates could be obtained from Punta Cana on direct holiday charter flights to Vancouver, with an average time of two to three days to reach the laboratory. Other courier and air freight routes from Santo Domingo were found by previous experience to be much more expensive, slower and prone to delays due to cargo being carried when space was available.

From September, 2007, all soil, rock and core samples from the Phase 3 and onward drill programs (hole LTP-34 and on) were prepared at Acme Analytical Laboratories Ltd.'s (Acme) new sample preparation facility in Maimon, Dominican Republic. Samples were delivered by GoldQuest vehicle. Acme is registered with ISO 9001:2000 and ISO 17025 accreditation.

## 11.3 SAMPLE PREPARATION

Sample preparation for rock and core samples at ALS Chemex in Vancouver was to log the sample into the tracking system; record the weight; dry; crush the entire sample to >70% passing 2 mm; split off 1.5 kg; and pulverize the split to >85% passing 75 microns (method PREP-32). Coarse rejects and pulps are stored at the laboratory. Soil samples were prepared by sample login; record weight; dry, disaggregate and sieve sample to -80 mesh (method

PREP-41). Some assay certificates indicate that for some soil sample orders a split of unspecified weight was pulverized to >85% passing 75 µm (method PUL-31).

Rock and drill core sample preparation by Acme in Maimon comprised logging the sample into the Acme tracking system with a bar code; dry in an electric oven; crush by Terminator jaw crusher to 80% passing -10 mesh (2 mm); and 300 g split by riffle splitter. The sample split was then shipped by courier, by Acme, to their laboratory in Santiago, Chile or Vancouver for pulverization to 95% passing -150 mesh (106 µm) (method R150). Soil samples were prepared by drying at 60°C; and sieving a 100 g split to -80 mesh. Coarse rejects for core, rock and soil samples were returned to GoldQuest and are stored at GoldQuest's core store in Bonao. Pulps are stored at Acme's laboratory in Chile.

## 11.4 SAMPLE ANALYSIS

There are a total of 1,176 rock sample analyses, 1,090 soil sample analyses and 14,611 drill core analyses, excluding QC samples.

ALS Chemex analysed samples in its Vancouver laboratory (VA assay certificate number prefixes) for gold by fire assay (30 g) with measurement by inductively coupled plasma atomic emission spectrometer (ICP-AES or ICP-ES) (method Au-ICP21, range 0.001 ppm to 10 ppm), with over-runs by fire assay (30 g) with atomic absorption spectrometry (AAS) finish (method Au-AA25). Multi-element analyses were done in a 53 element package (Ag, Al*, As, Au, B*, Ba*, Be*, Bi, Ca*, Cd, Ce*, Co, Cr*, Cs*, Cu, Fe, Ga*, Ge*, Hf*, Hg, In*, K*, La*, Li*, Mg*, Mn, Mo, Na*, Nb*, Ni, P, Pb, Pd, Pt, Rb*, Re*, S*, Sb, Sc*, Se, Sn*, Sr*, Ta*, Te*, Th*, Ti*, Tl*, U, V, W*, Y*, Zn, Zr*) by aqua regia digestion and a combination of inductively coupled plasma mass spectroscopy (ICP-MS) and ICP-AES (method ME-MS41). Major rock forming elements and more resistive minerals are only partly dissolved, and for elements marked (*), digestion is incomplete for most sample matrices. Over-runs for Ag, Cu, Pb and Zn were done by aqua regia digestion and AAS (method AA46).

Acme analysed core samples from holes LTP-34 to LTP-42 at its laboratory in Vancouver (DRG-series assay certificates) by fire assay by classical lead-collection on a 50 g sample with AAS analysis of the bead and a lower limit of detection of 5 ppb, and results were reported in ppb (method G6), or by fire assay fusion of a 50 g sample with detection by ICPES (method G601+G610). Over-runs above 10,000 ppb were re-analysed by fire assay on a 50 g sample with gravimetric analysis and reported in g/t (method G6Gr-50). Multi-elements were analysed in Acme's Vancouver laboratory in a 53 element ultra-trace level package including Au, Pt, Pd, Ag, Al*, As, B*, Ba*, Be*, Bi, Ca*, Cd, Ce*, Co, Cr*, Cs*, Cu, Fe, Ga*, Ge*, Hf*, Hg, In, K*, La*, Li*, Mg*, Mn, Mo, Na*, Nb*, Ni*, P*, Pb, Pd*, Pt*, Rb*, Re, S*, Sb, Sc*, Se, Sn*, Sr*, Ta*, Te, Th*, Ti*, Tl*, U*, V*, W*, Y*, Zn, Zr*) on a 15 g sample with aqua regia digestion (1:1:1) and ICP-MS analysis (method 1F05). Some elements (*) report partial concentrations due to refractory minerals. Over-limit analyses for Ag, Cu and Zn were re-analysed by four acid digestion on a 0.5 g split and ICP-ES analysis and reported in ppm for Ag and percent for Cu, Pb and Zn (method 7TD1).

Acme analysed core samples from holes LTP-43 to LTP-150 at its laboratory in Santiago by fire assay by classical lead-collection on a 30 g sample with AAS analysis of the bead and a lower limit of detection of 5 ppb. Results were reported in ppm (method G6). Over-runs above 10 ppm were re-analysed by fire assay on a 30 g sample with gravimetric analysis and reported in g/t (method G6Gr-30). Multi-element requests were analysed in Acme's Santiago laboratory in a 24 element ultra-trace level package including Au, Mo, Cu, Zn, Ag, Ni, Co, Mg, Fe, As, Sr, Cd, Sb, Bi, Ca, P, Cr, Mn, Al, Na, K, Hg, W, S) on a 15 g sample with aqua regia digestion (1:1:1) and ICP-ES analysis (method 7PD2). The gold fire assay was used for resource estimation rather than the ICP gold result.

Acme analysed soil and rock samples initially for gold and multi-elements by the ultra-trace level package 1F, and later for gold by method G6 and multi-elements by method 7TX. These methods are described above.

Barium values are not representative due to the insolubility of barite in the aqua regia and multi-acid digestion used for the ICP analyses. In the sulphide zone Ba values are very low, despite abundant barite in places. In the oxide zone there are values up to 0.35% Ba, indicating some Ba in a more soluble mineral form, but still not representative of the total barium content. X-ray fluorescence (XRF) analyses are required to get accurate Ba analyses.

# 12.0 DATA VERIFICATION

## 12.1 ASSAY LABORATORY DATA VERIFICATION

Both ALS Chemex and Acme laboratories maintain in-house quality assurance/quality control (QA/QC) programs involving the insertion of blank, duplicate and certified reference standards into the sample stream.

## 12.2 GOLDQUEST DATA VERIFICATION

GoldQuest initially carried out QA/QC for the drill programs by the insertion of 3 certified standard reference materials (CSRM), 3 blanks and 2 core duplicates per 100 samples, giving 7% QC samples. From Phase 4 drilling on, GoldQuest QA/QC, included the insertion of 5 CSRM, 2 blanks, 2 field duplicates and 2 preparation duplicates per every 100 samples, giving 11% QC samples.

The results of the QC samples were checked upon receipt of the analytical results from the laboratory. If the QC sample results fell beyond the acceptable limits, described in Sections 12.2.1 to 12.2.4, the laboratory was notified and requested to investigate the problem, and, if necessary, to re-analyse all or a portion of the batch. Once the sample order passed QC it was approved and entered into the company database.

Similar QA/QC procedures were carried out by GoldQuest for stream sediment, soil and rock samples. The results are not described in this report as these data were not used for the resource estimation.

### 12.2.1 Certified Standard Reference Materials

CSRM number OxD27 was used for the Phase 1 drill program, SF12 was used for the Phase 2 drill program, and CDN-GS-P5B and CDN-GS-P8 were used for the Phase 3 drill program and, CDN-ME-2, CDN-ME-6, CDN-ME-7 and CDN-ME-11 were used for the Phase 4 program. Three CSRM were inserted per 100 samples. The results were evaluated using performance gates. The results are accepted if they are within plus or minus two standard deviations (SD) of the recommended value. A single value lying between plus or minus 2 SD and 3 SD is also acceptable, but two consecutive values between plus or minus 2 SD and 3 SD are rejected, as are any values greater or less than 3 SD.

OxD27 and SF12 were produced by Rocklabs Ltd., New Zealand. OxD27 has a certified value of 0.416 ± 0.025 (1 SD) g/t Au. SF12 has a certified value of 0.819 ± 0.028 (1 SD) g/t Au.

CSRMs CDN-GS-P5B and CDN-GS-P8, CDN-ME-2, CDN-ME-6, CDN-ME-7, CDN-ME-11, CDN-CM-18, CDN-CM-24, CDN-FCM-6, CDN-CM-12A, CDN-CM-13A, CDN-ME-16, CDN-ME-1205 and CDN-ME1206 were produced by CDN Resource Laboratories Ltd., British Columbia, Canada. The recommended values and the “Between Lab” standard deviations (SD) are shown in Table 12.1.

**Table 12.1**
**Standard Reference Material Utilized by GoldQuest**

| Standard | Au (g/t) | Ag (g/t) | Cu (%) | Pb (%) | Zn (%) | SD | Remarks |
|---|---|---|---|---|---|---|---|
| OXD27 | 0.416± 0.05 | | | | | 2 | Used in Phase 1 |
| SF12 | 0.819± 0.056 | | | | | 2 | Used in Phase 2 |
| CND-GS-P5B | 0.44 ± 0.04 | | | | | 1 | Used in Phase 3 |
| CND-GS-P8 | 0.819 ± 0.028 | | | | | 1 | Used in Phase 3 |
| CDN-ME-2 | 2.10 ± 0.11 | 14.0 ± 1.3 | 0.480 ± 0.018 | | 1.35 ± 0.10 | 2 | Used in Phase 4, 5, 6 |
| CDN-ME-6 | 0.270 ± 0.028 | 101 ± 7.1 | 0.613 ± 0.034 | 1.02 ± 0.08 | 0.517 ± 0.040 | 2 | Used in Phase 4, 5 , 6, 7 |
| CDN-ME-7 | 0.219 ± 0.024 | 150.7 ± 8.7 | 0.227± 0.016 | 4.95± 0.30 | 4.84 ± 0.17 | 2 | Used in Phase 4, 5 , 6, 7 |
| CDN-ME-11 | 1.38 ± 0.10 | 79.3 ± 6.0 | 2.44 ± 0.11 | 0.86 ± 0.10 | 0.96 ± 0.06 | 2 | Used in Phase 4, 5 , 6, 7 |
| CDN-CM-18 | 5.28 ± 0.35 | | 2.42 ± 0.22 | | | 2 | Used in Phase 7 |
| CDN-CM-24 | 0.521 ± 0.056 | 4.1 ± 0.4 | 0.365 ± 0.02 | | | 2 | Used in Phase 7 |
| CDN-FCM-6 | 2.15 ± 0.16 | 156.8 ± 7.9 | 1.251 ± 0.064 | 1.52 ± 0.06 | 9.27 ± 0.44 | 2 | Used in Phase 7 |
| CDN-GS-12A | 12.31 ± 0.54 | | | | | 2 | Used in Phase 7 |
| CDN-GS-13A | 13.20 ± 0.72 | | | | | 2 | Used in Phase 7 |
| CDN-ME-16 | 1.48 ± 0.14 | 30.8 ± 2.2 | 0.671 ± 0.036 | 0.879 ± 0.040 | 0.807 ± 0.040 | 2 | Used in Phase 7 |
| CDN-ME-1205 | 2.20 ± 0.28 | 25.6 ± 2.4 | 0.218 ± 0.012 | 0.13 ± 0.004 | 0.369 ± 0.03 | 2 | Used in Phase 7 |
| CDN-ME-1206 | 2.61 ± 0.20 | 274 ± 14 | 0.79 ± 0.038 | 0.801 ± 0.044 | 2.38 ± 0.15 | 2 | Used in Phase 7 |

Gold results for the CSRMs for Phase 1 to 3 are shown in Figure 12.1 to Figure 12.3, respectively. There is one exception in the Phase 1 drill program, and four exceptions from the Phase 2 drill program where Au is ± 3 SD.

**Figure 12.1**
**CSRM Plot for Phase 1 Drill Program**

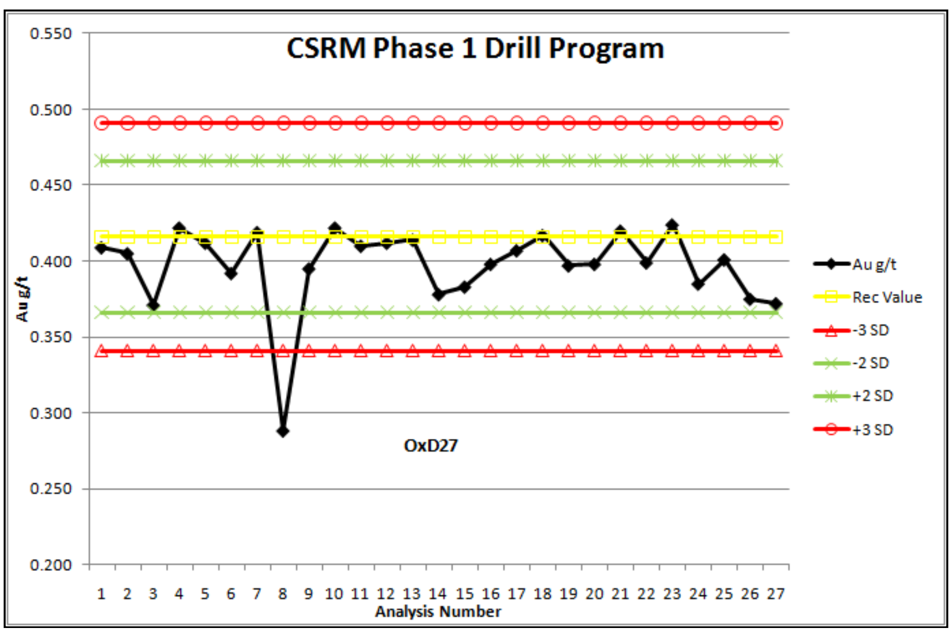


**Figure 12.2**
**CSRM Plot for Phase 2 Drill Program**

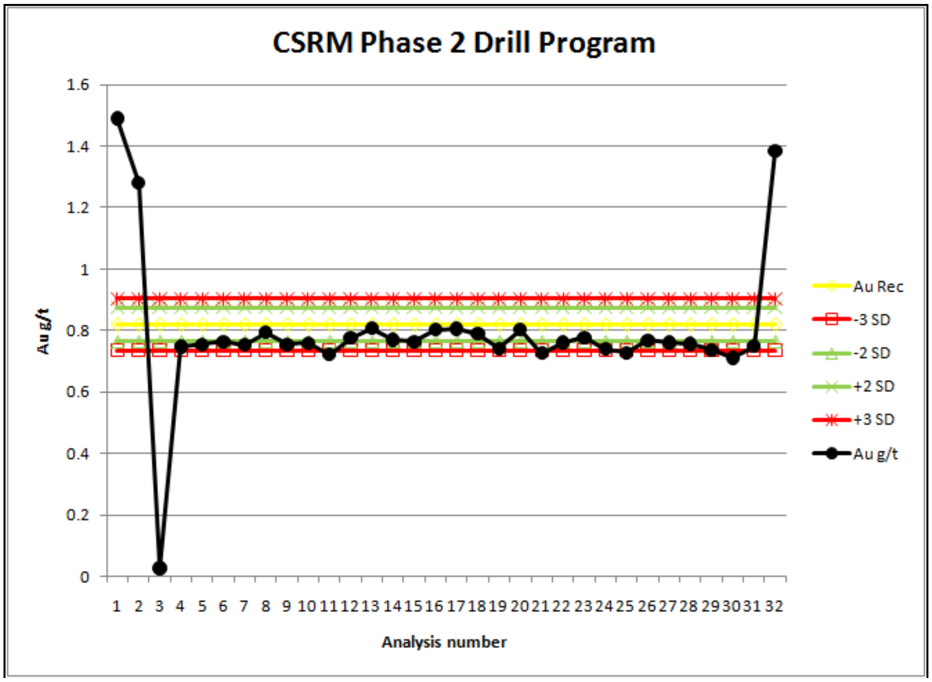
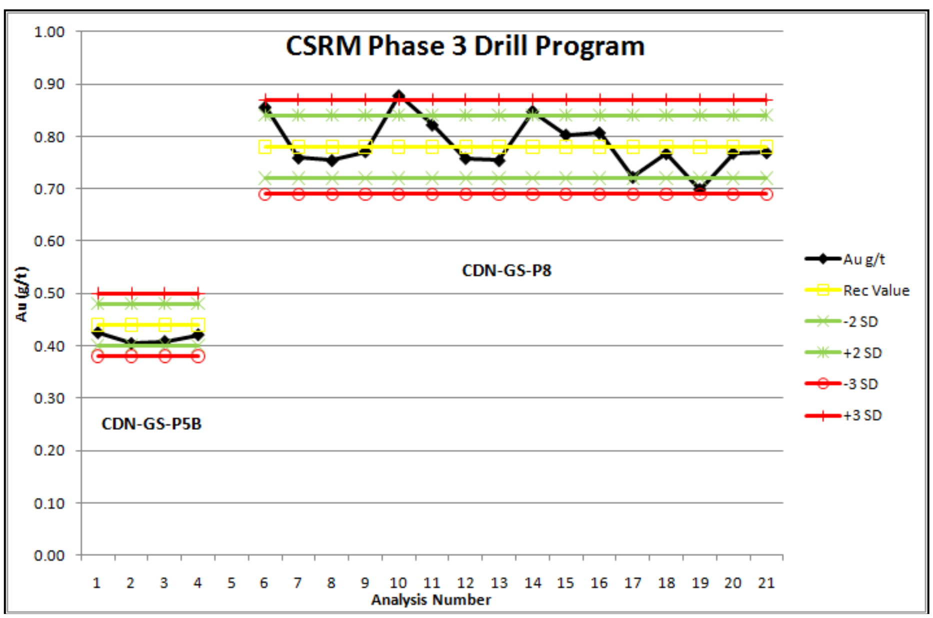



**Figure 12.3**
**CSRM Plot for Phase 3 Drill Program**




In Phase 4 drilling, Gold Quest introduced four multi-metal reference standards to monitor the laboratory's analytical performance on both gold and base metals. The more widely used of these is CDN-ME-2 for which the results are shown in Figure 12.4 and Figure 12.5. These results demonstrate the laboratory's proficiency.

**Figure 12.4**
**CSRM Plot for Phase 4 Drill Program - Gold**

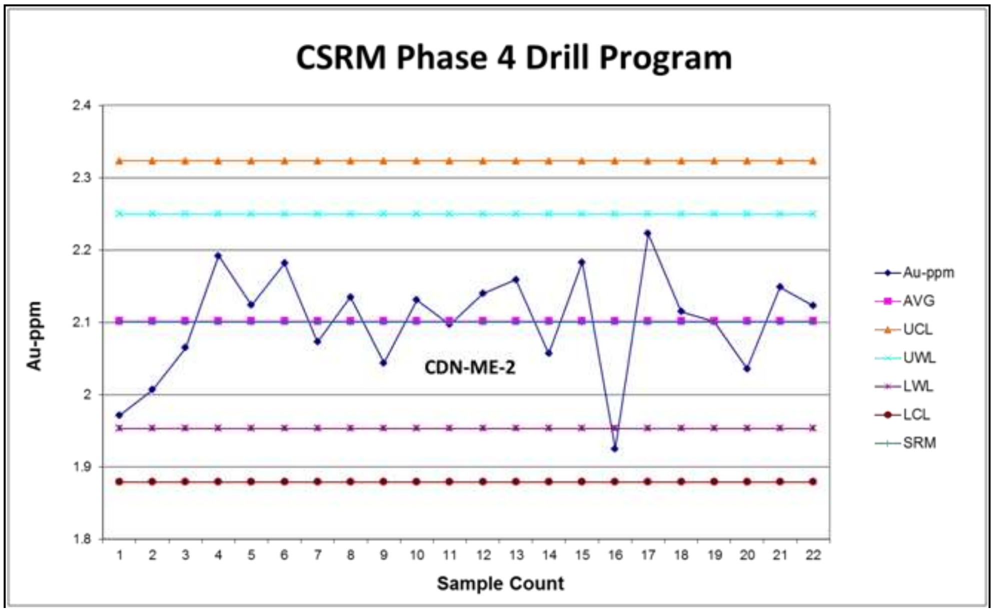
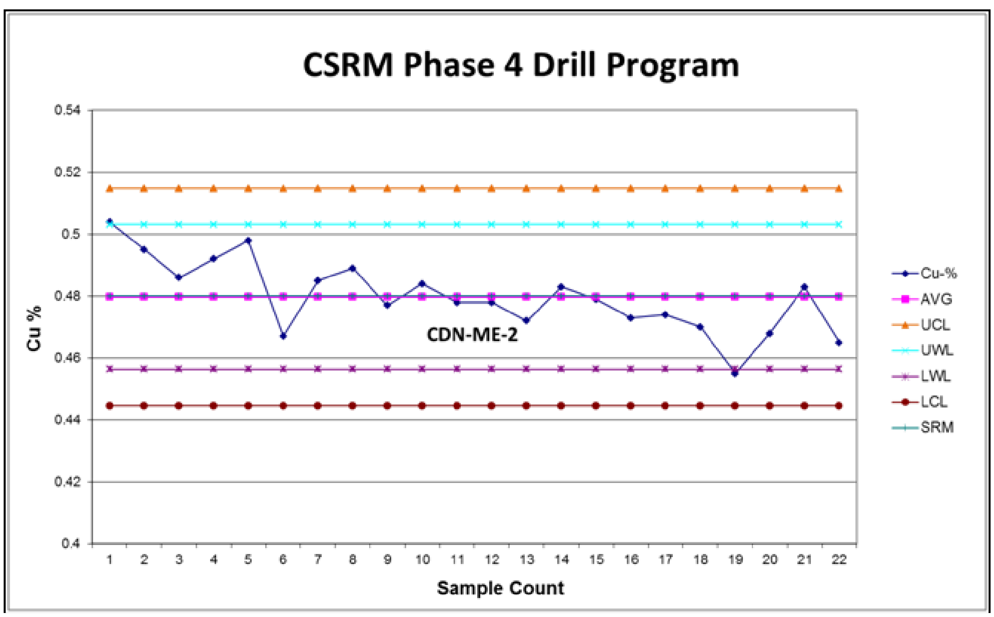


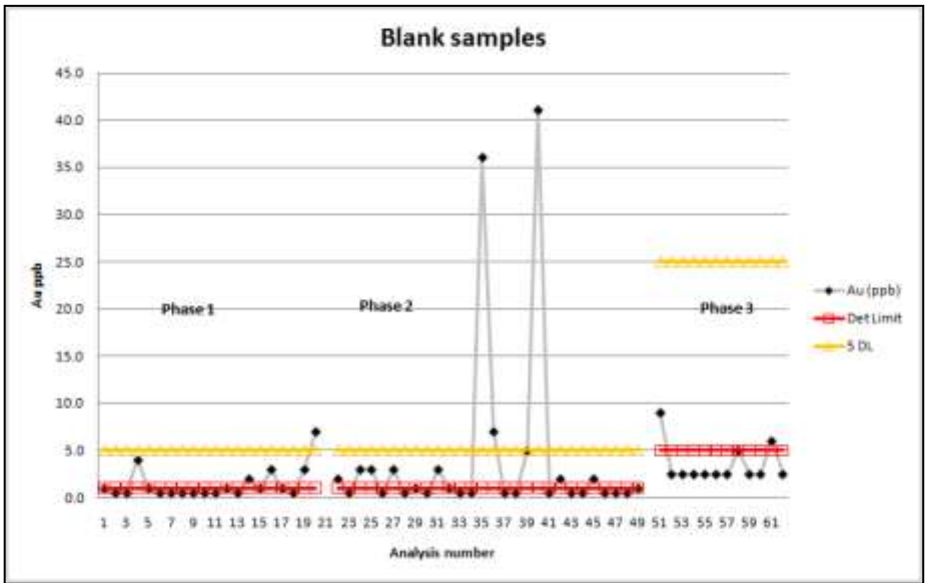

**Figure 12.5**
**CSRM Plot for Phase 4 Drill Program - Copper**



### 12.2.2 Blank Assays

Three blank samples were inserted per 100 samples. The blank used was silica sand. The plot of blank analyses for gold is shown in Figure 12.6. The blank results are generally within acceptable limits, defined as 5 times the detection limit, with three exceptions in the Phase 2 drill program. Since these were in intervals with no significant values, GoldQuest decided not to reanalyse the intervals at the time.

**Figure 12.6**
**Plot of Blank Samples for Phase 1 to Phase 3 of the Drill Program**




Values below detection replaced by half the detection limit to avoid negative numbers.

### 12.2.3 Core Duplicates

Two core duplicates were taken for every 100 samples. The core duplicate is a quarter core sample taken by cutting the reference half core sample in two with a diamond saw. A plot of all the core duplicates is shown in Figure 12.7 and shows one outlier sample which may be the result of geological variability, or a laboratory error. In Figure 12.8, the outlier sample has been removed and shows good repeatability of all the other samples.

Although there appears to be good repeatability, in 2012 Micon did not recommend continued use of core duplicates due to the inherent geological variability.

**Figure 12.7**
**Plot of Core Duplicate Analyses for Au, Phases 1 to 3 of the Drill Program**

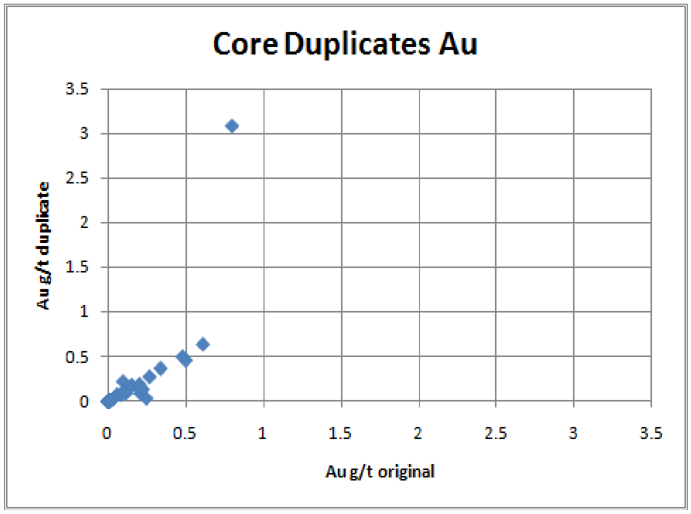
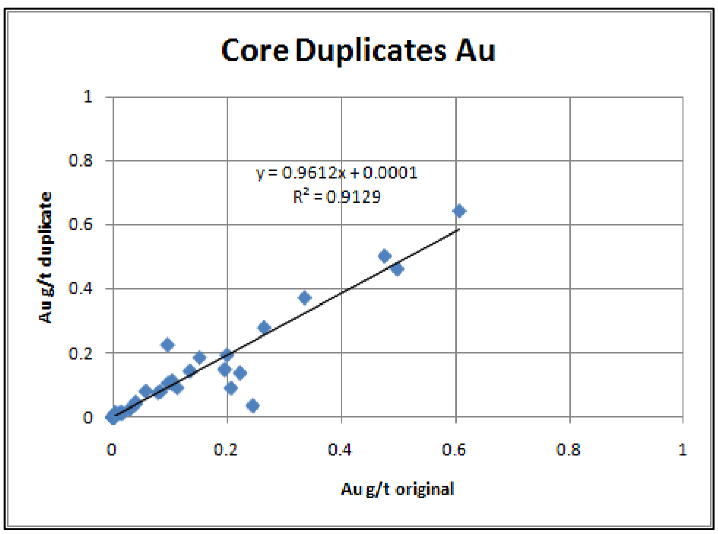



**Figure 12.8**
**Plot of Core Duplicate Analyses for Au, Phases 1 to 3 of the Drill Program**
**(with one outlier removed)**

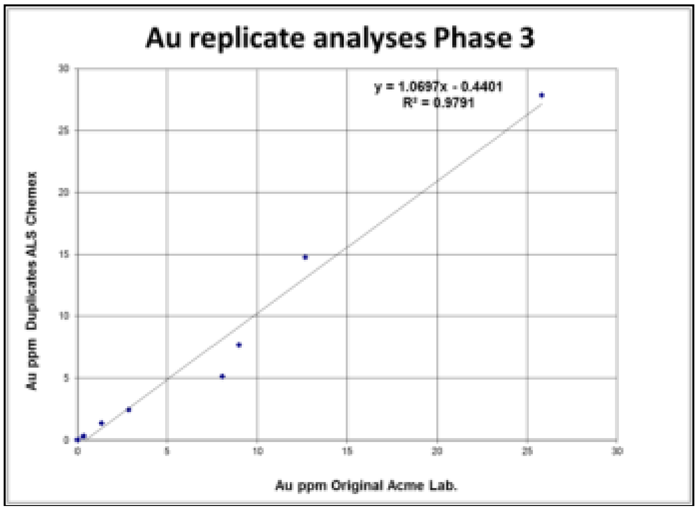



### 12.2.4 External Laboratory Repeats

Replicate analyses of the same sample pulp were made at a third party, certified laboratory on 55 sample pulps from Phase 3 of the drill program. The 55 sample pulps were selected above a cut-off of 0.2 g/t Au, out of 501 analyses (excluding QC samples), representing 11% of the total. These were sent, with 2 CSRMs and 2 blanks for QC, to ALS Chemex in Vancouver for analysis for Au by Au-AA23 (FA30g-AAS) and multi-elements by ME-ICP41. A cut-off grade was used to select replicate samples rather than selection at random since the latter would have resulted in the majority of the check samples being below detection or of very low grade, due to the stratiform nature of the mineralization.

The gold results are plotted in Figure 12.9 and show a very good correlation between the two laboratories.

**Figure 12.9**
**Plot of Replicate Analyses for Phase 3 of the Drill Program**




In Phase 4 drilling, replicate analyses were conducted for both gold and base metals. The correlation for all elements (i.e. Au, Ag, Cu, Pb and Zn) is good. Only one sample replicate (i.e. sample number 16978) appeared as an outlier and this is most likely due to a sample switch. The scatter plots for Au and Cu are shown in Figure 12.10 and Figure 12.11, respectively.

**Figure 12.10**
**Plot of Replicate Analyses for Phase 3 of the Drill Program**

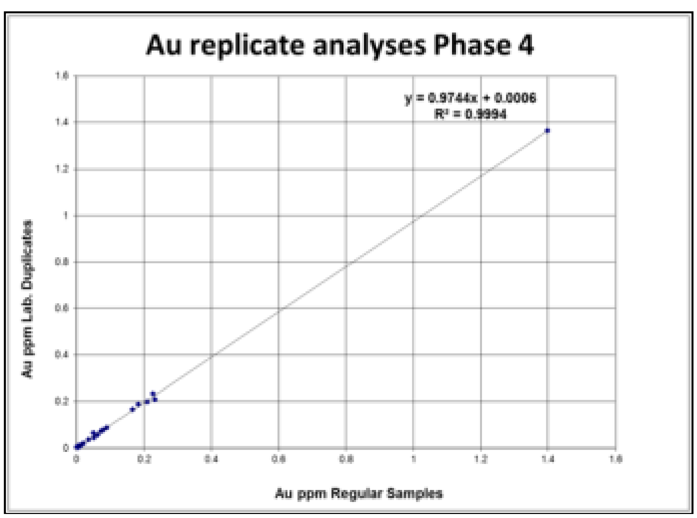
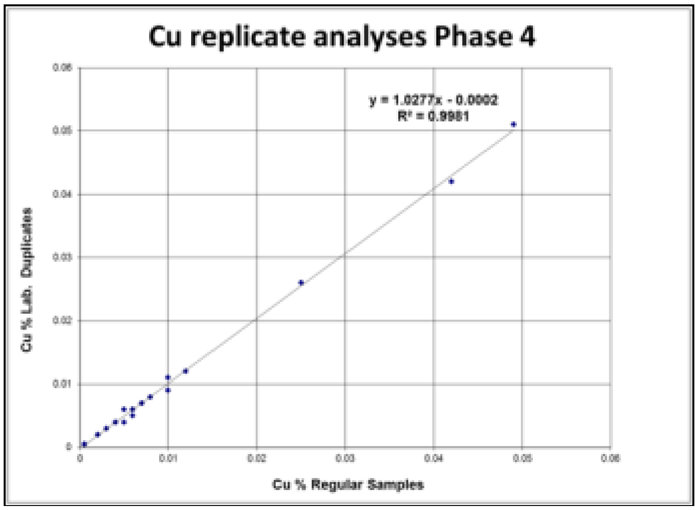


**Figure 12.11**
**Plot of Replicate Analyses for Phase 3 of the Drill Program**




Later QA/QC plots for phases 5, 6 and 7 generally produced similar results. There are several dozen of them and it is beyond the scope of this report to reproduce them all. The ones presented are considered representative of the type of QA/QC program conducted. Field duplicate control charts occasionally produced points which fall well off the 45º agreement line at higher grades. However, this is to be expected occasionally when sampling the other half of the core in a high grade sample.

## 12.3 MICON DATA VERIFICATION

### 12.3.1 2011 Validation

During its 2011 site visit and in preparation for the 2012 report (Steedman and Gowans, 2012) Micon completed data validation. Only drilling results from Phase 1, 2, 3 and 4 were verified. Drilling in Phases 5, 6 and 7 was completed after Micon's first visit to site in July, 2011. Micon verified the data used by:

- Visiting the property and confirming the geology in July, 2011.
- Confirming drill core intervals including mineralized intersections.
- Checking the location of the Phase 1 to 4 drill holes in the field.
- Review of Phase 1 to 4 QA/QC analysis.

For the 2012 resource estimate Micon used Excel files exported from the Access database and supplied by GoldQuest. All of these were checked against digital PDF assay certificates supplied by the analytical labs. There was no problem with verification of assay certificates with original analyses by ALS Chemex and Acme.

At the time Micon considered the sample preparation, security and analytical procedures to be adequate to ensure the integrity and credibility of the analytical results used for mineral resource estimation. The use of control samples (i.e. standards, blanks and duplicates) was rigorous and this, coupled with the monitoring of the laboratory's performance on a real time basis, ensured that corrective measures (if need be) are taken at the relevant time and gave confidence in the validity of the assay data used in the resource estimate. However, the use of silica sand as "blanks" does not monitor contamination between samples during the crushing stage; accordingly, Micon recommended that blank material which requires crushing and pulverizing is employed so that contamination can be monitored during this process as well.

On the whole, there was a steady improvement noted in the QA/QC protocols from Phases 1 to 3 and on to Phase 4 when GoldQuest adopted multi-metal standards to cope with the mineralization types encountered. Micon considered that the analytical work completed to-date was monitored closely enough to ensure representative assays.

Micon concluded that:

- Exploration drilling, drill hole surveys, sampling, sample preparation, assaying, and density measurements had been carried out in accordance with best current industry standard practices and are suitable to support resource estimates.

- Exploration and drilling programs were well planned and executed and supply sufficient information for resource estimates and resource classification.

- Sampling and assaying includes quality assurance procedures.

- Exploration databases were professionally constructed and are sufficiently error-free to support resource estimates.

### 12.3.2 2013 Validation

The presence of copper mineralization at Romero and Romero South is obvious from a review of a representative selection of drill core from the two deposits. As expected from a deposit showing frequent multi-percent copper assays, chalcopyrite is easily visible in core.

During its site visit Micon collected two duplicate quarter core samples and a composite grab sample from a rock outcrop in the Escandalosa creek which exposes the edge of the Romero South deposit. The results are presented in Table 12.2 below.

**Table 12.2**
**Micon Check Sampling Results**

| Sample No. | Original Assay | | Re-assay | | Comment |
|---|---|---|---|---|---|
| | Au (g/t) | Cu (%) | Au (g/t) | Cu (%) | |
| 664 | - | - | 0.71 | 0.20 | Outcrop in creek at Romero South |
| 665 | 22.0 | 3.54 | 26.0 | 3.05 | ¼ core duplicate |
| 666 | 10.5 | 6.37 | 14.3 | 6.74 | ¼ core duplicate |

The assay results show remarkably close agreement for quarter-core field duplicate samples and confirm the presence of copper and gold mineralization.

## Database Verification

The geological database is the foundation of a resource estimate. Therefore, Micon performed a thorough review of the data to ensure the reliability of the estimate. The review of the data was performed in Micon's Toronto offices. Some errors were detected and corrected including:

- Correction of the drill hole collar surveys; some updated collar locations were adjusted using the topographic surface grid provided by GoldQuest.

- Detailed review of down hole surveys, assay data, density measurements. Correction of silver assay results which were suspiciously high and determined to be a unit error (silver assays in ppb instead of ppm). Given this, Micon decided to cross check the entire assay table against results independently downloaded from the laboratory for all available assay certificates. 84% of the assay results were checked. See Table 12.3 for a summary of results.

**Table 12.3**
**Romero Project Assays Table Cross Check Validation Results Summary**

| Description | Count of Au Checks* |
|---|---|
| **Chemex** | |
| No results | 12 |
| OK | 1,499 |
| OK-Detection Limit | 244 |
| Not found | 2,263 |
| **Acme** | |
| OK | 8,281 |
| OK-Detection Limit | 1,294 |
| OK-Over Limit | 118 |
| Switch | 208 |
| Not found | 0 |
| **Grand Total** | **13,919** |

* - Copper, silver and zinc assay entries were also checked.

## 12.4 MICON COMMENTS

Micon considers the sample preparation, security and analytical procedures employed to be adequate to ensure the validity of assays. The QA/QC protocols employed by GoldQuest are sufficiently rigorous to ensure that sample data are appropriate for use in a mineral resource estimate.

# 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

A metallurgical testwork program, specifically designed to support the PEA, was undertaken at ALS Metallurgy, Kamloops, British Columbia (ALS Metallurgy) in 2013 and 2014. This program was supervised by Richard Gowans P.Eng. of Micon who is the QP for this area of the study. Three metallurgical composite samples were prepared and forwarded to ALS Metallurgy to be used for the development of a process flowsheet to recover copper and gold. The three composites were selected by GoldQuest and Micon to represent Romero Indicated Resources, Romero Inferred Resources and Romero South Resources. The results from this program of testwork, which was completed in June, 2014, were used as a basis process design selected by Micon for the PEA.

Previous metallurgical studies comprise preliminary scoping tests undertaken on samples of Romero South mineralization in 2011 and 2012.

## 13.1 HISTORICAL TESTWORK

A preliminary series of metallurgical tests have been completed on samples of Romero South mineralization selected by GoldQuest. This work was undertaken by Resource Development Inc. (RDI), Wheat Ridge, Colorado, USA. The references for this work are as follows:

- Resource Development Inc., "Scoping Metallurgical Study for Las Escandalosa and Las Animas Oxide Ores, Dominican Republic", dated September 8, 2011. (RDI, 2011).

- Resource Development Inc., Memoranda:
    - La Escandalosa Project Progress Report No. 1, dated December 13, 2011.
    - Flotation Tests on La Escandalosa and Las Animas Projects, dated February 23, 2012.

The composite sample prepared by GoldQuest in 2011 for the preliminary metallurgical testwork program undertaken by RDI (RDI, 2011) comprised approximately 20 kg of coarse assay rejects and was designated "RDI Composite No.1". This sample was used for a series of scoping gravity separation and bench scale whole sample cyanide leach tests. The results from this work were reported by RDI in September, 2011 (RDI, 2011).

An additional sample was selected by GoldQuest for a program of additional metallurgical study in the latter part of 2011. The work proposed for this package of work to be undertaken by RDI included grinding and abrasion tests, bench scale cyanide leach tests and bench scale flotation tests.

### 13.1.1 Sample Characterization

Summary analyses of the two metallurgical samples are presented in Table 13.1.

**Table 13.1**
**Summary Analyses of the Romero South Metallurgical Samples**

| Element/Compound | Units | Composite No. 1 | Second Program Sample |
|---|---|---|---|
| Au | g/t | 3.55 | 3.08 |
| Ag | g/t | - | 4.45 |
| $S_{(Total)}$ | % | 3.26 | 4.29 |
| $S_{(Sulphide)}$ | % | 2.20 | 3.36 |
| $C_{(Total)}$ | % | 0.02 | 0.06 |
| $C_{(Organic)}$ | % | 0.01 | 0.03 |
| Cu | % | 0.35 | 0.21 |
| Pb | % | 0.01 | 0.02 |
| Zn | % | 0.64 | 0.31 |
| Hg | g/t | - | 0.17 |
| As | g/t | 94 | 157 |
| Fe | % | 3.72 | 4.54 |
| Ba | % | 0.11 | 0.04 |

The Bond abrasion index of the second program sample was determined to be 0.2078 g, which suggests that the sample is reasonably abrasive. The Bond ball mill index for this sample was 14.09 kWh per short ton at 100 mesh (150 µm) (15.5 kWh/t – metric).

### 13.1.2 Gravity Concentration and Cyanide Leaching

Gravity concentration tests recovered about 10% of the gold into a concentrate containing about 1 wt% of the feed.

Three cyanide leach tests at different grind sizes and one carbon-in-leach (CIL) were completed by RDI in the original test program (RDI, 2011). Each leach test ran for 48 hours with a cyanide concentration of 1 g/L NaCN and a pH of 11. Gold extraction increased from 42.9% for a grind of 80% passing ($P_{80}$) 6 mesh (3.36 mm) to 75.2% with a grind $P_{80}$ of 200 mesh (75 µm). The 200 mesh grind CIL test gave a gold recovery of 79.6%. Cyanide consumption was between 1.8 to 4.8 kg/t and lime 9.4 to 25.1 kg/t.

Results from a total of 11 bottle roll leach tests undertaken during the second metallurgical program were reported by RDI in December, 2011. These tests considered a variety of feed grinds, NaCN concentrations, pre-aeration, pulp density and CIL. These results suggested that the optimum process conditions for a whole feed agitation leach process was grinding to a P80 of 150 mesh (105 µm), pre-aeration of 4 hours, cyanide concentration of 0.5 g/L, pulp density of 50 wt% solids and a leach time of 24 hours. There appeared to be no benefit by using CIL, which suggests no detrimental preg-robbing effect.

At the optimum process conditions, the gold and silver recoveries were 76.6% and 58.6%, respectively. The cyanide consumption for this test was 1.24 kg/t.

### 13.1.3 Flotation

Results from a series of rougher flotation tests were reported by RDI in February, 2012. These tests comprised three bulk Cu + Zn sulphide flotation tests and six Cu + Zn + Au + Ag bulk tests.

The objective of the three bulk Cu + Zn tests was to remove the Cu and Zn leaving the precious metals behind in the flotation tailings. The results from these tests showed that the precious metals floated with the base metal sulphides. Recoveries were approximately 90% Cu, 90% Zn, 76% Au and 85% Ag into a concentrate containing about 15% by weight of the feed.

The six bulk Cu + Zn + Au + Ag tests gave similar results to the three bulk Cu + Zn tests.

## 13.2 ALS Metallurgy 2013/2014

The PEA is based on the metallurgical results from the testwork program completed by ALS Metallurgy in June 2014. This program is described in the ALS Metallurgy report entitled "Metallurgical Flowsheet Development, Testing on Three Composite Samples from the Romero Deposit, Dominican Republic: Project Number KM4076, Report dated June 16, 2014 (ALS, 2014).

This test program was directed by Richard Gowans P.Eng of Micon and used three composite samples representing Romero Indicated Resources, Romero Inferred Resources and Romero South Resources. The three composites comprised split quarter drill core and were selected by GoldQuest and Micon. The total weight of the samples received by ALS Metallurgy was approximately 328 kg. The testwork program commenced in December, 2013 and was completed in June, 2014.

The principle objectives of the ALS Metallurgy bench scale test program were to:

- Measure the chemical and mineralogical compositions of three composite samples, and measure comminution characteristics through a Bond ball mill work index test.

- Complete flowsheet development testing on each composite using flotation techniques, and evaluate the potential for the production of separate copper/gold, zinc and pyrite/gold flotation concentrates. Also, explore cyanidation leaching of copper flotation tailings and/or pyrite concentrate.

- Determine closed circuit performance via locked cycle testing and measure concentrate quality. A copper concentrate of about 20 percent copper was to be targeted.

- Prohibit the use of sodium cyanide as a pyrite depressant in the flotation circuit. Although the flowsheet developed in previous test programs included sodium cyanide addition to the primary mill for pyrite depression, it was to be eliminated in this program for environmental reasons.

- Cyanidation leaching of copper flotation tailings and / or pyrite concentrate. This was included as this process would be undertaken in a location remote from the mine site.

### 13.2.1 Sample Characterization

The samples selected for the three composites were selected by GoldQuest and Micon from relatively recent drill core. The selection criteria were to prepare composites that represented the three mineral resource categories spatially and in terms of average grades and mineralization. Table 13.2 provides a summary of the drill holes used and number of sample intervals selected for each of the three sample composites.

**Table 13.2**
**Summary of the Metallurgical Composite Description**

| Romero Indicated | | Romero Inferred | | Romero South | |
|---|---|---|---|---|---|
| **Drill Hole ID** | **No. of Samples** | **Drill Hole ID** | **No. of Samples** | **Drill Hole ID** | **No. of Samples** |
| LTP-140 | 9 | LTP-117 | 7 | LTP-139 | 11 |
| LTP-143 | 12 | LTP-129 | 4 | LTP-141 | 9 |
| LTP-144A | 14 | LTP-131 | 2 | LTP-142 | 12 |
| LTP-145 | 10 | LTP-132 | 10 | | |
| LTP-150 | 5 | LTP-146 | 11 | | |
| | | LTP-147 | 3 | | |
| | | LTP-148 | 7 | | |
| | | LTP-149 | 5 | | |
| **Total** | **50** | **-** | **49** | **-** | **32** |
| **Total dry weight (kg)** | **124** | **-** | **125** | **-** | **79** |

#### 13.2.1.1 Chemical Analyses

The average multi element head analyses for the three composite samples are summarized in Table 13.3.

