INTERNATIONAL MINERALS CORPORATION

NI 43-101 TECHNICAL REPORT ON THE PRELIMINARY FEASIBILITY STUDY FOR THE GABY GOLD PROJECT, ECUADOR

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1.0 SUMMARY

The Gaby Gold Project, owned by International Minerals Corporation ("IMC"), a Toronto and Zurich listed company, is a large, low grade, gold-copper porphyry composed of two adjacent deposits, "Gaby Main" and "Papa Grande". The project is located next to the Pan-American Highway, in the foothills just east of the town of Ponce Enriquez in Southern Ecuador, close to sea level, approximately 350 km southwest of Ecuador's capital, Quito and 130 km south of the port of Guayaquil.

In early 2008, IMC completed a new Mineral Resource estimate and a Preliminary Feasibility Study ("PFS") of the Gaby project. This Study incorporated new geological, geotechnical and metallurgical data to supplement pre-existing information used by IMC and others in the elaboration of technical studies for the Gaby property during the mid-1990´s. The primary objectives of the 2008 PFS included detailed trade-off studies of alternative process methods and ore production/processing rates, selection of the most appropriate project design, and technical and economic analysis to support a defensible ´Go - No Go´ decision with respect to project advancement through completion of a detailed feasibility study. This NI 43-101 Technical Report supports this Preliminary Feasibility Study and the Mineral Resource estimate.

IMC assembled a team of professional experts to undertake the various aspects required to complete the PFS. FSS Consultants Canada developed the Mineral Resource estimate under the guidance of Mohan Srivastava P.Geo., a qualified person and author of this Technical Report. All mining aspects of the PFS were undertaken by Mine Planning Group; Howard Steidtmann, Principal Mining Engineer, is the qualified person responsible for this area of the Study and is an author of this Technical Report. Mine site geotechnical engineering was undertaken by Water Management Consultants and Wardrop Engineering. Water Management Consultants is also responsible for the tailings management, design and costing, water management and environmental issues, and the heap leach design and costing. Tony Brown, an internal IMC metallurgical consultant, developed the metallurgical and process designs, and associated process and infrastructure cost estimates. The overall compilation of the Technical Report was undertaken by Richard Gowans P. Eng. of Micon International Limited. Richard Gowans also reviewed and takes responsibility for the metallurgical work and associated processing and infrastructure cost estimates of the study and is an author of this Technical Report. Micon is also responsible for the economic evaluation.

Resource estimates for the Gaby Main and Papa Grande deposits have been calculated to take into account recent drilling by IMC that supplements the drilling done by several companies, including IMC, in the 1990's. These estimates were completed by FSS Canada Consultants Inc. in January 2008.

Table 1.1 summarizes the current estimates of tonnage and grade for the project, using cutoff grades in the range of what currently appears to be economic for a low-grade leaching operation

Table 1.1
Estimate of Gaby Mineral Resources (FSS Canada Consultants Inc. - January 2008)

SAPROLITE + BEDROCK						
Category	**Cutoff (g/t Au)**	**Tonnes (Mt)**	**Au Grade (g/t)**	**Cu Grade (%)**	**Au (Moz)**	**Cu (t)**
Measured	0.3	62.4	0.618	0.088	1.24	55,000
	0.4	**45.7**	**0.716**	**0.095**	**1.05**	**43,500**
	0.5	31.7	0.834	0.102	0.85	32,300
Indicated	0.3	407	0.52	0.085	6.8	344,700
	0.4	**262.8**	**0.614**	**0.091**	**5.19**	**240,300**
	0.5	161.1	0.719	0.097	3.72	155,800
Inferred	0.3	205.7	0.529	0.075	3.5	153,800
	0.4	**122.3**	**0.654**	**0.078**	**2.57**	**95,100**
	0.5	76.5	0.778	0.076	1.91	58,100
Measured + Indicated	0.3	469.5	0.533	0.085	8.04	399,700
	0.4	**308.4**	**0.629**	**0.092**	**6.24**	**283,800**
	0.5	192.8	0.738	0.098	4.57	188,100

A Measured and Indicated mineral resource estimate of 308 million tonnes ("Mt") at an average grade of 0.63 g/t gold at a 0.4 g/t cut-off containing 6.2 million ounces of gold has been delineated. Additional Inferred resources are estimated to be 122 Mt at an average grade of 0.65 g/t gold containing 2.6 million ounces of gold.

The Preliminary Feasibility Study provides a comparative evaluation of four fundamentally different flowsheets:

1. Agitated Leaching.

2. Copper flotation followed by agitation leaching (cyanidation) of combined flotation tailings.

3. Copper flotation followed by agitation leaching (cyanidation) of cleaner scavenger tailings.

4. Heap Leaching.

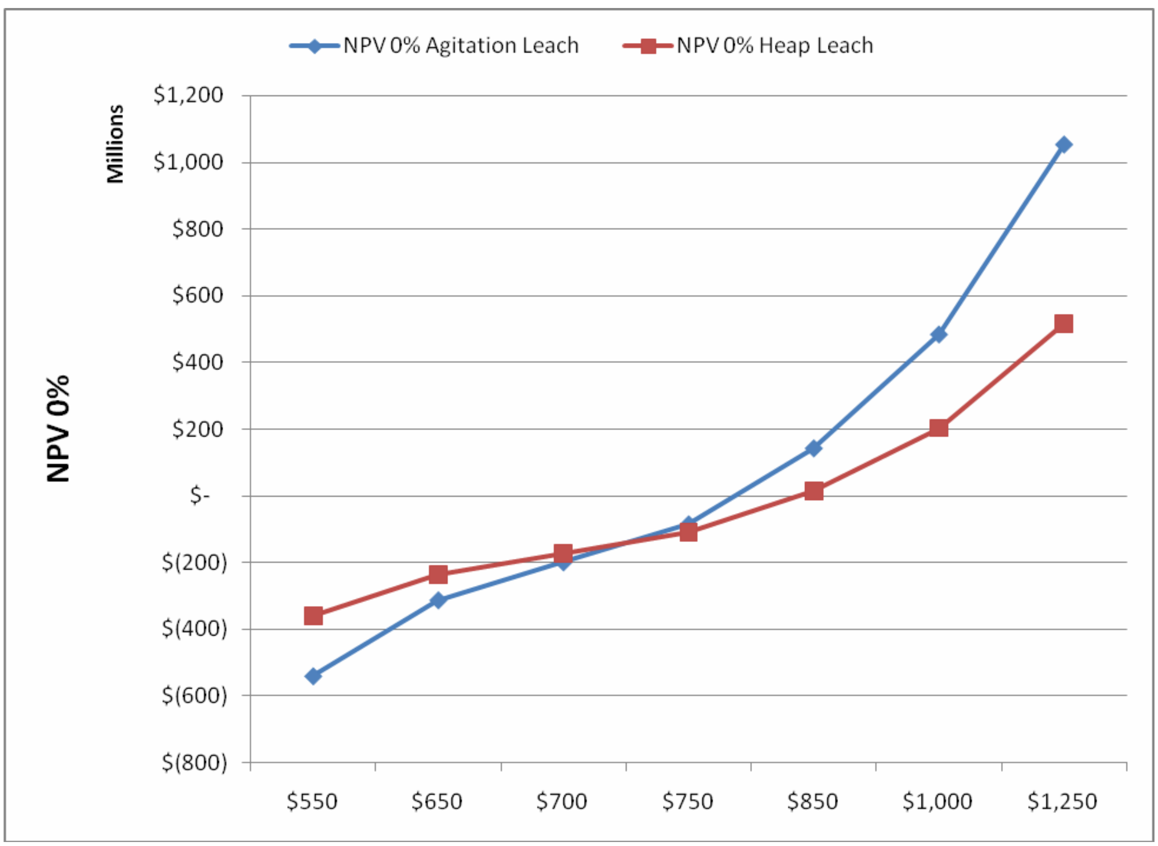
For all the cases, open pit methods were assumed for the mining of the Gaby Main and Papa Grande deposits.

Economic viability of the Gaby project has been evaluated using conventional cash flow techniques, based on the engineering studies and associated cost estimates discussed in Section 18 of this Technical Report.

The Preliminary Feasibility Study suggests that whole ore agitation leaching appears to be the most technically and economically robust solution for project development. Compared to heap leaching, the whole ore agitation leaching option requires higher capital and operating costs but offers significantly higher confidence level with regard to metallurgical recovery. At a gold price of US$650 and an agitation leach throughput of 20,000 tpd (25,000 tpd for heap leaching) neither project scenario is economically viable. Both require a gold price of approximately $750 per ounce to break even, above which the agitation leach case becomes increasingly more attractive (see Figure 1.1). Furthermore, evaluation of the preliminary pit optimization studies suggests that a larger plant capacity would further improve project economics.

Since the tonnage contained within the Base Case Ultimate Pit does not generate a positive cash-flow, it cannot be termed a Reserve under NI 43-101 reporting requirements.

Figure 1.1
Economic Comparison Between Agitation vs Heap Leaching



Key parameters for the agitation leach base case option are shown in Table 1.2.

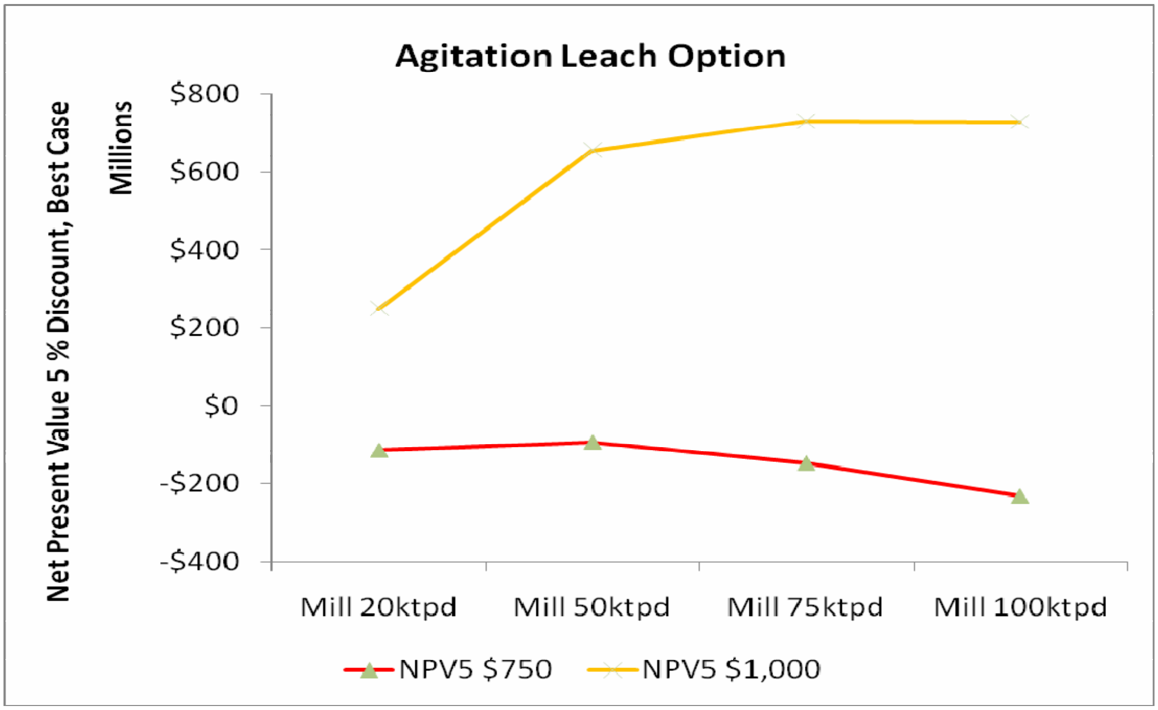
Table 1.2
Summary of Key Parameters - Base Case (Agitation Leaching)

Item	Units	Value
Processing rate	tpd	20,000
Mine life	yr	14
Total gold production	oz	2,300,000
Initial capital [2,3]	$ millions	432
Total average operating cost	$/t	12.16
Average cash operating cost	$/oz	538
Total cost including capital [1]	$/oz	783
Pre-tax cash flow $650/oz Au	$ millions	(314)
Pre-tax cash flow $850/oz Au	$ millions	141
Pre-tax cash flow $1,000/oz Au	$ millions	483
Pre-tax cash flow $1,250/oz Au	$ millions	1,052

[1] *Includes sustaining and working capital.*
[2] ***No allowance has been made for price escalation although a contingency of 25% has been added to the capital costs****. The industry is presently experiencing historically high price escalation so caution must be used when applying these costs for a potential future project.*
[3] *All prices are Q4, 2007 US Dollars*

Sensitivity studies indicate that a higher throughput would improve profitability. It can be seen in Figure 1.2 that the optimum throughput, given the current resource model, would be between 50 and 75 thousand tonnes per day. This seems to be constrained by the amount of Measured and Indicated mineral resources in the block model, further drilling to add more tonnage in the measured and indicated resource category could significantly change this. Additional resources would have the impact of lowering operating costs through economies of scale and the associated reduction in cut-off grade would result in more of the measured and indicated resources being included into a larger pit shell. The economic benefit of lower operating costs gained through economies of scale would be offset in part by increased capital costs and a lower average grade.

Figure 1.2
NPV (5%) of Agitation Leach Option at Various Throughputs and Gold Prices



Note: Best Case refers to Mine Planning Group's initial pit optimization and not a formal mine schedule. These estimates assume perfect mine scheduling which is impossible to achieve, but they do allow for comparisons of various scenarios

It is recommended that further work be undertaken to optimize the agitation leach flowsheet (with or without flotation) and production rate prior to proceeding with a detailed feasibility study on the most appropriate option for project development.

Additional scoping level studies, using the cost information developed for this report, should be conducted to evaluate:

- Three-stage crushing ahead of single stage ball milling to replace semi-autogenous grinding. SAG milling was originally proposed for use at Gaby because it offered a convenient way to handle the high clay content saprolitic oxides. As the drilling campaigns have expanded the deposits the percentage of saprolite has decreased accordingly and it might be possible to treat high clay material by stockpiling and selectively blending it with hard material. Elimination of SAG milling would result in (possibly) significant capital and (certainly) significant operating cost savings as well as avoiding the impact of extremely long deliveries associated with those machines.
- High pressure grinding roll technology as another, probably less likely, candidate to replace SAG mills. This is a relatively new, but commercially proven, technology that would require specialized testing by the manufacturer.

- Flotation in conjunction with agitation leaching. In the event that copper flotation is abandoned the latest testing has nevertheless focused interest on the possibility of producing a low grade, high recovery rougher gold concentrate that would allow the rejection of rougher tailings to disposal, thereby significantly reducing the amount of feed to cyanidation and cyanide destruction. This will need careful evaluation of treatment routes for saprolitic material that may not respond well to flotation.

2.0 INTRODUCTION AND TERMS OF REFERENCE

The Gaby Gold Project is located in southern Ecuador, approximately 350 km southwest of the capital city of Quito, and approximately 130 km south of the coastal city of Guayaquil. The project comprises two mineral deposits; the Main Gaby deposit, which includes the majority of the Mineral Resources, and the Papa Grande deposit.

In 1997, Mineral Resources Development Inc. (MRDI), on behalf of International Minerals Corporation (IMC), produced a mineral resource estimate for the Main Gaby deposit. A historical mineral resource estimate was also developed for the Papa Grande deposit in 1996 by Cambior Inc. (now IAMGOLD Corporation), the then owner of the concessions. These historical resources were not prepared to current acceptable classification guidelines and were not NI 43-101 compliant. These significant mineral resource estimates, together with the results from subsequent exploration drilling undertaken by IMC, suggested that continued development of the Gaby Gold Project was worthwhile.

In the middle of 2006, IMC commenced assembling a team of consultants to undertake a Preliminary Feasibility Study (PFS) on the Gaby Gold Project. The purpose of the study was to estimate the mineral resources of both the Main Gaby and Papa Grande deposits using NI 43-101 acceptable guidelines and to investigate the technical and economic viability of the project.

2.1 Terms of Reference

The terms of reference for the PFS include the preparation of a new Mineral Resource estimate, the design and costing of an open pit mining operation with review and evaluation of various processing options, including heap leaching, copper/gold flotation and cyanidation, estimation of mineral reserves and associated project infrastructure. The basis of this Technical Report is the Preliminary Feasibility Study, including the new mineral resource estimate.

2.2 Study Participants

Table 2.1 provides a list of the various participants

Table 2.1
List of Preliminary Feasibility Participants

Mineral resource estimate	• FSS Canada Consultants Inc
Mine design and mine schedule	• Mine Planning Group
Mine equipment selection, mine facilities and costs	• Mine Planning Group
Mine site geotechnical	• Water Management Consultants • Wardrop Engineering
Metallurgical testing	• Tony Brown • Micon International Limited
Process engineering	• Tony Brown • Micon International Limited
Tailings management system Environmental	• Water Management Consultants
Infrastructure and plant design, capital expenditures and operating costs	• Tony Brown • Micon International Limited
Concentrate marketing	• International Minerals Corporation
Economic evaluation	• Micon International Limited

Richard Gowans P.Eng, Vice President and Senior Metallurgist with Micon International Limited (Micon), was responsible for the overall compilation of the Preliminary Feasibility Study and this Technical Report. Richard Gowans also reviewed the metallurgical work and associated processing and infrastructure cost estimates of the study. Mr. Gowans visited the mine site on September 5 and 6, 2007.

In the summer of 2007, International Minerals Corporation (IMC) engaged FSS Canada Consultants Inc. (FSS) to assist with the geological and geostatistical studies for the Gaby Gold Project, with the primary objective being to develop resource block models suitable as input to further engineering studies. The Gaby Main and Papa Grande deposit resource models were developed by Douglas Hartzell and Mohan Srivastava of FSS Canada Consultants Inc. (FSS). The FSS qualified person responsible for the mineral resource estimate is Mohan Srivastava P.Geo. Mr. Srivastava has not visited the site; however, Mr. Hartzell visited the property on September 5 and 6, 2007.

The mine design, mine scheduling, mine engineering and associated cost estimates for the Preliminary Feasibility Study and this Technical Report were developed by Howard Steidtmann Principal Engineer of Mine Planning Group (MPG). Mr. Steidtmann is the qualified person responsible for all the mining aspects of the study and he last visited the property on September 5 and 6, 2007.

Water Management Consultants (WMC) of Santiago, Chile, was retained by IMC to undertake the geotechnical, sub-surface hydrological, surface hydrological and environmental aspects of the Preliminary Feasibility Study.

Dave West P.Eng of Wardrop Engineering (Wardrop), subcontracted by WMC, is responsible for the geotechnical investigations pertaining to the design of the open pit mine. Dave West has visited the site numerous times the most recent being on September 5 and 6, 2007.

John Andrew of WMC designed, engineered and developed the capital cost estimates for the tailings dam options, surface water collection, storage and treatment systems, heap leach pad and leach solution management systems and site diversion channels.

Tony Brown, an IMC in-house consultant, managed the metallurgical and process development programs, developed the process operating cost estimates and directed the capital cost estimation of the processing facility and associated infrastructure. Richard Gowans P.Eng of Micon reviewed and takes responsibility for these aspects of the study.

Micon undertook the financial evaluation of the Preliminary Feasibility Study.

All currency amounts and commodity prices are stated in United States dollars. Quantities are generally stated in Système International d'Unités (SI) metric units, the standard and international practice, including metric tons (tonnes, t), kilograms (kg) or grams (g) for weight, kilometers (km) or meters (m) for distance and hectares (ha) for area. Table 2.2 summarizes a list of the various abbreviations used throughout this report.

Table 2.2
List of Abbreviations

Description	Abbreviation
Agencia de Garantia de Depositos	AGD
Acid rock drainage	ARD
Acid Water Treatment Plant	AWTP
Canadian Institute of Mining, Metallurgy and Petroleum	CIM
Canadian National Instrument 43-101	NI 43-101
Centimeter(s)	cm
Carbon in leach	CIL
Compañia Minera Gribipe S.A.	CMG
Degree(s)	°
Degrees Celsius	°C
Degrees Fahrenheit	°F
Dollar(s), United States	$, US$
Ecuador Minerals Corporation	EMC
Gram(s)	g
Grams per liter	g/L
Grams per liter	gpl
Grams per metric tonne	g/t
Gribipe Panama S.A.	GPSA
Gross domestic product	GDP
Hectare(s)	ha
Internal rate of return	IRR
International Minerals Corporation	IMC
Kilogram(s)	kg

Description	Abbreviation
Kilometer(s)	km
Kilometers' per hour	kph
Liter(s)	L
Mega Pascal(s)	MPa
Meter(s)	m
Micrometer(s)	µm
Mine Planning Group	MPG
Million ounces	Moz
Million tonnes	Mt
Milligram(s)	mg
Millimeter(s)	mm
Mineral Resources Development Inc.	MRDI
Net present value	NPV
Net smelter return	NSR
Not available/applicable	n.a.
Ounce	oz
Parts per billion	ppb
Parts per million	ppm
Percent(age)	%
Preliminary Feasibility Study	PFS
Principle Storage Pond	PSP
Probable Maximum Precipitation	PMP
Quality Assurance/Quality Control	QA/QC
Second	s
Semi-autogenous grinding	SAG
Specific gravity	SG
Square kilometers	km^2
Square kilometers	sq. km.
Système International d'Unités	SI
Surface Water Management System	SWMS
Tonne (s)	t
Tonnes per day	t/d
Tonnes per day	tpd
Tonnes per meter cubed	t/m^3
Waste Rock Facility	WRF
Water Management Consultants Limited	WMC
Water Treatment Plant	WTP
Year(s)	yr

3.0 RELIANCE ON OTHER EXPERTS

The authors of this Technical Report have reviewed and analyzed data provided by IMC of the Gaby Gold Project and has drawn their own conclusions therefrom, augmented by its direct field examination. None of the qualified persons responsible for this report has carried out any independent exploration work, drilled any holes or carried out any sampling and assaying. However, the presence of gold and copper in the local rocks is substantiated by the exploration history on the property.

The authors have relied upon the data presented by IMC and other experts in compiling the Preliminary Feasibility Study, although all reasonable diligence in checking, confirming and validating data was exercised.

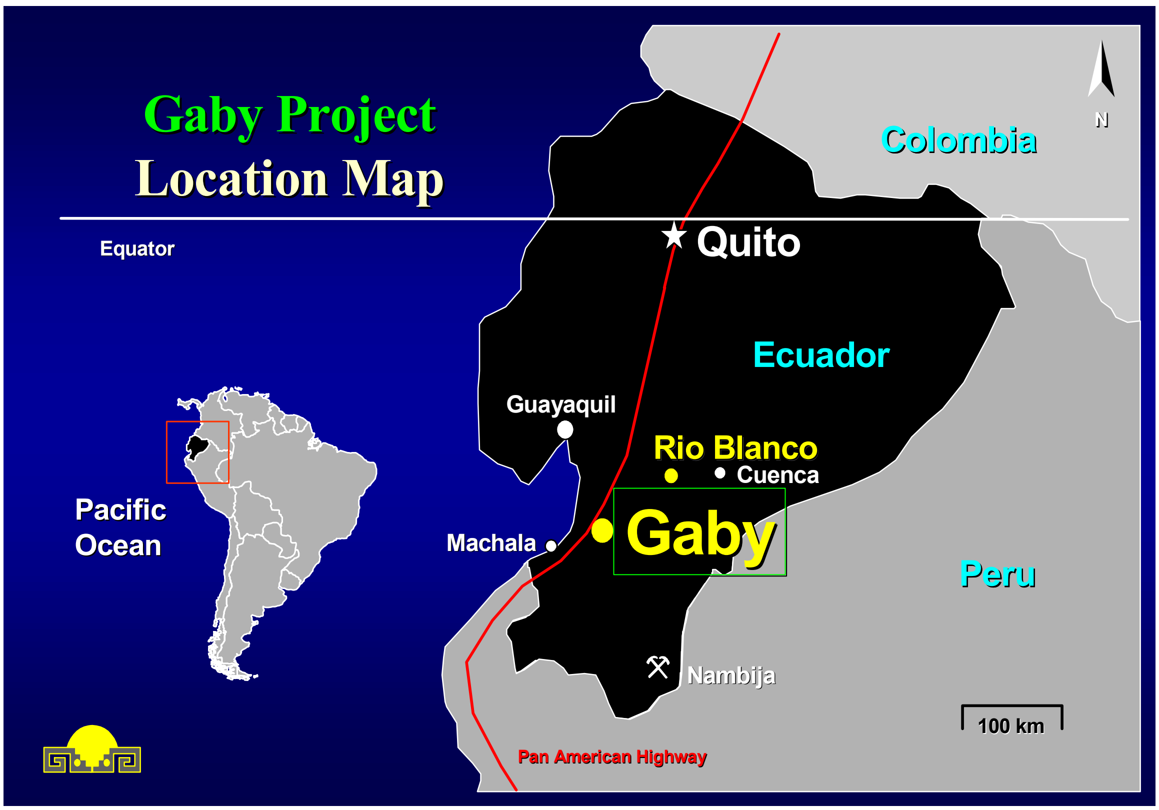
The various agreements under which IMC holds title to the mineral lands for this project have not been investigated or confirmed by the authors of this Technical Report and they offer no opinion as to the validity of the mineral title claims. The description of the property, and ownership thereof, lease payments, royalties, etc. as set out in this report, are provided for general information purposes only.

The concentrate terms used in the Preliminary Feasibility economic evaluation are based on indicative quotes obtained by IMC.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Gaby Project of IMC is located in the Azuay province of southern Ecuador, approximately 350 km southwest of the capital city of Quito, approximately 130 km south of the industrial coastal city of Guayaquil and approximately 50 km northeast of the port city of Machala. Figure 4.1 shows the location of the project.

Figure 4.1
Location Map for the Gaby Project



The project contains two significant gold-copper deposits, "Gaby Main" and "Papa Grande", which lie next to the Pan-American Highway, in the foothills just east of the town of Ponce Enriquez. Figure 4.3 presents a plan of these deposits and includes the boundaries of the mining concessions with an indication of IMC ownership.

The larger of the two deposits (Gaby Main) lies mainly on the Muyuyacu and Guadalupe mining concessions, at elevations of 350 to 600 m above sea level. To the west, it extends into the southeast corner of the San Sebastian concession; to the east, it extends into the northwest corner of the Papa Grande concession.

The smaller of the two deposits (Papa Grande) lies mainly on a concession also known as Papa Grande, uphill from Gaby Main at elevations of 600 to 950 m above sea level. To the south, the Papa Grande deposit extends slightly onto the Mollopongo concession.

Gaby Main and Papa Grande are about 1.5 km apart and separated by a ridge. Efforts are currently underway to establish whether or not the two deposits connect at depth, or share a common deeper source for their mineralization.

4.1 Mining Claims

The Gaby property is comprised of twelve mining concessions covering a total of 4,158 hectares (approximately 42 sq. km.). Titles had previously been granted on seven of the concessions totaling 1,621 hectares that cover the primary known areas of mineralization. These are:

- The Muyuyacu concession (854 hectares).
- The Villa Sur concession (48 hectares).
- The Guadalupe concession (112 hectares).
- The Papa Grande concession (396 hectares).
- The Mollopongo concession (60 hectares).
- The Rio Villa 2 concession (12 hectares).
- The Fermin Bajo concession (139 hectares).

The Company has varying interests in these concessions (see "Acquisition of Concessions" below). In addition, the Company has recently been granted 100% title to an additional five concessions totalling 2,537 hectares (approximately 25 sq.km.) which lie to the north and northwest of the main zones of known mineralization. These concessions include:

- The La Patricia concession (1,579 hectares).
- The Rio Tenguel concession (255 hectares).
- The Rio Tenguel Sur concession (495 hectares).
- The Rio Tenguel Este concession (109 hectares).
- The Rio Negro concession (99 hectares).

4.1.1 Acquisition of Concessions

Muyuyacu Concession - Initial 50% Interest

Pursuant to a joint venture agreement dated July 16, 1993, as amended (the "Joint Venture Agreement"), between Ecuador Minerals Corp. ("EMC"), a wholly owned Panamanian subsidiary of the Company, Compañia Minera Gribipe S.A. ("CMG") and Gribipe Panama S.A. ("GPSA"), EMC, GPSA and CMG agreed to incorporate Gaby

Panama Corporation ("Gaby Panama"), a private Panamanian corporation, to acquire title to and continue the exploration and development of the Muyuyacu concession, which partially underlies the Main Gaby Deposit. Gaby Panama was incorporated on October 4, 1993 and on February 16, 1994, ownership of the Muyuyacu concession was transferred from CMG to Gaby Panama.

The Joint Venture Agreement divided the Muyuyacu concession into three vertical zones for purposes of determining ownership, establishing requirements to conduct exploration programs and prepare feasibility studies, funding exploration expenditures and specifying entitlement to return of investment and division of revenues and profits: (a) the "Colluvial Zone" which is the area that lies below the surface of the concession to a depth of three metres; (b) the "Oxide Zone" which is that area that lies between three metres and 28 metres below the surface of the concession; and (c) the "Sulphide Zone" which is that area lying below 28 metres of the surface of the concession.

Gaby Panama has an authorized capital of two common shares with a nominal value of $500, 666 class A preferred shares with a nominal value of $500, 666 class B preferred shares with a nominal value of $500, and 666 class C preferred shares with a nominal value of $500. The common shares of Gaby Panama carry the right to vote and elect the directors of Gaby Panama. Each class of preferred shares carries with it the right to operate all exploration and development programs on one of the three zones into which the Muyuyacu concession has been divided and the right to receive profits from that particular zone. None of the classes of preferred shares carry the right to vote. The class A preferred shares relate to the Colluvial Zone, the class B preferred shares relate to the Oxide Zone and the class C preferred shares relate to the Sulphide Zone.

The current holders of the various classes of shares, their percentage of ownership, and their entitlement to profits are as follows:

Class of Shares	**Zone**	**Holder**	**Percentage of Class**	**Entitlement to Profits**
Common	N/A	EMC[(1)]	50%	N/A
		GPSA[(1)]	50%	N/A
Class A Preferred	Colluvial	GPSA	100%	100%
Class B Preferred	Oxide	EMC[(1)]	35%	35%
		GPSA[(1)]	65%	65%
Class C Preferred	Sulphide	EMC[(1)]	50%	50%
		GPSA[(1)]	50%	50%

[(1)] *These shares are held by a trustee appointed under a Trust Agreement as discussed below under "Trust Agreement".*

With respect to a potential future mining operation on the Muyuyacu concession, the critical shareholdings are the Class C Preferred Shares (Sulphide Zone), as the Sulphide Zone represent approximately 95% of the known gold mineralization on the Muyuyacu concession, because there is only a minor amount of colluvial material (represented by the Class A Shares) and oxide material (represented by the Class B shares). GPSA and EMC still retain their original percentage interests in the Class A and B Shares respectively. The colluvial zone is mainly the topsoil, which is of little economic value and would be removed at the start of any mining operation on the property.

