

**Technical Report
on the San Juan Property,
Bahia de los Angeles
Baja California, México**

Latitude: 28° 42' 37" N,
Longitude: 113° 34' 27" W
248,500 m E,
3,178,450 m N
(UTM, NAD 27 for Mexico)
INEGI Map Sheets: H12C52 and H12C62

prepared for

Lalo Ventures Ltd.
301-700 West Pender Street
Vancouver, BC V6C 1G8

by

P. Metcalfe, Ph.D., P.Geo.
Palatine Geological
204-130 East Queens Road
North Vancouver, B.C. V7N 1G6

September 19th, 2005

SUMMARY

Between March 31st and June 10th, 2005 the author examined the San Juan project area, located near Bahia de los Angeles in Baja California México, on behalf of Lalo Ventures Ltd. The purpose of the site visit was to determine whether the property was of technical merit, as described by the TSX Venture Exchange, and to make recommendations for further work.

The property is underlain by intrusive and metamorphic basement rocks of inferred Cretaceous isotopic closure age. The basement rocks are overlain in the west of the property by a sequence of volcanic rocks of inferred Cainozoic age. Mineral occurrences discovered to date on the property are all hosted by the Cretaceous rocks.

Minas San Borja and La Manila are mineralised ductile to brittle shears hosted by mica schists and are of relatively small size. Mina San Juan and the "Superdyke" zone in the Sierra la Libertad are hosted by a polyphase biotite ± hornblende granitoid, probably of mainly granitic composition, which includes K-feldspar megacrystic phases. The granite is cut by a penetrative west-northwest striking, altered fracture set whose strike is interpreted as the direction of maximum principal stress during the mineralising event. Undeformed, fine-grained leucocratic dykes, without modal biotite and with rare euhedral K-feldspar megacrysts, intrude the main San Juan Granite along this structural strike. The dykes contain disseminated pyrite and arsenopyrite and are interpreted as penecontemporaneous with mineralization.

The mineralization at the aforementioned mines and in two small workings in the Sierra la Libertad area is remarkably similar in style. Mineralization comprises shear-hosted quartz veins or breccias with or without pyrite, arsenopyrite, galena and sphalerite and very minor chalcopyrite. Even the bull quartz veins at Mina la Manila contain elevated levels of silver, arsenic, lead and zinc and, at the other locations sampled, antimony and bismuth values are erratic but also elevated. Every chip sample taken from vein material on the property returned a value of greater than 1 gm/t; the median value is roughly 4 gm/t. These results are consistent with and on a larger scale than previous observations.

The mineralising event is interpreted as intrusion-related, with the geochemical style resembling a gold-bearing porphyry system, associated with a quartz-rich peraluminous granite. Penecontemporaneous brittle and ductile deformation has concentrated some of the gold-bearing mineralization as vein deposits.

If the interpretation above is valid, the mineralising system is large. The intrusive and metamorphic assemblage mineralised by this event effectively underlies most of the property and probably extends beneath the Cainozoic cover to the west. Little of this ground has been explored beyond prospecting and none of this exploration is recent. The property has hosted a commercially producing mine (San Juan which produced roughly 100,000 tonnes of ore containing roughly 20 gm/t Au. Based upon the above information, concession(s) composing the San Juan property, in the author's opinion, meet the TSX-V criteria as a property of merit for future exploration.

The following recommendations are made:

1. A detailed topographic map of the claim area should be produced, as economically as possible from dedicated satellite or aerial photographic data.
2. Establishment of vehicle access and camp facilities, including a supply of potable and non- potable water.
3. Location of previous mine plans for Minas San Juan and San Borja.
4. Mapping and prospecting of the Mina San Juan and Sierra la Libertad ("Superdyke") areas. This includes mapping of underground workings, where safe to do so.
5. A detailed programme of sampling alluvial sediments over the entire property, concurrent with mapping and prospecting.
6. An orientation soil survey over the main surface trace at Mina San Juan, followed by sampling the entire strike length of the alteration zone in the Sierra la Libertad ("Superdyke") area.
7. An orientation electromagnetic geophysical survey over the main zone at Mina San Juan, followed by an extensive survey in the Sierra la Libertad ("Superdyke") area, concurrent with the soil sampling.

A budget of \$200,000 is proposed for the initial phase of activity. A second phase of exploration would include drill testing of any identified targets from Phase 1, should favourable results be returned.

TABLE OF CONTENTS

Summary	2
List of figures	5
List of tables	5
Introduction and terms of reference	6
Disclaimer.....	6
Property location and description.....	7
Location of property	7
Property description and mineral tenure.....	7
Physiography, climate, vegetation, access, local resources and infrastructure	10
History	11
Geological setting.....	12
Regional geology.....	12
Property geology	16
Regional metallogeny and target deposit types.....	19
Property mineralization	19
2005 Exploration activities	20
Sampling methods and approach	21
Sample security, preparation and analytical procedures	22
Sample security	22
Sample preparation and analytical procedures	22
2005 exploration results	23
Results of check sampling	23
Geological fieldwork.....	24
Data verification	31
Other relevant information.....	31
Interpretation and conclusions	32
Recommendations	33
Acknowledgements	36
References.....	36
Appendix I: A note on coordinate systems.....	37
Appendix II: Option agreement for San Juan property	38
Appendix III: Relevant B.C.G.S.B.Mineral Deposit Profiles	39
Appendix IV: Sample descriptions and analyses	47

LIST OF FIGURES

	Page
Figure 1. Property location map (Geodetic projection, World Geodetic System (WGS1984).	8
Figure 2. Topographic map of the San Juan property showing workings and areas of interest.....	9
Figure 3. Regional geological map of Isla San Esteban area, showing the location of the property.....	13
Figure 4. Stratigraphic column for Isla San Esteban map (H12-10), after Romero Rojas <i>et al.</i> (1998). ...	14
Figure 5. Geological map of the San Juan property, showing areas visited.....	17
Figure 6. Legend for Figure 5 (for translation of geological terms, see Figure 4).....	18
Figure 7. Geological map of the mine area, showing rock and stream sediment sampling.	25
Figure 8. Geological fieldwork in the Sierra la Libertad or “Superdyke” area.	30

LIST OF TABLES

	Page
Table 1. Mineral tenure of the San Juan concession as stated on the mineral title.	7
Table 2. Translation of selected terms from Figures 4 and 6.	15
Table 3. Proposed Budget	35

INTRODUCTION AND TERMS OF REFERENCE

The purpose of this report is to present an evaluation of the San Juan mineral property as a property of merit for the purpose of mineral exploration. The property is located near Bahia de los Angeles in the state of Baja California, México. The property evaluation is made on the basis of a site visit made, in June of 2005, by the author and by Marcus van Wermeskerken, Gerald Rayner and B. Marie Brannstrom. The report is written to conform to the document structure specified by National Instrument 43-101.

DISCLAIMER

This report is based on geological fieldwork carried out by the above personnel at the San Juan Property. Field observations and analytical results from this site visit are supplemented with data from previous visits made in 2004, by Messrs. V. van Damme, John Benglesdorf and Alan Roberts, upon information made available by Lalo Ventures Ltd and by Baminex S.A. de C.V. and upon geological information retrieved from the Mexican government. The previously existing geological information made available to the author is correct and complete to the best of the author's knowledge.

The author is not qualified to comment upon the tenure or standing, good or otherwise, of the mineral concessions which compose the San Juan property, nor upon the nature of property taxes (if any are owing), nor upon the option agreement(s) between Baminex S.A. de C.V. and Lalo Ventures Ltd. The author has recently become aware of two other mineral tenures within the area of the San Juan concession which are owned in right of the principals of Baminex and which are not mentioned in the option agreement. This report is therefore presented as a geological evaluation of the area enclosed by the external boundaries of the San Juan mineral concession. The San Juan property was defined as such to the author by Lalo Ventures, as including the San Juan and San Borja mines. These are therefore included in the assessment of the property as a potential property of merit for mineral exploration and are a *sine qua non* for the findings of this report.

The San Juan group of mineral concessions lies in part within the Parque Natural del Desierto Central de Baja California. The author is not qualified in Mexican law, nor on the classification of the park, nor can he state whether provision exists for mineral exploration within such a class of park. Certain provisions exist for mineral exploration within certain classes of park in Canada. Lalo Ventures Ltd. assured the author verbally that this is the case in México. An independent opinion on the matter is necessary.

Units of measure in this report are metric. Where prior analyses or assays were reported in imperial or Troy units, such values may be appended, parenthetically and properly annotated. Monetary amounts referred to herein are expressed in Canadian dollars unless otherwise stated.

PROPERTY LOCATION AND DESCRIPTION

Location of property

The San Juan property lies approximately 450 km southeast of Ensenada and 26 km south-southwest of the fishing and tourist community of Bahía de los Angeles (Figures 1 and 2). The mineral concession straddles the Los Paredones and Bahía de los Angeles topographic map sheets (INEGI maps H12C52 and H12C62).

Maps of San Juan in this report are based either upon latitude and longitude or a Universal Transverse Mercator (UTM) projection using the 1927 North American (NAD27) datum for México. The property lies within Zone 12R. The reader is referred to Appendix I for a detailed description of co-ordinate systems.

Property description and mineral tenure

The San Juan concession is centred on latitude 28° 46' 37.3" N, longitude: 113° 35' 4.8" W. The author visited the *mojonera* (claim monument) during the course of the site visit. A measurement made using a global positioning system (GPS) unit, at the centre of the *mojonera* indicates that its location, as stated on the mineral title document, lies within error of the measurement. The author, with the *caveat* noted above, has reason to believe that the San Juan mineral concession is properly located.

The property details are summarised in Table 1:

Table 1. Mineral tenure of the San Juan concession as stated on the mineral title.

Name	Título	Número de expediente	Area (ha)	Owner
SAN JUAN	222355	02/6799	20,075.587	Baminex S.A. de C.V.

The present San Juan concession is held by Baminex S.A. C.V. of Ensenada, México. This concession is subject to an option agreement between Lalo Ventures Ltd. and Baminex, presented in its entirety in Appendix II. In summary, Lalo Ventures will earn a 100% interest in the San Juan mineral concession, subject to a 2% net smelter return (NSR) by making staged payments of US\$165,000 over a 4 year period.

The area covered by the San Juan concession is stated on the claim monument as 20,830 hectares (ha). This area is consistent with the area determined by the author during GIS reconstruction of the concession boundary. This differs from the area stated on the mineral title and from that stated on the option agreement (20,300 ha). The discrepancies owe at least in part to two pre-existing concessions, the EX-JET II (Título 210220) and EX-JET III (Título 213932), which cover at least part of the area of Mina San Juan (E.X. Lavarack pers. comm. 2005). These concessions are owned by Javier Eligio Tirado, a principal of Baminex, in right of himself and Mr. Eric X. Lavarack, a principal of Baminex and Lalo.



Figure 1. Property location map (Geodetic projection, World Geodetic System (WGS1984).

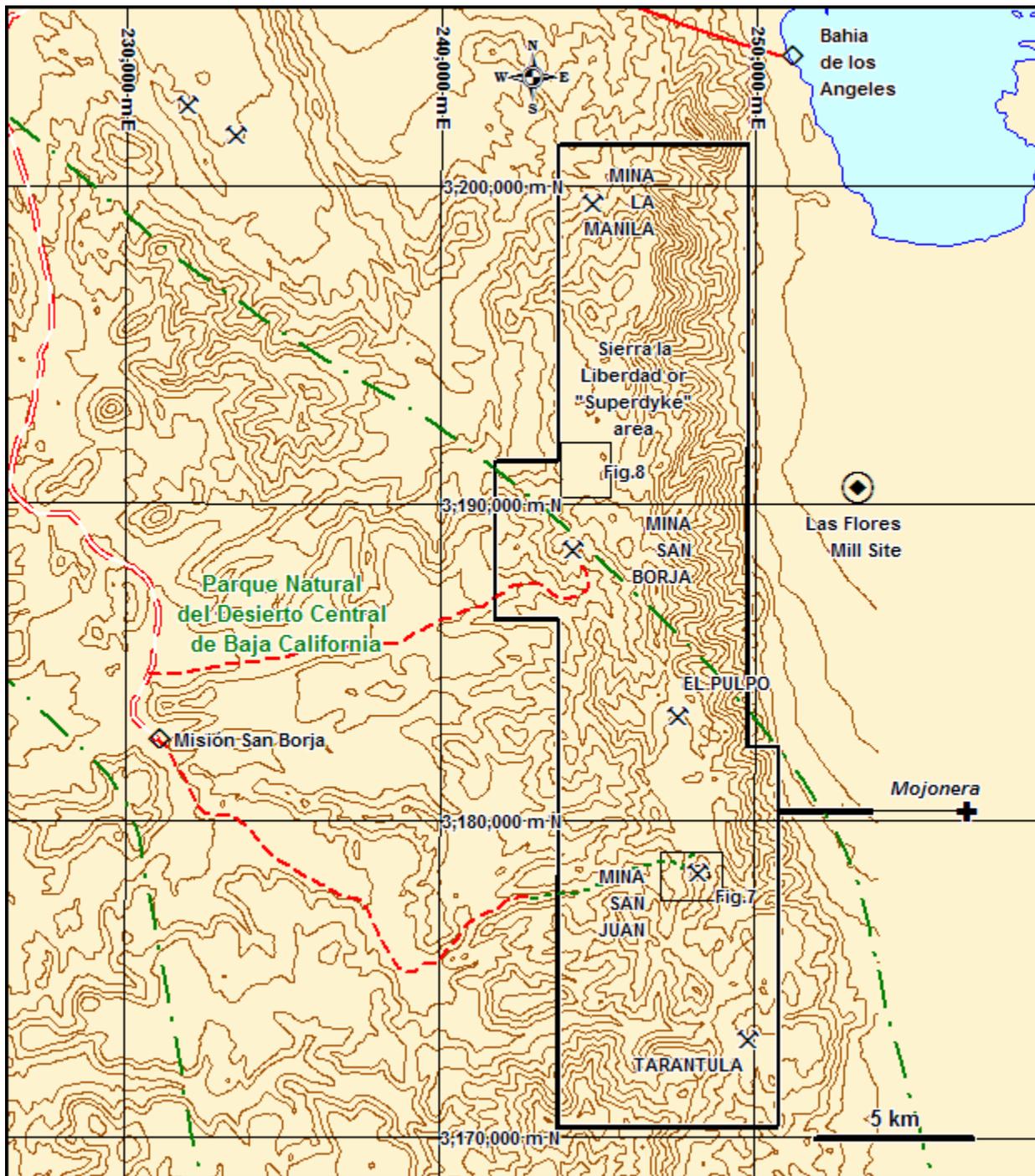


Figure 2. Topographic map of the San Juan property showing workings and areas of interest.

(UTM projection; NAD'27 for México; contour interval 100 m). Red dashed lines are approximate locations of 4-wheel drive road access to property from Misión San Borja. The condition of these roads is not known at the time of writing.

The author has been assured verbally (*ibid.*) that an agreement exists between the owner of the mine concessions and Baminex, such that the EX-JET II and EX-JET III concessions are to be included with the San Juan concession as part of the Lalo-Baminex option agreement. At the time of writing, the author has not seen a written contract to that effect, nor has he seen a current Mexican government claim map of the San Juan property. As noted above (p.5), a formal contract including any concessions which lie within the boundaries of the San Juan concession are a sine qua non for the findings of this report.

PHYSIOGRAPHY, CLIMATE, VEGETATION, ACCESS, LOCAL RESOURCES AND INFRASTRUCTURE

The San Juan property is located in the eastern Baja California, near the main Gulf escarpment. The escarpment is a south-southeast trending fault zone, downthrown to the east, which is a relic of the rifting that produced the Sea of Cortéz. The change in elevation from sea level to the crown pillar of Mina San Juan is 1300 m. Topography is locally steep and cut by deep flash-flood channels, which are the dominant surface features (Roberts 2005).

The climate in the region, as noted by Rojas (1998), is predominantly arid with a median annual temperature of 22°C to greater than 40°C. Average annual precipitation varies from 0 to 100 mm; precipitation in this part of the Baja California peninsula is typically torrential and Roberts (2004) notes that campsites located in watercourses would be in peril.

Vegetation in the area is typical of the arid climate. Small cacti such as *bisnaga* (barrel cactus), *nopal* (prickly pear), *pitaya* and *carambuya*, low scrub and thorn, such as *unia del gato*, predominate; *cholla* is locally abundant. Trees are absent, but large tree-like *cardones* and *cirios* are common. The vegetation is not sufficiently dense as to hinder fieldwork, but is problematic for helicopter access in many areas.

The abandoned Mina San Juan lies 26 km south-southwest of the fishing and tourist community of Bahia de los Angeles which can provide accommodation, food, water, repairs and maintenance. Internet and telephone services are available in this village. 25 km west of Bahia de los Angeles, a dirt road leads southwards to the Misión San Borja, a distance of 35 km. Further access is by four-wheel drive, a distance of approximately 17.6 km along a degraded road; the journey takes several hours. From the end of the road, a trail extends 3-5 km to Mina San Juan itself, climbing from 823 m above sea level (a.s.l.) to 1339 m a.s.l. The trail passes many of the abandoned mine workings, including exploration pits and shafts, stone dams and tailings piles. The Mina San Borja is also accessible by rough road. Mina la Manila and the area of alteration north of Mina San Juan are accessible only on foot or by air.

Access for the purpose of this site visit was by helicopter, from a temporary field office in Bahia de los Angeles. The road into the property was overflowed but not travelled. The author was advised that access to the property by road and trail is presently most difficult.

HISTORY

Romero Rojas *et al.* (1998) note that the area has been worked historically on a small scale. Anecdotal information from Bahia de los Angeles, suggests that the earliest exploration (and possibly mining) in the San Juan area began in 1752. Van Damme (pers. comm. 2005 to G. Schellenberg) noted that operations at Mina San Juan itself began in 1818. These operations were continued by a British company from the late 1800s, ceasing in 1911. The cause of cessation of operations was, supposedly, the revolution in Mexico rather than depletion of the resource.

Reportedly, during operation, at least ten and possibly eleven levels were excavated at Mina San Juan (Arbuckle 1910). Levels 1 and 2, at or near the crown pillar and Level 8, the main haulage level during the later life of the mine, were and remain accessible through adits. These have been designated the 1285 m, 1260 m and 1200 m levels for the purposes of this study. The remaining levels above 8 (1200 m) were accessed from the main shaft, were reportedly almost worked out and consequently were not visited. Access to Levels 9 and 10 is through a shaft from a stoped area on the 1200 m level, whose hanging wall support is largely gone. The area was not visited. Mr Arbuckle notes that little had been done on the lower two levels “for the cost of hoisting by a horse whim was found too great”. He further remarked that the San Juan operation “stops mining whenever the ores must be hoisted. Thus, the best part of this mine as developed is between the eighth and eleventh levels” and concludes by noting that “the working shaft has been sunk 60 ft below the tenth level. There is ore at the bottom of this shaft. 100 feet north of this shaft is another shaft 60 ft deep. There is ore throughout this shaft from 4 to 5 ft wide.”

Ore from Mina San Juan was transported by a combination of light gauge rail and tramway to a mill site called Las Flores, south of Bahia de los Angeles (Figure 2). During the period of the site visit, the crew made the acquaintance of one of the American partnership responsible for reprocessing tailings from San Juan and San Borja at the company mill site at Las Flores during the early 1990s. He confirmed that the reprocessing by cyanation had taken place, gave an estimate of the grade and corroborated much of the previous anecdotal information.

The most recent government studies were conducted between 1962 and 1972 with additional work in 1974, 1976 and 1981. Extensive comprehensive sampling of the San Juan mine was conducted by federal geologists in the early 1970s but results and documentation are not readily available.

The most recent work of note conducted was by Delgratia Mining Corporation in the late 1990s. The present interest in the property stems from a commonality of personnel from the lapsing of the old, smaller concession centred on the mine and from the consequent inclusion of this ground within the larger San Juan concession. Visits to the property were made by Mr. Alan Roberts and by Mr. Val van Damme in September and December of 2004, respectively, on behalf of Lalo Ventures.

GEOLOGICAL SETTING

Regional geology

The San Juan property lies on the eastern side of the Baja California peninsula, some 20 km from the Sea of Cortéz (Figure 1). The geological evolution of the Baja peninsula is dominated by two processes:

1. The subduction of the Farallon and Pacific Plates beneath the North-American plate (western México) which began in the late Jurassic and:
2. The embryonic rifting which produced the Sea of Cortéz, which began at 8 Ma before the present.

As a consequence, the area is underlain by igneous rocks (or their derivatives) and is prospective for mineral deposits of almost any age from the late Jurassic to the present day. As noted by Roberts (2005), the subduction process slowed some 15 Ma ago, forcing the margin of the Pacific Plate north-west and forming extensive strike-slip faults, including the San Andreas fault in California. The northwest movement produced transtensional rifting and magmatism, which propagated north from the southern end of the Baja peninsula. The transtensional environment produced dextral north-northwest striking faults, sinistral northeasterly striking faults and normal faults with a northerly strike. The Gulf Escarpment, with a large downthrow to the east towards the failed rift basin, is typical of the latter type.