**Table 13.3**
**Metallurgical Composite Sample Chemical Analyses**

| Composite | Au (g/t) | Ag (g/t) | Cu (%) | CuOx (%) | CuCN (%) | Zn (%) | Fe (%) | S (%) | S(s) (%) | C (%) | TOC (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Romero Indicated | 3.06 | 2.5 | 0.785 | 0.012 | 0.024 | 0.13 | 6.6 | 6.19 | 6.09 | 0.015 | 0.023 |
| Romero Inferred | 1.47 | 2.5 | 0.435 | 0.005 | 0.027 | 0.86 | 5.35 | 5.44 | 5.30 | 0.019 | 0.017 |
| Romero South | 3.50 | 2.0 | 0.305 | 0.004 | 0.013 | 0.18 | 4.1 | 4.39 | 4.30 | 0.023 | 0.028 |

#### 13.2.1.2 Mineral Content and Liberation Analyses

Mineral composition and estimated mineral liberation were determined by QEMSCAN Bulk Mineral Analysis with Liberation estimation protocols (BMAL) using samples taken from the three composites. A summary of the mineral composition is presented in Table 13.4.

**Table 13.4**
**Composite Mineral Composition**

| Minerals | Units | Romero Indicated | Romero Inferred | Romero South |
|---|---|---|---|---|
| Size ($k_{80}$) | µm | 193 | 152 | 162 |
| Copper sulphides | % | 2.2 | 1.4 | 0.8 |
| Galena | % | <0.1 | <0.1 | <0.1 |
| Sphalerite | 5 | 0.2 | 1.3 | 0.3 |
| Pyrite | % | 9.6 | 8.4 | 5.5 |
| Quartz | % | 75.0 | 60.3 | 61.6 |
| Micas | % | 3.5 | 11.3 | 11.1 |
| Chlorite | % | 7.6 | 12.2 | 15.4 |
| Others | % | 2.1 | 5.2 | 5.4 |

$K_{80}$ – 80% passing size.
Reference: Table from ALS, 2014.

Liberation estimates indicated that copper sulphides, which comprised almost exclusively of chalcopyrite, were between 66% and 68% liberated at 80% passing ($k_{80}$) primary grind sizes of 193, 152, and 162 µm, for the Romero Indicated, Romero Inferred, and Romero South composites, respectively. This suggests adequate liberation at these grind sizes for acceptable copper flotation rougher performance.

Sphalerite liberation for the Romero Inferred composite sample measured about 51% liberated, which may also be sufficient to separate a zinc rougher concentrate. The sphalerite content measured in the Romero Inferred composite was measured 1.3 percent, which may be of economic importance if a separate clean zinc concentrate could be produced at high zinc recovery. The sphalerite content for the Romero Indicated and Romero South composites graded were much lower and not considered to be potentially economic.

Pyrite liberation were approximately 71%, 51% and 40% for the Romero Indicated, Romero Inferred and Romero South composites, respectively. This suggests adequate liberation for reasonable pyrite flotation rougher recoveries for the two Romero composites but the Romero South composite may require a slightly finer grind to achieve better pyrite liberation.

#### 13.2.1.3 Bond Ball Mill Work Indices

Bond ball mill work index tests were completed for each of the three composites using a 106 µm closing screen. Results, which are summarized in Table 13.5, ranged from 14.4 to 16.0 kWh/t. These results suggest that the composites were of medium hardness, from a ball milling perspective and compare with the 15.5 kWh/t achieved during the previous testwork program on a Romero South mineralized sample. The different Bond ball mill index tests completed to date suggest that the hardness, in terms of ball mill grindability, is fairly consistent for the different ore types tested so far.

**Table 13.5**
**Bond Ball Mill Index Test Results**

| Parameter | Units | Romero Indicated | Romero Inferred | Romero South |
|---|---|---|---|---|
| Feed size ($F_{80}$) | µm | 2,324 | 2,383 | 2,358 |
| Product size ($P_{80}$) | µm | 79 | 80 | 80 |
| Sieve size | µm | 106 | 106 | 106 |
| Work index (Wi) | kWh/t | 15.0 | 16.0 | 14.4 |

### 13.2.2 Metallurgical Testwork

A series of bench scale kinetic rougher, open circuit batch cleaner flotation tests were undertaken to establish a flotation circuit and test protocol for the three composite samples. Once a satisfactory test procedure had been developed, locked cycle flotation tests were completed.

Batch selective copper rougher flotation tests investigated the effect of primary grind sizing, pH and various copper mineral collectors. A series of cleaner tests were also completed to establish the number of cleaning stages required for the different composites to achieve a target copper concentrate grade of 20%. In order to eliminate any cyanide addition to the circuit, the control of pH with lime was successfully used to depress pyrite.

A series of rougher and cleaner tests were undertaken to recover pyrite from the copper tailings. The objectives of these tests were to minimize the sulphide content of the final tailings stream as well as to maximize the gold recovery and grade in a final pyrite concentrate.

The test program also included a zinc rougher flotation test in order to assess the zinc flotation response for the Romero Inferred composite.

Cyanidation leach tests were also performed by ALS Metallurgy in Kamloops to evaluate the potential to extract silver and gold from a pyrite flotation concentrate. Additional testwork, including pressure oxidation (POX) and bacterial oxidation (BOX) of the pyrite concentrate prior to cyanidation leaching was undertaken by ALS Metallurgy, Australia.

#### 13.2.2.1 Flotation

Initial copper rougher flotation tests using the Romero Indicated composite investigated the effect of primary grind sizing ($k_{80}$) between 150 and 190 µm and the response to various copper collectors, including PAX, Cytec 3477 and 5100. Cytec 3477 collector alone was used in copper circuits with the Romero Inferred and Romero South composites. Rougher pH was modulated with lime to between 10 and 11, and to a target pH of 11.5 in the cleaner circuit to control pyrite.

One test (Test 19) using the Romero Inferred composite added copper sulphate to activate sphalerite. PAX was used as the zinc collector.

A pyrite flotation stage was added to the flowsheet to assess the potential for recovery of gold to a pyrite concentrate for subsequent off-site treatment by cyanide leaching for gold extraction. PAX was used as the pyrite collector. The pyrite cleaner circuit was tested at times in closed circuit with the copper 1st cleaner tails to maximise gold recovery to the pyrite concentrate.

During the testing program it became clear that a certain portion of the gold was associated with the pyrite and therefore when increasing the copper concentrate grade by depressing pyrite the recovery of gold to the copper product reduced. A preliminary concentrate economic analysis suggested that a relatively low but still saleable copper grade of 20% was the optimum target for the copper circuit.

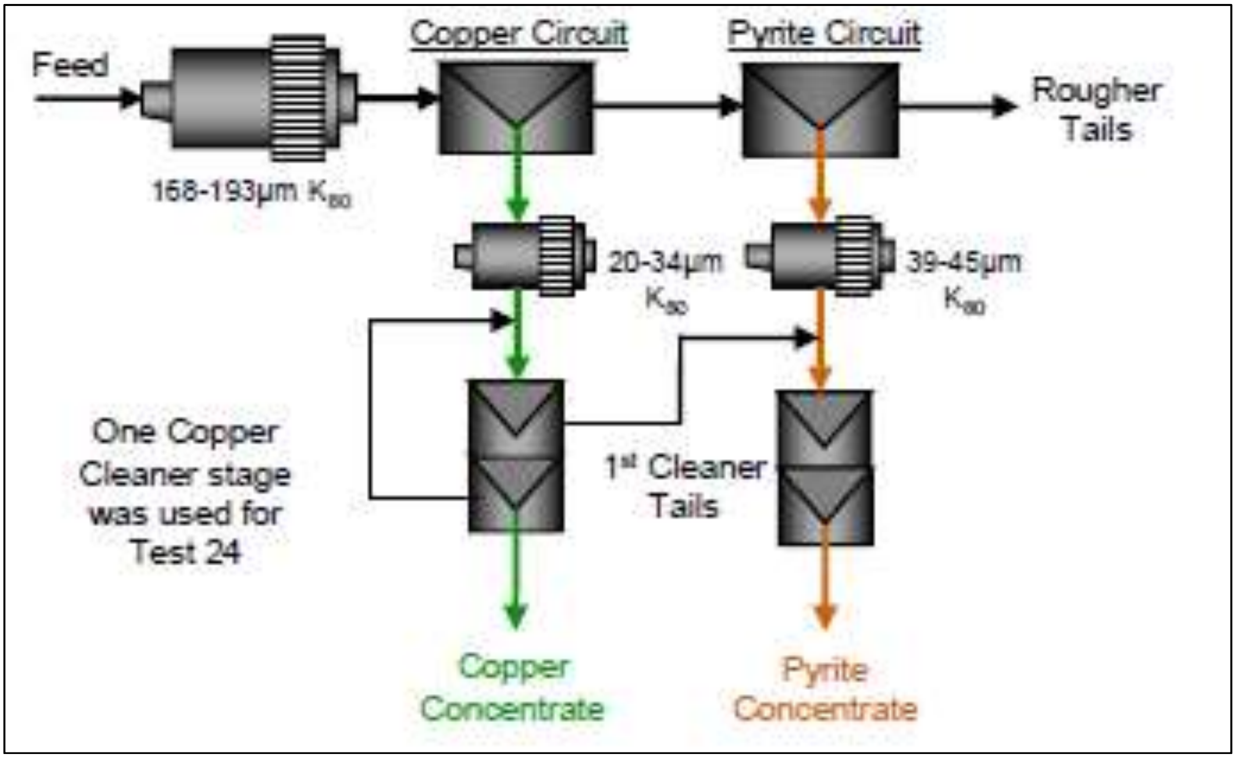
A single locked cycle test (LCT) was completed with each of the three composites. A primary $k_{80}$ grind nominal size of 180 µm was selected based upon the copper performance measured with the Romero Indicated composite. The actual $k_{80}$ grind primary grinds for the three composite LCT tests were 193 µm, 185 µm, 168 µm for Romero Indicated, Romero Inferred and Romero South, respectively. The copper and pyrite $k_{80}$ regrind sizes for the Romero Indicated LCT were 22 µm and 39 µm, for Romero Inferred they were 20 µm and 45 µm, and for Romero South they were 23 µm and 40 µm.

The pH of the Romero Indicated roughers was 10.0, for the Romero Inferred and Romero South composites, the rougher pH was increased to 11 to control pyrite flotation.

Copper 1st cleaner tails were combined with reground pyrite rougher concentrate as feed to the pyrite cleaners.

The LCT test flowsheet is presented in Figure 13.1 and the test conditions summarized in Table 13.6

**Figure 13.1**
**Locked Cycle Flotation Test Flowsheet**




Reference: Figure from ALS, 2014

**Table 13.6**
**Summary of LCT Flotation Test Conditions**

| Stage | pH | Redox (mV) | Lime (g/t) | 3477 (g/t) | PAX (g/t) |
|---|---|---|---|---|---|
| Primary grind | 10.0 – 11.2 | -80 to +49 | 600 – 2,100 | - | - |
| Copper roughers | 10.0 – 11.2 | -114 to +24 | 0 – 250 | 12 | - |
| Copper regrind | 11.5 | -145 to -16 | 300 - 400 | - | - |
| Copper cleaners | 11.5 | -145 to -16 | - | 6 - 10 | - |
| Pyrite roughers | 9.2 – 11.0 | -110 to +26 | - | - | 60 |
| Pyrite regrind | 9.3 – 9.9 | -2 to +130 | - | - | - |
| Pyrite cleaners | 9.3 – 9.6 | -56 to +20 | - | - | 90 – 130 |

Reference: ALS, 2014.

A summary of the LCT results for the three composites (Tests 4076 – 24, 16 and 27) are presented in Table 13.7, Table 13.8 and Table 13.9.

**Table 13.7**
**Summary of the Romero Indicated LCT Results**

| Product | Weight (%) | Assay (% and g/t ) | | | | | | Distribution (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu | Zn | Fe | S | Ag | Au | Cu | Zn | Fe | S | Ag | Au |
| Copper Con | 4.1 | 18.7 | 1.19 | 29.4 | 34.6 | 45 | 42.2 | 93.6 | 33.4 | 19.2 | 23.2 | 42.8 | 60.9 |
| Pyrite Con | 14.4 | 0.27 | 0.30 | 25.8 | 30.4 | 11 | 5.57 | 4.8 | 29.4 | 59.4 | 71.7 | 38.3 | 28.3 |
| Pyrite 1st Cleaner Tail | 21.3 | 0.01 | 0.06 | 2.3 | 0.48 | 1 | 0.35 | 0.4 | 8.1 | 7.9 | 1.7 | 5.0 | 2.7 |
| Pyrite Rougher Tail | 60.2 | 0.02 | 0.07 | 1.4 | 0.35 | 1 | 0.38 | 1.2 | 29.0 | 13.5 | 3.4 | 14.0 | 8.1 |
| Flotation Feed (Calc.) | 100.0 | 0.82 | 0.15 | 6.3 | 6.11 | 4 | 2.84 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | | | | | | | | | | | | | |
| **Estimated Sulphide Mineral Grade and Distribution** | | | | | | | | | | | | | |
| **Product** | **Weight (%)** | **Grade (% and g/t )** | | | | | | **Distribution (%)** | | | | | |
| | | **Chal** | **Sph** | **Pyr** | **Other** | **Ag** | **Au** | **Chal** | **Sph** | **Pyr** | **Other** | **Ag** | **Au** |
| Copper Con | 4.1 | 54.2 | 1.85 | 28.1 | 15.9 | 45 | 42.2 | 93.6 | 33.4 | 11.8 | 0.7 | 42.8 | 60.9 |
| Pyrite Con | 14.4 | 0.79 | 0.46 | 56.1 | 42.6 | 11 | 5.57 | 4.8 | 29.4 | 83.0 | 7.0 | 38.3 | 28.3 |
| Pyrite 1st Cleaner Tail | 21.3 | 0.04 | 0.09 | 0.8 | 99.05 | 1 | 0.35 | 0.4 | 8.1 | 1.8 | 24.1 | 5.0 | 2.7 |
| Pyrite Rougher Tail | 60.2 | 0.05 | 0.11 | 0.5 | 99.30 | 1 | 0.38 | 1.2 | 29.0 | 3.4 | 68.2 | 14.0 | 8.1 |
| Flotation Feed (Calc.) | 100.0 | 2.37 | 0.23 | 9.7 | 87.67 | 4 | 2.84 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Chal. – Chacopyrite
Sph. – Sphalerite
Pyr - Pyrite



94

**Table 13.8**
**Summary of the Romero Inferred LCT Results**

| Product | Weight (%) | Assay (% and g/t ) | | | | | | Distribution (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu | Zn | Fe | S | Ag | Au | Cu | Zn | Fe | S | Ag | Au |
| Copper Con | 1.6 | 23.0 | 4.86 | 29.6 | 36.7 | 43 | 32.9 | 79.0 | 8.4 | 9.0 | 10.8 | 16.8 | 35.2 |
| Pyrite Con | 18.4 | 0.45 | 1.91 | 18.5 | 22.4 | 14 | 3.47 | 18.3 | 38.8 | 65.4 | 77.0 | 63.2 | 43.4 |
| Pyrite 1st Cleaner Tail | 18.9 | 0.01 | 0.08 | 2.0 | 0.50 | 1 | 0.34 | 0.5 | 1.7 | 7.3 | 1.8 | 4.7 | 4.3 |
| Pyrite Rougher Tail | 61.0 | 0.02 | 0.76 | 1.6 | 0.92 | 1 | 0.41 | 2.3 | 51.0 | 18.3 | 10.4 | 15.3 | 17.0 |
| Flotation Feed (Calc.) | 100.0 | 0.46 | 0.91 | 5.2 | 5.36 | 4 | 1.47 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | | | | | | | | | | | | | |
| **Estimated Sulphide Mineral Grade and Distribution** | | | | | | | | | | | | | |
| **Product** | **Weight (%)** | **Grade (% and g/t )** | | | | | | **Distribution (%)** | | | | | |
| | | **Chal** | **Sph** | **Pyr** | **Other** | **Ag** | **Au** | **Chal** | **Sph** | **Pyr** | **Other** | **Ag** | **Au** |
| Copper Con | 1.6 | 66.5 | 7.59 | 20.4 | 5.5 | 43 | 32.9 | 79.0 | 8.4 | 3.9 | 0.1 | 16.8 | 35.2 |
| Pyrite Con | 18.4 | 1.31 | 2.99 | 39.1 | 56.6 | 14 | 3.47 | 18.3 | 38.8 | 87.2 | 11.7 | 63.2 | 43.4 |
| Pyrite 1st Cleaner Tail | 18.9 | 0.03 | 0.13 | 0.8 | 99.00 | 1 | 0.34 | 0.5 | 1.7 | 1.9 | 21.1 | 4.7 | 4.3 |
| Pyrite Rougher Tail | 61.0 | 0.05 | 1.19 | 0.9 | 97.82 | 1 | 0.41 | 2.3 | 51.0 | 7.0 | 67.1 | 15.3 | 17.0 |
| Flotation Feed (Calc.) | 100.0 | 1.33 | 1.42 | 8.3 | 88.97 | 4 | 1.47 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Chal. – Chacopyrite
Sph. – Sphalerite
Pyr - Pyrite





95

**Table 13.9**
**Summary of the Romero South LCT Results**

| Product | Weight (%) | Assay (% and g/t ) | | | | | | Distribution (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu | Zn | Fe | S | Ag | Au | Cu | Zn | Fe | S | Ag | Au |
| Copper Con | 1.5 | 15.5 | 2.92 | 27.2 | 36.8 | 43 | 106 | 82.8 | 22.5 | 10.0 | 12.2 | 25.3 | 43.1 |
| Pyrite Con | 8.1 | 0.42 | 0.90 | 30.2 | 40.6 | 13 | 15.5 | 11.9 | 37.1 | 59.6 | 71.9 | 39.5 | 33.6 |
| Pyrite 1st Cleaner Tail | 32.6 | 0.01 | 0.08 | 1.5 | 0.61 | 1 | 0.88 | 1.3 | 12.5 | 11.9 | 4.4 | 12.7 | 7.7 |
| Pyrite Rougher Tail | 57.8 | 0.02 | 0.09 | 1.3 | 0.91 | 1 | 1.01 | 3.9 | 28.0 | 18.4 | 11.5 | 22.5 | 15.7 |
| Flotation Feed (Calc.) | 100.0 | 0.28 | 0.20 | 4.1 | 4.56 | 3 | 3.73 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

**Estimated Sulphide Mineral Grade and Distribution**

| Product | Weight (%) | Grade (% and g/t ) | | | | | | Distribution (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Chal | Sph | Pyr | Other | Ag | Au | Chal | Sph | Pyr | Other | Ag | Au |
| Copper Con | 1.5 | 44.7 | 4.56 | 36.8 | 14.0 | 43 | 106 | 82.8 | 22.5 | 7.1 | 0.2 | 25.3 | 43.1 |
| Pyrite Con | 8.1 | 1.20 | 1.41 | 74.2 | 23.2 | 13 | 15.5 | 11.9 | 37.1 | 76.9 | 2.1 | 39.5 | 33.6 |
| Pyrite 1st Cleaner Tail | 32.6 | 0.03 | 0.12 | 1.1 | 98.80 | 1 | 0.88 | 1.3 | 12.5 | 4.4 | 35.3 | 12.7 | 7.7 |
| Pyrite Rougher Tail | 57.8 | 0.05 | 0.15 | 1.6 | 98.23 | 1 | 1.01 | 3.9 | 28.0 | 11.6 | 62.4 | 22.5 | 15.7 |
| Flotation Feed (Calc.) | 100.0 | 0.81 | 0.31 | 7.8 | 91.07 | 3 | 3.73 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Chal. – Chacopyrite
Sph. – Sphalerite
Pyr - Pyrite


96

Approximately 94% of the copper and 61% of the gold were recovered to the Romero Indicated copper concentrate, which graded about 19% copper and 42 g/t gold. This high copper recovery was consistent with batch cleaner test results.

Lower copper recoveries of 79% and 83% were measured for the Romero Inferred and Romero South composites, into products grading 23% and 16%, respectively. Given the 20% copper concentrate grade target these results suggest that an additional cleaner might be required when processing Romero South mineralization.

Gold recovery to the copper concentrate measured between 35% and 61% for the three composites, highest for the Romero Indicated composite. The grade of the gold in the copper concentrates produced from the three composites ranged between 33 g/t and 106g/t.

Gold recovery to the pyrite concentrate ranged between 28% and 43%, grading between 3.5 g/t and 15.5 g/t. The total gold recovered into the two flotation concentrates was 89%, 79% and 77% for the Romero Indicated, Romero Inferred and Romero South composites, respectively.

13.2.2.2 Flotation Recoveries

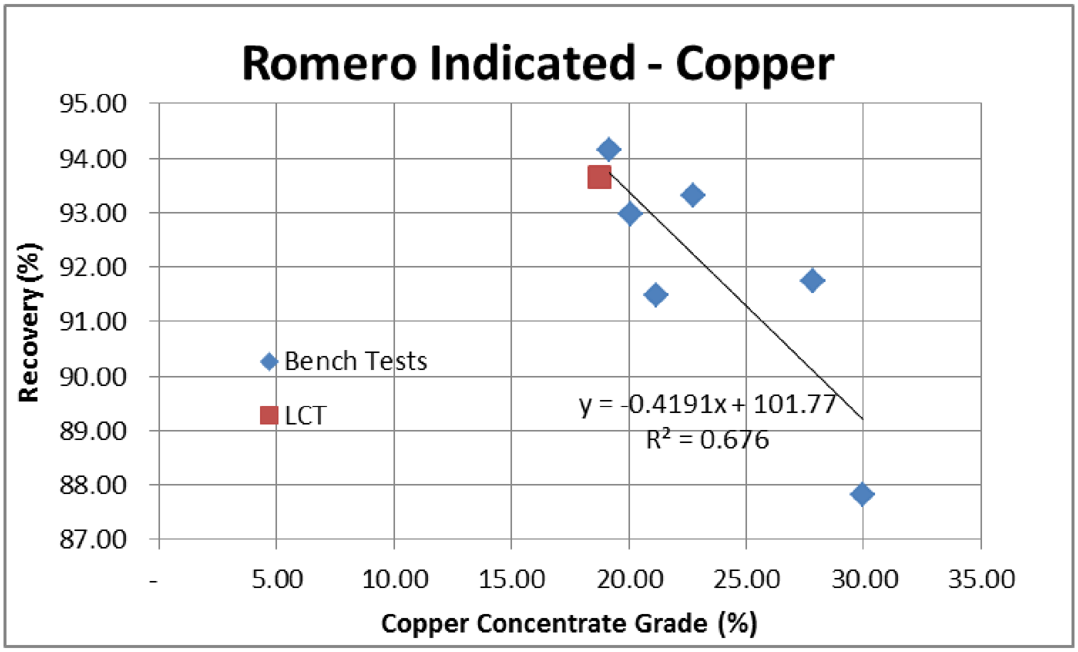
The results of the LCT and appropriate bench scale tests are presented in the following figures. These results were used to model the recoveries of copper, gold and silver into the two flotation products for the three composites. The calculated metallurgical balance for the three composites using the algorithms presented in the recovery figures are shown in Table 13.10, Table 13.11 and Table 13.12.

The metallurgical balance for the Romero Indicated composite is based on the test results presented in Figure 13.2 for the copper concentrate and Figure 13.5 for the pyrite concentrate. These estimates assume a 20% copper concentrate and a 12% weight recovery to the pyrite concentrate. The data used to develop the recovery algorithms include the relevant batch tests as well as the LCT results.

The metallurgical balance for the Romero Inferred composite is based on the test results presented in Figure 13.3 for the copper concentrate and Figure 13.6 for the pyrite concentrate. These estimates assume a 20% copper concentrate and a 12% weight recovery to the pyrite concentrate. The copper recovery algorithm, which was estimated from bench scale tests, was adjusted to consider the LCT. The estimated gold recovered to pyrite did not use the LCT test result as the weight recovery for this test was significantly higher than the 12% target.

The metallurgical balance for the Romero South composite is based on the test results presented in Figure 13.4 for the copper concentrate and Figure 13.7 for the pyrite concentrate. These estimates assume a 20% copper concentrate and an 8% weight recovery to the pyrite concentrate. The data used to develop the recovery algorithms include the relevant batch tests as well as the LCT results.

**Figure 13.2**
**Romero Indicated Composite Copper Concentrate Flotation Test Results**



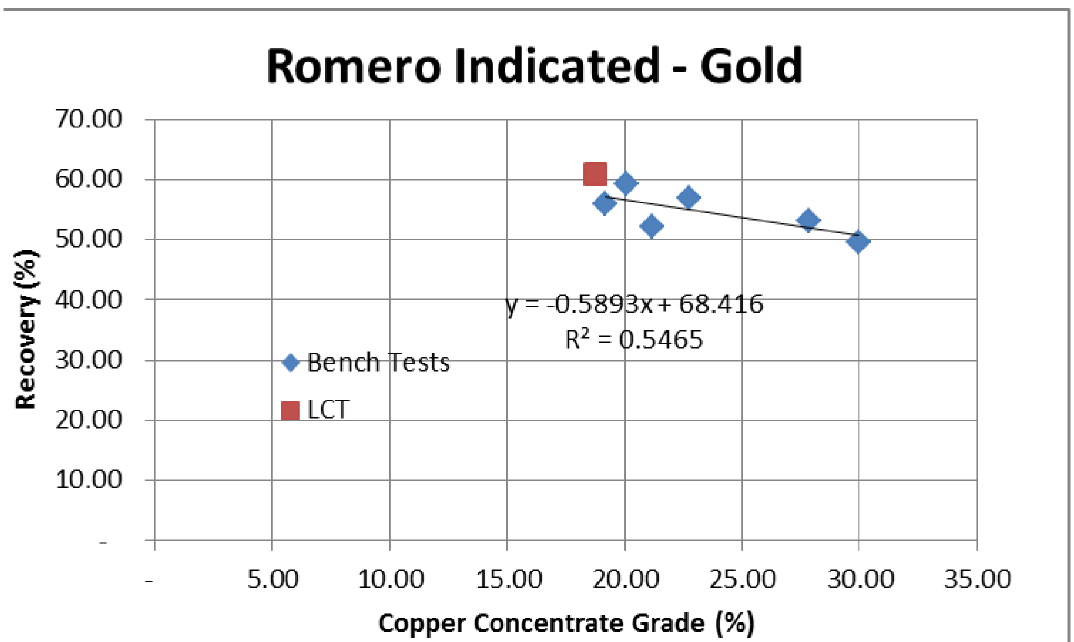
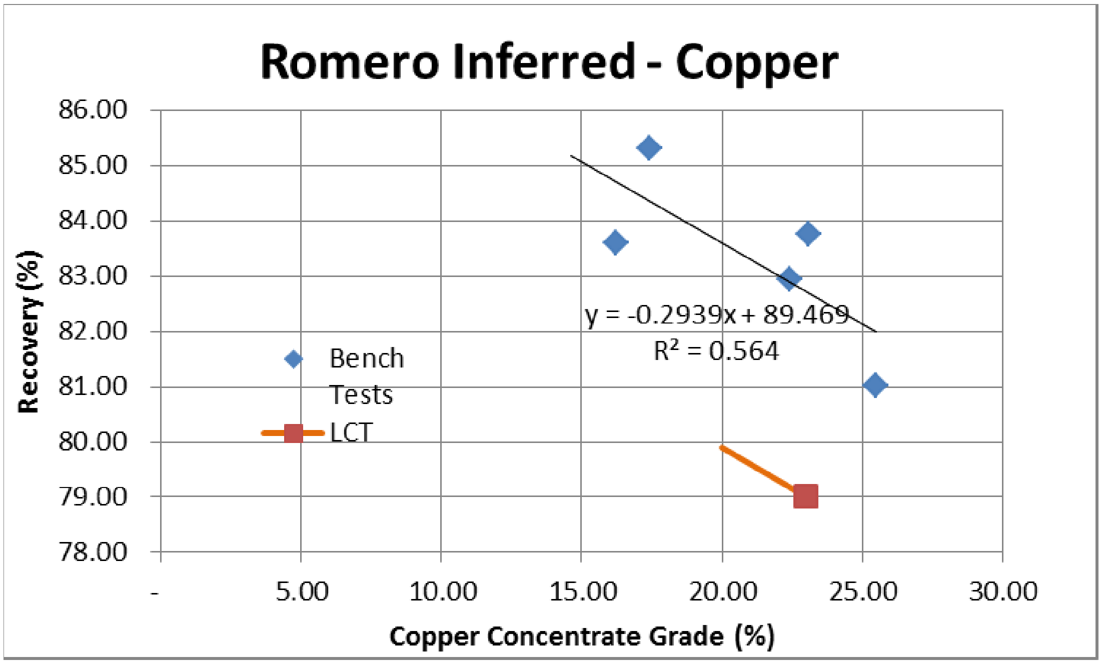



**Figure 13.3**
**Romero Inferred Composite Copper Concentrate Flotation Test Results**



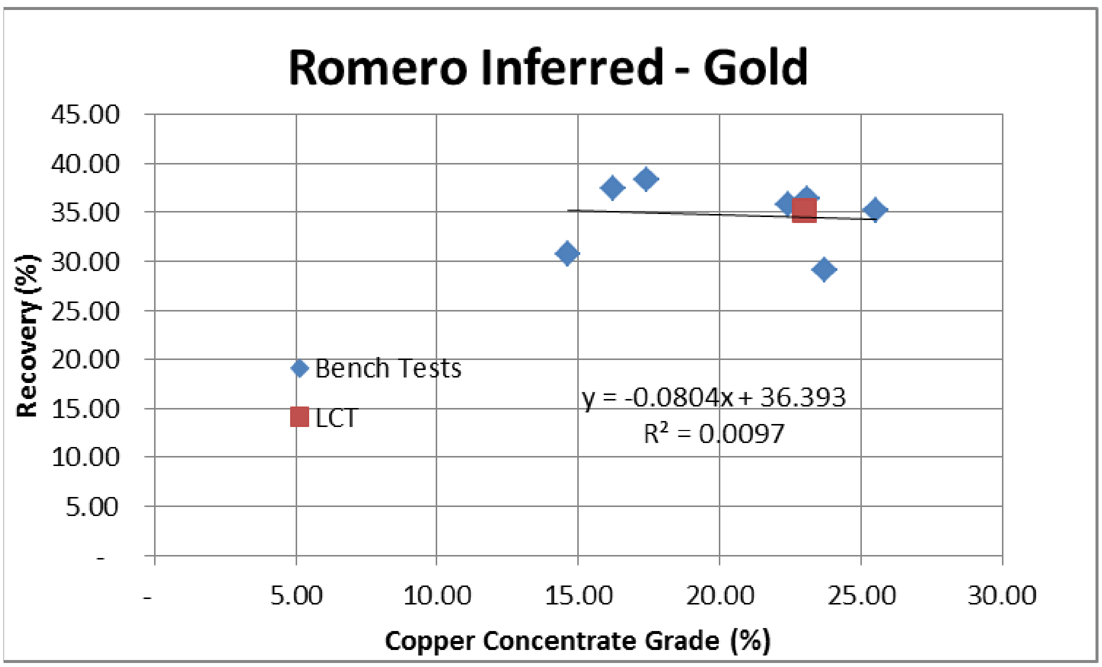
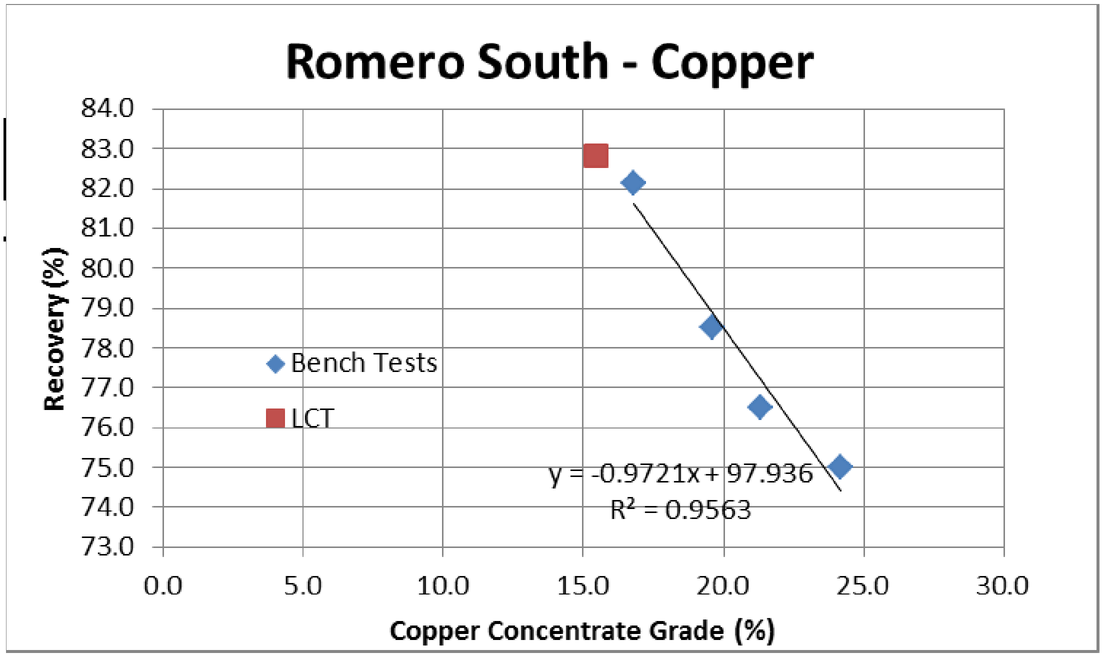



**Figure 13.4**
**Romero South Composite Copper Concentrate Flotation Test Results**



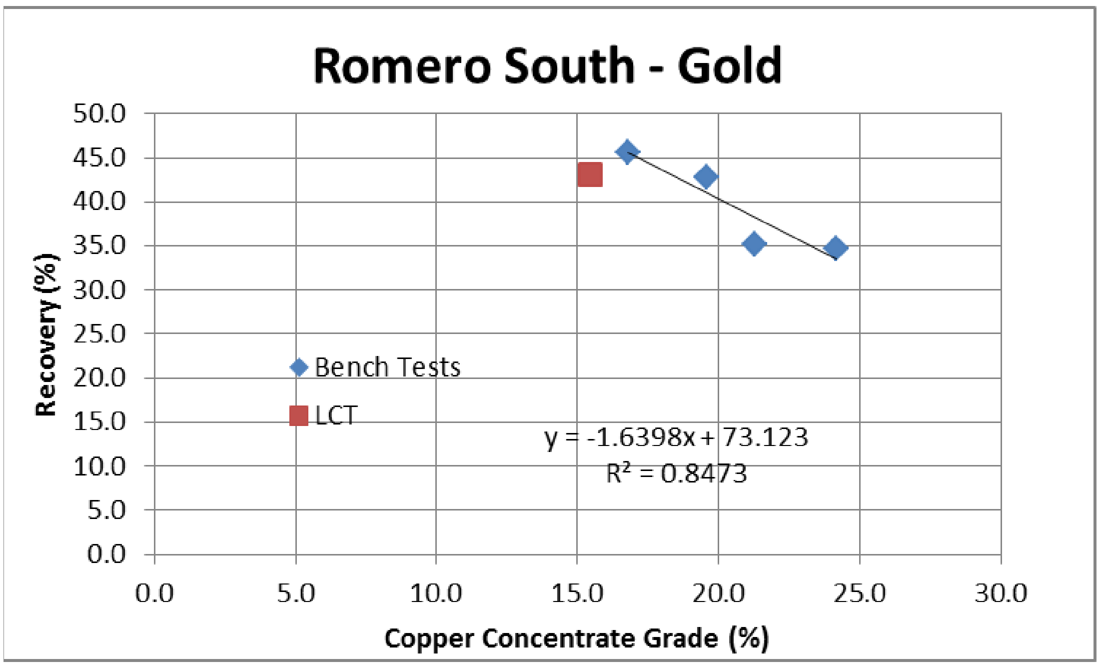
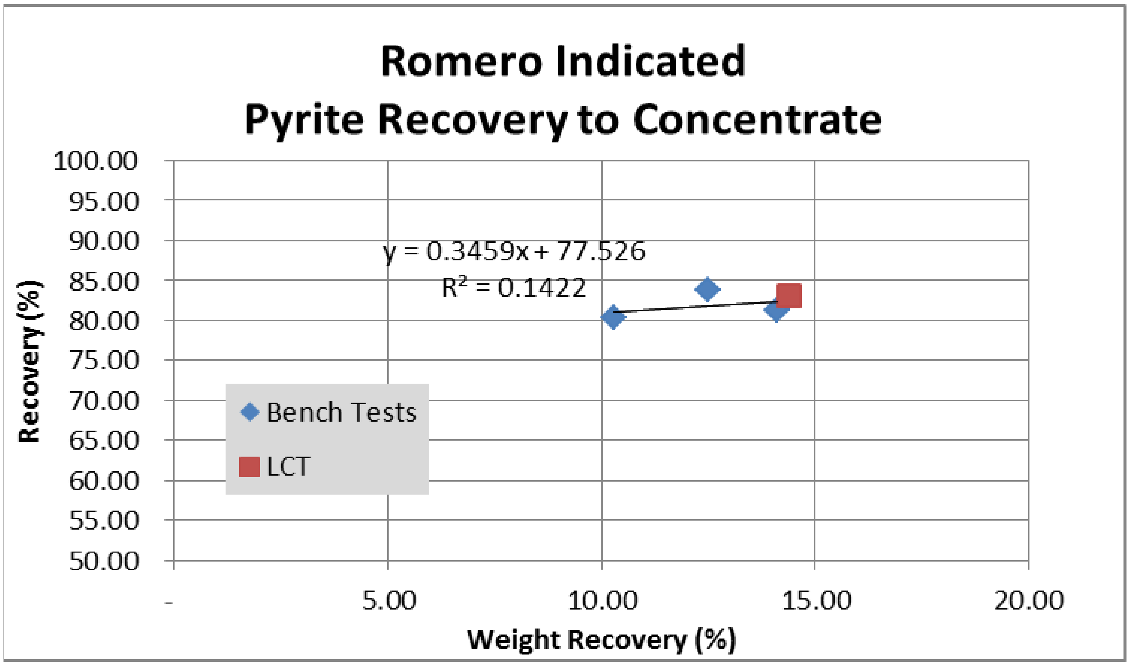



**Figure 13.5**
**Romero Indicated Composite Pyrite Concentrate Flotation Test Results**



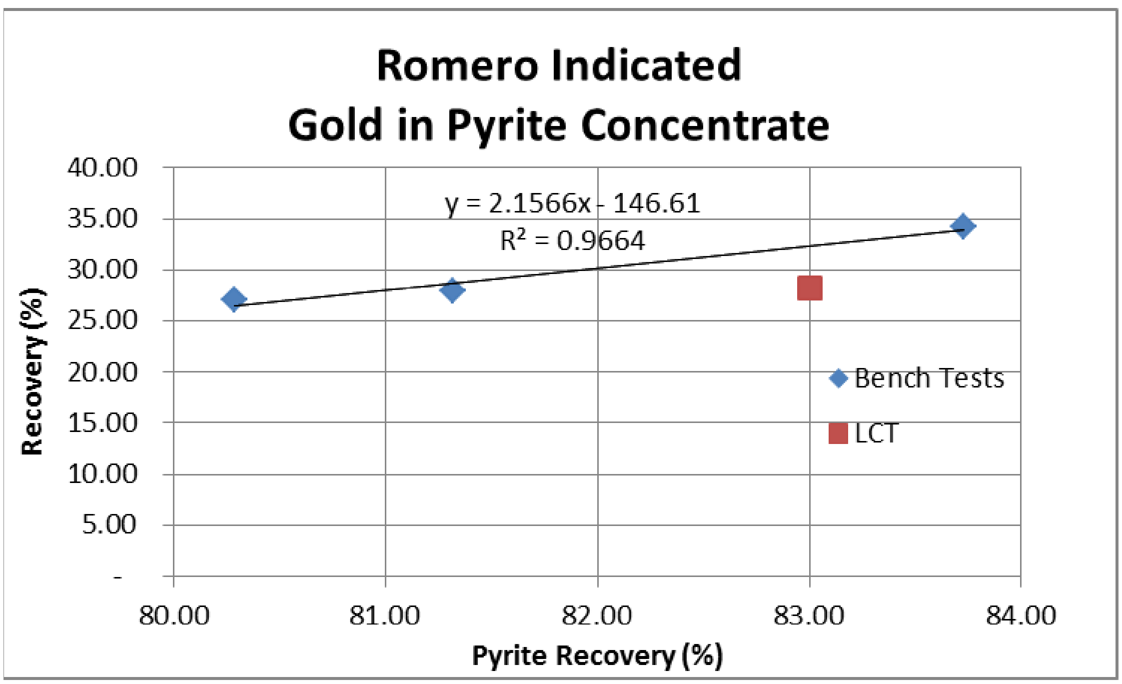
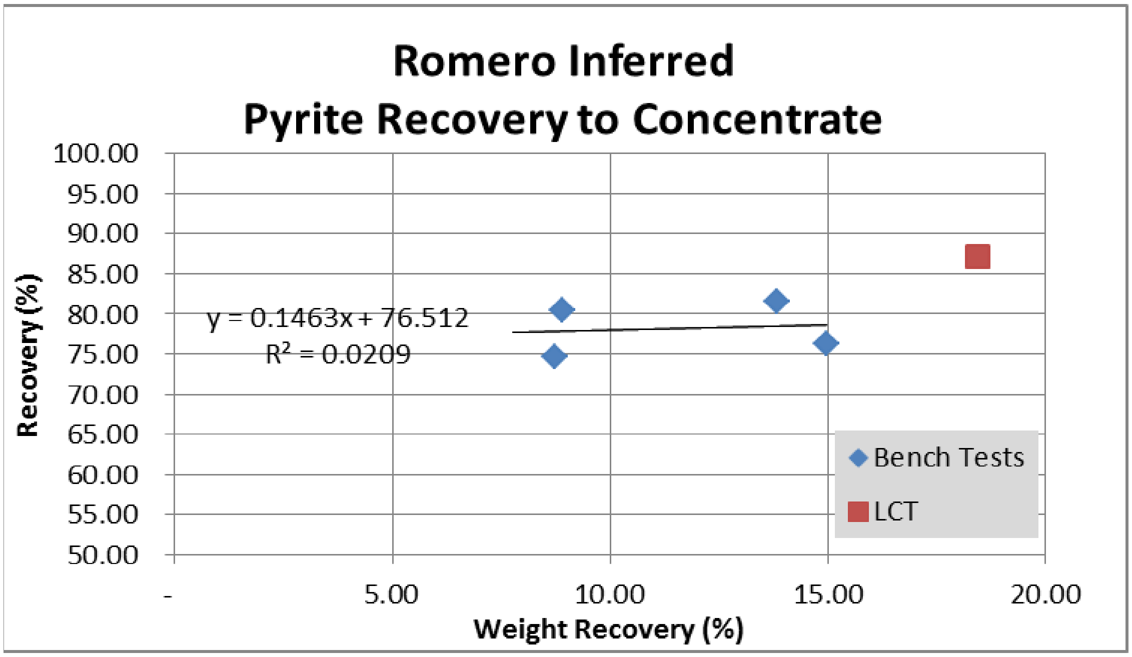