In order for EMC to earn and maintain its 50% interest in Gaby Panama, EMC fulfilled the following conditions:

1. Expended not less than an aggregate of $1,000,000 on the preparation of a prefeasibility study on the Sulphide Zone;
2. Prepared a prefeasibility study on an ore body selected by EMC within the Sulphide Zone; and
3. Paid the following amounts to CMG:
    a. $350,000 on July 16, 1993;
    b. $500,000 on or before July 16, 1994;
    c. $325,000 on or before July 16, 1995;
    d. $750,000 on or before July 16, 1996; and
    e. $240,000 on or before July 16, 1997.

Pursuant to the Joint Venture Agreement as modified by the Trust Agreement discussed below, EMC has earned its 50% share interest in Gaby Panama, and indirectly in the Muyuyacu concession, by fulfilling all of its obligations related to the Joint Venture Agreement with CMG and GPSA. CMG issued a certificate on August 10, 2000 whereby it certified that EMC had fulfilled all such obligations and authorized EMC to use such certificate to claim from the trustee under the Trust Agreement the certificates for EMC's 50% of the shares of Gaby Panama. Due to the bankruptcy of the trustee, certificates for the Company's shares of Gaby Panama have not been formally released by the trustee appointed under the Trust Agreement (see "Trust Agreement", below).

Muyuyacu Concession - Remaining 50% Interest

GPSA holds the remaining 50% share interest in Gaby Panama and therefore, indirectly, a 50% interest in the Muyuyacu concession. Pursuant to a purchase option agreement dated May 11, 1995, (the "Purchase Option Agreement") between EMC and Sr. Alvaro Dassun Alcivar ("Alvaro"), Alvaro, being the sole shareholder of GPSA, granted EMC the option to acquire, on a phased acquisition basis, 100% of the issued and outstanding shares of GPSA by making a series of option payments totalling $10,400,000.

The Purchase Option Agreement was replaced by the Trust Agreement (see "Trust Agreement" below), which not only included a modified option payment schedule for the remaining payments under the Purchase Option Agreement with Alvaro but also named new beneficiaries other than Alvaro for such payments. The new beneficiaries were Banco de Préstamos S.A. ("Banco de Prestamos") and CMG. (See "Trust Agreement" below).

Trust Agreement

Due to the fact that Alvaro, as the sole shareholder of GPSA, had guaranteed certain debts of third parties (at arms length to the Company) to Banco de Préstamos, the parties agreed to completely revise and modify the payment terms of the Purchase Option Agreement (for the shares of GPSA representing the remaining 50% of Gaby Panama) and the outstanding payments of $2,790,000 originally due to CMG under the Joint Venture Agreement, as amended (for the initial 50% share interest in Gaby Panama).

This new agreement dated, May 11, 1995, was a Trust Agreement (the "Trust Agreement") between EMC, GPSA, CMG, Alvaro, Banaprest S.A. and Banco de Prestamos, the latter company acting as trustee. Under such Trust Agreement, EMC had the option to acquire 100% of the shares of GPSA, which in turn owned the remaining 50% share interest in Gaby Panama by making the following payments to Banco de Prestamos:

Payment Dates	Amounts to be Paid to Banco de Prestamos	Amounts to be Paid to CMG
July 16, 1995	----------------	$500,000 (paid)
July 16, 1995	$325,000 (paid)	$325,000 (paid)
July 16, 1996	$1,250,000[(1)] (paid)	$750,000 (paid)
July 16, 1997	$2,400,000[(2)] (not paid)	$240,000 (paid)
July 16, 1998	$3,000,000[(3)] (not paid)	0
July 16, 1999	$4,400,000[(3)] (not paid)	0
Total	**$11,375,000**	**$1,815,000**

(1) *EMC earned a 10% share interest in GPSA on making this payment.*

(2) *This additional $2,400,000 payment (including $900,000 originally payable under the Joint Venture Agreement to maintain the Company's 50% interest in Gaby Panama and $1,500,000 originally payable under the Purchase Option Agreement) would earn an additional 30% interest in GPSA.*

(3) *The payment of the additional $3,000,000 and $4,400,000 amounts, originally payable to Alvaro under the Purchase Option Agreement, would earn an additional 60% interest in GPSA.*

Together with the trustee receiving all of the shares of Gaby Panama held by EMC and GPSA (except for the Class A Preferred shares held by GPSA) and all of the shares of GPSA owned by Alvaro, the Trust Agreement also included a modified combined payment schedule, which named the payment beneficiaries of the modified payment schedule as Banco de Préstamos and CMG.

Under the Trust Agreement the sole condition for EMC depositing its 50% of the shares that it held in Gaby Panama into the trust was that such shares should be returned by the trustee to EMC once all the obligations of EMC relating to the Joint Venture Agreement (as modified by the Trust Agreement) in favour of CMG and GPSA were met. On August 10, 2000, CMG issued a certificate to EMC confirming that all payments due to CMG had been fulfilled and authorized EMC to request the delivery from Banco de Prestamos, as trustee, of the share certificates corresponding to EMC's 50% interest in Gaby Panama. At the time of receipt of the certificate from CMG, Banco de Préstamos was already in bankruptcy and receivership and was put under the administration of the

"Agencia de Garantia de Depositos ("AGD"), an Ecuadorian governmental entity that is handling the administration of almost 15 Ecuadorian banks that went into bankruptcy proceedings around the same time as Banco de Prestamos. As a result, the certificates for the Company's shares of Gaby Panama, representing a 50% indirect interest in the Muyuyacu concession, have not been formally released by Banco de Prestamos.

All of the issued and outstanding shares of GPSA were also deposited by Alvaro in the trust pursuant to the Trust Agreement. A condition for GPSA depositing its shares in the trust was that, upon completion of certain option payments (as specified in the Trust Agreement), by EMC to Banco de Prestamos, the share amounts representing respective 10%, 30% and 60% interests in GPSA were to be delivered to EMC or, if the payments were not made by EMC, then those shares were to become the property of Banco de Prestamos. Alvaro, under the Trust Agreement, was assured that his debt (a total of $11,375,000, including interest payments imputed by Banco de Prestamos) would be paid to Banco de Prestamos either in cash by EMC or in kind, with the delivery of the GPSA shares to Banco de Prestamos.

Pursuant to the terms of the Trust Agreement, on July 16, 1996, EMC paid $1,250,000 to Banco de Prestamos, which formed part of a total combined payment of $2,000,000 due under the Trust Agreement, and included a payment of $750,000 directly to CMG. The payment made to Banco de Prestamos entitled EMC to shares of GPSA representing an initial 10% interest in GPSA. The GPSA share certificate for this 10% interest in GPSA was delivered to EMC.

Also under the terms of the Trust Agreement, on July 16, 1997, the amount of $240,000 was payable to CMG (and was paid at a later date by the issuance of 401,036 common shares of the Company). The satisfaction of this $240,000 payment to CMG completed all of the payment obligations to CMG that were required under the Trust Agreement to enable EMC to receive from Banco de Prestamos, as trustee, the share certificates representing its 50% interest in Gaby Panama.

In addition to the $240,000 payment due (and subsequently paid) to CMG on July 16, 1997, a further $2,400,000 was payable to Banco de Prestamos under the Trust Agreement in payment for GPSA shares representing an additional 30% interest in GPSA. The amount of $2,400,000, payable to Banco de Prestamos, was not paid by EMC. Pursuant to the terms of the Trust Agreement, as a result of a deficiency in payments by EMC, EMC's option to acquire 30% of the shares of GPSA terminated and Banco de Préstamos became the owner of such GPSA shares representing a 30% interest in GPSA.

In addition, as the payments due to Banco de Prestamos on July 16, 1998, as to $3,000,000 and on July 16, 1999, as to $4,400,000 under the Trust Agreement were not made by EMC, Banco de Prestamos also became the owner of the remaining 60% of the shares of GPSA, for a cumulative ownership interest of 90% of GPSA, representing a

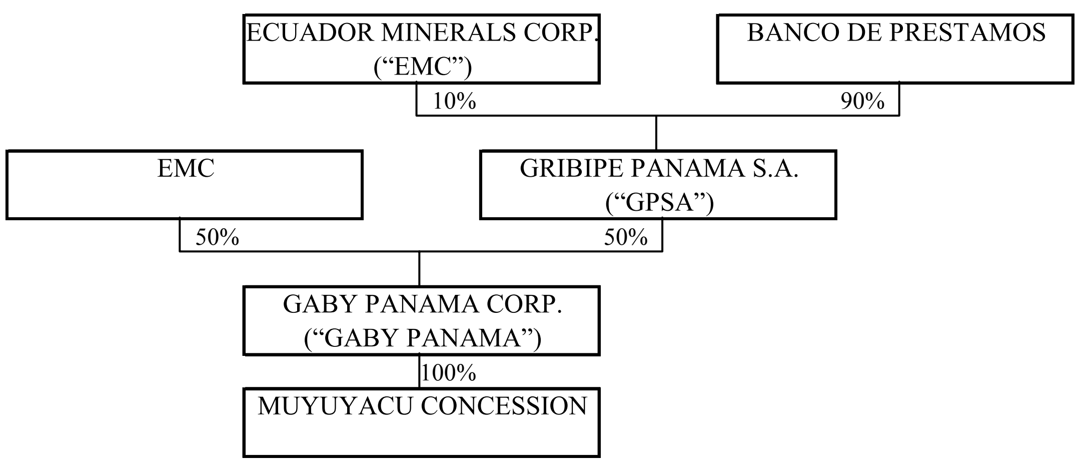
45% interest in Gaby Panama and, indirectly, a 45% interest in the Muyuyacu concession.

Accordingly, Banco de Préstamos is now the owner of 90% of the GPSA shares representing an indirect 45% interest in the Muyuyacu concession. EMC is the owner of the remaining 10% of the GPSA shares representing an indirect 5% interest in the Muyuyacu concession, which combined with its 50% interest in Gaby Panama, aggregates to a total indirect interest of 55% in the Muyuyacu concession.

The acquisition of the 90% of the GPSA shares held by Banco de Prestamos is currently under negotiation by the Company with the AGD, the Ecuadorian governmental agency that has been dealing with the bankruptcy and reorganization procedures of Banco de Prestamos for the past seven years.

The following chart illustrates the current ownership of the Muyuyacu concession:

Figure 4.2
Current Ownership of the Muyuyacu Concession



(1) *As a result of EMC's shareholding in Gaby Panama and GPSA, EMC owns an indirect 55% interest in the Muyuyacu concession.*
(2) *As a result of Banco de Prestamos' 90% shareholding in GPSA, Banco de Prestamos owns an indirect 45% interest in the Muyuyacu concession.*

Muyuyacu Concession - Finder's Fee

Pursuant to a finder's fee agreement dated March 30, 1993, between the Company and a local Ecuadorian resident (the "Finder"), the Company agreed to pay the Finder the following finder's fees in connection with the acquisition by EMC of its interest in the Muyuyacu concession: $75,000 cash (paid) and 112,027 common shares (issued) of the Company at an agreed value of $200,000, and a further $300,000 in cash or equivalent value of common shares of the Company, at the discretion of the Company, upon completion of a positive feasibility study on the Muyuyacu concession (which remains to be completed).

Guadalupe/Papa Grande/Mollopongo Concessions

On September 1, 1998, the Company completed the purchase of 100% of the interest of Zappa Resources Ltd. ("Zappa") in the Guadalupe, Papa Grande and Mollopongo mining concessions (the "Properties").

The Properties were previously held 100% by Zappa, except for the Papa Grande concession (which was held as to 50%, with Zappa as operator of a joint venture with the underlying Ecuadorian property holder, who holds the remaining 50%) and the Guadalupe concession (which was originally subject to a March 1995 joint venture agreement with the Company).

Under the terms of the acquisition agreement, the Company issued a total of 2.5 million common shares of the Company to Zappa. The original agreement also entitled Zappa to receive a NSR royalty of up to 2% on commercial production from the Properties. Under an amendment to the original agreement dated July 26, 2002, Zappa sold its rights and title to the NSR royalty to the Company in consideration of the Company issuing to Zappa an additional 125,000 common shares of the Company.

Guadalupe Concession

The Guadalupe mining concession, which comprises 112 hectares, was originally 50% owned by the Company (pursuant to the March 1995, joint venture agreement with Zappa) and is now owned 100% by the Company.

Papa Grande Concession

The Papa Grande mining concession comprises 396 hectares.

Pursuant to a joint venture agreement between Conaoro S.A. ("Conaoro") and EMC, EMC owns a 50% undivided interest in Minera Quebrada Fria S.A. ("Quebrada Fria"), a private Panamanian company that holds a 100% interest in the Papa Grande concession. The remaining 50% interest in Quebrada Fria is held by Conaoro, a private Ecuadorian company. The Company is operator of the joint venture.

Continuing obligations of the Company pursuant to the joint venture agreement require the Company to spend up to $4,000,000 on a bankable feasibility study on the Papa Grande concession (such amount to be recoverable by the Company from commercial production on the property), with each party to contribute 50% to future expenditures thereafter. Failure to do so will result in the dilution of each party's respective interest. Currently, if Conaoro's participation were diluted to less than a 20% participating interest, then it will be converted to a net profits interest royalty of 20% (should the concession contain a deposit with at least one million ounces of gold reserves according to the bankable feasibility study) or to a 15% net profits interest royalty if the reserves are less than one million ounces of gold. Certain terms of the joint venture agreement relating primarily to dilution for non-contribution by Conaoro, are currently in renegotiation with Conaoro but have not yet been finalized. The re-negotiation does not affect the Company's ongoing exploration activities on the property.

On March 3, 2008, IMC announced that it had acquired the rights to the remaining 50% of Papa Grande, resulting in IMC have 100% interest in the concession. In order to exercise its option to acquire the additional 50% interest in the Papa Grande property (for an aggregate interest of 100%), IMC is required to pay US$12.0 million over a 6-year period ending February 2014. US$500,000 has been paid as of the date of the signing of the agreement. The remaining option payments are scheduled every six months for the first three years (a total of US$4.0 million) and annually for the remaining three years (a total of US$7.5 million).

Mollopongo

The Mollopongo mining concession covers an area of 60 hectares.

The Company has a lease/option agreement with a local miners' association, the Cooperativa 24 de Enero ("the Co-op") to acquire a 100% interest in the mining concession. The Co-op remains as title holder to the mining concession and is responsible for the maintenance of the mining concession.

The lease part of the agreement for the mining concession had a six year term, renewable for similar periods up to a maximum of 20 years, which could be maintained by making annual payments. The lease payments were not made by the Company and the lease rights of the Company were effectively terminated. The end of the lease contract, however, did not affect the option part of the agreement since the lease and the option are two independent rights contained in the same agreement. In order to exercise the option and earn a 100% interest in the Mollopongo concession, the Company is required to pay $300,000 plus an additional $50,000 for each three year period after May 2001. The option agreement has no termination date. As examples: (a) in order to exercise the option, the Company would be required to pay $450,000 at any time prior to May 2010; (b) the Company would be required to pay $500,000 if the option were exercised between June 2010 and May 2013; (c) $550,000 between June 2013 and May 2016; and so on with $50,000 incremental increases for each subsequent three-year period.

Other Gaby Concessions

The Company also acquired a 100% interest and title to three minor mining concessions adjacent to the Muyuyacu concession:

- The Villa Sur concession comprising 48 hectares of mineral rights, which was purchased from a local owner for $55,000 in 1995.
- The Fermin Bajo concession comprising 184 hectares of mineral rights and 14 hectares of surface rights, which was purchased from a local owner for $25,000 in 1995.
- The Rio Villa concession comprising 12 hectares of mineral rights that was claimed directly by the Company in 1998.

In the last quarter of 2006 the Company directly claimed and owns a 100% interest in another five mining concessions located to the north and northwest of the main Gaby concession block which comprise a total of 2,537 hectares as follows:

- The La Patricia concession (1,579 hectares).
- The Rio Tenguel concession (255 hectares).
- The Rio Tenguel Sur concession (495 hectares).
- The Rio Tenguel Este concession (109 hectares).
- The Rio Negro concession (99 hectares).

The principal mining concessions and IMC ownership in relation to the project deposits are presented in Figure 4.3. Subsequent to the completion of the PFS IMC has acquired the remaining 50% interest in Papa Grande. The Mollopongo concession was not considered during the elaboration of the PFS.

Figure 4.3


638000 mE
640000 mE
642000 mE
644000 mE
646000 mE
9666000 mN
9664000 mN
9662000 mN
9660000 mN
LA PATRICIA
1587 ha
RIO TENGUEL
256.2 ha
RIO NEGRO
99.16 ha
RIO NEGRO ESTE
109.5 ha
RIO TENGUEL SUR
497.4 ha
San Alfonso
La Independencia
Sta. Martha
FERMIN BAJO
139.7 ha
MUYUYACU
858 ha
GUADALUPE
112.5 ha
SAN SEBASTIAN
(EX - CALVARIO)
205 ha
GABY MAIN
RIO VILLA 2
12.11 ha
VILLA SUR
48.53 ha
PONCE
ENRIQUEZ
PAPAGRANDE
397.9 ha
PAPA GRANDE
MOLLOPONGO
60.74 ha
International Minerals Corporation
GABY PROJECT
Gaby Concessions
Date:24/3/2008
Author: IL
Office: Gaby
Drawing: FP
Scale: 1:10000
Projection: UTM Zone 17, Southern Hemisphere
0
125
250
500
metres

4.2 Surface Rights

IMC, through its 100% owned Ecuadorian subsidiary (and through its agreements with other concession holders), controls approximately 486 hectares of surface rights. This is sufficient to cover the main resource areas, but additional surface rights will be required for ancillary facilities.

4.3 Royalties

There are currently no royalties applied to mining operations in Ecuador. However, a new mining law in Ecuador is being drafted by the newly-elected Constitutional Assembly and will likely include some form of government royalty on gross mine production. IMC is currently one of only a selected group of companies in Ecuador in discussions with the government with respect to the mining royalty and other issues to be included in the new mining law and to the advancement of IMC projects in Ecuador under the new law. A 70% "windfall revenue tax" on non-renewable resources was approved by the Ecuadorian government in December 2007, but metal price thresholds for triggering such a tax on mining projects are yet to be clarified by the government. All of IMC’s mining concessions in Ecuador have been recently confirmed to be in good standing by the Ecuadorian government

4.4 Environmental Issues

Environmental baseline monitoring of the Gaby project area has been underway since early 2004. The collection of such information is focused towards providing the necessary data for the future compilation of an Environmental Impact Assessment for the Gaby project. Baseline activities to date have included:

- Systematic monthly monitoring of surface water flow at a network of approximately 20 stations since 2004.

- Three-monthly collection of water quality samples from a surface water network of approximately 20 stations since early 2004.

- Measurement of groundwater levels in exploration boreholes across the Gaby and Papa Grande deposit.

- Monitoring of climatic data at two weather stations located at Gaby and Papa Grande since 2006.

- Monitoring of air quality at a station adjacent to the project's La Independencia camp since 2007.

- Monitoring at monthly resolution of the quality of water produced by on-site ARD test columns.

- Two biological monitoring campaigns across the project's area of influence.
- An archeological inventory of the project's area of influence.

The collection of baseline information relating to hydrology and water quality is particularly critical at the Gaby property due to the presence of artisanal mining activities in the immediate vicinity of the project footprint. The baseline database provides a record of any changes in environmental quality which may be associated with such activities, thus avoiding any erroneous attribution of responsibility to IMC.

4.4.1 Environmental Liabilities

Appropriate security measures are maintained by IMC across all concessions which comprise the Gaby property in order to preclude entry by unauthorized artisanal miners. Since 2005, a discrete small scale production operation has, however, existed in the Guadalupe concession area. This activity was initiated with the agreement of IMC and is operated by a nationally incorporated company, Oromining S.A. The company has a domicile in Machala, and operates multiple small scale gold ventures in southern Ecuador.

Oromining is engaged in exploitation of the Tama Vein system, a north-south striking quartz-carbonate-arsenopyrite-pyrite vein located to the north-east of the proposed Gaby pit footprint. The Tama Vein is typical of a number of arsenopyrite rich veins which cross-cut the Gaby property. It is not considered to form a contribution to IMC's mineral resources due to its complex metallurgy and high proportion of refractory gold, thus the Tama veins are not included in the mineral resource estimates defined in this report.

The Tama Vein is accessed via an ENE-WSW trending tunnel of approximately 400 m in length. The development of the tunnel has proved of value to IMC's own exploration effort as a source of information relating to wall rock quality at the NE limits of the projected Gaby pit, and also for the collection of bulk samples (mainly of mineralized basaltic volcanics) for use in metallurgical test work. The Tama Vein has been worked at a rate of approximately 10 t per day using conventional stoping methods. Vein widths are generally of the order of 1 m or less, and are characterized by Au grades of 10 – 20 g/t. The gangue holds up to 30% FeAsS plus FeS_2, quartz and carbonate. The Tama system has a distinctive, narrow, quartz-sericite alteration halo. IMC monitors Au production from Tama using a relatively complete mass balance approach (head grade, gravimetric recovery, CIP recovery, tail grade). Typical production levels are around 2 kg per month.

The presence of Oromining´s operation within the Guadalupe concession area is of no direct significance to the advancement of the Gaby project in the sense that the Tama Vein lies outside of the projected Gaby open pit area and does not impinge on any locations likely to be required for mine facilities or infrastructure. Exploitation of the Tama Vein in no way influences the Gaby resource as defined in the current project PFS. The operation is, however, lacking in several regulatory approvals, including an

Environmental License for mine operation. While the presence of Oromining has, to date, been considered largely beneficial to IMC (by acting as a barrier to uncontrolled artisanal invasion) advancement of Gaby through full feasibility study and environmental permitting will almost certainly require that IMC either seeks the required regulatory approvals or terminates this minor production activity.

4.5 Permitting

IMC has applied for and been granted all necessary permits to conduct its exploration activities at Gaby. Additional permits will need to be sought from the Ministry of Energy and Mines should the proposed full feasibility study recommend the Gaby project be advanced into production.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Site Accessibility

The Gaby property can be accessed from the paved Pan American Highway, along a 2 km road to the village of La Independencia and then by a 2.5 km well-established dirt road to the property using a four-wheel drive vehicle. Alternatively, access is possible through the Bella Rica mining concession to the south of the Papa Grande concession.

5.2 Physiography and Climate

Climatic conditions are typically humid and moderately hot with common fog patches in the higher parts of the property from July to October. Light rain occurs throughout the year with heavier precipitation occurring from December to March. Average annual precipitation is approximately 1.55 meters (61 inches).

The average annual temperature is 25 °C (78 °F) with daytime temperatures averaging 28 °C (81 °F) in the summer and 24 °C (75 °F) during the winter months. Summer and winter night time temperatures average 20 °C (64 °F) to 15 °C (60 °F), respectively.

The prevailing wind direction is generally from the west with a maximum velocity of 100 kph.

6.0 HISTORY

6.1 EXPLORATION HISTORY

6.1.1 Exploration and Drilling of Gaby Main

In the early 1970's, local Ecuadorian companies conducted reconnaissance stream sediment and soil geochemical surveys in the Gaby region. These exploration programs identified gold, tellurium, copper, molybdenum and bismuth anomalies in two northwest-trending zones on the Muyuyacu and Guadalupe concessions.

The next significant work on the Gaby deposits was done in the late 1980's by Minpalca, a private Ecuadorian company, whose program included:

- Sampling of bedrock and gravels in stream beds.
- Excavation and sampling of shallow shafts in oxidized intrusives.
- Excavation, bulk sampling and metallurgical testwork of eluvial material.
- Bulk sampling and metallurgical testwork of selected veins.
- Construction of test pits.
- Mapping and sampling of road cuts.
- A small drilling program consisting of 16 shallow reverse circulation holes whose best results were gold assay values of 1 to 4 g/t over a few tens of meters.

In 1991, Newmont completed another small drilling program consisting of 11 core holes that tested the Gaby Main deposit at greater depths than the Minpalca drilling had done. The most encouraging results from these Newmont holes were gold assays of 1 to 2 g/t over several tens of meters, with one hole returning an average of over 1 g/t Au for an interval of 170 m.

International Minerals Corporation (IMC) conducted the first extensive drilling of Gaby Main in 1994, with a reverse circulation drilling program that outlined the oxide resource and that provided a preliminary assessment of the broad geometry of the underlying sulfide zone on the Muyuyacu concession. At the same time, Zappa Resources, a Canadian resource exploration company, also conducted a small core drilling program to the south of IMC, in the region that is now understood to be part of the same U-shaped deposit.

IMC continued the exploration drilling of Gaby Main through the 1990's, using both reverse circulation holes and core holes to delineate the sulfide zone. By 1997, IMC had drilled a total of 249 drill holes; 70 of these were deeper core holes and the remainder were shallower reverse circulation holes.

From 1999 to 2006, exploration activities at Gaby Main were limited to surface sampling and mapping of road cuts. Drilling resumed in 2006, and has continued through the time of these studies and this report.

Note *In the 1990's, the company that is now known as International Minerals Corporation (IMC) operated under the name of Ecuadorian Minerals Corporation (EMC). Throughout this report, the company referred to as "IMC" should be understood to include both IMC and EMC.*

6.1.2 Exploration and Drilling of Papa Grande

In the early 1970's, Copperfield Mining identified gold deposits in the areas covered by the Papa Grande and Mollopongo concessions. Though no systematic exploration work was done on these deposits in the 1970's and 1980's, local informal miners conducted small-scale underground mining operations in the Papa Grande deposit and also in the adjacent Mollopongo deposit, which lies less than a kilometer to the south.

Newmont drilled in this area in 1990, at the same time that it was conducting its small drilling program on the Gaby Main deposit, but little is known about the results from their drill holes on Papa Grande and Mollopongo.

In the early 1990's, Zappa Resources carried out an extensive soil geochemistry program on what it referred to as its "Ponce Enriquez Project", which included the Papa Grande and Mollopongo concessions. The primary focus of this activity was the areas in and around the active small-scale mining operations, which were primarily around the smaller and higher grade Mollopongo deposit, but also extended to the north, into the Papa Grande deposit.

By the mid-1990's a large gold surface geochemical anomaly had been identified and confirmed by several trenching studies. Zappa also collected samples from existing tunnels, with the best results producing average gold grades of 1 to 2 g/t over intervals of several tens of meters.

By the late 1990's, geophysical surveys had identified targets for a small core drilling program on the deposit now known as Papa Grande. The most encouraging of these results were similar to the results of the tunnel sampling: 1 to 2 g/t average gold grades over intervals of several tens of meters.

In 1997, Cambior entered into a joint venture with Zappa. The Zappa-Cambior joint venture added to the small drilling program begun by Zappa, completing more than 6,000 m of drilling with 54 diamond drill holes, four of which were on the Mollopongo deposit and the remainder were on the Papa Grande deposit.

From the late 1990's to 2006, exploration activities in the Papa Grande area were limited to mapping and sampling of road cuts and surface exposures. IMC resumed drilling on the Papa Grande deposit in 2006, and has continued through the time of these studies and this report.

6.1.3 A Gold-Only Project versus a Gold-Copper Project

From first discovery through the 1990's, the deposits at Gaby were thought of as gold deposits, a reflection of the relative strength of the price of gold in the 1990's compared to the price of copper or molybdenum, the two other metals known to be anomalously high in the Gaby area.

In recent years, with the stronger base metal prices, and with IMC's deep drilling confirming that strong copper mineralization extends deeper than does the strong gold mineralization, Gaby is being assessed as an Au-Cu project, with gold still accounting for the significant majority of the economic value of the deposits, but with copper being a potential contributor to revenue.

The resource studies presented in this report therefore include estimates of copper grades. Though molybdenum mineralization is strong in many parts of the project area, and locally spectacular in certain tunnels, these studies do not address the molybdenum resource potential of Gaby Main or Papa Grande.

6.2 HISTORICAL RESOURCE ESTIMATES

The only previous resource estimates that have been published for the Gaby Project are the resources reported in two separate studies in the late 1990's. Both of these studies predate the introduction of 43-101 Technical Reports and their documentation, while extensive, does not, therefore, fulfill the current requirements for a 43-101 Technical Report.

6.2.1 Historical Resource Estimate for Gaby Main

With the drill hole data available in 1997, Mineral Resources Development Inc. (MRDI) estimated a resource for the Gaby Main deposit of 163 million tonnes with an average gold grade of 0.73 g/t above a cutoff of 0.5 g/t, corresponding to an in situ metal content of 3.9 million ounces of gold.

The MRDI resource study used a geostatistical approach for grade estimation, separating the deposit into different grade zones and treating each of these as a separate geostatistical domain, with its own data, parameters and variogram models. Gold assays were capped at 5 g/t prior to creating 6m run-length composites that were interpolated using ordinary kriging.

This historical estimate was not classified in accordance with the Canadian Institute of Mining and Metallurgy (CIM) guidelines for “measured”, “indicated” and “inferred” resources. MRDI instead used a different terminology for similar concepts, classifying the most reliable parts of the resource block model as “proven and probable”, and the remainder of it as “possible”.

The 3.9 Moz gold resource estimated by MRDI was the sum of the resources in all of their classification categories. Less than half of MRDI's total in situ gold estimate was in their “proven” and “probable” category.

It is also worth noting that the 3.9 Moz gold resource estimated by MRDI included material on the San Sebastian concession (which was then called the Calvario concession).

6.2.2 Historical Resource Estimate for Papa Grande

In 1997, on behalf of the Zappa-Cambior joint venture, Cambior produced a resource estimate for the combined Papa Grande and Mollopongo deposits using the drill holes and trench samples that were available at the time. This study estimated 46.1 million tonnes of resources with an average gold grade of 1.1 g/t above a cutoff that changed from saprolite to hard rock: 0.55 g/t for saprolite and 0.70 g/t for hard rock. The in situ gold content of Cambior's resource estimate was 1.6 million ounces.

Similar to MRDI's activities at roughly the same time on their resource study of the Gaby Main deposit, Cambior also used a grade zone approach, separating the deposit into different domains based on grade and treating each of these domains separately. Cambior created 5m bench composites and did not cap any gold grades. Their grade estimates were calculated using inverse-squared-distance weights to interpolate nearby composites.

Cambior assigned either an “indicated” or “inferred” classification to the grade estimates in its resource block model. Though their classification uses the same terminology as that of the CIM guidelines used for current 43-101 Technical Reports, the Cambior study does not claim to follow CIM guidelines (or any other international system in use at the time). It should not be assumed, therefore, that this classification system corresponds to what would now be undertaken under CIM guidelines.

About a quarter of the 1.6 million ounces of in situ gold in Cambior's estimated resource was in the “indicated” category.

6.2.3 Historical Resource Estimate for Gaby Project

As discussed above, the two resource studies used slightly different approaches to grade interpolation, reported their resources at slightly different cutoff grades, and classified them differently. Despite these important differences, the two studies are broadly similar and their combined resource estimate is an informative, if somewhat loose, point of reference for other resource estimation studies.