Erosion of the rapidly uplifted strata to the west has exhumed the Cretaceous land surface which, on the eastern side of the Baja California peninsula, comprises metamorphic rocks with pre-Cretaceous protoliths and the relatively shallowly emplaced Peninsular Ranges Batholith. The batholith is inferred to be mainly of Cretaceous age. The San Juan property covers just such an area of exhumed basement rocks.

A geological map, equivalent to that of a 1:250,000 NTS area in Canada, is presented in Figure 3. The stratigraphic column relevant to this map is presented in Figure 4. Both figures are modified from Romero Rojas et al. (1998) and are therefore in Spanish. Table 2, which contains translations of the most commonly used words, is presented after these figures.

The San Juan area is underlain by rocks of Palæozoic to Tertiary age which comprise two main tectonostratigraphic assemblages. These assemblages are:

1. Palæozoic to Cretaceous metamorphic and intrusive rocks which form the basement and:
2. Tertiary (Miocene) volcanic rocks and their derivatives.

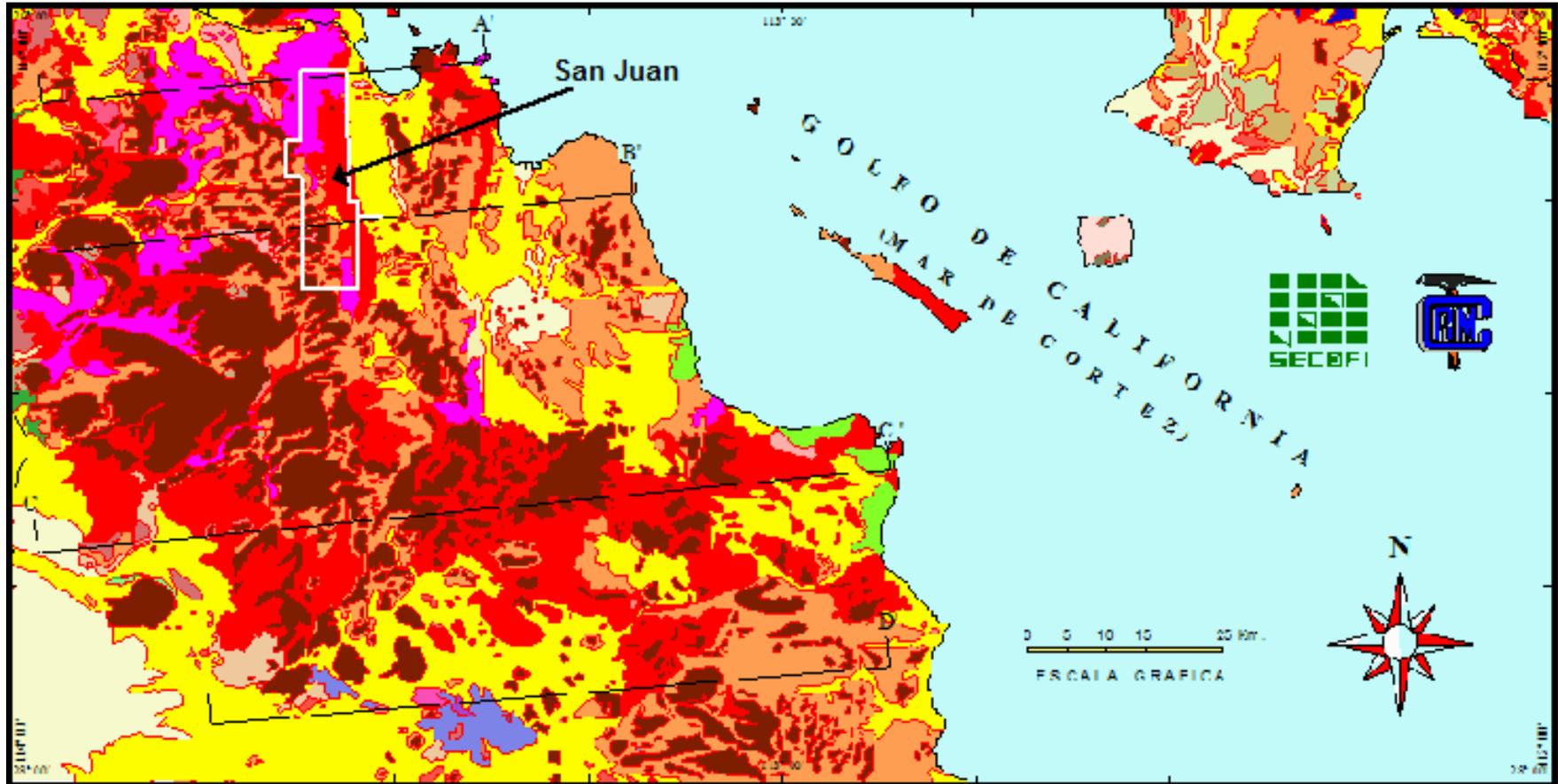


Figure 3. Regional geological map of Isla San Esteban area, showing the location of the property.

After Romero Rojas *et al.* (1998); geodetic projection (latitude-longitude).

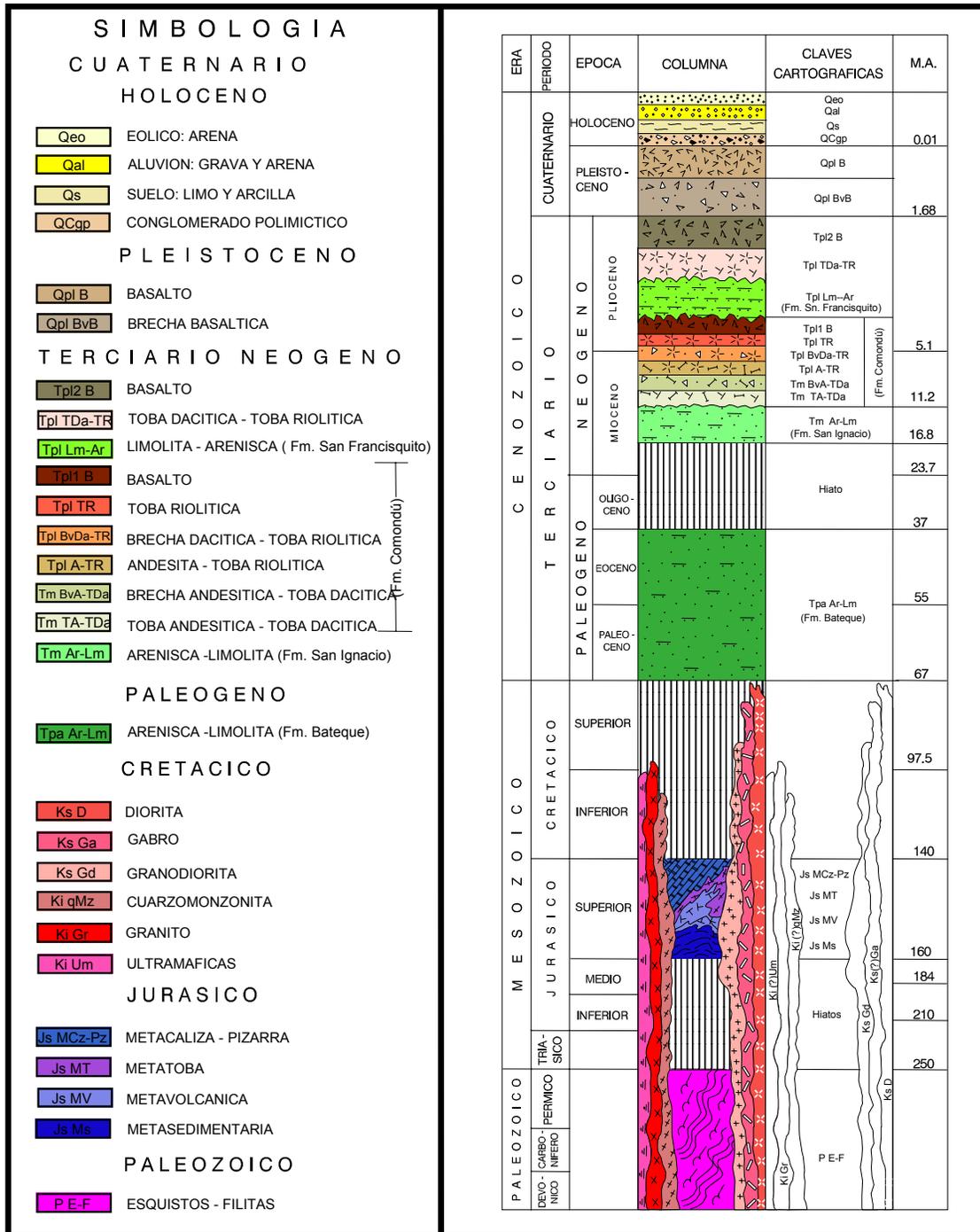


Figure 4. Stratigraphic column for Isla San Esteban map (H12-10), after Romero Rojas *et al.* (1998).

Table 2. Translation of selected terms from Figures 4 and 6.

EOLICO	Aeolian
ALUVION	Alluvium
TOBA	Tuff
BRECHA	Breccia
GRAVA	Gravel
ARENA	Sand
SUELO	Soil
LIMO	Silt
ARCILLA	Clay
CONGLOMERADO	Conglomerate
POLIMICTICO	Polymictic
LIMOLITA	Siltstone
ARENISCA	Sandstone
METACALIZA	Metamorphosed limestone (marble)
METATOBA	Metamorphosed tuff (metatuff)
ESQUISTOS	Schists
FILITAS	Phyllites
RUMBO YECHADO	Strike and dip (of planar structure)
EJE	Axis (of fold)
FALLA	Fault
VETA	Vein
DIQUE	Dyke
CUARZOMONZONITA	Quartz monzonite
Hiato	Hiatus

Igneous rock names and stratigraphic stage names are generally cognate with their English equivalents.

Property geology

A geological map of the San Juan property is shown in Figure 5. The area is underlain by schists and phyllites identified as Palæozoic in Romero Rojas *et al.* (1998). The grade of metamorphism varies from greenschist to amphibolite (*ibid.*). Van Damme (pers. comm. 2005 to G. Schellenberg) noted the presence of chlorite and, locally, chloritoid on the property, suggesting that the grade of metamorphism there is greenschist.

The metamorphic rocks are intruded by a siliceous intrusion of presumed Cretaceous age (Romero Rojas *et al.* 1998). Roberts (2005) identified the intrusion as a large quartz monzonite – peraluminous granite batholith and noted the dominant presence of modal feldspar and quartz with accessory mica. Roberts also noted that the degree of alteration precluded more precise classification. Van Damme (pers. comm. 2005 to G. Schellenberg) noted that the granitoid “is homogenous (*sic*) but locally displays segregated melano(cratite) and leucocratic phases”, also that the contact between the metasedimentary rocks and the granitoid intrusion is largely structural. The granitoid is faulted and fractured and “appears to be openly folded” (Roberts 2005), although it is unclear which structures in the intrusion exhibit evidence of this deformation. The Cretaceous granitoid rocks are intimately intercalated with the older metamorphic rocks (Romero Rojas *et al.* 1998), possibly a combination of intrusion and deformation. Foliation in the metamorphic rocks strikes 300-312 and dips steeply (60°-80°) to both east and west. Faulting in the older rocks occurs along the same trend. Van Damme also noted that “Late stage aplitic dike swarming, 5-7cm, is common throughout the host intrusion”.

To the west of the San Juan workings, the older sequence is overlain by younger volcanic rocks, which were assigned to the “Comondú” by Romero Rojas *et al.* (*ibid.*). A relic outlier of polymictic conglomerate lies at the contact (Figure 5). Above the contact are “rhyolitic tuffs” (intermediate to felsic lapilli tuff to tuff breccia which are probably discontinuous), overlain by massive, columnar to flow-brecciated alkali basalts, which form a ridge cap. The timing of this volcanism relative to the mineralization is not known, but no vein occurrences have been reported in the younger rocks. It is possible that the projected strike of the vein mineralization extends under the Tertiary volcanic cover.

Dykes, noted above, intrude the older metamorphic rocks, their contacts subparallel to the strike of the schistosity. It is assumed that these follow major northwest structures. Some are reported to host the mineralization at Mina San Juan.

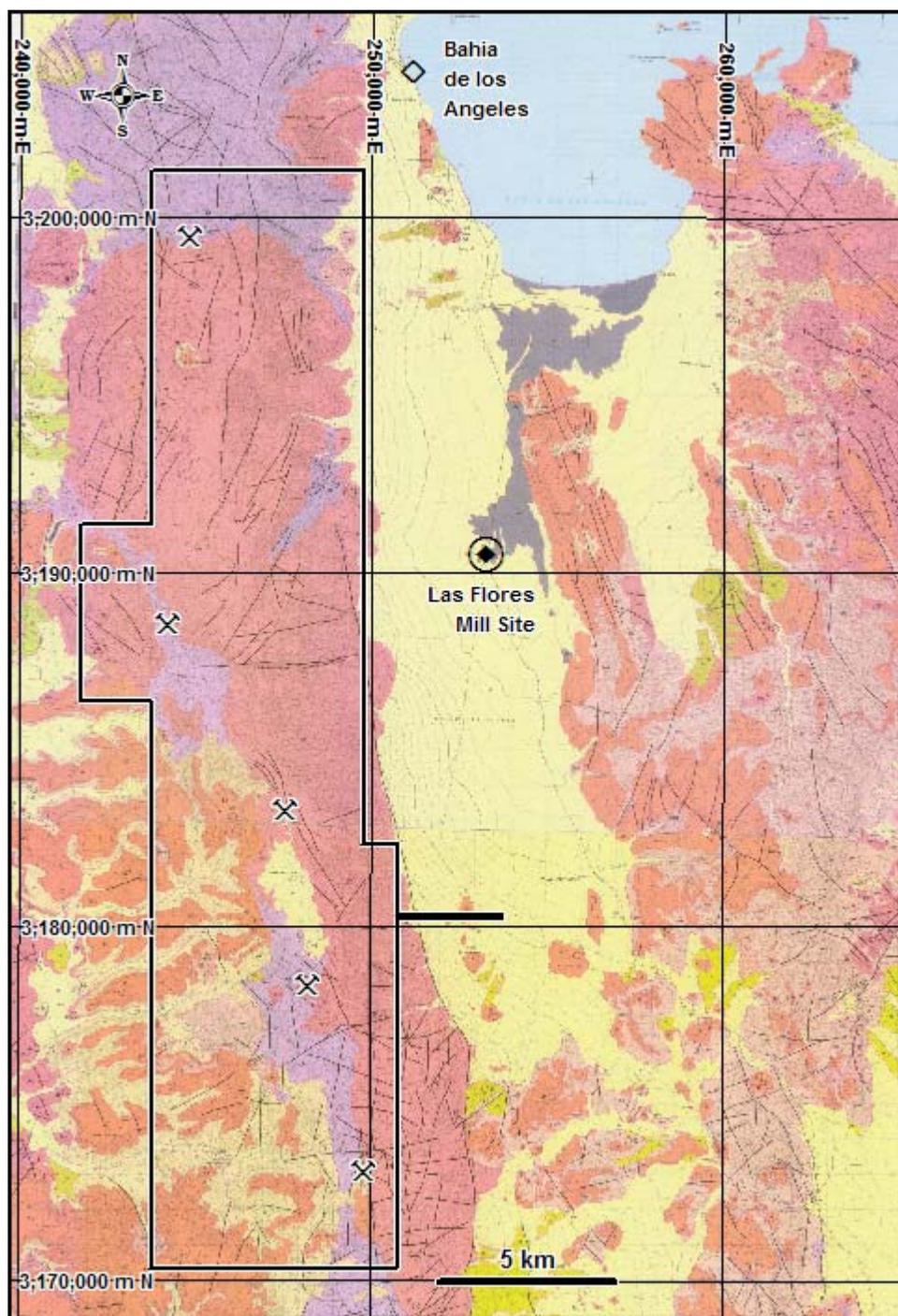


Figure 5. Geological map of the San Juan property, showing areas visited.

From Bahia de los Angeles and Los Paredones geological maps (H12C52 & H12C62; UTM NAD'27 for México).

ROCAS IGNEAS		ESTRUCTURAS	
GRANITO	Gr	ECHADOS DE 0° a 10°	+
IGNEA INTRUSIVA ACIDA	Igia	ECHADOS DE 10° a 30°	┌
DIORITA	D	ECHADOS DE 30° a 60°	└
IGNEA INTRUSIVA INTERMEDIA	Igi	ECHADOS DE 60° a 80°	≡
GABRO	Ga	ECHADOS DE 80° a 90°	⊕
IGNEA INTRUSIVA BASICA	Igib	ECHADO MEDIDO EN EL CAMPO	↖45°
RIOLITA	R	RUMBO Y ECHADO DE FOLIACION	└
IGNEA EXTRUSIVA ACIDA	Igea	RUMBO Y ECHADO DE FLUJOS DE ROCAS IGNEAS	⇒
ANDESITA	A	CONTACTO	—
IGNEA EXTRUSIVA INTERMEDIA	Igei	CONTACTO INFERIDO	- - -
BASALTO	B	EJE DE ANTICLINAL	↕
IGNEA EXTRUSIVA BASICA	Igeb	EJE DE ANTICLINAL RECUMBENTE	↕
TOBA RIOLITICA	Tr	DOMO	⊕
TOBA ANDESITICA	Ta	EJE DE SINCLINAL	↕
TOBA BASALTICA	Tb	EJE DE SINCLINAL RECUMBENTE	↕
BRECHA VOLCANICA RIOLITICA	Bvr	FALLA NORMAL	f — f
BRECHA VOLCANICA ANDESITICA	Bva	FALLA CON DESPLAZAMIENTO HORIZONTAL	f — f
BRECHA VOLCANICA BASALTICA	Bvb	FALLA INVERSA	f — f
VITREA	V	FRACTURA	—
ROCAS SEDIMENTARIAS			
CALIZA	cz	DIQUE	—
LUTITA	lu	VETA	—
LIMOLITA	lm	RASGO INFERIDO	- - -
ARENISCA	ar	APARATO VOLCANICO	⊕
CONGLOMERADO	cg	DOLINA	⊕
BRECHA SEDIMENTARIA	bs		
YESO	Y		
TRAVERTINO	tr		
ROCAS METAMORFICAS			
CUARCITA	C		
MARMOL	M		
PIZARRA	P		
ESQUISTO	E		
GNEIS	Gn		
COMPLEJO METAMORFICO	C. met.		
SUELOS			
RESIDUAL	re		
ALUVION	al		
PIAMONTE	pi		
LACUSTRE	la		
PALUSTRE	pa		
LITORAL	li		
EOLICO	eo		
ASOCIACIONES			

Figure 6. Legend for Figure 5 (for translation of geological terms, see Figure 4).

REGIONAL METALLOGENY AND TARGET DEPOSIT TYPES

There is presently no resource defined on the San Juan concession, but the area has a long history of gold mining. Gold occurs in the numerous quartz and quartz sulphide veins hosted by faults in the Mesozoic and pre-Mesozoic basement. The styles of mineralization present in the vein occurrences at Minas San Juan, San Borja and La Manila are therefore of primary importance in assessing target deposit types. The account of Romero Rojas *et al.* (1998) and of van Damme (pers. comm. 2005 to G Schellenberg) suggest that the following deposit models should be considered for these past-producing mineral occurrences:

1. Au-quartz veins (BC Geological Survey Branch Mineral Deposit Profile I01) and:
2. Intrusion-related Au-pyrrhotite veins (BC Geological Survey Branch Mineral Deposit Profile I02)

The above mineral deposit profiles are appended to this report (Appendix III). However, the lack of available data on the San Juan property suggests that other models should not be overlooked. Previous reports (Roberts 2004, van Damme 2005) state that the mineralization occurs within or near the contact of a Cretaceous granitoid. Both Roberts and van Damme are specific about the intrusive host rock being, at least in some phases, peraluminous granite. The possibility must be considered that the veining is related to a gold-bearing peraluminous intrusion analogous to those in the Yukon-Tanana gold belt.

PROPERTY MINERALIZATION

Romero Rojas *et al.* (1998) note that the form and dimensions of mineralization at San Juan consist of “veins of quartz with variable lengths and widths (300 m to roughly 500 m and 0.60 to more than 1.40 m, respectively), emplaced in regional fault zones with NW-SE strike.” The principal forms of alteration are “oxidation and silicification both in the metamorphic rocks and in the granitoid intrusion.” The mineralization “is associated with a mixed zone of minerals comprising iron oxides and, in some cases sulphides (pyrite, chalcopyrite, arsenopyrite, limonite, hæmatite and minor pyrolusite). Free gold is observed associated with auriferous pyrite” The genesis of the mineralization is considered (*ibid.*) to be channelled by the major structures in an environment of medium to low temperature. Although the term “epithermal” was used by these authors to describe the mineralization, the metamorphic and plutonic environment of origin suggests, rather, a mesothermal or transitional environment, as noted above.