**Figure 13.6**
**Romero Inferred Composite Pyrite Concentrate Flotation Test Results**



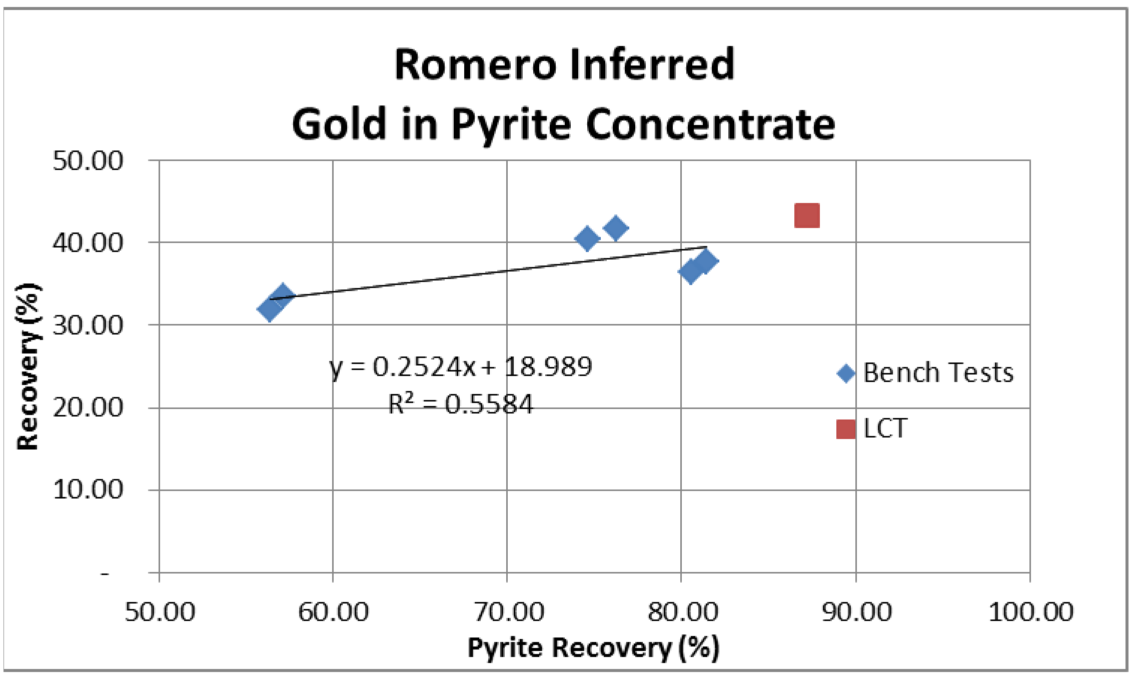
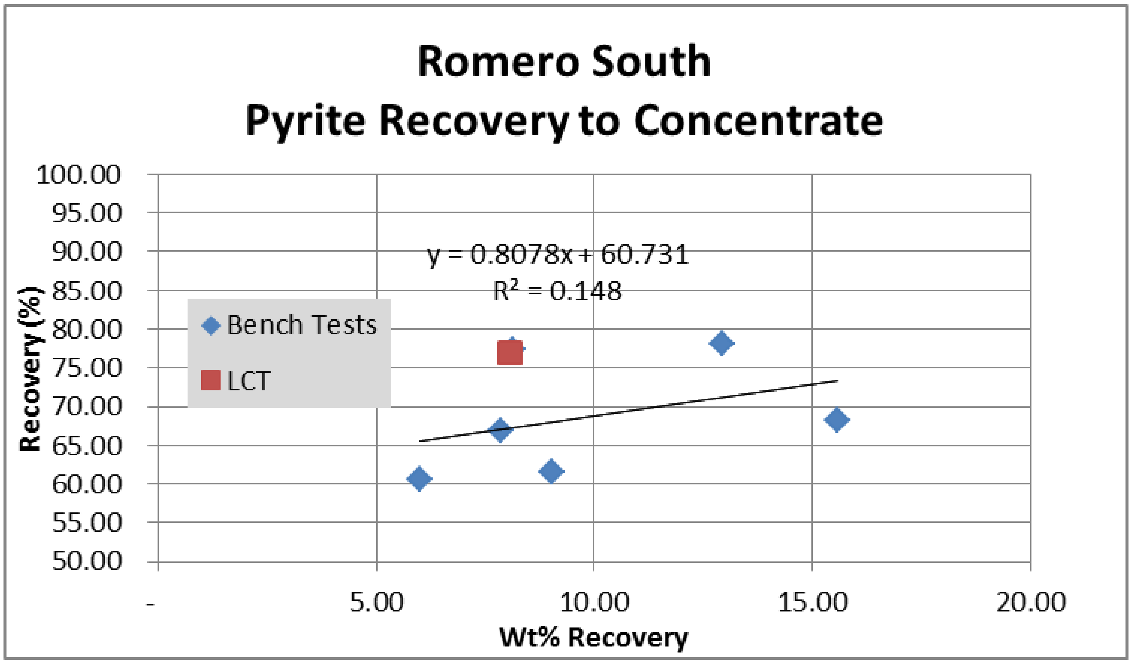
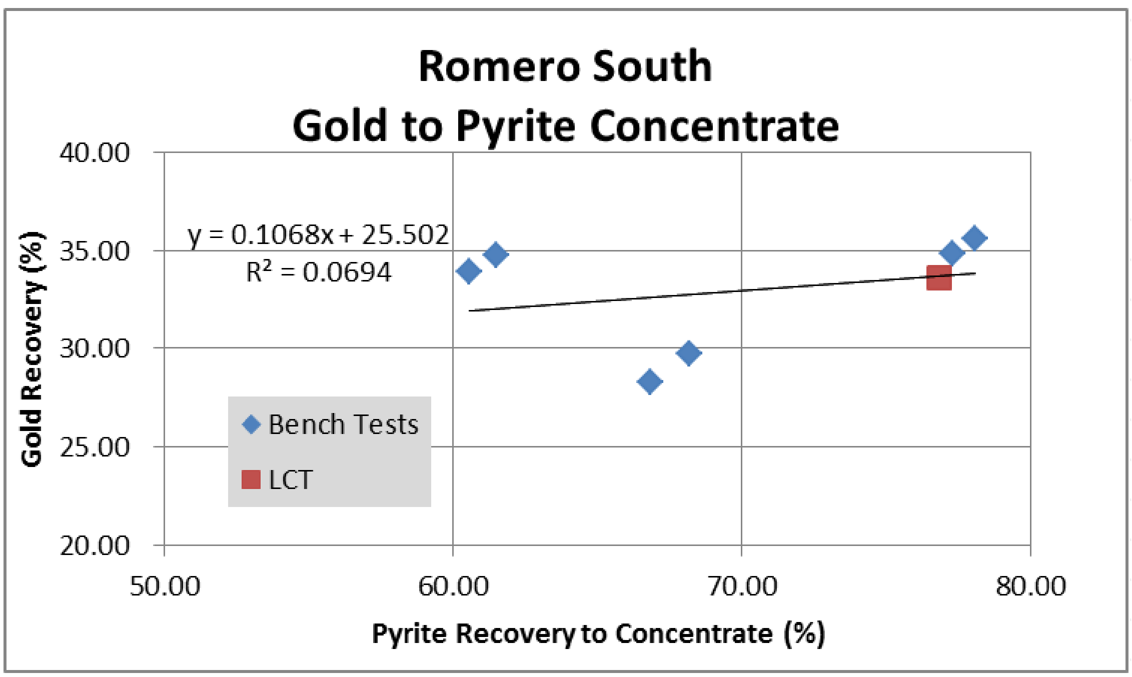



**Figure 13.7**
**Romero South Composite Pyrite Concentrate Flotation Test Results**



## Table 13.10
## Indicated Composite – Estimated Material Balance

| Product | Mass (%) | Grade | | | | | | Distribution | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu (%) | Zn (%) | Fe (%) | S (%) | Ag (g/t) | Au (g/t) | Cu (%) | Zn (%) | Fe (%) | S (%) | Ag (%) | Au (%) |
| Cu concentrate | 3.7 | 20.00 | 1.15 | 30.00 | 35.00 | 27.79 | 47.28 | 93.39 | 32.43 | 16.66 | 20.73 | 40.75 | 56.63 |
| Py concentrate | 12.0 | 0.35 | 0.35 | 31.85 | 36.80 | 6.74 | 7.53 | 5.29 | 32.49 | 57.90 | 71.34 | 32.35 | 29.53 |
| Tails | 84.3 | 0.01 | 0.05 | 1.99 | 0.58 | 0.80 | 0.50 | 1.32 | 35.08 | 25.44 | 7.93 | 26.90 | 13.84 |
| Feed | 100.0 | 0.79 | 0.13 | 6.60 | 6.19 | 2.50 | 3.06 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| | | | | | | | | | | | | | |
| Product | Mass (%) | Chal. (%) | Sph (%) | Pyr (%) | Other (%) | Ag (g/t) | Au (g/t) | Chal. (%) | Sph (%) | Pyr (%) | Other (%) | Ag (%) | Au (%) |
| Cu concentrate | 3.7 | 57.80 | 1.80 | 26.50 | 13.90 | 27.79 | 47.28 | 93.39 | 32.43 | 9.75 | 0.58 | 40.75 | 56.63 |
| Py concentrate | 12.0 | 1.00 | 0.55 | 67.80 | 30.65 | 6.74 | 7.53 | 5.29 | 32.49 | 81.68 | 4.20 | 32.35 | 29.53 |
| Tails | 84.3 | 0.04 | 0.08 | 1.01 | 98.87 | 0.80 | 0.50 | 1.32 | 35.08 | 8.57 | 95.22 | 26.90 | 13.84 |
| Feed | 100.0 | 2.27 | 0.20 | 9.96 | 87.57 | 2.50 | 3.06 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Chal. – Chacopyrite
Sph. – Sphalerite
Pyr - Pyrite

## Table 13.11
## Romero Inferred Composite – Estimated Material Balance

| Product | Mass (%) | Grade | | | | | | Distribution | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu (%) | Zn (%) | Fe (%) | S (%) | Ag (g/t) | Au (g/t) | Cu (%) | Zn (%) | Fe (%) | S (%) | Ag (%) | Au (%) |
| Cu concentrate | 1.8 | 20.00 | 4.50 | 28.00 | 36.00 | 21.65 | 28.03 | 83.59 | 9.51 | 9.52 | 12.04 | 15.74 | 34.79 |
| Py concentrate | 12.0 | 0.45 | 3.20 | 26.35 | 31.79 | 12.11 | 4.73 | 12.41 | 44.65 | 59.10 | 70.19 | 58.15 | 38.74 |
| Tails | 86.2 | 0.02 | 0.46 | 1.95 | 1.12 | 0.76 | 0.45 | 4.00 | 45.84 | 31.39 | 17.76 | 26.11 | 26.47 |
| Feed | 100.0 | 0.44 | 0.86 | 5.35 | 5.44 | 2.50 | 1.47 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| | | | | | | | | | | | | | |
| Product | Mass (%) | Chal. (%) | Sph (%) | Pyr (%) | Other (%) | Ag (g/t) | Au (g/t) | Chal. (%) | Sph (%) | Pyr (%) | Other (%) | Ag (%) | Au (%) |
| Cu concentrate | 1.8 | 57.80 | 7.03 | 25.14 | 10.03 | 21.65 | 28.03 | 83.59 | 9.51 | 5.37 | 0.21 | 15.74 | 34.79 |
| Py concentrate | 12.0 | 1.30 | 5.00 | 55.49 | 38.21 | 12.11 | 4.73 | 12.41 | 44.65 | 78.27 | 5.16 | 58.15 | 38.74 |
| Tails | 86.2 | 0.06 | 0.71 | 1.62 | 97.61 | 0.76 | 0.45 | 4.00 | 45.84 | 16.36 | 94.64 | 26.11 | 26.47 |
| Feed | 100.0 | 1.26 | 1.34 | 8.51 | 88.89 | 2.50 | 1.47 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Chal. – Chacopyrite
Sph. – Sphalerite
Pyr - Pyrite

## Table 13.12
## Romero South Composite – Estimated Material Balance

| Product | Mass (%) | Grade | | | | | | Distribution | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu (%) | Zn (%) | Fe (%) | S (%) | Ag (g/t) | Au (g/t) | Cu (%) | Zn (%) | Fe (%) | S (%) | Ag (%) | Au (%) |
| Cu concentrate | 1.2 | 20.00 | 3.50 | 30.00 | 37.00 | 40.48 | 117.74 | 78.49 | 23.28 | 8.76 | 10.09 | 24.23 | 40.33 |
| Py concentrate | 8.1 | 0.42 | 0.90 | 33.36 | 38.79 | 8.97 | 14.57 | 11.01 | 40.25 | 65.79 | 71.45 | 36.27 | 33.71 |
| Tails | 90.7 | 0.04 | 0.07 | 1.15 | 0.89 | 0.87 | 1.00 | 10.50 | 36.47 | 25.45 | 18.46 | 39.51 | 25.96 |
| Feed | 100.0 | 0.31 | 0.18 | 4.10 | 4.39 | 2.00 | 3.50 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| | | | | | | | | | | | | | |
| Product | Mass (%) | Chal. (%) | Sph (%) | Pyr (%) | Other (%) | Ag (g/t) | Au (g/t) | Chal. (%) | Sph (%) | Pyr (%) | Other (%) | Ag (%) | Au (%) |
| Cu concentrate | 1.2 | 57.80 | 5.47 | 27.97 | 8.76 | 40.48 | 117.74 | 78.49 | 23.28 | 4.49 | 0.11 | 24.23 | 40.33 |
| Py concentrate | 8.1 | 1.20 | 1.40 | 70.86 | 26.54 | 8.97 | 14.57 | 11.01 | 40.25 | 76.86 | 2.35 | 36.27 | 33.71 |
| Tails | 90.7 | 0.10 | 0.11 | 1.53 | 98.25 | 0.87 | 1.00 | 10.50 | 36.47 | 18.65 | 97.54 | 39.51 | 25.96 |
| Feed | 100.0 | 0.88 | 0.28 | 7.46 | 91.38 | 2.00 | 3.50 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Chal. – Chacopyrite
Sph. – Sphalerite
Pyr - Pyrite

The recoveries and grades shown in Table 13.10, Table 13.11 and Table 13.12 were used as the base for the PEA process design, including the process design criteria and material balance.

13.2.2.3 Flotation Concentrate Quality

Multi-element analyses were performed on the Romero Indicated, Romero Inferred, and Romero South copper and pyrite concentrates produced from the locked cycle test work. The copper concentrate analyses are shown in Table 13.13 and the pyrite concentrate analyses in Table 13.14.

**Table 13.13**
**LCT Copper Concentrate Analyses**

| Element | Symbol | Units | Romero Indicated Composite | Romero Inferred Composite | Romero South Composite |
|---|---|---|---|---|---|
| Copper | Cu | % | 18.7 | 23.0 | 15.5 |
| Gold | Au | g/t | 42.2 | 32.9 | 106.3 |
| Silver | Ag | g/t | 45 | 43 | 43 |
| Antimony | Sb | g/t | <20 | <20 | <20 |
| Arsenic | As | % | 0.05 | 0.05 | 0.04 |
| Bismuth | Bi | g/t | 24 | <20 | <20 |
| Cadmium | Cd | g/t | 54 | 234 | 200 |
| Calcium | Ca | % | 0.15 | 0.25 | 0.30 |
| Carbon | C | % | 0.03 | 0.08 | 0.10 |
| Cobalt | Co | g/t | 52 | 50 | 90 |
| Fluorine | F | g/t | 150 | 80 | 430 |
| Iron | Fe | % | 29.4 | 29.6 | 27.2 |
| Lead | Pb | % | 0.12 | 3.11 | 0.89 |
| Magnesium | Mg | % | 0.57 | 0.24 | 0.83 |
| Mercury | Hg | g/t | 2 | 1 | <1 |
| Molybdenum | Mo | % | 0.012 | 0.018 | 0.020 |
| Nickel | Ni | g/t | 128 | 96 | 114 |
| Palladium | Pd | g/t | 0.07 | 0.05 | 0.03 |
| Phosphorus | P | g/t | 19 | 12 | 52 |
| Platinum | Pt | g/t | 0.05 | 0.06 | 0.05 |
| Selenium | Se | g/t | 33 | 31 | 67 |
| Silicon | Si | % | 5.70 | 2.12 | 5.69 |
| Sulphur | S | % | 34.6 | 36.7 | 36.8 |
| Zinc | Zn | % | 1.19 | 4.86 | 2.92 |

**Table 13.14**
**LCT Pyrite Concentrate Analyses**

| Element | Symbol | Units | Romero Indicated Composite | Romero Inferred Composite | Romero South Composite |
|---|---|---|---|---|---|
| Gold | Au | g/t | 5.57 | 3.47 | 15.5 |
| Silver | Ag | g/t | 11 | 14 | 13 |
| Sulphur | S | % | 30.4 | 22.4 | 40.6 |
| Arsenic | As | % | 0.12 | 0.12 | 0.07 |
| Copper | Cu | % | 0.27 | 0.45 | 0.42 |
| Iron | Fe | % | 25.8 | 9.88 | 30.2 |
| Silicon | Si | % | 16.8 | 22.8 | 11.8 |
| Zinc | Zn | % | 0.30 | 1.91 | 0.90 |

The copper concentrate analyses generally showed low levels of common penalty elements. However, the Romero Inferred composite concentrate contained higher levels of zinc, lead and cadmium and the Romero South composite concentrate higher concentrations of cadmium and fluorine. All three copper concentrates contained payable levels of gold and silver.

Pyrite concentrates for all composites measured relatively low amounts of deleterious elements.

#### 13.2.2.4 Zinc Flotation

Sphalerite content was highest in the Romero Inferred composite at about 1.4%, but only between 0.2% and 0.3% for the other two composite samples. A single test (4076-19Cl) was completed during the test program to try and recover sphalerite into a zinc rougher concentrate following the copper circuit. The zinc recovery was low at around 20% into a rougher concentrate grading about 4% zinc.

#### 13.2.2.5 Leaching Tests

Two 48-hour cyanidation leach bottle roll tests were completed using pyrite concentrate samples produced from Romero Indicated composite batch cleaner tests. The $K_{80}$ leach feed particle size for the two tests were 32 µm and 9µm. The target sodium cyanide concentration was 1,000 ppm, the pH was maintained at about 11.0 and there was no pre-aeration step for either test.

Gold extractions for the two tests were 52% for the pyrite concentrate and 57% for the reground pyrite concentrate. Silver extractions were 46% for the pyrite concentrate and 62% for the reground pyrite concentrate. These results suggest that between 40% to 50% of the gold in the pyrite concentrate is not amenable to conventional cyanide leach technologies and an alternative “refractory” technology, such as bacterial oxidation (BOX) or pressure oxidation (POX), may be required to achieve high gold recoveries.

The test program did not include leaching tests on Romero Inferred and Romero South pyrite concentrates. These tests should be performed to confirm that gold and silver extractions for these composites are similar to those measured for the Romero Indicated composite.

13.2.2.6 Other Tests

***ABA and NAG testing***

Tailings products from the LCT were submitted to ALS Minerals Vancouver as dried solids and filter cakes for acid base accounting (ABA) and net acid generating (NAG) testing. The streams sampled included both the pyrite cleaner and rougher tailings for the three composites.

The sulphide sulphur assays for the three pyrite flotation rougher tailings ranged between 0.39% and 0.56%. The sulphide sulphur assays for the three pyrite primary cleaner tailings samples ranged between 0.29% and 0.79%.

Although all of the test samples contained relatively low amount of sulphide sulphur the results from both the ABA and the NAG tests suggest that all of the tailing samples have the potential to be acid generating. This is probably due to the very low neutralizing potential of the gangue minerals in the samples.

More detailed geochemical tests are recommended for the next phase of the project.

***BOX and POX Testing***

A pyrite concentrate was blended from pyrite concentrates produced from locked cycle test work with the Romero Indicated and Romero Inferred composites, and submitted to ALS Metallurgy Australia for preliminary BOX and POX and cyanidation leach tests. The cyanide leach test on the POX product gave a gold extraction of approximately 97% but the results from the BOX test were not available at the time of issuing the PEA.

## 13.3 CONCLUSIONS AND RECOMMENDATIONS

A flowsheet and process design criteria for the PEA was developed using the results of the metallurgical test program using composite samples representing the Romero deposit indicated and inferred mineral resources and the Romero South deposit. The metallurgical balance, including estimated recoveries for copper and gold, were established. These estimates are presented in Table 13.10, Table 13.11 and Table 13.12.

The flowsheet selected for the PEA comprises the recovery of copper and gold to a saleable copper sulphide concentrate and the recovery of the remaining gold to a pyrite concentrate.

The pyrite concentrate, which contains approximately 30% to 39% of the gold, appears to be refractory and will require oxidizing to release the gold in a recoverable form. Both POX and BOX were tested and gave encouraging results.

In order to provide more detailed design information required for a pre-feasibility level of study, it is recommended to undertake additional metallurgical testwork using representative samples from the Romero and Romero South deposits. These tests include:

- Variability hardness and grindability tests to confidently design the grinding circuit.
- Additional flotation flowsheet optimization testwork, including regrind sizing and collector reagent selection and dosage. This includes optimization work using composite samples as well as variability testing.
- Additional flotation work on the potential of zinc recovery is merited using mineral resource zones containing relatively elevated levels of zinc.
- The QEMSCAN BMAL provides an estimate based upon BMA data using a line scan method, and liberation data is not as accurate as a QEMSCAN particle mineral analysis (PMA). A full QEMSCAN PMA assessment of feeds is recommended to provide more accurate liberation assessment.
- Further cyanidation leach test work should be conducted on pyrite concentrates produced from the Romero Inferred and Romero South composites, to assess whether gold extractions are similar to those measured with the Romero Indicated composite.
- Additional optimization testwork is recommended on pyrite concentrate oxidation, particularly on bacterial oxidation.
- Settling and filtration testwork needs to be completed on representative samples of concentrates and tailings to provide detailed design information for the de-watering unit operations within the flowsheet.
- Additional detailed geochemical testwork is recommended.

# 14.0 MINERAL RESOURCE ESTIMATES

## 14.1 INTRODUCTION

The Romero project contains two distinct zones of mineralization, Romero, and Romero South in a 2.2 km-long area of anomalous gold and base metals (see Figure 14.1). Mineral resources for the latter zone, previously known as La Escandalosa, were estimated by Micon in 2011 and published in August, 2012 (Steedman and Gowans, 2012). The mineral resource estimate presented in this report supersedes that estimate. Romero is a new discovery and this is the first estimate for the zone.

**Figure 14.1**
**Relative Location of the Romero Project Mineralized Zones**

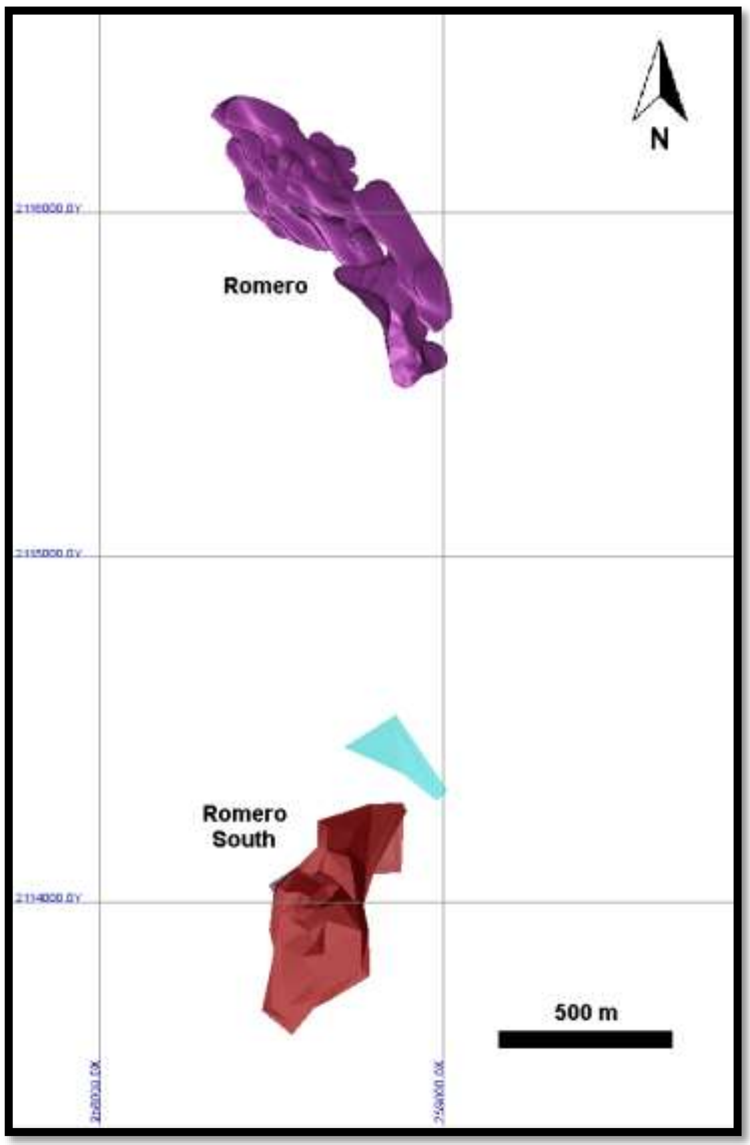



Figure supplied by GoldQuest (2013).

## 14.2 MINERAL RESOURCE ESTIMATION PROCEDURES

The mineral resource estimates for the Romero project deposits presented in this report are NI 43-101 compliant and follow the CIM Definition Standards – For Mineral Resources and Mineral Reserves as adopted by CIM Council on November 27, 2010 which state as follows:

> "Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.
>
> "A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
>
> "The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase "reasonable prospects for economic extraction" implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports."

Based on the CIM definitions the mineral resource estimate was carried out as described below

### 14.2.1 Supporting Data

The Romero project database provided to Micon comprises 150 drill holes with a total of 39,629 m of drill core and containing 14,474 samples. Assays for gold, silver copper and zinc were available for these holes. This database was the starting point from which the two mineralized envelopes, Romero and Romero South, were modelled.

From the entire database Micon used the data contained within the interpreted mineralization wireframes to estimate resources. The number of holes and samples used in the estimate were 113 drill holes and 4,199 samples, totalling 8,228 m of mineralized intercepts.

### 14.2.2 Topography

The project topography comes from a digital terrain model (DTM) constructed by GoldQuest based on purchased IKONOS satellite data. Some surveyed collar elevations were corrected using this topographic surface.

### 14.2.3 Geological Framework

The Romero project contains gold, silver, copper and zinc mineralization as described in Sections 7 through 10 of this report. This interpretation, along with input and guidance from GoldQuest staff were used to model the mineralization wireframes.

### 14.2.4 Local Rock Density

Bulk density measurements of core samples were taken by local technicians and geologists employed by GoldQuest using the weight-in-air, weight-in-water comparison method.

A total of 877 measurements were delivered to Micon from which average densities were calculated for the Romero and Romero South deposits, as well as for the surrounding waste rock. A few suspicious, extremely low values, less than 2.36, were not used. The overall average density value of the Romero project is 2.77 g/cm$^3$. Table 14.1 below summarizes the statistics of the calculations.

**Table 14.1**
**Romero Project Average Density within the Envelopes**

| Deposit | Measurements | Min. | Max. | Avg. Value |
|---|---|---|---|---|
| **Romero South** | 113 | 2.36 | 4.22 | 2.71 |
| Waste Rock | 98 | 2.36 | 4.22 | 2.71 |
| Mineralized Rock | 15 | 2.44 | 3.23 | 2.72 |
| | | | | |
| **Romero** | 714 | 2.40 | 4.72 | 2.78 |
| Waste Rock | 517 | 2.40 | 4.21 | 2.72 |
| Mineralized Rock | 197 | 2.40 | 4.72 | 2.94 |
| | | | | |
| **Grand Total** | 827 | 2.36 | 4.72 | 2.77 |

### 14.2.5 Population Statistics

Basic statistics were determined for the entire database. For the selected intervals in the mineralized envelopes, the results are as follows:

**Table 14.2**
**Romero Basic Population Statistics**

| Variable | Romero | | | | Romero South | | | |
|---|---|---|---|---|---|---|---|---|
| | Au (g/t) | Ag (g/t) | Cu (%) | Zn (%) | Au (g/t) | Ag (g/t) | Cu (%) | Zn (%) |
| Number of samples | 9,383 | 9,383 | 9,383 | 9,383 | 4,184 | 4,184 | 4,184 | 4,184 |
| Minimum value* | 0.000 | 0.000 | 0.000 | 0.000 | 0.00025 | 0.002 | 0.0004 | 0 |
| Maximum value | 288.600 | 186.000 | 21.941 | 20.020 | 68.500 | 98.000 | 2.714 | 3.870 |
| Mean | 0.690 | 2.419 | 0.181 | 0.164 | 0.346 | 0.902 | 0.031 | 0.041 |
| Median | 0.100 | 1.000 | 0.013 | 0.020 | 0.014 | 0.262 | 0.007 | 0.010 |
| Variance | 27.191 | 21.211 | 0.402 | 0.293 | 4.286 | 6.062 | 0.010 | 0.025 |
| Standard Deviation | 5.215 | 4.606 | 0.634 | 0.541 | 2.070 | 2.462 | 0.101 | 0.158 |
| Coefficient of variation | 7.554 | 1.904 | 3.493 | 3.310 | 5.975 | 2.730 | 3.231 | 3.829 |

* - Zero value means missing assays assumed to be zero.

### 14.2.6 Three-Dimensional Modelling

GoldQuest provided Micon with a preliminary 3D wireframe representing the interpreted mineralized envelope of the Romero deposit. The Romero South envelope, which had previously been interpreted by Micon, was reviewed and updated accordingly to account for the additional drilling completed since 2011.

Given that Romero project is a multi-element mineral resource, the Romero and Romero South envelopes prepared by Micon were defined using the in-situ contained metal value from the gold, silver, copper and zinc assays. The metal prices assumed for this calculation were; Au = US$1,400/oz, Ag = US$22.50/oz, Cu = US$3.18/lb and Zn = US$0.95/lb. These metal prices were derived from a long term consensus metal price forecasting service (Consensus Economics Inc.) which surveys 26 banks and economic monitoring units for short and medium term metal price predictions. The metal value was calculated using the following formula:

*Metal Value = (Au g/t x Au price) + (Ag g/t x Ag price) + (Cu % x Cu price) + (Zn % x Zn price)*

*Applying unit adjusting factors to prices, we have:**

*Metal Value$_{in\text{-}situ}$ = (Au g/t x US$45.01) + (Ag g/t x US$0.72) + (Cu % x US$70) + (Zn % x US$21)*

* - Gold and silver units are in ppm and copper and zinc prices are in weight %.

The Romero deposit is complex with locally high gold and copper grades, along with zinc and silver grades which are not necessarily coincident. The interpretation of the mineralization and its envelope construction was performed by an implicit modelling method using Leapfrog Geo software. A contained metal value cut-off of US$20 was used along with other constraining parameters, such as interpreted dip and strike anisotropy, interactively until the desired envelope shape was achieved.

The Romero South deposit is simple set of stacked, flat-lying lenses. The mineralized envelope was updated using a US$15 cut-off metal value and the wireframe was constructed by conventional manual triangulation methods. Figure 14.2 and Figure 14.3 show 3D isometric views of the final interpreted mineralization lenses and intersecting drill holes.

**Figure 14.2**
**Romero Deposit Resulting Wireframe**
**(Looking down dip to the north-east)**

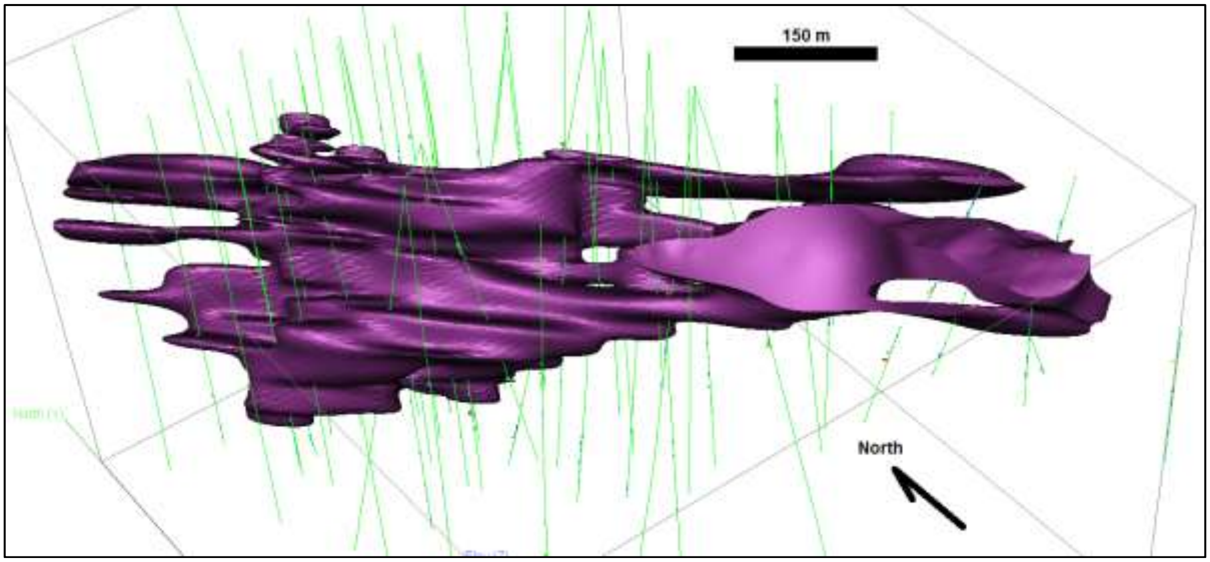
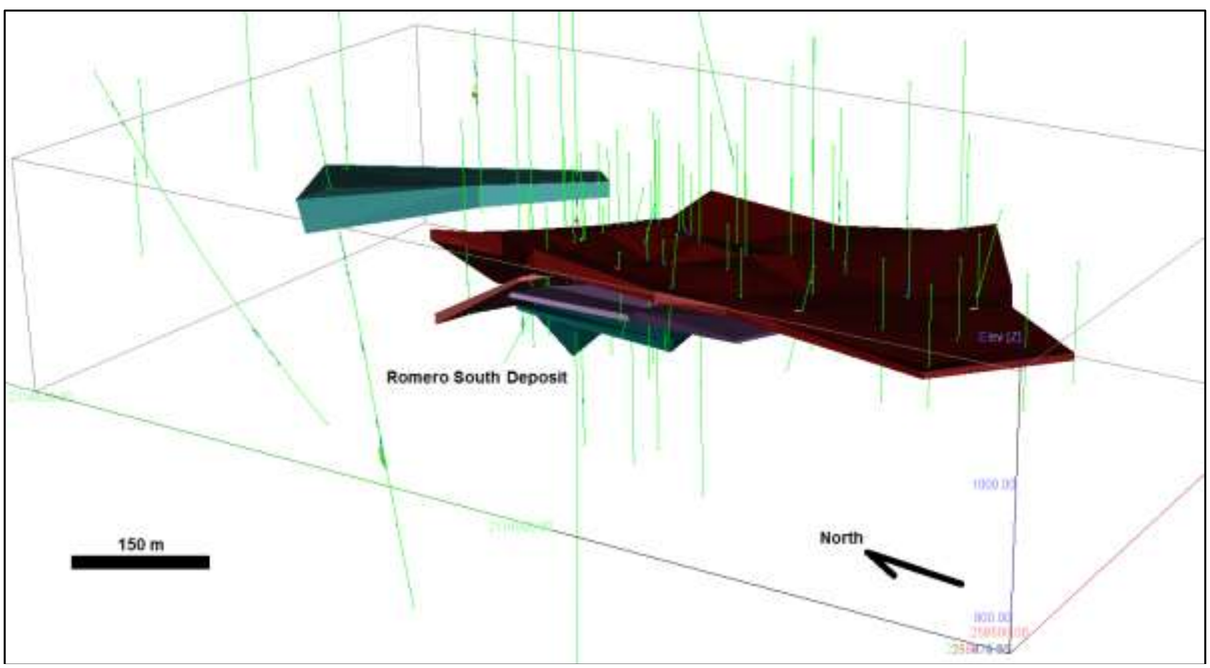



**Figure 14.3**
**Romero South Deposit Resulting Wireframes**
**(Looking down dip to the north-east)**



Romero South shows three stacked lenses and a fourth lens to the north. The centre lens of the three stacked lenses was discontinuous and had to be separated into a zone 2 north and zone 2 south making for five separate zones. Zone 2 south and north were combined for variography as one is the along strike extension of the other.

### 14.2.7 Data Processing

In order to complete the resource estimate the following procedures and analyses were performed.

**High Grade Restriction**

Gold, silver, copper and zinc data within the mineralized envelopes were examined for outlier values using histograms and probability plots. These are useful tools for the identification of the limits of log-normally distributed populations and the identification of any outlier values. These plots were reviewed and decisions made on capping values for the elements in question in order to prevent nugget effect from creating inappropriately high amounts of metal in the block model.

An example histogram and probability plot are shown in Figure 14.4 and Figure 14.5. Log normal populations plot as straight lines on probability plots. The upper point at which the straight line breaks down is often accepted as the capping value.

**Figure 14.4**
**Romero Deposit Gold Histogram**

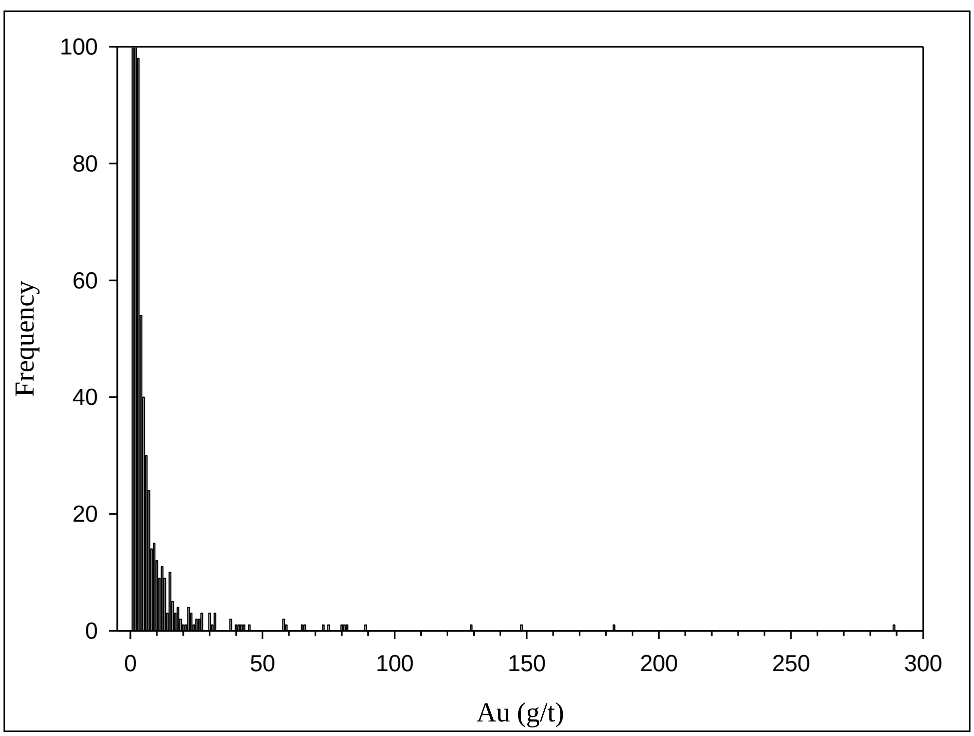
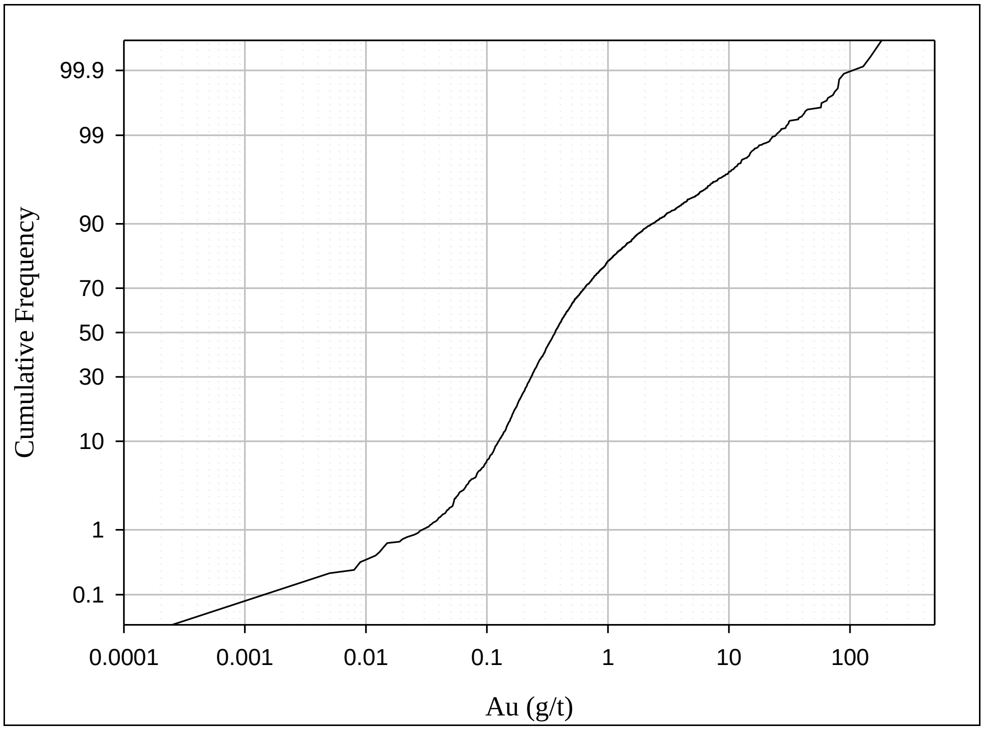


**Figure 14.5**
**Romero Deposit Gold Probability Plot**




The grade capping values used in the Romero project mineral resource estimates are set out in Table 14.3 below.

**Table 14.3**
**Romero Project Grade Capping**

| Element | Romero | | Romero South | |
|---|---|---|---|---|
| | Cap Grade | Samples Capped | Cap Grade | Samples Capped |
| Au (g/t) | 72.2 | 10 | 20.5 | 7 |
| Ag (g/t) | 60.0 | 8 | 15.0 | 16 |
| Cu (%) | 6.37 | 9 | 1.25 | 5 |
| Zn (%) | 6.91 | 7 | 1.65 | 9 |

## Compositing

After grade capping, the selected intercepts were composited to 2-m equal length intervals with a minimum acceptable length of 1 m for those last composite of the intercept. Composites shorter than this were deleted so as not to introduce short sample bias. The composite length decision was made based on the average original sampling length. Table 14.4 shows the basic population statistics for the composited data.

**Table 14.4**
**Romero Project Population Statistics for 2-m Composites**

| Variable | Romero | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Au (g/t) | Au CAP (g/t) | Ag (g/t) | Ag CAP (g/t) | Cu (%) | Cu CAP (%) | Zn (%) | Zn CAP (%) |
| Number of samples | 3,454 | 3,454 | 3,454 | 3,454 | 3,454 | 3,454 | 3,454 | 3,454 |
| Minimum value | 0.00025 | 0.00025 | 0.01 | 0.01 | 0.001 | 0.001 | 0.001 | 0.001 |
| Maximum value | 218.200 | 72.200 | 97.000 | 60.000 | 13.969 | 6.370 | 16.259 | 6.910 |
| Mean | 1.607 | 1.496 | 3.485 | 3.441 | 0.432 | 0.420 | 0.314 | 0.303 |
| Median | 0.381 | 0.381 | 2.000 | 2.000 | 0.138 | 0.138 | 0.100 | 0.100 |
| Geometric Mean | 0.473 | 0.472 | 2.265 | 2.263 | 0.122 | 0.122 | 0.093 | 0.093 |
| Variance | 43.850 | 23.836 | 28.833 | 23.431 | 0.691 | 0.512 | 0.529 | 0.333 |
| Standard Deviation | 6.622 | 4.882 | 5.370 | 4.841 | 0.831 | 0.715 | 0.727 | 0.577 |
| Coefficient of variation | 4.120 | 3.262 | 1.541 | 1.407 | 1.923 | 1.702 | 2.317 | 1.907 |
| Variable | Romero South | | | | | | | |
| | Au (g/t) | Au CAP (g/t) | Ag (g/t) | Ag CAP (g/t) | Cu (%) | Cu CAP (%) | Zn (%) | Zn CAP (%) |
| Number of samples | 591 | 591 | 591 | 591 | 591 | 591 | 591 | 591 |
| Minimum value | 0.005 | 0.005 | 0.002 | 0.002 | 0.001 | 0.001 | 0.000 | 0.000 |
| Maximum value | 68.500 | 20.500 | 86.170 | 15.000 | 1.398 | 1.250 | 3.547 | 1.650 |
| Mean | 2.190 | 2.006 | 2.233 | 1.882 | 0.156 | 0.155 | 0.170 | 0.161 |
| Median | 0.473 | 0.473 | 1.190 | 1.190 | 0.090 | 0.090 | 0.040 | 0.040 |
| Geometric Mean | 0.643 | 0.639 | 0.396 | 0.390 | 0.074 | 0.074 | NC | NC |
| Variance | 25.103 | 13.499 | 27.522 | 6.605 | 0.036 | 0.035 | 0.118 | 0.078 |
| Standard Deviation | 5.010 | 3.674 | 5.246 | 2.570 | 0.189 | 0.186 | 0.343 | 0.280 |
| Coefficient of variation | 2.288 | 1.832 | 2.350 | 1.366 | 1.210 | 1.196 | 2.018 | 1.740 |

### 14.2.8 Variography

Variography is the analysis of the spatial continuity of grade. Micon performed various iterations with 3D variograms in order to obtain the necessary parameters for grade interpolation.

First down-the-hole variograms were developed for each zone to determine the nugget effect (y intercept of the variogram, or zero range variability) to be used in the modelling of the 3D variograms. As representative examples, Figure 14.6 and Figure 14.7 show the resulting major axis variograms for gold in both zones.

Variography should be performed on data from regular, coherent mineralized shapes with geological support. In that regard Romero South presented four different mineralized layers (see Section 14.2.6) and five zones where variograms were tested. Variograms could be modelled only for zones 1 (upper) and zone 2 north and 2 south combined. The variograms parameters from these were used in zone 3 and zone 4. Except for zone 3 and 4 at Romero South, Micon ran variograms for all elements in all zones.