In the 1990's, the two deposits that have since been consolidated into a single project under IMC were estimated to contain approximately 5.5 million ounces of in situ gold above a gold cutoff in the 0.50 to 0.70 g/t range, in all classification categories and across all concessions.

6.3 HISTORICAL PRODUCTION

No historical production has occurred on the Gaby property with exception of the small scale mining activities noted in Section 4.4.1.

7.0 GEOLOGICAL SETTING

7.1 Geological Overview

The Gaby project consists of two gold-copper mineral deposits, Gaby Main and Papa Grande, with Papa Grande being about 2 km southeast of Gaby Main. Both deposits are thought to have "porphyry style" mineralization, which means that mineralization is derived by metal-bearing magmatic fluids that originated from an inferred deeper intrusive source. However, many characteristics of the ore bodies, notably alteration, are not easily categorized by typical "porphyry style" models.

Both deposits are broadly contained within mafic volcanic host rocks (basalt), though intrusive porphyry rocks of intermediate composition (hornblende and/or feldspar tonalite) occur frequently at Gaby Main and, to a lesser extent, also at Papa Grande. Conversely, breccias are more common at Papa Grande than at Gaby Main.

Mineralization has apparently taken place in multiple pulses, with late stage events overprinting most lithologies and alteration types. The local details of where mineralization is intense and where it is weak are probably due more to fractures and faults than to lithology or alteration. In some places, breccias contain good gold grades but, elsewhere, the same type of breccia is often only very weakly mineralized. Late-stage veins/veinlets often carry strong mineralization into wall rock and entirely across breccias.

The appendices to the Preliminary Feasibility Study include the reports of several geological consultants who have visited the site since IMC began working on this project in the mid-1990's. The most recent report, completed by Pratt in 2006, provides an excellent discussion of geology within the area. Reports by Corbett and by Sillitoe offer insights as to how Gaby fits into the scheme of more typical "porphyry style" Au and Au-Cu deposits. This geological overview section does not aim to replace these earlier reports, nor to reiterate all of their observations and conclusions. The primary purpose of this section is to provide an overview of the geological controls on mineralization, an important preliminary step in formulating ideas about statistical analysis and in developing an approach to estimation that is consistent with geologists' knowledge about the nature of mineralization. This section, therefore, aims to provide a condensed summary of the various geological ideas that have some bearing on resource estimation; it does not aim to provide a comprehensive synthesis of all that is known (or has been speculated) about these deposits.

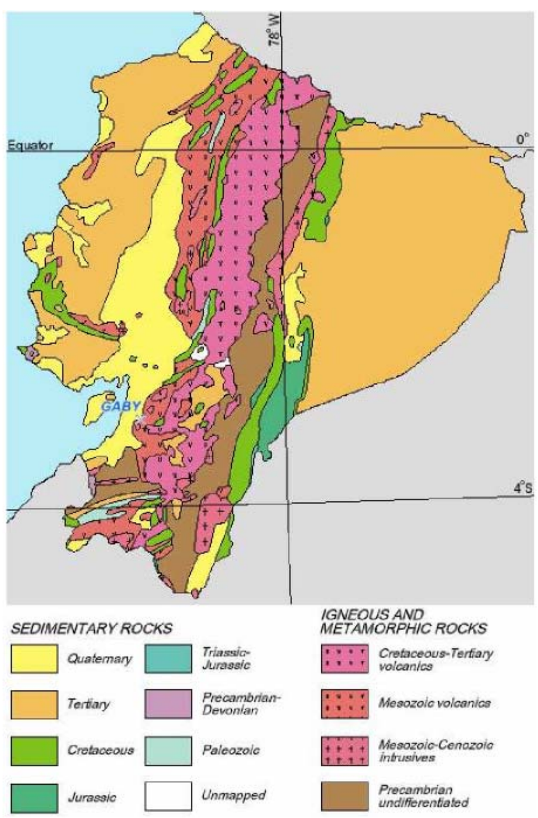
The term "porphyry" is often used in mining geology to mean two different things, sometimes as a description of igneous texture, other times as a generic term for a group of ore deposits that are genetically similar. In an effort to maintain clarity between igneous texture and ore genesis, the term "porphyry style" will be used in this section to refer to the commonly used genetic explanation for this type of ore deposit, and the term "porphyry" will be used with its conventional geological meaning: an igneous rock that contains phenocrysts.

7.2 REGIONAL GEOLOGY

The country of Ecuador spans the following five distinct physiogeographic regions (Figure 7.1) that, broadly speaking, run in the north-south direction, roughly parallel to the arc of the Andes:

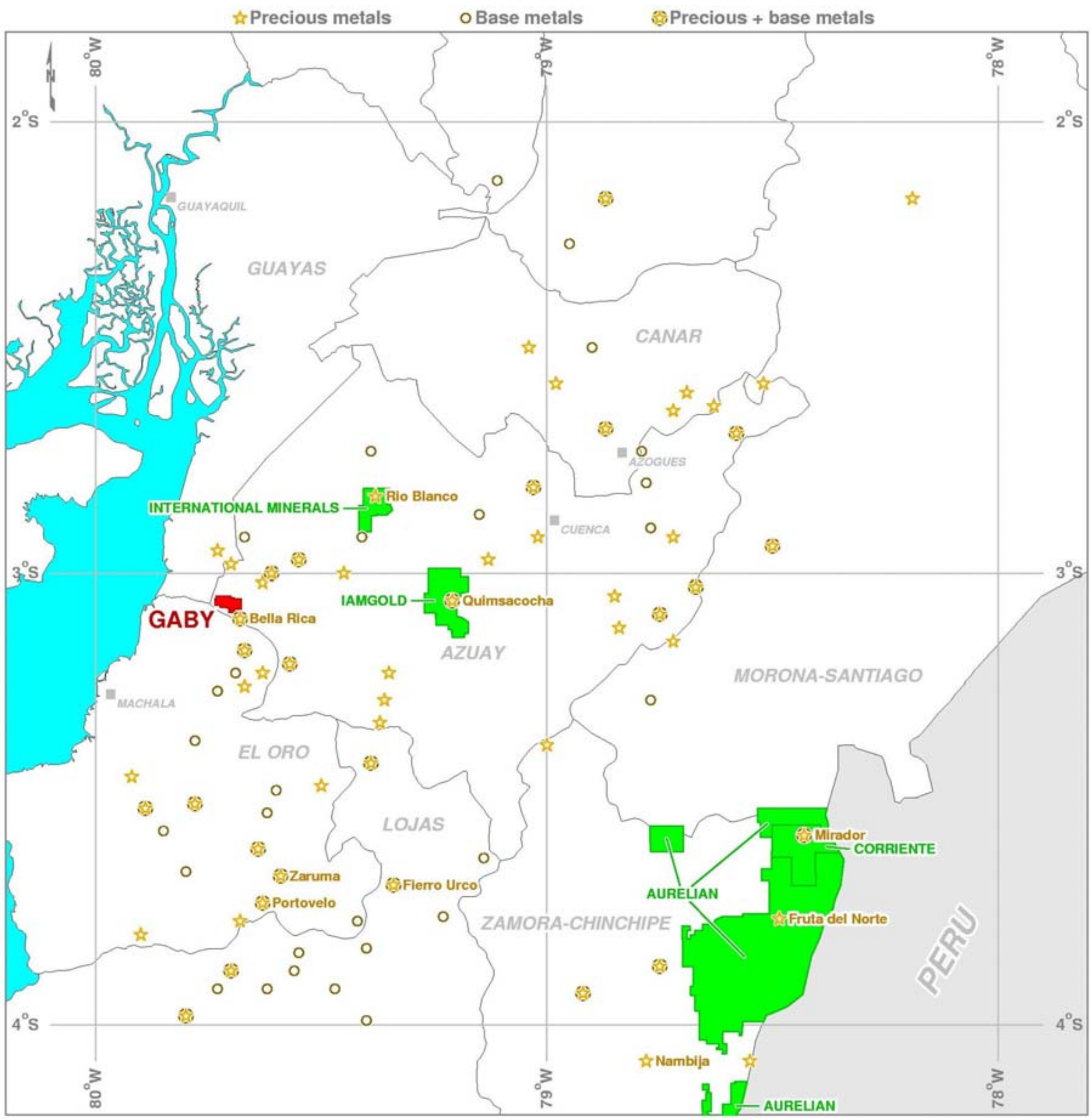
1. A wide coastal plain in the west, where the surface consists of recent sedimentary rocks composed of material shed from the Andes;
2. The Cordillera Occidental, the western ridge of the Andes, that consists of oceanic rocks that accreted to the continent 50 to 100 million years ago;
3. The inter-Andean Graben, a high valley that is flanked by active volcanoes such as Cotopaxi and the recently erupted Tungurahua;
4. The Cordillera Real, the eastern ridge of the Andes, that consists of much older rocks that formed the original continental mass and that are now being uplifted as the South American and Nazca plates collide; and,
5. The Oriente, where flat-lying sedimentary rocks younger than 200 million years old host the petroleum reservoirs that provide much of Ecuador's GDP.

Figure 7.1
Regional Geology of Ecuador



Gaby is situated in the southwestern part of the Cordillera Occidental, immediately adjacent to the coastal plain. The basement rocks in this part of the Cordillera Occidental are overlain by a 50 million year old volcanic arc called the Saraguro Group that contains numerous younger granitic intrusions. Many of this region's mineral deposits (Figure 7.2) are in these volcanic rocks, in particular the voluminous ignimbrites.

Figure 7.2
Mineral Deposits and Mining Projects in Southern Ecuador



The western margin of the Cordillera Occidental is controlled by large northeast-trending transcurrent faults that truncate northwest-trending tensional fracture zones. These northwest-trending fracture zones control the major drainage systems and are favorable locations for mineralization, hosting several of the mineral deposits in the Gaby area

(Figure 7.2), including the epithermal deposits worked by local informal miners at San Gerardo and Bella Rica.

In the Gaby area, the rocks of Cretaceous age are the basaltic lava flows, tuffs and volcanic breccias of the Piño de la Sierra Formation. The Paleocene rocks are the basaltic/andesitic flows, tuffs and volcaniclastic rocks of the Macuchi Formation, which reaches a thickness of more than 2,000 m. The Cretaceous and Paleocene rocks have been intruded by Eocene stocks and plugs that range in their composition from granodiorite to tonalites. Quaternary coastal plain sediments consisting of marine estuary clays and fluvial gravel deposits cover the lower portions of these formations and intrusive units.

7.3 Local Geology in the Project Area

Almost all of the metallic Ecuadorian mineral deposits occur within continental crust and/or Tertiary calc-alkaline volcanic rocks (Figure 7.1 and Figure 7.2). The Gaby deposits are unusual because they occur in basaltic oceanic crust called the Pallatanga Unit, which is thought to have been accreted to the South American continent at the end of the Cretaceous, roughly 65 million years ago. The Pallatanga basalts are dark green and very hard, with very few large crystals; they are massive and generally featureless, except for local pillow structures. The Pallatanga basalts are rich in ferromagnesian minerals, low in potassium and have very reactive lithologies, which has implications for the suite of minerals created by hydrothermal alteration in the project area.

7.3.1 Lithology

As occurs throughout the Cordillera Occidental, the accreted oceanic rocks at Gaby are intruded by igneous rocks that range in composition from tonalites to granodiorites and that are “porphyritic” in the original textural sense: they contain conspicuous crystals or phenocrysts within a finer grained groundmass. Two distinct intrusive units have been identified in the Gaby area; an older hornblende porphyry and a younger plagioclase feldspar porphyry.

Within the Gaby project area there are also numerous breccias whose textural and compositional differences suggest that there are different origins for the brecciated rocks, and that the brecciation is due to several different physical mechanisms:

- A crackle breccia that is monomictic (has only one dominant species of clasts). The clasts in this type of breccia are angular and can often be visually “reassembled” like a jigsaw puzzle, which suggests that they have not traveled far.
- A breccia that is polymictic, with a mixture of clasts of several different types, including porphyries and basalts. The clasts in this type of breccia are better rounded than in the crackle breccias and do not fit together with their neighbors, which suggests that they have traveled further than those seen in the crackle breccias.

- Pebble dykes.

The heart of the Gaby Main deposit is dominated by hornblende and feldspar porphyries with smaller breccia units (Figure 7.3). The southwestern limb of the “U” at Gaby Main has little breccia material, and consists mainly of feldspar porphyries that have intruded the Pallatanga volcanics along dike swarms, elongated in a northwesterly direction and dipping to the northeast.

Papa Grande differs from Gaby Main in that it is dominated by breccias, with lesser amounts of the hornblende porphyry, and almost no feldspar porphyry (Figure 7.4). As with the similar units at Gaby Main, the contacts of the breccias and porphyries at Papa Grande are thought to be steeply dipping to the northeast.

The highest gold and copper grades are generally found in the breccias; the porphyries can also host moderate to high grade mineralization, but the volcanics rarely do. Even though the breccias and porphyries are the most favorable host rocks for strong gold and copper mineralization, they are not consistently well mineralized, with some of these units being barren or only very weakly mineralized. Furthermore, strong mineralization in one rock type often extends across lithologic boundaries into neighboring units of a different rock type.

7.3.2 Structure

Faults, fractures, joints and stockwork veinlets are abundant throughout the project area. Faults, interpreted mostly from diamond drill core and ground magnetic data, range in size from small, high angle faults with little displacement, to large faults. The fault zones vary in width from 50 cm to 3 m, and are commonly filled with fault gouge and quartz-sulfides.

The regional northwest structural trend of the Cordillera Occidental appears to have controlled the emplacement of the dike swarm in the southwestern limb of the “U” of Gaby Main, and may also be the controlling mechanism for the emplacement of the breccias within the main mineralized hornblende porphyry in the heart of Gaby Main to the northeast. Strong gold and copper mineralization often follows structure, forming veins that range in width from millimeters to a meter or more. The largest of these is the Tama Vein that lies to the east of Gaby Main (Figure 7.3) and has been mined historically by informal local miners from near-surface tunnels that remain accessible and that provide opportunities for studies of the three dimensional orientations of faults, fractures and joints. Tunnels from other small underground operations that targeted “Tama-style” mineralized veins also remain accessible in the southwestern limb of the deposit.

Well-mineralized veins also exist at Papa Grande, and were often the focus of small-scale mining activity from surface pits and short tunnels.

Figure 7.3
Bedrock Geology of Gaby Main and a Typical Cross Sectional Interpretation

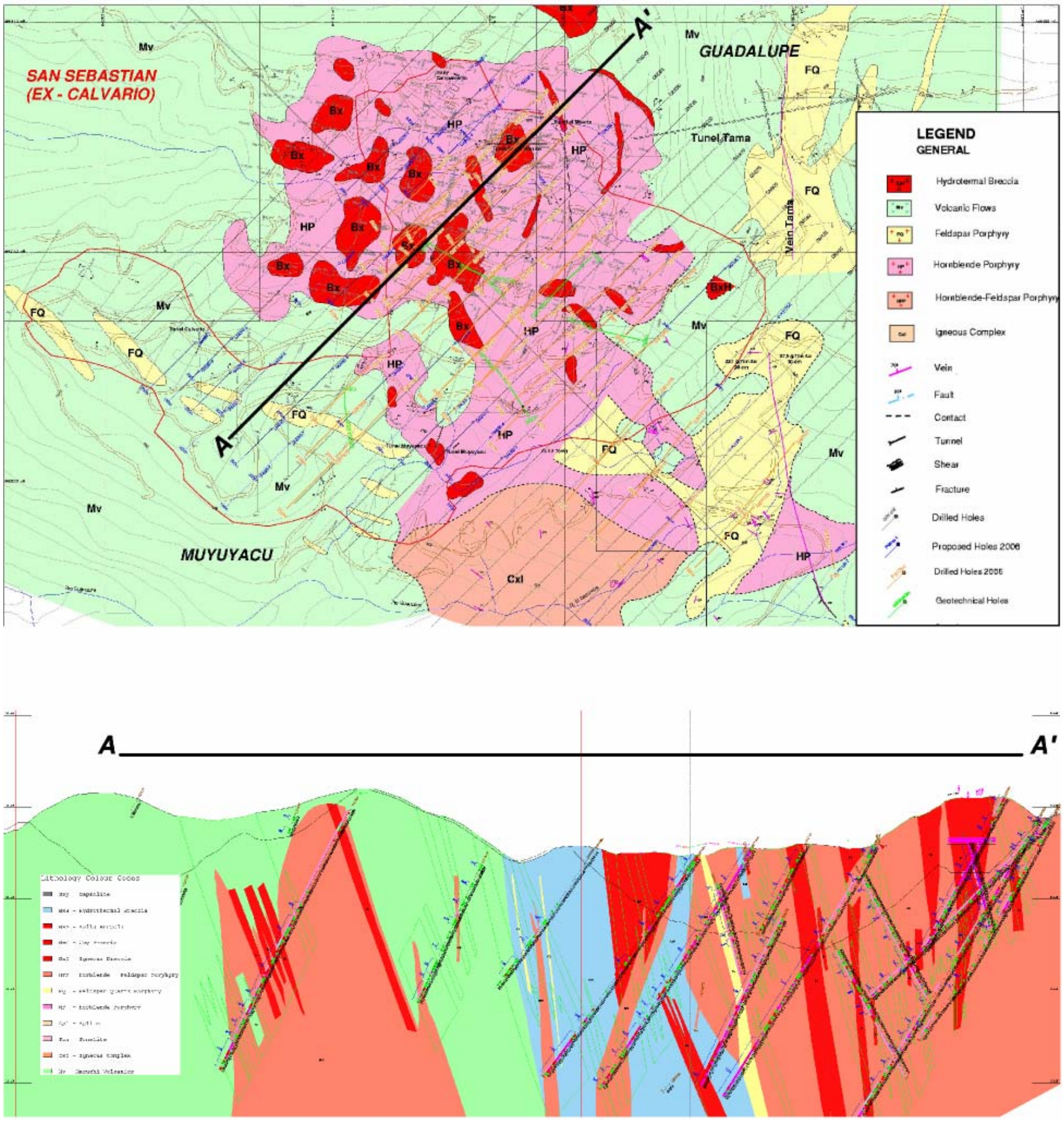
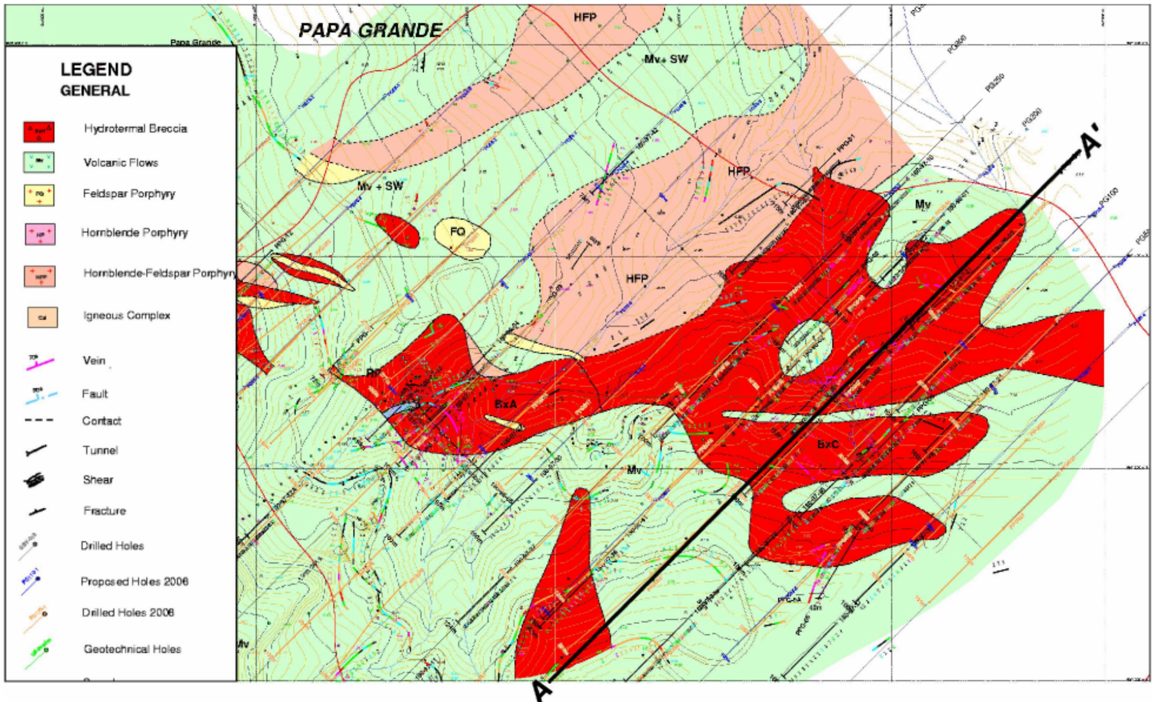
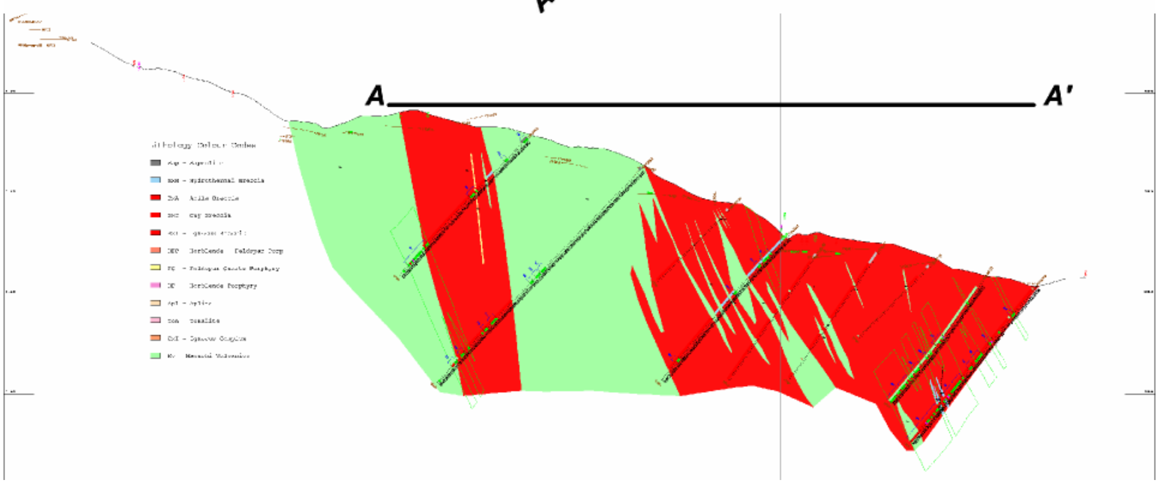


Figure 7.4
Bedrock Geology of Papa Grande and a Typical Cross Sectional Interpretation





7.3.3 Alteration

Surficial Saprolite

With the climate in the Gaby area being tropical, the rocks near the surface are weathered: very heavily in the first few meters and with decreasing intensity as depth increases. The near-surface weathering has created a saprolite layer in which the texture of the original bedrock has largely been destroyed and where original bedrock minerals have been oxidized.

The thickness of the saprolite layer depends on many factors, including the slope of the ground surface, the near-surface groundwater, vegetation and the occurrence of fault and fracture zones down which oxidizing surficial water can percolate. The saprolite is generally thicker over the Gaby Main deposit than it is at Papa Grande; but in both deposits the saprolite thickness can change quickly over short distances, especially where fault and fracture zones create local conditions that allow oxidation to penetrate much deeper into the bedrock.

Over both deposits, the saprolite is generally richer in gold than the underlying fresh bedrock, and poorer in copper.

7.3.4 Bedrock Alteration

Geological studies over the past decade at Gaby have identified several phases of alteration in the Gaby area, from an original low-temperature hydrous alteration event that would have occurred soon after the Pallatanga basalts were erupted onto the sea floor, through the several episodes of hydrothermal alteration that would have accompanied each intrusion. The resulting alteration assemblages are therefore overprinted and complex. The difficulty of identifying the type of alteration from hand specimens further complicates attempts to interpret the alteration history. Though alteration clearly plays an important role in the introduction and remobilization of metals in the Gaby area, its relationship to the intensity of gold and copper mineralization continues to be debated. (Petrographic studies of thin sections and staining tests are often needed to resolve visual ambiguities at the scale of hand specimens).

Broadly speaking, there are three types of alteration that seem to bear most strongly on Au–Cu mineralization. In their approximate chronological order, from oldest to youngest, these are:

- **Potassic alteration**, which includes a pervasive and weak alteration that affects most of the porphyries, as well as a more intense and localized alteration in many of the breccias. Though little gold or copper was introduced to the deposits during these events, high metal grades often are associated with potassic alteration since many of the permeability pathways available during this hydrothermal event would also have been available for later alteration episodes. Potassic alteration can therefore be a loose indicator for the potential of Au–Cu mineralization to occur later.

- **Sodic-calcic alteration**, which was widespread and was responsible for the introduction of most of the gold and copper that is now present in the Gaby area, including the vast majority of the instances of visible gold. Many of the drill hole samples with good gold grades show a stockwork of sodic-calcic veinlets that are thought to be contemporaneous with the matrix of the breccias.

- **Sericitic alteration**, which post-dated brecciation and was not as widespread as the earlier potassic and sodic-calcic alterations. Though locally restricted, this sericitic alteration is thought to have introduced most of the arsenic that now occurs in the deposits, and also some of the later-stage gold and copper.

7.3.5 Summary of Geologic Controls on Mineralization

There are several inter-related geological controls on the mineralization in the Gaby deposits, with lithology, structure and alteration all playing important roles. Though each of these is important, none of them, by itself, can serve as the framework on which to model the geological controls on mineralization. With gold and copper having been introduced through mineralizing fluids, it may be that permeability is the rock property that provides the best framework for modelling the deposit for resource estimation purposes.

Lithology clearly plays a role in permeability since the brittle-ductile nature of the host rock will affect the permeability pathways that develop. The porphyries at Gaby appear to be good hosts for the development of the stockwork veinlets that carry much of the metal, and the matrix of the breccias is a natural high-permeability host for the mineralization that appears more pervasive.

While lithology dictates whether or not a particular location has the necessary rock mechanics characteristics to serve as a host for Au–Cu mineralization, it is structural geology that dictates specifically where mineralization will occur. Good lithology merely creates a potential for strong mineralization; structural discontinuities actualize this potential.

Finally, alteration is the tell-tale fingerprint of the right permeability conditions having been created: the alteration does not cause the Au–Cu mineralization to be there, it is simply a necessary companion to the mineralization. Alteration is more directly observable than gold or copper grade, and has a wider footprint or halo than the zones where gold and copper grades reach levels of economic interest. Alteration therefore serves as a mappable geologic feature that identifies regions where lithology and structure have cooperated to create the right conditions for strong gold and/or copper mineralization.

8.0 DEPOSIT TYPES

8.1 Similarities and differences to various deposit types

Mineralization at both Gaby Main and Papa Grande is thought to be related to a common deep intrusive source for magmatic fluids; because of this, both are usually described as "porphyry style" deposits. Though they share the characteristic of having a deep intrusive source for their mineralizing fluids, both Gaby Main and Papa Grande are anomalous as porphyry style deposits because they lack the alteration zoning that is generally associated with typical porphyry style Au–Cu mineralization.

Common to both Gaby Main and Papa Grande is the recognition that gold and copper mineralization tends to crosscut all lithologies and is thus late-stage. This tendency finds its strongest expression in the auriferous late-stage quartz-sulfide veins that occur in both deposits and that have been the target for the small-scale operations of local informal miners. Though this makes it tempting to use "vein-type" or "epithermal" as an umbrella description for these deposits, these would be inaccurate labels since most of the in situ gold is not in what would conventionally be described as veins; the pervasive gold in the breccia matrix and in the masses of stockwork veinlets in the porphyries is very likely sourced from much greater depths than is typical of epithermal deposits.

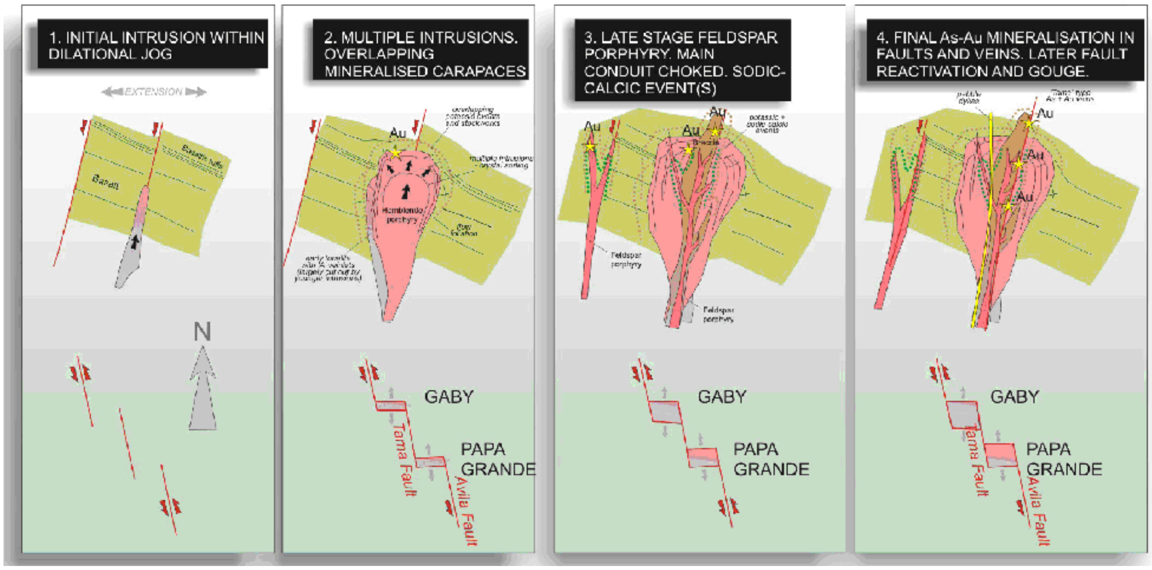
Though Papa Grande shows considerable brecciation, with the breccias often being mineralized, it is not correct to classify Papa Grande as a "breccia hosted" gold deposit. As some breccias are barren and mineralization is found in veins and veinlets that cut both breccia and wall rock, it is more likely that the late-stage mineralization is better explained by structural controls and by the permeability of the host rock.

Though the Gaby deposits are low-grade and host considerable amounts of pervasive mineralization, it is also correct to say that alteration and mineralization can be very localized at Gaby, as the success of historical small-scale mining has demonstrated. Gold is often found in narrow corridors and chimneys, with little alteration or associated mineralization in the surrounding wall rock. This strongly linear geometry of many of the high grade gold zones is probably the result of an intersection of planar structures. For this reason, some of the mineralization at Gaby could be described as "structurally controlled", but with the same caveat as given above for the "vein-type" label: this does not categorize the majority of the in situ gold.

8.2 Pratt's simplified genetic model

Figure 8.1 shows Pratt's synthesis of the available geological observations (and their many complications) into a simplified geologic model of ore genesis for the Gaby deposits.