Van Damme (pers. comm. 2005 to G. Schellenberg) noted that alteration is exposed in a halo approximately 2 km by 1 km centred roughly on the old workings of Mina San Juan. He further noted that: “Mineralization appears constrained to the central . . . intrusion, and perhaps locally along its western contact with metasedimentary rock. Sulphides occur within primarily sheeted, occasionally massive, locally anastomosing white quartz veining as disseminations and semi-massive sulphide stringer

veins. Minerals encountered (are) mainly pyrite, dominant over arsenopyrite, with lesser . . . galena, rare sphalerite and occasional malachite staining. In general, sulphide content over a vein or composite vein width averages between 2-5% but (may be) as high as 7-10%. Primary veins (strike at) about 120, dipping 50-65 degrees north(east). Secondary or conjugate veining (strikes at) 85/60N. The veining varies (in width) from 40 cm massive to 2 m sheeted, averaging roughly 140 cm.”

2005 EXPLORATION ACTIVITIES

Between November 24th and November 29th, 2004, Messrs. Val van Damme and John Benglesdorf took a total of 25 samples from the San Juan mine workings. A brief review of the mine geology was made during sampling, but the brevity of fieldwork and the need to prioritise sampling precluded any detailed assessment of previous geological work.

The purpose of the author’s site visit in May and June of 2005 was therefore to:

1. Check the results of previous rock sampling;
2. Test proposed exploration models by observation of styles of mineralization at selected sites;
3. Test the exploration methods of alluvial sediment and soil sampling over areas of known mineralization and:
4. Make a preliminary evaluation of controls imposed by structure on the style and extent of mineralization.

The property is sufficiently large as to preclude a complete review of the geology and mineralization within the scope of a single site visit. The author was constrained to an inspection of existing workings and the areas immediately surrounding these. Four main sites were identified and visited:

1. Mina San Juan;
2. Mina San Borja;
3. Mina la Manila; and:
4. “Superdyke” alteration zone in the Sierra la Libertad.

In all four areas, rock chip samples, host rock descriptions and structural measurements were taken. In addition, at Mina San Juan and the “Superdyke” area, sediment samples were taken from watercourses draining areas in the vicinity of the mine itself. Two soil lines were sampled across the trend of the “Superdyke” alteration zone.

SAMPLING METHODS AND APPROACH

Seventy-three rock samples were taken from four main locations on the San Juan property at Mina la Manila, Mina San Juan, Mina San Borja and an area of pervasive alteration between Mina la Manila and Mina San Juan, referred to as the “Superdyke” area. Forty-five of these were single chip samples, taken across the true width of a vein or structure, or as close to that direction as permitted by location. Three more were replicates of a single chip sample width across the San Juan Vein, with numbers scattered through the sample number sequence. Six of the rock samples were unmarked blanks, with similarly scattered numbers. The remaining nineteen were grab samples, often sampled as such because the on-vein nature of most of the underground workings precluded chip sampling over a measured distance into hanging wall or footwall. One sample was collected from tailings at Las Flores. All rock samples were placed in 6 mm plastic bags, labelled inside and out, each top folded over and sealed with a zip-tie.

A total of 28 soil and eight stream sediment samples were taken from desert colluvium and from dry alluvium in watercourses, respectively. The stream sediment samples were augmented by nine bulk samples, taken for analysis to determine bulk leach extractable gold (BLEG). The BLEG samples were placed in 6 mm plastic bags, labelled inside and out, each top folded over and sealed with a zip-tie, as for the rock samples. Soil and stream sediment samples were placed in labelled Kraft bags, secured through the holes by flagging tape. There was no need to dry the samples.

Locations in the stope to the south of the cross-cut on the 1200 m level were examined for footprints at the start of fieldwork. Small prints, identifiable as rats and/or mice were clearly visible, but there were no human prints. Samples taken in that stope (SJ05-PM-011 to 017) were therefore taken from a location never visited during the present term of mineral tenure. It was reasonable to infer that samples taken there would return values representative of the grades present when the mine was abandoned by its previous owners. While this does not preclude previous contamination of the sample sites, the natural degradation of faces on the sulphide-rich veins should have removed any extraneous material.

The sample site for the three unmarked replicates was at the footwall of the main vein, where the south wall of the main haulage intersects the back of the sill drift on the San Juan main vein. A sample taken of the vein at its hanging wall contact adjacent to that location by Mr. van Damme (VV04-016) had returned significant values in precious and base metals, suggesting that a similar sample taken near this point could be used as a crude standard as well as a replicate.

The sample site for the unmarked rock blanks was an outcrop of Tertiary ignimbrite of rhyodacitic composition, 2.9 km west-northwest of the field camp and 9.2 km north of the San Juan concession’s northern boundary. The site was visited on June 2nd by the author and by Marcus van Wermeskerken. No personnel other than the Coast Mountain field crew knew of the visit to this site (see below).

The sample site for blank samples for BLEG and soil/stream sediment was the beach outside the field office. These blanks were indistinguishable in texture from the desert colluvium sampled in arroyos. All

blank samples were bagged in a manner identical to that used for samples taken from the property and, with three exceptions, were stored with that group.

SAMPLE SECURITY, PREPARATION AND ANALYTICAL PROCEDURES

Sample security

Sample security in the field was the responsibility of the author. Samples from Mina la Manila were stored under lock and key at the field office in Bahia de los Angeles. Samples from Mina San Borja and from the “Superdyke” alteration zone were left at Mina San Borja over the night of June 7th/8th, then retrieved and stored under lock and key at the field office. Samples from Mina San Juan were either left at the 1200 m portal, or stored under lock and key at the field office. Mina San Juan is not accessible by road and trail in less than two days.

Blanks were introduced to the numbered sample sequences for rock, soil/stream sediment and BLEG. Rock blanks were also left with each group of samples, either at the mine or at the field office. A single rock blank, together with the sediment and BLEG blanks were left unsecured at the field office. The unsecured rock blank was labelled as being from the vein at Mina San Juan.

During demobilisation, samples were either in a field vehicle under constant supervision by Coast Mountain personnel or stored under lock and key in the author’s room. No other personnel had access to the samples prior to shipping via DHL to the Acme preparation facility in Guadalajara, Jalisco.

Sample preparation and analytical procedures

Samples from the site visit were submitted to GM_LACME Laboratories in Guadalajara who employed the appropriate industry standard sample preparation. Soil and stream sediment samples were dried and sieved to –80 mesh. Rock samples were crushed to 70% passing -10 mesh. A 250 gm split was taken and pulverised to 95% passing -150 mesh. Prepared samples were then forwarded to the Acme laboratories in Vancouver for analysis. BLEG samples were sieved and sent to CEMI (Vancouver) to be analysed for bulk leach extractable gold on a 100 gm split of the sieved sample.

For prepared rock, soil and stream sediment samples, a 15 gm split of each sieved sample was leached in *aqua regia* at a temperature of 95°C. The prepared samples were then analysed by inductively coupled plasma spectrometry. The larger, 15 gm aliquot was chosen to ensure more even, representative values for gold concentrations in the samples. The analytical packages are designated SS80/R150 – 1DX by Acme Analytical Laboratories.

Samples which returned values in excess of the accepted accurate detection ranges in precious or base metals (in this case Au, Ag, As, Sb, W, Pb, Zn) were subjected to further analysis. Analysis for Au (and

Ag in high-Au samples) was by fire assay with an atomic absorption finish. For samples which returned high values in base metals (and Ag) a 1 gm aliquot of each was leached in hot *aqua regia* and analysed by inductively coupled plasma spectrometry.

In addition to the preparation described above, four of the high gold samples were prepared a second time by crushing, pulverising and sieving 500 gm, retaining the +150 mesh and –150 mesh fractions, to check for and eliminate the effect of coarse or wire gold. Of these four samples, three were the unmarked replicates described above. In addition to these, Acme Analytical Laboratories included a total of three in-house standard samples in the soil/stream sediment sample batch and replicated one of the sediment analyses. Rock sample analyses included one analytical replicate per sample batch and one to two analytical standards, depending upon batch size.

2005 EXPLORATION RESULTS

Results of check sampling

Analytical results from the site visit and from two previous visits on behalf of Lalo Ventures Ltd. are presented in Appendix IV. Individual areas will be discussed separately in subsequent sections.

Unmarked blanks for stream sediment, rock and BLEG all returned minimal values of precious and base metals. This indicates that neither spurious nor accidental contamination of samples occurred on-site or in the laboratory.

The three unmarked replicate rock samples from the known gold-bearing area of Mina San Juan were analysed by both ICP and fire assay. ICP analysis returned values between 7231.9 ppb Au and 7816.5 ppb Au. The standard deviation of this set (4.1% of mean) is less than that for Au values returned for the analytical standard (5.9%). This test cannot reject the hypothesis that the geological replicates from Mina San Juan are homogeneous. Results from fire assay are less consistent; the standard deviation of the three replicates is greater than 11%. No gold was returned from above the screen, but the possibility of the occurrence of coarse metallic gold in future samples should not be discounted, therefore the consistency of fire assay results should be carefully monitored in future sample batches.

Individual analyses are treated by area, in the appropriate section below. However, the chemical characteristics of rock samples from the four individual areas, Minas San Juan, San Borja, la Manila and the veining in the “Superdyke”, are nearly identical. All are strongly anomalous to ore-grade in gold and strongly anomalous in one or more of the pathfinder elements Ag, As, Sb, Pb, Zn and W. Further work will be required to confirm this association.

Samples of alluvial sediment taken from watercourses near the mine area returned a range of values from below detection limit (0.5 ppb) to roughly 1200 ppb. The sample with the highest concentrations of gold sampled a watercourse draining the mine dump beneath the main 1200 Level portal. A second sample taken from an arroyo draining mineralised outcrops and the crown pillar of the Mina San Juan returned 180 ppb Au. The third, strongly anomalous sample in Au was from a watercourse draining a gold-bearing quartz vein in the “Superdyke” alteration area and returned a value of 105 ppb. BLEG samples from these three locations returned values of 164 ppb, 55 ppb and 117 ppb, respectively. In addition, BLEG samples SJ05-MB-050-B and SJ05-MB-052-B, replicating sites SJ0-MB-049-T (12.6 ppb) and SJ05-MB-051-T (18.8 ppb), returned values of 5 ppb each, suggesting that values of gold as low as 10 ppb in alluvial sediments can still be interpreted as anomalous.

From the initial, limited sampling, it appears that the 100 gm BLEG samples reduce much of the geological nugget effect apparent in the smaller 15 gm stream sediment aliquots; however, the technique does not permit analysis for elements which might be used as tracers in this particular geological environment. The small number of samples taken during the site visit precludes statistical treatment, but it is probable that Ag, Pb, Zn, As, Sb and Bi should all be considered as possible tracers, given the nature of the mineralization. To these can be added W, which is elevated or anomalous in all samples that returned anomalous Au. As a final recommendation for ICP analysis, it is considerably less expensive than bulk leach sampling.

Geological fieldwork

Mina San Juan

21 man-days were spent at Mina San Juan and the surrounding area. An orientation sediment survey was carried out, most of the smaller workings were visited and the lower levels of the main mine were sampled and assessed for structural controls. Underground mapping (1:500) was carried out using a compass and tight chain for survey control. A map showing results from the sampling in the general mine area is presented in Figure 7. Samples taken in three levels of the main San Juan mine are listed in Appendix 4, together with their locations descriptions and analytical results. These results replicate much of the previous sampling, which has been omitted in the interests of clarity and internal consistency.

Host rocks

The main San Juan mine is hosted in a biotite granite of inferred lower Cretaceous age, with euhedral K-feldspar megacrysts < 4 cm and subhedral quartz grains < 5 mm. The field identification of granite owes to the abundance of quartz (20-30%) and the absence of albite twinning in feldspars. Petrographic work will be required to confirm the field nomenclature.

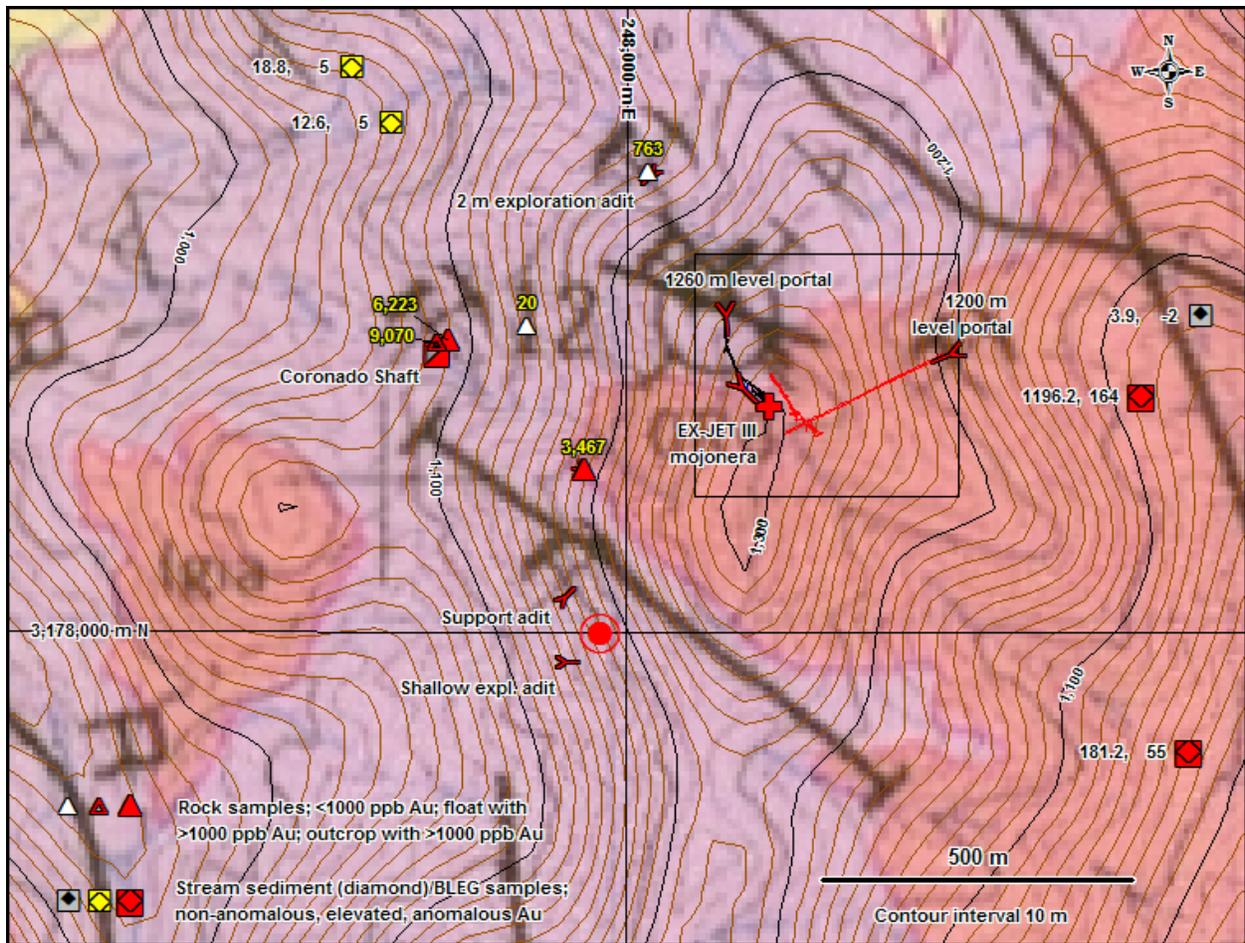


Figure 7. Geological map of the mine area, showing rock and stream sediment sampling.

Numbers adjacent to rock sample locations are gold concentrations, in ppb. Stream sediment and bulk leach extractable gold (BLEG) results for Au are shown, in that order, by sample locations. Arroyos draining mine portals and the projected trace of the main vein are very strongly anomalous in Au; those draining the projected extension of the vein's surface trace to the north are moderately anomalous, including one arroyo which does not intersect any known mineral occurrences. Rock samples taken within the mine area (square inset) are omitted for clarity but are listed in Appendix IV. The area underlain by granite is more extensive than shown on the map. Map projection is UTM NAD'27 (México).

The granite is cut by a very dense and very consistent fracture set with an attitude of 290/65°-70°N. This cleavage set is very prominent and visible, both underground and on surface. Cleavage density is locally as high as 30 m⁻¹. Fractures are typically hairline, with a bleached halo, 2-10 cm wide, centred on each fracture. Primary biotite has been destroyed within each alteration halo. The halos are resistant to weathering and can be mistaken for aplite dykelets, although the medium grained, intrusive texture persists throughout. The resistant nature is probably due to addition of small to moderate amounts of silica during alteration. Some of the fractures host quartz stringers with or without minor pyrite, and, less commonly, narrow true dykes as wide as 10 cm. Dyke intrusion is polyphase and includes biotite bearing and leucocratic fine grained intrusive varieties. In several areas of significant biotite-granite dyke intrusion, the host rocks are rich in biotite, giving the granite a melanocratic appearance.

At the end of the main cross-cut on the 1200 m level, two larger dykes were emplaced along the fracture set described above. These dykes are 1.5 and 1.9 m wide. Exposures of an identical lithology occur in the arroyo along the projected strike of the dyke to the southeast of the main workings. A roughly north-south trending subcrop area, approximately 30 metres wide, of this same leucocratic dyke lithology occurs in the western part of the mapped area. These dykes do not exhibit the fabric common to the rest of the San Juan Granite and contain significant (2-5%) quantities of sulphide mineralization, pyrite, arsenopyrite and rare sphalerite and galena as aggregates or disseminations. These dykes are interpreted as penecontemporaneous with the mineralization.

Quartz veins, breccia zones, mineralization and alteration

Quartz veins and quartz breccia zones are common throughout the mapped area of San Juan. Quartz veins vary in width from hairline to as wide as 5 m and are usually glassy to milky white with medium-grained saccharoidal texture. These veins are commonly vuggy, with locally abundant limonite, jarosite and lesser hæmatite filling fractures and vugs. Veins are consistently parallel with the pervasive cleavage set throughout the area; the narrower veins are usually sheeted but, less commonly, also occur as stockwork zones.

The main San Juan mineralised zone and its related cross-structures are the only significant exceptions to the trend described above. The zone itself, partially mined out, has an average inclination of roughly 315/68NE, oblique to the penetrative fracture set and consists predominantly of a quartz ± sulphide breccia or vein, 2 metres wide but with swells as thick as 3 metres. Quartz breccia zones, as wide as 4 metres at local 'blow-outs', consist typically of angular fragments of quartz and less common angular, flattened blocks (<15cm x 40 cm) of medium grained, leucocratic intrusive host rock, oriented subparallel to the margins of the breccia and matrix-supported in a quartz ± sulphide matrix. Very fine-grained sulphide mineralization (pyrite and arsenopyrite) gives this quartz a bluish-grey colour.

The mineralised matrix varies in texture from crackle breccia (veins < 2 cm), to open breccia (<30% quartz + sulphide matrix). Minerals present in the matrix are quartz, with as much as 40% pyrite (with

irregular and lenticular aggregates of pyrite as large as 10 cm), 5-20% arsenopyrite, 5% galena and 5% sphalerite (the last two species are best exposed in the less oxidised lower levels of the main workings. Banded quartz + sulphide leaders, with sulphide abundance as mentioned above, compose the footwall (as wide as 70 cm), and locally, the hanging wall (as wide as 40 cm).

Breccia fragments, as noted above, are medium grained, leucocratic, with rare euhedral K-feldspar megacrysts, 1-3 cm in size. Biotite is absent from the clasts, possibly as a result of alteration (c.f. the "Superdyke" area, below), possibly a primary deficiency in a leucocratic residual phase of the main granitic intrusion. It is also possible, that the lithology hosting the mineralization is a leucocratic dyke, whose rigidity during deformation promoted brittle rather than ductile failure, creating a pathway for the sulphide bearing veins/breccias. Two such leucocratic dykes are exposed in the footwall of the San Juan main vein at the end of the main 1200 m level cross-cut. These host variable amounts of quartz-sulphide lenses and pods (as wide as 10 cm) and local poorly developed crackle breccias, but lack the penetrative fracture set common to the rest of the San Juan Granite.

The only pervasive alteration observed at San Juan are zones of muscovite/sericite after biotite. However, zones of weak argillic alteration (in feldspars) and weak silica flooding on cleavage sets occur locally within the granite. Supergene scorodite, gypsum and a wide variety of sulphates, hydroxides and oxides commonly encrust mineralised rocks in the mine, notably in sulphide rich zones, and particularly those rich in arsenopyrite.

The main San Juan mineralised zone strikes approximately 308 to 313, with a moderate to steep (62° to 70°) northeasterly dip. The width of the mineralised zone varies from 1.0 to 2.5 m and is usually wider at cross structures. Towards the northwest, the zone pinches into a narrow shear, as the vein structure rotates into the main fabric noted above (110/65°N). To the southeast, a tectonic structure with an attitude of 240/70°NW and hosting a quartz vein stockwork zone, may truncate the San Juan zone, but such closure of the mineralization was not observed directly. Indeed, the terminus of the main mineralised zone has not been observed, on surface or underground and the full strike extent of the mineralised zone remains to be verified by future work. Although the vein/fault structure itself has been traced for more than 260 metres, the actual mined out structure is approximately 150 metres in length. From preliminary interpretation of the program underground maps, the vein appears to be open down plunge towards the southeast. However, the topographical surface follows that same 'open' direction towards the southeast, so a careful study of topography against underground workings should be undertaken in the future.