**Figure 14.6**
**Romero - Major Axis Variogram for Gold**

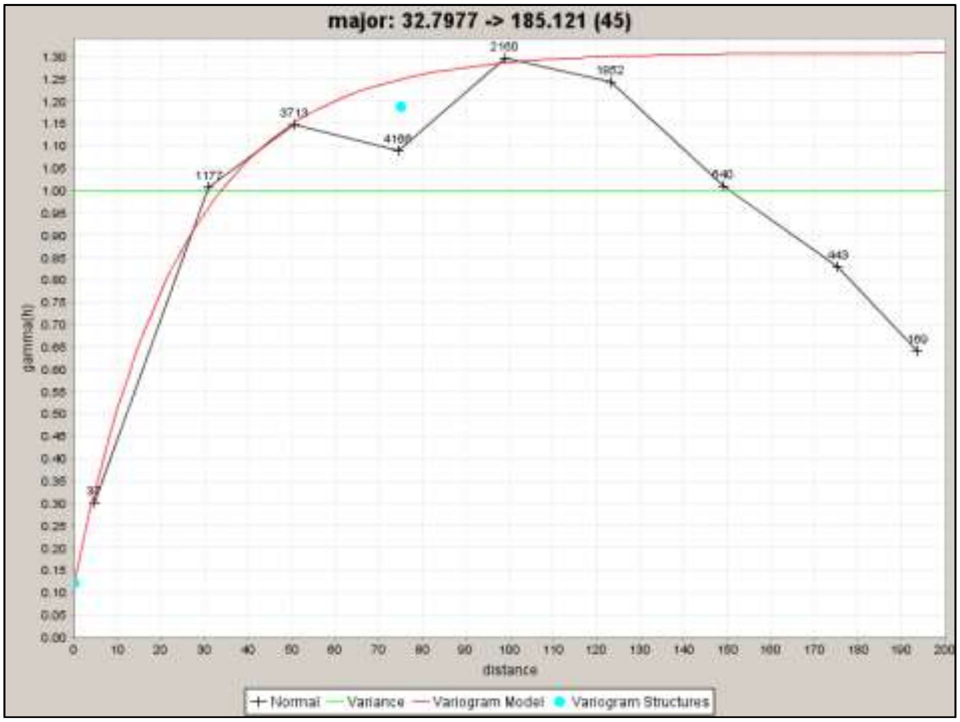
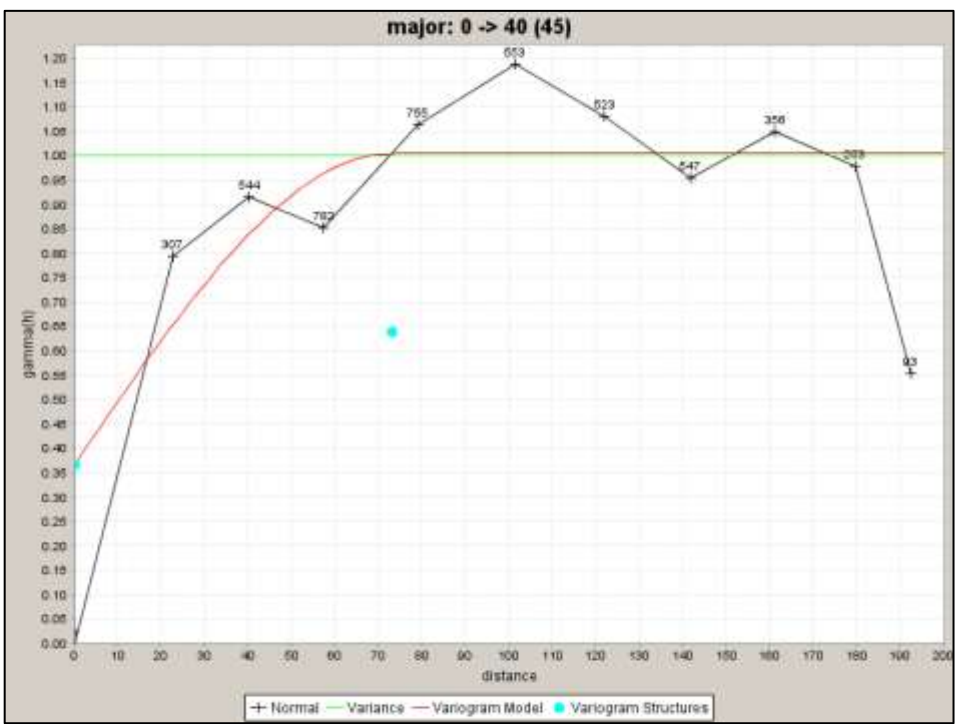



**Figure 14.7**
**Romero South - Major Axis Variogram for Gold**



### 14.2.9 Continuity and Trends

The Romero and Romero South zones present good grade continuity; however, these two zones have clearly different orientations and dip. Romero has a strike of 325º and a 45º northeast dip while Romero South has a 20º strike of its long axis with almost no dip, and a partial plunge in the northern portion of the deposit of about -20º northeast.

The mineralization trends are well defined in both Romero and Romero South, but Romero presents a thicker zone of mineralization.

## 14.3 MINERAL RESOURCE ESTIMATION

### 14.3.1 Block Model

Two block models were constructed; the first one contains the Romero deposit, and the second block model Romero South. A summary of both block models' definitions and data is listed in Table 14.5 below.

**Table 14.5**
**Romero Project Block Model Information Summary**

| Description | Romero | Romero South |
|---|---:|---:|
| Dimension X (m) | 1,200 | 1,300 |
| Dimension Y (m) | 600 | 1,500 |
| Dimension Z (m) | 560 | 600 |
| Origin X (Easting) | 258,100 | 258,000 |
| Origin Y (Northing) | 2,116,275 | 2,113,300 |
| Origin Z (Upper Elev.) | 1,120 | 1,410 |
| Rotation (º) | 305 | 0 |
| Block Size X (m) | 10 | 10 |
| Block Size Y (m) | 4 | 10 |
| Block Size Z (m) | 4 | 2 |

### 14.3.2 Search Strategy and Interpolation

Grade interpolation parameters were derived from the results of the variographic analysis. These parameters were used in the ordinary kriging (OK) grade interpolation to fill the blocks in the model. The search parameters used are set out in Table 14.6.

**Table 14.6**
**Romero Project Ordinary Kriging Interpolation Parameters**

| | | | Variogram Parameters | | | | | | | | Search Parameters | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Element** | **Rock* Code(s)** | **Pass** | **Az (°)** | **Plunge (°)** | **Dip (°)** | **Nugget** | **Sill** | **Range Major Axis (m)** | **Range Semi Major Axis (m)** | **Range Vertical Axis (m)** | **Min. Samples** | **Max. Samples** | **Max Samples per Hole** |
| Au | ROM6 | 1 | 185 | -32 | -30 | 0.117 | 1.187 | 75 | 55 | 50 | 6 | 12 | 2 |
| | ROM6 | 2 | 185 | -32 | -30 | 0.117 | 1.187 | 150 | 110 | 100 | 4 | 8 | 2 |
| | ROM6 | 3 | 185 | -32 | -30 | 0.117 | 1.187 | 150 | 110 | 110 | 2 | 8 | 2 |
| Ag | ROM6 | 1 | 62 | -4 | -45 | 0.052 | 0.886 | 75 | 60 | 50 | 6 | 12 | 2 |
| | ROM6 | 2 | 62 | -4 | -45 | 0.052 | 0.886 | 150 | 120 | 100 | 4 | 8 | 2 |
| | ROM6 | 3 | 62 | -4 | -45 | 0.052 | 0.886 | 150 | 120 | 100 | 2 | 8 | 2 |
| Cu | ROM6 | 1 | 190 | -35 | -24 | 0.111 | 1.299 | 75 | 50 | 50 | 6 | 12 | 2 |
| | ROM6 | 2 | 190 | -35 | -24 | 0.111 | 1.299 | 150 | 100 | 100 | 4 | 8 | 2 |
| | ROM6 | 3 | 190 | -35 | -24 | 0.111 | 1.299 | 150 | 100 | 100 | 2 | 8 | 2 |
| Zn | ROM6 | 1 | 195 | -38 | 15 | 0.100 | 0.999 | 80 | 50 | 50 | 6 | 12 | 2 |
| | ROM6 | 2 | 195 | -38 | 15 | 0.100 | 0.999 | 160 | 100 | 100 | 4 | 8 | 2 |
| | ROM6 | 3 | 195 | -38 | 15 | 0.100 | 0.999 | 160 | 100 | 100 | 2 | 8 | 2 |
| Au | ROMS1-5** | 1 | 40,140 | 0, -26 | 0 | 0.366 | 0.638 | 70, 80 | 50, 60 | 50, 60 | 6 | 12 | 2 |
| | ROMS1-5** | 2 | 40,140 | 0, -26 | 0 | 0.366 | 0.638 | 140, 160 | 100, 120 | 100, 120 | 4 | 8 | 2 |
| | ROMS1-5** | 3 | 40,140 | 0, -26 | 0 | 0.366 | 0.638 | 140, 160 | 100, 120 | 100, 120 | 2 | 8 | 2 |
| Ag | ROMS1-5** | 1 | 40,140 | 0, -26 | 0 | 0.177 | 0.821 | 70, 80 | 50, 60 | 50, 60 | 6 | 12 | 2 |
| | ROMS1-5** | 2 | 40,140 | 0, -26 | 0 | 0.177 | 0.821 | 140, 160 | 100, 120 | 100, 120 | 4 | 8 | 2 |
| | ROMS1-5** | 3 | 40,140 | 0, -26 | 0 | 0.177 | 0.821 | 140, 160 | 100, 120 | 100, 120 | 2 | 8 | 2 |
| Cu | ROMS1-5** | 1 | 40,140 | 0, -26 | 0 | 0.133 | 0.876 | 70, 80 | 50, 60 | 50, 60 | 6 | 12 | 2 |
| | ROMS1-5** | 2 | 40,140 | 0, -26 | 0 | 0.133 | 0.876 | 140, 160 | 100, 120 | 100, 120 | 4 | 8 | 2 |
| | ROMS1-5** | 3 | 40,140 | 0, -26 | 0 | 0.133 | 0.876 | 140, 160 | 100, 120 | 100, 120 | 2 | 8 | 2 |
| Zn | ROMS1-5** | 1 | 40,140 | 0, -26 | 0 | 0.174 | 0.828 | 70, 80 | 50, 60 | 50, 60 | 6 | 12 | 2 |
| | ROMS1-5** | 2 | 40,140 | 0, -26 | 0 | 0.174 | 0.828 | 140, 160 | 100, 120 | 100, 120 | 4 | 8 | 2 |
| | ROMS1-5** | 3 | 40,140 | 0, -26 | 0 | 0.174 | 0.828 | 140, 160 | 100, 120 | 100, 120 | 2 | 8 | 2 |

* - Rock codes Romero (ROM6), Romero South (ROMS1, ROMS2, ROMS3, ROMS4 and ROMS5).

** - Romero South has multiple horizontal zones as described above. There were only minor differences in many of the parameters for the different elements in ROMS1-5. For simplification it was determined that there was no need to present them separately. More than one azimuth or range has been presented in each row.

### 14.3.3 Prospects for Economic Extraction

The mineral resource has been constrained using economic assumptions which considered underground mining scenarios. The economic assumptions used are listed in Table 14.7 below.

**Table 14.7**
**Romero Mineral Resource Estimate Economic Assumptions**

| Description | Underground Romero | Underground Romero South |
|---|---|---|
| Mining Method | Sublevel Open Stoping | Room and Pillar |
| Au price US$/Oz | 1,400.00 | 1,400.00 |
| Ag price US$/Oz | 22.50 | 22.50 |
| Cu price US$/lb | 3.18 | 3.18 |
| Zn price US$/lb | 0.95 | 0.95 |
| Au recovery % | 76.6 | 76.6 |
| Ag recovery % | 85.0 | 85.0 |
| Cu recovery % | 90.0 | 90.0 |
| Zn recovery % | 90.0 | 90.0 |
| Price Weighted Avg. Recovery % | 76.7 | 76.7 |
| Mining Cost US$/t | 30.00 | 24.00 |
| Mill Cost US$/t | 12.50 | 12.50 |
| G&A Cost US$/t | 2.50 | 2.50 |
| Overall Cost US$/t | 45.00 | 39.00 |

The Romero project mineral resources were evaluated and reported from the calculated contained metal value for each block (including gold, copper, silver and zinc values, Section 14.2.6) using the cost, commodity price and recovery parameters in Table 14.7 above. A dollar NSR value of payable metal was determined for the two cut-offs used. For the purposes of reporting the mineral resources, Micon selected an NSR cut-off of US$60 (overall cost/price weighted recovery) as an estimate of what might be a reasonable marginal cost of extraction at Romero and US$50 as the marginal cost of extraction at Romero South.

### 14.3.4 Mineral Resource Categorization

The mineral resource estimates for Romero and Romero South have been categorized into the indicated and inferred categories (see Figure 14.8 and Figure 14.9). No measured resources have been determined at this time. The criteria for classification is as follows:

- Indicated resources are those blocks that are within the range outlined in interpolation pass 1 of Table 14.6 and which have been interpolated using three or more drill holes.
- Inferred resources are all those remaining blocks that do not meet the criteria of the indicated category (pass 2 and 3 of Table 14.6).

These rules were combined with a visual check of the model to make sure the indicated resource has a regular, continuous shape and is not broken up creating the “spotted dog effect" (scattered isolated islands of indicated resource). Some indicated blocks were downgraded in this checking process.

**Figure 14.8**
**Romero Block Model Isometric View - Resource Category**

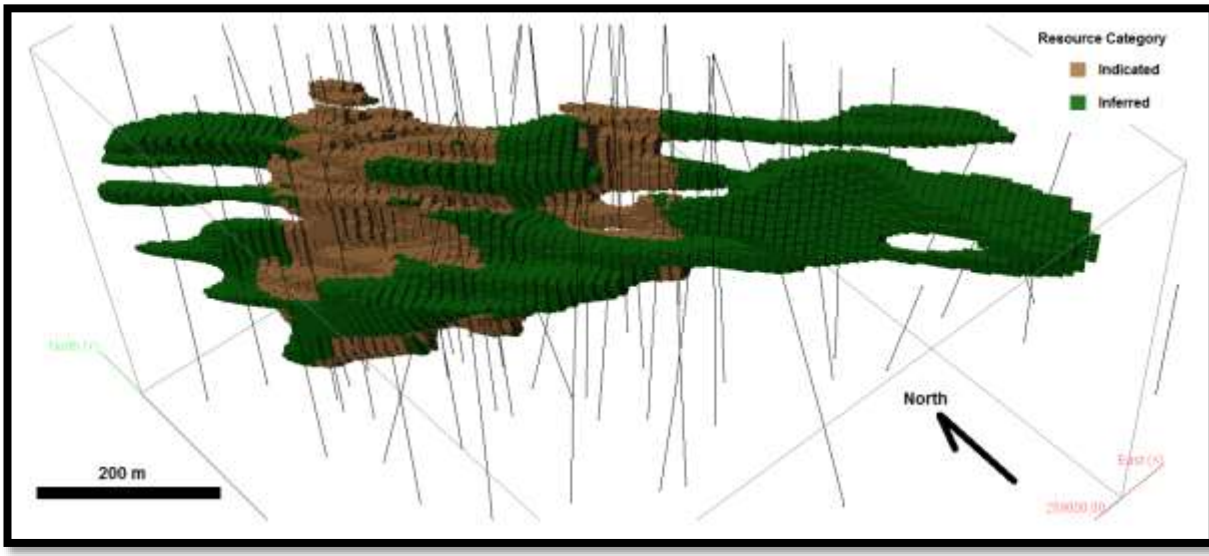
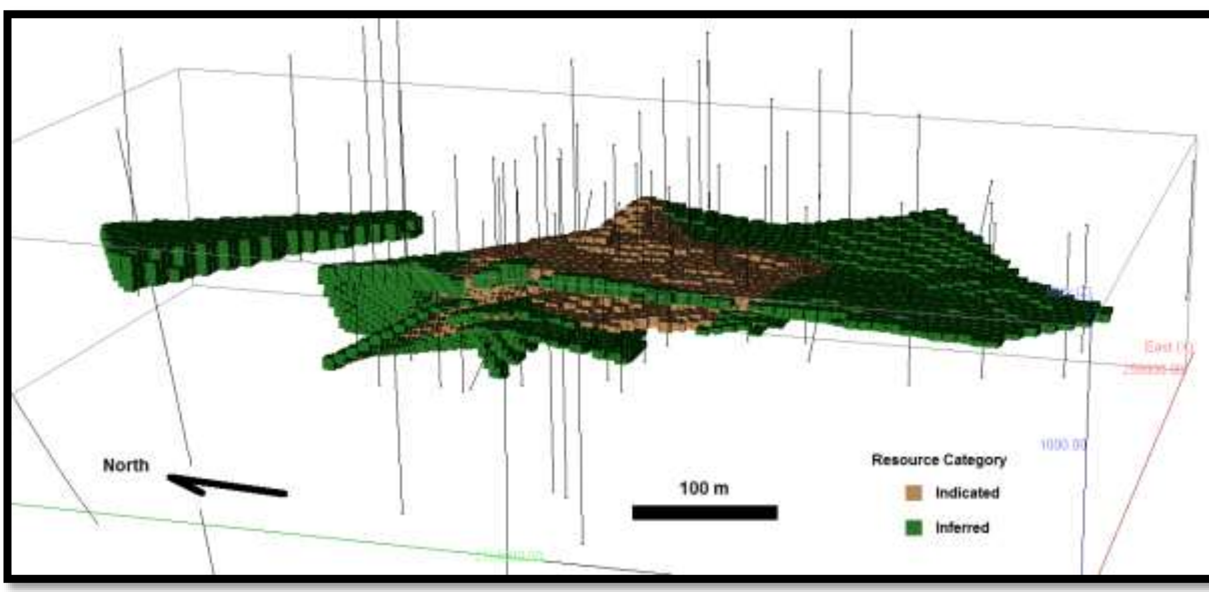



**Figure 14.9**
**Romero South Block Model Isometric View - Resource Category**




## 14.4 MINERAL RESOURCES

The mineral resources determined for the Romero project are set out in Table 14.8.

**Table 14.8**
**Romero Project Mineral Resources**

| Category | Zone | Tonnes (x 1,000) | Au (g/t) | Cu (%) | Zn (%) | Ag (g/t) | AuEq (g/t) | Au Ounces (x 1,000) | AuEq Ounces (x 1,000) |
|---|---|---|---|---|---|---|---|---|---|
| Indicated | Romero | 17,310 | 2.55 | 0.68 | 0.30 | 4.0 | 3.81 | 1,419 | 2,123 |
| | Romero South | 2,110 | 3.33 | 0.23 | 0.17 | 1.5 | 3.80 | 226 | 258 |
| **Total Indicated Resources** | | **19,420** | **2.63** | **0.63** | **0.29** | **3.7** | **3.81** | **1,645** | **2,381** |
| | | | | | | | | | |
| Inferred | Romero | 8,520 | 1.59 | 0.39 | 0.46 | 4.0 | 2.47 | 437 | 678 |
| | Romero South | 1,500 | 1.92 | 0.19 | 0.18 | 2.3 | 2.33 | 92 | 112 |
| **Total Inferred Resources** | | **10,020** | **1.64** | **0.36** | **0.42** | **3.8** | **2.45** | **529** | **790** |

The present report and mineral resource estimates are based on exploration results and interpretation current as of October 10, 2013. The effective date of the mineral resource estimates is October 29, 2013.

It is Micon's opinion that there are no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which exist that would adversely affect the mineral resource estimates for Romero and Romero South presented above. The mineral resources presented herein are not mineral reserves as they have not been subject to adequate economic studies to demonstrate their economic viability. They represent in-situ tonnes and grades and have not been adjusted for mining losses or dilution.

A portion of the mineral resource estimate has been designated as inferred as there has been insufficient exploration to define it as an indicated or measured mineral resource. It is uncertain if further exploration will result in upgrading to an indicated or measured mineral resource category.

### 14.4.1 Responsibility for Estimation

The mineral resource estimates for the Romero and Romero South deposits have been prepared and categorized for reporting purposes by B. T. Hennessey, P.Geo. and A. J. San Martin, MAusIMM(CP), of Micon, following the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum. Both Mr. Hennessey and Mr. San Martin are Qualified Persons as defined by NI 43-101 on the basis of training and experience in the exploration, mining and estimation of mineral resources of gold deposits. Both Messrs. Hennessey and San Martin are independent of GoldQuest.

### 14.4.2 Block Model Isometric Views

Figure 14.10 and Figure 14.11 graphically show the grade of the mineral resources tabulated above as 3D isometric views of the block model.

**Figure 14.10**
**Romero Block Model Isometric View - Grade Distribution**

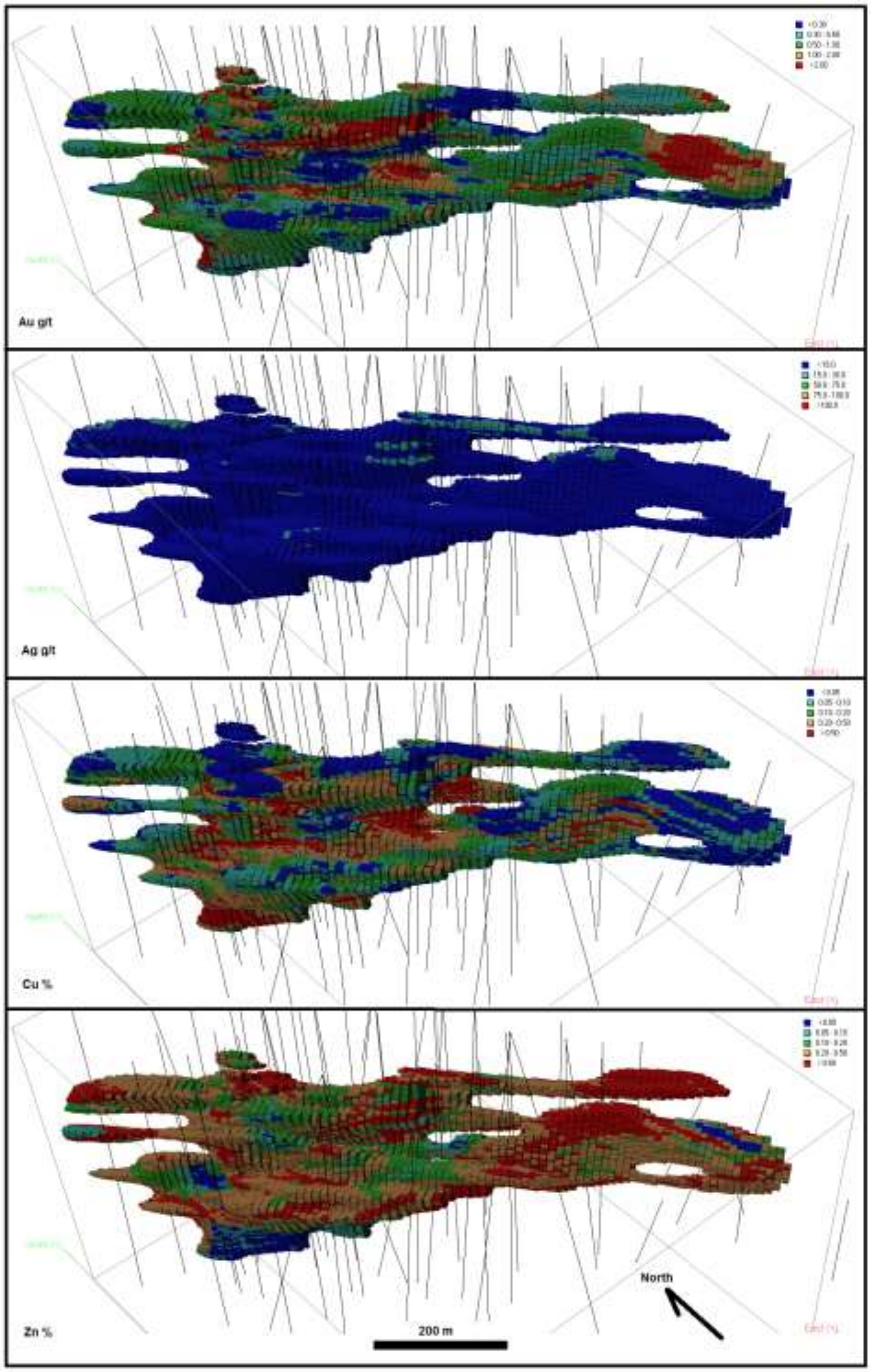
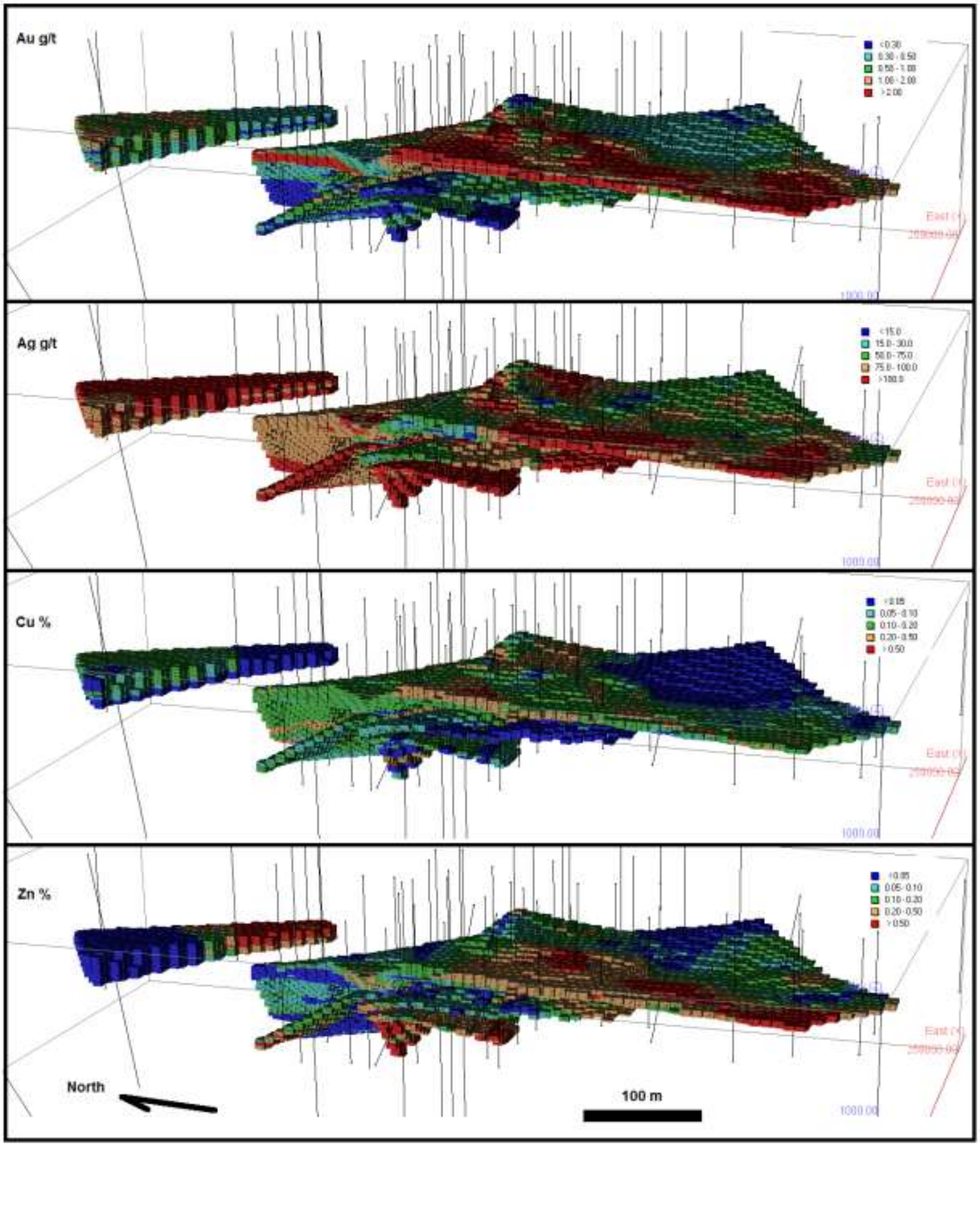


**Figure 14.11**
**Romero South Block Model Isometric View - Grade Distribution**



## 14.5 SENSITIVITY TO CUT-OFF

Micon has prepared tables of the mineral resource sensitivity to changes in the dollar NSR cut-off. That data can be seen in Table 14.9 to Table 14.12 below.

**Table 14.9**
**Romero Indicated Resources Sensitivity to NSR Cut-off**
**(reported cut-off highlighted)**

| Category | Cut-off (US$) | Cum. Tonnage | Au (g/t) | Ag (g/t) | Cu (%) | Zn (%) | Au-Eq. (g/t) | Au Ounces | Au-Eq. Ounces |
|---|---|---|---|---|---|---|---|---|---|
| Indicated | >150 | 6,230,000 | 5.21 | 4.6 | 0.94 | 0.36 | 6.92 | 1,043,000 | 1,386,000 |
| Indicated | 140 | 6,810,000 | 4.92 | 4.6 | 0.93 | 0.35 | 6.60 | 1,077,000 | 1,446,000 |
| Indicated | 130 | 7,470,000 | 4.64 | 4.5 | 0.91 | 0.35 | 6.29 | 1,114,000 | 1,510,000 |
| Indicated | 120 | 8,200,000 | 4.36 | 4.5 | 0.89 | 0.34 | 5.97 | 1,149,000 | 1,575,000 |
| Indicated | 110 | 9,090,000 | 4.06 | 4.4 | 0.87 | 0.34 | 5.64 | 1,187,000 | 1,648,000 |
| Indicated | 100 | 10,100,000 | 3.77 | 4.4 | 0.84 | 0.33 | 5.31 | 1,226,000 | 1,723,000 |
| Indicated | 90 | 11,390,000 | 3.47 | 4.3 | 0.81 | 0.33 | 4.95 | 1,269,000 | 1,811,000 |
| Indicated | 80 | 13,000,000 | 3.15 | 4.2 | 0.77 | 0.32 | 4.57 | 1,317,000 | 1,909,000 |
| Indicated | 70 | 14,950,000 | 2.84 | 4.1 | 0.73 | 0.31 | 4.19 | 1,367,000 | 2,013,000 |
| Indicated | 60 | 17,310,000 | 2.55 | 4.0 | 0.68 | 0.30 | 3.81 | 1,419,000 | 2,123,000 |
| Indicated | 50 | 20,080,000 | 2.28 | 3.9 | 0.63 | 0.30 | 3.46 | 1,471,000 | 2,231,000 |
| Indicated | 40 | 23,400,000 | 2.02 | 3.8 | 0.57 | 0.29 | 3.11 | 1,522,000 | 2,338,000 |
| Indicated | 30 | 27,490,000 | 1.78 | 3.7 | 0.51 | 0.28 | 2.76 | 1,573,000 | 2,440,000 |

**Table 14.10**
**Romero Inferred Resources Sensitivity to NSR Cut-off**
**(reported cut-off highlighted)**

| Category | Cut-off (US$) | Cum. Tonnage | Au (g/t) | Ag (g/t) | Cu (%) | Zn (%) | Au-Eq. (g/t) | Au Ounces | Au-Eq. Ounces |
|---|---|---|---|---|---|---|---|---|---|
| Inferred | >150 | 1,460,000 | 3.84 | 5.1 | 0.58 | 0.48 | 5.04 | 180,000 | 237,000 |
| Inferred | 140 | 1,690,000 | 3.61 | 5.0 | 0.57 | 0.48 | 4.79 | 196,000 | 261,000 |
| Inferred | 130 | 1,990,000 | 3.36 | 4.9 | 0.55 | 0.48 | 4.52 | 215,000 | 289,000 |
| Inferred | 120 | 2,370,000 | 3.10 | 4.7 | 0.54 | 0.48 | 4.24 | 236,000 | 323,000 |
| Inferred | 110 | 2,830,000 | 2.86 | 4.6 | 0.52 | 0.48 | 3.97 | 260,000 | 361,000 |
| Inferred | 100 | 3,410,000 | 2.62 | 4.5 | 0.50 | 0.47 | 3.69 | 287,000 | 405,000 |
| Inferred | 90 | 4,080,000 | 2.39 | 4.4 | 0.48 | 0.47 | 3.43 | 314,000 | 450,000 |
| Inferred | 80 | 5,020,000 | 2.14 | 4.3 | 0.46 | 0.47 | 3.14 | 346,000 | 507,000 |
| Inferred | 70 | 6,340,000 | 1.88 | 4.2 | 0.43 | 0.47 | 2.83 | 383,000 | 577,000 |
| Inferred | 60 | 8,520,000 | 1.59 | 4.0 | 0.39 | 0.46 | 2.47 | 437,000 | 678,000 |
| Inferred | 50 | 11,850,000 | 1.33 | 3.9 | 0.34 | 0.45 | 2.12 | 506,000 | 808,000 |
| Inferred | 40 | 17,340,000 | 1.07 | 3.8 | 0.28 | 0.43 | 1.76 | 596,000 | 983,000 |
| Inferred | 30 | 24,420,000 | 0.87 | 3.6 | 0.23 | 0.41 | 1.48 | 685,000 | 1,160,000 |

**Table 14.11**
**Romero South Indicated Resources Sensitivity to NSR Cut-off**
**(reported cut-off highlighted)**

| Category | Cut-off (US$) | Cum. Tonnage | Au (g/t) | Ag (g/t) | Cu (%) | Zn (%) | Au-Eq. (g/t) | Au Ounces | Au-Eq. Ounces |
|---|---|---|---|---|---|---|---|---|---|
| Indicated | >150 | 950,000 | 5.34 | 1.5 | 0.29 | 0.19 | 5.90 | 163,000 | 180,000 |
| Indicated | 140 | 1,040,000 | 5.11 | 1.5 | 0.28 | 0.19 | 5.66 | 171,000 | 189,000 |
| Indicated | 130 | 1,120,000 | 4.93 | 1.5 | 0.28 | 0.19 | 5.47 | 177,000 | 197,000 |
| Indicated | 120 | 1,210,000 | 4.73 | 1.5 | 0.27 | 0.19 | 5.27 | 184,000 | 205,000 |
| Indicated | 110 | 1,310,000 | 4.54 | 1.5 | 0.27 | 0.19 | 5.06 | 191,000 | 213,000 |
| Indicated | 100 | 1,420,000 | 4.34 | 1.5 | 0.26 | 0.19 | 4.86 | 198,000 | 222,000 |
| Indicated | 90 | 1,540,000 | 4.13 | 1.5 | 0.26 | 0.19 | 4.64 | 205,000 | 230,000 |
| Indicated | 80 | 1,660,000 | 3.94 | 1.5 | 0.25 | 0.18 | 4.45 | 210,000 | 237,000 |
| Indicated | 70 | 1,800,000 | 3.74 | 1.5 | 0.25 | 0.18 | 4.23 | 216,000 | 245,000 |
| Indicated | 60 | 1,940,000 | 3.55 | 1.5 | 0.24 | 0.17 | 4.03 | 221,000 | 251,000 |
| Indicated | 50 | 2,110,000 | 3.33 | 1.5 | 0.23 | 0.17 | 3.80 | 226,000 | 258,000 |
| Indicated | 40 | 2,300,000 | 3.12 | 1.4 | 0.22 | 0.17 | 3.57 | 231,000 | 264,000 |
| Indicated | 30 | 2,550,000 | 2.87 | 1.5 | 0.21 | 0.16 | 3.30 | 235,000 | 270,000 |

**Table 14.12**
**Romero South Inferred Resources Sensitivity to NSR Cut-off**
**(reported cut-off highlighted)**

| Category | Cut-off (US$) | Cum. Tonnage | Au (g/t) | Ag (g/t) | Cu (%) | Zn (%) | Au-Eq. (g/t) | Au Ounces | Au-Eq. Ounces |
|---|---|---|---|---|---|---|---|---|---|
| Inferred | >150 | 240,000 | 5.10 | 2.1 | 0.22 | 0.25 | 5.59 | 39,000 | 43,000 |
| Inferred | 140 | 280,000 | 4.74 | 2.2 | 0.22 | 0.27 | 5.25 | 43,000 | 47,000 |
| Inferred | 130 | 320,000 | 4.47 | 2.2 | 0.23 | 0.28 | 4.99 | 46,000 | 51,000 |
| Inferred | 120 | 360,000 | 4.24 | 2.2 | 0.23 | 0.29 | 4.77 | 49,000 | 55,000 |
| Inferred | 110 | 400,000 | 4.05 | 2.2 | 0.23 | 0.29 | 4.57 | 52,000 | 59,000 |
| Inferred | 100 | 460,000 | 3.76 | 2.2 | 0.22 | 0.28 | 4.27 | 56,000 | 63,000 |
| Inferred | 90 | 520,000 | 3.53 | 2.2 | 0.22 | 0.27 | 4.03 | 59,000 | 67,000 |
| Inferred | 80 | 610,000 | 3.23 | 2.1 | 0.22 | 0.27 | 3.73 | 63,000 | 73,000 |
| Inferred | 70 | 760,000 | 2.84 | 2.2 | 0.21 | 0.25 | 3.32 | 69,000 | 81,000 |
| Inferred | 60 | 1,060,000 | 2.34 | 2.2 | 0.20 | 0.21 | 2.78 | 80,000 | 95,000 |
| Inferred | 50 | 1,500,000 | 1.92 | 2.3 | 0.19 | 0.18 | 2.33 | 92,000 | 112,000 |
| Inferred | 40 | 2,190,000 | 1.53 | 2.4 | 0.17 | 0.18 | 1.91 | 107,000 | 134,000 |
| Inferred | 30 | 3,090,000 | 1.21 | 2.5 | 0.15 | 0.18 | 1.58 | 120,000 | 157,000 |

## 14.6 BLOCK MODEL CHECKS AND VALIDATION

A block model is a three dimensional representation of the estimated tonnage and grade in a given mineralized envelope. As such, it should be validated in order to give the best level of confidence possible. Micon has carried out four methods of validation to accomplish this goal.

### 14.6.1 Statistical Comparison

The average grade of the informing composites within the mineralized envelope was compared to the average grade of the all the resulting blocks. Table 14.13 below shows the results for all four elements of the mineral resource.

**Table 14.13**
**Romero Project 2-m Composites vs. Blocks**

| Deposit | Grade | Block Model Average | 2m Composite Average |
|---|---|---|---|
| Romero | Au g/t | 1.140 | 1.496 |
| | Ag g/t | 3.300 | 3.441 |
| | Cu % | 0.327 | 0.420 |
| | Zn % | 0.318 | 0.303 |
| Romero South | Au g/t | 1.467 | 2.006 |
| | Ag g/t | 2.000 | 1.882 |
| | Cu % | 0.147 | 0.155 |
| | Zn % | 0.149 | 0.161 |

As expected the block model grades have been smoothed and are generally somewhat lower than the grade of the informing samples.

### 14.6.2 Comparison to Other Interpolation Methods

As a comparison to OK, Micon also interpolated grades using the inverse distance squared ($ID^2$) method for Romero and Romero South. As can be seen in Table 14.14 and Table 14.15, the comparisons are very close.

**Table 14.14**
**Comparison of OK and $ID^2$ Grades for Gold and Copper**

| Category | Zone | Tonnes (x 1,000) | Au | | Cu | |
|---|---|---|---|---|---|---|
| | | | OK | $ID^2$ | OK | $ID^2$ |
| Indicated | Romero | 17,310 | 2.55 | 2.55 | 0.68 | 0.68 |
| | Romero South | 2,110 | 3.33 | 3.35 | 0.23 | 0.23 |
| | | | | | | |
| Inferred | Romero | 8,520 | 1.59 | 1.60 | 0.39 | 0.39 |
| | Romero South | 1,500 | 1.92 | 1.92 | 0.19 | 0.18 |

**Table 14.15**
**Comparison of OK and $ID^2$ Grades for Zinc and Silver**

| Category | Zone | Tonnes (x 1,000) | Zn | | Ag | |
|---|---|---|---|---|---|---|
| | | | OK | $ID^2$ | OK | $ID^2$ |
| Indicated | Romero | 17,310 | 0.30 | 0.31 | 4.0 | 4.1 |
| | Romero South | 2,110 | 0.17 | 0.17 | 1.5 | 1.5 |
| | | | | | | |
| Inferred | Romero | 8,520 | 0.46 | 0.46 | 4.0 | 4.0 |
| | Romero South | 1,500 | 0.18 | 0.18 | 2.3 | 2.2 |

### 14.6.3 Visual Inspection

The block models and drill holes were reviewed on section to ensure that the grade distribution in the blocks honoured the neighbouring drill hole data. Figure 14.12 and Figure 14.13 show typical results.

**Figure 14.12**
**Romero Typical Vertical Section**

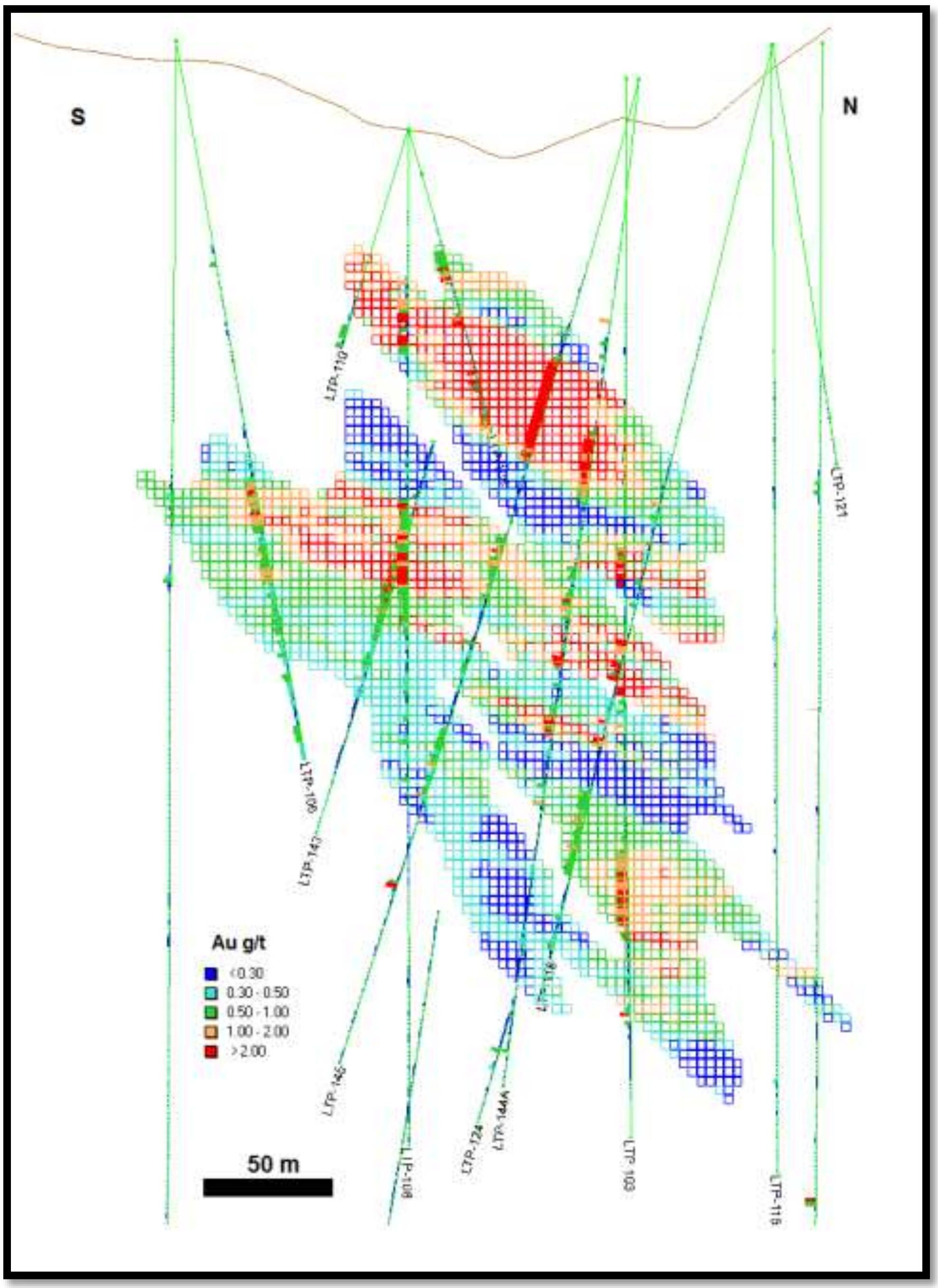
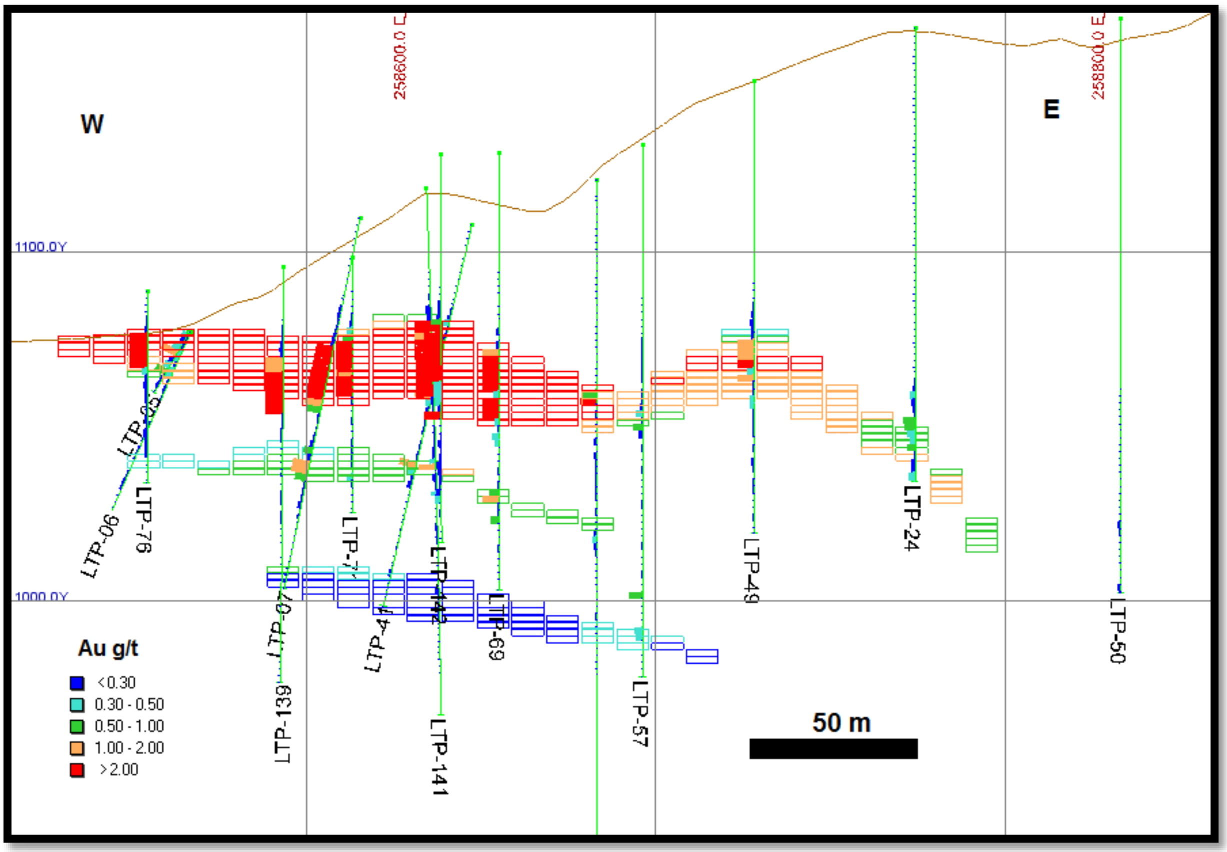


**Figure 14.13**
**Romero South Typical Vertical Section**




## 14.6.4 Trend Analysis

Trend analysis is an exercise involving the super blocking (averaging of groups of data) of grade data and comparing the resulting block model values to the source informing composites. The results are plotted in a swath plot following the strike of the deposit. Broad grade trends in the block model should respect the grade trends in the informing data.