Figure 8.1
Pratt's Schematic for a Genetic Model for Gaby Main and Papa Grande



In Pratt's model, which shares much in common with the model proposed by Corbett, faulting of the oceanic basalts creates a weakness that later becomes the pathway for a series of porphyritic intrusions, including the hornblende porphyry that now dominates much of Gaby Main and Papa Grande. Gold enters the system initially in the hydrothermal fluids that create the early potassic alteration, and then again later, in much greater quantity, with the sodic-calcic alteration that accompanied feldspar porphyry intrusions. These later intrusions tend to follow planar weaknesses created by faults and fractures, shattering the older rocks and creating much of the breccia that is now observed. The pebble dikes and the Tama-style veins were formed during a final stage of reactivation of major faults, which was accompanied by sericitic alteration in the immediate vicinity of these reactivated faults.

9.0 MINERALIZATION

9.1 Mineralization Style

In order of economic importance, the generalized styles of Au–Cu mineralization that have been noted in the Gaby deposits are:

- Mineralization occurring with sulfides in porphyry intrusives and in the matrix of breccias;
- Mineralization associated with quartz veining;
- Gold occurring as an enrichment in the saprolite that overlies the intrusives and the breccia zones; and,
- Minor quantities of gold that occur in eluvial material and as placer gold in streams.

9.2 Mineralogy

In the mid-1990's, Hazen conducted a mineralogical examination of samples taken from Gaby Main of the first of these styles of mineralization. They observed that sulfides make up 2–3% of the ore, consisting mostly of pyrite, pyrrhotite and chalcopyrite that occur in a disseminated form or in small veinlets. Minor quantities of magnetite and ilmenite were also noted in this main ore type.

In the Hazen samples, copper occurred only as chalcopyrite. Arsenic occurred only as arsenopyrite, which was seen only in trace amounts in the main ore type, but is more abundant in the late-stage quartz veins that host the second style of mineralization.

Hazen observed that gold particles occur mostly as liberated, solid nuggets, as flakes and, less commonly, as elongated particles. Most of the gold grains they observed would not be readily visible in hand specimen, ranging from 40 to 200 µm in size, with an average around 75 µm. Minor amounts of fine refractory gold, less than 5 µm were also noted, typically as inclusions in pyrite.

9.2.1 Implications of Mineralogy for Resource Estimation

The association of gold with certain minerals, primarily pyrite in conjunction with other sulfide minerals, provides another readily observable geological characteristic that might be used to zone or domain the deposits into regions of weaker and stronger mineralization.

With much of the gold being liberated, and some if it being flaky or elongated, it may be difficult to prepare homogenous and representative sub-samples from drill hole sample material. Repeatability of assays may be poor, with duplicates of coarse rejects showing considerably more variability than duplicates of pulp rejects, and field duplicates (or duplicates from the two halves of split core) showing even more variability still

10.0 EXPLORATION

Historical exploration is described in Section 6.1 and more recent exploration activities are discussed in Section 11.0 of this Technical Report.

11.0 DRILLING

Table 11.1 summarizes the number of holes and total length drilled in each of the major drilling campaigns since 1990. The total number of holes drilled on the Gaby Main and Papa Grande deposits is 441 with a total length of 67,083 meters. Figure 11.1 shows the drill hole collar locations for all the drilling completed on the property.

Table 11.1
Summary of Drilling for the Various Drilling Campaigns

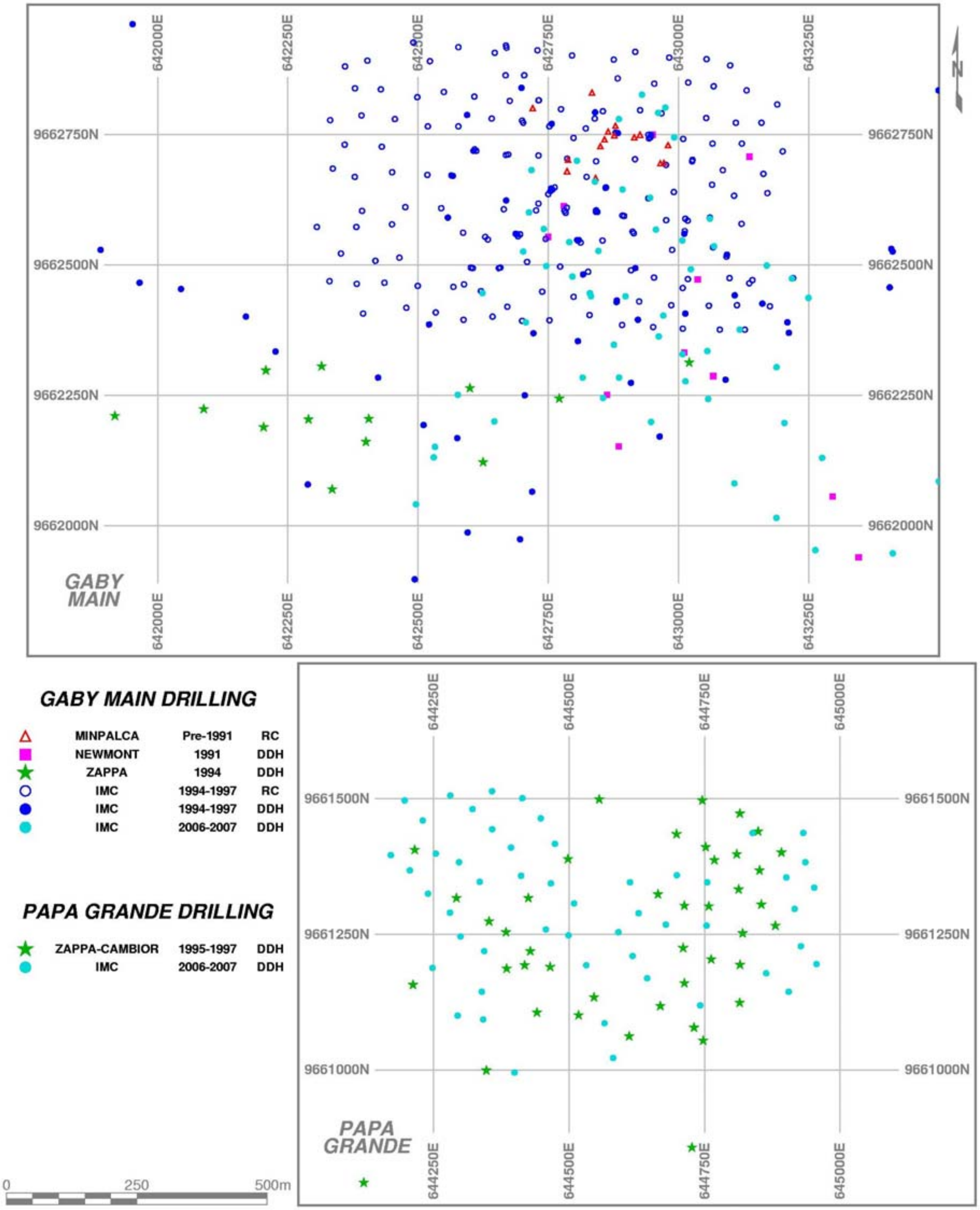
GABY MAIN				
Company	**Time**	**Type of Drilling**	**Number of holes**	**Total length (m)**
Minpalca	Pre-1991	Reverse circulation	15	832
Newmont	1991	Diamond drill core	11	2,160
Zappa	1994	Diamond drill core	13	2,652
IMC	1994–1997	Reverse circulation	175	10,635
IMC	1994–1997	Diamond drill core	71	18,713
IMC	2006–2007	Diamond drill core	50	14,398
TOTAL			**335**	**49,390**
PAPA GRANDE				
Zappa–Cambior	1994–1997	Diamond drill core	54	6,119
IMC	2006–2007	Diamond drill core	52	11,574
TOTAL			**106**	**17,693**

The sulfide resource at Gaby Main has been tested by roughly 40,000 m of diamond drilling from approximately 150 drill holes. At Papa Grande, the sulfide has been tested by roughly 15,000 m of diamond drilling from slightly more than 100 drill holes. At Gaby Main, there are nearly 200 additional short reverse circulation holes that test the saprolite resource.

The typical drill hole spacing in both deposits is roughly 50 m, with certain areas being more densely drilled, particularly in the Gaby Main saprolite.

Though five different companies have drilled the Gaby deposits, the vast majority of the drilling currently available was done by IMC. At Gaby Main, the IMC drilling accounts for over 90% of the meters drilled. At Papa Grande, where the Zappa–Cambior joint venture conducted all of the early drilling, the IMC holes still account for 65% of the meters drilled.

Figure 11.1
Drill Hole Collar Locations for all Drilling



11.1 Gaby Main Drilling Campaigns

Minpalca Drill Holes

The first drill holes on the Gaby Main deposit were the 16 reverse circulation (RC) holes drilled by Minpalca (OGRC01–OGRC16). These were all vertical holes that tested the saprolite and only the upper parts of the underlying sulfide resource, with none of the holes being longer than 70 m in length. As shown by the open red triangles on Figure 11.1, all of the Minpalca holes were in the northern part of Gaby Main, in the vicinity of the Santa Monica Tunnel.

Newmont Drill Holes

In 1991, Newmont drilled 11 diamond drill holes (GDD01–GDD11) along the eastern edge of the Gaby Main deposit. These holes used NQ diameter core (1.875 inches) and were all inclined at –60°, with 8 varying azimuths, to target structures extrapolated to depth from their surface expression. The Newmont holes were 140–300m in length and were the first to test the sulfide mineralization. Core recovery was said to be good, usually close to 100% in the sulfide.

Zappa Drill Holes

In 1994, Zappa drilled 13 diamond drill holes (GUA01–GUA13) in the southwestern limb of the Gaby Main deposit. These NQ holes were all inclined, with all but two of them drilled at roughly –60° to the south to intersect tabular feldspar porphyry units that dipped to the north. Most of the Zappa holes were 160-190 m in length and therefore reached well into the sulfide mineralization.

IMC Drill Holes

As shown by Figure 11.1, the vast majority of the drill holes were drilled by IMC in two separate phases, roughly a decade apart.

In the mid-1990's IMC drilled 175 reverse circulation holes that covered all of the northern part of Gaby Main. All but a very few of these holes were drilled with inclinations of –60° to the east. Most were short, 30 to 40 m, and targeted the saprolite; the final few dozen holes from this campaign were longer, 100 to 200 m, and sampled the sulfide mineralization. For its reverse circulation drilling, IMC used face-sampling hammer bits varying in diameter from 5½ to 5¾ inches.

During the mid-1990's, IMC also drilled 71 diamond drill holes. Almost all of these were collared on the NE–SW section lines shown on the map at the top of Figure 7.3, and drilled in a southwesterly direction, with dips of –55° to –70°, typical of what is seen on the cross-section shown at the bottom of Figure 7.3. They were usually 200–300 m in length and provided the first extensive sampling of the deeper sulfide mineralization.

When IMC resumed drilling on the Gaby properties in 2006, as a result of improving gold prices, the focus was on core drilling of the sulfide resource. By the fall of 2007, when these resource estimation studies were being done, they had drilled an additional 46 diamond drill holes in Gaby Main (GBY015 through GBY027A and GBY031 through GBY063). As with the core drilling a decade earlier, these more recent core holes are aligned on the main section lines, drilled to the southwest with orientations ranging from –55° to –70°. Most of them are similar in length to the earlier IMC core holes, 200–300 m, but a few are very deep holes that were designed to test the deeper parts of the system.

For all of its diamond drill holes, both the 1990's drilling campaigns and the current drilling campaign, IMC has used predominantly HQ diameter core (2½ inches) for its drilling at Gaby, with NQ diameter core being used to complete some of the deeper holes and in locations where poor ground conditions made HQ drilling difficult.

Recovery of material from the IMC drill holes at Gaby Main averages 65–70% for the RC drilling (which typically targets saprolite) and over 95% for the core drilling, approaching 100% in the sulfide portions of the core holes.

11.2 Papa Grande Drilling Campaigns

Zappa–Cambior Drill Holes

In the mid-1990's the Zappa–Cambior joint venture drilled 54 diamond drill holes, predominantly NQ, at Papa Grande. Almost all of these were collared on the 50 m section lines seen in the top map in Figure 7.4 and were drilled with an inclination of –45° to the southwest, typical of what is seen on the cross-section shown in the lower part of Figure 7.4. They ranged in length from 100 m to 200 m and provided extensive testing of the sulfide resource at Papa Grande.

The 1997 Cambior report describes the core recovery from the Zappa–Cambior holes as being in the 90–95% range. Experience from the recent IMC drilling suggests that this is likely an average of <90% recovery in saprolite material and >95% in fresh rock.

IMC Drill Holes

IMC's drilling of the Papa Grande deposit began in 2006. By the time of these resource estimation studies, IMC had drilled 52 diamond drill holes (PPG013 through PPG064) using the same general strategy as was used for the Zappa–Cambior holes: collared on 50 m sections, and inclined at –45° to the southwest. These recent IMC holes are, on average, about 50% longer than the Zappa–Cambior holes, with lengths typically being 150–300 m. As with their drilling at Gaby Main, IMC uses predominantly HQ core at Papa Grande, with NQ core being used to complete some of the deeper holes and in locations where poor ground conditions make HQ drilling difficult.
Recovery of material from the IMC drill holes at Papa Grande averages 86% in saprolite and colluvium, and 98% in sulfide material.

Downhole Surveys

There is little historical documentation on the procedures used to measure down-hole orientations in drill holes. The 1997 MRDI report on Gaby Main states that:

"Downhole deviation surveys were carried out using a Sperry Sun Peewee single shot camera. The core was first checked by a geologist for the presence of magnetite in order to avoid placing the instrument where it would provide erroneous azimuths. If magnetite was detected prior to the survey, downhole depth readings were adjusted accordingly to avoid magnetite zones. Photos were routinely taken at the bottom of the casing, every 100 m, and at the bottom of the drill hole."

This likely describes the procedures followed by IMC for their own core drill holes at Gaby Main during the 1990's; though this has not yet been confirmed, it is assumed that IMC is using the same procedures for their more recent drilling, both at Gaby Main and at Papa Grande. The down-hole survey procedures are not documented for the core holes of Newmont and Zappa at Gaby Main, for the Zappa–Cambior holes at Papa Grande, and for the reverse circulation holes of Minpalca and IMC at Gaby Main.

The 1997 MRDI report goes on to describe how "kinks" in the down-hole trajectories were identified and corrected, which indicates that some manual modifications have been made to the raw survey data provided by the Sperry Sun instrument.

For these resource estimation studies, IMC did not provide to FSS the down-hole survey data but provided instead a data file that contained desurveyed X,Y,Z locations for the centerpoint of every sample interval that were calculated using Micromine, a commercial software package for mining applications. FSS has checked that the drill hole traces, as recorded by the points desurveyed in Micromine, are plausible, that they correspond to the collar orientation reported in the drill hole collars file, and that they agree with various cross-sectional drawings provided by IMC and also with those shown in the MRDI and Cambior reports.

Notwithstanding the lack of detail and supporting documentation on down-hole surveys, the checks done by FSS on the drill hole trajectories confirm that the sample locations reported by Micromine are adequate for resource estimation purposes.

11.3 Data Logging and Geological Description

IMC has compiled and maintained an extensive description of various geologic characteristics visible at the macroscopic scale for the drill core and the RC chips: lithology, mineralogy, alteration and structure (including the type and frequency of veins). IMC has attempted to incorporate geological descriptions from the drill logs of other companies into their own system, but with IMC's suite of logged characteristics being broader and more detailed than those used by other companies, some of the geological information for non-IMC holes is missing.

As indicated by the studies of several different geologists and confirmed by statistical analysis, the geological controls on mineralization at Gaby are complex and not easily boiled down to a simple dependence on lithology, alteration, or on structure. Rather than depending on any one of these, mineralization is related to all of them. More so than for many other deposits, the descriptive geological logging for Gaby is therefore a very important source of information for modelling the geological controls on mineralization.

IMC's approach to geological logging makes extensive use of integer codes to record intensity or abundance. This is a good approach because it avoids much of the arbitrariness and subjectivity that comes from different geologists' visual judgment of abundance. When asked to log pyrite abundance on a scale of 1 to 5, for example, different geologists are more likely to provide consistent descriptions than when they are asked to directly estimate the percentage of pyrite.

Occasionally, there appears to be some misunderstanding of the way that the integer coding is intended to be used. In the logging of sulfide minerals, for example, the Papa Grande data base clearly uses only a 1-5 integer coding; the coding of sulfide mineralogy in the Gaby Main data base, on the other hand, seems to be a combination of integer coding on a 1-5 scale and direct visual estimation of the actual percentage. The best use of the geological logging is also compromised by the occasional use of letter codes in what are supposed to be integer fields (e.g. "AL" in the field that uses a 0/1 code to record the presence/absence of visible molybdenite) and of different codes for the same thing (e.g. both "Coll" and "Col" being used to log colluvium in the lithology field). Despite these occasional difficulties with the geological data base, it still serves an excellent source of information for the statistical analysis of the controls on mineralization presented later in this report.

12.0 SAMPLING METHOD AND APPROACH

12.1 Sample Collection

Sample Collection From IMC's Reverse Circulation Holes From the 1990's

For the RC drilling conducted by IMC, a split (either $^{1}/_{8}$ or $^{1}/_{16}$) was designated as the "Lab Sample". For dry samples above the water table, the Lab Sample split was obtained using a Jones or Gilson splitter; for wet samples below the water table, a 16-port rotary splitter was used. At the Gaby project site, the Lab Sample was weighed prior to drying, dried and weighed again, then shipped to Bondar-Clegg in Quito for final preparation.

The 1997 MRDI report notes that problems in the early stages of IMC's RC drilling led to discrepancies in calculations of the recovery, and that these were subsequently corrected. It also notes early problems with the settings on the rotary splitter used for wet samples, and with the loss of fines caused by overflow. Of these various problems, all of which were noted and corrected early in the RC drilling program, the one that likely has the biggest impact on resource estimation is the loss of fines. In samples where this occurred, there would have been a loss of gold in the Lab Sample, leading to an assay that likely understates the true gold content. This will be a conservative bias (gold resources will be slightly underestimated) but is very minor since it affects only a small percentage of the total assays available for estimation and these influence mainly the saprolite resource estimates.

Sample Collection From IMC's Diamond Drill Core Holes From the 1990's

In the 1990's core from IMC's diamond drill holes was transported to the Gaby sample preparation facility, where it was photographed, logged and sawn with a diamond saw. A thin sliver (approximately $^{1}/_{8}$) was cut from the edge of the core and retained for archive purposes. Initially, the remainder (approximately $^{7}/_{8}$ of the total core) was weighed and sent to Bondar-Clegg's sample preparation facility in Quito. By late 1995, a further $^{1}/_{8}$ split was retained from the non-archive core for metallurgical test purposes. These metallurgical test samples were obtained by crushing the non-archive core to minus 1 inch using an on-site 3 inch × 5 inch jaw crusher and a Jones splitter. Once the metallurgical split had been obtained, the remaining $^{7}/_{8}$ of the crushed non-archive core was shipped to Bondar-Clegg in Quito for final preparation.

13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

13.1 Sample Preparation

Final Preparation by Bondar-Clegg in Quito

Once at the Bondar-Clegg facility in Quito, the IMC samples were crushed (if they had not already been crushed on-site) to minus 10 mesh using a Rhino jaw crusher. The crushed material was then pulverized to 90% passing minus 150 mesh in a "Blaster Mill", which produces a very large fine fraction (typically more than 99% of the sample) and a very small coarse fraction.

The material in the fine fraction from the Blaster Mill was collected in a plastic barrel and homogenized using a rotating barrel mixer. After mixing, a 100 g split was obtained for assaying purposes, and a 200 g split was retained as pulp material available for future studies. These sub-samples were initially obtained directly from the mixing barrel using a pipe sampler. By late 1995, a Jones splitter was used to produce the analytical and archival splits. The remaining fine material was weighed, bagged, labeled and returned to the Gaby project site for storage.

The material in the coarse fraction was washed out of the Blaster Mill with water and collected in a plastic bag. Excess water was decanted from the bag and the coarse material was then dried, weighed, re-bagged, labelled and shipped to Bondar-Clegg's Vancouver laboratory along with the corresponding 100 g split of the fine material.

13.2 Assays

The current drill hole data base contains a combination of several different types of assays for different metals and elements. All of the drilling campaigns at Gaby Main have included assays for gold. Silver, copper, molybdenum and arsenic assays were also included in some of the early drilling campaigns. In the 1990's IMC began the practice of obtaining a full multi-element suite of ICP assays for its core holes.

In addition to collecting assays from drill holes, IMC and other companies have also assayed material collected from surface studies, such as road cuts and trenches, as well as from studies conducted in the near-surface tunnels used by local informal miners. None of these assays from surface and near-surface investigations has been used to calculate resource estimates for the block models presented in this report. It is noted that these surface samples were used in a qualitative manner to check that there were no blocks estimated to have saprolite ore in regions where surface samples were only weakly mineralized. Apart from this check of consistency, the surface samples have not been used in these studies.

13.2.1 Gaby Main Assays

Minpalca Assays

The assay data base contains 416 gold assays from the Minpalca drill holes, all of which were used for the resource estimates presented in this report. The sample preparation procedure(s) and analytical method(s) used to obtain these assays are currently undocumented. As noted elsewhere in this report, the Minpalca drill holes affect only the region immediately around the Santa Monica tunnel and focus on the saprolite material in this area. With several more recent drill holes in this same area, the lack of documentation on 416 assays (out of a total of 24,801 assays at Gaby Main) does not materially affect the resource estimates. Nevertheless, IMC should make efforts to locate reports, notes or memos that explain how Minpalca prepared the samples and how they were assayed.

Newmont Assays

The assay data base contains 1,084 gold assays from the Newmont core holes. The assay data base also lists silver assays for all of the Newmont samples, but many of these are exactly 0 g/t Ag and other documentation indicates that many of these zeros should be interpreted as non-assays. Copper and molybdenum assays exist for all of the Newmont samples, except for GDD06; the absence of Cu and Mo assays for this one hole is unexplained. No arsenic assays are contained in the current data base, though historical documentation suggests that Newmont did assay for arsenic.

For the gold and copper resource estimates presented in this report, all of the Newmont gold and copper assays were used. The copper assays for GDD06 were treated as missing (rather than as zeros).

MRDI's 1997 report describes Newmont's sample preparation and analysis procedures as follows:

"All core was sawn with a diamond saw and geotechnicians were instructed to cut perpendicular to any observed veins and to try to make the two core halves as similar as possible

The sample preparation was performed by Bondar-Clegg in Quito, using what was then their new sample preparation facility. The entire 2 m half split of core was crushed to minus 10 mesh, then split to yield an approximately 300 gram sample, which was run through a ring and puck pulverizer to 90 percent passing minus 150 mesh. The assay samples were originally shipped to Bondar-Clegg in Vancouver, but long turn-around times resulted in Newmont using Bondar-Clegg's Reno laboratory for most of the project. Samples were fire assayed with an atomic absorption finish (FA/AA). Additional elements analyzed included copper, arsenic, molybdenum and silver. Silver analyses were discontinued in mid-project because levels were found to be consistently low."

Zappa Assays

The assay data base contains gold and copper assays for 1,583 sample intervals from the Zappa core holes at Gaby Main. Over 80% have an arsenic assay. None of the Zappa samples has a silver or molybdenum assay.

For the gold and copper resource estimates presented in this report, all of the available Zappa gold and copper assays were used. Where the assay value is given as NS, typically in the first sample interval where the hole was cased, the Au and Cu assays were treated as missing (rather than as zeros).

MRDI's 1997 report describes Zappa's sample preparation and analysis procedures as follows:

"All Zappa core was first sawn in half and one half was stored in boxes in the local town of Ponce Enriquezz while the other half was crushed on-site in a jaw crusher to minus 10 mesh and shipped to Bondar-Clegg in Quito. At Bondar-Clegg the entire sample was dried and then further crushed to minus 50 mesh using an LM-2 [ring and puck] pulverizer. A 250 gram riffle split was then pulverized to minus 150 mesh in a ring and puck pulverizer and sent to Bondar-Clegg in Vancouver. A one assay ton sample was fire assayed with an atomic absorption finish (FA/AA) for gold. Geochemical analyses were also routinely carried out for copper. At EMC's request, all Zappa samples were later analyzed for arsenic by Bondar-Clegg Labs in Vancouver."

IMC Assays From the 1990's RC Drilling Campaigns

The assay data base contains gold, copper and arsenic assays for 5,435 sample intervals from IMC's reverse circulation holes at Gaby Main. Almost all of these (>96%) also have silver assays; but a third of these are exactly 0 g/t Ag and other documentation suggests that these should be interpreted as non-assays. The current assay data base contains no molybdenum assays for IMC's RC drilling, even though historical documentation indicates that molybdenum assays were obtained from some of the early RC holes drilled by IMC.

All of the gold and copper assays from IMC's RC drilling were used for resource estimation at Gaby Main. For the few intervals (41 for gold, 57 for copper) where the assay field is blank or contains "NS", the assay value was treated as missing (rather than as a zero).

IMC Assays From the 1990's Diamond Drilling Campaigns

The assay data base contains gold, copper and arsenic assays for 9,144 sample intervals from IMC's diamond drill holes at Gaby Main.

Several of the 1990's IMC diamond drill holes are missing their gold assays in their entirety: CAL02, CAL07, MUY014, MUY015 and MUY016; the lack of gold assays in these drill holes is unexplained in documentation currently available, and is somewhat surprising since copper and arsenic assays are available for these holes. The saprolite portion of the GD series holes was generally not assayed for gold, and the volcanics in the MUY series holes often have assays only in every other sample interval since this rock type is generally regarded as weakly mineralized.

Copper and arsenic assays are generally available for all the IMC diamond drill holes from the 1990's. As with gold, the saprolite portion of the GD series holes is often not assayed for copper or arsenic; and the volcanics in the MUY series holes often have assays only in every other sample interval.

Silver assays exist for the GD series holes. Even though almost half of these are reported as 0 g/t Ag assays, these appear to be genuine zeros since they occur interspersed with very low grade silver assays in the same drill holes; for example, in the same GD series holes, over 40% of the silver assays are explicitly recorded as 1 g/t Ag, which is consistent with a similar percentage of the sample intervals in these holes having silver grades so low that they report below the detection limit, and are entered into the data base as zeros. In future resource estimation studies, where silver estimates are likely to be included in the block model, the zeros from these GD series holes should be included as true zeros, and should not be treated as missing values.

No molybdenum assays exist in the current data base for any of IMC's 1990's diamond drill holes. All of the available gold and copper assays from IMC's 1990's DDH drilling were used for resource estimation at Gaby Main. For the intervals (685 for gold, 304 for copper) where the assay field is blank or contains "NS", the assay value was treated as missing (rather than as a zero). Almost all of these are unsampled saprolite material at the top of the GD series holes, or unsampled volcanic material in the MUY series holes. The other missing gold grades are those in the holes that are missing their gold assays in their entirety.

Assaying by Bondar-Clegg in Vancouver

At Bondar-Clegg's laboratory in Vancouver, two assays were obtained for each sample, one for the fine fraction and one for the corresponding coarse fraction. These two assays were then weight-averaged to obtain a final assay for each sample interval, with the weight of the fine fraction being provided from Bondar-Clegg's preparation facility in Quito, and the weight of the coarse fraction being measured by Bondar-Clegg in Vancouver.

The gold assay of the fine fraction was obtained by fire assay with an atomic absorption finish (FA/AA) of a one assay ton (30 gram) sub-sample taken from the 100 grams shipped from Quito. For the coarse fraction, the sample shipped from Quito was assayed in its entirety using fire assaying with a gravimetric finish.

The 1997 MRDI report states that the coarse fraction typically accounted for about 10% of the total gold in the final combined assay but that it could, in rare cases, account for more than half of the total gold attributed to a sample interval.

Assays from IMC's Current Drilling

As of November 2007, the cutoff date for the drill hole data used in the resource models presented in this report, the Gaby Main assay data base included 7,141 sample intervals from the core holes drilled by IMC in 2006 and 2007. Gold, silver, copper, arsenic and multi-element ICP assays exist for virtually all of these intervals, the two minor exceptions being the casing intervals for GBY022 and GBY023.

Molybdenum assays were obtained from the first seven holes in 2006, but with a third of these being below the detection limit of 5 ppm and only four reaching 0.01% Mo, the potential for economically viable concentrations of molybdenum seemed extremely limited and molybdenum assays were dropped for the remainder of the current drilling program.

13.2.2 Papa Grande Assays

Zappa–Cambior Assays

The Papa Grande assay data base includes 2,633 sample intervals from the core holes drilled by the Zappa–Cambior joint venture in the 1990's. Gold assays exist for virtually all of these intervals, the only notable exceptions being the casing intervals at the top of the holes, and, less frequently, some of the saprolite intervals. Copper assays exist for virtually all of the sample intervals in the Zappa holes, and for only the first 20 Cambior holes. Silver and molybdenum assays exist for 17 of the Cambior holes, and none of the Zappa holes. The current assay data base contains no arsenic assays for the pre-IMC drilling at Papa Grande. Nor does it contain any of the multi-element ICP analyses that are briefly mentioned in the 1997 Cambior report.

The 1997 Cambior report provides a thumbnail sketch of the sample preparation and analytical procedures used by the Zappa–Cambior joint venture: 2 m intervals of core were halved and sent to a Bondar-Clegg laboratory, where a one assay ton (30 gram) sample was assayed for gold using a fire assay with an atomic absorption finish (FA/AA). Total copper assays were also done in 1995, but were felt to be too low to be worth continuing. In 1996 and 1997, Cambior reports that a 34 multi-element suite of ICP analyses was done for all samples.

IMC assays

As of November 2007, the cutoff date for the drill hole data used in the resource models presented in this report, the Papa Grande assay data base included 5,841 sample intervals from the core holes drilled by IMC in 2006 and 2007. Gold, silver, copper and multi-element ICP assays exist for virtually all of these intervals.

No separate arsenic or molybdenum assays are listed in the data base for IMC's Papa Grande drilling, though both of these are among the elements in the ICP suite for which analyses are now routinely being done.

The procedures used to collect and prepare the samples from IMC's Papa Grande holes, and the analytical procedures used for assaying these samples, are the same as those described earlier for the samples IMC is currently collecting from its Gaby Main drill holes.

13.2.3 Importance of Assays From Different Campaigns

Table 13.1 summarizes the assay information in the Gaby Main and Papa Grande data bases used for these resource estimation studies. Though there are questions about certain assays, or groups of assays, they mainly pertain to the small and geographically restricted drilling campaigns of other companies that have only a very minor impact on the global resource estimates.