Results from sampling

Results from sampling in the mine and from sediment sampling in the surrounding area are presented in Appendix IV. Sediment samples taken from watercourses draining mineralised zones or mine dumps are strongly anomalous in Au and the pathfinder elements noted above. BLEG analysis for Au returned lower values but the resolution was sufficient to identify even moderately anomalous areas.

Of the 46 rock samples taken from Mina San Juan, 38 were chip samples. Nineteen were from fractured and veined intrusive rock in the wall of the 1200 level cross-cut. Fourteen were chip samples of vein material and two were from mineralised dykes in the footwall of the main structure.

Of the samples taken from vein material, all returned values for Au greater than 1 gm/t; the median value was roughly 4 gm/t. These results are consistent with those from earlier site visits. Samples from the footwall or hanging wall returned erratic values but generally low. Samples from the fracture set exposed in the cross-cut were not anomalous, except in samples taken near the hanging wall of the main structure. This indicates that the prevalent fracture set was at least partly open at the time of the mineralising event. Most significantly, one of the two dykes sampled contained in excess of 600 ppb Au. This suggests quite strongly that the gold mineralization is intrusion-related.

Mina San Borja

A total of 1.5 man-days were spent inspecting Mina San Borja. The historic mine workings consist of predominantly a surface cut, as much as 10 metres deep, where most of the near-vertical quartz vein has been removed by mining for a strike distance of approximately 50 m. The cut is as much as 5 metres wide, but it is probable that most of this material has been removed to stabilise both footwall and hanging wall wallrock, rather than for economic grades. A vertical shaft, collared at the base of the surface cut, has a depth of approximately 15 metres. The shaft connects to at least one deep working, indicating significant exploitation to depth. It is probable that the vein has been mined out at all levels accessed. The deeper levels were not visited and the potential for mineralization at depth is therefore not known.

The San Borja deposit is hosted within quartz-muscovite schist. The colour of this schist is predominantly medium to dark grey-green, but chlorite was not observed in outcrop. The attitude of the schistosity is roughly 010/83°E. Minor, very small, crenulations were noted at various locations. Several biotite granite intrusions and dykes are located within 100 metres of the workings. These include a very prominent dyke, 3 metres wide, with an attitude of 168/90°, exposed to the west of the workings.

The vein, hosted within a shear zone, is generally a quartz breccia. The host structure has a strike and dip of 125/82° SW and the mineralised zone pinches and swells from 0.5 m to 1.0 m. Large, well-developed slickensides plunge 10° along an azimuth of 130.

Visible sulphide mineralization within the quartz, often leached out, comprises as much as 30% euhedral pyrite, with 1% arsenopyrite. The style of mineralization becomes more banded, and more mineralised (especially with arsenopyrite) at the footwall contact. At this footwall contact, arsenopyrite is as common as 5% whole rock.

Results from sampling

Only four chip samples were taken at Mina San Borja, three from mineralised structures and one in the hanging wall of the structure. All returned values in excess of 1 gm/t, including one value of 20 gm/t. The

values confirm that, while the deposit is of restricted size, it contained significant values of Au.

“Superdyke” (Sierra la Libertad) alteration zone

A total of 3.5 man-days were spent in examination of the “Superdyke” area between Mina San Borja and Cerro la Libertad (Figure 8). The extent of the zone (roughly 8 km²) and time constraints precluded a detailed assessment. Two soil lines were sampled across the trend of the zone and a number of sediment samples were taken from dry watercourses.

The “Superdyke” zone is not explicitly a dyke, although the area hosts numerous dykes (as does the rest of the Cretaceous basement on the San Juan property). The zone is marked by anomalously subdued topography over an E-W width of roughly 750 m and a “strike” extent of roughly 8 km. The main lithology exposed is that of medium grained granite, with phases (or areas) which are characterised by K-feldspar megacrysts, as abundant as 5% whole rock. As such, the lithology is nearly identical to that of the surrounding intrusion. The only difference is the absence of biotite and occurrence of muscovite, most probably as an alteration product or replacement after biotite.

The subdued, recessive nature of the elongate zone is interpreted a result of the sericitic alteration. A 10-20 m wide ridge, less than 10 m high, which extends along most of the projected 'dyke' is probably a result of weak silicification or silica flooding associated with the abundance of quartz vein and quartz (± hæmatite) breccia zones which core the zone. This zone should therefore be considered an alteration zone, rather than a dyke.

To the south, a very strong regional trend of cleavage, several kilometres long, is visible from the air. The structural trend has a strike parallel to that of the “Superdyke”, suggesting that the zone is probably a fault-hosted silica-altered zone. This zone also extends northward along the Sierra la Libertad and beneath the Tertiary cover on Cerro la Libertad. This author would therefore propose the name “Liberty Zone” (or Zona de la Libertad), to replace the erroneous “Superdyke”.

The alteration zone is cored by occurrences of quartz and quartz + sulphide veins. One such occurrence was sampled during the course of the site visit. The style of mineralization is identical to that seen at Minas San Borja and San Juan itself. The data available cannot refute the hypothesis that these mineral occurrences are products of a single, very large mineralising system.

Results from sampling

Samples returned from the quartz vein and quartz breccia zone in the centre of the “Superdyke” returned values in excess of 1 gm/t Au and elevated values of the pathfinder elements. Both the style of mineralization and the geochemical pattern are virtually identical to those at Mina San Juan.

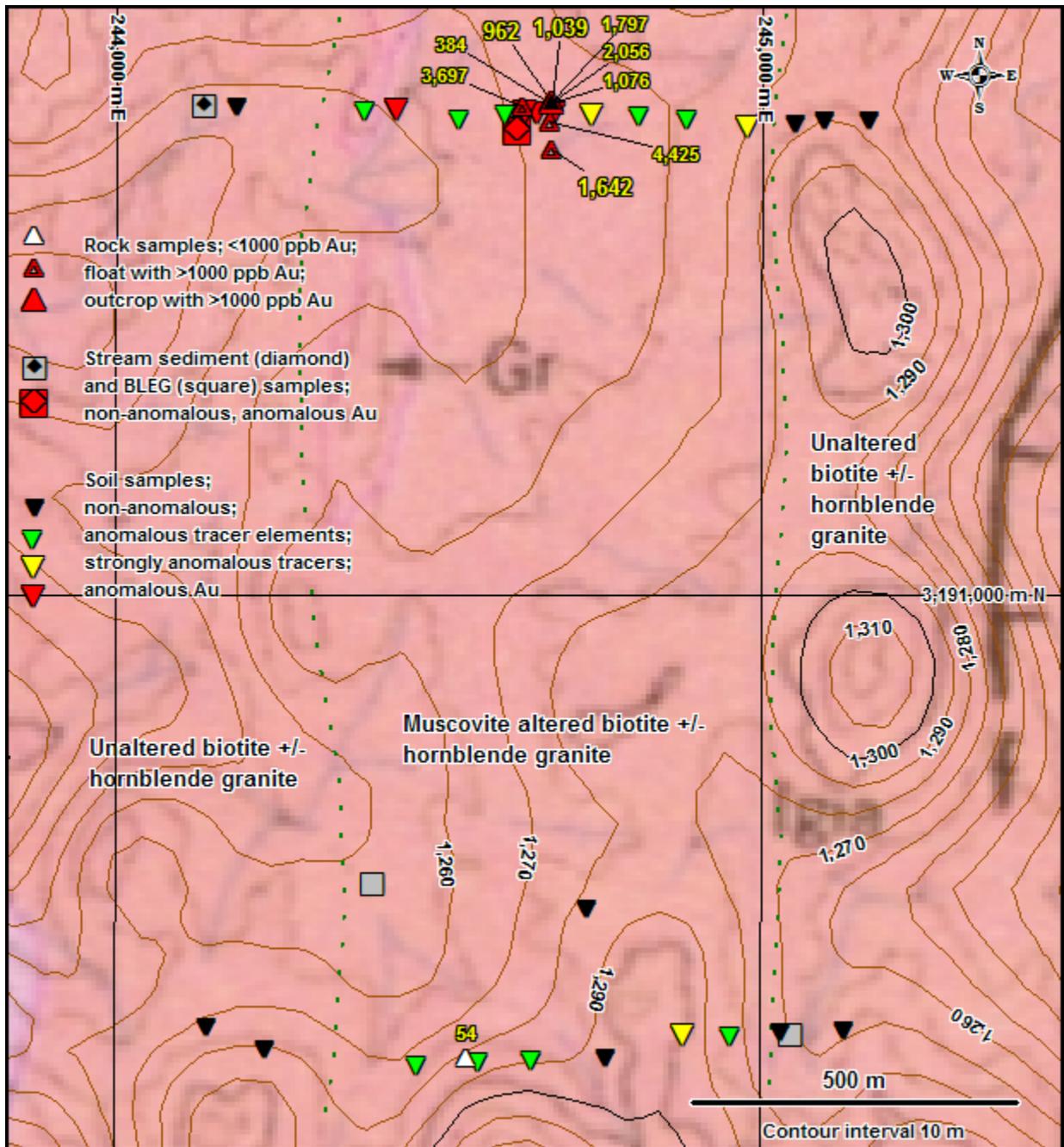


Figure 8. Geological fieldwork in the Sierra la Libertad or “Superdyke” area.

The area is underlain by a northward-trending zone of sericite alteration, 750 m wide which pervades the host granite. Within the alteration zone, elevated and anomalous values of the geochemical tracer elements Ag, As, Pb, Zn, Bi, Sb and Au occur in soil. Numbers for rock samples are Au concentrations in ppb; larger fonts are values from outcrop chip sampling. Map projection is UTM NAD'27 (México).

Soil and sediment samples from the two traverses across the zone returned strongly anomalous values in Au and the pathfinder elements, close to areas of known mineralization. These values confirm that standard geochemical techniques will return information useful to future exploration.

Mina la Manila

A single day for a 4-man team was spent accessing the old working on a 20 m high exposure of a mineralised white quartz vein. The host is sheared, muscovite-rich schist, with minor (<½%) primary biotite and approximately 10% secondary fine grained muscovite. Schistosity is oriented 264/36°N, parallel to the vein. The mineralised structure hosts quartz veins and quartz-healed breccia zones. The overall quartz content is approximately 60%. Limonitic staining indicates weathering of trace quantities of sulphide.

Results from sampling

Seven samples were taken, from the mine dump and two footwall/vein/hanging wall triplets from locations 30 m apart along strike. Four of the seven samples, including three chip samples, returned values in excess of 1 gm/t Au. Values of the pathfinder elements Pb, As and Zn were erratic, possibly as a result of surface oxidation, but were generally elevated.

Although of prohibitively small size, Mina la Manila returned important information. Firstly, it is possible to obtain significant gold grades from white quartz veins and from structures striking parallel to the regional fracture set. Secondly and more importantly, the same geochemical signature exists in mineralization from the north end of the property as that at Mina San Juan itself. This infers a continuity of system over a distance of roughly 21 km.

DATA VERIFICATION

Due to the early stage of exploration conducted at San Juan, no special measures have been taken to verify previous data collected on the property. The author believes the data provided to be as reliable as its provenance allows. Anecdotal evidence, such as reprocessing of the tailings was confirmed by a resident of Bahia de los Angeles. Previous sampling at Mina San Juan was supported by the results of analytical work from the site visit. Historic evidence suggests that the grades mined at San Juan were comparable or slightly higher than those returned by the present study. The anecdotal information of 100,000 tonnes mined is probably a minimum, given the volume and extent of the on-vein openings observed during the site visit.

OTHER RELEVANT INFORMATION

The author is not presently aware of any other information that might affect the material status or value of the property.

INTERPRETATION AND CONCLUSIONS

The results from the site visit described herein corroborate the little archival, historic and anecdotal information available to the author and also the results of previous sampling. Mineralization on the San Juan property is hosted by the Cretaceous metamorphic and plutonic basement. It occurs within or in close proximity to an undeformed polyphase granitoid which is of dominantly granitic composition and which includes K-feldspar megacrystic phases. A west-northwest fracture set defines the maximum principal direction of stress, which was subhorizontal. Undeformed K-feldspar megacrystic dykes are intruded along this fracture set and contain significant sulphide, of the type found in the veins.

Mineralization worked historically comprises shear-hosted quartz veins or breccias with or without pyrite, arsenopyrite, galena and sphalerite and very minor chalcopyrite. Even the bull quartz veins at Mina la Manila contain elevated levels of silver, arsenic, lead and zinc and, at the other locations sampled, antimony and bismuth values are erratic but also elevated. The veins are associated with phyllic or sericitic alteration haloes and moderate silica flooding at vein margins, with destruction of biotite and mafic minerals in the wallrock. Alteration zones are characteristically narrow, except for the 750 metre-wide zone in the Sierra la Libertad (“Superdyke”) area.

Mina San Juan, hitherto the major deposit on the San Juan property, was in operation until 1911 and produced gold ore for shipping which assayed as high as 25-32 gm/t. The milling ore grade was 4-5 gm/t. The mine operated on eleven levels, of which only those seven above the 1200 m main haulage were mined out. There is no significant difference between ore grades at lower levels and those in the crown pillar. The styles of mineralization at the three mines visited and in two small workings in the “Superdyke” alteration area is remarkably similar. Every chip sample taken from vein material on the property returned a value of greater than 1 gm/t; the median value is roughly 4 gm/t. These results are consistent with and on a larger scale than previous observations.

The mineralising event is interpreted as intrusion-related, with the geochemical style resembling a gold-bearing porphyry system, associated with a quartz-rich peraluminous granite. Penecontemporaneous brittle and ductile deformation has concentrated some of the gold-bearing mineralization as mesothermal or transitional vein deposits. Such structures would probably have a distinct signature on an electromagnetic geophysical survey.

If the interpretation above is valid, the mineralising system is large. The intrusive and metamorphic assemblage mineralised by this event effectively underlies most of the property and probably extends beneath the Cainozoic cover to the west. Little of this ground has been explored beyond prospecting and none of this exploration is recent. The property has hosted a commercially producing mine (San Juan which produced over 100,000 tonnes of ore containing roughly 20 gm/t Au. Based upon the above information, concession(s) composing the San Juan property, in the author’s opinion, meet the TSX-V criteria as a property of merit for future exploration.

RECOMMENDATIONS

Exploration of the San Juan property presents several problems, mainly of logistics and budget. If the interpretation above is valid, nearly all the ground on the San Juan property is prospective for discrete shear hosted gold vein deposits, such as that at San Juan. The mineral occurrences on the San Juan property, particularly those with the status of past producer, are all of this type. Future exploration in any of the undeveloped areas of the property must include techniques which will identify such deposits. These include but are not limited to: sediment sampling from watercourses, structural analysis from satellite and aerial images, with soil sampling and electromagnetic induction (geophysical) surveys in promising areas.

The metallogene for the aforementioned deposits is very probably the San Juan biotite ± hornblende granitoid, which underlies the majority of the property and which offers potential for deposits of lower grade and much larger tonnage, formed in a porphyry gold environment. Such deposit types generally lack the profound alteration and surface coloration typical of the surface expression of copper, copper-molybdenum and copper-gold porphyry deposit types and are therefore more difficult to distinguish from an aerial or satellite surveillance or image. Nevertheless, these alteration zones can often be identified from their relatively muted topography. For example, the Sierra la Libertad (or “Superdyke”) zone extends eight kilometres northward, across a measured width, in the areas examined, of 750 m. This entire length is prospective for grass-roots exploration comprising soil geochemical and electromagnetic geophysical surveys. A similar survey could be carried out north and west of Mina San Juan, towards the unexplored gold occurrence reported at “El Pulpo” (Figure 2).

For each of the activities, access to the property is likely to be the most expensive of crew and machine time. Helicopter access for a four-person crew during the period of the site visit cost from US\$ 2,000 to 3,000 *per diem*. This would increase by roughly 50% for the size of crew contemplated. Construction of road access to an area marked for exploration would be at the very least competitive in cost and would add value to the property in terms of its accessibility for future exploration. It is therefore recommended that this be carried out.

The reader will note from Figure 2 that a common route to all parts of the property does not presently exist. Some preliminary work by a qualified experienced professional is necessary in order to plan the route of a road. Ideally the proposed road should provide access to a point in the high country, from which branches of the road could proceed to the Sierra la Libertad and Mina San Juan areas. Detailed topographic maps will be required to assist with this task. In addition and prior to commencement, the appropriate environmental and other permits must be obtained.

The following are therefore proposed for consideration as the most effective future expenditure of resources at San Juan:

1. A detailed topographic map of the claim area should be produced, as economically as possible from

dedicated satellite or aerial photographic data.

2. Access and camp facilities must be established prior to the next phase of exploration. Logistical preparations should include a review of cost-effective ways of supplying the camp with water, both potable and non-potable, the latter for the eventual purpose of drilling
3. A full-scale effort should be made to locate previous mine plans for Minas San Juan and San Borja, particularly the former. The present knowledge of the workings from site visits extends to no greater depth than the stope faces at 1190 m elevation. There is evidence, from the winze at the south end of the 1200 level, that the workings extend down dip at least to the 1170 m level. However, recovery of archival information would be preferable to the tedious and expensive process of reopening dangerous areas of the mine, merely for a survey.
4. Mapping and prospecting should be carried out the Mina San Juan and Sierra la Libertad (“Superdyke”) areas.
5. Soil sampling should be carried out over the strike extent of the Sierra la Libertad (“Superdyke”) alteration zone. This should be carried out after an orientation survey over the main surface trace at Mina San Juan.
6. An electromagnetic geophysical survey would assist significantly in defining even small concentrated amounts of sulphide mineralization in the quartz leaders, most commonly pyrite and arsenopyrite. Target areas for the survey are an orientation over the main zone at Mina San Juan, followed by an extensive survey in the Sierra la Libertad area. The survey could be carried out by geological staff.
7. A detailed programme of sampling alluvial sediments should be carried out over the entire property, particularly those eastern and western parts where access from a road or trail is comparatively easy. At Mina San Juan and the Sierra la Libertad (“Superdyke”) alteration area to the north, sediment samples taken from watercourses draining mineralised areas returned elevated values of gold and the geochemical tracer elements listed above.

Based upon the findings from the first phase of exploration, the second phase might include drilling of targets defined during Phase 1. The reader is reminded that investigation of the past-producing Mina San Juan indicated a second potential area to be drill-tested, at depth beneath the existing mine. Drilling will rely heavily on information provided by surface mapping in Phase 1.

A budget is presented for the first phase of exploration in Table 3. The reader should note that, while the budget is appropriate for a junior company, the area of prospective ground within the property precludes comprehensive testing of the entire property during Phase 1. It is recommended that a programme of prospecting and mapping be ongoing while more advanced exploration is carried out.

Table 3. Proposed Budget

Geological staff	Number	Per diem	Days	Total
Sr. Geologist	1	650.00	30	19,500.00
Geologist	1	550.00	21	11,550.00
Senior geotechnician	1	450.00	30	13,500.00
Geotechnician	1	375.00	21	7,875.00
Field assistant (Mexican)	1	75.00	21	1,575.00
Field assistant (Mexican)	1	75.00	21	1,575.00
Daily room, board and supplies		50.00	144	7,200.00
Mobilization/demobilization of field crew				7,500.00
Satellite telephone rental and charges				3,000.00
Vehicle rental and fuel				9,000.00
Geophysical equipment rental				7,500.00
Field equipment rental		12.50	144	1,800.00
Road construction including mob./demob. of D6 bulldozer				30,000.00
Shipping and analytical work	3000	20.00		60,000.00
Subtotal				181,575.00
Approx. 10% contingency				18,425.00
TOTAL				200,000.00

ACKNOWLEDGEMENTS

This study could not have been completed to its present level without the help and advice of the author's colleagues, Marcus van Wermeskerken, Gerry Rayner and Marie Brannstrom at the San Juan property. In particular, Mr. Wermeskerken's geological mapping and geological descriptions were indispensable to construction of this report. The report benefited from critical reviews from Mr. Rayner and Ms. Brannstrom; however, the author takes full responsibility for any errors or inconsistencies.

REFERENCES

- Arbuckle, W.G., 1910: Report as to San Juan Mines. Unpublished internal report, company not known; COREMIN Archivo técnico 020088.
- Roberts, A., 2005: San Juan Project, Baja California. Lalo Ventures internal report, 9p.
- Romero Rojas, S.A., Maraver Romero, D.A. and de la Oburrola, F., 1998: Informe de la cartografía geológica minera y geoquímica escala 1:250,000, carta Isla San Esteban, Clave H12-10, estado de Baja California Sur. Consejo de Recursos Minerales report, 177p.
- Van Damme, V.P. 2005. Report on the San Juan property. Coast Mountain Geological internal memo, March 2005.

APPENDIX I: A NOTE ON COORDINATE SYSTEMS

Grids are the co-ordinate systems used to identify field locations uniquely in notes and on maps. These are systems of easting and northing values or **co-ordinates**, which are displacements of distance or angle measured from defined zero-lines or **origins**. The geographic co-ordinate system is the best-known of these systems, where meridians (north-south lines of longitude) and parallels (east-west lines of latitude) are measured in degrees, from the Greenwich zero meridian and from the equator, respectively. For a unique combination of values (e.g. 49°N, 123°W, there is a corresponding, unique location on the Earth's surface.