The gold swath plots for Romero and Romero South are shown in Figure 14.14 and Figure 14.15. Reasonable agreement with minor smoothing of extremes can be seen.

**Figure 14.14**
**Romero Trend Analysis Chart for Gold**

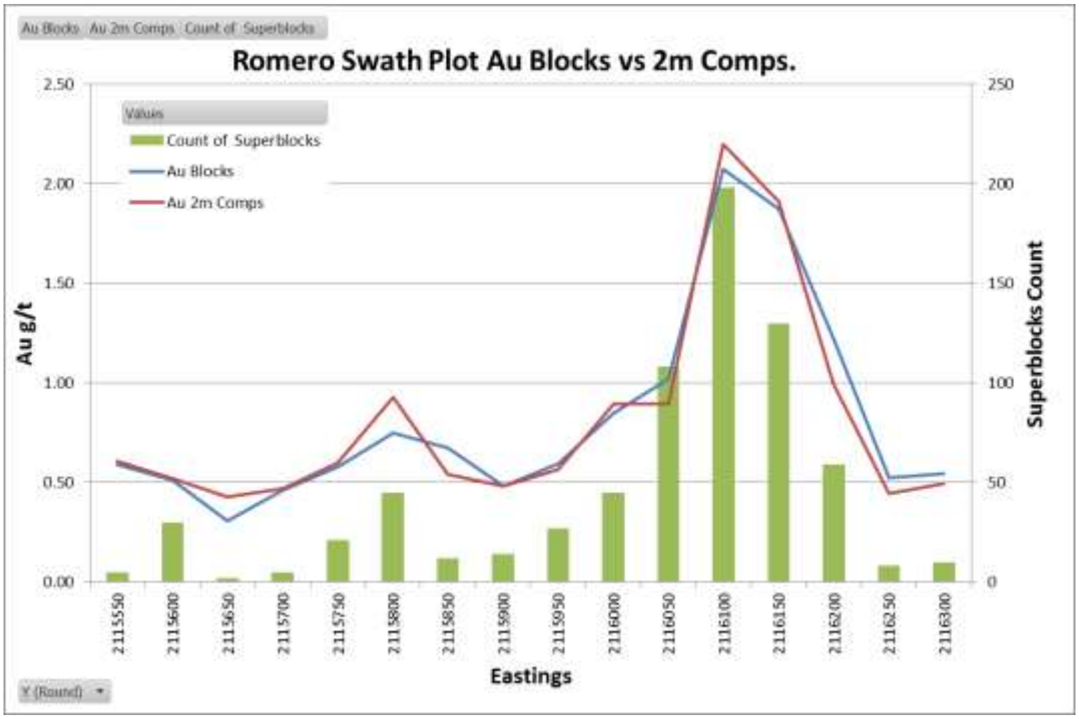
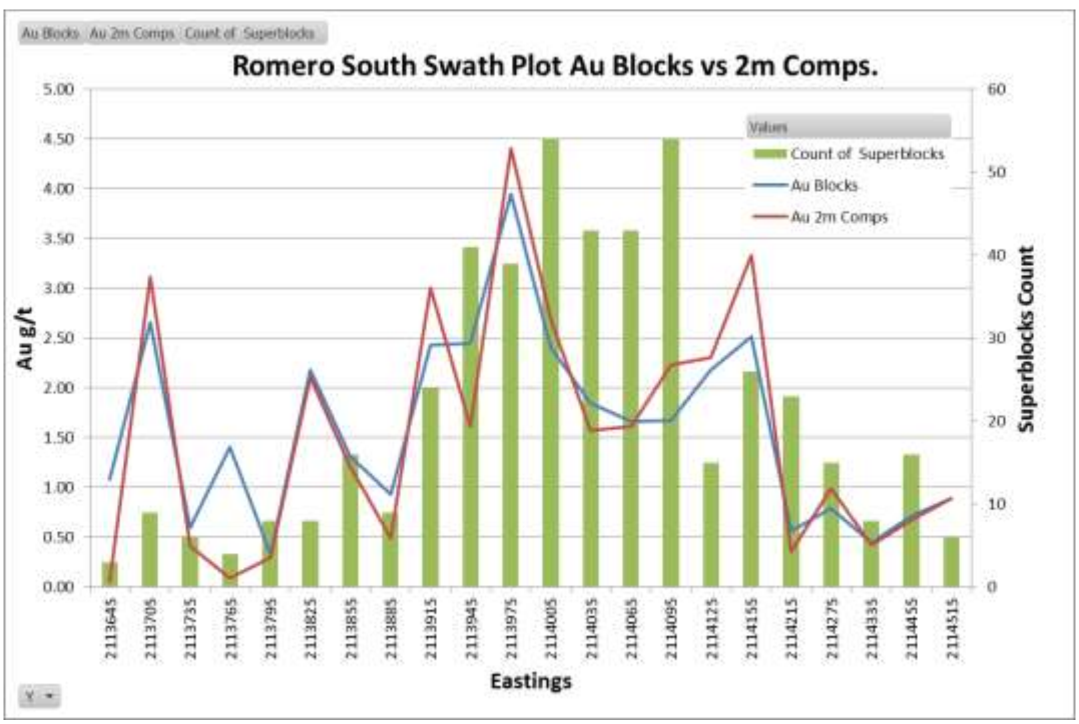



**Figure 14.15**
**Romero South Trend Analysis Chart for Gold**



## 15.0 MINERAL RESERVE ESTIMATES

At this time no mineral reserves have been estimated for the Romero and Romero South deposits or any other zone on the Tireo property.

# 16.0 MINING METHODS

## 16.1 INTRODUCTION

Mineralization at Romero and Romero South will be extracted by underground mining methods. The two deposits are separated by approximately 1.5 km and will be accessed separately from the surface. Both deposits are located a little over a km from the proposed location of the processing plant. Figure 16.1 shows an aerial view of the Project area and the relative locations of the proposed mine workings and the processing facility.

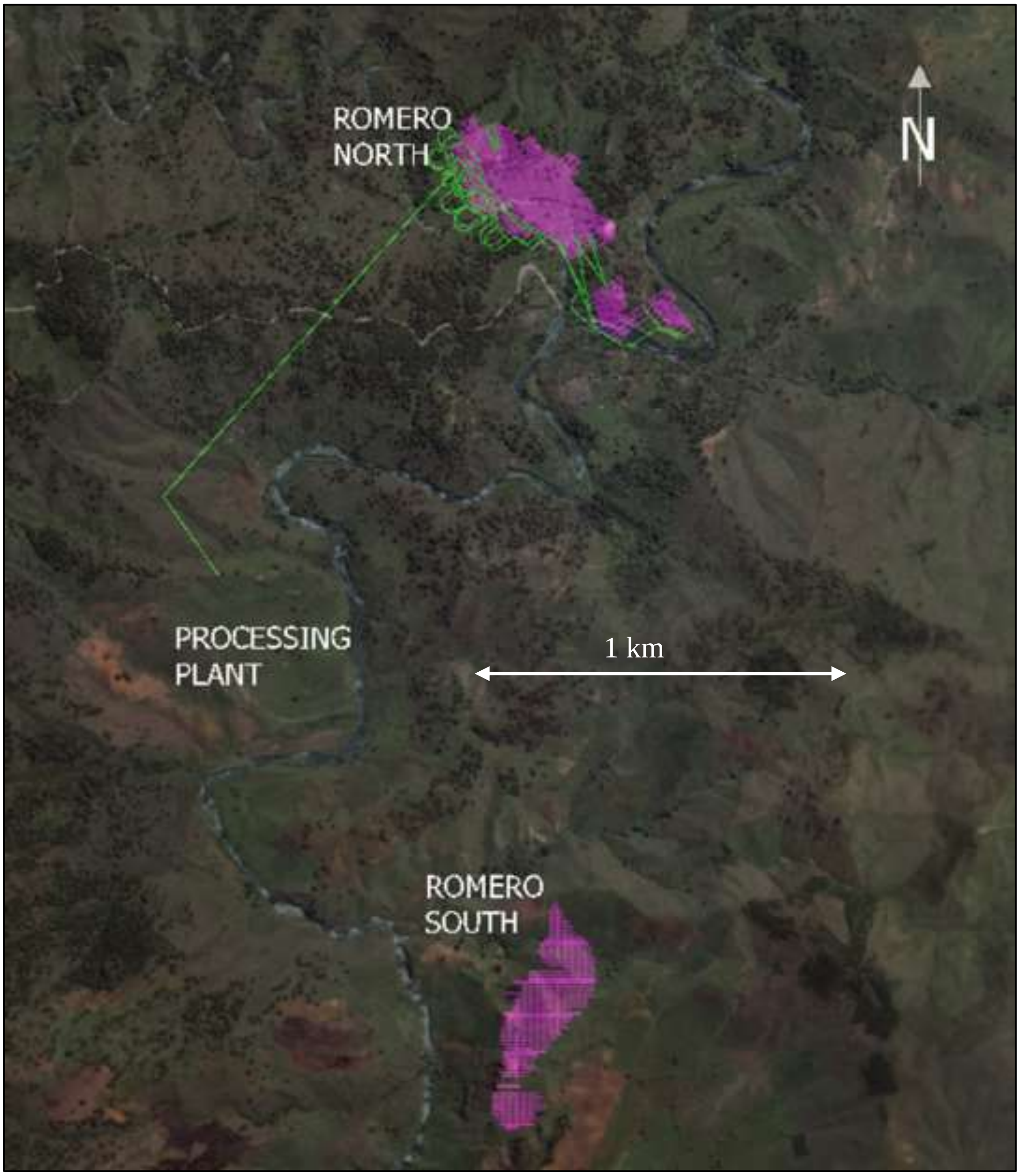
Romero is the larger of the two deposits and will be mined at a nominal rate of 3,800 t/d at full production and will have a mine life of approximately 14 years. Romero South will come into production as Romero is ramping down. It will operate at an average production rate of 2,700 t/d for two years, extending the overall mine life by about a year and a half.

The potentially mineable portion of the Romero resource extends along the strike length of the deposit for approximately 750 m, and about 350 m vertically from the 680 level to the 1020 level. There are no current mine openings in the vicinity of the deposit. All previous exploration has been from surface drilling. The potentially mineable portion of the Romero South resource is tabular in shape, and extends approximately 600 m north-south, 200 m east-west, and is 30 m thick.

Using the Romero and Romero South block models, Micon has developed conceptual mine plans for both deposits. The Romero mine design was created with the aid of Vulcan stope optimization software, which uses an algorithm to maximize the value of the extracted resource over the life-of-mine. Because of its comparatively small size and limited mine life, a simpler method of mine design was used for Romero South. While making use of the block model, the Romero South design involved selectively locating the mine workings to exploit areas of higher net smelter return (NSR). The production schedule for both mines was generated by Micon using iGantt software. At full production, approximately 3,800 t/d of process feed will be mined. Just over 3 million tonnes of waste development will be produced over the life-of-mine.

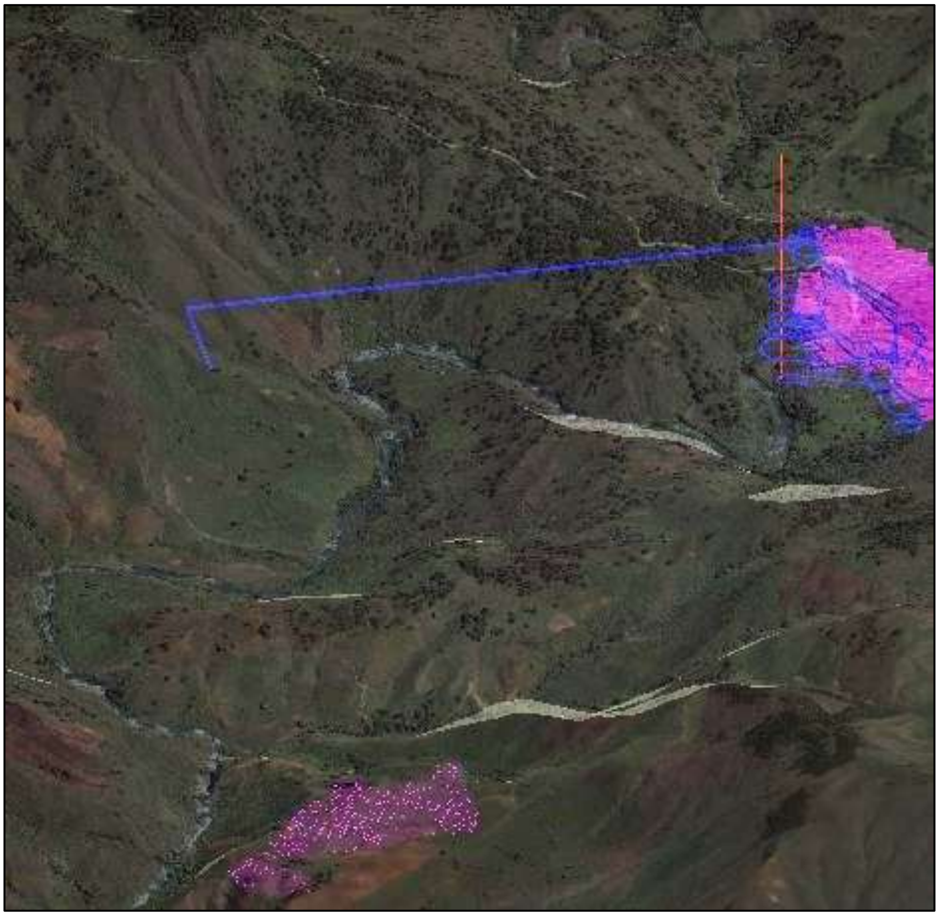
Access to both mines is limited by steeply sloping surface topography and proximity to the San Juan and La Guama Rivers. Figure 16.2 shows the spatial orientation of the planned mine workings with respect to the surface topography. Mineralized material production areas are depicted in pink and development is in blue. The Romero production shaft is shown in red. The Romero South Deposit is visible toward the lower edge of the figure. The steeply sloping San Juan River valley is visible.

**Figure 16.1**
**Relative Locations of Planned Mine Workings and the Process Plant**




Access to the Romero mine will be via decline for personnel and materials, and a production shaft for skipping plant feed material. The deposit will be mined using transverse longhole stoping. The Romero South mine will be accessed via three portals in the outcrop on the west side of the deposit, and mined using a modified room and pillar approach. Both mines will employ the use of backfill.

**Figure 16.2**
**3-D View of Access to Both Mines Looking Northwest**



Schematic drawing not to scale

## 16.2 MINING METHODS

### 16.2.1 Romero

At Romero, the hanging wall is less competent than the material comprising the economic mineral resources. Sublevel caving was briefly considered as a possible mining method, but dismissed due to local seismicity, too much dilution from caved waste, proximity to surface water, and high clay content. Romero's shape, along with the quality of rock mass comprising the hanging wall, makes it a good candidate for transverse longhole stoping. This method involves mining stopes perpendicular to the strike of the deposit, in retreat from hanging wall to footwall. Although there will be more up-front development, the method allows for greater flexibility in scheduling.

### 16.2.2 Romero South

The Romero South deposit is relatively small, and accounts for less than 10% of the potential plant feed tonnage between the two mines. Romero South is situated close enough to the surface to be economically mined using surface methods. However, social perception and environmental sensitivity of the area were compelling reasons to mine the deposit using underground methods. Romero's tabular shape, relatively flat dip, and western outcrop made room and pillar mining a logical choice. The mine portals will start out in mineralization, and very little waste development, if any, will be required.

## 16.3 TRADE-OFF STUDY

The trade-off study focused on Romero North haulage options, and which options would be economically, operationally, and environmentally feasible. An important aspect of the mine design process was to choose methods, access locations, and haulage options that would minimize environmental impacts to the San Juan and La Guama Rivers and the surrounding area, while providing the best possible economic outcome.

In looking at economic feasibility of haulage methods, the depth of a deposit at which hoisting becomes favoured over ramp haulage is typically somewhere between 350 m and 500 m. Given this rule of thumb, the Romero deposit is at a depth where either option could be feasible. A third option, conveyor haulage, is generally economically viable in shallow underground operations where the production rate exceeds 5,000 t/d. However, conveyor haulage can also be more cost-effective when the haulage distance exceeds 1 km. Because the Romero deposit is located 1.4 km (ramp distance) from the mill, a conveyor decline was considered to be a possible option.

Taking economics, environment, and operational logistics into account, the mining trade-off study was developed around three options:

- Truck haulage.
- Shaft with decline.
- Conveyor decline.

All three options utilized the same longhole stoping layout and footwall development. The main differences were mine access, equipment needs, and scheduling. The three options are outlined in Table 16.1.

Operating costs were fairly comparable among the three options, with the conveyor decline having the lowest operating costs and the highest capital costs. The favoured scenario, used as the base case for the PEA, was the shaft and decline option, with slightly higher operating costs than the conveyor option, but lowest overall capital costs.

**Table 16.1**
**Haulage Options for Trade-Off Study**

| Option | Description | Cost | Other Considerations |
|---|---|---|---|
| Truck Haulage | • 2 adits and a ventilation shaft<br>• Mineralization hauled using 31.6-tonne capacity haul trucks | OPEX: $30.99/t<br>CAPEX: $90.6M | Operational logistics issues with moving almost 4,000 t/d plus waste would require a second adit for haulage and ventilation purposes. |
| Shaft / Decline | • Production shaft with service adit and ventilation shaft<br>• Mineralization and waste skipped to surface<br>• Overland conveyor from shaft collar to plant<br>• In-mine primary crusher | OPEX: $30.99/t<br>CAPEX: $87.9M | The shaft collar would not be at the plant, and would necessitate overland transport of material. |
| Conveyor Decline | • Conveyor decline with access decline and vent shaft<br>• Conveyor haulage of mineralization and waste from mine directly to plant<br>• In-mine primary crusher | OPEX: $30.30/t<br>CAPEX: $93.0M | Tonnage is low for a conveyor. A second parallel adit would be needed to for personnel and materials, and to service the conveyor. |

## 16.4 GEOTECHNICAL DESIGN ASSUMPTIONS

Based on challenging ground conditions and local seismicity of the area, geotechnical data was considered key to many aspects of the mine design. Rock quality designation (RQD) values had been assigned for much of the exploration drill core; however, no oriented geotechnical drilling or testing had been carried prior the PEA study. Exploration drill core was available for examination during the site visit. Figure 16.3 shows the contrast between the solid rock present in zones of high grade mineralization and the considerably less competent overlying material.

**Figure 16.3**
**Drill Core Showing Hanging Wall / Economic Mineralization Zone Contact**

Visual observation of the core indicated that the hanging wall is significantly less competent than the mineralized zone. Conservative geotechnical design assumptions were based primarily on visual observation of the core and available RQD data. These assumptions include:

Romero:

- Sublevel spacing 20 m.
- Stope width 8 m.
- Cemented backfill required.

Romero South:

- Optimum pillar size will need to be determined when geotechnical data is available.
- Pillars for purposes of developing a conceptual plan and schedule are 4 m x 13 m.
- Cemented backfill will be used for added support to pillars.

More data will be needed at the pre-feasibility level to refine the mine design.

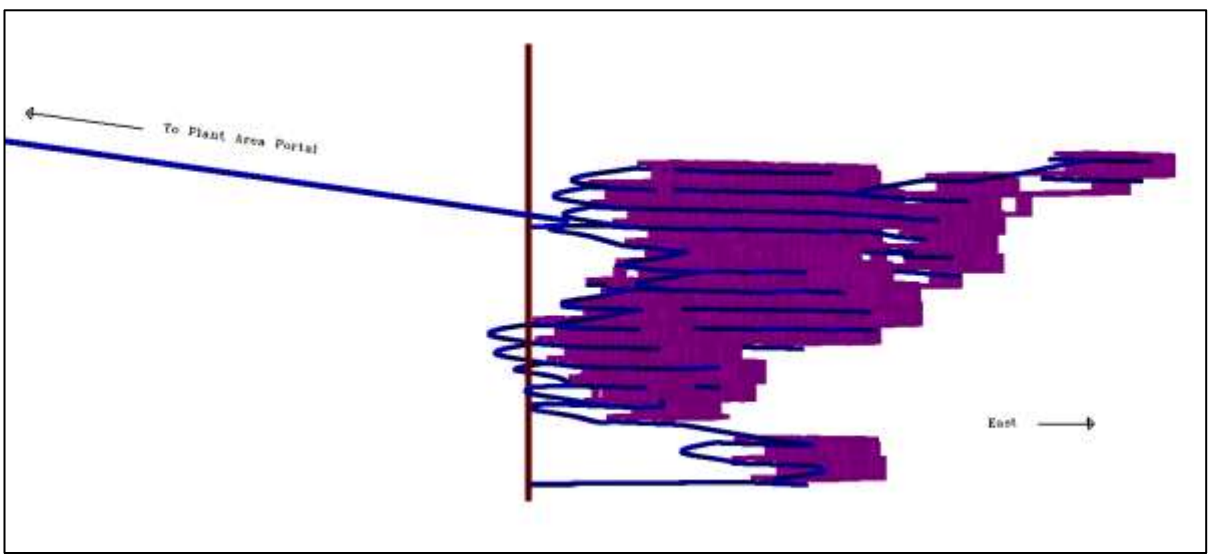
The surface overlying both proposed mine plan areas comprises a minimum of 50 vertical meters of consolidated material, overlain by an average of 20 m of unconsolidated material. In some places there is no unconsolidated material at the surface, while in others, it is considerably deeper. A crown pillar between the Romero mine workings and surface water will need to be determined based on geotechnical and hydrogeological data. For the purposes of the PEA, mining proximity to the contact between solid rock and the unconsolidated layer at the surface is no closer than 50 m. Should the actual thickness of the crown pillar require more than 50 m, it is Micon's opinion that mining activities will not be significantly affected. The stopes closest to the surface are not considered high-grade stopes, and are small in number. Excluding these stopes from the mine plan would not have a substantial effect on the economic viability of the project.

## 16.5 ROMERO MINE LAYOUT

Initial mine development will begin with a decline driven at a -12% slope to access the northwest end of the mine on the 940 level. The decline will be driven from the surface near the plant, and will extend approximately 1.4 km. A production shaft, 6.7 m in diameter, will be sunk simultaneously by a contractor and will also be located at the northwest end of the mine. Since the greatest potential for possible mine expansion lies to the north of the deposit, the northwest end of the currently planned mine workings is a reasonable location for transporting economic mineralization to the surface.

The mine design contains a total of 18 sub levels, spaced vertically every 20 meters. There are four main levels with access to mineralization and waste passes leading to the primary crusher near the loading pocket at the production shaft. A fleet of underground loaders and trucks will be used to haul mined material to raises. Plant feed material will be crushed underground and skipped to the surface in the production shaft. The priority for equipment resources will be to develop down from the 940 level, and from lower shaft station levels. The decline will be primarily be used to transport personnel and materials, and may be used for haulage on occasion. The Romero mine layout is depicted in Figure 16.4.

**Figure 16.4**
**Romero Cross-Sectional View Looking North**




Schematic drawing not to scale

In general, the decline and major mine haulage-ways are designed 5 m wide by 6 m high. The extra height will accommodate ventilation duct and facilitate use of the decline for material haulage when necessary. Other mine development will be 5 m by 5 m. Stope width will be 8 m for both primary and secondary stopes. The level spacing and stope dimensions were modeled after similar operations in poor ground conditions. The current mine design parameters represent a conservative approach. After sufficient geotechnical data has been gathered and analyzed, the dimensions of stopes and level spacing will be optimized to achieve the largest possible stopes, without risking safety or stability of the mine openings. Locations of mine infrastructure may also be adjusted based on structural mapping resulting from geotechnical data collection.

## 16.6 ROMERO SOUTH MINE LAYOUT

Romero South was designed using a modified room and pillar layout with backfill. Pillars are 9 m by 13 m, and drifts will be 5 m wide. The maximum span will be 7 m. The extraction ratio is approximately 68%, which could put the mine at risk for subsidence in the absence of backfilling. However, a simple solution would be for Romero South to utilize the backfill plant already in place for the Romero mine. Mining will progress in 6 m lifts in an overhand fashion. Backfilling will allow for smaller pillar dimensions without sacrificing stability.

Unlike the Romero deposit, Romero South does not lie below surface water.

## 16.7 RESOURCE EXTRACTION

### 16.7.1 Design Parameters

Micon has designed the stopes for the Romero and Romero South mines using block models developed in Gemcom software and imported into Vulcan software. Although an NSR value was originally built into each block model, an adjusted NSR variable was added to the Vulcan block model to take current metals prices into account at the time of stope design. The NSR variable was based on market prices that differ slightly from those used to carry out the discounted cash flow (DCF) analysis due to time elapsed between stope design and preparation of the DCF model.

Stope optimization was carried out using Vulcan software. The stope optimizer maximizes the value of extracted mineralization over the life-of-mine based on parameters input by the user, and generates stope shapes based on the optimized value. The Romero adjusted NSR value was optimized to generate stope shapes. The parameters used to calculate NSR and determine a cutoff value for purposes of stope optimization are shown in Table 16.2.

Table 16.2
NSR Calculation Parameters

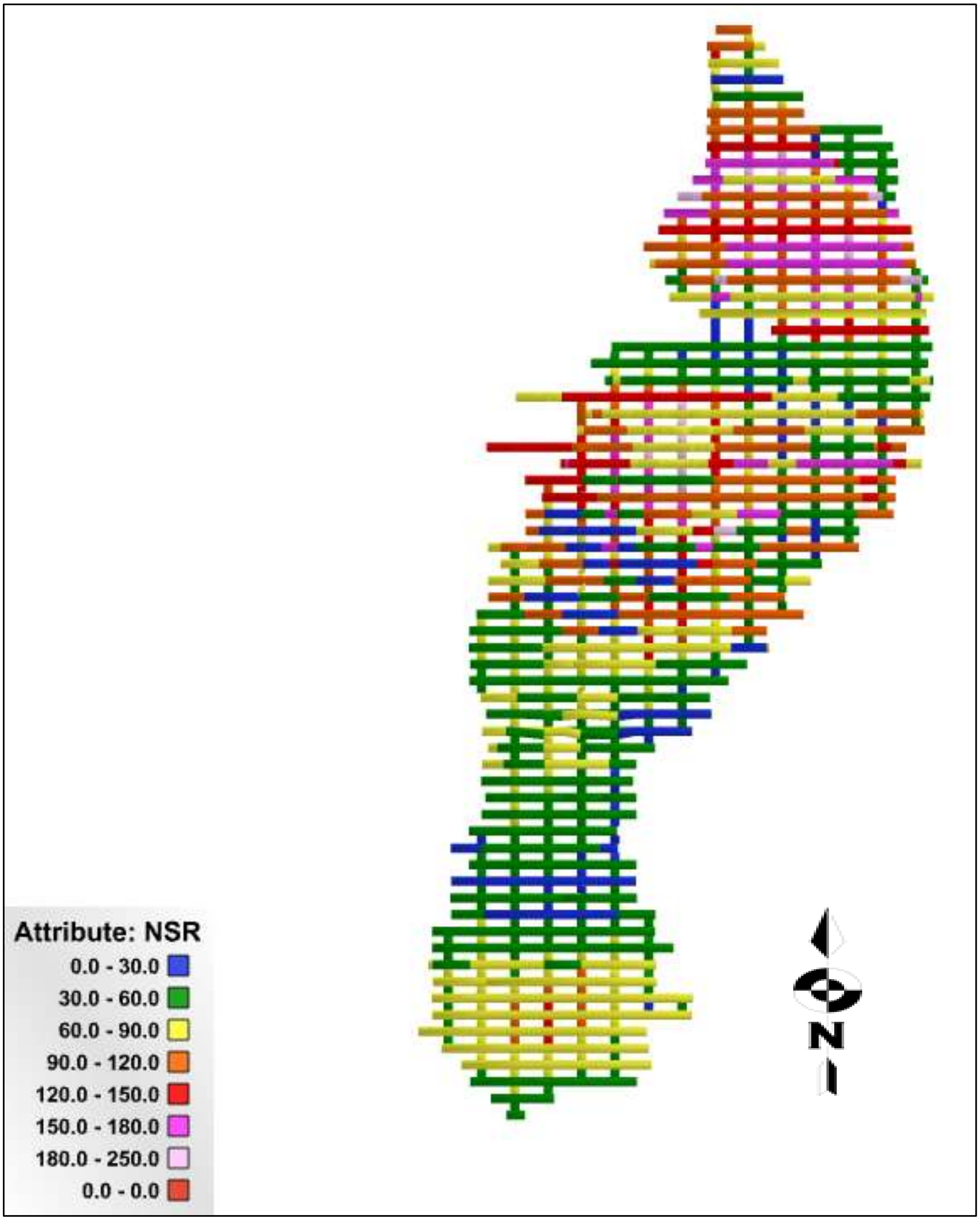
| | Romero | Romero South |
|---|---|---|
| Gold | US $1,250/oz | US $1,250/oz |
| Silver | US $21.00/oz | US $21.00/oz |
| Copper | US $3.25/lb | US $3.25/lb |
| Mining Cost | US $30.00/t | US $24.00/t |
| Processing Cost | US $12.50/t | US $12.50/t |
| G & A | US $2.50/t | US $2.50/t |
| NSR Cutoff | US $45.00/t | US $39.00/t |

Basic information, such as sill and stope height, width, and axis of optimization, are defined by the user in Vulcan. Dilution is figured into the stope design during the optimization process. The user can input the amount of over-break expected in the hanging wall, footwall, or both. For Romero, 2 m of hanging wall dilution was assumed. Overall dilution is approximately 4%. Very little dilution is expected in the case of stopes that are not close to the hanging wall contact. After optimization, the stope shapes generated by Vulcan were further refined to optimize IRR, taking waste development and other factors into account.

To the extent possible, mining will progress in an overhand fashion with the lower blocks being mined first and progressively higher blocks being mined subsequently. The stoping cycle will include longhole drilling, blasting, mucking, and backfilling. Backfill plant construction will commence during mine development. Both development waste and cemented tailings backfill will be stowed underground to the extent possible, with unconsolidated waste fill used to partially fill secondary stopes. Combined sill development and stoping are expected to provide approximately 3,800 t/d of mill feed. Over the life-of-mine, sill development will constitute about 4 million tonnes, and stoping will constitute approximately 12.7 million tonnes.

Romero South was also adjusted to optimize IRR. Although the original NSR cutoff for Romero South was US $39.00/t, the cutoff was eventually adjusted to US $45.00/t. The deposit will be mined selectively, and there will be opportunities for flexibility in pillar design as mining progresses, in order to access areas of higher grade mineralization. Very little capital investment is required for Romero South, as the timing at the end of mine life allows for Romero equipment to be used. Due to the short mine life, minimal underground infrastructure is required. Additionally, waste development is insignificant. Figure 16.5 shows a plan view of NSR values at Romero South.

**Figure 16.5**
**Plan View Showing the Distribution of NSR Values at Romero South**




Schematic drawing not to scale

### 16.7.2 Resources Included in the Mine Plan

Approximately 18.4 million tonnes of mineralized material will be mined from the Romero and Romero South mines. The in-situ mineral resources included in the mine plan are shown in Table 16.3, below. Mill feed grades will be slightly different due to dilution.

**Table 16.3**
**Mineral Resources Included in the Mine Plan**

| Resource Class | Tonnes | Au (g/t) | Ag (g/t) | Cu (%) |
|---|---|---|---|---|
| **Romero** | | | | |
| Indicated | 12,901,522 | 2.92 | 4.01 | 0.73 |
| Inferred | 3,204,266 | 2.15 | 4.18 | 0.47 |
| Dilution | 665,269 | - | - | - |
| **Romero South** | | | | |
| Indicated | 1,258,095 | 3.22 | 1.34 | 0.21 |
| Inferred | 385,851 | 2.90 | 1.99 | 0.17 |
| Dilution | 46,329 | - | - | - |
| **Romero / Romero South Combined** | | | | |
| Indicated | 14,154,061 | 2.94 | 3.78 | 0.68 |
| Inferred | 3,594,794 | 2.23 | 3.94 | 0.44 |
| Dilution | 711,889 | - | - | - |

## 16.8 UNDERGROUND OPERATIONS PERSONNEL

The proposed work schedule for underground operations consists of a day shift and a night shift, with three crews rotating every four days. The mine will operate 7 days per week, 350 days per year. Management and technical staff will work day-shift only, 5 days per week. Approximately 218 workers are needed at full production. This figure includes both hourly and salaried personnel. Table 16.4 summarizes the underground personnel requirements at full production. By the time Romero South comes into production, the total number of workers required at both mines will be slightly less.

**Table 16.4**
**Underground Personnel Requirements**

| Description | Number |
|---|---|
| Management | 8 |
| Engineering (includes technicians and surveyors) | 12 |
| Geology (includes technicians) | 6 |
| EHS (includes technicians) | 8 |
| Accounting / Purchasing/ Clerks | 15 |
| Human Resources | 3 |
| Shift Bosses | 9 |
| LHD Operator | 15 |
| Truck Drivers | 18 |
| Blasting | 12 |
| Jumbo Operator | 9 |

| Description | Number |
|---|---|
| Production Driller | 9 |
| Bolter Operator / Ground Control | 6 |
| Hoist House | 6 |
| Crusher / Loading Pocket | 3 |
| Backfill / Shotcrete | 9 |
| Laborers (underground and surface) | 26 |
| Maintenance / Mechanics / Shop | 24 |
| Electrical and Utilities | 18 |
| Diamond Driller | 2 |
| **Total** | **218** |

## 16.9 EQUIPMENT REQUIREMENTS

During the mine startup period, equipment maintenance functions will take place on the surface. As level development progresses and production ramps up, an underground shop at Romero will be needed to service mobile equipment. Surface and underground laydown areas will also be needed for storage of consumable supplies. Major mobile equipment needs for underground are listed in Table 16.5. This fleet will be adequate to meet the needs of both mines when Romero South is operating.

**Table 16.5**
**Major Mobile Equipment Requirements at Full Production**

| Description | Number |
|---|---|
| Haul Truck (32.6-tonne capacity) | 8 |
| LHD (10-tonne tramming capacity) | 6 |
| Production Drill | 3 |
| 2-Boom Drill Jumbo | 3 |
| Bolter | 2 |
| Shotcreter | 1 |
| Backfill Jammer | 1 |
| Anfo Loader | 1 |
| Service Vehicles | 1 |
| Personnel Carrier | 1 |
| Scissor Deck | 1 |
| Exploration Drills | 1 |
| Utility Tractors | 8 |
| Flatbed with Crane | 1 |

Underground power consumption is estimated at approximately 37,500 MWh/y. This includes power for surface facilities associated with the underground mine portion of the operation, and power to the underground mine.

## 16.10 SCHEDULE

Micon has used Vulcan and iGantt software to generate the life-of-mine schedule. Romero development priorities are focused on shaft sinking, driving the decline, and developing the bottom of the mine. A small amount of sill mineralization will be produced initially.

Aggressive up-front development maximizes flexibility in operations and short range planning.

Romero South begins producing in year 14. The life-of-mine schedules for Romero and Romero South, respectively, are shown in Table 16.6 and Table 16.7.

## 16.11 RECOMMENDATIONS

### 16.11.1 Goals of Data Collection and Testing

To progress beyond the PEA level, more data collection will be required. Data is needed to refine the designs of both mines. For Romero, data is needed to refine stope size, level spacing, and infrastructure location. The Romero South design depends on geotechnical data for determining pillar size, room span, and mining lift height.

The major objectives of geotechnical investigations and recommended data collection at Romero and Romero South are the following:

- Calculate RMR/Q.
- Incorporate geotechnical data into revised block models.
- 3-Dimensional mapping of major geologic structures.
- Review and optimize Romero mine design and schedule based on geotechnical data.
- Determine ground control needs.
- Design crown pillar at Romero.
- Determine size and position of pillars at Romero South.
- Determine backfilling requirements for both mines.
- Determine geochemical suitability of materials to be used for backfill.
- Determining mine design, scheduling, and operational requirements based on groundwater model.
- Environmental studies based on groundwater model and geochemical testing.

**Table 16.6**
**Romero Life-of-Mine Schedule**

| | Unit | Y-2 | Y-1 | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Y7 | Y8 | Y9 | Y10 | Y11 | Y12 | Y13 | Y14 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vertical Development | m | 463 | | 297 | 516 | 142 | 45 | 30 | - | - | - | - | - | - | - | - | - | 1,493 |
| Lateral Development | m | - | 4,499 | 4,156 | 2,873 | 420 | 420 | 886 | - | - | 1,137 | - | - | - | - | - | - | 14,391 |
| Plant Feed Tonnes | kt | - | 36 | 686 | 1,235 | 1,342 | 1,345 | 1,338 | 1,357 | 1,297 | 1,362 | 1,328 | 1,369 | 1,372 | 1,259 | 1,203 | 243 | 16,770 |
| Au Grade | g/t | - | 1.41 | 2.55 | 2.38 | 2.48 | 2.52 | 2.25 | 2.39 | 2.52 | 2.84 | 2.49 | 3.50 | 2.56 | 2.43 | 3.20 | 4.69 | 2.65 |
| Ag Grade | g/t | - | 2.00 | 2.19 | 2.58 | 2.97 | 3.25 | 3.00 | 3.92 | 3.73 | 4.22 | 4.14 | 4.15 | 5.04 | 4.71 | 5.57 | 5.49 | 3.88 |
| Cu Grade | % | - | 0.49 | 0.57 | 0.74 | 0.67 | 0.69 | 0.65 | 0.75 | 0.66 | 0.62 | 0.64 | 0.58 | 0.69 | 0.53 | 0.57 | 0.78 | 0.65 |
| Lateral Dev Rate (350 d/y) | g/t | - | 12.85 | 11.87 | 8.21 | 1.20 | 1.20 | 2.53 | - | - | 3.25 | - | - | - | - | - | - | - |
| Production Rate (350 d/y) | US$/t | - | 103 | 1,961 | 3,527 | 3,833 | 3,842 | 3,823 | 3,877 | 3,707 | 3,890 | 3,793 | 3,911 | 3,921 | 3,597 | 3,436 | 695 | - |

**Table 16.7**
**Romero South Life-of-Mine Schedule**

| | Y14 | Y15 | Total |
|---|---|---|---|
| Plant Feed Tonnes | 947,562 | 742,713 | 1,690,275 |
| Au Grade | 3.07 | 3.04 | 3.06 |
| Ag Grade | 1.33 | 1.61 | 1.45 |
| Cu Grade | 0.17 | 0.23 | 0.20 |
| Production Rate (350 d/y) | 2,707 | 2,122 | - |

### 16.11.2 Geotechnical Drilling Program

It is Micon's recommendation that geotechnical drilling and testing be conducted in order to supply critical data necessary to optimize the mine design and ensure safe operation of the mine.

Oriented drilling and geotechnical logging should take place over a representative portion of the planned mining areas at both Romero and Romero South. Though more data is helpful, obtaining representative samples of the mine plan areas is more important than meeting a quota. Where possible, geotechnical drilling should occur in locations necessary for exploration infill drilling.

A mining engineer should be involved in reviewing the exploration plan and making recommendations for locations of oriented drilling, and should work closely with geologists as data is collected to evaluate adequacy of data, and locations for additional drilling and testing. The quantity and spacing of data must be adequate to establish the spatial extent and orientation of major geologic structures in the mine plan area. 3-D modeling of data should be done concurrently with drilling. At the conclusion of exploration and geotechnical data collection, a mining engineer and block modeller should work together to ensure that appropriate geotechnical data is incorporated into the block model for design purposes.

A geotechnical logging procedure should be developed that enables calculation of the Barton's Tunneling Quality Index (Q) and Bieniawski's Rock Mass Rating (RMR). Surficial materials and recovered bedrock material should be logged using widely accepted classification systems such as USCS (Unified Soil Classification System) for surface materials and the ISRM (International Society for Rock Mechanics) guidelines for bedrock.

### 16.11.3 Geotechnical Testing

Geotechnical testing should be conducted on core samples from the mine areas and backfill samples, once the backfill recipe has been determined. Properties of the mineralized zone, hanging wall, and footwall should be established using representative samples, and if possible, additional samples in possible infrastructure locations should be tested. Testing for purposes of determining a crown pillar between Romero mine workings and surface water will be necessary, and should include soils testing. Geotechnical testing recommendations include, but are not limited to:

- Uniaxial compressive strength.
- Triaxial testing.
- Point load testing (to supplement UCS).
- Brazilian test.
- Packer testing (for hydraulic conductivity of geologic units) should be done in selected drill holes after drilling is completed.
- Density.
- Porosity.
- Soils testing for major surface facilities areas and crown pillar.

- Potential for backfill liquefaction.

### 16.11.4 Backfill Testing

A backfill recipe should be developed and strength tests performed. Because of the seismicity of the area, potential for backfill liquefaction should be determined. Geochemical testing of backfill material will also be necessary on cemented backfill, as well as any waste material being used as backfill.

### 16.11.5 Groundwater Modelling

A comprehensive groundwater model is needed. Hydrological data collection needs should be coordinated with exploration drilling and geotechnical data collection. A hydrogeologist with experience in groundwater modelling should supervise data collection and construct the groundwater model.

# 17.0 RECOVERY METHODS

The conceptual flowsheet developed and selected for the PEA is based on the metallurgical testwork described in Section 13 of this report. The process will produce a copper concentrate containing approximately 20% copper with material gold and silver credits. Additional gold will be recovered into a pyrite flotation concentrate which will be oxidized on site using bacterial oxidation technology and the oxidized residue containing the gold will be transported off-site to a facility for gold extraction and production of doré.

The recoveries of gold, copper and silver into the copper and pyrite concentrates have been estimated for the Romero Indicated and Inferred mineral resources and the Romero South mineral resource. The metal balance and associated recoveries are summarized above in Table 13.10, Table 13.11 and Table 13.12.

## 17.1 DESIGN BASIS AND PROCESS DESIGN CRITERIA

The crushing, grinding, flotation and pyrite oxidation processing facility at Romero is designed to operate for 350 days per year at a design throughput of 4,000 t/d or 1,400,000 t/y. The design utilization for the crushing plant is 65% for a design throughput rate of 256 t/h, while the utilization factor selected for the remainder of the process plant is 90% with a design nameplate throughput rate of 185 t/h.

A detailed list of conceptual process design criteria used as a basis for the process equipment selection and sizing was developed by Micon. Table 17.1 provides a summary of key process design parameters used for the base case conceptual process design.

The estimated recoveries are based on the recent metallurgical testwork program described in Section 13.

**Table 17.1**
**Summary of Key Process Design Criteria**

| Criterion | Units | Value |
|---|---|---|
| Nominal ore processing rate | t/y | 1,400,000 |
| Plant feed specific gravity | | 2.94 |
| Ore average moisture content | wt % | 3 |
| Operating regime | d/y | 350 |
| Average plant daily ore throughput | t/d | 4,000 |
| **Crushing and Grinding** | | |
| Number of crushing stages | | 1 |
| Crusher product size (80% passing) | mm | 150 |
| Number of grinding stages | | 2 |
| Primary grind (SAG mill) product size | microns | 1,200 |
| Secondary grind (ball mill) product size | microns | 190 |
| Bond ball mill work index (metric) | kWh/t | 15.33 |
| **Copper Flotation** | | |
| Copper flotation rougher solids yield – Romero[1] | wt % | 15.2 |
| Copper flotation rougher solids yield – Romero South | wt % | 13.7 |
| Copper circuit regrind product size (80% passing) | microns | 30 |

| Criterion | Units | Value |
|---|---|---|
| Copper flotation concentrate grade | % Cu | 20 |
| Copper concentrate solids yield – Romero | wt % | 3.06 |
| Copper concentrate solids yield – Romero South | wt % | 1.20 |
| Recovery of copper to copper concentrate – Romero[1] | % | 88.9 |
| Recovery of copper to copper concentrate – Romero South | % | 78.5 |
| Recovery of gold to copper concentrate – Romero[1] | % | 49.4 |
| Recovery of gold to copper concentrate – Romero South | % | 40.3 |
| **Pyrite Flotation** | | |
| Pyrite flotation rougher solids yield – Romero[1] | wt % | 23.9 |
| Pyrite flotation rougher solids yield – Romero South | wt % | 27.5 |
| Pyrite circuit regrind product size (80% passing) | microns | 48 |
| Pyrite concentrate solids yield – Romero | wt % | 12.0 |
| Pyrite concentrate solids yield – Romero South | wt % | 8.1 |
| Recovery of gold to pyrite concentrate – Romero[1] | % | 31.4 |
| Recovery of gold to pyrite concentrate – Romero South | % | 33.6 |
| **Copper Concentrate** | | |
| Design concentrate production | dry t/d | 122 |
| Design concentrate production | dry t/y | 42,800 |
| Design copper in concentrate production | Mlb/y | 18.9 |
| Moisture content of filter cake product | wt % | 8 |
| **Bacterial Oxidation** | | |
| Design feed rate (pyrite concentrate) | dry t/d | 480 |
| Oxidation reaction tanks retention time | d | 5 |
| Oxidation tank pulp density | wt % | 20 |
| Number of oxidation stages | | 2 |
| First stage oxidation | % | 65 |
| Second stage oxidation | % | 35 |
| Total reaction solids weight loss | % | 57 |
| Weight of solids in bacterial oxidation residue | t/d | 207 |
| Number of CCD circuit washing stages | | 3 |
| CCD wash ratio per tonne of solids | $m^3/t$ | 8 |
| Gold recovery to final solids product | % | 98 |
| Final product filter cake moisture content | wt % | 10 |

[1] Average Romero metallurgical performance is based on a 66.6% indicated and 33.3% inferred composite blend.