Table 13.1
Summary of Assay Information from Gaby Project Data Base

GABY MAIN									
Company	**Time**	**Type**	**# of sample intervals**	**Total length(m)**	**% of total length assayed**				
					Au	Cu	Ag	As	Mo
Minpalca	Pre-1991	RC	416	832	100				
Newmont	1991	DDH	1,084	2,160	100	91	<86‡		
Zappa	1994	DDH	1,583	3,102	98	98		86	
IMC	1994–1997	RC	5,435	10,944†	99	99	<95‡	100	
IMC	1994–1997	DDH	9,144	18,411†	92	96	32	96	
IMC	2006–2007	DDH	7,141	14,398	100	100	100	100*	100*
PAPA GRANDE									
Zappa–Cambior	1994–1997	DDH	2,633	6,119	96	52	32		32
IMC	2006–2007	DDH	5,841	11,574	100	100	100	100*	100*

†Lengths differ from Table 11.1because some core holes were pre-collared as RC.
‡Many of the 0 g/t entries are probably non-assays.
*Including ICP analyses.

14.0 DATA VERIFICATION

14.1 QA/QC of Drill Hole Data

The QA/QC programs for the 1990's drilling was reviewed by MRDI (for Gaby Main) and by Cambior (for Papa Grande). All of the major drilling campaigns used conventional QA/QC programs involving blanks, field duplicates and control standards. The reviews of the QA/QC data from these programs in the 1990's reports led to the general conclusion that, although there is no apparent systematic bias in any of the assays, there is considerable variability between duplicate samples. Cambior's report, in particular, draws attention to the very high variability, and concludes that this is likely due to the difficulties caused by having a heterogeneous mixture of barren grains with very few liberated gold grains, and exacerbated by the fact that these few gold grains often approach 100 microns in size. Cambior's suggestion for future attempts to mitigate these heterogeneity problems was to base the assays on a larger (50g) aliquot. They did not implement this suggestion, however, and there is no available data that documents whether or not this suggestion would have improved matters.

MRDI also noted heterogeneity problems, and encouraged the use of alternate analytical methods.

With the resumption of drilling in recent years, IMC has again instituted a QA/QC program involving blanks, control standards and duplicates. Preliminary analysis of the data from these programs shows variability problems similar to those noted in the 1990's reports. The assays of certified reference materials indicate that there is no systematic bias in the current assays, which entails that resource estimates will be globally unbiased. The high level of variability between duplicates, however, entails that resource estimates may be locally unreliable. While the block models reported here are felt to be reliable as the basis for a global inventory, and should provide a good basis for preliminary investigations into pit designs and for other pre-feasibility engineering studies, they will often not be a reliable basis for detailed scheduling and optimization.

The variability of assays also has future implications for grade control. Until sample preparation and analytical procedures can be developed for controlling the variability of assays, the uncertainty caused by the nature of the gold mineralization (a few medium-sized liberated grains in a sample of much more barren material) is going to make it very difficult to delineate the boundary between ore and waste. A conventional grade control program based on blasthole assays will incur a high degree of misclassification, with ore material ending up being discarded as waste, and waste material being treated as ore. The ore losses and dilution caused by this misclassification need to be taken into account in future feasibility studies.

14.2 Topography

Topographic information was provided in the form of an AutoCAD drawing with contour lines that cover most of the project site. This drawing is a composite of topographic information from several sources, including an older aerial photography survey from the 1970's and more recent topographic control points, with the latter being predominantly in the heart of the well-drilled regions of Gaby Main and Papa Grande, where drill hole collars and section lines have been surveyed with GPS equipment.

In regions where GPS measurements exist, the contour lines have been manually redrawn, digitized and then electronically spliced into the older aerial photography. This splicing has not been checked carefully, and there are many instances of "old" contour lines that simply end at the splice boundary, or that join into "new" contour lines at the splice boundary with the "new" contour line having a different elevation.

There are also several instances where incorrect elevation values have been assigned to certain contour lines in the drawing, which causes sudden spikes, or impossibly steep vertical ridges/ravines to form when the drawing is used as the basis for building a three dimensional model of the topography.

14.2.1 QA/QC of Topographic Data

Since many of the above-noted problems with the topography drawing are outside the heart of the deposit areas, a check was done of the agreement between surveyed drill hole collars and the ground elevations given by the AutoCAD drawing. With many large discrepancies of more than ±10m being noted, the decision was made to do a comprehensive adjustment of the contour map to honor all of the reliable ground survey control points, both drill hole collars and other surveyed points (mostly on section lines) and to remove all of the artifacts caused by the electronic splicing of different vintages of contour map, and by the mislabelling of contour elevations.

The final adjusted topography grid was checked against every reliable ground control point in the main deposit areas, and all discrepancies greater than ±5m were reconciled, either by dropping erratic ground control points that were deemed to be unreliable, or by re-gridding the topography locally to improve the consistency between the 3D electronic model of the ground surface and the reliably surveyed elevations of the ground.

15.0 ADJACENT PROPERTIES

There are no adjacent properties of note. To the south of Papa Grande is the informal mining community of Bella Rica that has been exploiting high grade veins in an artisanal manner for the last 20 years. No public records exist of the actual production.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Previous studies have focused primarily on crushing, grinding, agitation leaching (carbon in leach "CIL"), carbon stripping, electrowinning and smelting as the most appropriate process flowsheet for project development at Gaby. Based on a total life-of-mine plant feed in the order of 100 million tonnes, economies of scale appeared to be maximized at a plant throughput in the range of 20 to 25,000 tpd.

This Preliminary Feasibility Study provides a comparative evaluation of four fundamentally different flowsheets:

1. Agitation leaching
2. Copper flotation followed by agitation leaching (cyanidation) of combined flotation tailings
3. Copper flotation followed by agitation leaching (cyanidation) of cleaner scavenger tailings
4. Heap Leaching.

16.1 Agitation Leaching

In 1997, prior to IMC's ownership of Papa Grande, Mineral Resources Development Inc. San Mateo, California ("MRDI") completed a Prefeasibility Study based on agitation leaching that addressed only the Gaby deposit. In 2004 Mine and Quarry Engineering Services Inc. San Mateo, California ("MQes") updated the MRDI report to reflect current costs and metal prices and the treatment of what was anticipated to be higher grade feed from Papa Grande which had subsequently been acquired from Cambior. The MQes study also evaluated the incorporation of cyanide destruction ahead of tailings disposal. Both studies conclude that the project was a marginal prospect at prevailing gold prices.

This current Preliminary Feasibility Study has reevaluated all aspects of the previous work, updated costs to fourth quarter 2007 and incorporated grinding test results from both deposits in order to more accurately assess power demand and equipment sizing in the grinding circuit, major components of the overall cost structure. Results of the grinding testwork, carried out at Hazen Research, Inc. Golden Colorado ("Hazen"), were sent to Contract Support Services Inc, Red Bluff, California ("CSSI"), North American representative of JKTech for grinding circuit simulation studies.

16.2 Flotation

The MRDI study included a conceptual evaluation of flotation to produce a copper gold concentrate for export as an alternative to cyanidation. Testwork carried out at Hazen Research, Inc. Golden Colorado ("Hazen") indicated that a low grade copper-gold concentrate could only be made at a relatively low recovery and the concept was rejected on the basis of unattractive economics. In the meantime the anticipated copper grade of

0.125% and a prevailing copper price of US$3.00 per pound prompted a reevaluation of copper flotation to produce a by-product copper-gold concentrate in conjunction with agitation leaching. Testing was carried out at McClelland Laboratories in Sparks, Nevada (McClelland) and by SNF, a leading reagent manufacturer in Santiago, Chile. Conceptual costs were developed for flotation followed by agitation leaching of either combined flotation tailings or cleaner-scavenger flotation tailings.

16.3 Heap Leaching

Previously only limited heap leach testing had been carried at Gaby. Preliminary column testing on saprolitic oxide samples failed due to clay migration and solution blinding, four column tests on extremely fine crushed sulfides resulted in recoveries on the order of 65%. In mid 2006 prices for consumables, principally grinding media, cyanide, electrical power and diesel fuel had escalated projected operating costs to the point where the incremental revenues expected from agitation leaching, compared to heap leaching, were close to estimated incremental costs. Assuming 90% recovery in agitation leaching and 65 to 70% recovery in heap leaching, at (the then prevailing) $500 per ounce price of gold and the anticipated gold head grade of 0.8g/t, the net revenue per ton of ore treated is essentially the same for both processes.

The reduced revenue from heap leaching is offset by the savings in operating cost. Coupled with what was anticipated to be a significant saving in initial capital cost it was recommended that heap leaching should be re-evaluated as a possible alternative for project development. Based on a total life-of-mine plant feed in the order of 100 million tonnes economies of scale appeared to be maximized at a plant throughput in the range of 25,000 tpd.

16.4 Metallurgical Testing

16.4.1 Grinding

Results of grinding and abrasion testing on bulk samples from Gaby and Papa Grande confirmed that the major rock types in both deposits are all relatively hard and competent. Considerable variability in breakage characteristics was exhibited between rock types but both deposits appear amenable to semi-autogenous grinding followed by ball milling.

16.4.2 Agitation Leaching

Extensive agitation leach testing in the mid 1990's on material from Gaby was used as the basis for this study, supplemented by limited information generated on Papa Grande by Cambior, the previous owners. No additional agitation leach testing has been carried out.

16.4.3 Flotation

Preliminary flotation testing on samples from both Gaby and Papa Grande have confirmed earlier suggestions that it might be possible to produce a relatively low grade but commercially viable by-product copper concentrate for export to third party smelters. Open circuit cleaning produced "final" concentrate grades in the range of 18% copper, containing around two ounces of gold per tonne.

16.4.4 Heap Leaching

In July 2006 samples representing what were (then) considered to be the five major rock types in the deposits were shipped to McClelland Laboratories in Sparks, Nevada for column testing to simulate heap leaching of secondary and tertiary crushed feed. Disappointingly low recoveries at the coarser feed size confirmed the earlier decision to focus on tertiary crushing as the most likely alternative for heap leaching.

16.5 Metallurgical Recoveries

The metallurgical recoveries used for the various operating scenarios studied are presented in Table 16.1.

Table 16.1, Summary Cost and Metallurgical Recoveries by Process Alternative.

Process Alternate	Recovery %	
	Gold	**Copper**
Agitation Leaching – Gaby	89	0
Agitation Leaching – Papa Grande	89	0
Copper Float, Leaching Combined Tails - Gaby	89	60
Copper Float, Leaching Combined Tails – Papa Grande	89	60
Copper Float, Leaching Scavenger Tails – Gaby	78	60
Copper Float, Leaching Scavenger Tails – Papa Grande	78	60
Heap Leaching - Gaby and Papa Grande	56	0

17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

17.1 Summary

Resource estimates for the Gaby Main and Papa Grande deposits have been calculated to take into account recent drilling by IMC that supplements the drilling done by several companies, including IMC, in the 1990's.

Table 17.1 summarizes the current estimates of tonnage and grade for the project. The Gaby Project is currently seen as a low-grade, bulk mining project; the gold cutoff grades included in the table span a range of cutoffs that, for the various mining and process options currently under consideration, are close to internal cut-off in the sense that gross revenue from produced metal covers processing costs and G & A.

Table 17.1
Estimate of Gaby Mineral Resources (FSS Canada Consultants Inc. - January 2008)

SAPROLITE + BEDROCK						
Category	**Cutoff (g/t Au)**	**Tonnes (Mt)**	**Au Grade (g/t)**	**Cu Grade (%)**	**Au (Moz)**	**Cu (t)**
Measured	0.3	62.4	0.618	0.088	1.24	55,000
	0.4	**45.7**	**0.716**	**0.095**	**1.05**	**43,500**
	0.5	31.7	0.834	0.102	0.85	32,300
Indicated	0.3	407	0.52	0.085	6.8	344,700
	0.4	**262.8**	**0.614**	**0.091**	**5.19**	**240,300**
	0.5	161.1	0.719	0.097	3.72	155,800
Inferred	0.3	205.7	0.529	0.075	3.5	153,800
	0.4	**122.3**	**0.654**	**0.078**	**2.57**	**95,100**
	0.5	76.5	0.778	0.076	1.91	58,100
Measured + Indicated	0.3	469.5	0.533	0.085	8.04	399,700
	0.4	**308.4**	**0.629**	**0.092**	**6.24**	**283,800**
	0.5	192.8	0.738	0.098	4.57	188,100

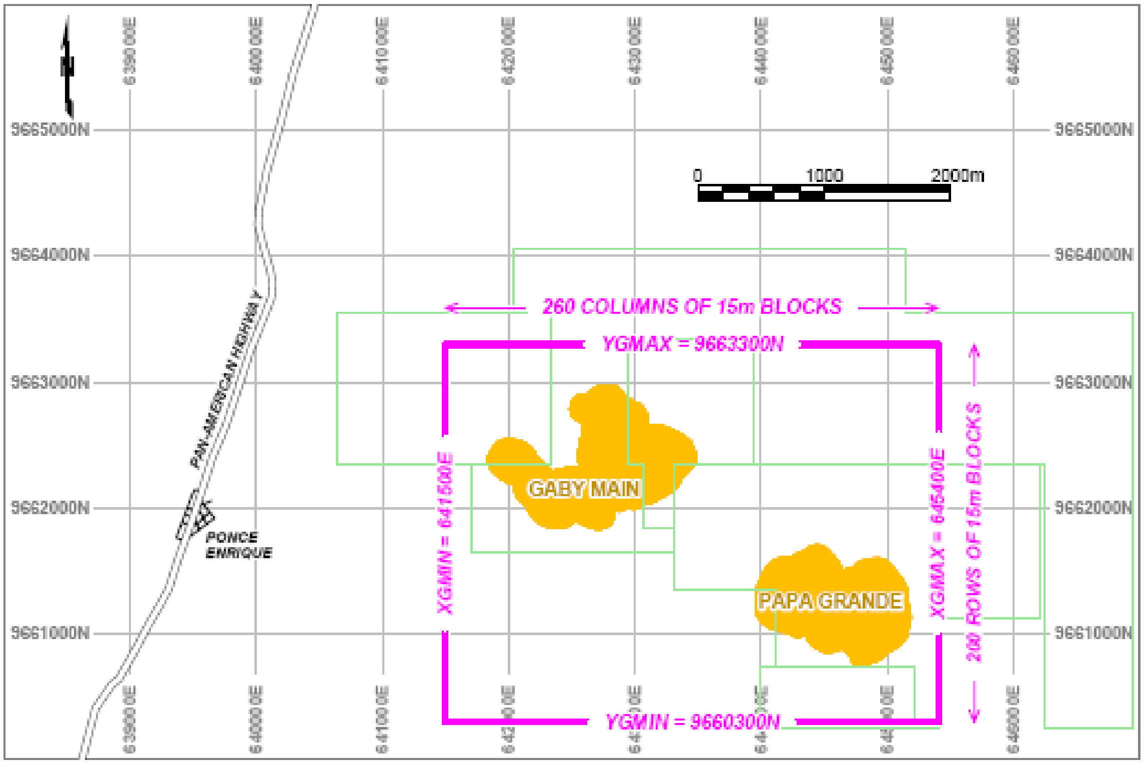
A Measured and Indicated mineral resource estimate of 308 million tonnes ("Mt") at an average grade of 0.63 g/t gold at a 0.4 g/t cut-off containing 6.2 million ounces of gold has been delineated. Additional Inferred resources are estimated to be 122 Mt at an average grade of 0.65 g/t gold containing 2.6 million ounces of gold.

17.2 Estimation Methodology

17.2.1 Block Model Configuration

Figure 17.1 shows in map view the configuration of the block model that spans both the Gaby Main and Papa Grande deposits in a single model.

Figure 17.1
Configuration of the Resource Block Model



The resource blocks are 15×15×10 m, a volume that reflects a bulk mining scenario. With the drilling currently providing coverage that approximates a 50×50 m grid (or tighter in certain areas), the resource blocks are approximately ⅓ the drill hole spacing in the horizontal direction. At this size, the smoothness of the estimates relative to the variability of actual block grades can easily be controlled through an appropriate search strategy.

In the east-west direction, the block model goes from 641,500E to 645,400E with 260 columns of 15 m blocks. In the north-south direction, the blocks go from 9,660,300N to 9,663,300N with 200 rows of 15 m blocks. In the vertical direction, the blocks go from an elevation of 20 m above sea level to 1070 m above sea level, with 105 levels of 10 m blocks.

17.2.2 Grade Estimation in the Saprolite

With the saprolite variograms being “well-behaved”, and the drilling being fairly dense (relative to the range of the variogram), reliable estimates of grade in the saprolite can be obtained by a conventional kriging.

The base of saprolite has been interpreted on the NE–SW sections; the saprolite thicknesses from these sectional interpretations were then interpolated to produce a two dimensional grid of saprolite thickness. The thickness of saprolite over Gaby Main is typically 15–20 m; over Papa Grande, the saprolite is typically 10-15 m thick.

All sample intervals lying above the estimate base of saprolite were back-flagged as saprolite samples; although this entails that some bedrock samples were reclassified as saprolite samples, it also ensures that samples always get to influence the estimate of the block in which they fall.

Within each 15×15×10 m block, the volume proportion of saprolite was estimated by clipping the block with the topography and the estimated base of saprolite. For any block that had a non-zero proportion of saprolite, gold and copper grade estimates were calculated using the nearby samples that were back-flagged as saprolite.

Grade estimates were calculated using ordinary kriging with the variogram model. The search ellipsoids were identical to the ellipsoid of the ranges of correlation of the variogram model. A maximum of four samples were retained in each octant, and a minimum of two samples was needed to do an estimate. If the block being estimated contains samples that fall inside that block, those "internal" samples are always used for estimation, regardless of the other search strategy constraints.

Kriging was performed using the original samples; no compositing was done. Kriging weights were multiplied by the sample length and renormalized to sum to one. Gold assay values were capped to 30 g/t; copper assays were not capped.

Saprolite estimates were checked against surface samples to ensure that there were positive indications of gold mineralization at surface in all the areas where saprolite resources were estimated.

17.2.3 Grade Estimation in the Bedrock

Unlike the saprolite, where grade estimation is relatively straightforward, the bedrock has several factors that complicate the calculation of reliable grade estimates:

- There is a mixture of distinct geological and statistical populations in the bedrock. In the saprolite, where weathering and ground water transport have blurred the sharp distinctions in the underlying bedrock, the estimation could handle the available data as a single population.

- The geological factors that have the strongest influence on gold mineralization are not the same as those that have the strongest influence on copper mineralization. Both the recursive partitioning analysis and the correlogram maps confirmed that gold and copper have different statistical characteristics. Since the geological/statistical domains used for gold are not the same as those for copper, a one-size-fits-all set of wireframes will not do a good job for both copper and gold.

- The geological/statistical populations in the bedrock are intermixed at a scale considerable finer than the available drilling, which makes it extremely difficult, if not impossible, to develop a set of deterministic wireframe boundaries that separate the block model and the drill hole data into distinct domains. Within any of the 15×15×10m resource blocks, there may be a mixture of different styles of mineralization, each with its own unique statistical characteristics.

- The patterns of spatial continuity of gold and copper grades cannot be captured by the ellipsoid of ranges in perpendicular directions that is conventionally used in commercial software for variogram models and for search neighborhoods.

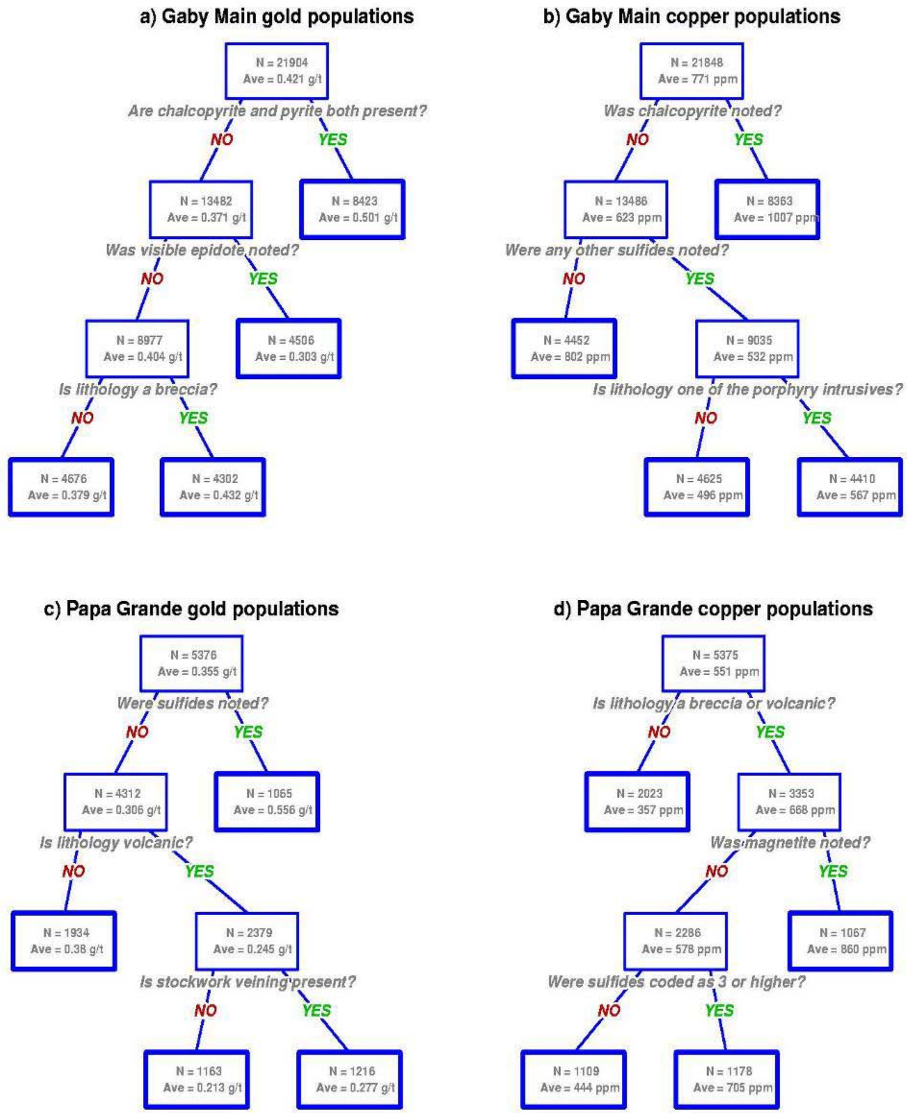
For these reasons, a customized approach using in-house software developed by FSS has been used to estimate bedrock grades for the Gaby Project. This approach uses the geostatistical approach commonly referred to as "probability assisted constrained kriging" (PACK) in which the contribution of each geological/statistical population to each block is estimated by an indicator kriging (this is the "probability assisted" part of the procedure). For each population that contributes to a block, a separate grade estimate is done, using only those nearby samples from that population (this is the "constrained" part of the procedure).

17.2.4 Recursive Partitioning for Population Definitions

For gold and copper, four geological populations are defined using recursive partitioning to identify a small set of geological characteristics that separates the samples into a high-grade group, a low-grade group and two intermediate groups, medium-low-grade and medium-high-grade. The recursive partitioning is done separately for Gaby Main and Papa Grande (since data analysis and geologic studies agree that the geologic controls are different in the two deposits), and was also done separately for gold and for copper.

Figure 17.2 shows the four recursive partitioning trees for the two deposits and the two metals. Each tree allows a 1–4 integer code to be assigned to each sample interval. Indicator kriging of these integer codes is then used to estimate the proportion of each population in each block. For every block in the model there are four such estimates that provide the tonnage contributions of the four gold populations, and four more that provide the tonnage contributions for the copper populations. The indicator kriging estimates are done in such a way that the contributions from the populations always sums to one.

Figure 17.2
Recursive Partitioning Trees used to Define Geological/Statistical Populations



17.2.5 Direct Use of Correlogram Maps

For every population that contributes to a particular block, ordinary kriging is used to estimate the grade of that population. The correlogram maps are used directly for the search strategy and also for the variogram model information required for ordinary kriging.

In a conventional kriging program, the spatial correlation information comes from a variogram model that uses an ellipsoid of ranges to describe the directional anisotropy. The same kind of ellipsoid is also used to define the local search neighborhood. It has been shown that the patterns of spatial continuity at Gaby Main do not lend themselves well to the conventional ellipsoid style of summary.

The correlogram maps can be used directly to determine what counts as a nearby or well-correlated sample and can also be used directly as input to the kriging equations, circumventing the need for a variogram model.

For search strategy purposes, a nearby sample is deemed to be inside the local neighborhood if it has a correlation of 0.05 or greater with the block being estimated, with the correlation value being read directly from the 3D correlogram maps. In each octant, only the four most highly correlated samples are retained for the estimation; a minimum of two samples is needed before the estimation is done. If the block being estimated contains samples that fall inside that block, those "internal" samples are always used for estimation, regardless of the other search strategy constraints.

As with the saprolite estimates, the bedrock grade estimates are calculated directly from the original samples; no compositing is done. After the ordinary kriging weights have been calculated, the weights are multiplied by the sample length and renormalized to sum to one.

Gold assays were capped at 30 g/t; copper assays were not capped.

For each block there are four gold grade estimates, one for each of the gold populations, and four such copper estimates, one for each of the copper populations.

The final estimated grade for the bedrock in each block is calculated by taking a weighted average of the grade estimates for each population, with the tonnage contributions calculated by indicator kriging serving as the weights.

Once the estimates have been calculated for the bedrock gold and copper grades, these are then combined with the saprolite grade and tonnage estimate for the same block to produce a whole block average for the combination of saprolite and bedrock in each block. In addition to recording these whole block averages, the resource block model also contains the separate grade and tonnage estimates for saprolite and for bedrock; this will later enable mine planning to consider the possibility that the saprolite material can be segregated from the bedrock during mining.

17.2.6 Dry Bulk Densities

The dry bulk density of saprolite material is assumed to be 1.36 t/m^3. This is based on studies done in the 1990's by MRDI of the density of saprolitic material at Gaby Main.

The 1997 Cambior study of Papa Grande assumed a density of 1.50 t/m^3 for saprolite, but also noted that no actual measurements had been done.

The bulk densities used for the different rock types identified in the bedrock are listed in Table 17.2

Table 17.2
Dry Bulk Densities for Bedrock

GABY MAIN		
Rock Type	**Lithology Code**	**Dry Bulk Density**
Hydrothermal breccia	BxH	2.77
Igneous breccia	BxI	2.80
Other breccia	Bx	2.78
Feldspar porphyry	FQ	2.77
Hornblende-feldspar porphyry	HFP	2.76
Hornblende porphyry	HP	2.75
Volcanics	Mv and Vn	2.97
Other	—	2.81
PAPA GRANDE		
Rock Type	**Lithology Code**	**Dry Bulk Density**
Aplite dikes	Ap	2.50
Avila breccia	BxA	2.88
Crackle breccia	BxC	2.90
Igneous breccia	BxI	2.78
Feldspar porphyry	FQ	2.75
Hornblende-feldspar porphyry	HFP	2.75
Volcanics	Mv and Vn	2.93
Other	—	2.87

17.3 Resource Estimates

Using the resource classification procedure described in Section 17.4, the estimated tonnage and grade of the Gaby Main and Papa Grande deposits are provided in Table 17.3 and Table 17.4, respectively.

It should be noted that although the block model covers part of the area covered by the San Sebastian concession, none of these tables includes any of the resource blocks that lie on the San Sebastian concession. This leaves out of the tabulations the resources that lie at the tip of the southwestern limb of Gaby Main.

Table 17.3
Estimate of Gaby Main Deposit Mineral Resources (FSS - January 2008)

Category	Cutoff (g/t Au)	Tonnes (Mt)	Au Grade (g/t)	Cu Grade (%)	Au (Moz)	Cu (t)
SAPROLITE						
Measured	0.3	9.6	0.702	0.082	0.22	7900
	0.4	7.0	0.837	0.088	0.19	6100
	0.5	4.7	1.021	0.094	0.16	4400
Indicated	0.3	2.4	0.671	0.068	0.05	1700
	0.4	1.6	0.845	0.073	0.04	1200
	0.5	1.1	1.021	0.070	0.04	800
Inferred	0.3	6.3	1.032	0.067	0.21	4200
	0.4	4.6	1.276	0.069	0.19	3200
	0.5	3.5	1.541	0.065	0.17	2300
Measured + Indicated	0.3	12.1	0.695	0.079	0.27	9500
	0.4	8.5	0.839	0.085	0.23	7300
	0.5	5.8	1.021	0.089	0.19	5200
BEDROCK						
Measured	0.3	35.5	0.589	0.098	0.67	34900
	0.4	26.7	0.667	0.108	0.57	28800
	0.5	18.6	0.761	0.118	0.46	21900
Indicated	0.3	312.8	0.509	0.091	5.12	284700
	0.4	203.8	0.595	0.099	3.90	202700
	0.5	123.7	0.691	0.107	2.75	132300
Inferred	0.3	167.9	0.506	0.077	2.73	128500
	0.4	99.5	0.616	0.081	1.97	80400
	0.5	61.6	0.721	0.080	1.43	49200
Measured + Indicated	0.3	348.3	0.517	0.092	5.79	319600
	0.4	230.5	0.603	0.100	4.47	231600
	0.5	142.3	0.700	0.108	3.20	154300
SAPROLITE + BEDROCK						
Measured	0.3	45.1	0.613	0.095	0.89	42800
	0.4	33.7	0.702	0.104	0.76	34900
	0.5	23.4	0.814	0.113	0.61	26400
Indicated	0.3	315.3	0.510	0.091	5.17	286300
	0.4	205.4	0.597	0.099	3.94	203900
	0.5	124.8	0.694	0.107	2.78	133100
Inferred	0.3	174.2	0.525	0.076	2.94	132800
	0.4	104.1	0.646	0.080	2.16	83600
	0.5	65.1	0.765	0.079	1.60	51500
Measured + Indicated	0.3	360.4	0.523	0.091	6.06	329100
	0.4	239.1	0.612	0.100	4.70	238900
	0.5	148.1	0.713	0.108	3.39	159500

Table 17.4
Estimate of Papa Grande Deposit Mineral Resources (FSS - January 2008)

Category	Cutoff (g/t Au)	Tonnes (Mt)	Au Grade (g/t)	Cu Grade (%)	Au (Moz)	Cu (t)
SAPROLITE						
Measured	0.3	3.3	0.698	0.089	0.07	2900
	0.4	2.4	0.830	0.093	0.06	2200
	0.5	1.8	0.956	0.093	0.06	1700
Indicated	0.3	0.8	0.695	0.063	0.02	500
	0.4	0.6	0.816	0.064	0.01	400
	0.5	0.4	0.919	0.059	0.01	300
Inferred	0.3	1.3	0.605	0.083	0.03	1100
	0.4	1.0	0.711	0.086	0.02	800
	0.5	0.7	0.810	0.087	0.02	600
Measured + Indicated	0.3	4.0	0.697	0.084	0.09	3400
	0.4	2.9	0.827	0.087	0.08	2600
	0.5	2.2	0.949	0.086	0.07	1900
BEDROCK						
Measured	0.3	14.1	0.614	0.066	0.28	9300
	0.4	9.6	0.737	0.066	0.23	6400
	0.5	6.5	0.872	0.065	0.18	4200
Indicated	0.3	91.0	0.550	0.064	1.61	57900
	0.4	56.8	0.672	0.063	1.23	36000
	0.5	35.9	0.804	0.063	0.93	22500
Inferred	0.3	30.1	0.548	0.066	0.53	20000
	0.4	17.3	0.699	0.061	0.39	10600
	0.5	10.6	0.856	0.056	0.29	5900
Measured + Indicated	0.3	105.1	0.559	0.064	1.89	67200
	0.4	66.4	0.682	0.064	1.46	42400
	0.5	42.4	0.815	0.063	1.11	26700
SAPROLITE + BEDROCK						
Measured	0.3	17.4	0.630	0.070	0.35	12200
	0.4	12.0	0.756	0.072	0.29	8600
	0.5	8.3	0.890	0.071	0.24	5900
Indicated	0.3	91.7	0.551	0.064	1.63	58400
	0.4	57.4	0.674	0.063	1.24	36400
	0.5	36.3	0.805	0.063	0.94	22800
Inferred	0.3	31.5	0.551	0.067	0.56	21100
	0.4	18.2	0.699	0.063	0.41	11400
	0.5	11.3	0.854	0.058	0.31	6500
Measured + Indicated	0.3	109.1	0.564	0.065	1.98	70600
	0.4	69.4	0.688	0.065	1.53	44900
	0.5	44.7	0.821	0.064	1.18	28700

17.4 Resource Classification

Resource classification for the current block models has taken into account several criteria that have some bearing on the reliability of the estimates:

- The number of assays that are correlated with the block being estimated.