As noted above, the geographic system uses angles to measure location and is therefore not based upon a rectangular grid. Moreover, this system is a direct representation of the Earth's curved surface and translates poorly onto a flat sheet of paper, making it difficult to use in many applications unless a **projection** is carried out.

A **projection** is a mathematical method for converting the curved surface of the earth to a flat surface, tangential to the earth's surface at a particular point. An **ellipsoid** is a model for the shape of the earth's globe used in the projection calculation. A **datum** identifies the location(s) where the ellipsoid is fixed to specific geographic locations and from which the resulting grid is measured or surveyed. This grid is therefore rectangular or **Cartesian** and can be represented by a distance X (easting) and a distance Y (northing) from an origin point; elevations are measured as distance above (or below) the geoid's surface.

National and regional grid systems and their associated maps that are based on the earth's shape require all three components in their definition: a projection, an ellipsoid and a datum. All three should be specified, or co-ordinates given in a report or map will be ambiguous. Frequently a particular datum implies the use of a specific ellipsoid, which is therefore not necessarily mentioned.

Maps of small areas that do not need to account for the curvature of the earth or irregularities in its shape are based on simple, non-earth co-ordinate systems. These are usually called local grids and are commonly used for geological data collection. A local grid may be oriented arbitrarily and the conversion from local grid co-ordinates to a national or regional grid is simply treated as a shift and rotate operation.

APPENDIX II: OPTION AGREEMENT FOR SAN JUAN PROPERTY

TABLE OF CONTENTS

Article 1 INTERPRETATION

1.1	Definitions.....	1
1.2	Included Words.....	5
1.3	Headings.....	5
1.4	References.....	5
1.5	Currency.....	6
1.6	Knowledge.....	6
1.7	Schedule.....	6
1.8	Governing Law.....	6
1.9	Severability.....	6

Article 2 REPRESENTATIONS AND WARRANTIES

2.1	Mutual Representations and Warranties.....	6
2.2	Baminex's Representations and Warranties.....	7
2.3	Lalo's Representations and Warranties.....	8
2.4	Survival of Representations and Warranties.....	9
2.5	Reliance.....	9

Article 3 OPTION

3.1	Grant of Initial Option.....	10
3.2	Earn In Expenditure Obligations.....	10
3.3	Cash Payments.....	10
3.4	Share Issuances.....	11
3.5	No Payments Until Grant.....	11
3.6	Payment in Lieu of Expenditures.....	12
3.7	Optionee's Election to Terminate.....	12
3.8	Termination with No Interest.....	12
3.9	Return of Data.....	12
3.10	Option Only.....	12
3.11	Vesting of the Option.....	12

Article 4 OPTION PERIOD RIGHTS AND OBLIGATIONS

4.1	Lalo's Right of Entry.....	13
4.2	Lalo's Obligations.....	13
4.3	Emergency Expenditures.....	14
4.4	Registered Title.....	14
4.5	Abandonment of Property.....	14

Article 5 MANAGEMENT OF OPERATIONS DURING THE OPTION PERIOD

5.1	Staff	15
5.2	Decisions	15
5.3	Meetings	15

**Article 6
OPERATOR**

6.1	Appointment and Performance of Obligations.....	15
6.2	Powers and Duties of the Operator	15
6.3	Standard of Care.....	17
6.4	Transactions With Affiliates	18

**Article 7
PROGRAMS AND BUDGETS**

7.1	Programs and Budgets.....	18
7.2	Review and Approval of Proposed Programs and Budgets	18
7.3	Operations Pursuant to Programs and Budgets.....	18
7.4	Election to Participate	18
7.5	Budget Overruns; Program Changes.....	19
7.6	Emergency or Unexpected Expenditures	19

**Article 8
ACCOUNTS AND SETTLEMENTS**

8.1	Quarterly Statements	19
8.2	Cash Calls.....	19
8.3	Failure to Meet Cash Calls	19
8.4	Extraordinary Cash Calls	20
8.5	Audits	20
8.6	Return of Cash Advances.....	20
8.7	In-Kind Contributions	20

**Article 9
TRANSFERS**

9.1	Limitations on Transfers	20
9.2	Prohibited Dispositions	21
9.3	Right of First Offer.....	21
9.4	Exceptions	21
9.5	Conditions of Transfers.....	22
9.6	Partial Transfers	22

**Article 10
AREA OF INTEREST**

10.1	Limitation on Acquisitions.....	22
10.2	Acquisition of Additional Property	23
10.3	Notice of Rejection.....	23
10.4	Title to Additional Property	23
10.5	Further Assurance	23

10.6	Non-Compliance Constitutes Default	23
10.7	Acquisitions by Lalo	24

**Article 11
ROYALTY INTEREST**

11.1	Net Smelter Royalty	24
11.2	Purchase of the Net Smelter Royalty	24
11.3	Net Smelter Royalty on Non-Option Concessions.....	24
11.4	Purchase of the Non-Option Concessions Net Smelter Royalty.....	24

**Article 12
FORCE MAJEURE**

12.1	Events	25
12.2	Effect of Force Majeure	25
12.3	Obligation to Remove Force Majeure.....	25
12.4	Giving Notice	25

**Article 13
CONFIDENTIAL INFORMATION**

13.1	Confidential Information.....	25
13.2	Information in Public Domain.....	25
13.3	Request to Disclose	26
13.4	News Release	26

**Article 14
ARBITRATION**

14.1	Single Arbitrator.....	26
14.2	Prior Notice	26
14.3	No Agreement	26
14.4	Conduct of Arbitration	26

**Article 15
NOTICE**

15.1	Method	27
15.2	Amending Addresses.....	27

**Article 16
INDEMNIFICATION**

16.1	By Baminex.....	27
16.2	By Lalo.....	27
16.3	Notification.....	28

**Article 17
GENERAL**

17.1	TSX Approval	28
17.2	Other Activities and Interests.....	28
17.3	Entire Agreement	28

17.4	No Waiver	29
17.5	Further Assurances	29
17.6	Manner of Payment	29
17.7	Enurement	29
17.8	Special Remedies	29
17.9	Time of the Essence	29
17.10	Counterparts and Fax Execution	29

SCHEDULE A – Property Description
SCHEDULE B –Cash Payment Schedule
SCHEDULE C - Royalty Interest

OPTION AGREEMENT

THIS AGREEMENT made as of the 1st day of October, 2004.

BETWEEN:

LALO VENTURES LTD., a corporation organized under the laws of the province of British Columbia and having an office at 301-700 West Pender Street, Vancouver, British Columbia, V6C 1G8, (fax: 604.684.9532)

("Lalo")

OF THE FIRST PART

AND:

BAMINEX S.A. de C.V., a corporation organized under the laws of Mexico and having an office at Ensenada, Baja California Norte, Mexico, (fax: 604.683.8340)

("Baminex")

OF THE SECOND PART

WHEREAS:

(A) Baminex, holds a 100% interest in twelve mineral concessions located in Baja California Norte, Mexico (collectively the "Concessions") covering rights for metallic, non-metallic and precious metals, as more particularly described in Schedule A; and

(B) Baminex has agreed to grant an exclusive option to Lalo to acquire a 100% interest in the Concessions by performing work upon the Concessions and making cash payments to Baminex, all as herein provided.

NOW THEREFORE THIS AGREEMENT WITNESSES that for and in consideration of the sum of \$10 now paid by Lalo to Baminex, the receipt of which is hereby acknowledged by Baminex, and for other good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged by Baminex, the Parties agree as follows:

ARTICLE 1 INTERPRETATION

1.1 Definitions

For the purposes of this Agreement, except as otherwise defined herein, the following capitalized words and phrases when used herein have the following meanings:

Additional Property means any Mineral Rights or Surface Rights acquired within the Area of Interest and which become a part of the Concessions as contemplated in Article 10.

Affiliate means any person, partnership, joint venture, corporation or other form of enterprise which directly or indirectly controls, is controlled by, or is under common control with, a Party. For purposes of the preceding sentence, "control" means possession, directly or indirectly, of the power to direct or cause direction of management and policies through ownership of voting securities, contract, voting trust or otherwise.

Anniversary Date means an anniversary date of the date of the grant by Mexican regulatory authorities of a Concession governed by this Agreement.

Area of Interest means any new concession staked by Baminex in the states of Baja California Norte, Baja California Sur or any other state of Mexico.

Assets means all of the real property and personal property, tangible and intangible, relating to the Concessions, but not including the Mineral Rights.

Baminex means Baminex S.A. de C.V., a corporation organized under the laws of Mexico and the holder of rights to the Concessions.

Budget means a detailed estimate of all costs to be incurred with respect to a Program on the Concessions and a schedule of cash advances to be made by Lalo.

Business Corporations Act means the Business Corporations Act (British Columbia) in effect at the date of the Agreement.

Business Day means a day on which commercial banks are open for business in Vancouver, British Columbia.

Concessions means the Mineral Rights described in Schedule A and after the date of this Agreement includes the Mineral Rights comprised in any Additional Property, together with any renewal of any of such Mineral Rights and any other form of successor or substitute title therefore.

Effective Date means the effective date of this Agreement, as set forth in its recitals.

Encumbrance means any mortgage, charge, pledge, hypothecation, security interest, assignment, lien (statutory or otherwise), charge, title retention agreement or arrangement, royalty, restrictive covenant or other encumbrance of any nature.

Exchange means the TSX Venture Exchange.

Expenditures means all costs and expenses of whatever kind or nature spent or incurred by or on behalf of Lalo from the date hereof in the conduct of exploration and development activities on or in relation to the Concessions including, without limitation:

- (a) in holding the Concessions in good standing (including any monies expended as required to comply with applicable laws and regulations, such as for the completion and submission of assessment work and filings required in connection

therewith), in curing title defects and in acquiring and maintaining surface and other ancillary rights and any property tax payments;

- (b) in preparing for and in the application for and acquisition and transferring of environmental and other permits necessary or desirable to commence and complete exploration and development activities on the Concessions;
- (c) in doing geophysical and geological surveys, drilling, assaying and metallurgical testing, including costs of assays, metallurgical testing and other tests and analyses to determine the quantity and quality of Minerals, water and other materials or substances;
- (d) in the preparation of work programs and reporting as to the results thereof including any pre-feasibility or feasibility study or other evaluation of the Concessions;
- (e) in acquiring facilities or the use thereof and for all parts, supplies and consumables;
- (f) for salaries and wages, including actual labour overhead expenses for employees assigned to exploration and development activities;
- (g) for legal domicile costs and other legal costs required to maintain the Concessions or related to the formation of any Mexican companies and subsidiaries required by Lalo for the purpose of conducting business in Mexico pursuant to this Agreement;
- (h) travelling expenses and fringe benefits (whether or not required by law) of all persons engaged in work with respect to and for the benefit of the Concessions including for their food, lodging and other reasonable needs;
- (i) payments to contractors or consultants for work done, services rendered or materials supplied;
- (j) all taxes levied against or in respect of the Concessions or activities thereon, including property taxes, and the cost of insurance premiums and performance bonds or other security; and
- (k) a charge equal to 15% of all direct Expenditures and 5% of all indirect or third party Expenditures referred to in clauses (a) to (i) above for unallocable overhead and head office expenses of the Operator, and as credited as an Expenditure of Lalo, and all other expenses relating to supervision and management of all work done with respect to and for the benefit of the Concessions.

Force Majeure means any cause beyond a Party's control (except those caused by its own lack of funds) including, but not limited to: acts of God, fire, flood, explosion, strikes, lockouts or other industrial disturbances; any terrorist act; any military or paramilitary act or order; laws, rules and regulations or orders of any duly constituted court or governmental

authority; or non-availability of materials or transportation; or protests, demonstrations or other events causing work stoppages by environmental lobbyists or others.

Lalo means Lalo Ventures Ltd., a corporation organized under the laws of Yukon Territory.

Minerals means any and all ores, and concentrates or metals derived therefrom, containing precious, base and industrial minerals and which are found in, on or under the Concessions and may lawfully be explored for, mined and sold pursuant to the Mineral Rights and other instruments of title under which the Concessions is held.

Mineral Rights means the prospecting licences, mining leases, mineral concessions, formal concession applications or other application processes including staking and other forms of tenure or other rights to minerals, or to work upon lands for the purpose of searching for, developing or extracting minerals under any forms of mineral title recognized under the laws of Argentina or any subdivision thereof, whether contractual, statutory or otherwise, or any interest therein.

Non-Option Concession means Mineral Rights or Surface Rights, not forming part of the Concessions but within the Area of Interest staked or otherwise acquired by Baminex during the Option Period.

Non- Option Concessions NSR means the Net Smelter Royalty to be granted by Lalo to Baminex on the Additional Property pursuant to Section 11.3 of this Agreement.

Non-Option Concessions NSR Purchase means the purchase of the Additional Property NSR by Lalo pursuant to Section 11.4 of this Agreement.

NSR means the Net Smelter Royalty to be granted by Lalo to Baminex pursuant to Section 11.1 of this Agreement.

NSR Purchase means the purchase of the NSR by Lalo pursuant to Section 11.2 of this Agreement.

Operations means any and every kind of work which the Operator elects to do or to have done on or in respect of the Concessions or the products derived therefrom and all expenditures in respect of or incidental to such work.

Operator means the party having the right and obligation to carry out exploration, development and operating activities in respect of the Concessions pursuant to Section 6.1 of this Agreement.

Option means the option granted to Lalo as provided in Section 3.1.

Option Interest means the undivided right, title and interest in and to the Concessions acquired by Lalo upon exercise of the Option pursuant to the terms hereof.

Option Period means the period during which the Option remains in effect under this Agreement, more specifically a period of four (4) calendar years for each Concession,

commencing on the later of the Effective Date or the date a Concession is granted by Mexican regulatory authorities.

Option Shares means the 200,00 shares in the capital of Lalo to be issued to Baminex at a deemed price of \$0.35 per share pursuant to Section 3.4 of this Agreement.

Party means a party to this Agreement.

Phase One Concessions means the San Juan, Barbara, Cardones, Juan Sebastian, Leones and Xilma Concessions, all as more particularly described in Schedule "A" to this Agreement.

Phase Two Concessions means the Aguila I, Aguila II, Aguila III, Chapalita, Cirio and Luz de Mexico Concessions, all as more particularly described in Schedule "A" to this Agreement.

Program means a description in reasonable detail of the activities to be carried out under this Agreement and objectives to be accomplished by the Operator for the period provided for in Article 6.

Surface Rights means any interest in any real property, whether freehold, leasehold, license, right of way, easement or any other surface or other right in relation to real property.

TSX means the TSX Venture Exchange

Each of the terms "Adopted Program", "Adopted Budget", "Adopted Program and Budget", "Approved Program", "Approved Budget" and "Approved Program and Budget means a Program and/or Budget approved by the Management Committee pursuant to Article 6.

1.2 Included Words

This Agreement will be read with such changes in gender or number, as the context requires.

1.3 Headings

The headings to the articles, sections, subsections or clauses of this Agreement are inserted for convenience only and are not intended to affect the construction hereof.

1.4 References

Unless otherwise stated, a reference herein to a numbered or lettered article, section, subsection, clause or schedule refers to the article, section, subsection, clause or schedule bearing that number or letter in this Agreement. A reference to "this Agreement", "the Option Agreement", "hereof", "hereunder", "herein" or words of similar meaning, means this Agreement including the schedules hereto, together with any amendments thereof.

1.5 Currency

All dollar amounts expressed herein, unless otherwise specified, refer to lawful currency of Canada.

1.6 Knowledge

Where any representation or warranty contained in this Agreement is expressly qualified by reference to the knowledge of Baminex, Baminex confirms that it has made due and diligent inquiry of such persons (including appropriate officers of Baminex) as are reasonably necessary as to the matters that are the subject of the representations and warranties.

1.7 Schedule

The following schedules are attached to and incorporated in this Agreement by this reference:

Schedule A – Concessions
Schedule B – Cash Payments Schedule
Schedule C - Royalty Interest

1.8 Governing Law

This Agreement will be construed according to and governed by the laws in force in the Province of British Columbia and, except where matters are expressed herein to be subject to arbitration, the courts of such Province will have exclusive jurisdiction to hear and determine all disputes arising hereunder. Nothing contained in this Section 1.8 is intended to affect the rights of a Party to enforce a judgement or award outside of British Columbia.

1.9 Severability

If any provision of this Agreement is or becomes illegal, invalid or unenforceable, in whole or in part, the remaining provisions will nevertheless be and remain valid and subsisting and the said remaining provisions will be construed as if this Agreement had been executed without the illegal, invalid or unenforceable portion.

ARTICLE 2 REPRESENTATIONS AND WARRANTIES

2.1 Mutual Representations and Warranties

Each Party represents and warrants to the other Parties hereto that:

- (a) it is a body corporate duly incorporated or continued and duly organized and validly subsisting under the laws of its organizational jurisdiction;
- (b) it has full power and authority to carry on its business and to enter into this Agreement;

- (c) neither the execution and delivery of this Agreement nor the consummation of the transactions hereby contemplated conflict with, result in the breach of or accelerate the performance required by any agreement to which it is a party;
- (d) the execution and delivery of this Agreement do not violate or result in the breach of the laws of any jurisdiction applicable to a Party or pertaining thereto or of its organizational documents;
- (e) all corporate authorizations have been obtained for the execution of this Agreement and for the performance of its obligations hereunder; and
- (f) this Agreement constitutes a legal, valid and binding obligation of the Party enforceable against it in accordance with its terms.

2.2 Baminex's Representations and Warranties

Baminex represents and warrants to Lalo that:

- (a) it is the beneficial and registered holder of 100% of the Mineral Rights comprising the Concessions, including the applications for the Mineral Rights comprising the Concessions;
- (b) each of the Mineral Rights comprising the Concessions
 - (i) is fully and accurately described in Schedule A, including any Encumbrances in relation thereto, and neither Baminex nor any of its Affiliates has an interest in any other Mineral Rights which are located wholly or in part within the Area of Interest,
 - (ii) is in good standing under the applicable laws, including the incurring of expenditures and the payment of surface taxes or other monies;
 - (iii) have been duly and validly located and recorded under the laws of Mexico, or otherwise properly and legally acquired or are in the process of being duly recorded, and
 - (iv) are wholly owned by and recorded, registered or formally applied for in the name of Baminex, free and clear of all Encumbrances, and Baminex is in exclusive possession of such Mineral Rights,
- (c) there are no outstanding agreements, options or applications to acquire or purchase any of the Mineral Rights comprised in the Concessions, no person has any royalty or other interest whatsoever in production therefrom, and there is no adverse claim or challenge against or to the ownership of or title to any of the Mineral Rights described in Schedule A, nor to the best of Baminex's knowledge is there any basis therefore.

- (d) Baminex has neither received notice nor has knowledge of any proposal to terminate or vary the terms of or rights attaching to any of the Mineral Rights described in Schedule A from any government or other regulatory authority;
- (e) no proceedings are pending for and Baminex is not aware of any basis for the institution of any proceedings leading to the dissolution or winding-up of Baminex or the placing of Baminex into bankruptcy or subject to any other laws governing the affairs of insolvent persons;
- (f) there are no outstanding orders or directives or similar notices issued by any regulatory agency, including agencies responsible for environmental matters affecting the Concessions or Baminex, nor is there any reason to believe that such an order, directive or similar notice is pending. To the best of Baminex's knowledge no activities on the Concessions been in violation of any environmental law, regulations or regulatory prohibition or order, and to the best of Baminex's knowledge, conditions on and relating to the Concessions are in compliance with such laws, regulations, prohibitions and orders;
- (g) Baminex does not have Surface Rights that cover any lands located within the Area of Interest; and
- (h) to the best of their knowledge there is no fact or circumstance known to Baminex which has not been disclosed to Lalo which would render any of the foregoing representations and warranties untrue, incomplete or otherwise misleading.