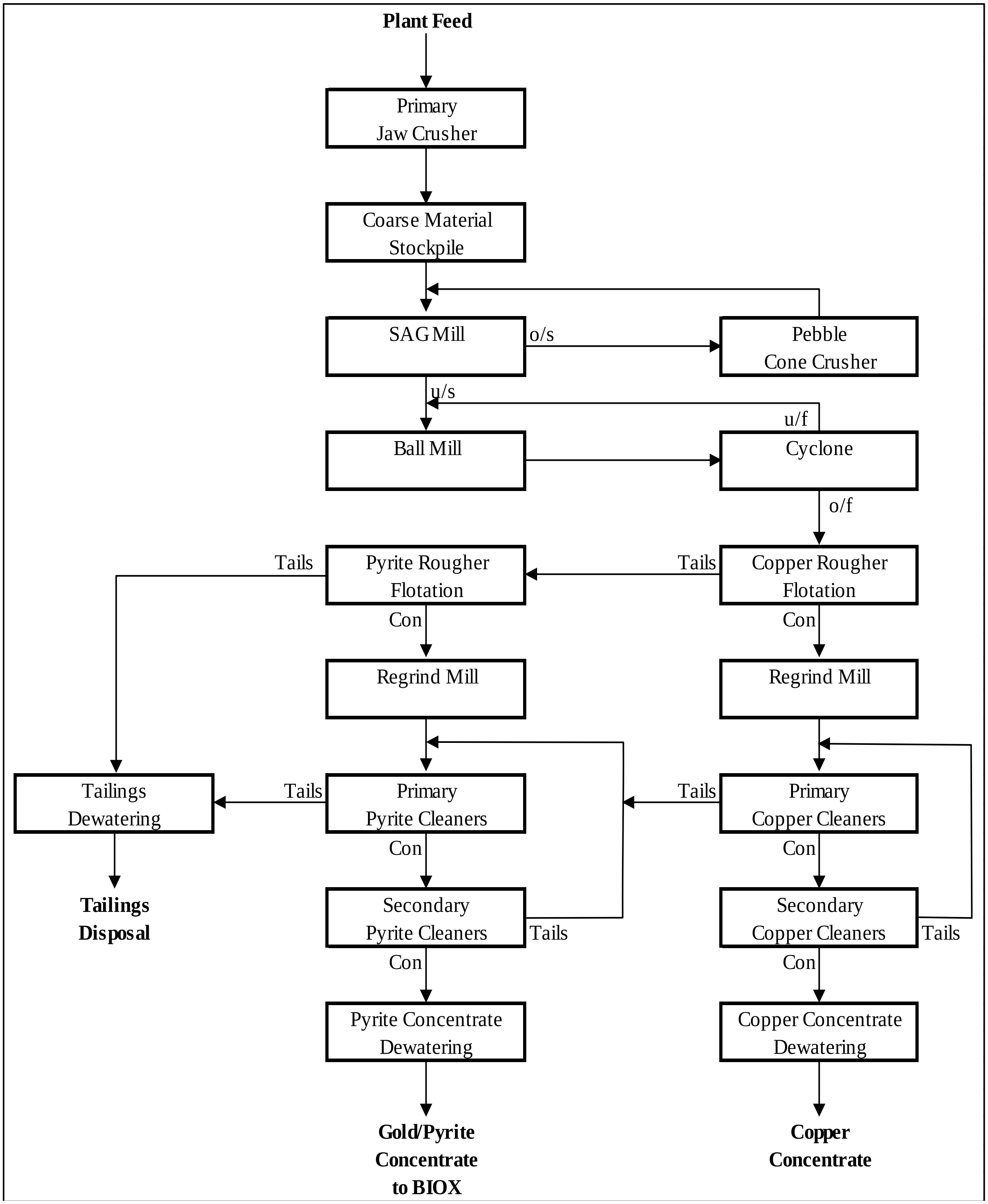
## 17.2 PROCESS DESCRIPTION

The selected process plant flowsheet and design parameters are based on the testwork described in Section 13 A simplified block flow diagram for the proposed processing facility is shown in Figure 17.1. A summary description of the selected process unit operations included in the PEA is included below.

### 17.2.1 Crushing and Grinding

The crushing, milling and flotation circuits located at Romero have been designed to support treatment of a maximum of 1,400,000 t/y feed. The processing facility is designed to operate for 350 days per year, 24 hours per day.

**Figure 17.1**
**Process Block Flow Diagram**



The crushing circuit will consist of a jaw crusher to reduce run-of-mine mineralized material to -150 mm. Crushed mineralized material will be stored in a coarse ore bin with a design live storage capacity of 4,000 t and fed to a SAG mill at a controlled rate.

The grinding circuit will comprise a typical semi-autogenous grinding (SAG)/ball mill/pebble crusher grinding circuit in closed circuit with hydrocyclone classifiers. The grinding circuit product particle size (80% passing – $P_{80}$) of 190 μm was selected based on the required grind size for effective liberation of the copper and gold bearing minerals.

The grinding circuit product will feed the copper flotation circuit.

### 17.2.2 Flotation and Concentrate Dewatering

The copper flotation circuit will consist of a conditioner, a rougher bank, a rougher concentrate regrind mill and two stages of flotation cleaners. The design regrind product size is $P_{80}$ of 30 μm. The secondary cleaner tailings will be recycled to the primary copper cleaners and the primary copper cleaner tailings will feed the pyrite cleaner circuit. The copper rougher tailings will feed the pyrite flotation circuit.

The pyrite flotation circuit will consist of a conditioner, a rougher bank, a rougher concentrate regrind mill and two stages of flotation cleaners. The design regrind product size is $P_{80}$ of 48 μm. The secondary cleaner tailings will be recycled to the primary pyrite cleaners and the primary pyrite cleaner tailings will be combined with the pyrite rougher tailings and will feed the tailings dewatering circuit.

The copper flotation concentrate will be thickened in a high rate thickener and then dewatered in in a continuous pressure filters to reduce the moisture to less than 10%. The copper concentrate filter cake will be stored on site in 1-tonne capacity bags and loaded into containerized trucks for delivery to a port facility and shipped to an off-shore smelting and refining facility.

The copper flotation concentrate will be thickened in a high rate thickener and then dewatered in in a continuous pressure filters to reduce the moisture to less than 10%. The copper concentrate filter cake will be stored on site and loaded into containerized trucks for delivery to a port facility and shipped to an off-shore smelting and refining facility.

The final pyrite concentrate will feed the bacterial oxidation circuit.

### 17.2.3 Pyrite Bacterial Oxidation

The bacterial oxidation circuit is designed for a pyrite concentrate feed rate of 480 t/d, which corresponds to a 12% weight recovery from the plant feed. Due to lack of actual available testwork data, Micon has relied upon its experience and typical industry design parameters for the basis of the bacterial oxidation circuit design.

The pyrite concentrate will be diluted to 20% solids by weight and be fed to the oxidation circuit. The oxidation circuit will comprise two stages, the first stage will have three tanks in series providing two days reaction time and the second stage will include five tanks providing an additional three days of retention time.

Oxygen required for the reaction will be injected into the tanks as air from a series of dedicated air blowers. Cooling water will be circulated within the reactors in a series of cooling pipes installed as part of the tank baffle system. A facility to remove iron from the circuit following the first stage of oxidation has been included into the design but the actual requirements will need to be determined by future development testwork.

The product from the oxidation circuit will feed the 3-stage counter current decantation (CCD) circuit. A wash water ratio of eight $m^3$ of water per t of solids has been allowed for in the design. The solids from third CCD thickener, containing the gold, will be pumped to a thickener and filter press. The filtered solids will be packaged in 1 tonne capacity bulk bags and transported off-site for gold recovery as a doré product. The overflow will feed the neutralization and residue dewatering circuit.

The neutralization of the leach solution will occur in the two neutralization reaction tanks that will provide six hours of total reaction time. Ground limestone and hydrated lime will be added to both tanks and compressed air from dedicated air blowers will be injected to promote the neutralization reaction. The product from the neutralization circuit will feed the tailings thickener.

### 17.2.4 Tailings Disposal

The tailings from the pyrite flotation circuit and the residue from the bacterial oxidation neutralization circuit and effluent treatment plant will be thickened at the plant site then pumped to a filtration system at the tailings disposal site. The filtrate will be returned to the process plant and used as process water while the filtered tailings will be stacked in the tailings disposal site. The thickened tailings can also be directed underground to the back-fill system when required.

### 17.2.5 Effluent Treatment

An effluent treatment plant has been included in the PEA to treat excess process water. The purpose of the effluent treatment plant is treated to remove sulphate and metals using a series of precipitation processes. The proposed conceptual treatment process includes oxidation, lime additional and precipitation, secondary sulphate precipitation, clarification and neutralization.

The design feed capacity of the process water treatment plant is 70 $m^3/h$, although this will need to be confirmed during the next phase of project development. It is assumed that effluent treatment will only be required for nine months of the year.

### 17.2.6 Reagents and Consumables

The estimated annual consumption of process reagents and consumables are shown in Table 17.2 for Romero and Romero South mineralization.

**Table 17.2**
**Estimated Annual Consumption of Process Reagents and Consumables**

| Consumable / Reagent | Romero (t/y) | Romero South (t/y) |
|---|---|---|
| Jaw crusher liners | 26.8 | 26.8 |
| Pebble crusher liners | 10.3 | 10.3 |
| SAG mill liners | 67.5 | 67.5 |
| Ball mill liners | 69.1 | 69.1 |
| Regrind mill liners (copper circuit) | 10.6 | 10.6 |
| Regrind mill liners (pyrite circuit) | 16.7 | 16.7 |
| SAG mill grinding balls | 863.5 | 863.5 |
| Ball mill grinding balls | 883.4 | 883.4 |
| Regrind mill media (copper circuit) | 106.3 | 95.9 |
| Regrind mill media (pyrite circuit) | 167.1 | 192.5 |
| Quick lime to flotation | 2,044.0 | 4,340.0 |
| Aero 3477 | 27.0 | 29.4 |
| PAX | 210.9 | 210.0 |
| Copper sulphate | 46.2 | 0.0 |
| MIBC | 106.4 | 98.0 |
| Copper concentrate flocculant | 0.7 | 0.3 |
| Pyrite concentrate flocculant | 2.5 | 0.2 |
| Tailings flocculant | 11.9 | 12.7 |
| Quick lime to bacterial oxidation circuit | 10,200 | 10,200 |
| Limestone to bacterial oxidation circuit | 126,000 | 126,000 |
| Nutrients to bacterial oxidation circuit | 285.6 | 285.6 |
| Flocculent to bacterial oxidation circuit | 10.1 | 10.1 |

Most of these consumables will be imported and transported from the port to site by road. Appropriate storage, mixing and distribution systems will be installed adjacent to the processing facilities at the mine site. It is assumed that suitable limestone required to neutralize the bacterial oxidation residue will be sourced locally.

### 17.2.7 Plant Utilities

#### 17.2.7.1 Water systems

Fresh water will be used for reagent make-up, gland service, fire water and as feed to the potable water plant. Cooling water required for the bacterial oxidation reactors and process water make-up will also be fresh water. The mine site fresh water will be pumped from the local river system.

There will be two main process water systems. One will service the grinding and flotation circuits while a separate system will be feed the bacterial oxidation circuit. The process water systems will collect and distribute thickener overflow streams to be used as circuit dilution, spray water and hose water. Any deficiency in process water requirements will be met with fresh water make-up.

17.2.7.2 Compressed Air

Compressed air systems to provide both plant quality air and instrument air will be installed at the plant site. Dedicated blowers will be installed to feed the flotation circuits and the bacterial oxidation circuit.

## 17.3 PRELIMINARY MATERIAL BALANCE

The preliminary process material balance is presented in Table 17.3.

**Table 17.3**
**Preliminary Process Material Balance**

| | RUNNING TIME | | SOLIDS | | | SOLUTION | | | TOTAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Process Stream** | **d/w** | **h/d** | **t/d** | **t/h** | **SG.** | **t/d** | **SG** | **$m^3$/h** | **t/h** | **$m^3$/h** | **% solids** | **SG.** |
| **Primary crusher** | | | | | | | | | | | | |
| Primary crusher feed | 7.00 | 14.40 | 4,000 | 278 | 2.94 | 124 | 1.00 | 9 | 286 | - | 97% | - |
| Primary crusher product | 7.00 | 14.40 | 4,000 | 278 | 2.94 | 124 | 1.00 | 9 | 286 | - | 97% | - |
| **Grinding** | | | | | | | | | | | | |
| SAG mill feed | 7.00 | 21.60 | 4,000 | 185 | 2.94 | 124 | 1.00 | 6 | 191 | - | 97% | - |
| SAG mill circulating load | 7.00 | 21.60 | 1,000 | 46 | 2.94 | 176 | 1.00 | 8 | 54 | 24 | 85% | 2.28 |
| SAG mill feed water | 7.00 | 21.60 | - | - | 2.94 | 1,366 | 1.00 | 63 | 63 | 63 | 0% | 1.00 |
| SAG mill product | 7.00 | 21.60 | 5,000 | 231 | 2.94 | 1,667 | 1.00 | 77 | 309 | 156 | 75% | 1.98 |
| SAG mill pebble crusher feed | 7.00 | 21.60 | 1,000 | 46 | 2.94 | 176 | 1.00 | 8 | 54 | 24 | 85% | 2.28 |
| SAG mill screen spray water | 7.00 | 21.60 | - | - | 2.94 | 216 | 1.00 | 10 | 10 | 10 | 0% | 1.00 |
| SAG mill screen underflow | 7.00 | 21.60 | 4,000 | 185 | 2.94 | 1,706 | 1.00 | 79 | 264 | - | 70% | - |
| Ball mill circulation load | 7.00 | 21.60 | 10,000 | 463 | 2.94 | 2,821 | 1.00 | 131 | 594 | 288 | 78% | 2.06 |
| Ball mill feed water | 7.00 | 21.60 | - | - | 2.94 | 513 | 1.00 | 24 | 24 | 24 | 0% | 1.00 |
| Ball mill product | 7.00 | 21.60 | 10,000 | 463 | 2.94 | 3,333 | 1.00 | 154 | 617 | 312 | 75% | 1.98 |
| Cyclone feed | 7.00 | 21.60 | 14,000 | 648 | 2.94 | 11,455 | 1.00 | 530 | 1,178 | 751 | 55% | 1.57 |
| Cyclone feed dilution water | 7.00 | 21.60 | - | - | 2.94 | 6,415 | 1.00 | 297 | 297 | 297 | 0% | 1.00 |
| Cyclone underflow | 7.00 | 21.60 | 10,000 | 463 | 2.94 | 2,821 | 1.00 | 131 | 594 | 288 | 78% | 2.06 |
| Cyclone overflow | 7.00 | 21.60 | 4,000 | 185 | 2.94 | 8,634 | 1.00 | 400 | 585 | 463 | 32% | 1.26 |
| **Copper Flotation** | | | | | | | | | | | | |
| Feed to Flotation | 7.00 | 21.60 | 4,000 | 185 | 2.94 | 8,634 | 1.00 | 400 | 585 | 463 | 32% | 1.26 |

| Process Stream | RUNNING TIME | | SOLIDS | | | SOLUTION | | | TOTAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | d/w | h/d | t/d | t/h | SG. | t/d | SG | m$^3$/h | t/h | m$^3$/h | % solids | SG. |
| Rougher feed | 7.00 | 21.60 | 4,000 | 185 | 2.94 | 8,634 | 1.00 | 400 | 585 | 463 | 32% | 1.26 |
| Primary rougher concentrate | 7.00 | 21.60 | 608 | 28 | 3.20 | 1,418 | 1.00 | 66 | 94 | 74 | 30% | 1.26 |
| Rougher conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 108 | 1.00 | 5 | 5 | 5 | 0% | 1.00 |
| Rougher flotation tailings | 7.00 | 21.60 | 3,392 | 157 | 2.80 | 7,216 | 1.00 | 334 | 491 | 390 | 32% | 1.26 |
| Regrind mill circuit feed | 7.00 | 21.60 | 608 | 28 | 3.20 | 1,526 | 1.00 | 71 | 99 | 79 | 28% | 1.24 |
| Regrind mill circulation load | 7.00 | 21.60 | 1,215 | 56 | 3.20 | 323 | 1.00 | 15 | 71 | 33 | 79% | 2.19 |
| Regrind mill feed water | 7.00 | 21.60 | - | - | 3.20 | 82 | 1.00 | 4 | 4 | 4 | 0% | 1.00 |
| Regrind mill product | 7.00 | 21.60 | 1,215 | 56 | 3.20 | 405 | 1.00 | 19 | 75 | 36 | 75% | 2.06 |
| Cyclone feed | 7.00 | 21.60 | 1,823 | 84 | 3.20 | 1,931 | 1.00 | 89 | 174 | 116 | 49% | 1.50 |
| Cyclone feed dilution water | 7.00 | 21.60 | - | - | 3.20 | - | 1.00 | - | - | - | 0% | 1.00 |
| Cyclone underflow | 7.00 | 21.60 | 1,215 | 56 | 3.20 | 323 | 1.00 | 15 | 71 | 33 | 79% | 2.19 |
| Cyclone overflow | 7.00 | 21.60 | 608 | 28 | 3.20 | 1,608 | 1.00 | 74 | 103 | 83 | 27% | 1.23 |
| Cleaner 1 feed | 7.00 | 21.60 | 733 | 34 | 3.20 | 2,013 | 1.00 | 93 | 127 | 104 | 27% | 1.22 |
| Cleaner 1 concentrate | 7.00 | 21.60 | 248 | 11 | 3.30 | 671 | 1.00 | 31 | 43 | 35 | 27% | 1.23 |
| Cleaner 1 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 65 | 1.00 | 3 | 3 | 3 | 0% | 1.00 |
| Cleaner 1 tailings | 7.00 | 21.60 | 485 | 22 | 3.00 | 1,342 | 1.00 | 62 | 85 | 70 | 27% | 1.22 |
| Cleaner 2 feed | 7.00 | 21.60 | 248 | 11 | 3.30 | 735 | 1.00 | 34 | 46 | 38 | 25% | 1.21 |
| Cleaner 2 concentrate | 7.00 | 21.60 | 122 | 6 | 3.60 | 330 | 1.00 | 15 | 21 | 17 | 27% | 1.24 |
| Cleaner 2 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 43 | 1.00 | 2 | 2 | 2 | 0% | 1.00 |
| Cleaner 2 tailings | 7.00 | 21.60 | 126 | 6 | 3.20 | 405 | 1.00 | 19 | 25 | 21 | 24% | 1.19 |
| **Pyrite Flotation** | | | | | | | | | | | | |
| Pyrite scavenger float feed | 7.00 | 21.60 | 3,392 | 157 | 2.80 | 7,216 | 1.00 | 334 | 491 | 390 | 32% | 1.26 |
| Pyrite scavenger concentrate | 7.00 | 21.60 | 955 | 44 | 3.30 | 2,227 | 1.00 | 103 | 147 | 117 | 30% | 1.26 |
| Pyrite scavenger conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 86 | 1.00 | 4 | 4 | 4 | 0% | 1.00 |
| Scavenger tailings | 7.00 | 21.60 | 2,438 | 113 | 2.70 | 4,989 | 1.00 | 231 | 344 | 273 | 33% | 1.26 |
| Regrind mill circuit feed | 7.00 | 21.60 | 955 | 44 | 3.30 | 2,314 | 1.00 | 107 | 151 | 121 | 29% | 1.26 |
| Regrind mill circulation load | 7.00 | 21.60 | 1,909 | 88 | 3.30 | 508 | 1.00 | 23 | 112 | 50 | 79% | 2.23 |
| Regrind mill feed water | 7.00 | 21.60 | - | - | 3.30 | 129 | 1.00 | 6 | 6 | 6 | 0% | 1.00 |
| Regrind mill product | 7.00 | 21.60 | 1,909 | 88 | 3.30 | 636 | 1.00 | 29 | 118 | 56 | 75% | 2.10 |
| Cyclone feed | 7.00 | 21.60 | 2,864 | 133 | 3.30 | 2,950 | 1.00 | 137 | 269 | 177 | 49% | 1.52 |
| Cyclone feed dilution water | 7.00 | 21.60 | - | - | 3.30 | - | 1.00 | - | - | - | 0% | 1.00 |
| Cyclone underflow | 7.00 | 21.60 | 1,909 | 88 | 3.30 | 508 | 1.00 | 23 | 112 | 50 | 79% | 2.23 |
| Cyclone overflow | 7.00 | 21.60 | 955 | 44 | 3.30 | 2,443 | 1.00 | 113 | 157 | 126 | 28% | 1.24 |
| Pyrite cleaner 1 feed | 7.00 | 21.60 | 2,190 | 101 | 3.30 | 5,716 | 1.00 | 265 | 366 | 295 | 28% | 1.24 |
| Pyrite cleaner 1 concentrate | 7.00 | 21.60 | 1,230 | 57 | 3.60 | 3,164 | 1.00 | 146 | 203 | 162 | 28% | 1.25 |
| Pyrite cleaner 1 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 65 | 1.00 | 3 | 3 | 3 | 0% | 1.00 |
| Pyrite cleaner 1 tailings | 7.00 | 21.60 | 960 | 44 | 3.00 | 2,552 | 1.00 | 118 | 163 | 133 | 27% | 1.22 |

| Process Stream | RUNNING TIME | | SOLIDS | | | SOLUTION | | | TOTAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | d/w | h/d | t/d | t/h | SG. | t/d | SG | $m^3/h$ | t/h | $m^3/h$ | % solids | SG. |
| Pyrite cleaner 2 feed | 7.00 | 21.60 | 1,230 | 57 | 3.60 | 3,229 | 1.00 | 149 | 206 | 165 | 28% | 1.25 |
| Pyrite cleaner 2 concentrate | 7.00 | 21.60 | 480 | 22 | 4.40 | 1,298 | 1.00 | 60 | 82 | 65 | 27% | 1.26 |
| Pyrite cleaner 2 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 43 | 1.00 | 2 | 2 | 2 | 0% | 1.00 |
| Pyrite cleaner 2 tailings | 7.00 | 21.60 | 750 | 35 | 3.20 | 1,931 | 1.00 | 89 | 124 | 100 | 28% | 1.24 |
| **Copper Concentrate Dewatering** | | | | | | | | | | | | |
| Final copper concentrate | 7.00 | 21.60 | 122 | 6 | 3.60 | 374 | 1.00 | 17 | 23 | 19 | 25% | 1.22 |
| Cu conc. thickener feed | 7.00 | 21.60 | 122 | 6 | 3.60 | 374 | 1.00 | 17 | 23 | 19 | 25% | 1.22 |
| Cu conc. thickener overflow | 7.00 | 21.60 | - | - | 3.60 | 308 | 1.00 | 14 | 14 | 14 | 0% | 1.00 |
| Cu conc. thickener underflow | 7.00 | 21.60 | 122 | 6 | 3.60 | 66 | 1.00 | 3 | 9 | 5 | 65% | 1.88 |
| Cu conc. filter cake | 7.00 | 21.60 | 122 | 6 | 3.60 | 11 | 1.00 | 0 | 6 | 2 | 92% | 2.98 |
| Cu conc. filtrate | 7.00 | 21.60 | - | - | 3.60 | 55 | 1.00 | 3 | 3 | 3 | 0% | 1.00 |
| **Pyrite Concentrate Dewatering** | | | | | | | | | | | | |
| Final pyrite concentrate | 7.00 | 21.60 | 480 | 22 | 4.40 | 1,341 | 1.00 | 62 | 84 | 67 | 26% | 1.26 |
| Pyrite thickener feed | 7.00 | 21.60 | 480 | 22 | 4.40 | 1,341 | 1.00 | 62 | 84 | 67 | 26% | 1.26 |
| Pyrite thickener overflow | 7.00 | 21.60 | - | - | 4.40 | 1,083 | 1.00 | 50 | 50 | 50 | 0% | 1.00 |
| Pyrite thickener underflow leach feed | 7.00 | 21.60 | 480 | 22 | 4.40 | 258 | 1.00 | 12 | 34 | 17 | 65% | 2.01 |
| Pyrite conc. filter cake | 7.00 | 21.60 | 480 | 22 | 4.40 | 42 | 1.00 | 2 | 24 | 7 | 92% | 3.46 |
| Pyrite conc. filtrate | 7.00 | 21.60 | - | - | 4.40 | 217 | 1.00 | 10 | 10 | 10 | 0% | 1.00 |
| **Bacterial Oxidation (assumes no pyrite dewatering)** | | | | | | | | | | | | |
| Pyrite concentrate | 7.00 | 21.60 | 480 | 22 | 4.40 | 1,341 | 1.00 | 60 | 84 | 67 | 26% | 1.26 |
| Oxidation feed | 7.00 | 21.60 | 480 | 22 | 4.40 | 1,920 | 1.00 | 89 | 111 | 94 | 20% | 1.18 |
| Dilution water | 7.00 | 21.60 | - | - | 3.00 | 579 | 1.00 | 27 | 27 | 27 | 0% | 1.00 |
| Water evaporation | 7.00 | 21.60 | - | - | 3.00 | 96 | 1.00 | 4 | 4 | 4 | 0% | 1.00 |
| Product from BOX. | 7.00 | 21.60 | 207 | 10 | 3.00 | 1,824 | 1.10 | 77 | 86 | 80 | 11% | 1.08 |
| Feed to CCD circuit | 7.00 | 21.60 | 207 | 10 | 3.00 | 1,824 | 1.10 | 77 | 86 | 80 | 11% | 1.08 |
| Solids from CCD circuit | 7.00 | 21.60 | 207 | 10 | 3.00 | 385 | 1.10 | 16 | 27 | 19 | 35% | 1.41 |
| Wash water to CCD | 7.00 | 21.60 | - | - | 3.00 | 1,658 | 1.00 | 77 | 77 | 77 | 0% | 1.00 |
| Total overflow to neutralization | 7.00 | 21.60 | - | - | 3.00 | 3,097 | 1.10 | 130 | 130 | 130 | 0% | 1.00 |
| Product from neutralization | 7.00 | 21.60 | 576 | 27 | 3.00 | 3,097 | 1.00 | 143 | 170 | 152 | 16% | 1.12 |
| **Tailings** | | | | | | | | | | | | |
| Combined tailings (inc. BOX residue) | 7.00 | 21.60 | 3,974 | 184 | 2.70 | 10,638 | 1.00 | 492 | 676 | 561 | 27% | 1.21 |
| Tailings thickener feed | 7.00 | 21.60 | 3,974 | 184 | 2.70 | 10,638 | 1.00 | 492 | 676 | 561 | 27% | 1.21 |
| Tailings thickener overflow | 7.00 | 21.60 | - | - | 2.70 | 8,498 | 1.00 | 393 | 393 | 393 | 0% | 1.00 |
| Tailings thickener u/f leach feed | 7.00 | 21.60 | 3,974 | 184 | 2.70 | 2,140 | 1.00 | 99 | 283 | 167 | 65% | 1.69 |
| Tailings filter cake | 7.00 | 21.60 | 3,974 | 184 | 2.70 | 757 | 1.00 | 35 | 219 | 103 | 84% | 2.12 |
| Tailings filtrate | 7.00 | 21.60 | - | - | 2.70 | 1,383 | 1.00 | 64 | 64 | 64 | 0% | 1.00 |

| | RUNNING TIME | | SOLIDS | | | SOLUTION | | | TOTAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Process Stream | d/w | h/d | t/d | t/h | SG. | t/d | SG | $m^3/h$ | t/h | $m^3/h$ | % solids | SG. |
| **Plant Water Balance IN** | | | | | | | | | | | | |
| Primary crusher product | 7.00 | 14.40 | 4,000 | 278 | 2.94 | 124 | 1.00 | 9 | 286 | - | 97% | - |
| SAG mill feed water | 7.00 | 21.60 | - | - | 2.94 | 1,366 | 1.00 | 63 | 63 | 63 | 0% | 1.00 |
| SAG mill screen spray water | 7.00 | 21.60 | - | - | 2.94 | 216 | 1.00 | 10 | 10 | 10 | 0% | 1.00 |
| Ball mill feed water | 7.00 | 21.60 | - | - | 2.94 | 513 | 1.00 | 24 | 24 | 24 | 0% | 1.00 |
| Cyclone feed dilution water | 7.00 | 21.60 | - | - | 2.94 | 6,415 | 1.00 | 297 | 297 | 297 | 0% | 1.00 |
| Rougher conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 108 | 1.00 | 5 | 5 | 5 | 0% | 1.00 |
| Regrind mill feed water | 7.00 | 21.60 | - | - | 3.20 | 82 | 1.00 | 4 | 4 | 4 | 0% | 1.00 |
| Cleaner 1 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 65 | 1.00 | 3 | 3 | 3 | 0% | 1.00 |
| Cleaner 2 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 43 | 1.00 | 2 | 2 | 2 | 0% | 1.00 |
| Pyrite scavenger conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 86 | 1.00 | 4 | 4 | 4 | 0% | 1.00 |
| Regrind mill feed water | 7.00 | 21.60 | - | - | 3.30 | 129 | 1.00 | 6 | 6 | 6 | 0% | 1.00 |
| Pyrite cleaner 1 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 65 | 1.00 | 3 | 3 | 3 | 0% | 1.00 |
| Pyrite cleaner 2 conc. spray water | 7.00 | 21.60 | - | - | 2.94 | 43 | 1.00 | 2 | 2 | 2 | 0% | 1.00 |
| Dilution water | 7.00 | 21.60 | - | - | 3.00 | 579 | 1.00 | 27 | 27 | 27 | 0% | 1.00 |
| Wash water to CCD | 7.00 | 21.60 | - | - | 3.00 | 1,658 | 1.00 | 77 | 77 | 77 | 0% | 1.00 |
| **TOTAL – IN** | | | | | | **11,492** | | | | | | |
| **Plant Water Balance OUT** | | | | | | | | | | | | |
| Cu conc. thickener overflow | 7.00 | 21.60 | - | - | 3.60 | 308 | 1.00 | 14 | 14 | 14 | 0% | 1.00 |
| Cu conc. filter cake | 7.00 | 21.60 | 122 | 6 | 3.60 | 11 | 1.00 | 0 | 6 | 2 | 92% | 2.98 |
| Cu conc. filtrate | 7.00 | 21.60 | - | - | 3.60 | 55 | 1.00 | 3 | 3 | 3 | 0% | 1.00 |
| Solids from CCD circuit | 7.00 | 21.60 | 207 | 10 | 3.00 | 385 | 1.10 | 16 | 27 | 19 | 35% | 1.41 |
| Reaction water evaporation | 7.00 | 21.60 | - | - | 3.00 | 96 | 1.00 | 4 | 4 | 4 | 0% | 1.00 |
| Tailings thickener overflow | 7.00 | 21.60 | - | - | 2.70 | 8,498 | 1.00 | 393 | 393 | 393 | 0% | 1.00 |
| Tailings filter cake | 7.00 | 21.60 | 3,974 | 184 | 2.70 | 757 | 1.00 | 35 | 219 | 103 | 84% | 2.12 |
| Tailings filtrate | 7.00 | 21.60 | - | - | 2.70 | 1,383 | 1.00 | 64 | 64 | 64 | 0% | 1.00 |
| **TOTAL – OUT** | | | | | | **11,492** | | | | | | |
| **Note: water balance excludes reagents, gland water service and effluent treatment plant** | | | | | | | | | | | | |

# 18.0 PROJECT INFRASTRUCTURE

The PEA includes the following surface infrastructure elements:

- Permanent access road.
- Local hydro-electric power stations.
- Overland power line connecting to the power grid.
- Dry stacked tailings storage facility.
- Fresh water supply system.
- Mine site facilities including:
  - General site development.
  - Plant site utilities.
  - Emergency power generation.
  - Administration building.
  - Warehouse.
  - Maintenance shop.
  - Laboratory.
  - Truck scale and gatehouse.
  - Sewage treatment system.
  - Fuel storage.
  - Explosives storage.
  - Communications.

## 18.1 ACCESS ROAD

A study, including a +/-30% cost estimate, was completed by Elsamex Internacional for the upgrading of the existing mine access road. A detailed report which includes estimated quantities and unit rates was issued to GoldQuest in February 2014 entitled "Propuesta Técnica y Económica dela adecuación del Camino Presa de Sabaneta – Hondo Valle." (Elsamex, 2014)

The route for the proposed road basically covers the existing road from the Sabaneta dam to the Hondo Valle Camp, which measures 25.5 km, but with an additional 5 km to flatten the steepest portion of this route. The road will have a minimum 6 m width and be designed for a maximum trucking load of 20 t.

## 18.2 ELECTRICAL POWER SUPPLY

The power requirement estimated by Micon for the Romero Project mine site is around 14 MW. A number of alternatives were reviewed to supply power to the site including diesel generators, line power connected to the national grid and harnessing the local hydro-electric potential from the San Juan River.

### 18.2.1 Hydro-Electric Potential

A study was completed in June, 2014 which considers the installation of five run-of-river (ROR) hydro-electric facilities which will provide excess power in the wet season for potentially sales to the national grid and to maximize the dry season yield, thus minimizing the supply of more expensive electrical power from elsewhere. Details of the study were included in a report compiled by GoldQuest entitled “Hydro-Electric Option for the Romero Gold Copper Mining Operation, San Juan Province, Dominican Republic”, dated June, 2014 (GoldQuest, 2014).

The basis for the preliminary hydro-electric study included the following:

- Dominican law 97-07, which outlines the incentives and regulations for privately operated hydro-electric installations. There are significant tax breaks related to installations under 5 MW, to encourage renewable energy, and substitution of hydro carbon based electrical generation.

- Ongoing water flow data collected by GoldQuest, as part of the Company’s environmental base line studies.

- Requirement for a “steady state” load of 14 MW throughout the year.

- The potential for GoldQuest to form a 100% owned subsidiary to manage its power development portfolio, as the financing options are different from mining.

A number of sites were reviewed, and assessed in the context of proximity to the mine sites, and access to the power line linking the project to the grid at Saboneta. The study concluded that the hydro-electric potential in the Upper San Juan valley is sufficient to provide power to the mine site for at least half the year, but for the remaining half, incremental power will have to be generated. The plan selected contemplates connection to the national grid at the Saboneta sub-station to purchase power during the dry season and conversely to sell excess power in the wet season.

#### 18.2.1.1 Run-of-River Hydro-Electric Production

Run of river (ROR) in steep terrain allows for low volume/high pressure head combination, which is often found to be the lowest capital cost efficient scenario for generating hydro-electric power. Run-of-river hydro-electric is also considered to have the smallest ecological impact and in this case has the potential for profitable sale of excess electricity during the wet season. Figure 18.1 presents a schematic showing the elements of a ROR hydro-electric system.

**Figure 18.1**
**Schematic of a Run-of-River Hydro-Electric Scheme**

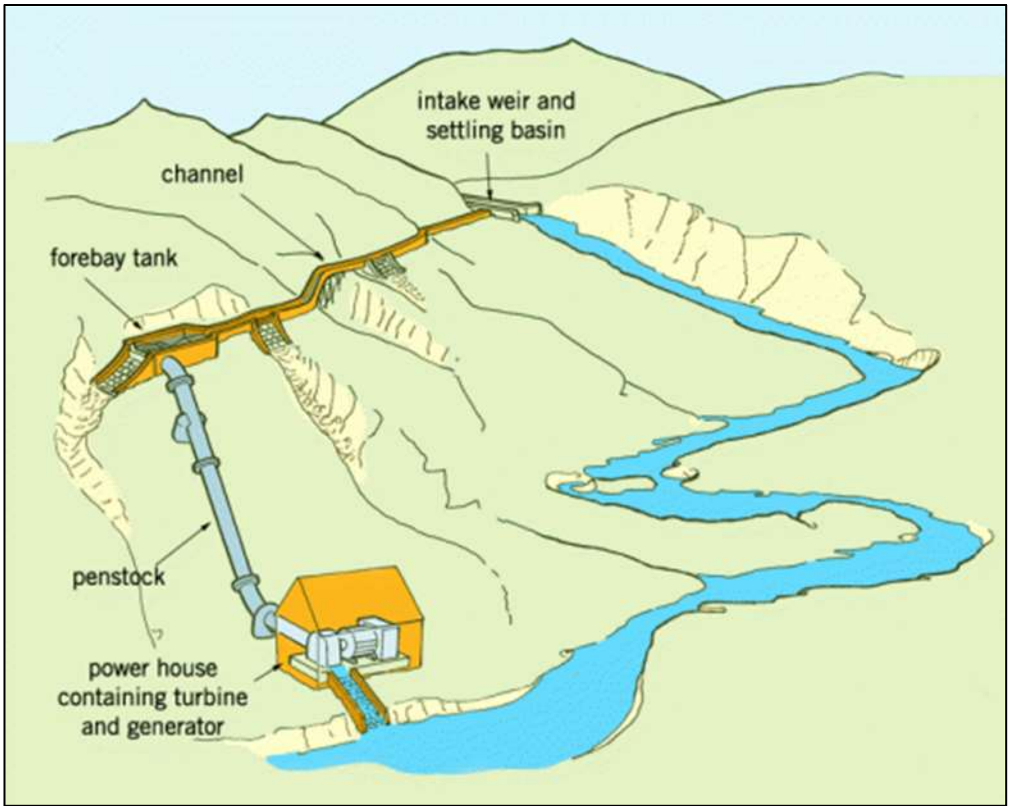



Figure from GoldQuest (2014)

The Upper San Juan valley is in many ways ideal for hydro-electric operations. The San Juan River flows into the Saboneta reservoir, which is the main four-season irrigation supply to the San Juan valley, whose principal water usage is agricultural. From the park boundary, which is about 1.5 km to the east and 5 km north of the Project site, to the level of the Saboneta reservoir the river drops 430 metres, over a distance of 17 km in a straight line (26 km along the river).

At the Saboneta dam, there is a link to the national grid by an underutilized 135 kVA line, which is approximately 16 km from the mine site. This link to the national grid has been included in the PEA.

Preliminary estimates of potential ROR hydro-electric sites were undertaken using weekly water flow data, which has been collected by GoldQuest form 10 sites since January, 2013 as part of a baseline study, and the Company's own digital terrain models, with accuracy in the 2 to 10 m elevation range.

The complete 26 km from park to the dam was reviewed. Five sites were selected and basic economics were applied, using in-house data and standard data from operations elsewhere in the country and the world, to arrive at a PEA level of confidence. The five sites were considered viable, and deemed worthy of further detailed study. The calculated maximum power generation in the wet season is 27.8 MW, (198% of mine requirements) and 5.25 MW (40% of mine requirements) in the dry season. Greater than 14 MW is estimated to be available for 30 weeks without outside purchases. A further 10 weeks have a shortfall of less than 5MW, which may be able to be covered by limited impoundment, as there is some precipitation in the dry season. The combined estimated capital cost totals $22.89 million.

Four of the sites are maximized at 5 MW and fall within the Law 97-07 mandate, while site five has a power generation potential of around 7.7 MW. The five sites are summarized in Table 18.1 and sites one to four, which are located close to the mine site are shown in Figure 18.2.

**Table 18.1**
**Summary of the Five Hydro-Electric Sites**

| Item | Site 1 | Site 2 | Site 3 | Site 4 | Site 5 |
|---|---|---|---|---|---|
| Intake weir | La Rosa | Hondo Valle | Escandalosa | Guayabo | La Cabirma |
| Power house | Hondo Valle | Escandalosa | Higuera | Higuera | Pasco de la Lima |
| Head (m) | 110 | 78 | 72 | 168 | 85 |
| Max. flow ($m^3/s$) | 25.8 | 16.9 | 20.3 | 3.7 | 30.5 |
| Min. flow ($m^3/s$) | 0.2 | 1.7 | 1.3 | 0.7 | 1.7 |
| Design flow ($m^3/s$) | 5.5 | 7.7 | 8.4 | 3.7 | 11.0 |
| MW rating | 5.0 | 5.0 | 5.0 | 5.0 | 7.7 |
| Power (GWh/y) | 22.1 | 27.4 | 26.8 | 23.3 | 44.5 |
| Capex (US$ million) | 5.2 | 4.3 | 5.0 | 3.7 | 5.3 |

As the project is developed towards pre-feasibility study it is recommended that a more detailed study of the area be undertaken by specialist hydro-electrical engineers.

### 18.2.2 Emergency Power

An emergency generator to power critical plant areas during unplanned supply disruptions has been included in the project scope.

## 18.3 TAILINGS DISPOSAL

A preliminary evaluation for the dry stacking of tailings was undertaken by Barr Engineering (Barr) of Minneapolis on behalf of Micon. A draft report was produced by Barr entitled “Tailing Disposal for Romero Project, Preliminary Evaluation Assessment, Province of San Juan, Dominican Republic”, dated 4 April, 2014 (Barr, 2014).

Dry (filtered) tailings disposal was the selected method to manage the surface containment of the residue produced by the processing facility because of the rugged terrain and the need to minimize potential environmental impacts. A plan showing the proposed location of tailings management facility (TMF) is presented in Figure 18.3.

**Figure 18.2**
**Location of Four ROR Hydro Electric Sites**

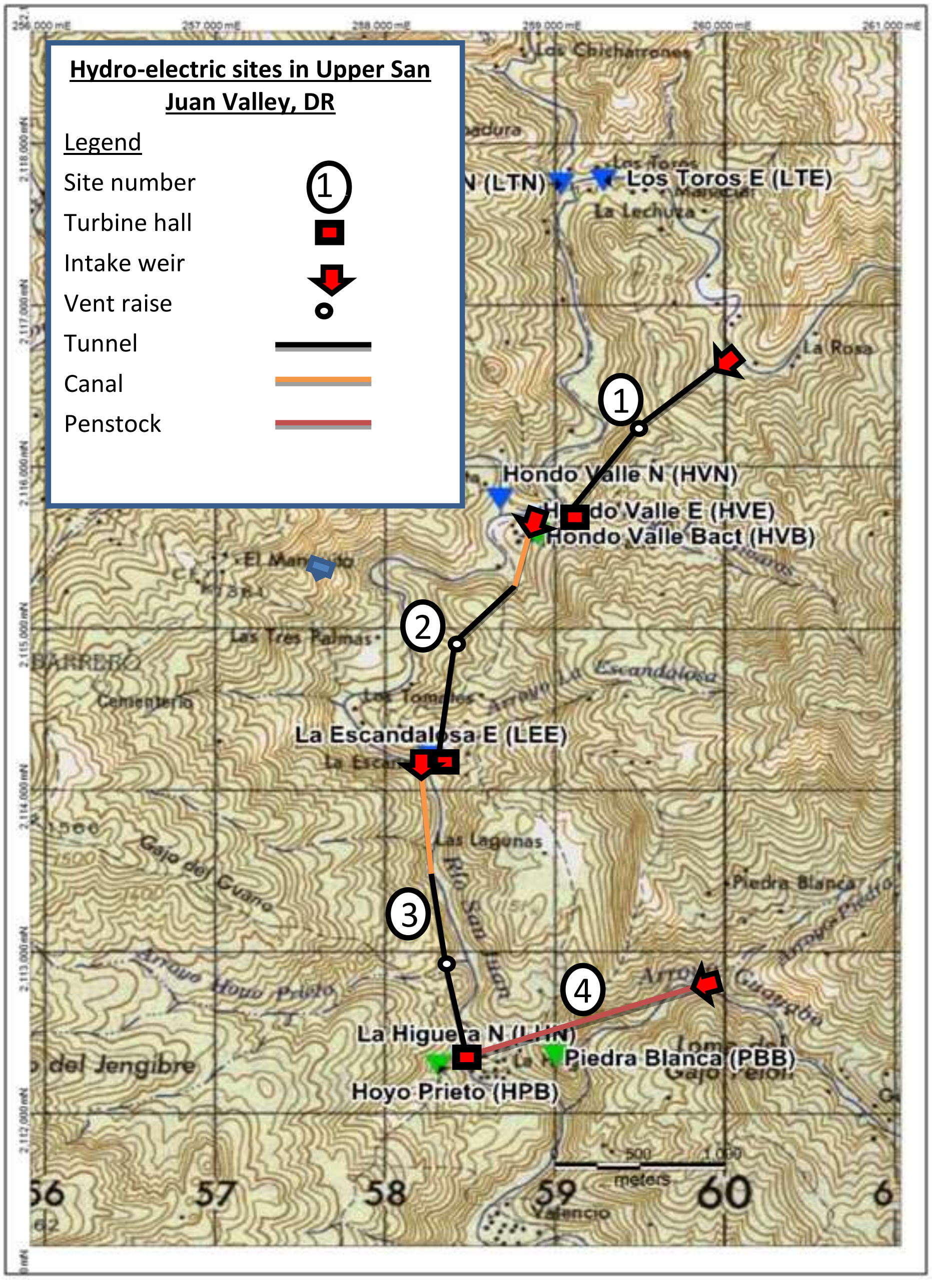
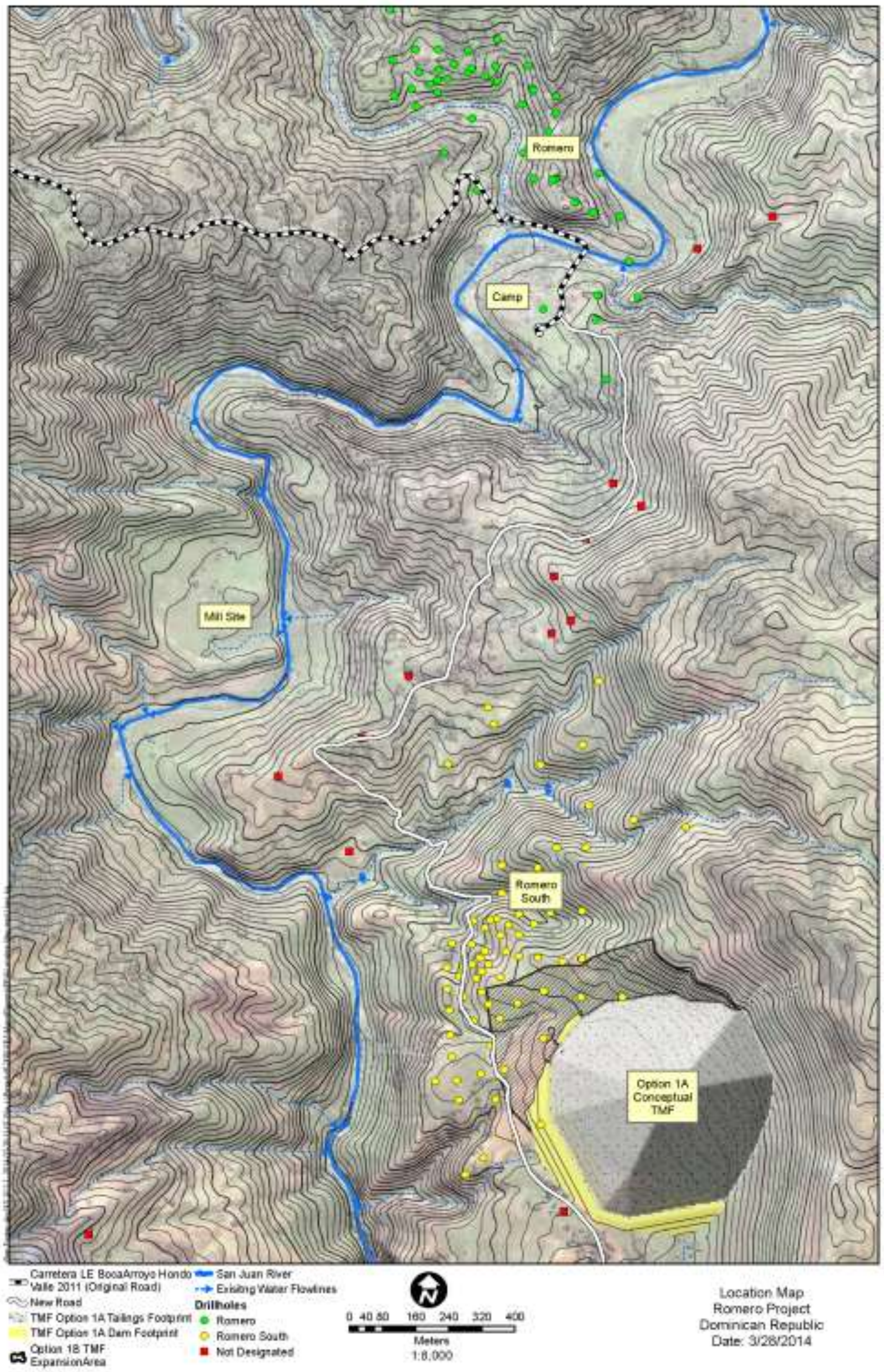


**Figure 18.3**
**Location of the Conceptual Surface Tailings Management Facility**



Tailings from the Romero project are proposed to be disposed of underground in the mine as back fill and on the surface in a TMF. The surface tailings will be pumped to the tailings site as a thickened slurry where it will be filtered. The filtrate will be recycled back to the mill site and the "dry" filter cake tailings will be hauled and placed using trucks and dozers, and compacted in the TMF. A geosynthetic-reinforced embankment will be developed along the face of the tailings slope to provide additional stability to the tailings slope during seismic events and, at the same time, provide erosion control during storm events

A French drain system downstream of the buttress will be used to collect (and treat if necessary) any water that may infiltrate the stacked tailings during operation. Diversion ditches will be used around the stacked tailings to minimize run-on onto the tailings pile. Storm water on the tailings pile will be managed using benches at periodic intervals on the slope of the stacked tailings to control water flow in the tailings pile. The benches will be vegetated and the slopes will be covered with gravel to minimize erosion. Stormwater will be discharged into sedimentation ponds to minimize the discharge of sediment into the river. A cover/cap will be placed over the tailings at closure.