- The number of different drill holes that are correlated with the block being estimated.

- The spatial configuration of the nearby samples around the block being estimated, as measured by the number of octants that contain data.

The first of these criteria, the assay count, takes into account the fact that estimates based on several assays are more reliable than those based on only one or two assays. The second criterion, the hole count, takes into account the fact that, with the same number of assays, an estimate is likely more reliable if those assays are coming from several different drill holes rather than all from the same hole. The final criterion takes into account that blocks estimates tend to be more reliable when they are based on data that completely surround the block — estimates are generally less reliable when all of the nearby data are on the same side of the block being estimated (or, worse, in one corner), and the grade estimate is essentially an extrapolation rather than an interpolation.

The specific numerical criteria used for classification are shown below.

Table 17.5
Classification Criteria

CIM Classification Category	Number of Assays With Correlation >0.5	Number of Drill Holes With Correlation >0.1	Number of Informed Octants
Measured	≥ 4	≥ 4	≥ 5
Indicated	≥ 4	≥ 4	≥ 1
Inferred	≥ 1	≥ 1	≥ 1

Additional consideration was given to whether or not there is drill hole data within the block. Blocks containing drill hole data were upgraded from “inferred” to “indicated” if they had failed to meet the other numerical criteria given in Table 17.5.

18.0 OTHER RELEVANT DATA AND INFORMATION

18.1 Preliminary Feasibility Overview

The Preliminary Feasibility Study provides a comparative evaluation of four fundamentally different flowsheets:

1. Agitated Leaching: crushing and grinding followed by agitated leaching.

2. Tailings Leach Flotation: crushing and grinding followed by flotation to produce a copper concentrate with additional gold recovered from the tailings through agitated leaching.

3. Scavenger Tails Leach Flotation: crushing and grinding followed by flotation to produce a copper concentrate with additional gold recovered from a concentrated tailings stream by agitated leaching.

4. Heap Leaching: three stage crushing followed by heap leaching.

Economic viability of the Gaby project has been evaluated using conventional cash flow techniques, based on the engineering studies and associated cost estimates discussed in the following sections. At the base case gold price of $650 per ounce none of the process options are financially viable.

In view of the work carried out to date whole ore agitation leaching appears to be the most technically and economically robust solution for project development and becomes increasingly more attractive at gold prices of $850 per ounce and above. Furthermore, evaluation of the preliminary pit optimization studies suggests that a larger plant capacity would further improve project economics. Key parameters are shown below.

Table 18.1
Summary of Key Parameters - Agitation Leaching

Item	Units	Value
Processing rate	tpd	20,000
Mine life	yr	14
Total gold production	oz	2,300,000
Initial capital	$ millions	432
Total average operating cost	$/t	12.16
Average cash operating cost	$/oz	538
Total cost including capital[1]	$/oz	783
Pre-tax Cash Flow $650/oz Au	$ millions	(314)
Pre-tax Cash Flow $850/oz Au	$ millions	141
Pre-tax Cash Flow $1,000/oz Au	$ millions	483
Pre-tax Cash Flow $1,250/oz Au	$ millions	1,052

[1] Includes sustaining and working capital.

It is recommended that further work be undertaken to optimize the agitation leach flowsheet and production rate prior to proceeding with a detailed feasibility study on the most appropriate option for project development.

18.2 Mining

The PFS has identified a Base Case Ultimate Pit containing 109.7Mt of ore grading 0.77g/t Au at a stripping ratio of 1.25 tonnes of waste per tonne of ore. Four different processing scenarios at various processing capacities and metal prices were examined before selecting the Base Case, which is described as 20,000 tpd Agitated Leaching at a gold price of $650/ounce. Since the tonnage contained within the Base Case Ultimate Pit does not generate a positive cash-flow, it cannot be termed a Mineral Reserve under NI 43-101 reporting requirements. Further work is required to examine significantly increased milling rates as a means to improve project economics through economy of scale.

18.2.1 Project Scenarios, Sensitivities and Selection of the Base Case

In order to identify a Base Case for project development, a series of pit optimization runs were undertaken to compare the Project's economic performance for each of the four processing options described in Section 18.1, given a variety processing capacities and metal prices.

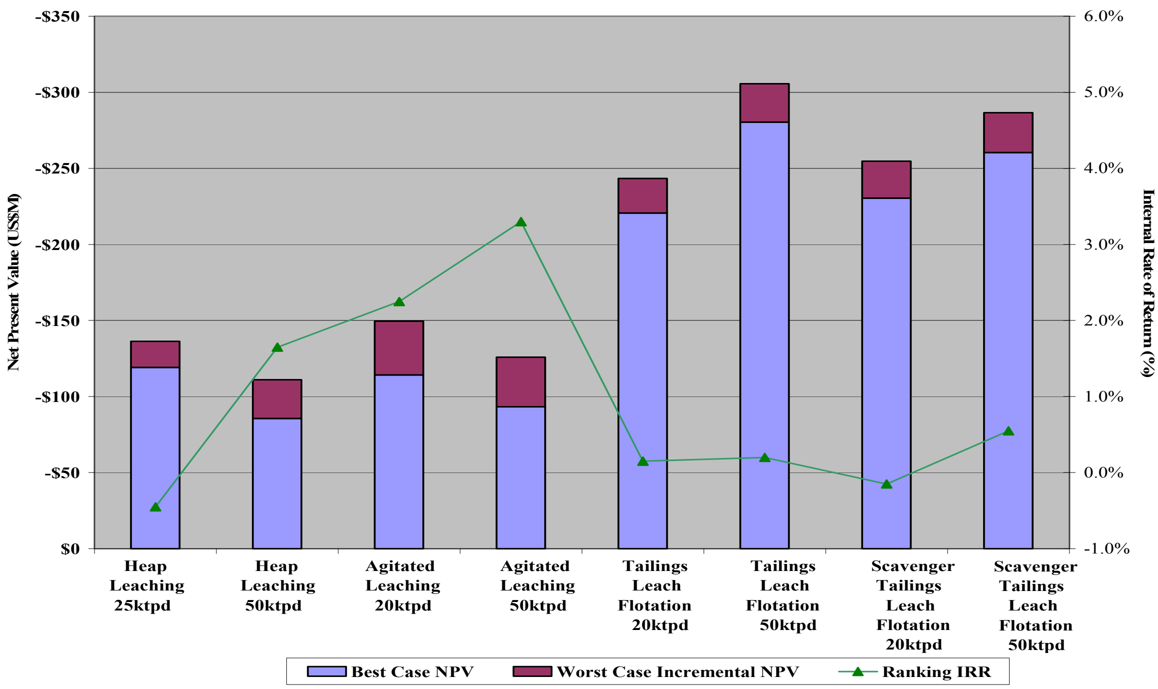
Pit optimization was performed using Mine Planning Group's ("MPG") **P**it **O**ptimization **P**ackage ("POP!"). This software generates a series of pit shells at declining monetary cut-offs which are then subjected to a discounted cash flow analysis using phased/un-phased scheduling scenarios. The pit shells are then ranked by economic performance, using both Net Present Value ("NPV") and Internal Rate of Return ("IRR"), with the best performing shell indicating the ultimate pit limit.

Three sets of optimization runs were performed, they examined:

- Four different processing scenarios at two different processing capacities using a gold price of US$750/oz.
- Agitated Leaching and Heap Leaching at gold prices ranging from US$500/oz to US$1,000/oz;.
- Agitated Leaching at higher processing capacities with a gold price ranging from US$500/oz to US$1,000/oz.

Results for these three sets of runs are presented in Figure 18.1.

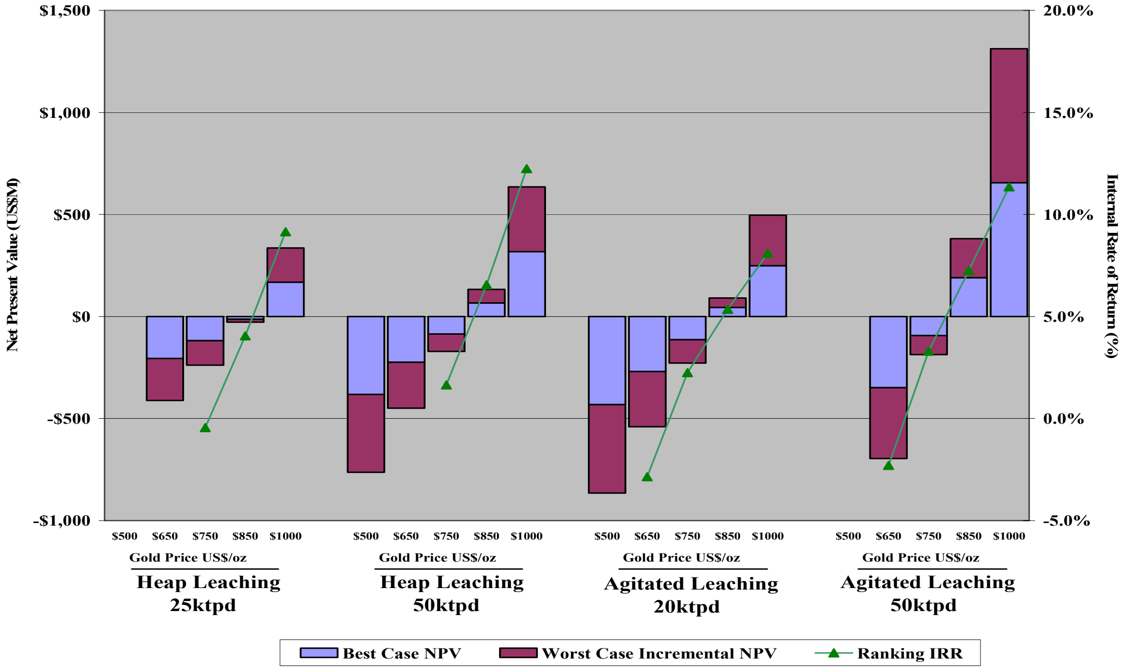
Figure 18.1
Pit Optimization Results, Set #1



Because of the complexities involved with open pit scheduling, POP! generates simplified cash flows that represent the two extremes attainable by detailed mine planning. The range of these two extremes in terms of Net Present Value is represented in Figure 18.1, Figure 18.2 and Figure 18.3 as the burgundy (darker) shaded portion of each column. The corresponding IRR values in these Figures have a similar range but were simplified by plotting the mean IRR values.

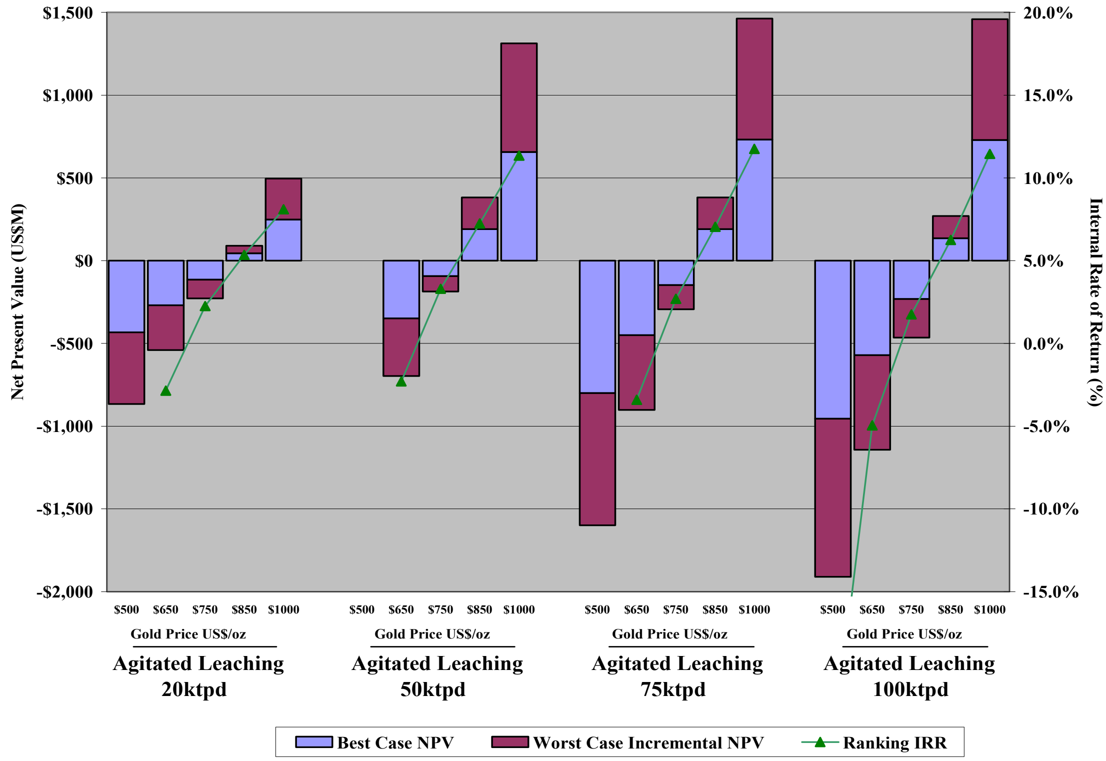
Based on the results presented in Figure 18.1, IMC decided to drop the two flotation scenarios from further consideration. Since neither Heap Leaching nor Agitated Leaching was a clear winner, a second set of pit optimization runs was performed for these two processing scenarios at gold prices ranging from US$500/oz to US$1,000/oz. These results are presented in Figure 18.2.

Figure 18.2
Pit Optimization Results, Set #2



The results contained in Figure 18.2 show negative economic performance until a gold price of approximately $750/oz is reached. The ultimate pit for the 50,000 tpd Agitated Leaching scenario at a $1,000/oz gold price contains 439Mt of ore grade material with an average gold grade of 0.53 g/t and a stripping ratio of 0.75 tonnes of waste per tonne of ore. Thus the Project's large, low-grade resource increasingly comes into play as the gold price is increased above $650/oz. At these higher gold prices processing capacity in excess of 20,000 tpd begins to play an increasingly important role in the Project's economic performance, with the indication that a capacity in excess of 50,000 tpd might yield superior results. As such, a third set of optimizations runs were performed to study Agitated Leaching at higher processing capacities. These results are shown in Figure 18.3.

Figure 18.3
Pit Optimization Results, Set #3



The third set of pit optimization results indicate that, for the current geologic resource, 50,000 tpd is fairly close to the optimum processing capacity. More detailed sizing and costing of the processing facility is required to verify and fine tune the final capacity.

In conclusion, the pit optimization results indicate a strong likelihood that the Base Case Project would become economically viable at a gold price of approximately US$750/oz provided the operating and capital costs remain near current estimates. The results further indicate that a processing capacity in excess of 20,000 tpd would optimize the relationship between capital and operating costs and improve the Project's economic performance through economy of scale. However, further work is required to verify these indications and to identify the optimal processing capacity.

A combination of 95 different external monetary cutoff values (pit shells) ranging from $10.25/t to -$10.00/t with 41 different internal monetary cutoff values ranging from $8.00/t to $0.00/t were considered in the pit optimization study. At elevated internal cutoff values, lower valued material is stockpiled and processed at the end of the mine's life. Stockpile material is subject to an additional rehandling cost, which raises the waste/stockpile cutoff value by that amount. IMC selected pit shell 64 at an internal cutoff value of $1.40/t as the Base Case. Subsequent refinement of the internal cutoff value changed these results slightly to 109.7Mt of ore grading 0.77g/t Au at a stripping ratio of 1.25 tonnes of waste per tonne of ore. This ultimate pit shell is shown in Figure 18.4.

18.2.2 Base Case Mine Planning

The Gaby Project will be developed using conventional truck-shovel open pit mining technology. The open pit will operate 24 hours per day, 365 days per year.

Ore will be drilled and blasted on 10m high benches using a staggered blast hole pattern consisting of 6¾ inch diameter holes drilled 5.1 meters apart. Waste will be drilled on 20m high benches using the same pattern and hole diameter but with holes drilled 5.8 meters apart. Blasting will be performed using bulk ANFO (ammonium nitrate fuel oil) at powder factors of 0.2kg/t and 0.18kg/t for ore and waste respectively.

Primary loading equipment will be 16m^3 capacity hydraulic excavators operating in backhoe configuration paired with 140mt capacity haul trucks.

Waste storage areas will be located in exhausted pit areas and in three areas adjacent to the open pits. Each waste storage area will have a separate area devoted to topsoil/saprolite storage, which will be used during surface reclamation activities. Low grade ore stockpiles will be located in the vicinity of the primary crusher and adjacent to the Gaby West Waste Storage Area.

The material characteristics presented in Table 18.2 and used throughout the mine planning process were based on field measurements specific to the Gaby Project.

Table 18.2
Material Characteristics

Parameter	Intrusive 50-300 MPa (Strong)	Saprolite <5 MPa (Weak)
Dry Bulk Density (t/m^3)	2.83	1.36
Swell Factor (%)	40.0%	40.0%
Moisture Content (%)	4.0%	25.0%
Dry Loose Density (t/m^3)	2.02	0.97
Wet Loose Density (t/m^3)	2.10	1.21

18.2.3 Geotechnical Considerations

Wardrop Engineering Inc. of Ontario, Canada provided preliminary pit slope design criteria in their report entitled “Geotechnical Assessment for Open Pit Design of the Gaby Project, Ecuador”, dated November 2007.

The inter-ramp slope angles provided by Wardrop ranged from 58 degrees to 50.5 degrees. Haul road access ramps were incorporated into these recommended slope angles resulting in a set of overall slope angles ranging from 54 degrees to 29 degrees. Four slope domains were established to implement the resulting slope design criteria, within each domain, slope angles were specified by starting and ending azimuth.

A saprolite layer, typically around 15 meters thick, is present over most of the pit area. This will be slope-cut by excavator without benching at a 1 meter rise per 1.5 meter run slope (33.7 degrees). Saprolite slope faces will be hydro-seeded with native grasses shortly after completion to minimize sediment runoff.

Waste storage area slopes will be constructed in 20 meter high lifts with a 1 meter rise per 2 meter run slope (26.6 degrees). A ten meter horizontal offset (catch bench) will be constructed between each 20 meter lift. This resulting overall slope will be 1 meter rise per 2.5 meter run (21.8 degrees). Reclamation of the exposed slope faces will be an on-going process with stockpiled soil and/or saprolite being spread over the face of each lift followed by hydro-seeding with native grasses and planting with native trees and shrubs grown in the mine's nursery.

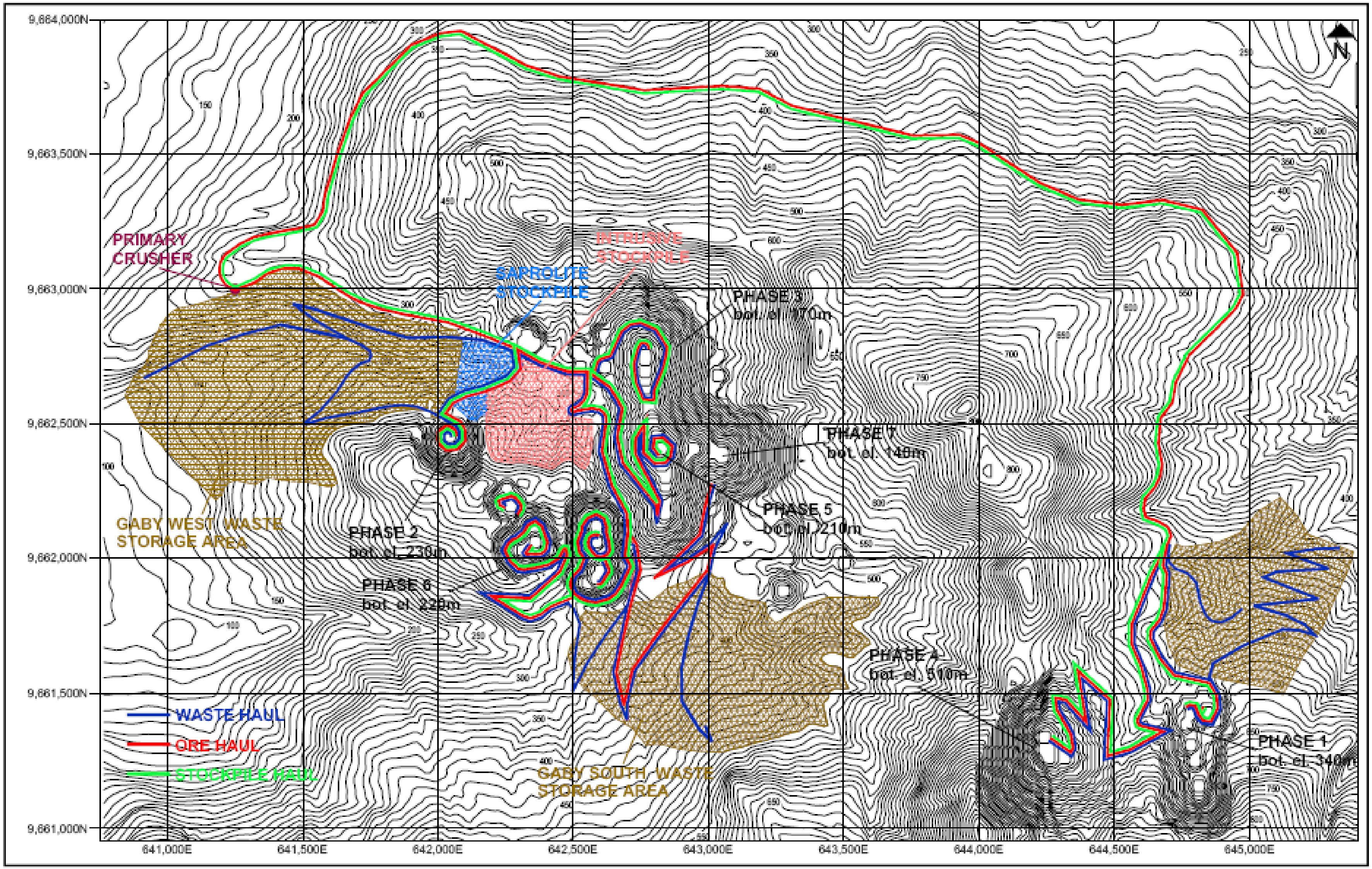
18.2.4 Pit Dewatering Requirements

Based on the regional topography and impermeable nature of the rock, ground water inflow into the open pits is not anticipated to be a significant operating or cost issue. Surface runoff will be kept clean and diverted around all disturbed areas. Precipitation runoff within the open pit and other disturbed areas will be routed through ditches to collection sumps. Water from these sumps will either be pumped or flow by gravity to primary treatment ponds before being released back into the environment.

18.2.5 Open Pit Phasing

Once the Base Case ultimate pit was selected, mine planning commenced with the design of the mining phases. Mining phases represent a series of methodical chunks that will be mined in a specific order, with some phases being mined simultaneously. For the Gaby Project, the primary goals of mine phasing were: 1) to defer waste stripping, 2) to mine higher grade material ahead of lower grade and 3) to maximize the opportunity for in-pit waste storage (backfilling). Secondary goals included: a) providing continual access to all mining faces, b) maintaining a minimum mining width on all active benches, c) minimizing the sinking rate, d) maintaining uniform equipment requirements and e) minimizing haulage distances. The seven mining phases designed are shown in Figure 18.4, which also shows the preliminary proposed location of the primary crusher, waste dumps, stockpiles and the primary haul road network.

Figure 18.4
Mine General Layout



A tabulation of ore and waste by mining phase is presented in Table 18.3.

Table 18.3
Mining Phase Summary

Mining Phase	Direct Process			Stockpile			Total			Waste Tonnes (Mt)	Strip Ratio	Net Ore Value ($/t)
	Ore Tonnes (Mt)	Au Grade (g/t)	Cu Grade (%)	Ore Tonnes (Mt)	Au Grade (g/t)	Cu Grade (%)	Ore Tonnes (Mt)	Au Grade (g/t)	Cu Grade (%)			
1	6.5	1.02	0.049	2.0	0.58	0.043	8.5	0.91	0.047	10.5	1.24	$5.30
2	1.6	0.92	0.033	0.6	0.52	0.035	2.3	0.81	0.034	3.4	1.52	$4.19
3	11.8	0.87	0.103	3.8	0.51	0.080	15.6	0.78	0.097	26.3	1.69	$3.52
4	9.8	1.05	0.080	3.3	0.57	0.082	13.1	0.93	0.081	42.8	3.26	$3.42
5	23.8	0.78	0.135	9.9	0.51	0.104	33.7	0.70	0.126	26.5	0.79	$2.87
6	10.0	0.76	0.069	2.2	0.49	0.067	12.2	0.71	0.069	13.5	1.11	$2.82
7	24.4	0.73	0.104	0.0	0.00	0.000	24.4	0.73	0.104	13.7	0.56	$3.58
Total	87.8	0.83	0.100	21.9	0.52	0.085	109.7	0.77	0.097	136.8	1.25	$3.40

With the exception of phase seven, Table 18.3 shows a gradually declining net ore value as mining progresses through the phases. As implied by its name, the "net" ore value includes the waste mining cost for each phase. Even though waste stripping was not significantly deferred, the declining net ore value indicates that the trade-off between ore grade and waste stripping was considered***. Note: The term ore used in the above table and paragraph means mineralized material and does not imply economic reserves.***

18.2.6 Mine Production Scheduling

Mine production was scheduled on an annual basis using the phased ore and waste inventories. These inventories were tabulated using declining cutoff values and scheduled to maximize the Project's NPV. Annual ore delivery to the primary crusher was specified as being 7.2Mt, with a secondary goal being fairly consistent annual waste stripping requirements. The resulting production schedule is shown in Table 18.4.

The Project's maximum sinking rate was identified as being 200m/yr which occurs while mining phase seven in year 10. Being predominantly waste, this will require mining 10 benches during the year, which should be achievable. In this instance, the "sinking" rate is more appropriately termed a "side stripping" rate since it occurs on the upper benches where side access is available from the existing topography and a free face exists to aid blasting and digging. This is in contrast to actual "sinking" at the pit's bottom where no side access or free face exists.

Table 18.4
Mine Production Schedule

		Mine to Mill			Mine to Stockpile			Stockpile to Mill			Received at Mill			Waste
Year	Phase	Tonnes (Mt)	Avg Au (g/t)	Avg Cu (%)	Tonnes (Mt)	Avg Au (g/t)	Avg Cu (%)	Tonnes (Mt)	Avg Au (g/t)	Avg Cu (%)	Tonnes (Mt)	Avg Au (g/t)	Avg Cu (%)	Tonnes (Mt)
0	1	0.0	0.00	0.000	0.0	0.00	0.000							0.0
0	TOT	0.0	0.00	0.000	0.0	0.00	0.000	0.0	0.00	0.000	0.0	0.00	0.000	0.0
1	1	0.1	1.03	0.041	0.0	0.00	0.000							0.5
1	3	7.1	0.82	0.099	0.8	0.51	0.077							15.5
1	TOT	7.2	0.82	0.098	0.8	0.51	0.077	0.0	0.00	0.000	7.2	0.82	0.098	15.9
2	1	4.3	0.96	0.041	1.1	0.58	0.036							7.3
2	2	1.4	0.92	0.033	0.6	0.53	0.036							3.2
2	3	1.5	0.83	0.090	0.7	0.51	0.078							3.9
2	TOT	7.2	0.93	0.049	2.4	0.55	0.048	0.0	0.00	0.000	7.2	0.93	0.049	14.4
3	1	3.0	0.96	0.061	0.0	0.00	0.000							2.7
3	2	0.3	0.79	0.033	0.0	0.00	0.000							0.2
3	3	4.0	0.84	0.101	0.9	0.51	0.090							6.6
3	TOT	7.2	0.89	0.082	0.9	0.51	0.090	0.0	0.00	0.000	7.2	0.89	0.082	9.6
4	3	0.3	0.96	0.124	0.0	0.00	0.000							0.2
4	4	0.0	0.65	0.122	0.0	0.00	0.000							4.3
4	5	6.9	0.91	0.118	2.6	0.51	0.095							9.6
4	TOT	7.2	0.91	0.118	2.6	0.51	0.095	0.0	0.00	0.000	7.2	0.91	0.118	14.1
5	3	0.4	0.95	0.128	0.1	0.51	0.094							0.1
5	4	0.0	0.73	0.122	0.0	0.57	0.106							1.9
5	5	6.8	0.71	0.137	3.7	0.51	0.100							11.0
5	TOT	7.2	0.73	0.136	3.7	0.51	0.100	0.0	0.00	0.000	7.2	0.73	0.136	13.0
6	4	0.5	0.79	0.094	0.0	0.00	0.000							5.9
6	5	4.9	0.71	0.139	1.4	0.51	0.112							4.0
6	6	1.8	0.71	0.050	0.5	0.50	0.045							4.9
6	TOT	7.2	0.72	0.113	1.9	0.51	0.096	0.0	0.00	0.000	7.2	0.72	0.113	14.8
7	4	2.2	0.88	0.080	0.0	0.00	0.000							10.5
7	5	1.4	0.67	0.139	0.1	0.51	0.120							0.5
7	6	3.6	0.72	0.066	0.8	0.49	0.072							4.9
7	TOT	7.2	0.76	0.085	0.9	0.49	0.077	0.0	0.00	0.000	7.2	0.76	0.085	15.8
8	4	1.4	1.07	0.084	0.4	0.57	0.086							4.3
8	5	2.9	0.72	0.147	0.9	0.51	0.122							1.0
8	6	2.9	0.81	0.075	0.6	0.50	0.073							2.6
8	TOT	7.2	0.82	0.106	1.9	0.52	0.097	0.0	0.00	0.000	7.2	0.82	0.106	7.8
9	4	3.6	0.88	0.072	0.0	0.00	0.000							8.5
9	5	1.6	0.70	0.146	0.0	0.00	0.000							0.3
9	6	1.9	0.78	0.087	0.0	0.00	0.000							1.2
9	TOT	7.0	0.81	0.093	0.0	0.00	0.000	0.2	0.51	0.088	7.2	0.81	0.093	10.0
10	4	4.3	0.96	0.082	0.0	0.00	0.000							7.0
10	5	0.6	0.71	0.133	0.0	0.00	0.000							0.1
10	6	0.1	0.70	0.087	0.0	0.00	0.000							0.0
10	7	0.0	0.86	0.032	0.0	0.00	0.000							0.0
10	TOT	4.9	0.93	0.088	0.0	0.00	0.000	2.3	0.55	0.046	7.2	0.81	0.075	7.1
11	4	0.0	1.12	0.091	0.0	0.58	0.084							0.0
11	7	7.2	0.77	0.108	0.0	0.00	0.000							5.3
11	TOT	7.2	0.78	0.108	0.0	0.58	0.084	0.0	0.00	0.000	7.2	0.78	0.108	5.4
12	4	0.5	1.31	0.092	0.1	0.57	0.080							0.4
12	7	6.7	0.75	0.104	0.0	0.00	0.000							2.8
12	TOT	7.2	0.79	0.103	0.1	0.57	0.080	0.0	0.00	0.000	7.2	0.79	0.103	3.3
13	7	6.7	0.68	0.095	0.0	0.00	0.000							5.0
13	TOT	6.7	0.68	0.095	0.0	0.00	0.000	0.5	0.51	0.077	7.2	0.67	0.093	5.0
14	7	3.7	0.70	0.114	0.0	0.00	0.000							0.6
14	TOT	3.7	0.70	0.114	0.0	0.00	0.000	3.5	0.51	0.092	7.2	0.61	0.103	0.6
15	7	0.2	0.76	0.082	0.0	0.00	0.000							0.0
15	TOT	0.2	0.76	0.082	0.0	0.00	0.000	7.0	0.51	0.095	7.2	0.52	0.095	0.0
16	TOT	0.0	0.00	0.000	0.0	0.00	0.000	1.7	0.51	0.098	1.7	0.51	0.098	0.0
TOT	TOT	94.5	0.81	0.099	15.2	0.52	0.087	15.2	0.52	0.087	109.7	0.77	0.097	136.8

18.3 Processing

A summary of the previous studies and metallurgical testwork undertaken on the Gaby Project is included in Section 16.0 of the Technical Report

18.3.1 Flowsheet Development

Agitation Leaching

Agitation leaching is considered the "base case" process option for the Preliminary Feasibility Study. The flowsheet includes primary crushing grinding, carbon in leach ("CIL") cyanidation, carbon stripping, electrowinning and smelting to produce doré bars on site. This flowsheet is depicted in Figure 18.5.