2.3 Lalo's Representations and Warranties

Lalo represents and warrants to Baminex that:

- (b) Lalo is duly licensed or qualified as a foreign corporation in each jurisdiction in which the character of the property and assets now owned by it or the nature of its business as now conducted by it requires it to be so licensed or qualified (save where failure to have such license is not in the aggregate material).
- (c) Lalo is not a party to, or bound by, any agreements, covenants, undertakings or other commitments, on its own or as a result of any partnership or joint venture in which it is a partner or participant:
 - (i) under which the transaction contemplated herein would have the effect of imposing restrictions or obligations on Lalo materially greater than those imposed upon Lalo or any such partnership or joint venture at the date hereof;
 - (ii) which would give a third party, as a result of the consummation of the transaction contemplated herein, a right to terminate any material agreement to which Lalo or any such partnership or joint venture is a party or to purchase any of their respective assets;

- (iii) under which the consummation of the transaction contemplated herein would impose material restrictions on the ability of Lalo to carry on any business which it might choose to carry on within any geographical area, to acquire property or dispose of its property and assets in their entirety or to change its corporate status; or
- (iv) under which the consummation of the transaction contemplated herein would impose material restrictions on the ability of Lalo to pay dividends or make distributions to its shareholders or to borrow money and to mortgage and pledge its property as security therefore;
- (d) no proceedings are pending for, and Lalo is unaware of any basis for the institution of any proceedings leading to, the dissolution or winding up of Lalo or the placing of Lalo into bankruptcy or subject to any other laws governing the affairs of insolvent corporations;
- (e) except as disclosed herein, Lalo has not uncured any liability for finder's fees, agent's commissions or other similar forms of compensation in connection with this Agreement; and
- (f) to the best of their knowledge there is no fact or circumstance known to Lalo which has not been disclosed to Baminex which would render any of the foregoing representations and warranties untrue, incomplete or otherwise misleading

2.4 Survival of Representations and Warranties

The representations, warranties and covenants contained in this Agreement will survive the execution hereof and the acquisition of any interest in the Concessions by Lalo hereunder, and notwithstanding any investigations or enquiries made by Lalo prior to the Effective Date and notwithstanding any waiver of any condition by either Party, the representations, warranties, covenants and agreements shall (except where otherwise specifically provided in this Agreement) survive the Effective Date and shall continue in full force and effect for a period of one year from the Effective Date for all matters.

2.5 Reliance

The Parties acknowledge and agree that they have each entered into this Agreement relying on the warranties and representations of the other Party and other terms and conditions of this Agreement, notwithstanding any independent searches or investigations that may be undertaken by or on behalf of the Party, and that no information which is now known or which may hereafter become known to the Parties or its officers, directors or professional advisors shall limit or extinguish the right to indemnification hereunder.

ARTICLE 3 OPTION

3.1 Grant of Initial Option

Baminex hereby grants to Lalo, the sole and exclusive right and option, in accordance with the other provisions of this Article 3, to acquire a 100% interest in each of the Concession.

3.2 Earn In Expenditure Obligations

If Lalo wishes to exercise the Option and acquire a 100% interest in any one or all of the Concessions, Lalo must incur US\$150,000 of Expenditures on each Concession within four years of the later of:

- (a) the Effective Date; or
- (b) the date on which the Concession is formally granted to Baminex by Mexican regulatory authorities,

and must issue the Option Shares pursuant to Section 3.4 and make the cash payments pursuant to Section 3.3 in respect of that Concession, failing which Lalo will have no interest in the Concession(s) and the rights and obligations under this Agreement will be at end.

In the event that Lalo elects to abandon its Option in any of the Concessions, Expenditures on such Concession(s) may not be applied to Expenditures made on other Concessions which remain under option. Expenditures on any Concession may not be transferred for application to other Concessions.

3.3 Cash Payments

Lalo shall have the following obligations to make cash payments to Baminex:

- (a) US\$30,000 upon the Effective date, representing US\$5,000 per Phase One Concession as further particularized in Schedule B;
- (b) on the date of the grant of any of the Concessions, the amount specified in Schedule B in respect of that Concession;
- (c) on the First Anniversary Date following the date of grant of any of the Concessions, the amount specified in Schedule B in respect of that Concession;
- (d) on the Second Anniversary Date, following the date of grant of any of the Concessions, the amount specified in Schedule B in respect of that Concession;
- (e) on the Third Anniversary Date, following the date of grant of any of the Concessions, the amount specified in Schedule B in respect of that Concession;

- (f) on the Fourth Anniversary Date, following the date of grant of any of the Concessions, the amount specified in Schedule B in respect of that Concession; and
- (g) on the Fifth Anniversary Date, following the date of grant of any of the Phase II Concessions, the amount specified in Schedule B in respect of that Concession.

3.4 Share Issuances

Lalo shall issue the Option Shares as follows:

- (a) 50,000 shares upon the later of:
 - (i) receipt of all regulatory approvals, including the approval of the TSX, to this Agreement; and
 - (ii) the date upon which all of the Phase One Concessions are formally granted by Mexican regulatory authorities.
- (b) a further 50,000 shares upon the later of:
 - (i) the date upon which all of the Phase One Concessions are formally granted by Mexican regulatory authorities; and
 - (ii) May 1, 2005.
- (c) a further 50,000 shares on November 1, 2005, provided that Lalo has maintained its Option on at least six (6) of the Concessions; and
- (d) a further and final 50,000 shares on May 1, 2006, provided that Lalo has maintained its Option on at least three (3) of the Concessions.

Lalo and Baminex acknowledge that the Option Shares to be issued to Baminex will be subject to restrictions on resale under applicable policies of the TSX and applicable Canadian securities law.

Upon completion of the issuance of the Option Shares and the earn-in expenditure obligations and cash payments on any Concession as required in Sections 3.2 and 3.3, Lalo will have earned the Option Interest of 100% in respect of that Concession.

3.5 No Payments Until Grant

Notwithstanding Sections 3.2, 3.3 and 3.4 above, no cash payments shall be made to Baminex and no Expenditures shall be incurred by Lalo in respect of any Concession, until such Concession has been formally granted by Mexican regulatory authorities. The Option Shares shall not be issued until the date upon which all of the Phase One Concessions are formally granted by Mexican regulatory authorities.

3.6 Payment in Lieu of Expenditures

If Lalo has not incurred the full amount of the Expenditures which are required by the Fourth Anniversary Date specified under Section 3.2 (or such longer period as may be permitted by Article 10), then Lalo may pay to Baminex on or before that date an amount equal to the shortfall in Expenditures, and such amount will thereupon be deemed to have been Expenditures incurred by Lalo by the Fourth Anniversary Date.

3.7 Optionee's Election to Terminate

Notwithstanding any other provision of this Article 3, Lalo may elect at any time to terminate the Option by delivering 90 days written notice to Baminex, subject to Section 4.5 of this Agreement.

3.8 Termination with No Interest

The Option of any Concession granted pursuant to Section 3.1 will be of no further force and effect and will terminate, and Lalo will acquire no Interest and will have no further obligations hereunder, on the earliest of:

- (a) 90 days following any Anniversary Date in respect of a Concession, if Lalo has failed to make a cash payment required pursuant to Section 3.3
- (b) the Fourth Anniversary Date in respect of any Concession, if Lalo has failed to complete Expenditures in the amounts specified in Section 3.2 (or failed to make the necessary payment to Baminex in lieu thereof as contemplated by Section 3.6); or
- (c) the effective date of Lalo's termination under Section 3.7.

3.9 Return of Data

As soon as practicable upon the termination of this Agreement, Lalo shall return to Baminex copies of all title, environmental, metallurgical, geological, geophysical, milling and other data furnished to Lalo by Baminex, as well as all data and information regarding exploration activities performed on the Concessions pursuant to this Agreement and delete all such data from its records.

3.10 Option Only

For greater certainty, under this Agreement Lalo has acquired an option only and all expenditures on the Concessions are entirely at the discretion of Lalo.

3.11 Vesting of the Option

Upon the Optionee issuing the Option Shares pursuant to Section 3.4 and incurring the Expenditures pursuant in Section 3.2 and making the cash payments pursuant to Section 3.3 in respect of any Concession and in the time contemplated thereby, and Lalo delivering to Baminex, a notice in writing stating that Lalo wishes to acquire the 100% interest in that Concession, Baminex shall deliver to Lalo all such documentation which in the opinion of Lalo

acting reasonably are necessary to complete a transfer of registration of that Concession which shall allow Lalo or its nominee to become the registered holder of such Concession.

ARTICLE 4 OPTION PERIOD RIGHTS AND OBLIGATIONS

4.1 Lalo's Right of Entry

Throughout the Option Period, Lalo and its employees, agents, consultants and independent contractors will have the right in respect of the Property to:

- (a) enter thereon;
- (b) have exclusive and quiet possession thereof, subject to the powers and duties of the Operator, including but not limited to the powers and duties set out in Article 6;
- (c) carry out exploration, development and evaluation activities including, without limitation, the removal of Minerals through the Operator; and
- (d) bring upon and erect upon the Concessions such structures and other facilities as may be necessary or advisable to carry out exploration, development, production and evaluation activities.

Lalo's rights pursuant to this Section 4.1 will at all times be subject to any restrictions that may be required by applicable laws in Mexico or by regulatory authority and to rights of entry and access reserved to Baminex hereunder.

4.2 Lalo's Obligations

Lalo is obligated during the Option Period:

- (a) to keep the Concessions in good standing by the doing and filing of all necessary work, incurring such exploration costs as required by Mexican regulatory authorities, paying all property taxes due to state or federal agencies of Mexico, and by the doing of all other acts and things and making all other payments which may be necessary in that regard.
- (b) to keep the Concessions free and clear of all Encumbrances (except liens for taxes not yet due, other inchoate liens and liens contested in good faith by Lalo) and will proceed with all diligence to contest and discharge any such lien that is filed;
- (c) to permit the directors, officers, employees and designated consultants and agents of Baminex, at their own risk, access to the Concessions at all reasonable times, provided that Baminex will indemnify Lalo against and save it harmless from all costs, claims, liabilities and expenses that Lalo may incur or suffer as a result of any injury (including injury causing death) to any director, officer, employee, designated consultant or agent of Baminex while on the Concessions except to the

extent that any such costs, claims, liabilities or expenses result from Lalo's gross negligence or wilful misconduct;

4.3 Emergency Expenditures

Notwithstanding any other provision of this Agreement, the Operator will be entitled to incur as Expenditures all costs and expenses necessary to preserve or protect life, limb, property or the environment in respect of the Concessions or otherwise in the course of exploration or development activities.

4.4 Registered Title

During the Option Period:

- (a) Baminex will remain the registered holder of the Mineral Rights comprised in the Concessions and any New Concessions, as the case may be, as they exist on the date hereof and, upon the execution of this Agreement and at any time thereafter, on the request of Lalo, Baminex will deliver to Lalo a caution with respect to this Agreement, in form and substance acceptable to Lalo, acting reasonably, for registration or recording by Lalo against title to some or all of the Concessions.
- (b) Lalo will be entitled to register a caution with respect to this Agreement, in form and substance acceptable to Lalo, acting reasonably, for registration or recording by Lalo against title to some or all of the Additional Property, if as and when such Additional Concessions are acquired by the Parties or their agents.

4.5 Abandonment of Property

Lalo may surrender or abandon any Mineral Rights comprised in:

- (1) the Concessions provided that notice of such proposed abandonment is provided to Baminex no later than 90 days prior to the semi-annual or annual Anniversary Date applicable to that Concession. In the event that Lalo fails to provide notice within the time provided for in this section, Lalo shall pay all land tax payments due upon the Concession to be abandoned for a period of six months following such abandonment.
- (2) the New Concessions, provided that notice of such proposed abandonment is given to Baminex, who may elect, by notice to Lalo within 60 days after the surrender or abandonment notice, to have such Mineral Rights transferred to it without warranty and at its own cost. Such Mineral Rights will be transferred and assigned to Baminex as soon as possible following its election. Failing such election, the Mineral Rights may be abandoned or surrendered as proposed by Lalo.

Following a transfer or abandonment under this section, the Mineral Rights so transferred or abandoned will thereafter cease to form part of the Concessions or the Area of Interest and will no longer be subject to this Agreement, except with respect to any obligations or liabilities of the Parties as have accrued to the date of such transfer or abandonment.

**ARTICLE 5
MANAGEMENT OF OPERATIONS DURING THE OPTION PERIOD**

5.1 Staff

Lalo and Baminex shall jointly appoint management and staff for Operations on the Concessions, though all Mexican personnel contracts shall be completed by Baminex.

5.2 Decisions

The Parties shall jointly determine the nature and timing of all operations and activities relating to the Concessions for the purpose of determining ore reserves and mineralization, including drilling activities, to be carried out under this Agreement. In the event of a deadlock between the Parties regarding the Operations, either party may refer the matter to arbitration as provided in Article 14.

5.3 Meetings

The Parties shall hold regular meetings in order to discuss the nature and timing of the Operations at least quarterly at a location to be mutually agreed upon, and may be held via teleconference or such other means as will allow the Parties to communicate with each other. Baminex shall give 20 days' notice to Lalo of such regular meetings. Additionally, either Lalo or Baminex may call a special meeting upon ten days' notice to the other Parties. In case of emergency, reasonable notice of a special meeting shall suffice. Each notice of a meeting shall include an itemized agenda prepared by Baminex in the case of a regular meeting, or by the Party calling the meeting in the case of a special meeting, but any matters may be considered with the consent of all Parties. Baminex shall prepare minutes of all meetings and shall distribute copies of such minutes to Lalo within 30 days after the meeting. If no objection to the minutes is made by Lalo within 10 days after receipt of a copy thereof, they shall be the official record of the decisions made by the Parties and shall be binding on the Parties.

**ARTICLE 6
OPERATOR**

6.1 Appointment and Performance of Obligations

Baminex is appointed the Operator of the Concessions during the Option Period. In exercising its powers and duties under Section 6.2 of this Agreement, the Operator shall comply with all applicable law, rules and regulations and shall carry out operations in a good workmanlike manner in accordance with generally accepted mining practices.

6.2 Powers and Duties of the Operator

Subject to the terms and provisions of this Agreement and the general oversight and direction of both of the Parties, the Operator shall have the following powers and duties:

- (a) the Operator shall implement the decisions of the Parties, shall make all expenditures necessary to carry out Adopted Programs, and shall promptly advise

the Management Committee if it lacks sufficient funds to carry out its responsibilities under this Agreement;

- (b) the Operator shall: (i) purchase or otherwise acquire all material, supplies, equipment, water, utility and transportation services required to carry out Adopted Programs, such purchases and acquisitions to be made on the best terms reasonably available, taking into account all of the circumstances; (ii) obtain such customary warranties and guarantees as are available in connection with such purchases and acquisitions; and (iii) keep the Concessions free and clear of all liens and encumbrances, except for those existing at the time of, or created concurrently with, the option of such Concessions, or mechanic's or materialmen's liens, which shall be released or discharged in a diligent manner, or liens and encumbrances specifically approved by the Management Committee;
- (c) the Operator shall conduct such title examinations and cure such title defects pertaining to the Concessions as may be advisable in the reasonable judgment of the Operator;
- (d) the Operator shall: (i) apply for all necessary permits, licenses and approvals; (ii) comply with applicable federal, state and local laws and regulations; (iii) notify promptly the Management Committee of any allegations of substantial violation thereof, and (iv) prepare and file all reports or notices required for operations on the Concessions. the Operator shall not be in breach of this provision if a violation has occurred in spite of the Operator's good faith efforts to comply, and the Operator has timely cured or disposed of such violation through performance, or payment of fines and penalties;
- (e) the Operator shall prosecute and defend, but shall not initiate without consent of Lalo, all litigation or administrative proceedings arising out of any activities on the Concessions or relating to the Concessions. Lalo shall have the right to participate, at its own expense, in such litigation or administrative proceedings. The Parties shall approve in advance any settlement arising out of such litigation or administrative proceedings, involving payments, commitments or obligations in excess of \$10,000 in cash or value;
- (f) the Operator shall carry such insurance, covering all persons working at or on the Concessions for the Operator as will fully comply with the requirements of the statutes of Mexico pertaining to workers' compensation and occupational disease and disabilities as are now in force or as may be hereafter amended or enacted. In addition, during the Option Period, the Operator agrees to carry liability insurance with respect to its operations at the Concessions in accordance with accepted industry practices;
- (g) the Operator may dispose of the Assets, whether by abandonment, surrender or transfer in the ordinary course of business, provided, however, without prior approval from Lalo, the Operator shall not: dispose of assets in any one transaction having a value in excess of \$10,000; or (ii) dispose of all or a substantial part of the Assets necessary to achieve the purposes of this Agreement;

- (h) the Operator shall have the right to carry out its responsibilities hereunder through agents, Affiliates or independent contractors;
- (i) the Operator shall keep and maintain all required accounting and financial records in accordance with customary cost accounting practices in the mining industry;
- (j) the Operator shall keep Lalo advised of all operations by submitting in writing to Lalo: (i) quarterly progress reports which include statements of expenditures and comparisons of such expenditures to the Adopted Budget; (ii) periodic summaries of data acquired; (iii) copies of reports concerning operations and activities on the Concessions; (iv) a detailed final report within 60 days after completion of each Program and Budget, which shall include comparisons between actual and budgeted expenditures and comparisons between the objectives and results of Programs; and (v) such other reports as the Management Committee may reasonably request. At all reasonable times the Operator shall provide Lalo access to, and the right to inspect and copy, all maps, drill logs, core tests, reports, surveys, assays, analyses, production reports, operations, technical, accounting and financial records, and other information acquired in exploring and operating upon the Concessions. In addition, the Operator shall allow Lalo, at the latter's sole risk and expense, and subject to reasonable safety regulations, to inspect the Assets and the Concessions at all reasonable times, so long as Lalo does not unreasonably interfere with activities occurring on the Concessions; and
- (k) the Operator shall prepare an environmental compliance plan for all operations consistent with the requirements of any applicable laws or contractual obligations and may in its reasonable discretion include in each Program and Budget sufficient funding to implement the environmental compliance plan and to satisfy the financial assurance requirements of any applicable law or contractual obligation pertaining to environmental compliance. To the extent practical, the environmental compliance plan shall incorporate concurrent reclamation of any portion of the lands on which the Concessions is situated, which is disturbed by operations or other exploration activities upon the Concessions.

The Operator shall not be in default of any duty under this Section 6.2 if its failure to perform results from the failure of Lalo to perform acts or to contribute amounts required of it by this Agreement.

6.3 Standard of Care

The Operator shall conduct all operations and activities upon the Concessions in a good, workmanlike and efficient manner, in accordance with sound mining and other applicable industry standards and practices, and in accordance with the terms and provisions of leases, licenses, permits, contracts and other agreements pertaining to Assets. The Operator shall not be liable to Lalo for any act or omission resulting in damage or loss except to the extent caused by or attributable to the Operator's wilful misconduct or gross negligence.

6.4 Transactions With Affiliates

If the Operator engages Affiliates to provide services hereunder it shall do so on terms no less favorable than would be the case with unrelated persons in arm's-length transactions.

ARTICLE 7 PROGRAMS AND BUDGETS

7.1 Programs and Budgets

Proposed Programs and Budgets shall be prepared by the Operator for a period of one year from January 1 to December 31, with the initial Program and Budget to be prepared for the period from October 1 to December 31, and shall be of such a nature as to allow Lalo to complete its earn-in expenditure obligations pursuant to Section 3.2. Each Adopted Program and Budget shall be reviewed at the quarterly meetings of the Parties. During the period encompassed by any Program and Budget, and at least 60 days prior to its expiration, a proposed Program and Budget for the succeeding period shall be prepared by the Operator and submitted to Lalo

7.2 Review and Approval of Proposed Programs and Budgets

Within 10 days after submission of a proposed Program and Budget, Lalo shall submit to the Operator:

- (a) notice that Lalo approves the proposed Program and Budget; or
- (b) proposed modifications to the proposed Program and Budget; or
- (c) notice that Lalo rejects the proposed Program and Budget.

If Lalo fails to give any of the foregoing responses within the allotted time, the failure shall be deemed to be an approval by Lalo of the Operator's proposed Program and Budget. If Lalo makes a timely submission to the Operator pursuant to Section 7.2(b) or (c), then the Operator shall seek to develop a Program and Budget acceptable to Lalo.

7.3 Operations Pursuant to Programs and Budgets

Except as otherwise provided in Section 7.6 and Article 7.7, operations and activities upon the Concessions shall be conducted, expenses shall be incurred and Assets shall be acquired only pursuant to Approved Programs and Budgets.

7.4 Election to Participate

By notice to the Operator within 20 days after the final vote adopting a Program and Budget, Lalo may elect not to continue to earn an interest in the Concessions, in which case the provisions of Section 4.5 shall apply. If Lalo fails to so notify the Operator, Lalo shall be deemed to have elected to contribute to such Program and Budget as of the beginning of the period covered by the Program and Budget and the provisions of Section 7.2 regarding funding of the Adopted Program and Budget shall apply.

7.5 Budget Overruns; Program Changes

The Operator shall immediately notify Lalo of any material departure from an Adopted Program and Budget. If the Operator exceeds an Adopted Budget by more than 20%, then the excess over 20%, unless directly caused by an emergency or unexpected expenditure made pursuant to Section 7.6 or unless otherwise authorized by Lalo, shall be for the sole account of the Operator. Budget overruns of 20% or less shall be borne by Lalo as part of its funding pursuant to Section 3.2.

7.6 Emergency or Unexpected Expenditures

In case of emergency, Baminex may take any reasonable action it deems necessary to protect life, limb or property, to protect the Assets or to comply with law or government regulation. Baminex may also make reasonable expenditures for unexpected events which are beyond its reasonable control and which do not result from a breach by it of its standard of care. Baminex shall promptly notify Lalo of the emergency or unexpected expenditure, and Baminex shall be reimbursed for all resulting costs by Lalo.

ARTICLE 8 ACCOUNTS AND SETTLEMENTS

8.1 Quarterly Statements

The Operator shall promptly submit to Lalo quarterly statements of account reflecting in reasonable detail the Expenditures incurred in accordance with the program and budget during the preceding quarter.