Additional work recommended by Barr to develop the project to the next stage of pre-feasibility includes:

- Geotechnical characterization and analyses of the tailings and site.
- Geochemical characterization and analyses of the tailings and site.
- Dewatering, thickener, and pressure filter testing of the tailings and transportation of tailings.
- Leachate and treatment studies of the tailings.
- Rheology of tailings.
- Hydrological analyses of the site.
- Geologic and hydrogeological analyses of the site.
- Seismic analyses of the site.

## 18.4 FRESH WATER SUPPLY

Fresh water will be extracted from the San Juan River system to supply the mine site. Water used in the process will be recycled where possible to minimize the demand for fresh water. However, fresh water will be required for reagent make-up, gland service, fire water and as feed to the potable water plant. Cooling water required for the bacterial oxidation reactors and process water make-up will also be fresh water.

## 18.5 MINE SITE FACILITIES AND GENERAL SITE DEVELOPMENT

### 18.5.1 Site Roads

Roads will be constructed on site to link the facilities. This will include access to the mine portals, TMF, processing plant, fresh water supply point, hydro-electric power houses and administration buildings.

### 18.5.2 Ancillary Buildings

Ancillary buildings incorporated into the design and associated cost estimate include the following:

- Administration offices.
- Canteen.
- Reagent storage.
- Warehouse.
- Maintenance shop.
- Laboratory.
- Gatehouse and truck scale.
- Changing rooms, ablution and medical (first aid) facility.

### 18.5.3 Sewage

Sewage will be treated using a rotary biological contactor (RBC) plant fed by a pair of alternating duty, constant feed submersible pumps, installed at the bottom of an adjacent in ground concrete surge tank and pump chamber. Effluent meeting regulatory requirements will be discharged directly to the environment.

### 18.5.4 Fuel Storage Tanks and Distribution

The fuel storage facility will be surrounded by an HDPE-lined dyke serving as spill containment. A small diameter pipeline will be installed to pump diesel fuel to underground tanks for servicing diesel powered underground mobile equipment.

### 18.5.5 Explosives Storage and Management

An explosives plant and storage facility will be constructed at an appropriate separation distance from the mine site facilities.

### 18.5.6 Communications and Information Technology

Communications from the mine site area will utilize a commercial internet service. Cellular phones will be supported by a local base station at the plant site. Two-way radios will also be used for inter-personnel communication on site.

The process plant will be equipped with a supervisory, control and data acquisition (SCADA) system operating over industry-standard communications networking hardware and software.

IP-based video surveillance cameras will be supported by the IT network and telecommunication links.

# 19.0 MARKET STUDIES AND CONTRACTS

The Romero project will produce a copper sulphide concentrate containing gold and silver as well as an oxidized pyrite concentrate containing gold on site. The copper concentrate will be filtered, packaged in 1 t capacity bulk bags and the transported via road to a port for export to a copper smelter and refinery. The oxidized gold concentrate will also be filtered, bagged and transported to an existing gold recovery operation located in the Dominican Republic. Although initial discussions have taken place between GoldQuest and third party interest groups, there are no formal agreements or contracts in place concerning the treatment of these products. For the purposes of the PEA, Micon has applied typical treatment terms and costs in the financial model.

## 19.1 METAL PRICES

The copper price has been relatively stable over the past three years, ranging between approximately US$2.80/b and US$4.50/lb. A price of US$3.25/lb is used in the financial model for copper.

The prices used for gold and silver in the economic evaluation are US$1,300/oz and $22.00/oz, respectively.

## 19.2 COPPER CONCENTRATE

The copper flotation concentrate will contain 20% Cu and approximately 50 g/t Au and 58% g/t Ag. Typical multi element analyses of the concentrate produced during the metallurgical test program are shown above in Table 13.6. Based on these analyses, Micon does not expect any penalties for deleterious elements.

The smelter and refining terms used in the PEA are as follows:

- Payable copper – 96.50% with a minimum deduction of 1%.
- Payable gold – 97.50% with a minimum deduction of 1 g/t.
- Payable silver – 90.00% with a minimum deduction of 30 g/t.
- Concentrate transportation - US$100/t of wet concentrate.
- Smelter treatment charge - US$75/t of wet concentrate.
- Copper refining charge - US$0.07/lb of payable metal.
- Gold refining charge- US$6.00/oz of payable metal.
- Silver refining charge- US$0.35/oz of payable metal.

## 19.3 OXIDIZED PYRITE GOLD CONCENTRATE

The expected grade of the oxidized gold concentrate is approximately 17 g/t. It is assumed that this product will be transported to an off-site gold leach plant and converted into a doré bars suitable for sale to a precious metals refinery. This product is expected to be readily marketable and no specific agreement for sale of this gold doré product is considered necessary at this stage of project development. Therefore, typical terms of sale have been assumed for the purposes of this PEA.

The concentrate treatment terms used in the PEA include the following:

- Concentrate transportation – US$60/t of wet concentrate.
- Payable gold – 93%.
- Treatment charge – US$22/t of wet concentrate.
- Gold refining charge – US$6.00/oz of payable metal.

# 20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL COMMUNITY IMPACT

The following sections include direct citations from baseline and assessment reports completed by AMEC in 2013 and 2014, identified by indented, italicized text.

## 20.1 ENVIRONMENTAL STUDIES AND ISSUES

*A rapid biodiversity assessment was undertaken to establish the wider biological sensitivity of the area. From a project strategic point of view the following biodiversity aspects need special consideration during future planning:*

- *The La Escandalosa Exploration Project is located in the globally significant Cordillera Central Corridor Key Biodiversity Area. For future project development, further investigations will be required to determine if there are any vulnerable or irreplaceable biodiversity communities or habitats present.*
- *The Project area is located in close proximity to two National Parks:*
    - *The José del Carmen Ramírez National Park in which the Critical Endangered Eleutherodactylus schmidti (amphibian) is found.*
    - *The Armando Bermudez National Park, which has been demarcated for the protection of its large-scale ecological processes and species.*

  *Encroachment into these areas has to be avoided, while the potential presence of the Eleutherodactylus schmidti has to be investigated should future activities be planned.*
- *Although some level of anthropogenic disturbance is associated with the project area, the IUCN Red Data List indicates that there are two Critically Endangered Species that can occur in the project vicinity:*
    - *Hispaniolan Crestless Toad (Peltophryne fluviatica).*
    - *Ridgway's Hawk (Buteo ridgwayi).*

*The initial definition of the water quality sampling network was set up on the San Juan River watershed, installation of a weather station and training of GoldQuest"s personnel has been undertaken. Two sampling campaigns were undertaken in 2013 (AMEC 2014).*

The Romero Project is also located on the San Juan River, upstream of the Sabaneta reservoir that provides irrigation to downstream agricultural lands. At least three small villages use the San Juan River. Water quality is slightly basic and overall low in most metals.

## 20.2 ENVIRONMENTAL MANAGEMENT

More detailed environmental management plans will be developed as the project planning progresses; however, it is assumed that the project will be developed to international best practice standards and conform with the IFC Social and Environmental Performance Standards for environmental protection and management.

### 20.2.1 Tailings

Tailings will be backfilled to the underground mines and to a dry stack tailings management facility. The various tailings streams will need to be characterized during the metallurgical program at the next stage of the project.

It is likely that some of the tailings streams will be potential acid generating and metal leaching (PAG/ML). Any PAG/ML tailings should preferentially be backfilled underground so that the material will flood after closure and have less opportunity to oxidize or release contaminants to the receiving environment.

### 20.2.2 Waste Rock

The quantity of waste rock from underground development will need to be disposed of initially on surface. As mining progresses some waste rock may be used to partially backfill secondary stopes and inactive areas of the mine. The expected waste rock types will need to be sampled and characterized during the next stage of the project. If any of the rock types are identified as PAG/ML, kinetic tests will need to be conducted to estimate the time to onset of acid generation and to develop a management strategy.

### 20.2.3 Water Management

It is assumed that seepage and runoff water will be controlled, collected and monitored on a regular basis for all facilities during all phases of the project. An assessment will be needed to determine the effects on flows from hydro-electric power development on the upper San Juan River and the Sabaneta Reservoir.

A key feature of the current process design is that cyanide is not proposed for mineral processing. This is preferable for project permitting in the Dominican Republic.

Water and waste management planning will need to protect the San Juan River watershed flows and water quality for the surrounding villages and the Sabaneta Reservoir users

## 20.3 PERMITTING REQUIREMENTS

### 20.3.1 Constitution of the Dominican Republic

> *The current Constitution was adopted and entered into force on 26 January 2010. It is the general framework to ensure the functioning of the state. The Constitution emphasises the protection of property and the importance of such in Article 51.*

*However, Article 17 states that "mining and hydrocarbon deposits and, in general, all non-renewable resources, may only be explored or exploited by private parties, under sustainable environmental criterion, in accordance with concessions, agreements, licenses, permits or quotas, under the conditions determined by law".*

*A company undertaking mining operations in the Dominican Republic must take into account that the Dominican State is a necessary participant in any mining operation, and that the minerals are owned by the state, although the entity awarded with a concession has the right to profit from the extracted minerals (AMEC 2013c).*

### 20.3.2 Mining Law

*Law No. 146 enacted on 4 June 1971 and regulation No. 207-98 dated 3 June 1998, are the general mining laws by which mining in the Dominican Republic is governed. It is these Laws that codifies the State is the owner of all mineral deposits, of any nature, on Dominican soil, and that the exploitation or mining of such deposits are undertaken by means of concessions or agreements granted exclusively by the Government.*

*All concessions granted within national territory are exclusively governed by the laws and courts of the Dominican Republic. When foreigners are the concessionaires, such concessionaires are deemed to have validly waived of any right to diplomatic protection in relation to the concession.*

*Law No. 146 created the General Mining Directorate, as the administrative body charged with implementing the Law and regulating mining activities in the Dominican Republic, this has in the meantime been amended, with the mining administrative powers now vested in the Ministry of Energy and Mining.*

*Presidential Decrees*

- *Decree No. 613-00, dated 25 August 2000, regarding the creation of the National Council for Mining Development.*

- *Decree No. 839-00 dated 26 September 2000, regarding the declaration of mining as an activity of the highest priority of the Dominican state, thereby instructing the Corporate Mining Authority to enter into certain agreements regarding the development of certain mining sectors of the country.*

- *Decree No. 947-01 dated 19 September 2001, regarding the creation of Industrial mining parks for whom the tax incentives of the Dominican Industrial Free Zone Law No. 8-90 are extended to.*

- *Law No. 123-71, dated 10 May 1971, along with its regulation of enforcement, also regulate certain mining activities, namely the extraction of sand, gravel, chippings, rocks and similar materials (AMEC 2013c).*

### 20.3.3 Environmental Law

*The General Law with respect to the environment is No.64-00, dated 18 August 2000, governing all environmental related issues in the Dominican Republic. This Law creates five Vice-Ministries for Environmental Resources:*

- *Water Management Issues.*
- *Biodiversity.*
- *Protected Areas.*
- *Forest Resources.*
- *Marine Resources.*

*This Law creates the governmental authority the Ministry of Environment and Natural Resources to oversee and regulate this Law. The Law sets out the general rules regarding conservation, protection, improvement and restoration of the environment and natural resources.*

*Article 38 of 64-00 establishes the process of environmental evaluation, in order to prevent, control and mitigate the impacts over the environment and natural resources caused by works, projects and other activities. This process includes the development of following instruments:*

- *Environmental impact Statement.*
- *Strategic environmental evaluation.*
- *Environmental impact study.*
- *Environmental report.*
- *Environmental license.*
- *Environmental permit.*
- *Environmental audit.*
- *Public consultation.*

*The Ministry of Environment and Natural Resources requires projects conduct environmental impact studies in order to obtain an environmental license. The activities triggering studies in mining sector include the following: development, exploitation and processing of metallic and non-metallic mining; exploration and mining prospection; extractive metallurgy; artisan mining; mining parks; and aggregate processing plants; among others (AMEC 2013c).*

### 20.3.4 Conventions, Treaties and Protocols

*The Dominican Republic is a member of the following international bodies: ACP, AOSIS, BCIE, CARICOM (observer), CD, CELAC, FAO, G-77, IADB, IAEA, IBRD, ICAO, ICC (national committees), ICRM, IDA, IFAD, IFC, IFRCS, IHO, ILO, IMF, IMO, Interpol, IOC, IOM, IPU, ISO (correspondent), ITSO, ITU, ITUC (NGOs), LAIA (observer), MIGA, NAM, OAS, OPANAL, OPCW, PCA, Petrocaribe, SICA* *(associated member), UN, UNCTAD, UNESCO, UNIDO, Union Latina, UNWTO, UPU, WCO, WFTU (NGOs), WHO, WIPO, WMO, WTO.*

*Specifically related to environmental and social protection, the Dominican Republic is signatory to the following conventions, treaties and accords:*

- *Basel Convention on the control of Trans-boundary Movements of Hazardous Wastes and their Disposal (accession 10 July 2000).*
- *American Convention on Human Rights (accession 21 January 1978).*
- *Convention on Biological Diversity (signed 23 May 2001).*
- *Convention on International Trade in Endangered Species of Wild Fauna and Flora (signed 17 March 1987).*
- *International Covenant on Economic, Social and Cultural Rights (accession 04 January 1978).*
- *Indigenous and Tribal Populations Convention, 1957 (accession: 23 June 1958).*
- *Kyoto Protocol (accession: 12 February 2002).*
- *Ramsar Convention (accession:15 September 2002).*
- *Stockholm Convention on Persistent Organic Pollutants (accession: 4 May 2007).*

#### 20.3.5 Potential Permitting Risks

Permitting of a new mine carries some risk due to the the proximity of the project to a national park and the San Juan and La Guama Rivers. As project plans progress, it will be important to not encroach on the park, to complete thorough and scientifically defensible baseline environmental studies and to conduct an effective engagement and consultation program from the community to the national level.

### 20.4 SOCIAL AND COMMUNITY ASPECTS, STAKEHOLDER CONSULTATION

*In terms of social setting, La Escandalosa Exploration Project is located in a remote area of the Dominican Republic. Population densities are low, with only a few villages located within the exploration area and the closest large city approximately 25 km south of the Project.*

*Three settlements have been identified as falling within the Project area:*

- *Hondo Valle.*
- *La Hilguera.*
- *La Cienaga Vieja (AMEC 2013c).*

*These villages may be directly or indirectly impacted (physically, economically, positively and potentially negatively) by future Project activities. GoldQuest will continue consultation with these communities throughout the on-going exploration activities and future Project planning process.*

*The following social aspects need specific consideration in both the planning and continuous engagement process:*

- *Primary agricultural practices are important downstream of the Project area. Irrigation practices seem to take place on a large scale.*
- *AMEC understands that the opinion and role that the Church plays in society is very important. Strategic planning and engagement with the Church is essential.*
- *The secondary investigation indicates that the oldest male in a family holds the decision making role. This is important to take into consideration in the Stakeholder Engagement Plan (SEP).*
- *The financial status quo might lead to an influx of employment seekers into this remote area where an extra burden might be placed on services; a forecast increase in the population due to mining justifies taking due consideration that the local healthcare services are not overburdened.*
- *The public schooling system, especially in rural, more inaccessible areas is fairly poor. This presents an opportunity to GoldQuest in terms of social investment, but taking due care that such support provides for a sustainable community infrastructure, i.e., able to be maintained after mining investment ceases.*
- *Various villages are located along the road to the project area. The sphere of influence of the project may also include these villages. The potentially affected communities will therefore have to be clearly defined to ensure that a pro-active stakeholder engagement process can be implemented.*
- *Depending on the location of the facilities and the mining method chosen, some resettlement might be necessary and therefore the development of a Resettlement Policy Framework (RPF) is recommended, as well as gaining an understanding of when the census of directly affected people can be locked (AMEC 2014).*

The project proposed in this PEA is not expected to require any resettlement. Some land acquisitions will likely be necessary for the proposed tailings facility, mill site, and ancillary facilities.

## 20.5 SOCIAL MANAGEMENT

*GoldQuest has an environmental policy in which they commit to:*

- *Communicate openly and transparently about our activities.*

- *Provide information to our shareholders about the environmental aspects of our business.*

- *Meet and, where appropriate, exceed applicable legal and other requirements of our operating licenses.*

- *Ensure that all GoldQuest's employees and subcontractors are familiar with our policies and act accordingly.*

- *Strive to continuously improve our work practices in order to reduce the impact of our activities on the environment.*

## 20.6 ENVIRONMENTAL OPERATIONS BUDGET

Annual environmental operating costs of $74,000 are included in G&A costs as presented in Section 21.2. This estimate will need to be re-calculated at the next stage of project planning.

## 20.7 RECLAMATION AND CLOSURE REQUIREMENTS

Initial closure bonding is estimated at $400,000, with final closure costs estimated at $3.4M. This cost estimate will need to be re-calculated at the next stage of project planning.

# 21.0 CAPITAL AND OPERATING COSTS

## 21.1 CAPITAL COST ESTIMATE

The LOM capital cost estimate is summarised in Table 21.1. The estimate is given in US dollars, with a base date of second quarter, 2014. Owing to rounding of the estimates, some totals may not agree.

**Table 21.1**
**LOM Capital Estimate**

| | Initial Capital ($'000) | Sustaining Capital ($'000) | Total Capital ($'000) |
|---|---|---|---|
| Mining | 57,851 | 42,398 | 100,249 |
| Processing | 110,034 | - | 110,034 |
| Infrastructure | 55,428 | (15,020) | 40,408 |
| Indirect costs | 57,776 | 13,000 | 70,776 |
| Contingency | 52,409 | - | 52,409- |
| **TOTAL** | **333,499** | **40,378** | **373,877** |

The capital cost estimate for this project presented herein is considered to be at a scoping level with an accuracy of + 50% -35% and carrying a contingency of 18.6% on total initial estimated capital.

### 21.1.1 Mining Capital Cost

Mining capital costs (Table 21.2) comprise the purchase of fixed and mobile underground equipment and a backfill preparation plant, together with capital development and capitalized pre-production operating expenses, the latter being mainly lateral development in waste rock.

Romero South is developed towards the end of the LOM period, and so is included in sustaining capital costs.

**Table 21.2**
**LOM Mining Capital Estimate**

| | | Initial Capital ($'000) | Sustaining Capital ($'000) | Total Capital ($'000) |
|---|---|---|---|---|
| Pre-production (Capitalized Opex.) | | 9,566 | - | 9,566 |
| Romero - | Equipment | 32,556 | 25,741 | 58,297 |
| | Development | 15,730 | 13,892 | 29,622 |
| Romero -South | Equipment | - | 1,754 | 1,754 |
| | Development | - | 1,011 | 1,011 |
| **TOTAL** | | **57,851** | **42,398** | **100,249** |

### 21.1.2 Processing Direct Capital Cost

A breakdown of the capital costs estimate for the processing plant is given in Table 21.3. Since maintenance costs are included in operating expenses, no sustaining capital is required.

**Table 21.3**
**LOM Process Capital Estimate**

| Project Area | Initial Capital ($'000) |
|---|---|
| Site earthworks - General | 2,600 |
| On-Site roads | 1,250 |
| Crushing | 5,376 |
| Grinding | 18,046 |
| Flotation | 14,476 |
| Concentrate dewatering | 2,603 |
| Tailings dewatering | 9,457 |
| Reagents | 2,574 |
| Utilities | 2,488 |
| On-site infrastructure, mobile equip. | 18,444 |
| Waste water treatment plant | 2,405 |
| Bacterial oxidation plant | 30,316 |
| **TOTAL DIRECT COSTS** | **110,034** |

The processing capital cost estimate is a factorized estimate based on the process mechanical equipment supply costs. Factors for each area of the processing facility were applied to estimate the associated costs for civil and earthworks, concrete, steel, piping and instrumentation and electrical. The estimated process equipment selection, sizing and supply costs were based on the process design criteria and the process material balance discussed in Section 17 of this report. The factors used for the estimate are based on Micon's experience and in-house database.

### 21.1.3 Infrastructure Capital Cost

Table 21.4 shows the infrastructure capital cost estimate. Construction of the access road and connection to the national power distribution network are carried out prior to production start-up. Tailings dam construction occurs both before and during operation of the mine.

A hydro-electric generation station is constructed early in the project, but as the useful life of this facility exceeds the LOM period, it is assumed that this investment can be fully recouped through its disposal once the mine closes.

**Table 21.4**
**LOM Infrastructure Capital Estimate**

| | Initial Capital ($'000) | Sustaining Capital ($'000) | Total Capital ($'000) |
|---|---|---|---|
| Access Road | 10,248 | - | 10,248 |
| Tailings Storage | 16,430 | 9,980 | 26,410 |
| Power Supply (Hydro) | 25,000 | (25,000) | - |
| Power Connection to grid | 3,750 | - | 3,750 |
| **TOTAL** | **55,428** | **(15,020)** | **40,408** |

### 21.1.4 Indirect Capital Costs

The estimated indirect capital costs applied to the process and infrastructure are shown in Table 21.5. These costs include the estimated Owner's costs for site management, recruitment and training.

**Table 21.5**
**LOM Indirect Capital Estimate**

| | Initial Capital ($'000) | Sustaining Capital ($'000) | Total Capital ($'000) |
|---|---|---|---|
| EPCM Plant | 19,806 | | 19,806 |
| Infrastructure | 4,434 | | 4,434 |
| Freight and transportation | 15,644 | | 15,644 |
| First fills | 2,553 | | 2,553 |
| Mobilization | 2,771 | | 2,771 |
| Owner site management | 3,667 | | 3,667 |
| Construction and contractors indir. | 5,502 | | 5,502 |
| Other | 2,989 | | 2,989 |
| Closure bonding | 400 | 3,000 | 3,400 |
| Rehabilitation | - | 10,000 | 10,000 |
| **TOTAL** | **57,776** | **13,000** | **70,776** |

### 21.1.5 Contingency

In addition to the costs identified above, a contingency calculated as 20% of the direct, indirect and Owner's costs, and totalling $52.409 million, has been provided for in the initial project capital estimate.

## 21.2 Operating Cost Estimate

The estimated life-of-mine total project operating costs are summarized in Table 21.6.

**Table 21.6**
**Summary of LOM Operating Costs**

| Category | LOM Total $ 000 | $/t Milled | $/oz Gold Eq[1] |
|---|---|---|---|
| Mining | 583,549 | 31.61 | 323 |
| Processing | 281,396 | 15.24 | 156 |
| G&A | 32,536 | 1.76 | 18 |
| **Total Mine Site Costs** | **897,480** | **48.62** | **497** |
| Transport, TC/RC | 185,926 | 10.07 | 103 |
| **Total Cash Operating Costs** | **1,083,407** | **58.69** | **600** |
| Royalties | 27,025 | 1.46 | 15 |
| **Total Production Costs** | **1,110,432** | **60.15** | **615** |

[1] Gold Equivalent = payable Au (oz) + payable Ag (oz) x (Ag price/Au price) + payable Cu (lb) x (Cu price/Au price)

### 21.2.1 Mining Operating Cost

Operating costs for mining have been calculated on the basis of development, production and backfilling schedules for each underground section, namely Romero and Romero South. Ongoing lateral development at Romero is also provided for in the operating costs. Table 21.7 shows a breakdown of the mine operating cost estimate.

**Table 21.7**
**LOM Mine Operating Cost Estimate**

| | LOM Operating Costs ($'000) | Tonnes (t'000) | Unit Cost ($/t milled) |
|---|---|---|---|
| Romero - Lateral Development | 34,798 | 16,770 | 2.07 |
| Romero - Stoping | 519,660 | | 30.99 |
| Romero South - Stoping | 38,605 | 1,690 | 22.84 |
| Stockpile Rehandle | 51 | | 1.00 |
| *Less* Pre-production costs capitalized | (9,566) | | (0.52) |
| **TOTAL** | **583,549** | **18,461** | **31.61** |

### 21.2.2 Processing Operating Cost

Operating costs for processing (Table 21.8) have been calculated on the basis of labour requirements and consumption of power, reagents, grinding media and equipment maintenance spares. Process costs also include a provision for the cost of bio-oxidation of concentrates and tailings disposal.

**Table 21.8**
**LOM Process Operating Cost Estimate**

| | | LOM Operating Costs ($'000) | Tonnes (t'000) | Unit Cost ($/t mined) |
|---|---|---|---|---|
| Romero - | Labour & Supervision | 29,146 | 16,770 | 1.74 |
| | Power | 37,527 | | 2.24 |
| | Reagents & consumables | 122,309 | | 7.29 |
| | Maintenance Spares | 26,731 | | 1.59 |
| | | | | |
| Romero South - | Labour & Supervision | 2,938 | 1,690 | 1.74 |
| | Power | 3,782 | | 2.24 |
| | Reagents & consumables | 12,529 | | 7.41 |
| | Maintenance Spares | 2,694 | | 1.59 |
| | | | | |
| Tailings Storage | | 43,470 | 18,461 | 2.37 |
| | | | | |
| **TOTAL** | | **281,396** | **18,461** | **15.24** |

Higher lime consumption results in slightly higher unit costs for treatment of material from Romero South., only partly offset by savings in usage of copper sulphate and certain other reagents.

### 21.2.3 General and Administrative Operating Costs

General and Administrative (G&A) operating costs comprise all direct site costs other than costs of mining and processing. Table 21.9 gives a breakdown of the G&A cost estimate.

**Table 21.9**
**LOM G&A Operating Cost Estimate**

| | LOM Operating Costs ($'000) | Annual Cost ($'000/y) |
|---|---|---|
| Labour & supervision | 16,646 | 1,172 |
| Consultants (allowance) | 710 | 50 |
| Communications, computers, IT (allowance) | 1,406 | 99 |
| Travel, meetings, conferences, training | 426 | 30 |
| Office supplies | 710 | 50 |
| Environmental & community support | 1,051 | 74 |
| Recruiting & training | 511 | 36 |
| Insurance and legal fees | 8,236 | 580 |
| G&A Mobile equipment | 710 | 50 |
| Road maintenance costs | 1,420 | 100 |
| Marketing costs | 710 | 50 |
| **TOTAL** | **32,536** | **2,291** |

### 21.2.4 Selling Costs and Royalty

Selling costs are incurred on disposal of copper concentrates, as well as for the transport and processing of gold-rich residue from the bio-oxidation of pyrite concentrates, and the refining of doré produced therefrom. Table 21.10 lists these assumptions.

**Table 21.10**
**LOM Selling Cost Assumptions**

| | | Unit | Unit Costs ($/unit) | LOM Selling Costs ($'000) | Unit Costs ($/t milled) |
|---|---|---|---|---|---|
| Copper Conc: | Transport | $/t conc. | 100.00 | 51,020 | 2.76 |
| | Smelting charges | $/t conc. | 75.00 | 38,265 | 2.07 |
| | Refining charge | $/oz Au | 6.00 | 4,722 | 0.26 |
| | | $/oz Ag | 0.35 | 158 | 0.01 |
| | | $/lb Cu | 0.07 | 14,960 | 0.81 |
| | | | | | |
| Pyrite Residue: | Transport | $/t conc. | 60.00 | 55,454 | 3.00 |
| | Gold recovery charges | $/t conc | 20.00 | 18,485 | 1.00 |
| | Refining charge | $/oz Au | 6.00 | 2,813 | 0.15 |
| | | | | | |
| **TOTAL** | | | | **185,926** | **10.07** |

In addition, a royalty of 1.25% of the NSR value of production has been provided for. This provision is equivalent to $1.46/t milled and totals $27.025 million over the LOM period.

# 22.0 ECONOMIC ANALYSIS

Micon has prepared its assessment of the Romero project on the basis of a discounted cash flow model, from which Net Present Value (NPV), Internal Rate of Return (IRR), payback and other measures of project viability can be determined. Assessments of NPV are generally accepted within the mining industry as representing the economic value of a project after allowing for the weighted average cost of capital invested.

The objective of the study was to determine the viability of the proposed underground mine and concentrator plant. In order to do this, the cash flow arising from the base case has been forecast, enabling a computation of the NPV to be made. The sensitivity of this NPV to changes in the base case assumptions is then examined.

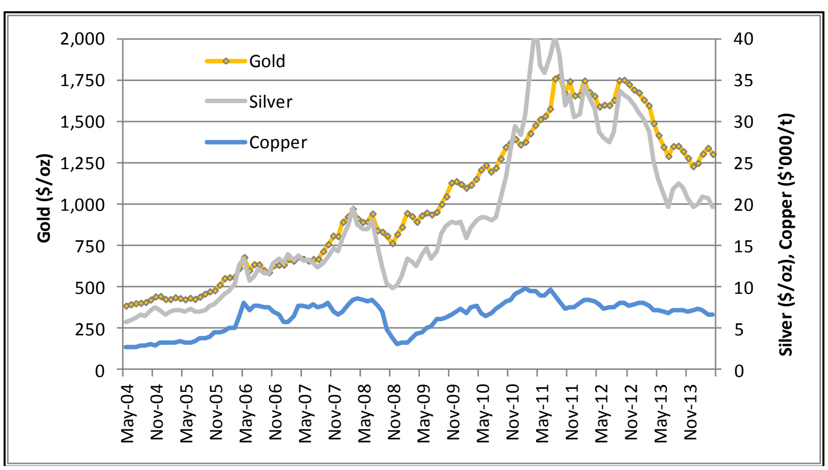
This economic analysis is preliminary in nature and includes inferred resources that are insufficiently defined by drilling and sampling to be classified as measured and indicated resources. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the results of the economic assessment will be realized.

## 22.1 EXTERNAL ASSUMPTIONS

### 22.1.1 Metal Prices

A gold price of $1,300/oz was used for the base case scenario in this analysis. This price is less than the three-year trailing average of $1,537/oz (to April 30, 2014) but is very close to the 1- and 12-month trailing averages of $1,299/oz and $1,311/oz, respectively. See Figure 22.1. In the base case, gold contributes around 70% of the NSR value of production.

**Figure 22.1**
**Historical Metal Prices**



A silver price of \$22.00/oz was selected on the basis of recent prices and a historical ratio of approximately 1/60$^{th}$ the price of gold. The project is insensitive to the silver price forecast, as it contributes less than 0.5% to the NSR value of production.

Copper was forecast at \$3.25/lb. This is below the three-year trailing average price of \$3.51/lb but close to the 12-month trailing average of \$3.20/lb to April 30, 2014. In the base case, copper contributes almost 30% to the NSR value of production.

### 22.1.2 Taxation and Royalty

Dominican Republic corporate tax is provided for at 25%. In addition, an environmental tax of 5% is accounted for, as well as a 5% export tax (as a pre-payment of income tax) and an asset tax of 0.5% on depreciated book value. For this report, depreciation has been calculated on a declining balance basis, at an annual rate of 15%.

It is assumed that the third-party royalty, calculated at a rate of 1.25% of NSR, will be treated as an allowable expense.

### 22.1.3 Currency, Base Date and Escalation

All results are expressed in United States dollars. Cost estimates and other inputs to the cash flow model for the project have been prepared using constant, first quarter 2014 money terms, i.e. without provision for escalation or inflation.

### 22.1.4 Cost of Equity Capital

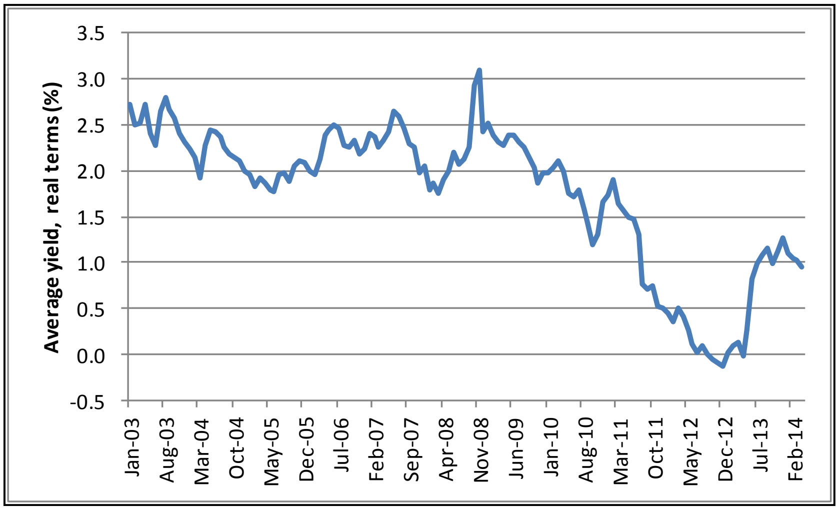
In order to estimate the NPV of the cash flows forecast for the Project, an appropriate discount factor must be applied which represents the weighted average cost of capital (WACC) imposed on the project by the capital markets. The cash flow projections used for the valuation have been prepared on an all-equity basis. This being the case, WACC is equal to the market cost of equity, and can be determined using the Capital Asset Pricing Model (CAPM):

$$E(R_i) = R_f + \beta_i(E(R_m) - R_f)$$

Where $E(R_i)$ is the expected return, or the cost of equity. $R_f$ is the risk-free rate (usually taken to be the real rate on long-term government bonds), $E(R_m)$-$R_f$ is the market premium for equity, commonly estimated to be around 5%, and beta ($\beta$) is the volatility of the returns for the relevant sector of the market compared to the market as a whole.

Figure 22.2 illustrates the real return on US bonds computed by Federal Reserve, taken as a proxy for the risk-free interest rate. Recently, this dropped from around 2.0% to less than zero before rebounding to around 1.0% currently. Nevertheless, it is generally accepted that using a long-term average rate will give a more reliable estimate of the cost of equity. Micon has therefore used value of 2.0% for the risk free rate, approximating the real rate of return seen over much of the 8 year period prior to 2011.

**Figure 22.2**
**Average Annual Return on US Treasury Bills (Indexed)**
**(source: US Federal Reserve)**




Taking beta for this sector of the equity market to be in the range 1.2 (typical for the mining sector as a whole) to 2.0 (typical of some base and multi-metal producers), CAPM gives a cost of equity for the project of between 8% and 12%, as shown in Table 22.1. Micon has the lower end of this range as its base case, and provides the results at alternative rates of discount for comparative purposes.

**Table 22.1**
**Cost of Equity Capital**

| Range | Lower | Middle | Upper |
|---|---|---|---|
| Risk Free Rate (%) | 2.0 | 2.0 | 2.0 |
| Market Premium for equity (%) | 5.0 | 5.0 | 5.0 |
| Beta | 1.2 | 1.6 | 2.0 |
| **Cost of equity (%)** | **8.0** | **10.0** | **12.0** |

## 22.2 FORECAST PRODUCTION, REVENUE AND COST ESTIMATES

A two-year pre-production period is assumed for the completion of permitting, basic and detailed engineering, procurement, construction and pre-production development.

The production schedule and recovery assumptions are as discussed in the mining and processing sections of this report. The annual mill-feed schedule is shown in Figure 22.3. The resulting sales of doré and concentrate result in the annual forecast of gross sales revenue shown in Figure 22.4. The contribution from copper remains important until the last two years when Romero South material is treated. Silver remains insignificant over the whole LOM period.

**Figure 22.3**
**Annual Milling Schedule**

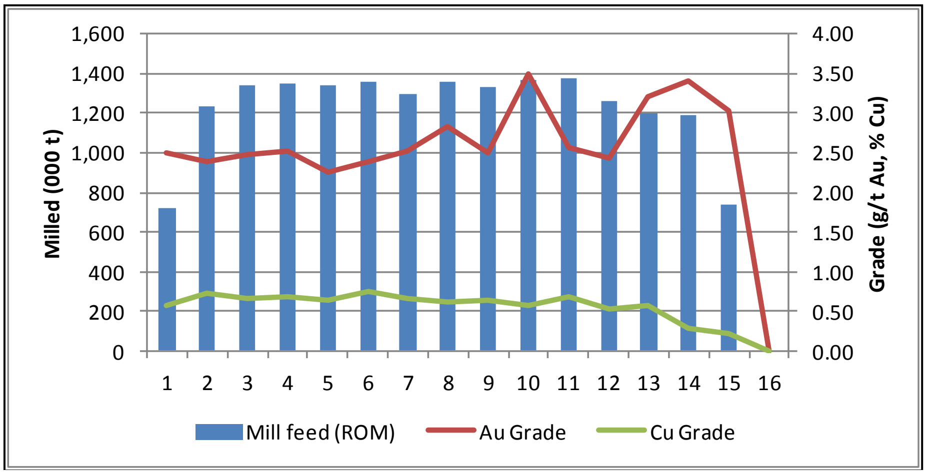
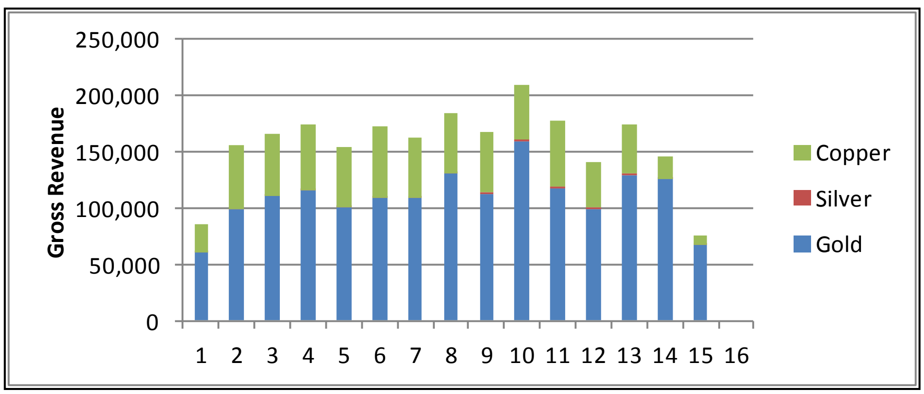
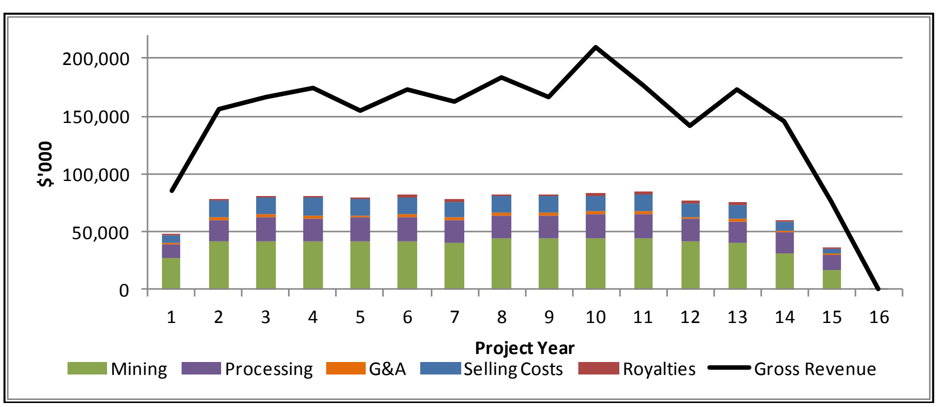



**Figure 22.4**
**Annual Gross Revenue by Metal**




The operating and capital costs discussed in Section 21 were used for the economic analysis, resulting in strong operating margins over the whole LOM period (Figure 22.5).

**Figure 22.5**
**Annual Gross Revenue by Metal**



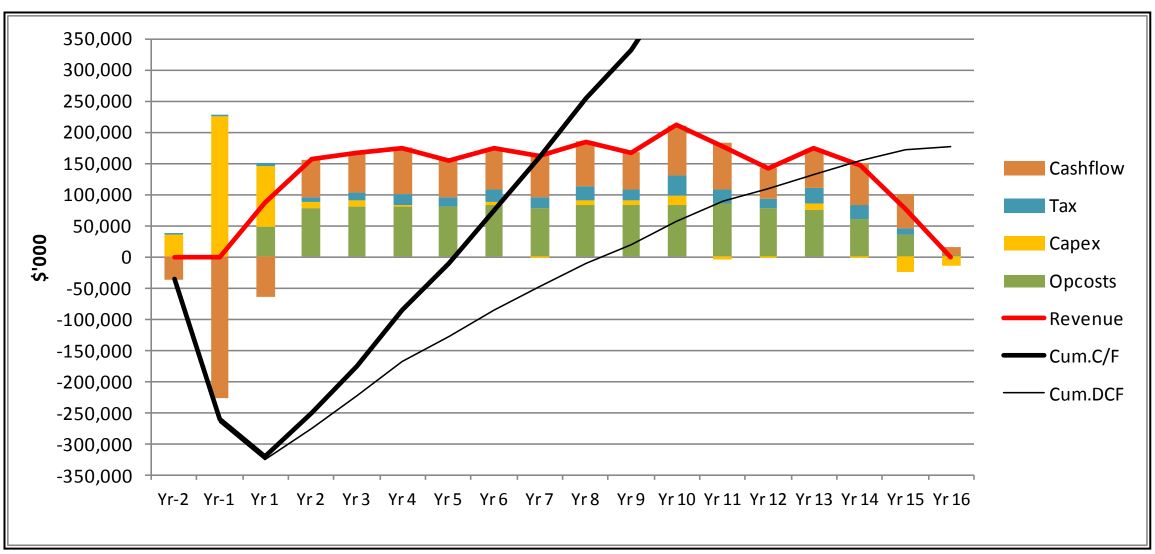
## 22.3 PROJECT CASH FLOW

LOM cash flows and unit costs are presented in Table 22.2. Annual cash flows are summarized in Figure 22.6 and Table 22.3.