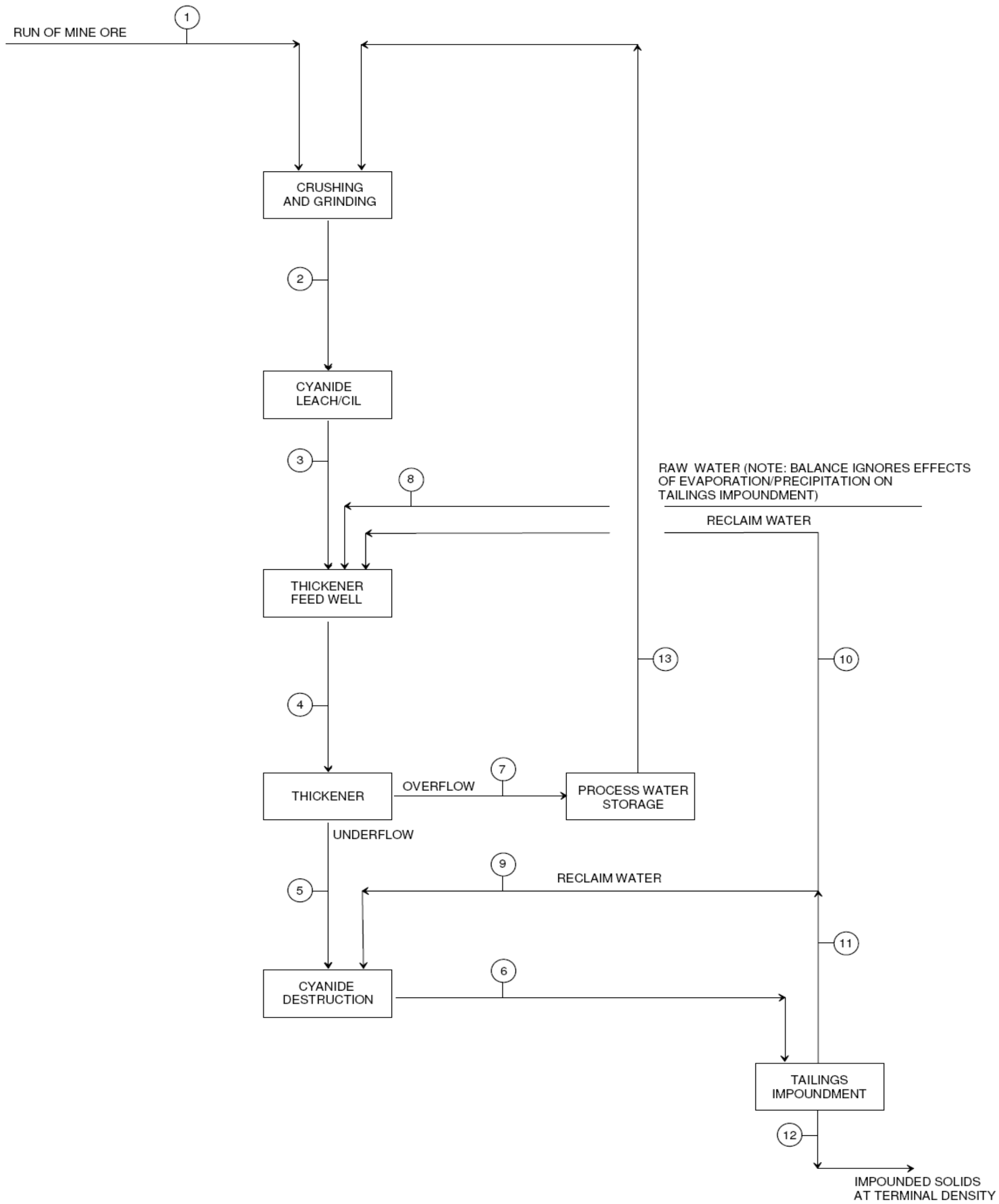
The primary crusher will be located on the northwest corner of the Gaby pit with the processing facilities benched into the existing terrain below it. Primary crushed ore will be reclaimed by an apron feeder below the crusher discharge pocket and conveyed to the mill feed surge bin. Coarse ore will be reclaimed from the bin by apron feeder and conveyed to the grinding circuit. The grinding circuit consists of a fixed speed, 11 megawatt, 34 x 18 ft semi-autogenous grinding ("SAG") mill operating in closed circuit with a pebble crusher and (primary) cyclones followed by a fixed speed, 7 megawatt, 20 x 32 ft ball mill operating in closed circuit with (secondary) cyclones. Lime and sodium cyanide will be added to the SAG mill feed belt.

Primary and secondary cyclone overflows pass through vibrating trash screens which discharge to the first of eight 19.8m diameter x 17.8m high cyanidation tanks operating in series for a total retention time of 24 hours. The last five CIL tanks contain 10 gpl carbon. Combined feed to leach has a P80 of 150 microns (150 mesh) in a slurry containing 40% w/w solids. Cyanide solution is added to maintain 1 gpl sodium cyanide throughout the circuit. Air is injected into the first three tanks to promote gold dissolution.

Intertank screens retain carbon in the CIL tanks; carbon is advanced through the circuit periodically by pumping slurry countercurrent to the normal slurry flow. Carbon remains in the recipient tank and slurry flows back downstream through the intertank screens. Loaded carbon containing approximately 60 ozs of gold per tonne will be pumped out of the first CIL tank, discharged over a wash screen and advanced at the rate of eight tonnes per day to acid washing followed by elution in a pressure stripping system. Stripped carbon will be thermally regenerated and returned to the fifth CIL tank.

Gold and silver will be electrowon from loaded eluate solution and cathodes smelted to produce doré bars for export.

Figure 18.5
Base Case Agitation Leach Flowsheet



Stream N°	1	2	3	4	5	6	7	8	9	10	11	12	13
Solids, tph	926.0	926.0	926.0	926.0	926.0	926.0	-	-	-	-	-	926.0	-
Solids, SG	2.8	2.8	2.8	2.8	2.8	2.8	-	-	-	-	-	2.8	-
Solids, m^3/hr	330.7	330.7	330.7	330.7	330.7	330.7	-	-	-	-	-	330.7	-
Percent Solids	95	40	40	29	50	40	-	-	-	-	-	80	-
Liquid, tph	49.0	1,389.0	1,389.0	2,266.0	926.0	1,389.0	1,340.0	182.5	463.0	694.5	1,157.5	231.5	1,340.0
Liquid, SG	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Liquid, m^3/hr	49.0	1,389.0	1,389.0	2,266.0	926.0	1,389.0	1,340.0	182.5	463.0	694.5	1,157.5	231.5	1,340.0
Slurry, tph	975.0	2,315.0	2,315.0	3,192.0	1,852.0	2,315.0	-	-	-	-	-	1,157.5	-
Slurry, SG	2.56	1.35	1.35	1.23	1.47	1.35	-	-	-	-	-	2.06	-
Slurry, m^3/hr	379.7	1,719.7	1,719.7	2,596.7	1,256.7	1,719.7	-	-	-	-	-	562.2	-

INTERNATIONAL MINERALS CORPORATION	GABY GOLD PROJECT ECUADOR	CONCEPTUAL PROCESS FLOWSHEET AND MATERIAL BALANCE WHOLE ORE CYANIDATION / CIL AND CYANIDE DESTRUCTION	Fig. 4.1		
			16 DEC 07	REVISION	

Leached slurry passes discharged from the last CIL tank passes through a safety screen to recover carbon fines and flows by gravity to the leach discharge thickener where it is diluted with water reclaimed from the tailings pond. Thickener overflow containing approximately 60% of the sodium cyanide in thickener feed is returned to the grinding circuit. Thickener underflow is pumped to cyanide destruction where will be diluted to 40% w/w solids with reclaim water, mixed with sodium metabisulfite, copper sulfate and lime and subjected to intense agitation with low pressure air to destroy residual cyanide down to a range of 1 to 5 ppm weak acid dissociable ("WAD") cyanide.

Cyanide destruction circuit effluent will be pumped to the tailings dam constructed approximately three kilometers distant from the plant and on the flat land on the west side of the Pan American Highway. The initial impoundment will consist of a fully lined rockfill starter dam. Walls will be raised with coarse fraction cycloned tails, with slimes reporting to the pond. Process water will be reclaimed with barge mounted pumps and returned to the process water storage tank at the plantsite.

The 20,000 tpd plant design presented in the MRDI study formed the foundation for cost estimating purposes. The primary differences between the MRDI flowsheet and this study are:

- The grinding mills, both of which have been resized in accordance with simulation work by CSSI.

- The addition of a leach discharge wash thickener to recover free cyanide for recycle back to the grinding circuit.

- Inclusion of a cyanide destruction circuit to destroy residual cyanide ahead of tailings disposal. The MRDI study included a cyanide destruction circuit adjacent to the tailings pond which would be used to destroy cyanide contained in any excess water discharged from the tailings pond. This study assumes that the tailings pond will be permitted as a zero discharge facility with strict limits on the cyanide content of water contained therein.

Copper Flotation and Cyanidation of Combined Flotation Tailings

A variant of the agitation leach process flowsheet discussed above includes flotation to produce a by-product gold bearing copper concentrate for third party smelting followed by CIL cyanidation to recover residual gold from combined flotation tailings. Modifications to the agitation leach plant include:

- The addition of rougher and cleaner flotation and copper concentrate handling and loadout facilities.

- Elimination of the leach discharge wash thickener. Water balance constraints and the need to keep free cyanide out of the flotation circuit (to avoid depressing pyrite) effectively preclude the possibility of cyanide recovery ahead of cyanide destruction, saving the capital cost associated with the wash thickener but increasing operating costs accordingly.

Process facilities will be constructed in essentially the same locations at the agitation leach plant

Copper Flotation and Cyanidation of Cleaner Scavenger Tailings

The relatively limited testwork carried out to date suggests that approximately 80% of the gold in flotation feed is recovered into rougher concentrate. If this could be improved to (say) 90% with (for example) finer primary grinding, greater mass pull to concentrate, more effective reagentization or the use of gravity concentration in parallel with flotation, it is possible that the rougher tailings could be rejected without further treatment. Cyanidation could then be used to recover gold from first cleaner scavenger tails, approximately ten percent by weight of the combined rougher tails with attendant reduction in leaching and cyanide destruction circuit capital and operating costs.

Heap Leaching

A run of mine stockpile area and primary crusher will be located approximately one kilometer northwest of the Gaby Mine Pit at an elevation of 350 meters. Primary crushed ore will be discharged at 25,000 tpd to a coarse ore stockpile from where it will be reclaimed and conveyed to the secondary, tertiary crushing and screening plant. Tertiary screen undersize (80% passing 6.4mm) will be conveyed approximately four kilometers to a small surge pile (5,000 tonnes capacity) located adjacent to the leach pad on flat land west of the Pan American Highway. Lime will be added to the conveyor immediately ahead of the surge pile. Crushed ore will be loaded into dump trucks for transport to, and placement on, the leach piles.

Due to the region's high rainfall, control of the project water balance will be a critical issue. To maximize evaporative loss leach solutions will be applied to the heap with a spray system and a two stage leach system will be used to maximize the area under leach. Primary and secondary leach effluent solutions will be collected at the toe of the heap. Pregnant solution will be pumped to carbon adsorption. Excess solution overflows to the intermediate solution pond and is pumped back to secondary leaching. Cyanide will be added to barren solution discharged from the carbon columns before it is pumped to primary leaching. It has been assumed that the ore will be stacked in ten meter high lifts with ultimate heap height limited to 100 meters for conceptual design purposes.

In the event of significant rainstorms the intermediate pond will overflow to a containment pond which will retain pad area runoff until it can be returned to circuit in place of raw water. For the purposes of this study the containment pond has been sized at one million cubic meters, adequate to contain two "back to back" 24 hour rainfall events of 300 mm each over the ultimate leach pad footprint of one square kilometer.

The process plant and solution ponds will be located adjacent to the leach pad. The majority of the process equipment will be housed in a single pre-engineered steel framed building. The high security refinery area will be housed next to the process building. Carbon loaded with gold to approximately 50 ozs per tonne will be advanced at the rate of eight tonnes per day to acid washing followed by elution in a pressure stripping system. Stripped carbon will be thermally regenerated and returned to carbon adsorption. Gold and silver will be electrowon from loaded eluate solution and cathodes smelted to produce doré bars for export.

18.3.2 Process Selection and Recommendations for Future Work

Agitation Leaching and Flotation

In view of the work carried out to date whole ore agitation currently appears to be the most likely and best supported technical solution for project development.

Flotation to produce a by-product copper concentrate as an adjunct to agitation leaching of flotation tailings may merit further evaluation if the decision is made to pursue agitation leaching. However at this time there is inadequate metallurgical data for flotation to influence the basic choice between agitation leach or heap leach, which should be addressed strictly on the comparative merits of the leach process options. Additional work required to better define the agitation/flotation alternatives includes the following:

- Reevaluation of the rock types within the two deposits to assess the representivity of the samples tested for grinding and performance of additional testing if necessary.
- Cyanide bottle roll testing on a sample composited to represent the rock types or metallurgical domains in the Papa Grande deposit in order to determine the most appropriate conditions for cyanidation.
- Metallurgical mapping within Papa Grande. A series of bottle roll leach tests to assess the effect of spatial variability, head grade, arsenic content on response to the conditions identified above.
- Additional bottle roll leach testing on samples from Gaby to confirm the adjusted test recoveries proposed in the MRDI study and also evaluate the impact of any differences in the geologic model that may have occurred as a result of drilling in the interim.
- Comprehensive evaluation of mineralogy, mineral locking, grind size-liberation relationships, flotation kinetics, reagent schemes on samples composited to represent the rock types or metallurgical domains in both Gaby and Papa Grande deposits in order to determine the most appropriate conditions for flotation.
- Evaluation of the potential to add gravity concentration into the grinding circuit.
- Cyanide destruction testing of leach residues

- Solid-liquid separation testing to establish project specific design criteria for thickening and filtration.

Additional scoping level studies, using the cost information developed for this report, should be conducted to evaluate:

- Three-stage crushing ahead of single stage ball milling to replace semi-autogenous grinding. SAG milling was originally proposed for use at Gaby because it offered a convenient way to handle the high clay content saprolitic oxides. As the drilling campaigns have expanded the deposits the percentage of saprolite has decreased accordingly and it might be possible to treat high clay material by stockpiling and selectively blending it with hard material. Elimination of SAG milling would result in (possibly) significant capital and (certainly) significant operating cost savings as well as avoiding the impact of extremely long deliveries associated with those machines.
- High pressure grinding roll technology, as another, probably less likely, candidate to replace SAG mills. This is a relatively new, but commercially proven, technology that would require specialized testing by the manufacturer.

In the event that copper flotation is abandoned the latest testing has nevertheless focused interest on the possibility of producing a low grade, high recovery rougher gold concentrate that would allow the rejection of rougher tailings, thereby significantly reducing the amount of feed to cyanidation and cyanide destruction. This will need careful evaluation of treatment routes for saprolitic material that may not respond well to flotation.

Heap Leaching

If the decision is made to pursue heap leaching as the preferred flowsheet for project development additional work will be required in the following areas:

- Metallurgical "mapping", additional small scale columns to evaluate the impact of head grade, arsenic content, and rock type on metallurgical recovery and reagent consumption rates.
- Larger scale long term columns to better assess ultimate recoveries with time.
- Percolation testing to determine ultimate heap height.
- Development work to determine the most appropriate method for treatment of the saprolite/oxide cap. This represents approximately ten million tonnes of relatively high grade (close to 1g/t gold) material which, as a result of its failure due to blinding in column testing has been eliminated from consideration in this study.

18.4 Tailings and Heap Leach Site Selection

Water Management Consultants from Denver Colorado were contracted to evaluate various sites for the heap leach and/or tailings dam facility. This included several site visits and the use of the latest topographic maps. No site specific geotechnical or hydrological investigations were conducted.

18.4.1 Tailings Dam Facility

The sites were quantitatively evaluated based on storage capacity and height/volume of the dam required for storage. The sites were also qualitatively evaluated based on Environmental risks, Surface water and community impact (land ownership). Included in the evaluation was the potential for cycloned sand dam (using tailings) versus the conventional earthen/rock dam. A cyclone dam uses select borrow material for the starter dam and coarse materials (sands) from the tailings as material in the vertical expansion of the dam. A fully constructed embankment dam uses select borrow material in the construction of the full height of the dam.

Site locations considered were Rio Tenguel/Rio Fermin on the eastern side of the Pan-American Highway ("PAH") and a site on the western side of the PAH. Additional sites, Rio Siete/Rio Margarita and Rio Pagua, located south of the mine site and east of the town of Ponce Enriquezz were also evaluated shows the Rio Tenguel/Rio Fermin site as well as the site west of the PAH. Figure 18.6 shows the Rio Siete/Rio Margarita and Rio Pagua sites.

Figure 18.6
Location of Two of the Tailings Dam Sites Evaluated.

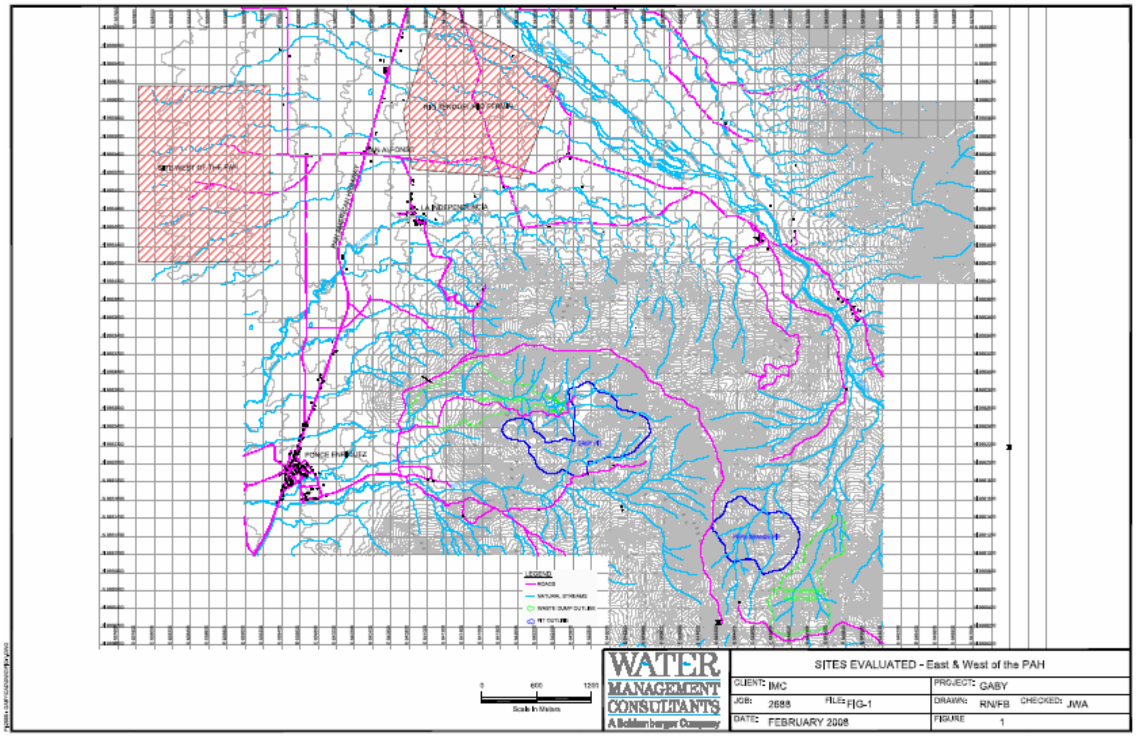
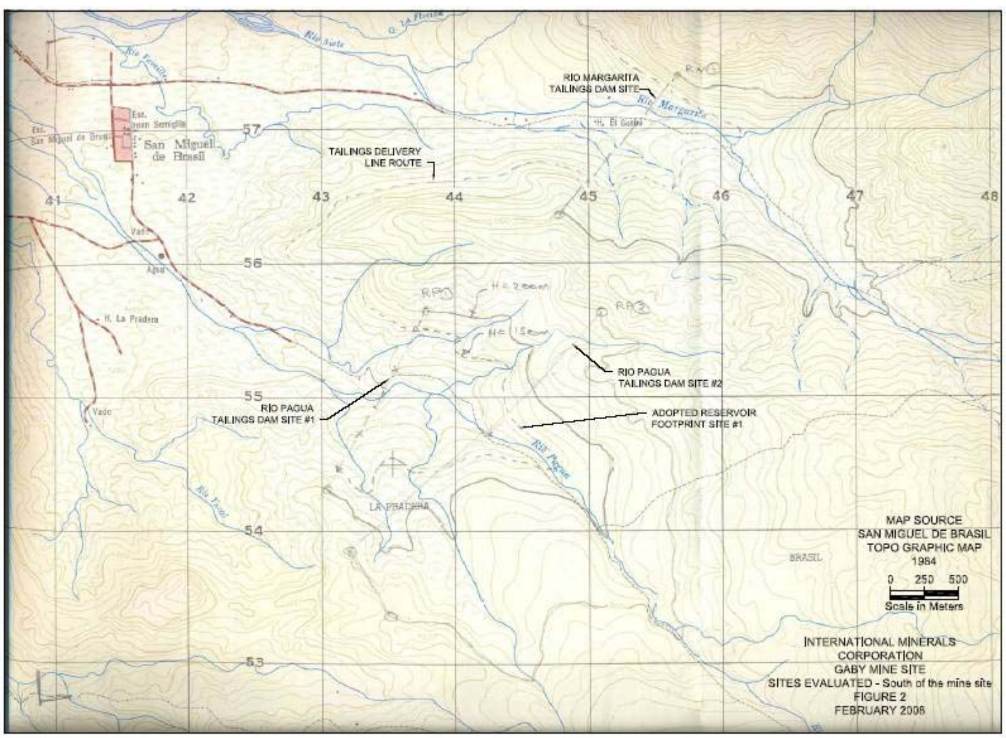


Figure 18.7
Sites to the South of the Gaby Project Evaluated as Potential Tailings Dam Areas.



Based on the quantitative and qualitative criteria, the site to the west of the PAH was deemed the most viable due to its expanse to meet the storage criteria. It has the best potential for expansion for increased mine production. Other sites would be costly. There are no major streams traversing this site, therefore, surface water handling will be minimal. The site appears to have the least environmental liability of all the sites evaluated. Lastly, the site poses a minimal public impact as it is believed that there is only one owner for this site.

Tailings Dam Selection

The viability of a cycloned tailings dam was based on particle distribution curve generated by testing at McClelland laboratories. Based on the proposed grind size, the tailings will have sufficient coarse material available for cyclone deposition.

A cyclone tailings dam will consist of the following key components:

- Starter Dam and lining system
- Underdrain System
- Seepage Collection System

For layout purposes, the following assumptions have been made:

- For a mine production rate of 20,000 tonnes/day, the tailing delivery would be approximately 0.40 cubic meters per second (60 percent water, 40 percent solids);
- Assumed tailings density of 1.6 t/m^3.
- It has been assumed that the tailings reservoir areas would be lined with a HDPE liner which extends with the cyclone dam and is extended with each expansion.

The cyclone deposition scenario requires a start-up footprint area of approximately 2.0 km north and south by 0.65 km east and west. The capacity of the starter dam was calculated by assuming an overall (N–S) length of 2 km and by trial and error, obtained starter dam capacities for various (E–W) widths. The starter dam embankment will have 3H: 1V side slopes to accommodate liner placement, and a 10 m crest width. The embankment will have a maximum height of 10.4 m on the western side of the impoundment. The successive expansions after the initial 13 months will involve construction of containment berms and liner installation.

18.4.2 Heap Leach Facility

Site locations considered were Rio Tenguel/Rio Fermin on the eastern side of the Pan-American Highway (PAH) and a site on the western side of the PAH. These are the same sites as evaluated for the cyclone tailings dam as shown in Figure 18.6. The sites were quantitatively evaluated based on storage capacity. The sites were also qualitatively evaluated based on environmental risks, surface water and community impact (land ownership).

Based on the quantitative and qualitative criteria, the site on the western side of the PAH was deemed the most viable due to its expanse to meet the storage criteria. It has the best potential for expansion for increased mine production. There are no major streams traversing this site, therefore, surface water handling will be minimal. Lastly, the site poses a minimal public impact and it is believed that there is only one landowner for this site.

A conceptual layout of the heap leach facility was completed at the location on the western side of the PAH. An overall footprint area of approximately 1.0 km north-south and 1.0 km east-west is located approximately 1.0 km west of the highway. The site has an overall slope of approximately 1.6 percent from the east to the west, and without any geotechnical information from the site; it was assumed that the groundwater table is close to or at the surface. A ring-toe drain has been laid out surrounding the site with an invert level below the base of the heap leach pad. If the unregulated off-take irrigation canals from the Rio's Tenguel and Fermin are regulated and/or diverted, the groundwater levels within this area will decrease rapidly and long-term pumping requirements will be significantly reduced.

18.4.3 Heap Leach Pad Site Selection

The viability for the heap leach pad was based on the following assumptions:

- Feed material particle size and gradation is sufficiently large to maintain the standard leach rate.
- The material is durable.
- The heap material can maintain permeability under the upper lifts of the heap.
- A Heap Leach pad system consists of the following components:
    - Leach pad and lining system.
    - Solution ponds and distribution system (barren solution pond, intermediate solution pond and an emergency solution pond).
    - French drain system.

For layout purposes, the following assumptions have been made:

- A mine production rate of 25,000 tonnes/day

- it has been assumed that the pad areas would be lined with HDPE liner

For the heap leach pad, a start-up footprint area of approximately 0.8 km north and south by 0.5 km east and west located approximately 2 km west of the highway was considered. The pad is conceptually designed for a 60 day primary leaching cycle and a 60 day secondary leaching cycle for a total of 120 days per cycle. One cycle yields 3,000,000 (25,000 tpd X 120 days) million tonnes or 1,875,000 m^3 using a density of 1.6 tonnes/m^3. For the purpose of this layout, 10 m lifts were assumed yielding a base area of 187,500 m^2 per lift. Ignoring edge effects, this configuration allows for the stacking of six lifts or 60 m before commencing stacking on the next pad. The total number of days to stack the six lifts is 1093 days or 3.0 years.

The containment embankment will have 3H: 1V side slopes to accommodate liner placement, and a 10 m crest width. The embankment height will be 4 m all around the startup footprint. The successive expansions after the initial 3.0 years will involve construction of a containment embankment and liner installation.

18.5 Surface Water Management System

The hydrologic setting and environmental geology of the Gaby project area has been characterized by Water Management Consultants (WMC) of Santiago, Chile. This information has been applied to construct a site water balance and to perform predictive geochemical modeling of the quality of water likely to be generated within the mine facility areas throughout mine operations. Estimates of the volume and quality of mine contact water for all key facility areas have been applied in the design of a Surface Water Management System (SWMS) incorporated into the 2008 Gaby PFS. The SWMS, details of which are provided in the PFS, is intended to fulfill the following requirements:

- Ensure efficient operation of all mine facilities without risk of uncontrolled inundation by surface water or groundwater ingress.

- Preclude the discharge of poor quality contact water to the environment.

- Maximize efficiency of water resource use through the capture and re-use of mine process water and facility contact water.

A fundamental design principle of the SWMS is the diversion to the greatest extent possible of catchment runoff classifiable as ´non-contact water´ away from the mine facility areas. This is achieved by the inclusion in the SWMS of diversion structures around the Gaby and Papa Grande pit and waste rock facility (WRF) areas. These intercept runoff emanating from up-gradient of the pit and WRF footprints and convey the water to points of re-entry along natural watercourses down-gradient of the mine facilities.

All water entering the pit and WRF footprints, either as rainfall or as groundwater ingress, is classified as contact water. The SWMS is designed capture, re-use, and/or treat all contact water, thus precluding any risk of non-compliant discharge to the environment.