8.2 Cash Calls

Upon adoption of a Program and Budget, as provided for in Section 7.2, the Operator shall submit to Lalo within 10 days of such approval, a billing for estimated cash requirements for the first quarter of the Adopted Program and Budget. Thereafter, on the basis of the Adopted Program and Budget, the Operator shall submit to Lalo at least 30 days prior to a calendar quarter a billing for estimated cash requirements for the next quarter. Within 10 days after receipt of each billing, Lalo shall advance to the Operator the estimated cash requirements set out in the billing. Time is of the essence of payment of such billings.

The Operator shall at all times maintain a cash balance approximately equal to the rate of disbursement for at least 60 days. All funds in excess of immediate cash requirements shall be invested in an interest-bearing account, with the Operator's bank, with interest, for the benefit of Lalo, and to be applied against future payment obligations of Lalo subject to Section 8.3 below. These funds may be held in Mexican pesos or such other currency as is required for the Operator's activities.

8.3 Failure to Meet Cash Calls

If Lalo fails to meet a cash call in the amount and at the times specified in Section 7.2, Lalo shall be deemed to have elected not to continue to earn an interest in the Concessions, in

which case the provisions of Section 4.5 shall apply and Lalo shall not be entitled to the return of any monies advanced pursuant to Section 8.2 or any interest earned thereon.

8.4 Extraordinary Cash Calls

In the event that the provincial mines department which governs the Concessions give notice of a mandatory upgrade in title during the term of the Option Period, these costs shall be called under a separate billing as they arise. Lalo shall make payment of same to the Operator within 10 days of receipt of such billing

8.5 Audits

Upon request made by Lalo within 12 months following the end of any period covered by a Program and Budget, the Operator shall order an audit of the accounting and financial records for such period. All written exceptions to and claims upon the Operator for discrepancies disclosed by such audit shall be made not more than three months after receipt of the audit report. Failure to make any such exception or claim within the three month period shall mean the audit is correct and binding upon the Parties. The audits shall be conducted by a firm of certified public accountants selected by the Operator, unless otherwise agreed by the Management Committee and the cost thereof shall be borne by Lalo in advance unless discrepancies in excess of 10% of presented Expenditures are identified in which case the cost of the audit shall be borne by the Operator.

8.6 Return of Cash Advances

In the event Lalo has made advances pursuant to a cash call and the Parties subsequently determine that it is in the best interests of the parties to discontinue any further work on the Concessions, the Operator shall return to Lalo any portion of advances made by Lalo not otherwise required to fulfill any outstanding commitments in respect of the Concessions, converted to the currency requested by Lalo, less any foreign exchange conversion costs associated therewith.

8.7 In-Kind Contributions

Notwithstanding Section 8.2, the Operator may determine to accept in-kind contributions from Lalo in lieu of advances of all or a portion of any cash call requirements. In such event the value of such in-kind contributions shall be determined by the Parties and shall constitute Expenditures, where applicable, for purposes of this Agreement.

ARTICLE 9 TRANSFERS

9.1 Limitations on Transfers

Except if permitted under and in accordance with this Agreement, no Party will transfer, convey, assign, mortgage or grant an option in respect of or grant a right to purchase or in any manner transfer, alienate or otherwise dispose of (in this article to “**Transfer**”) any or all of its interest in the Concessions or transfer or assign any of its rights under this Agreement.

9.2 Prohibited Dispositions

A Party is prohibited from Transferring any of its interest in the Concessions or any of its rights under this Agreement unless:

- (a) its interest in the Concessions and its rights under this Agreement are Transferred together (or, if a portion, in the same proportion);
- (b) such Transfer occurs when such Party is not in default of any of its covenants and agreements herein contained; and
- (c) such Transfer, if it constitutes a Transfer by a Party of a portion of its interest in the Concessions and its rights under this Agreement, has been approved by the other Party, such approval not to be unreasonably withheld.

9.3 Right of First Offer

If a Party (in this article the “**Transferring Party**”) wishes to Transfer all of its interest in the Concessions and its rights under this Agreement (in this section, the “**Holdings**”) other than as contemplated under Section 8.4, then it must prior to any such transfer first offer to Transfer the Holdings to the other Party for a cash consideration and upon such other terms and conditions as the Transferring Party deems fit (in this section, the “**Offer**”). If the other Party accepts the Offer within the 30-day period following its receipt, then the Transfer will be concluded no later than 30 days after such acceptance. If the other Party does not accept the Offer within such 30-day period, then the Transferring Party will be free to Transfer the Holdings to a third party at any time after the expiry of such 30-day period and prior to the expiry of the succeeding 90-day period, but only for a cash consideration equal to or greater than the cash consideration stated in the Offer and upon other terms and conditions no less favourable to the Transferring Party than those contained in the Offer. If the Transferring Party’s Transfer of the Holdings to the other Party or to a third party is not concluded prior to the expiry of such 30-day or 90-day period as aforesaid, any subsequent Transfer by the Transferring Party will be subject to the provisions of this Section 9.3.

9.4 Exceptions

Nothing in Section 9.3 applies to or restricts in any manner:

- (a) a disposition by the Transferring Party of all or a portion of its interest in the Concessions and a transfer or assignment of a proportionate interest in this Agreement to an Affiliate of the Transferring Party, provided that such Affiliate first assumes and agrees to be bound by the terms of this Agreement and the Underlying Agreements and agrees with the other Party in writing to retransfer such interests to the Transferring Party before ceasing to be an Affiliate of the Transferring Party; or
- (b) an amalgamation or corporate reorganization involving the Transferring Party which has the effect in law of the amalgamated or surviving corporation possessing all the property, rights and interests and being subject to all the debts, liabilities and obligations of each amalgamating or predecessor corporation; or

- (c) a sale, forfeiture, charge, withdrawal, transfer or other disposition or encumbrance which is otherwise specifically required or permitted under this Agreement.

9.5 Conditions of Transfers

As a condition of any Transfer other than to another Party, the transferee must covenant and agree to be bound by this Agreement, including this Article 9, and prior to the completion of any such Transfer, the Transferring Party must deliver to the other Party evidence thereof in a form satisfactory to such other Party. Notwithstanding any such Transfer, the Transferring Party will remain liable for all of its obligations hereunder, unless the Holdings have been Transferred to a third party pursuant to Section 9.3.

9.6 Partial Transfers

If the Transferring Party Transfers less than all of its entire interest in the Concessions and under this Agreement, the Transferring Party and its transferee shall act and be treated as one Party and, for such Transfer to be effective, the Transferring Party must first deliver to the other Party the agreement in writing of the Transferring Party and its transferee in favour of the other Party in which:

- (a) as between the Transferring Party and the transferee, the one of them who is authorized to act as the sole agent (in this section the "**Agent**") on behalf of both of them with respect to all matters pertaining to this Agreement is designated;
- (b) the Transferring Party and its transferee agree between each other and jointly represent and warrant to other Party that:
 - (i) the Agent has the sole authority to act on behalf of, and to bind, the Transferring Party and its transferee with respect to all matters pertaining to this Agreement;
 - (ii) the other Party may rely on all decisions of, notices and other communications from, and failures to respond by, the Agent, as if given (or not given) by both the Transferring Party and its transferee; and
 - (iii) all decisions of, notices and other communications from, and failures to respond by, the other Party to the Agent shall be deemed to have been given (or not given) concurrently to the Transferring Party and its transferee.

ARTICLE 10 AREA OF INTEREST

10.1 Limitation on Acquisitions

Baminex hereby covenants and agrees with Lalo that it will not acquire, nor will it permit any Affiliate to acquire, any Mineral Rights or Surface Rights located wholly or in part within the Area of Interest unless such Mineral Rights or Surface Rights are made subject to the terms of this Agreement, at the option of Lalo, and complies with the provisions of this Article.

10.2 Acquisition of Additional Property

Forthwith upon completing an acquisition of Mineral Rights or Surface Rights located wholly or in part within the Area of Interest, Baminex will give notice thereof to Lalo, setting out the location of the Mineral Rights or Surface Rights and all information known to Baminex and its Affiliates about such Mineral Rights or Surface Rights, the costs of acquisition and all other pertinent details relating thereto.

Upon receipt of such notice, Lalo will have a period of 15 days to elect, by written notice to the Baminex, to include such Mineral Rights or Surface Rights in the Concessions and make them subject to this Agreement on the same terms or reasonably similar terms as the Concessions. Upon such election such Mineral Rights or Surface Rights will constitute Additional Property for inclusion in the Concessions thereafter for all purposes of this Agreement.

Lalo shall reimburse it for the acquisition costs that Baminex or its Affiliate has incurred in acquiring the Additional Property. Upon such payment by Lalo, the acquisition costs for any Additional Property will be deemed to constitute Expenditures hereunder.

10.3 Notice of Rejection

If, within the 15-day period referred to in paragraph 10.3, Lalo does not give the notice referred to in paragraph 10.4, it will be deemed to have consented to the exclusion of the Mineral Rights or Surface Rights in question from the Area of Interest, which may thereafter be held or dealt with by Baminex or its Affiliate free of the terms and conditions of this Agreement.

10.4 Title to Additional Property

Baminex will remain the registered holder of the Mineral Rights or Surface Rights comprised in the Additional Property during the Option Period. Upon the request of Lalo, Baminex will deliver to Lalo a caution with respect to the Additional Property, in form and substance acceptable to Lalo, acting reasonably, for registration or recording by Lalo against title to some or all of the Additional Property.

10.5 Further Assurance

Each of the Parties will execute and deliver or cause to be executed and delivered such further documents and instruments and give such further assurances as the other may reasonably require to evidence and give effect to any acquisition, registration or transfer of Mineral Rights or Surface Rights contemplated in this Article 12.

10.6 Non-Compliance Constitutes Default

Non-compliance with the provisions of this Article 10 by an Affiliate of a Party will constitute a default under this Agreement by such Party unless such Party can satisfy the other Party that the Affiliate was acting independently and at arm's length, without information from or direction by the affiliated Party and that such affiliated Party could not reasonably have enforced compliance with the terms hereof by its Affiliate in the circumstances.

10.7 Acquisitions by Lalo

Lalo may, in its discretion, require Baminex to stake additional mineral rights within and outside the Area of Interest, at its own cost. Such New Concessions shall be held by Lalo and shall not form part of this Option Agreement. Lalo shall bear all costs related to the staking and transferring of the New Concessions, and all legal, application and incorporation costs required in order for the granting of the New Concessions to Lalo. Baminex shall receive no payments for the New Concessions except for the reimbursement of staking or other incurred costs, and the net smelter returns in Article 11 below.

ARTICLE 11 ROYALTY INTEREST

11.1 Net Smelter Royalty

Lalo will grant a 2% NSR in favour of Baminex or its nominee on the Concessions or New Concessions, calculated and paid in accordance with Schedule D hereto.

11.2 Purchase of the Net Smelter Royalty

The NSR may be purchased at any time following the Effective Date for a total of US\$2,000,000, comprised of US\$1,000,000 for each percentage of the NSR, with the payment of the first percent payable 50% in cash and 50% in common shares in the capital of Lalo, and the payment for the second percent payable solely through the issuance of common shares in the capital of Lalo. In the event that any of the NSR is paid by Lalo prior to the NSR Purchase, fifty percent (50%) of the value of such NSR paid will be credited against the purchase price of the NSR.

11.3 Net Smelter Royalty on Non-Option Concessions

Lalo shall grant a 1% Non-Option Concession NSR in favour of Baminex or its nominee on the Non-Option Concessions, calculated and paid in accordance with Schedule D hereto.

11.4 Purchase of the Non-Option Concessions Net Smelter Royalty

The Non-Option Concessions NSR may be purchased at any time following the Effective Date for a total of US\$1,000,000, payable 50% in cash and 50% in common shares in the capital of Lalo. In the event that any of the Non-Option Concessions NSR is paid by Lalo prior to the Non-Option Concessions NSR Purchase, fifty percent (50%) of the value of such Non-Option Concessions NSR paid will be credited against the purchase price of the Non-Option Concessions NSR.

ARTICLE 12 FORCE MAJEURE

12.1 Events

Notwithstanding any other provisions contained herein, a Party will not be liable for its failure to perform any of its obligations under this Agreement due to a Force Majeure.

12.2 Effect of Force Majeure

All time limits imposed by this Agreement (including, without limitation, the time within which cash payments are to be made pursuant to Section 3.2, Expenditures are to be made or Option Shares are to be delivered) will be extended by a period equivalent to the period of delay resulting from a Force Majeure described in Section 12.1.

12.3 Obligation to Remove Force Majeure

A Party relying on the provisions of this Article 12 will take all reasonable steps to eliminate any Force Majeure and, if possible, will perform its obligations under this Agreement as far as practical, but nothing herein will require such Party to settle or adjust any labour dispute or to question or to test the validity of any law, rule, regulation or order of any duly constituted court or governmental authority or to complete its obligations under this Agreement if a Force Majeure renders completion impossible.

12.4 Giving Notice

A Party relying on the provisions of this Article 12 will give notice to the other Party forthwith upon the occurrence of the Force Majeure and forthwith after the end of the period of delay when such Force Majeure has been eliminated or rectified.

ARTICLE 13 CONFIDENTIAL INFORMATION

13.1 Confidential Information

Except as specifically otherwise provided for herein, the parties will keep confidential all data and information respecting this Agreement and the Concessions and will refrain from using it other than for the activities contemplated hereunder or publicly disclosing unless required by law or by the rules and regulations of any regulatory authority or stock exchange having jurisdiction, or with the consent of the other Party, such consent not to be unreasonably withheld.

13.2 Information in Public Domain

The provisions of this Article 13 do not apply to information which is or becomes part of the public domain other than through a breach of the terms hereof.

13.3 Request to Disclose

Where a request is made for permission to disclose confidential information hereunder, a reply thereto will be made within three Business Days after receipt of such request, failing which the Party requesting will be entitled to disclose such information in the limited circumstances specified in such request as if such consent had been given.

13.4 News Release

The Parties will consult with each other prior to issuing any press release or other public statement regarding the Concessions or the activities of Lalo or Baminex with respect thereto. In addition, each Party will obtain prior approval from the other Party, which will not unreasonably be refused, before issuing any press release or public statement using the other Party's name or the names of any of the other Party's assignees or of any of the officers, directors or employees of the other Party or of its assignees.

ARTICLE 14 ARBITRATION

14.1 Single Arbitrator

Any matter in dispute hereunder will be determined by a single arbitrator to be appointed by the Parties.

14.2 Prior Notice

Any Party may refer any such matter to arbitration by notice to the other Party and, within 10 Business Days after receipt of such notice, the Parties will agree on the appointment of an arbitrator. No person will be appointed as an arbitrator hereunder unless such person agrees in writing to act.

14.3 No Agreement

If the Parties cannot agree on a single arbitrator as provided in Section 14.2, or if the person appointed is unwilling or unable to act, either Party may submit the matter to arbitration before a single arbitrator in accordance with rules for conciliation and arbitration of the British Columbia International Commercial Arbitration Centre (in this article, the “**Rules**”).

14.4 Conduct of Arbitration

Except as otherwise specifically provided in this Article 14, an arbitration hereunder will be conducted in English in accordance with the Rules. The arbitrator will fix a time and place in Vancouver for the purpose of hearing the evidence and representations of the Parties and he or she will preside over the arbitration and determine all questions of procedure not provided for under the Rules or this Article 14. After hearing any evidence and representations that the Parties may submit, the arbitrator will make an award and reduce the same to writing and deliver one copy thereof to each of the Parties. The decision of the arbitrator will be made within 45 days after his or her appointment, subject to any reasonable delay due to unforeseen

circumstances. The expense of the arbitration will be paid as specified in the award. The arbitrator's award will be final and binding upon each of the Parties.

ARTICLE 15 NOTICE

15.1 Method

Each notice, consent, demand or other communication (in this article the "**Notice**") required or permitted to be given under this Agreement will be in writing and may be personally delivered or sent by facsimile to the address or fax number as set forth in the recitals to this Agreement. A Notice, if so personally delivered, will be deemed to have been given and received on the date of actual delivery and, if so given by facsimile, will be deemed to have been given and received on the date sent, if sent during normal business hours of the recipient on a Business Day and otherwise on the next Business Day.

15.2 Amending Addresses

Either Party may at any time and from time to time notify the other Party in accordance with this Article 15 of a change of address or fax number, to which all Notices will be given to it thereafter until further notice in accordance with this Section 15.2.

ARTICLE 16 INDEMNIFICATION

16.1 By Baminex

Baminex agrees to defend, indemnify and hold harmless Lalo, its successors, Affiliates, assigns, officers, directors and employees from and against any and all claims, actions, suits, losses, liabilities, damages, assessments, judgments, costs and expenses, including reasonable attorneys' and consultants' fees, arising out of or related to (i) any breach by Baminex of any representation or warranty or failure by Baminex to perform any covenant or obligation set forth herein, or (ii) any activities conducted by Baminex on or in connection with the Concessions prior to the Effective Date.

16.2 By Lalo

Lalo agrees to defend, indemnify and hold harmless Baminex, its successors, Affiliates, assigns, officers, directors and employees from and against any and all claims, actions, suits, losses, liabilities, damages, assessments, judgments, costs and expenses, including reasonable attorneys' and consultants' fees, arising out of or related to (i) any breach by Lalo of any representation or warranty or failure by Lalo to perform any covenant or obligation set forth herein, or (ii) any activities conducted by Lalo on or in connection with the Concessions during the Option Period.

16.3 Notification

Any Party who has a claim giving rise to indemnification liability pursuant to this Agreement (an "Indemnified Party") whether resulting from a claim by a third party or otherwise, shall give prompt notice to the other Party (the "Indemnifying Party") of such claim, together with a reasonable description thereof. Failure to provide such notice shall not relieve a Party of any of its obligations hereunder except to the extent materially prejudiced thereby. With respect to any claim by a third party against any Party to this Agreement which is subject to indemnification under this Agreement, the Indemnifying Party shall be afforded the opportunity, at its expense, to defend or settle the claim if it utilizes counsel reasonably satisfactory to the Indemnified Party, and promptly commences the defence of such claim and pursues such defence with diligence; provided, however, that the Indemnifying Party shall secure the consent of the Indemnified Party to any settlement, which consent shall not be unreasonably withheld. The Indemnified Party may participate in the defence of any claim at its expense, and until the Indemnifying Party has agreed to defend such claim, the Indemnified Party may file any motion, answer or other pleading or take such other action as it deems appropriate to protect its interests or those of the Indemnifying Party. If an Indemnifying Party does not elect to contest any third-party claim, the Indemnifying Party shall be bound by the results obtained with respect thereto by the Indemnified Party, including any settlement of such claim.

ARTICLE 17 GENERAL

17.1 TSX Approval

This Agreement is subject to regulatory approval by the TSX, such approval to be obtained on or before January 31, 2005. In the event such approval is not obtained by that date the parties may mutually agree to extend the time for approval. If approval is not obtained, this Agreement will be of no further force and effect, subject only to the confidentiality provisions contained herein.

17.2 Other Activities and Interests

This Agreement and the rights and obligations of the Parties hereunder are strictly limited to the Concessions and the Area of Interest. Each Party will have the free and unrestricted right to enter into, conduct and benefit from business ventures of any kind whatsoever, whether or not competitive with the activities undertaken pursuant hereto, without disclosing such activities to the other Party or inviting or allowing the other to participate including, without limitation, involving Mineral Rights or Surface Rights adjoining the Area of Interest or which previously formed a part of the Concessions.

17.3 Entire Agreement

This Agreement and the schedules hereto constitute the entire agreement between the Parties and supersedes and replaces any preliminary or other agreement or arrangement, whether oral or written, express or implied, statutory or otherwise heretofore existing between the Parties in respect of the subject matter of this Agreement. This Agreement may not be amended or modified except by an instrument in writing signed by each of the Parties.

17.4 No Waiver

No consent hereunder or waiver of or with respect to any term or condition of this Agreement will be effective unless it is in writing and signed by the consenting or waiving Party. No consent or waiver expressed or implied by either Party in respect of any breach or default by the other in the performance by such other of its obligations hereunder will be deemed or construed to be a consent to or a waiver of any other breach or default.

17.5 Further Assurances

The Parties will promptly execute or cause to be executed all documents, deeds, conveyances and other instruments of further assurance which may be reasonably necessary or advisable to carry out fully the intent of this Agreement or to record wherever appropriate the respective interests from time to time of the Parties in the Concessions.

17.6 Manner of Payment

All payments to be made to any Party may be made by cheque or draft mailed or delivered to such Party at its address for notice purposes as provided herein, or for the account of such Party at such bank in Canada as the Party may designate from time to time by notice to the other Party. Such bank or banks will be deemed the agent of the designating Party for the purposes of receiving, collecting and receipting such payment.

17.7 Enurement

This Agreement will enure to the benefit of and be binding upon the Parties and their respective successors and permitted assigns.