**Table 22.2**
**LOM Production and Cash Flow**

| | Units | LOM total ($) | $/t milled | $/oz Au |
|---|---|---|---|---|
| Production | 000 t | | 18,461 | |
| Payable Gold / Au Eq. | 000 oz | | | 1,264 |
| Gross Revenue - Gold only | $ 000 | 1,643,438 | 89.02 | 1,300 |
| Mining | | 583,549 | 31.61 | 462 |
| Processing | | 281,396 | 15.24 | 223 |
| G&A | | 32,536 | 1.76 | 26 |
| **Direct site costs** | **$ 000** | **897,480** | **48.62** | **710** |
| Transport, TC/RC | | 185,926 | 10.07 | 147 |
| By-product credits | | (704,513) | (38.16) | (557) |
| Silver | | 9,952 | 0.54 | 8 |
| Copper | | 694,561 | 37.62 | 549 |
| **Cash Operating Costs** | **$ 000** | **378,894** | **20.52** | **300** |
| Royalties | | 27,025 | 1.46 | 21 |
| Total Cash Op. Costs | $ 000 | 405,919 | 21.99 | 321 |
| Sustaining Capital | | 40,378 | 2.19 | 32 |
| **All in sustaining costs** | **$ 000** | **446,297** | **24.18** | **353** |
| Capital expenditure (initial) | | 333,499 | 18.07 | 264 |
| All in costs plus initial capital | $ 000 | 779,796 | 42.24 | 617 |
| Pre-tax Cash Flow | | 863,642 | 46.78 | 683 |
| Taxation | | 268,565 | 14.55 | 212 |
| **Net Cash Flow After Tax** | **$ 000** | **595,077** | **32.23** | **471** |

**Figure 22.6**
**Annual Cash Flow Summary**



## Table 22.3
## Annual Production and Cash Flow Forecast

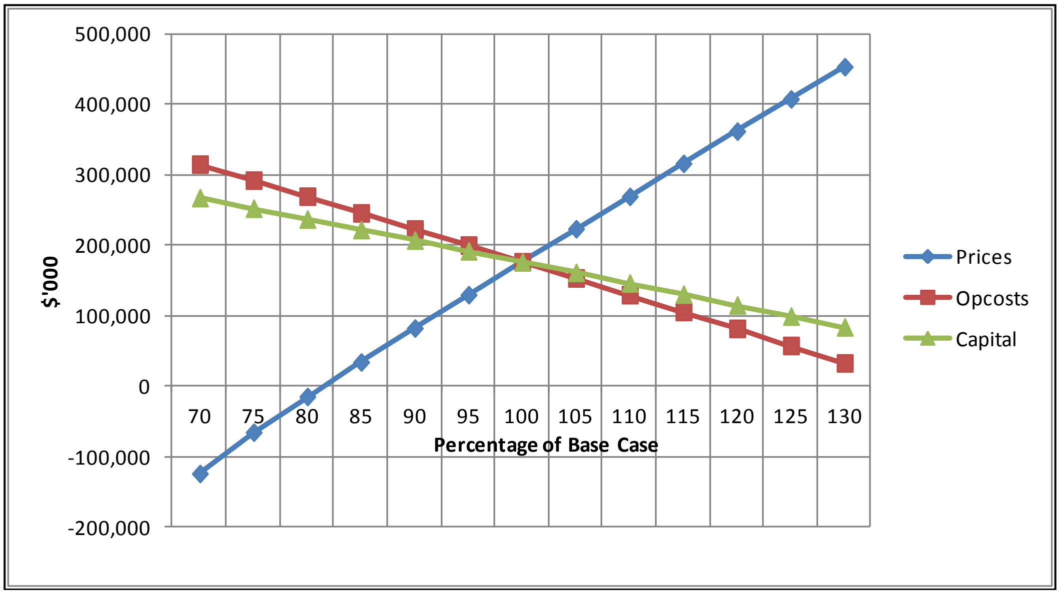
| PROCESSING | Item | Units | Period | LOM TOTAL | Yr-2 | Yr-1 | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr 9 | Yr 10 | Yr 11 | Yr 12 | Yr 13 | Yr 14 | Yr 15 | Yr 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crushing and Milling** | | | | | | | | | | | | | | | | | | | | | | |
| Annual tonnage | **Mill feed (ROM)** | **000 t** | | **18,461** | **0** | **0** | **722** | **1,235** | **1,342** | **1,345** | **1,338** | **1,357** | **1,297** | **1,362** | **1,328** | **1,369** | **1,372** | **1,259** | **1,203** | **1,191** | **743** | **0** |
| Grade | Au Grade | g/t | | 2.69 | 0.00 | 0.00 | 2.49 | 2.38 | 2.48 | 2.52 | 2.25 | 2.39 | 2.52 | 2.84 | 2.49 | 3.50 | 2.56 | 2.43 | 3.20 | 3.40 | 3.04 | 0.00 |
| | Ag Grade | g/t | | 3.66 | 0.00 | 0.00 | 2.18 | 2.58 | 2.97 | 3.25 | 3.00 | 3.92 | 3.73 | 4.22 | 4.14 | 4.15 | 5.04 | 4.71 | 5.57 | 2.18 | 1.61 | 0.00 |
| | Cu Grade | % | | 0.61 | 0.00 | 0.00 | 0.57 | 0.74 | 0.67 | 0.69 | 0.65 | 0.75 | 0.66 | 0.62 | 0.64 | 0.58 | 0.69 | 0.53 | 0.57 | 0.29 | 0.23 | 0.00 |
| **TOTAL SALES** | | | | | | | | | | | | | | | | | | | | | | |
| Payable Metal | Gold | oz 000 | | 1,264.18 | 0.00 | 0.00 | 46.18 | 75.84 | 85.19 | 88.62 | 77.34 | 83.73 | 83.62 | 100.28 | 86.69 | 123.07 | 90.26 | 76.26 | 99.59 | 96.30 | 51.21 | 0.00 |
| | Silver | oz 000 | | 452.36 | 0.00 | 0.00 | 4.48 | 4.57 | 18.04 | 18.51 | 19.16 | 29.95 | 32.49 | 42.97 | 36.74 | 46.40 | 57.39 | 62.30 | 63.87 | 12.66 | 2.84 | 0.00 |
| | Copper | bs 000 | | 213,711 | 0 | 0 | 7,805 | 17,532 | 17,141 | 17,949 | 16,624 | 19,535 | 16,316 | 16,237 | 16,467 | 15,173 | 18,099 | 12,497 | 13,166 | 6,360 | 2,809 | 0 |
| Gross Revenue | Gold | $ 000 | | 1,643,438 | 0 | 0 | 60,040 | 98,591 | 110,750 | 115,208 | 100,537 | 108,850 | 108,701 | 130,368 | 112,703 | 159,996 | 117,337 | 99,135 | 129,464 | 125,191 | 66,568 | 0 |
| | Silver | $ 000 | | 9,952 | 0 | 0 | 99 | 101 | 397 | 407 | 421 | 659 | 715 | 945 | 808 | 1,021 | 1,263 | 1,371 | 1,405 | 278 | 62 | 0 |
| | Copper | $ 000 | | 694,561 | 0 | 0 | 25,368 | 56,979 | 55,709 | 58,334 | 54,028 | 63,489 | 53,028 | 52,772 | 53,518 | 49,313 | 58,823 | 40,615 | 42,789 | 20,669 | 9,128 | 0 |
| | **Gross Revenue Total** | 100.0 | SENS | **2,347,951** | **0** | **0** | **85,506** | **155,671** | **166,856** | **173,949** | **154,986** | **172,999** | **162,444** | **184,085** | **167,029** | **210,329** | **177,422** | **141,120** | **173,658** | **146,138** | **75,758** | **0** |
| NSR | Net Smelter Return | $/t milled | | 117.11 | - | - | 108.57 | 114.66 | 113.63 | 118.31 | 105.30 | 115.98 | 114.55 | 124.81 | 115.24 | 143.58 | 118.30 | 102.75 | 134.43 | 116.57 | 96.96 | - |
| **CASH FLOW PROJECTION** | | **Units** | **Period** | **LOM TOTAL** | **Yr-2** | **Yr-1** | **Yr 1** | **Yr 2** | **Yr 3** | **Yr 4** | **Yr 5** | **Yr 6** | **Yr 7** | **Yr 8** | **Yr 9** | **Yr 10** | **Yr 11** | **Yr 12** | **Yr 13** | **Yr 14** | **Yr 15** | **Yr 16** |
| | | | $/t | | | | | | | | | | | | | | | | | | | |
| REVENUE | Gross Revenue | $'000 | 127.19 | 2,347,951 | 0 | 0 | 85,506 | 155,671 | 166,856 | 173,949 | 154,986 | 172,999 | 162,444 | 184,085 | 167,029 | 210,329 | 177,422 | 141,120 | 173,658 | 146,138 | 75,758 | 0 |
| OPERATING COSTS | Selling Costs | | 10.07 | 185,926 | 0 | 0 | 7,068 | 14,105 | 14,417 | 14,845 | 14,103 | 15,643 | 13,828 | 14,158 | 14,045 | 13,806 | 15,056 | 11,772 | 12,006 | 7,329 | 3,748 | 0 |
| | Royalties | | 1.46 | 27,025 | 0 | 0 | 980 | 1,770 | 1,905 | 1,989 | 1,761 | 1,967 | 1,858 | 2,124 | 1,912 | 2,457 | 2,030 | 1,617 | 2,021 | 1,735 | 900 | 0 |
| | Mining | | 31.61 | 583,549 | 0 | 0 | 27,444 | 41,255 | 42,271 | 41,806 | 42,001 | 41,882 | 40,240 | 43,704 | 44,053 | 44,530 | 44,613 | 41,909 | 40,613 | 30,510 | 16,719 | 0 |
| | Processing | | 15.24 | 281,396 | 0 | 0 | 11,332 | 18,691 | 19,986 | 20,028 | 19,979 | 20,342 | 19,448 | 20,243 | 19,895 | 20,396 | 20,464 | 19,002 | 18,618 | 18,620 | 12,802 | 1,550 |
| | G&A | | 1.76 | 32,536 | 0 | 0 | 1,375 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 2,291 | 1,375 | 0 |
| | Total Cash Op. Costs | $'000 | **60.15** | 1,110,432 | 0 | 0 | 48,200 | 78,111 | 80,871 | 80,958 | 80,135 | 82,124 | 77,665 | 82,520 | 82,197 | 83,480 | 84,453 | 76,590 | 75,549 | 60,485 | 35,543 | 1,550 |
| | EBITDA | $'000 | 67.04 | 1,237,519 | 0 | 0 | 37,306 | 77,560 | 85,986 | 92,991 | 74,851 | 90,874 | 84,778 | 101,565 | 84,833 | 126,849 | 92,969 | 64,530 | 98,109 | 85,653 | 40,215 | -1,550 |
| CAPITAL COSTS | Initial Capital | | 18.07 | 333,499 | 35,967 | 226,099 | 71,433 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sustaining Capital | | 2.19 | 40,378 | 0 | 0 | 0 | 6,916 | 8,013 | 1,689 | 3,336 | 2,942 | 1,368 | 3,070 | 9,622 | 7,544 | 1,368 | 3,850 | 3,312 | 1,265 | 679 | -14,600 |
| | Working Capital Mvmt | | 0.00 | 0 | 0 | 0 | 24,884 | 1,678 | 1,951 | 1,124 | -3,118 | 2,826 | -1,593 | 3,828 | -2,904 | 7,501 | -5,850 | -5,823 | 5,459 | -4,349 | -25,616 | 0 |
| | Capital Invested | $'000 | 20.25 | 373,877 | 35,967 | 226,099 | 96,317 | 8,594 | 9,965 | 2,813 | 218 | 5,769 | -224 | 6,898 | 6,719 | 15,045 | -4,482 | -1,972 | 8,771 | -3,083 | -24,937 | -14,600 |
| CASH FLOW | Net Cash Flow before tax | $'000 | 46.78 | 863,642 | -35,967 | -226,099 | -59,011 | 68,965 | 76,021 | 90,178 | 74,633 | 85,105 | 85,003 | 94,667 | 78,114 | 111,804 | 97,451 | 66,502 | 89,338 | 88,737 | 65,152 | 13,050 |
| | Taxation Payable | | 14.55 | 268,565 | 180 | 1,310 | 5,339 | 9,377 | 11,093 | 16,627 | 13,726 | 19,469 | 18,693 | 24,348 | 19,871 | 32,470 | 23,258 | 15,415 | 25,526 | 22,296 | 9,438 | 131 |
| | Net Cash Flow after tax | $'000 | 32.23 | 595,077 | -36,147 | -227,409 | -64,350 | 59,589 | 64,928 | 73,552 | 60,907 | 65,637 | 66,310 | 70,319 | 58,242 | 79,334 | 74,193 | 51,087 | 63,812 | 66,441 | 55,715 | 12,919 |
| | | | **Payback** | **IRR** | | | | | | | | | | | | | | | | | | |
| CUMULATIVE C/F | Cum. Cash Flow before tax | $'000 | **4.7 yrs** | **19.7%** | -35,967 | -262,066 | -321,077 | -252,112 | -176,091 | -85,913 | -11,280 | 73,825 | 158,828 | 253,495 | 331,608 | 443,412 | 540,863 | 607,365 | 696,703 | 785,440 | 850,592 | 863,642 |
| | Cum. C/F after tax | $'000 | **5.6 yrs** | **15.1%** | -36,147 | -263,556 | -327,907 | -268,318 | -203,390 | -129,839 | -68,931 | -3,295 | 63,015 | 133,334 | 191,577 | 270,911 | 345,104 | 396,191 | 460,003 | 526,443 | 582,158 | 595,077 |
| | | | **Discount** | **NPV** | | | | | | | | | | | | | | | | | | |
| DISCOUNTED | Net Cash Flow before tax | $'000 | **8%** | **317,819** | -38,844 | -226,099 | -54,640 | 59,127 | 60,348 | 66,284 | 50,794 | 53,631 | 49,598 | 51,145 | 39,076 | 51,787 | 41,795 | 26,409 | 32,849 | 30,211 | 20,539 | 3,809 |
| | Net Cash Flow after tax | $'000 | **8%** | **175,566** | -39,039 | -227,409 | -59,584 | 51,088 | 51,542 | 54,063 | 41,452 | 41,362 | 38,691 | 37,991 | 29,136 | 36,747 | 31,820 | 20,287 | 23,464 | 22,620 | 17,564 | 3,771 |

The base case cash-flow analysis shows a net present value at 8% discount rate ($NPV_8$) of \$318 million before tax, \$176 million after tax, an undiscounted payback of 5.6 years, and an IRR of 19.7% before tax and 15.1% after tax.

## 22.4 Sensitivity Analysis

Sensitivity analyses for metal prices (which may also be taken as a proxy for head grade and process recovery factors), capital cost, and operating cost were carried out, as shown in Figure 22.7.

**Figure 22.7**
**Sensitivity to Revenue, Capital and Operating Costs**

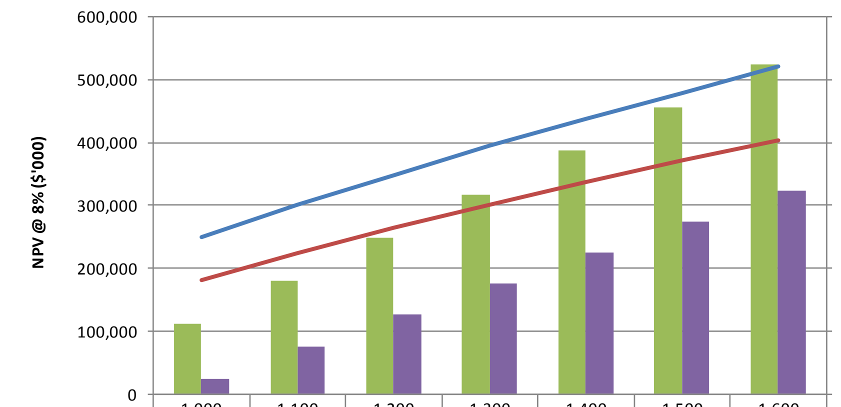



It will be noted that the economic return is most sensitive to metal prices, less sensitive to operating costs and least sensitive to capital costs. NPV remains positive for adverse changes of up to 30% in capital or operating costs, and for metal prices around 18% lower than the base case.

A further sensitivity analysis was carried out over a range of specific gold price scenarios, to determine the impact of discount rate on project NPV and IRR. The results are shown in Figure 22.8, on a pre- and after-tax basis.

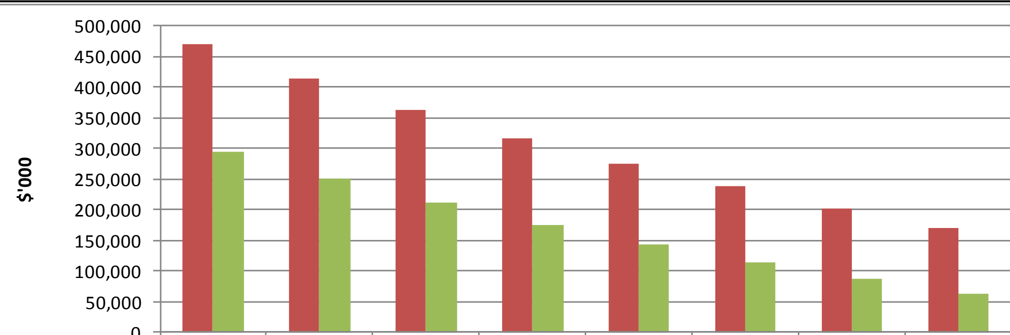
Finally, the impact of discount rate on pre- and after-tax NPV was determined, for discount rates from 5% to 12% (Figure 22.9).

**Figure 22.8**
**Sensitivity of NPV and IRR to Gold Price**




| | 1,000 | 1,100 | 1,200 | 1,300 | 1,400 | 1,500 | 1,600 |
|---|---|---|---|---|---|---|---|
| Pre-tax NPV | 110,925 | 179,742 | 248,780 | 317,819 | 386,635 | 455,674 | 524,713 |
| After-tax NPV | 24,501 | 75,562 | 125,770 | 175,566 | 225,212 | 274,091 | 323,889 |
| Pre-tax IRR | 12.5% | 15.0% | 17.4% | 19.7% | 21.9% | 24.0% | 26.0% |
| After-tax IRR | 9.1% | 11.2% | 13.2% | 15.1% | 16.8% | 18.5% | 20.2% |

**Figure 22.9**
**Sensitivity of NPV to Discount Rate**




| | 5% | 6% | 7% | 8% | 9% | 10% | 11% | 12% |
|---|---|---|---|---|---|---|---|---|
| Pre-tax NPV | 471,328 | 414,943 | 363,979 | 317,819 | 275,923 | 237,820 | 203,097 | 171,393 |
| After-tax NPV | 293,609 | 250,262 | 211,073 | 175,566 | 143,326 | 113,993 | 87,248 | 62,815 |

## 22.5 CONCLUSIONS & RECOMMENDATIONS

The project shows potential for positive economic returns at current metal prices, and is sufficiently robust to withstand adverse changes in capital and operating costs within the range of accuracy of the estimates. The project is more sensitive to metal prices, and the gold price in particular. Nevertheless, at a discount rate of 8%, net present value remains positive at forecast gold prices above $1,000/oz.

Micon concludes that the project is worthy of further development.

## 23.0 ADJACENT PROPERTIES

There are no adjacent properties whose description directly or materially affects the opinion offered in this Technical Report. Unigold Inc.'s Neita project is found approximately 45 km along strike from Romero to the west-northwest. Unigold recently announced a mineral resource estimate for the project.

## 24.0 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information which has not already been disclosed in the other sections of this report.

# 25.0 INTERPRETATION AND CONCLUSIONS

## 25.1 GEOLOGY AND MINERAL RESOURCES

The Tireo property contains stratabound gold mineralization with copper, silver and zinc of intermediate sulphidation epithermal style. The source of the mineralizing fluids remains unknown and there is exploration potential on the property for the discovery of mineralization in structural feeder zones, additional similar deposits or possibly in a porphyry copper-gold type system.

Direct Current induced polarization (DCIP) ground geophysical surveys conducted in 2011 have identified a corridor some 3.0 km long extending north to south with anomalies in conductivity and chargeability. This is supported by a ground magnetic study also completed in 2011. Further IP surveys undertaken between 2012 and 2014 have refined this picture. Alteration and mineralization has been traced within this corridor for 2.2 km from Romero to La Higuera. Seven phases of drilling have been completed since 2006 to indicate the presence of mineralization in the Romero and Romero South zones.

Using the data from drilling Phases 1 to 7 in accordance with CIM standards and definitions, Micon has estimated indicated and inferred mineral resources at both the Romero and Romero South deposits. The defined mineral resource at Romero has a strike length of about 1,000 m and that at Romero South has a strike length of about 750 m. Both occur relatively near surface but, due to local topography, would probably be more amenable to conventional underground mining methods, such as sublevel open stoping or room and pillar mining, respectively.

The drilling completed on the 2.2 km-long Romero trend has indicated anomalous base and precious metals outside of the currently defined mineral resources. These positive results in the Romero area warrant further exploration work.

The NI 43-101-compliant mineral resources on the Tireo property at the Romero and Romero South deposits are summarized in Table 25.1 below. Details on their estimation and cut-off sensitivity tables can be found in Section 14 of this report.

**Table 25.1**
**Romero Project Mineral Resources**

| Category | Zone | Tonnes (x 1,000) | Au (g/t) | Cu (%) | Zn (%) | Ag (g/t) | AuEq (g/t) | Au Ounces (x 1,000) | AuEq Ounces (x 1,000) |
|---|---|---|---|---|---|---|---|---|---|
| Indicated | Romero | 17,310 | 2.55 | 0.68 | 0.30 | 4.0 | 3.81 | 1,419 | 2,123 |
| | Romero South | 2,110 | 3.33 | 0.23 | 0.17 | 1.5 | 3.80 | 226 | 258 |
| **Total Indicated Resources** | | **19,420** | **2.63** | **0.63** | **0.29** | **3.7** | **3.81** | **1,645** | **2,381** |
| | | | | | | | | | |
| Inferred | Romero | 8,520 | 1.59 | 0.39 | 0.46 | 4.0 | 2.47 | 437 | 678 |
| | Romero South | 1,500 | 1.92 | 0.19 | 0.18 | 2.3 | 2.33 | 92 | 112 |
| **Total Inferred Resources** | | **10,020** | **1.64** | **0.36** | **0.42** | **3.8** | **2.45** | **529** | **790** |

The effective date of the mineral resource estimate is October 29, 2013. The resource estimate has been classified using the CIM Definition Standards – For Mineral Resources and Mineral Reserves.

The mineral resources presented herein are not mineral reserves as they have not been subject to adequate economic studies to demonstrate their economic viability. They represent in-situ tonnes and grades and have not been adjusted for mining losses or dilution.

A portion of the mineral resource estimate has been designated as inferred as there has been insufficient exploration to define them as an indicated or measured mineral resource. It is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.

## 25.2 PRELIMINARY ECONOMIC ASSESSMENT (PEA)

On behalf of GoldQuest, Micon has prepared a PEA for the Romero Project (the Project) on the Tireo property in San Juan Province, Dominican Republic. The basis for the Project is the mineral resources presented in Table 25.1 above.

The Project comprises the underground mining of the Romero South deposit (formerly known as the Escandalosa deposit) and the Romero deposit, and an on-site processing facility to produce a copper flotation concentrate containing payable gold and silver credits and a pyrite concentrate, also containing gold and silver. The PEA assumes the shipping and sale of the copper concentrate and the transportation and off-site processing of an oxidized pyrite concentrate to recover gold in a doré product.

### 25.2.1 Mining

Mineralization at Romero and Romero South will be extracted by underground mining methods. A conceptual design and schedule to mine each deposit has been developed by Micon.

Romero, which is the larger of the two deposits, will be mined at a nominal rate of 3,800 t/d at full production and will have a mine life of approximately 14 years. Access to the Romero mine will be via decline for personnel and materials, and a production shaft for skipping plant feed material. The deposit will be mined using transverse longhole stoping.

Romero South will come into production as Romero is ramping down. It will operate at an average production rate of 2,700 t/d for two years, extending the Project life by about a year and a half. The Romero South mine will be accessed via three portals in the outcrop on the west side of the deposit, and mined using a modified room and pillar approach. Both mines will employ the use of backfill.

## 25.3 PROCESSING

Testwork has been completed using representative composite samples and the flowsheet selected for the PEA comprises the recovery of copper and gold to a saleable copper sulphide concentrate and the recovery of the remaining gold to a pyrite concentrate. The pyrite concentrate will be oxidized on site and the oxidized residue, which contains gold, will be shipped off-site for further treatment and to produce a doré product. The estimated gold and copper recoveries into a 20% copper concentrate and a pyrite concentrate for the three mineralized composites samples are summarized in Table 25.2.

**Table 25.2**
**Summary of Metallurgical Recoveries**

| Product | Romero Indicated | | Romero Inferred | | Romero South | |
|---|---|---|---|---|---|---|
| | Copper (%) | Gold (%) | Copper (%) | Gold (%) | Copper (%) | Gold (%) |
| Cu Concentrate | 93.4 | 56.6 | 83.6 | 34.8 | 78.5 | 40.3 |
| Pyrite concentrate | - | 29.5 | - | 38.7 | - | 33.7 |
| Total | 93.4 | 86.1 | 83.6 | 73.5 | 78.5 | 74.0 |

## 25.4 INFRASTRUCTURE

Preliminary design and capital cost estimates have been developed for the required project infrastructure. This includes a modified and upgraded access road, overland power line to the national grid and the installation of a number of run-of-river hydro-electric power generation stations. The Project also includes the construction of a tailings management facility to store dry (filtered) process tailings.

## 25.5 ENVIRONMENTAL AND SOCIAL ASPECTS

Initial baseline environmental studies began in 2013. The project is in close proximity to two National Parks, José del Carmen Ramírez National Park and Armando Bermudez National Park. The Romero Project is also located on the San Juan and La Guama Rivers, upstream of the Sabaneta reservoir that provides irrigation to downstream agricultural lands.

Permitting of a new mine carries some risk due to the the proximity of the project to a national park and the San Juan and La Guama Rivers. As project plans progress, it will be important to not encroach on the park, to complete thorough and scientifically defensible baseline environmental studies and to conduct an effective engagement and consultation program from the community to the national level. Also, it is important that the water and waste management planning will protect the San Juan River watershed flows and water quality for the surrounding villages and the Sabaneta reservoir users.

## 25.6 CAPITAL AND OPERATING COST ESTIMATES

The life-of-mine capital cost estimate is US$373.9 million, comprising US$333.5 million initial capital and US$40.4 sustaining capital.

The estimated life-of-mine total project unit cash operating cost is US$58.69/t milled, including US$48.62/t on-site costs (mining, processing and G&A) and US$10.07/t concentrate smelter and refining costs (TC/RC).

## 25.7 FINANCIAL EVALUATION

Micon has prepared its assessment of the Romero project on the basis of a discounted cash flow model, from which Net Present Value (NPV), Internal Rate of Return (IRR), payback and other measures of project viability can be determined.

LOM cash flows and unit costs are presented in Table 25.3.

**Table 25.3**
**LOM Production and Cash Flow**

| | Units | LOM total ($) | $/t milled | $/oz Au |
|---|---|---|---|---|
| Production | 000 t | | 18,461 | |
| Payable Gold / Au Eq. | 000 oz | | | 1,264 |
| Gross Revenue - Gold only | $ 000 | 1,643,438 | 89.02 | 1,300 |
| Mining | | 583,549 | 31.61 | 462 |
| Processing | | 281,396 | 15.24 | 223 |
| G&A | | 32,536 | 1.76 | 26 |
| **Direct site costs** | **$ 000** | **897,480** | **48.62** | **710** |
| Transport, TC/RC | | 185,926 | 10.07 | 147 |
| By-product credits | | (704,513) | (38.16) | (557) |
| Silver | | 9,952 | 0.54 | 8 |
| Copper | | 694,561 | 37.62 | 549 |
| **Cash Operating Costs** | **$ 000** | **378,894** | **20.52** | **300** |
| Royalties | | 27,025 | 1.46 | 21 |
| Total Cash Op. Costs | $ 000 | 405,919 | 21.99 | 321 |
| Sustaining Capital | | 40,378 | 2.19 | 32 |
| **All in sustaining costs** | **$ 000** | **446,297** | **24.18** | **353** |
| Capital expenditure (initial) | | 333,499 | 18.07 | 264 |
| All in costs plus initial capital | $ 000 | 779,796 | 42.24 | 617 |
| Pre-tax Cash Flow | | 863,642 | 46.78 | 683 |
| Taxation | | 268,565 | 14.55 | 212 |
| **Net Cash Flow After Tax** | **$ 000** | **595,077** | **32.23** | **471** |

The PEA economic analysis is preliminary in nature and includes inferred resources that are insufficiently defined by drilling and sampling to be classified as measured and indicated resources. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them to be categorized as mineral reserves, and there is no certainty that the results of the economic assessment will be realized.

The project shows potential for positive economic returns at current metal prices, and is sufficiently robust to withstand adverse changes in capital and operating costs within the range of accuracy of the estimates. The project is more sensitive to metal prices, and the gold price in particular. Nevertheless, at a discount rate of 8%, net present value remains positive at forecast gold prices above $1,000/oz.

Micon concludes that the project is worthy of further development.

# 26.0 RECOMMENDATIONS

GoldQuest has produced a plan for further exploration and advancement of the Tireo property. The plan includes both regional exploration and further work on the Romero trend, concentrating on and around the Romero and Romero South deposits but also examining other targets as they are developed.

## 26.1 EXPLORATION AND MINERAL RESOURCE DEVELOPMENT:

Regional exploration:

- Mapping and Sampling: Continue detailed mapping and sampling (soil, float and rock outcrop) along identified trends and geophysical anomalies. The work will focus on areas of interest identified from the airborne survey.
- Ground IP: Complete ground IP surveys as needed in areas with favorable mineralization conditions. Extend existing IP coverage to the west and south.
- Regional data compilation: Compile all regional data into a common targeting platform and integrate into a central database.

Work on Romero and Romero South:

- Drill strategically located infill holes to convert current inferred resources to the indicated category.
- Conduct geotechnical logging and ground conditions studies.
- Complete detailed petrography of the Romero and Romero South deposits.
- Measure the physical properties of mineralized and unmineralized core to aid in interpreting regional geophysics.

This plan and the associated budget are summarized in Table 26.1. The budget presented in this table addresses only the direct costs of the exploration program and does not consider general and administrative costs for the company’s offices in Toronto or Santo Domingo, concession and other mineral rights payments, costs for community and government relations, or project generation and evaluation activities outside of the project area. Concession costs are reported in Section 4 of this report.

**Table 26.1**
**Tireo Property Exploration and Resource Development Budget**

| Activity | Budget (US$) |
|---|---|
| **Regional** | |
| Mapping and sampling | 100,000 |
| Ground IP surveys | 300,000 |
| Regional data compilation | 50,000 |
| **Romero Project** | |
| Exploration and infill drilling | 2,000,000 |
| Geotechnical logging | 100,000 |
| Petrography | 30,000 |
| Physical properties study | 20,000 |
| **Total** | **2,600,000** |

## 26.2 PROJECT DEVELOPMENT

The positive results of the PEA show that the project is worthy of further development. In order to advance the project to the next stage work will need to be undertaken to obtain a higher level of project definition and accuracy. The recommended work required to support a pre-feasibility level of study includes the following:

### 26.2.1 Metallurgical Testwork

Additional metallurgical testwork using representative samples from the Romero and Romero South deposits. These tests include:

- Variability hardness and grindability tests to confidently design the grinding circuit.
- Additional flotation flowsheet optimization testwork, including regrind sizing and collector reagent selection and dosage. This includes optimization work using composite samples as well as variability testing.
- Additional flotation work on the potential of zinc recovery is merited using mineral resource zones containing relatively elevated levels of zinc.
- The QEMSCAN BMAL provides an estimate based upon BMA data using a line scan method, and liberation data is not as accurate as a QEMSCAN particle mineral analysis (PMA). A full QEMSCAN PMA assessment of feeds is recommended to provide more accurate liberation assessment.
- Further cyanidation leach test work should be conducted on pyrite concentrates produced from the Romero Inferred and Romero South composites, to assess whether gold extractions are similar to those measured with the Romero Indicated composite.

- Additional optimization testwork is recommended on pyrite concentrate oxidation, particularly on bacterial oxidation.

- Alternative non-cyanide leach testing should be considered to recover gold at the mine site.

- Settling and filtration testwork needs to be completed on representative samples of concentrates and tailings to provide detailed design information for the de-watering unit operations within the flowsheet.

- Additional tailings geochemical characterization testwork is recommended.

## 26.3 INFRASTRUCTURE

A more detailed access road study is warranted that considers other potential routes and provides a design and associated capital cost estimate and schedule to a pre-feasibility level of accuracy.

It is recommended that a more detailed hydro-electric study of the area be undertaken by specialist hydro-electrical engineers.

Additional work recommended to develop the tailings management facilities to the next stage of pre-feasibility includes:

- Geotechnical characterization and analyses of the tailings and site.
- Geochemical characterization and analyses of the tailings and site.
- Dewatering, thickener, and pressure filter testing of the tailings and transportation of tailings.
- Leachate and treatment studies of the tailings.
- Rheology of tailings.
- Hydrological analyses of the site.
- Geologic and hydrogeological analyses of the site.
- Seismic analyses of the site.

## 26.4 MINE DESIGN

Additional data is needed to refine the designs of both the Romero and Romero South mines. For Romero, data is needed to refine stope size, level spacing, and infrastructure location. The Romero South design depends on geotechnical data for determining pillar size, room span, and mining lift height.

It is Micon's recommendation that geotechnical drilling and testing be conducted in order to supply critical data necessary to optimize the mine design and ensure safe operation of the mine. Where possible, geotechnical drilling should occur in locations necessary for exploration infill drilling.

Properties of the mineralized zone, hanging wall, and footwall should be established using representative samples, and if possible, additional samples in possible infrastructure locations should be tested. Testing for purposes of determining a crown pillar between Romero mine workings and surface water will be necessary, and should include soils testing.

A backfill recipe should be developed and strength tests performed. Because of the seismicity of the area, potential for backfill liquefaction should be determined. Geochemical testing of backfill material will also be necessary on cemented backfill, as well as any waste material being used as backfill.

A comprehensive groundwater model is needed. Hydrological data collection needs should be coordinated with exploration drilling and geotechnical data collection. A hydrogeologist with experience in groundwater modelling should supervise data collection and construct the groundwater model.

### 26.4.1 Environmental Management

More detailed environmental management plans will be developed as the project planning progresses. It is assumed that the project will be developed to international best practice standards and conform to the IFC Social and Environmental Performance Standards for environmental protection and management.

### 26.4.2 Design, Engineering and Cost Estimates

An engineering company will collate the additional studies and prepare a pre-feasibility study level report. The level of design and engineering will be sufficiently detailed to support a pre-feasibility level cost estimates.

### 26.4.3 Project Development Budget

The plan to develop the project to the next level (pre-feasibility study) and the associated budget are summarized in Table 26.2. This budget does not address the mineral resource development and exploration program, which are covered in Table 26.1 above. Also, it does not consider general and administrative costs for the company's offices in Toronto or Santo Domingo, concession and other mineral rights payments, costs for community and government relations, or project generation and evaluation activities outside of the project area.

**Table 26.2**
**Romero Project Development Budget**

| Activity | Budget (US$) |
|---|---|
| Metallurgical testwork | 300,000 |
| Access road studies | 50,000 |
| Hydro-electric study | 100,000 |
| TMF studies and design | 150,000 |
| Geotechnical drill program | 500,000 |
| Geotechnical testing | 100,000 |
| Detailed mine design and planning | 150,000 |
| Hydrogeological study and ground water modelling | 100,000 |
| Environmental studies and data gathering | 250,000 |
| Engineering, design, costing and report | 850,000 |
| **Total** | **2,550,000** |

Micon has reviewed the proposed programs submitted by GoldQuest and find them to be reasonable and justified in light of the observations and conclusions presented in this report. Should it fit with management's strategic goals, it is Micon's recommendation that GoldQuest conduct the proposed exploration program and, depending on the results from this program and the Company's development philosophy, GoldQuest should also consider the pre-feasibility project development programs.

## 26.5 Report Signatures

The PEA presented in this report has an effective date of May 27, 2013.

This report was completed by the following authors:

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Dated July 11, 2014

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# 28.0 CERTIFICATES

## CERTIFICATE

**B. Terrence Hennessey, P.Geo.**

As co-author of this report on certain mineral properties of GoldQuest Mining Corp. which are located in San Juan province, Dominican Republic, I, B. Terrence Hennessey, P.Geo., do hereby certify that:

1. I am employed as a senior geologist and Vice President by, and carried out this assignment for:

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   Toronto, Ontario
   M5H 2Y2

   tel. (416) 362-5135
   fax (416) 362-5763
   e-mail: thennessey@micon-international.com

2. I hold the following academic qualifications:

   | | | |
   |---|---|---|
   | B.Sc. (Geology) | McMaster University | 1978 |

3. I am a registered Professional Geoscientist with the Association of Professional Geoscientists of Ontario (membership # 0038); as well, I am a member in good standing of several other technical associations and societies, including:

   The Australasian Institute of Mining and Metallurgy (Member)
   The Canadian Institute of Mining, Metallurgy and Petroleum (Member).

4. I have worked as a geologist in the minerals industry for over 30 years.

5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 7 years as an exploration geologist looking for iron ore, gold, base metal and tin deposits, more than 11 years as a mine geologist in both open pit and underground mines and 17 years as a consulting geologist working in precious, ferrous and base metals as well as industrial minerals.

6. I visited the Dominican Republic and the Romero project on the Tireo property during the period January 9 to 12, 2013 to review exploration results and examine drill core and exposures of the Romero and Romero South zones. The property had not previously been visited by me.

7. I am responsible for the preparation of Sections 3 to 12, 14, 15, 25 (portions), 26 (portions) and the summaries therefrom in Section 1 of the Technical Report titled "Preliminary Economic Assessment (Pea) for the Romero Project, Tireo Property, Province of San Juan, Dominican Republic".

8. I am independent of the parties involved in the transaction for which this report is required, as defined in Section 1.5 of NI 43-101.

9. I was a co-author of the Technical Report entitled "A Mineral Resource Estimate For The Romero Project, Tireo Property, Province of San Juan, Dominican Republic", and dated December 13, 2013. This is my only prior involvement with the property.

10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.

11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading.

Mineral Resource effective date: October 29, 2013
Effective date: May 27, 2013

Dated this 11th day of July, 2014

*"B. Terrence Hennessey" {signed and sealed}*

B. Terrence Hennessey, P.Geo.
Micon International Limited

# CERTIFICATE

## Alan J. San Martin, MAusIMM(CP)

As co-author of this report on certain mineral properties of GoldQuest Mining Corp. which are located in San Juan province, Dominican Republic, I, Alan J. San Martin do hereby certify that:

1. I am employed as a Mineral Resource Modeller by, and carried out this assignment for:

   Micon International Limited,
   Suite 900,
   390 Bay Street
   Toronto, Ontario
   M5H 2Y2,

   Tel.: (416) 362-5135,
   Fax: (416) 362-5763,
   e-mail: asanmartin@micon-international.com;

2. I hold a Bachelor's Degree in Mining Engineering (equivalent to B.Sc.) from the National University of Piura, Peru, 1999.

3. I am a Chartered Professional in Geology and member in good standing with the Australasian Institute of Mining and Metallurgy (Membership #301778), in addition I am a member in good standing of the following professional entities:

   Canadian Institute of Mining, Metallurgy and Petroleum, Member ID 151724
   Colegio de Ingenieros del Perú (CIP), Membership # 79184

4. I have worked as a mining engineer in the mineral industry for 14 years.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and, by reason of my education, past relevant work experience and affiliation with a professional association, fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. My work experience includes 5 years as mining engineer in an exploration project in Peru, 3 years as resource modeller and data base manager at an exploration project in Ecuador, 1 year as senior geological modeller and database manager and 5 years as mineral resource modeller in mining consulting. For the purposes of this report my work on the resource estimate was supervised by B. Terrence Hennessey.

6. I have not visited the Romero project

7. Under the overall direction of B. Terrence Hennessey, P.Geo. I assisted in the preparation of Sections 12 and 14 of the Technical Report.

8. I am independent of the parties for which the Technical Report has been prepared, as defined in Section 1.4 of NI 43-101.

9. I was a co-author of the Technical Report entitled “A Mineral Resource Estimate For The Romero Project, Tireo Property, Province of San Juan, Dominican Republic”, and dated December 13, 2013.

10. I have read NI 43-101 and Form 43-101F1, and the portions of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.

11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading.

Effective date: May 27, 2013

Dated this 11th day of July, 2014

*“Alan J. San Martin” {signed}*

Alan J. San Martin, MAusIMM(CP)
Mineral Resource Modeller,
Micon International Limited

**CERTIFICATE OF AUTHOR**
**Richard M. Gowans, P.Eng.**

As a co-author of this report on certain mineral properties of GoldQuest Mining Corp. which are located in San Juan province, Dominican Republic, I, Richard M. Gowans, P. Eng., do hereby certify that:

1. I am employed by, and carried out this assignment for:

   Micon International Limited, Suite 900,
   390 Bay Street,
   Toronto, Ontario,
   M5H 2Y2

   tel. (416) 362-5135: fax (416) 362-5763
   e-mail: rgowans@micon-international.com

2. I hold the following academic qualifications:

   B.Sc. (Hons.) Minerals Engineering, The University of Birmingham, U.K., 1980

3. I am a registered Professional Engineer in the province of Ontario (membership number 90529389); as well, I am a member in good standing of the Canadian Institute of Mining, Metallurgy and Petroleum.

4. I have worked as an extractive metallurgist in the minerals industry for over 30 years.

5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes the management of technical studies and design of numerous metallurgical testwork programs and metallurgical processing plants.

6. I visited the property site from July 6 to 8, 2011 and again from November 27 to 28, 2013.

7. I am responsible for the preparation of Sections 1, 2, 13, 17, 18, 19, 20, 21, 24, 25 and 26 of this report.

8. I am independent of GoldQuest Mining Corp., as defined in Section 1.5 of NI 43-101.

9. I was a co-author of the Technical Report entitled “A Mineral Resource Estimate For The Romero Project, Tireo Property, Province of San Juan, Dominican Republic”, and dated December 13, 2013. I previously prepared a Technical report on the

property called "Mineral Resource Estimate For La Escandalosa Project, Province of San Juan, Dominican Republic", published in August, 2012.

10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.

11. As of the date of this certificate, to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Effective date: May 27, 2013

Dated this 11th day of July, 2014

*"Richard M. Gowans" {signed and sealed}*

Richard M. Gowans, P.Eng.

**CERTIFICATE OF AUTHOR**
**CHRISTOPHER JACOBS**

As co-author of this report on certain mineral properties of GoldQuest Mining Corp. which are located in San Juan province, Dominican Republic, I, Christopher Jacobs, do hereby certify that:

1. I am employed by, and carried out this assignment for:

   Micon International Limited,
   Suite 900 - 390 Bay Street,
   Toronto,
   Ontario  M5H 2Y2

   tel. (416) 362-5135     email: cjacobs@micon-international.com

2. I hold the following academic qualifications:

   B.Sc. (Hons) Geochemistry, University of Reading, 1980;
   M.B.A., Gordon Institute of Business Science, University of Pretoria, 2004.

3. I am a Chartered Engineer registered with the Engineering Council of the U.K. (registration number 369178).

   Also, I am a professional member in good standing of: The Institute of Materials, Minerals and Mining; and The Canadian Institute of Mining, Metallurgy and Petroleum (Member).

4. I have worked in the minerals industry for 30 years; my work experience includes 10 years as an exploration and mining geologist on gold, platinum, copper/nickel and chromite deposits; 10 years as a technical/operations manager in both open-pit and underground mines; 3 years as strategic (mine) planning manager and the remainder as an independent consultant when I have worked on a variety of deposits including gold and silver.

5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101.

6. I have not visited the Property.

7. I am responsible for the preparation of Section 22 of this Technical Report, and portions of Sections 1, 25 and 26 summarized therefrom.

8. I am independent of GoldQuest Mining Corp., as defined in Section 1.5 of NI 43-101.

9. I have had no previous involvement with the Property.

10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.

11. As of the date of this certificate to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Effective date: May 27, 2013

Dated this 11th day of July, 2014

*"Christopher Jacobs" {signed and sealed}*

Christopher Jacobs, CEng, MIMMM

## CERTIFICATE OF AUTHOR
## CATHERINE DREESBACH

As co-author of this report on certain mineral properties of GoldQuest Mining Corp. which are located in San Juan province, Dominican Republic, I, Catherine Dreesbach, do hereby certify that:

1. I am employed as an associate by, and carried out this assignment for:

   Micon International Limited,
   Suite 900 - 390 Bay Street,
   Toronto,
   Ontario  M5H 2Y2

   tel. (416) 362-5135     email: cdreesbach@micon-international.com

2. I hold the following academic qualifications:

   M.S., Mining Engineering, Montana Tech, Butte, Montana, 1998
   M.S., Environmental Engineering, Montana Tech, Butte, Montana, 1998
   B.S., Physics (German Minor), University of California, Davis, California, 1992.

3. I am a Professional Engineer in Mining Engineering, Montana, (December, 2004).

   Also, I am a professional member in good standing of: Society for Mining, Metallurgy, and Exploration (SME).

4. I have worked as a professional mining engineer for over 16 years. My expertise includes underground mine planning and design, production scheduling, costing, environmental permitting, reclamation, and bonding. As an independent consultant I have worked on a variety of deposits including gold and copper.

5. I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101.

6. I visited the Property between November 26 to 28, 2013.

7. I am responsible for the preparation of Section 16 of this Technical Report. and portions of Sections 1, 21, 25 and 26.

8. I am independent of GoldQuest Mining Corp., as defined in Section 1.5 of NI 43-101.

9. I have had no previous involvement with the Property.

10. I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.

11. As of the date of this certificate to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Effective date: May 27, 2013

Dated this 11th day of July, 2014

*"Catherine Dreesbach" {signed}*

Catherine Dreesbach P.E.