The SWMS includes two reservoirs for the collection of WRF runoff and seepage. The reservoirs are to be located at the toe of each of the waste rock dumps. They are designed as zero-discharge facilities and are therefore sized to accommodate the probable maximum precipitation (PMP). Water reporting to the reservoirs will be pumped to the project´s Principal Storage Pond (PSP) for re-use (in the plant) or treatment and subsequent discharge.

Pumping systems are included within the SWMS to evacuate water from the open pits and from the WRF toe dams. This water will routinely report to the PSP. The pits will provide temporary water storage in times of high rainfall and/or limited capacity in the PSP. .

The PSP is the final point of storage within the SWMS, to which all pit and WRF contact water will report. The location of the PSP is to the west of the Pan American Highway, close to the project´s tailings facility. The PSP is designed as zero-discharge facility, with constant freeboard maintained through the reclaim of water to the process plant and/or through the treatment of water via a water treatment plant (WTP). Water discharged via the WTP will constitute the sole point of discharge (other than evaporation) from the Gaby SWMS.

The operation of the SWMS throughout mine life has been simulated through the development of a Goldsim water balance model

18.5.1 Geochemical Modelling

The geochemistry of water which will report to the PSP has been subject to simulative modeling as a component of the Gaby PFS. This formed a critical prerequisite to the design of water treatment hardware to ensure compliant discharge of excess water to the environment. The geochemical model for the SWMS was constructed by assigning chemistries to all relevant contact water inputs to the PSP evident within the SWMS water balance. The assignment of chemical signatures to contact waters was achieved through the judicious extrapolation of static and kinetic test work data for waste rock and pit wall-rock.

18.5.2 Water Treatment Plant

Water treatment system design for Gaby has been based strictly on the results of geochemical modeling with regard to water quality, and on the basis of Goldsim water balance calculations, suggesting a peak treatment volume requirement of 200 L/s during any ´normal´ climatic year, rising to 455 L/s during an El Niño year.

18.6 Economic Evaluation

18.6.1 Operating Costs

The average annual operating costs for the project alternatives are summarized in the Table 18.5.

Table 18.5
Summary of Average Annual Operating Costs

Category	Process Option							
	20,000 tpd Base Case		20,000 tpd CIL flotation combined tails		20,000 tpd CIL flotation scavenger tails		25,000 tpd Heap Leach	
	Annual Cost ($000s)	$/t Ore	Annual Cost ($000s)	$/t Ore	Annual Cost ($000s)	$/t Ore	Annual Cost ($000s)	$/t Ore
G&A	6,664	0.93	18,600	0.93	18,600	0.93	6,664	0.74
Env Mgt	2,098	0.29	5,800	0.29	5,800	0.29	2,098	0.23
Mining	21,972	3.05	61,000	3.05	61,000	3.05	27,450	3.05
Process	56,822	7.89	226,800	11.34	190,800	9.54	34,740	3.86
TOTALS	**87,557**	**12.16**	**312,200**	**15.61**	**276,200**	**13.81**	**70,952**	**7.88**

The operating cost estimates have been developed from first principles using fourth quarter 2007 unit costs.

Preparation of the mining operating cost estimate included the estimation of average haul times for ore, stockpile and waste materials from each active mining face in each year. Additionally, blast hole drill and loader productivities were estimated for the various material types, with the end result being an estimate of the annual operating hours and fuel consumption required to mine the tonnage stated in the mine production schedule.

Operating costs for the surface water management system are included in environmental management (Env. Mgt.).

18.6.2 Capital Costs

The initial capital costs required to bring the project alternatives into production are summarized in Table 18.6.

Table 18.6
Summary of Estimated Initial Capital Costs

Category	Process Option			
	20,000 tpd Base Case	**20,000 tpd CIL flotation combined tails**	**20,000 tpd CIL flotation scavenger tails**	**25,000 tpd Heap Leach**
	$000's	**$000's**	**$000's**	**$000's**
Owners Cost	5,000	5,000	5,000	5,000
Mine Fleet	16,010	16,010	16,010	20,012
Mine Pre-Strip	2,008	2,008	2,008	2,008
Process and Ancillaries	317,100	363,000	329,400	177,500
Tailings Dam	32,155	32,155	32,155	28,230
Surface Water Management	59,695	59,695	56,695	56,695
TOTALS	**431,968**	**477,868**	**441,268**	**289,445**

New vendor quotations were solicited for major equipment, current in-house information from IMC's Rio Blanco project in Ecuador was referenced for bulk material pricing, labor costs and labor productivities. IMC believes the estimate accuracy is in the range of plus 25% to minus 10%, typical for preliminary feasibility studies of this type

Mine Costs

The mine costs estimates are based on the mine designs and associated equipment selections discussed in Section 18.2 of this Technical Report. A schedule of annual mine capital expenditures was estimated from the annual equipment purchase and replacement schedule, which was prepared from annual equipment operating estimates and major mine equipment purchase prices obtained from EMG Mining Consultants of Tempe, Arizona. EMG regularly negotiates discounted fleet pricing for major mining projects worldwide. Support and other equipment prices were obtained from costs observed at comparable South American open pit mines.

The estimated annual mine capital costs are summarized in Table 18.7.

Table 18.7
Annual Mine Capital Expenditures

Mine Capital Estimate	Year																	
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**Total**
Sub-Total Annual Capital Expenditure	14,295	26,868	4,507	135	2,087	285	135	630	135	285	630	135	135	780	135	135	0	51,313
IVA @ 12%	$1,715	$3,224	$541	$16	$250	$34	$16	$76	$16	$34	$76	$16	$16	$94	$16	$16	$0	$6,158
Total Annual Capital Expenditure	**$16,010**	**$30,093**	**$5,048**	**$151**	**$2,338**	**$319**	**$151**	**$706**	**$151**	**$319**	**$706**	**$151**	**$151**	**$874**	**$151**	**$151**	**$0**	**$57,471**

Process and Ancillaries

This current Preliminary Feasibility Study has reevaluated all aspects of the previous studies discussed in Section 16.0 and updated costs to fourth quarter 2007. The scope included in these cost estimates is based on the process described in Section 18.3.

Tailings Dam

The cost estimate for the cycloned tailings dam is based on the following assumptions:

- Initial as well as deferred capital expenditure costs.
- Land acquisition or Environmental Impact Statement permitting costs have not been included
- The unit rates are based on data supplied by IMC in 2007.
- The startup costs are based on a maximum startup embankment height of 10.4 m providing a storage capacity of 10.1 million tones or 13 months of operation.

The construction cost estimate for the cyclone starter embankment and facilities is $26 million. An additional 25% of the construction cost estimate is added as contingency bringing the total startup cost estimate to $32 million.

Table 18.8
Cycloned Tailings Dam Startup and Deferred Capex Cost Estimate Summary.

PERIOD	Deposition Period (yrs)	Capital Cost ($ x 10^6)
(0- 1)Starter Dam	1	32.16
Year 1 - Year 3	2	19.25
Year 3 - Year 5	2	15.03
Year 5 - Year 7	2	10.52
Year 7 - Year 9	2	8.39
Year 9 - Year 11	2	8.39
Year 11 - Year 14	3	8.39

[In 2007 dollars: Unit rates supplied by IMC]

Heap Leaching Facility

The heap leach capital cost estimate is based on the following assumptions:

- Initial as well as deferred capital expenditure costs.
- Land acquisition or Environmental Impact Statement permitting costs have not been included.
- The unit rates are based on data supplied by IMC in 2007.

The construction cost estimate for the heap leach starter embankment and facilities is $23 million. An additional 25% of the construction cost estimate is added as contingency bringing the total project cost estimate to $28 million.

Table 18.9
Heap Leach Pad Startup and Deferred Capital Expenditure Summary.

PERIOD	Deposition Period (yrs)	Capital Cost ($ x 10^6)
Year 0 - Year 3	3	32.61
Year 3 - Year 6	3	18.25
Year 6 - Year 11	5	9.92

(In 2007 dollars: Unit rates supplied by IMC)

18.6.3 Surface Water Management System (SWMS)

A capital cost estimate has been compiled by WMC for all elements of the SWMS, including the following facilities:

- Non contact-water diversion channels.
- Waste dump toe dams.
- Toe dam and pit dewatering pumping systems.
- Principal Storage Pond (PSP) and associated french drain system.
- Acid water treatment plant (AWTP).

18.6.4 Project Implementation

A project schedule for the Gaby project has been developed by IMC. This schedule has been derived from information developed during execution of the preliminary feasibility study. The schedule reflects IMC's management's intention, subject to further optimization studies and market conditions, to advance the project to full feasibility. For the purposes of developing cost estimates and a complete project schedule, a positive result has been assumed from the full feasibility, leading to a "Go" decision for permitting and construction.

A major aspect of project advancement at Gaby will be the acquisition of additional surface rights and additional mineral concessions to completely cover the area of direct impact for project implementation. As this represents a large investment and a labor intensive 18 month work program a staged approach has been taken. This will allow for the identification and survey of current landowners and for simple acquisitions to be made now, delaying major outlay of capital until a higher degree of certainty exists regarding project advancement.

The final approval of the EIS is the driving activity for all site development and construction activities and there is no guarantee that this will be approved in the

timeframe shown. This is an estimate based on positive outcome at each stage of the process. In Ecuador it would be normal to expect some delays to this process.
A list of key project milestones is included in Table 18.10.

Table 18.10
Summary of Project Milestones.

Activity	Date
Completion of Final Feasibility Study	3rd QTR 2009
Land Acquisition Complete	4th QTR 2009
Basic Engineering Complete	3rd QTR 2010
Detailed Engineering and Procurement Complete	2nd QTR 2011
EIS Complete	2nd QTR 2010
EIS Approval Granted	4th QTR 2010
Construction Complete	4th QTR 2012
Production Commences	1st QTR 2013

18.6.5 Basis of Economic Evaluation

The economic analyses of the Gaby Project have been conducted on 100% equity, 100% project basis using the following assumptions:

- Base Gold Price US$650 per ounce
- Base Copper Price US$2.50 per pound
- Discounted cash flow analyses are pre-tax and profit sharing (Ecuadorian Value Added Tax - IVA, is included)
- Potential future royalties are not considered
- Windfall profit tax has not been considered
    - NOTE: This could potentially impact the economics on the higher gold price sensitivities. It is not anticipated that the trigger price would be below spot gold value
- Working Capital is assumed as 3 months of total operating cost
- Closure Costs are assumed to be equal to working capital and resale value of the equipment
- It is assumed that the necessary surface rights and mineral concession needed can be acquired for complete project development
- All project costs prior to a production decision and receipt of required permits are not considered in the cash flow analyses
- An allowance of $5 million has been included to address owner’s costs
- No allowance has been made for price escalation. All prices are Q4 2007 US dollars.

- NOTE: the industry is presently experiencing historically high price escalation so caution must be used when applying these 2007 costs to a potential future project

18.6.6 Base Case Economics (20,000 tpd Agitation Leach)

The capital and operating costs, presented in Table 18.5 and Table 18.6, combined with the Preliminary Feasibility pit production schedule, sustaining capital and metallurgical recoveries were input into a standard pro-forma cash flow. The key parameters and results are as follows:

- 100.8 Million tonnes at 0.79 g/t Au inside the optimized pit shell
  - Due to increases in operating costs between the initial pit optimization costs and the final operational costs used for economic analyses, the amount of tonnes treated is less than shown in Section 18.2. This is because the rehandle of low grade material was no longer economically viable.
- Stripping ratio: 1.25:1 (waste:ore).
- Metallurgical recovery: 89% Au.
- Plant capacity: 20,000 tpd for 360 days per year.
- Life of Mine: 14 years.
- Initial capital cost: $432.0 million.
- Life of mine capital cost (includes working capital and allowance for reclamation): $556.7 million.
- Life of mine average operating cost per tonne milled: $12.16.
- Total Gold Ounces recovered: 2.3 million.
- Operating cost per ounce recovered: $538.
- Total cost per ounce recovered: $783 (including capital).
- Internal Rate of Return: -11.6% (negative 11.6 %).
- Net Present Value: negative $314 million at a zero discount rate.

18.6.7 Base Case Sensitivities

Sensitivities were run to evaluate the impact of changes in capital costs, operating costs and metal prices on the base case economics. Results are summarized in Figure 18.8 and Figure 18.9. These figures clearly show that the Gaby project is more sensitive to changes in operating cost than it is to changes in capital cost.

Figure 18.8
Base Case Agitation Leach Sensitivity to Gold Price

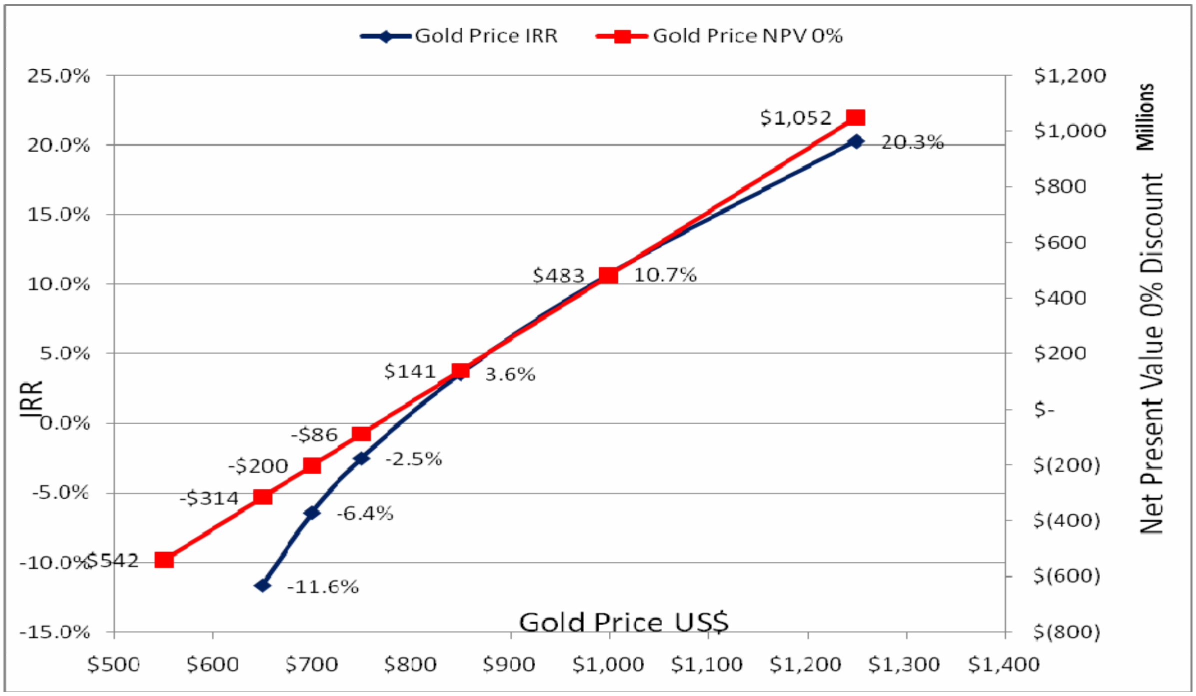
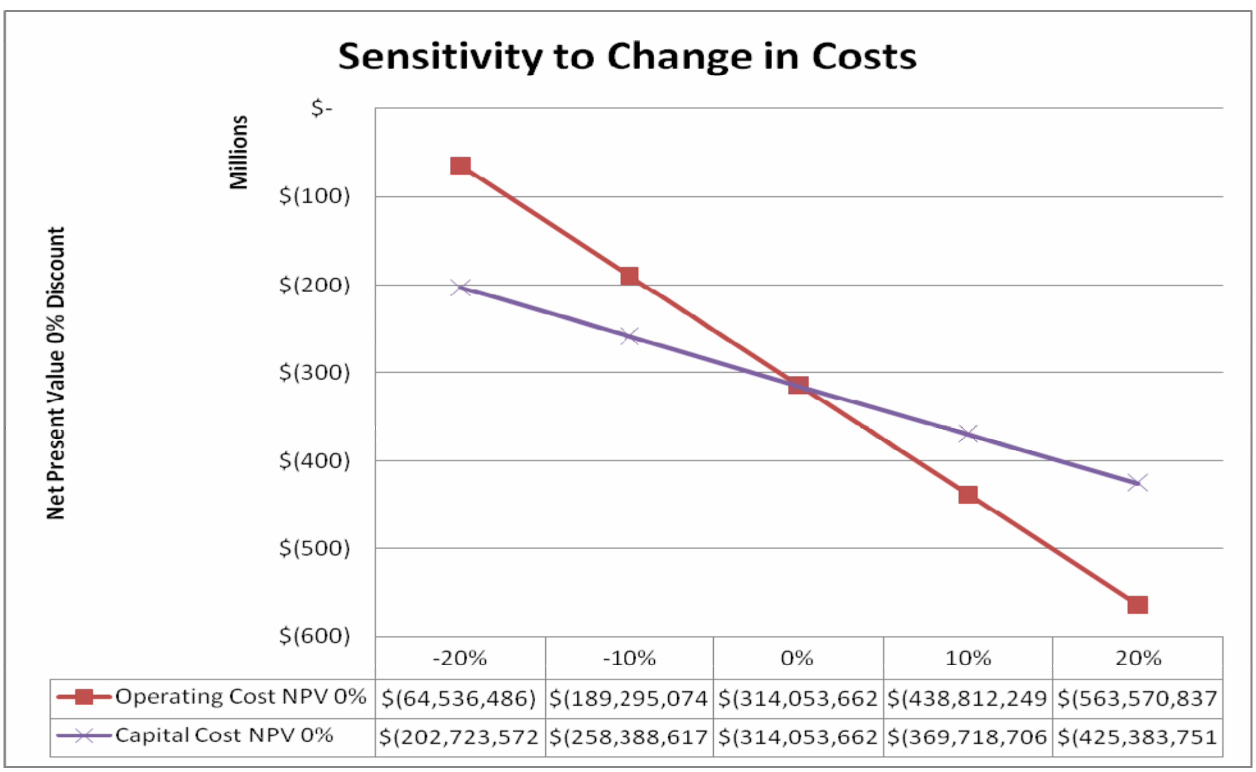


Figure 18.9
Base Case Sensitivity to Changes in Operating or Total Capital Costs.



18.6.8 25,000 tpd Heap Leach Case Economics

The capital and operating costs, presented in Table 18.5 and Table 18.6, combined with the Preliminary Feasibility pit production schedule (manually adjusted to reflect a 25,000 tpd throughput rate), sustaining capital, heap leach parameters and metallurgical recoveries were input into a standard pro-forma cash flow. The key parameters and results are as follows:

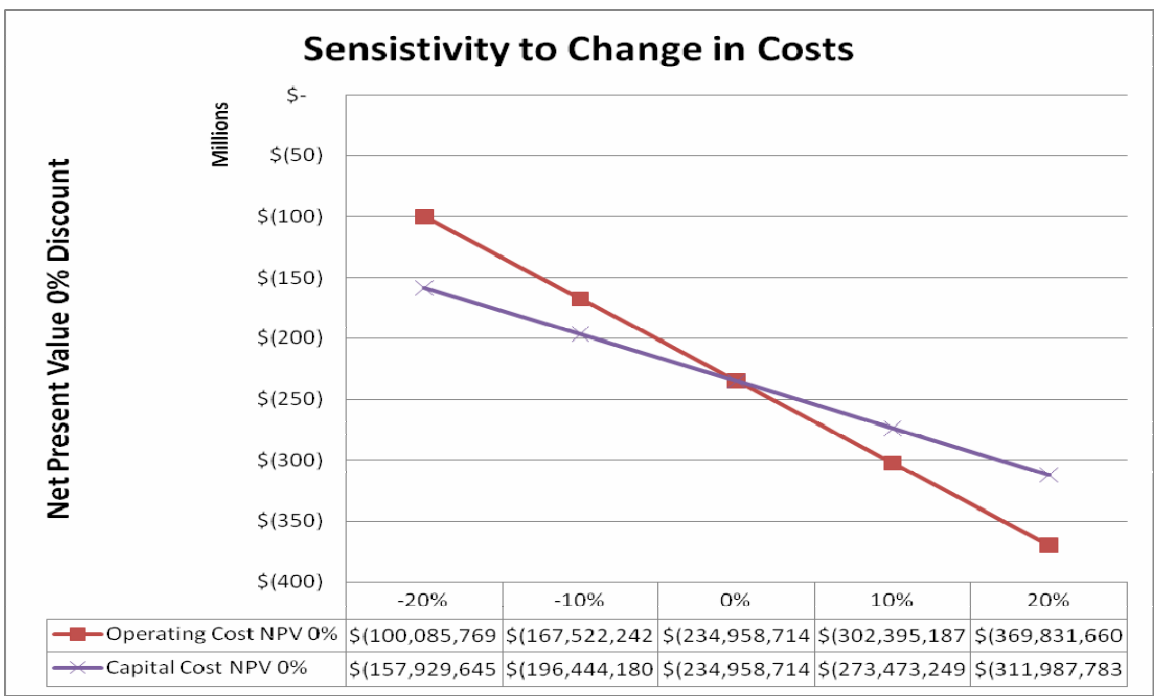
- 88 Million tonnes at 0.80 g/t Au inside the optimized pit shell.
- Stripping ratio: 1.46:1 (waste:ore).
- Metallurgical recovery: 56% Au.
- Plant capacity: 25,000 tpd for 360 days per year.
- Life of Mine: 10 years.
- Initial capital cost: $290 million.
- Life of mine capital cost (includes working capital and allowance for reclamation): $385 million.
- Life of mine average operating cost per tonne milled: $7.45.
- Total Gold Ounces recovered: 1.2 million.
- Operating cost per ounce recovered: $525.
- Total cost per ounce recovered: $833.
- Internal Rate of Return: -15% (negative 15%).
- Net Present Value: negative $235 million at a zero discount rate.

18.6.9 25,000 tpd Heap Leach Case Sensitivities

Sensitivities were run to evaluate the impact of changes in Capital, Operating Costs and metal prices on the base case economics. Results are summarized in Figure 18.10 and Figure 18.11. These figures clearly show that the Gaby project is more sensitive to changes in operating cost than it is to changes in capital cost.

Figure 18.10
Base Case Heap Leach Sensitivity to Gold Price

Figure 18.11
Base Case Heap Leach Sensitivity to Changes in Operating or Total Capital Costs.



	-20%	-10%	0%	10%	20%
Operating Cost NPV 0%	$(100,085,769	$(167,522,242	$(234,958,714	$(302,395,187	$(369,831,660
Capital Cost NPV 0%	$(157,929,645	$(196,444,180	$(234,958,714	$(273,473,249	$(311,987,783

19.0 INTERPRETATION AND CONCLUSIONS

A Measured and Indicated mineral resource estimate of 308 million tonnes ("Mt") at an average grade of 0.63 g/t gold at a 0.4 g/t cut-off containing 6.2 million ounces of gold has been delineated. Additional Inferred resources are estimated to be 122 Mt at an average grade of 0.65 g/t gold containing 2.6 million ounces of gold.

A Preliminary Feasibility Study comprised the evaluation of four fundamentally different flowsheets. This Study concluded that agitation leaching is likely to be the best economic and technical alternative. The agitation leach flowsheet includes primary crushing, grinding, carbon in leach (CIL) cyanidation, carbon stripping, electrowinning and smelting to produce doré bars on site.

The conclusion of this study is that the Gaby Project contains a significantly large low grade gold deposit, with associated low-grade copper mineralization. Whilst at the base case gold price of US$650 and a mill throughput of 20,000 tpd the project is un-economic, the sensitivities conducted indicate that a higher throughput would improve profitability.

The study also concluded that the copper recovery by flotation, in addition to agitation leaching, fails to improve economics and therefore will unlikely be considered as a driving factor in future project decisions.

20.0 RECOMMENDATIONS

It is recommended that further work be undertaken to optimize the agitation leach flowsheet (with or without flotation) and production rate prior to proceeding with a detailed feasibility study on the most appropriate option for project development.

Additional scoping level studies, using the cost information developed for this report, should be conducted to evaluate:

- Three-stage crushing ahead of single stage ball milling to replace semi-autogenous grinding. SAG milling was originally proposed for use at Gaby because it offered a convenient way to handle the high clay content saprolitic oxides. As the drilling campaigns have expanded the deposits the percentage of saprolite has decreased accordingly and it might be possible to treat high clay material by stockpiling and selectively blending it with hard material. Elimination of SAG milling would result in (possibly) significant capital and (certainly) significant operating cost savings as well as avoiding the impact of extremely long deliveries associated with those machines.
- High pressure grinding rolls as another, probably less likely, candidate to replace SAG mills. This is a relatively new, but commercially proven, technology that would require specialized testing by the manufacturer.
- Flotation in conjunction with agitation leaching. In the event that copper flotation is abandoned the latest testing has nevertheless focused interest on the possibility of producing a low grade, high recovery rougher gold concentrate that would allow the rejection of rougher tailings to disposal, thereby significantly reducing the amount of feed to cyanidation and cyanide destruction. This will need careful evaluation of treatment routes for saprolitic material that may not respond well to flotation.

The main recommendations pertaining to geology and mineral resources at Gaby are as follows:

- The assay and drill hole data bases should be recompiled to clean up a variety of small problems and inconsistencies that exist in the current versions.
- Studies should be done to investigate the reasons for a high level of variability between duplicate samples. If the underlying reason is the nature of the gold — a very few liberated grains in a much larger mass of barren material — then, working with commercial assay laboratories, IMC should develop sample preparation and analytical procedures that mitigate the problems being caused by sample heterogeneity.
- Information on topography should be re-checked and, where necessary, new ground control survey points should be measured so that a reliable electronic model of the original ground surface is available for future feasibility studies.
- The statistical technique known as "recursive partitioning" should continue to be used to improve and refine the models of the geological controls on

mineralization. This improved understanding will not only improve the reliability of future resource models, but will also pay dividends with improved grade control procedures

"Mohan Srivastava" (signed and sealed)

Mohan Srivastava P.Geo. March 26, 2008

"Howard Steidtmann" (signed and sealed)

.
Howard Steidtmann P.Eng March 26, 2008

"Richard M. Gowans" (signed and sealed)

Richard M. Gowans, P.Eng. March 26, 2008

21.0 REFERENCES

Gaby Project, Preliminary Feasibility Study, Compiled by International Minerals Corporation, February 2008. Study comprises the following volumes:

- Executive Summary
- Volume 1, Gaby Preliminary Feasibility Study.
  - Geology and Resources
- Volume 2, Gaby Preliminary Feasibility Study.
  - Mining
- Volume 3, Gaby Preliminary Feasibility Study.
  - Heap Leaching
- Volume 4, Gaby Preliminary Feasibility Study.
  - Heap Leach Facility Evaluation
- Volume 5, Gaby Preliminary Feasibility Study.
  - Agitation Leaching and Flotation
- Volume 6, Gaby Preliminary Feasibility Study.
  - Tailings Dam Evaluation
- Volume 7, Gaby Preliminary Feasibility Study.
  - Surface Water and Environmental Management
- Volume 8, Gaby Preliminary Feasibility Study.
  - Project Economics and Implementation

CERTIFICATE

As the author of a portion of this report on the Preliminary Feasibility Study for the Gaby Gold Project, of International Minerals Corporation, located in Ecuador, I, Richard M. Gowans P. Eng. do hereby certify that:

1. I am employed by, and carried out this assignment for

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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 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 26 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 gold metallurgical testwork programs and gold processing plants.

6. I visited the Gaby Project site on September 5 and 6, 2007.

7. I am responsible for the preparation of Sections 1 to 5, 16, 18.3 to 18.8, 19 and 20 of the technical report titled "NI 43-101 Technical Report on the Preliminary Feasibility Study for the Gaby Gold Project, Ecuador", dated March 26, 2008.

8. I am independent of the parties involved in the transaction for which this report is required, as defined in Section 1.4 of NI 43-101.

9. I have had no prior involvement with the mineral properties in question.

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.

    Dated this 26th day of March, 2008

    "Richard M. Gowans" signed and sealed

    Richard M. Gowans, P.Eng.

CERTIFICATE

As the author of portions of this report on the Preliminary Feasibility Study for the Gaby Gold Project, of International Minerals Corporation, Ecuador, I, R. Mohan Srivastava, P. Geo., do hereby certify that:

1. I am employed by, and carried out this assignment for:

   FSS Canada Consultants Inc.
   Suite 1121, 120 Eglinton Avenue East
   Toronto, Ontario
   M4P 1E2

   tel. (416) 322-2857
   fax (416) 322-5075
   e-mail: MoSrivastava@fssconsultants.ca

2. I hold the following academic qualifications:

   B.Sc., Earth Sciences, Massachusetts Institute of Technology (1979)
   M.Sc., Applied Earth Sciences (Geostatistics), Stanford University (1987)

3. I am a registered Professional Geologist of Ontario (Membership Number 0547).

4. I have worked as a geostatistician in the minerals industry for over 28 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 calculation, review and supervision of mineral resource estimates for base and precious metals deposits, including porphyry-style gold/copper deposits.

6. I have not visited the Gaby Project site.

7. I am solely responsible for the preparation of Sections 6 to 14 and 17 of the Technical Report entitled "NI 43-101 Technical Report on the Preliminary Feasibility Study for the Gaby Gold Project, Ecuador", dated March 26, 2008.

8. I am independent of the parties involved in the transaction for which this report is required, as defined in Section 1.4 of NI 43-101.

9. I have had no prior involvement with the mineral properties in question.

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.

    Dated this 26th day of March, 2008

    "R. Mohan Srivastava" signed and sealed

    R. Mohan Srivastava, P.Geo.

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CERTIFICATE

As the author of a portion of this report on the Preliminary Feasibility Study for the Gaby Gold Project, of International Minerals Corporation, located in Ecuador, I, Howard A. Steidtmann. do hereby certify that:

1. I am employed by, and carried out this assignment for

Mine Planning Group
PO Box 6825
Staleline Nevada USA
89449

Tel (755) 790-0091
Fex (775) 588-4597
e-mail: hsteidtmann@MinePlanningGroup.com

2. I hold the following academic qualifications:

    B.Sc. Mining Engineering Colorado School of Mines (1986)

3. I am a member in good standing of the Australasian Institute of Mining and Metallurgy (AusIMM member #221886) and the Society for Mining, Metallurgy and Exploration, Inc. (SME member #4050333)..

4. I have worked as mining engineer in the minerals industry for over 20 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 and execution of numerous technical studies and audits relating to gold mining projects and operating gold mines world wide.

6. I visited the Gaby Project site on September 5 and 6, 2007.

7. I am responsible for the preparation of Section 18.2 of the technical report titled "NI 43-101 Technical Report on the Preliminary Feasibility Study for the Gaby Gold Project, Ecuador", dated March 26, 2008.

8. I am independent of the parties involved in the transaction for which this report is required, as defined in Section 1.4 of NI 43-101.

9. Over the past 11 years, I have worked for other consulting engineering firms which performed studies involving the mineral properties in question..

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.

    Dated this 26th day of March, 2008

    *"*Howard A. Steidtmann*" signed and sealed*

    Howard A. Steidtmann MAusIMM.