17.8 Special Remedies

Each of the Parties agrees that its failure to comply with the covenants and restrictions set out in Section 3.9, Article 9, Article 13 or Article 16 would constitute an injury and cause damage to the other Party impossible to measure monetarily. Therefore, in the event of any such failure, the other Party will, in addition and without prejudice to any other rights and remedies that it may have at law or in equity, be entitled to injunctive relief restraining, enjoining or specifically enforcing the provisions of Section 3.9, Article 9, Article 13 or Article 16, as the case may be, and any Party intending to breach or which breaches the provisions of Section 3.9, Article 9, Article 13 or Article 16 hereby waives any defence it may have at law or in equity to such injunctive or equitable relief.

17.9 Time of the Essence

Time is of the essence in the performance of each obligation under this Agreement.

17.10 Counterparts and Fax Execution

This Agreement may be executed in any number of counterparts and all such counterparts, taken together, shall be deemed to constitute one and the same instrument. This Agreement may be signed and accepted by facsimile.

SCHEDULE "A":

CONCESSIONS

To the Agreement dated October 1, 2004, between Lalo Ventures Ltd. and Baminex S.A. de CV

281004

B

SCHEDULE A

BAMINEX -- LALO OPTION

BAJA CALIFORNIA CONCESSIONS

Concession		HA	AC	LOCATION	DISTRICT	OWNER	APPLICANT	NSR
1 AGUILA I	GOLD	5,575	13,770	Aguila	Calamajue		BAMINEX	2%
2 AGUILA II	GOLD	10,000	24,700	Aguila	Calamajue		BAMINEX	2%
3 AGUILA III	GOLD	10,000	24,700	Aguila	Calamajue		BAMINEX	2%
4 BARBARA	IOCG	20,000	49,400	LEONES	Leones	BAMINEX		2%
5 CARDONES	IOCG	21,575	53,290	Leones	Leones	BAMINEX		2%
6 CHAPALITA	IOCG	18,000	44,460	Chapala	Aguila		BAMINEX	2%
7 CIRIO	IOCG	20,000	49,400	Leones	Leones		BAMINEX	2%
9 JUAN SEBASTIAN	IOCG	23,296	57,541	Leones	Leones	BAMINEX		2%
9 LEONES	IOCG	5,200	12,844	Leones	Leones	BAMINEX		2%
10 LUZ DE MEXICO	GOLD	10,000	24,700	Bahia	Bahia		BAMINEX	2%
11 SAN JUAN	GOLD	20,300	50,141	Bahia	Bahia	BAMINEX		2%
12 XILMA	IOCG	32,080	79,238	Leones	Leones	BAMINEX		2%
TOTAL IOCG		140,151	346,173					
TOTAL GOLD		55,875	138,011					
TOTAL IOCG+GOLD		196,026	484,184					

SCHEDULE "B":

CASH PAYMENT SCHEDULE

To the Agreement dated October 1, 2004, between Lalo Ventures Ltd. and
Baminex S.A. de CV

281004	SCHEDULE B
--------	-------------------

BAMINEX -- LALO OPTION PROPERTY PAYMENTS

	AREA	AREA	SIGN	GRANT	1 YEAR	2 YEARS	3 years	4 years	5 years	TOTAL	
	HA	AC	US\$	US\$	AFTER	AFTER	AFTER	AFTER	AFTER	CASH	
PHASE I											
CONCESSION											
1	SAN JUAN	GOLD	20,300	50,141	5,000	10,000	10,000	20,000	40,000	80,000	165,000
2	BARBARA	IOCG	20,000	49,400	5,000	5,000	5,000	5,000	10,000		35,000
3	CARDONES	IOCG	21,575	53,290	5,000	5,000	5,000	5,000	10,000		35,000
4	JUAN SEBA	IOCG	23,296	57,541	5,000	5,000	5,000	5,000	10,000		35,000
5	LEONES	IOCG	5,200	12,844	5,000	5,000	5,000	5,000	10,000		35,000
6	XILMA	IOCG	32,080	79,238	5,000	5,000	10,000	10,000	10,000	20,000	60,000
SURFACE			122,451	302,454							
CASH PHASE I					30,000	35,000	40,000	50,000	70,000	140,000	365,000
PHASE II											
7	AGUILA 1	GOLD	5,575	13,770		15,000	10,000	20,000	20,000	60,000	125,000
8	AGUILA 2	GOLD	10,000	24,700		15,000	10,000	10,000	20,000	20,000	60,000
9	AGUILA 3	GOLD	10,000	24,700		15,000	10,000	10,000	20,000	20,000	60,000
10	CHAPALITA	IOCG	18,000	44,460		5,000	5,000	5,000	5,000	10,000	20,000
11	CIRIO	IOCG	20,000	49,400		5,000	5,000	5,000	5,000	10,000	20,000
12	LUZ DE MEX	GOLD	10,000	24,700		5,000	5,000	10,000	10,000	20,000	40,000
SURFACE			73,575	181,730							
CASH PHASE II					-	60,000	45,000	60,000	80,000	140,000	200,000
TOTAL SURFACE			196,026	484,184							
GR TOTAL CAS PH I, II					30,000	95,000	85,000	110,000	150,000	280,000	200,000
CUM TOT CASH					30,000	125,000	210,000	320,000	470,000	750,000	950,000

SCHEDULE "C":

ROYALTY INTERESTS

To the Agreement dated October 1, 2004, between Lalo Ventures Ltd. and Baminex S.A. de CV

1. The NSR which may be payable to Baminex (hereinafter called the Payee") pursuant to Article 11 of the Agreement by Lalo (hereinafter called the "Payor") will be two (2%) of the Net Smelter Revenue (as hereinafter defined) and will be calculated and paid to the Payee in accordance with the terms of this Schedule "D". The Non-Option Concessions NSR (together with the NSR, hereinafter called "the Royalty") which may be payable to the Payee will be one (1%) of Net Smelter Revenue and will also be calculated and paid to the Payee in accordance with the terms of this Schedule D.
2. Terms having defined meanings in the Agreement and used herein will have the same meanings in this Schedule as assigned to them in the Agreement unless otherwise specified or the context otherwise requires.
3. The Net Smelter Revenue will be calculated on a calendar quarterly basis and will, subject to paragraph 7 of this Schedule "D" be equal to Gross Revenue less Permissible Deductions for such quarter.
4. The following terms when capitalized shall have the following meanings:

"**Commercial Production**" means the commercial exploitation of Products from the Concessions, but does not include milling for the purpose of testing or milling by a pilot plant. Commercial Production shall be deemed to have commenced:

- (a) if a plant is located on the Concessions, on the first day following the first period of 45 consecutive days during which Products have been produced from the Concessions at an average rate not less than 80% of the initial design rated capacity of all mines, plants and facilities located on the Concessions, or
- (b) if no plant is located on the Concessions, on the first day of the month following the first period of 45 consecutive days during which Products have been shipped from the Concessions on a reasonably regular basis for the purpose of earning revenue;

"**Gross Revenue**" means the aggregate of the following amounts received in each quarterly period following the commencement of Commercial Production:

- (a) the revenue received by the Payor from arm's length purchasers of all Product,
- (b) the fair market value of all Product sold by the Payor in such period to persons not dealing at arm's length with the Payor, and

(c) any proceeds of insurance on the Product; and

"**Permissible Deductions**" means the aggregate of the following charges (to the extent that they are not deducted by any purchaser in computing payment) that are paid in each quarterly period:

- (a) sales charges levied by any sales agent on the sale of Product,
- (b) transportation costs for Product from the Concessions to the place of beneficiation, processing or treatment and thence to the place of delivery of Product to a purchaser thereof, including shipping, freight, handling and forwarding expenses,
- (c) all costs, expenses and charges of any nature whatsoever are either paid or incurred by the Payor in connection with refinement or beneficiation of Product after leaving the Concessions, including all weighing, sampling, assaying and representation costs, metal losses, any umpire charges, and any penalties charged by the processor, refinery or smelter, and
- (d) all insurance costs on Product, and any government royalties, production taxes, severance taxes and sales and other taxes levied on Ore, Product or on the production or value thereof (other than any taxes levied on the income or profit of the Payor),

provided that where a cost or expense otherwise constituting a Permissible Deduction is incurred by the Payor in a transaction with a party with whom it is not dealing at arm's length, such cost or expense may be deducted, but only as to the lesser of the actual cost incurred by the Payor or the fair market value thereof, calculated at the time of such transaction and under all the circumstances thereof.

"**Products**" means minerals derived from operating the Concessions as a mine to which has been applied the least number of treatments or processes necessary to render the minerals into a substance or state for which there is a commercially significant market, of arm's length sales or purchases between unrelated parties; and

5. The payment on account of the Royalty for each calendar quarter will be calculated and paid within sixty (60) days after the end of each calendar quarter. Smelter settlement sheets, if any, and a statement setting forth calculations in sufficient detail to show the payment's derivation (the "**Statement**") must be submitted with the payment.
6. In the event that final amounts required for the calculation of the payment on account of the Royalty are not available within the time period referred to in paragraph 5 of this Schedule D, then provisional amounts will be estimated and such payment will be paid on the basis of this provisional calculation. Positive or negative adjustments will be made to the payment on account of the Royalty for the succeeding quarter.

7. All payments on account of the Royalty will be considered final and in full satisfaction of all obligations of the Payor with respect thereto, unless the Payee delivers to the Payor a written notice (the "**Objection Notice**") describing and setting forth a specific objection to the calculation thereof within sixty (60) days after receipt by the Payee of the Statement. If the Payee objects to a particular Statement as herein provided, the Payee will, for a period of sixty (60) days after the Payor's receipt of such Objection Notice, have the right, upon reasonable notice and at reasonable times, to have the Payor's accounts and records relating to the calculation of the payment in question audited by the auditors of the Payee. If such audit determines that there has been a deficiency or an excess in the payment made to the Payee, such deficiency or excess will be resolved by adjusting the next quarterly payment due hereunder. The Payee will pay all the costs and expenses of such audit unless a deficiency of five (5%) percent or more of the amount due is determined to exist. The Payor will pay the costs and expenses of such audit if a deficiency of five (5%) percent or more of the amount due is determined to exist. All books and records used and kept by the Payor to calculate the Royalty due hereunder will be kept in accordance with U.K. generally accepted accounting principles. Failure on the part of the Payee to make a claim against the Payor for adjustment in such sixty (60) day period by delivery of an Objection Notice will conclusively establish the correctness and sufficiency of the Statement and payment on account of the Royalty for such quarter.
8. All profits and losses resulting from the Payor engaging in any commodity futures trading, option trading, metals trading, gold loans or any combination thereof, and other hedging transactions with respect to Product (collectively, "**Hedging Transactions**") are specifically excluded from calculations of the payments on account of the Royalty pursuant to this Schedule D (it being the intent of the parties that the Payor will have the unrestricted right to market and sell Product to third parties in any manner it chooses and that the Payee will not have any right to participate in such marketing activities or to share in any profits or losses therefrom). All Hedging Transactions by the Payor and all profits or losses associated therewith, if any, will be solely for the Payor's account. The amount of Net Smelter Revenue derived from all Product subject to Hedging Transactions by the Payor will be determined pursuant to the provisions of this paragraph 6.1 and not paragraph 3.1. As to precious metals subject to Hedging Transactions by the Payor, Net Smelter Revenue will be determined without reference to Hedging Transactions and will be determined by using:

 - (a) for gold, the quarterly average price of gold, which will be calculated by dividing the sum of all London Bullion Market Association P.M. Gold Fix prices reported for the calendar quarter in question by the number of days for which such prices were quoted,
 - (b) for silver or platinum group metals ("**pgm**") the quarterly average price of silver or pgm, which will be calculated by dividing the sum of all New York Commodity Exchange ("**COMEX**") prices for silver or pgm quoted by and at the closing of COMEX reported for the calendar quarter in question by the number of days for which such prices were quoted, and

(c) for any other Product subject to Hedging Transactions, the quarterly average price of such Product, which will be calculated:

(i) if such Product is quoted on COMEX, by dividing the sum of all COMEX prices for such Product quoted by and the closing of COMEX reported for the calendar quarter in question by the number of days for which such prices were quoted, or

(ii) if such Product is not quoted on COMEX, by reference to such other market or publication which quotes prices for such Product and is generally recognised in the minerals trading industry as being representative of the prevailing market price for such Product during a particular period, the sum of all such quotes reported for the calendar quarter in question being divided in each case by the number of such periods for which such price is quoted in the calendar quarter, in question,

less, in each case, an amount reasonably equivalent to the deductions permitted by paragraph 3(b). Any Product subject to Hedging Transactions will be deemed to be sold, and revenues received therefrom, only on the date of the final settlement of the amount of refined Product allocated to the account of the Payor by a third party refinery in respect of such transactions. Furthermore, the Payor will have no obligation to fulfil any future contracts, forward sales, gold loans or other Hedging Transactions which the Payor may hold with Product.

9. Notwithstanding the foregoing, the Payor is under no obligation whatsoever to place the Concessions into Commercial Production and if the Concessions are placed into Commercial Production, the Payor will have the right, in its absolute discretion, at any time to curtail, suspend or terminate such Commercial Production as it deems advisable.
10. If the Royalty becomes payable to two or more parties, those parties will appoint, and will deliver to the Payor a document executed by all of those parties appointing, a single agent or trustee of all such parties to whom the Payor will make all payments on account of the Royalty. The Payor will have no responsibility as to the division of the Royalty payments among such parties, and if the Payor makes a payment or payments on account of the Royalty in accordance with the provisions of this paragraph 8.1, it will be conclusively deemed that such payment or payments, have been received by all parties entitled thereto. All charges of the agent or trustee will be borne solely by the parties receiving payments on account of the Royalty.
11. Payor shall permit Payee and co-operate reasonably with the Payee in the registration of the Royalty or a caveat providing notice of the Royalty against title to the Property.

OPTION AGREEMENT

made between

LALO VENTURES LTD.

and

BAMINEX S.A. de CV

October 1, 2004

Armstrong Simpson

Barristers & Solicitors

2080 – 777 Hornby Street

Vancouver, B.C.

V6Z 1S4

APPENDIX III: RELEVANT B.C.G.S.B. MINERAL DEPOSIT PROFILES



IDENTIFICATION

SYNONYMS: Mother Lode veins, greenstone gold, Archean lode gold, mesothermal gold-quartz veins, shear-hosted lode gold, low-sulphide gold-quartz veins, lode gold.

COMMODITIES (*BYPRODUCTS*): Au (Ag, Cu, Sb).

EXAMPLES (British Columbia (MINFILE #) - *Canada/ International*):

- **Phanerozoic:** Bralorne-Pioneer (092JNE001), Erickson (104P029), Taurus (104P012), Polaris-Taku (104K003), Mosquito Creek (093H010), Cariboo Gold Quartz (093H019), Midnight (082FSW119); *Carson Hill, Jackson-Plymouth, Mother Lode district; Empire Star and Idaho-Maryland, Grass Valley district (California, USA); Alaska-Juneau, Jualin, Kensington (Alaska, USA), Ural Mountains (Russia).*
- **Archean:** *Hollinger, Dome, McIntyre and Pamour, Timmins camp; Lake Shore, Kirkland Lake camp; Campbell, Madsen, Red Lake camp; Kerr-Addison, Larder Lake camp (Ontario, Canada), Lamaque and Sigma, Val d'Or camp (Quebec, Canada); Granny Smith, Kalgoorlie and Golden Mile (Western Australia); Kolar (Karnataka, India), Blanket-Vubachikwe (Zimbabwe, Africa).*

GEOLOGICAL CHARACTERISTICS

CAPSULE DESCRIPTION: Gold-bearing quartz veins and veinlets with minor sulphides crosscut a wide variety of hostrocks and are localized along major regional faults and related splays. The wallrock is typically altered to silica, pyrite and muscovite within a broader carbonate alteration halo.

TECTONIC SETTINGS:

- **Phanerozoic:** Contained in moderate to gently dipping fault/suture zones related to continental margin collisional tectonism. Suture zones are major crustal breaks which are characterized by dismembered ophiolitic remnants between diverse assemblages of island arcs, subduction complexes and continental-margin clastic wedges.
- **Archean:** Major transcrustal structural breaks within stable cratonic terranes. May represent remnant terrane collisional boundaries.

DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING: Veins form within fault and joint systems produced by regional compression or transpression (terrane collision), including major listric reverse faults, second and third-order splays. Gold is deposited at crustal levels within and near the brittle-ductile transition zone at depths of 6-12 km, pressures between 1 to 3 kilobars and temperatures from 200° to 400 °C. Deposits may have a vertical extent of up to 2 km, and lack pronounced zoning.

Ash, C. and Alldrick, D. (1996): Au-Quartz Veins; *in Selected British Columbia Mineral Deposit Profiles, Volume 2*, D.V. Lefebure and T. Höy, Editors, *British Columbia Ministry of Energy, Mines and Petroleum Resources*, pages 53-56.

¹ British Columbia Geological Survey, Victoria, B.C., Canada

AGE OF MINERALIZATION: Mineralization is post-peak metamorphism (*i.e.* late syncollisional) with gold-quartz veins particularly abundant in the Late Archean and Mesozoic.

- Phanerozoic: In the North America Cordillera gold veins are post-Middle Jurassic and appear to form immediately after accretion of oceanic terranes to the continental margin. In British Columbia deposits are mainly Middle Jurassic (~ 165-170 Ma) and Late Cretaceous (~ 95 Ma). In the Mother Lode belt they are Middle Jurassic (~ 150 Ma) and those along the Juneau belt in Alaska are of Early Tertiary (~56-55 Ma).
- Archean: Ages of mineralization for Archean deposits are well constrained for both the Superior Province, Canadian Shield (~ 2.68 to 2.67 Ga) and the Yilgarn Province, Western Australia (~ 2.64 to 2.63 Ga).

HOST/ASSOCIATED ROCK TYPES: Lithologically highly varied, usually of greenschist metamorphic grade, ranging from virtually undeformed to totally schistose.

- Phanerozoic: Mafic volcanics, serpentinite, peridotite, dunite, gabbro, diorite, trondhjemite/plagiogranites, graywacke, argillite, chert, shale, limestone and quartzite, felsic and intermediate intrusions.
- Archean: Granite-greenstone belts - mafic, ultramafic (komatiitic) and felsic volcanics, intermediate and felsic intrusive rocks, graywacke and shale.

DEPOSIT FORM: Tabular fissure veins in more competent host lithologies, veinlets and stringers forming stockworks in less competent lithologies. Typically occur as a system of en echelon veins on all scales. Lower grade bulk-tonnage styles of mineralization may develop in areas marginal to veins with gold associated with disseminated sulphides. May also be related to broad areas of fracturing with gold and sulphides associated with quartz veinlet networks.

TEXTURE/STRUCTURE: Veins usually have sharp contacts with wallrocks and exhibit a variety of textures, including massive, ribboned or banded and stockworks with anastomosing gashes and dilations. Textures may be modified or destroyed by subsequent deformation.

ORE MINERALOGY: [Principal and *subordinate*]: Native gold, pyrite, arsenopyrite, *galena*, *sphalerite*, *chalcopyrite*, *pyrrhotite*, *tellurides*, *scheelite*, *bismuth*, *cosalite*, *tetrahedrite*, *stibnite*, *molybdenite*, *gersdorffite* ($NiAsS$), *bismuthimite* (Bi_2S_2), *tetradymite* (Bi_2Te_2S).

GANGUE MINERALOGY: [Principal and *subordinate*]: Quartz, carbonates (ferroan-dolomite, ankerite ferroan-magnesite, calcite, siderite), *albite*, *mariposite* (*fuchsite*), *sericite*, *muscovite*, *chlorite*, *tourmaline*, *graphite*.

ALTERATION MINERALOGY: Silicification, pyritization and potassium metasomatism generally occur adjacent to veins (usually within a metre) within broader zones of carbonate alteration, with or without ferroan dolomite veinlets, extending up to tens of metres from the veins. Type of carbonate alteration reflects the ferromagnesian content of the primary host lithology; ultramafics rocks - talc, Fe-magnesite; mafic volcanic rocks - ankerite, chlorite; sediments - graphite and pyrite; felsic to intermediate intrusions - sericite, albite, calcite, siderite, pyrite. Quartz-carbonate altered rock (listwanite) and pyrite are often the most prominent alteration minerals in the wallrock. Fuchsite, sericite, tourmaline and scheelite are common where veins are associated with felsic to intermediate intrusions.

WEATHERING: Distinctive orange-brown limonite due to the oxidation of Fe-Mg carbonates cut by white veins and veinlets of quartz and ferroan dolomite. Distinctive green Cr-mica may also be present. Abundant quartz float in overburden.

ORE CONTROLS: Gold-quartz veins are found within zones of intense and pervasive carbonate alteration along second order or later faults marginal to transcrustal breaks. They are commonly closely associated with, late syncollisional, structurally controlled intermediate to felsic magmatism. Gold veins are more commonly economic where hosted by relatively large, competent units, such as intrusions or blocks of obducted oceanic crust. Veins are usually at a high angle to the primary collisional fault zone.

Au-QUARTZ VEINS

I01

- Phanerozoic: Secondary structures at a high angle to relatively flat-lying to moderately dipping collisional suture zones.
- Archean: Steep, transcrustal breaks; best deposits overall are in areas of greenstone.

ASSOCIATED DEPOSIT TYPES: Gold placers (C01, C02), sulphide manto Au (J04), silica veins (I07); iron formation Au (I04) in the Archean.

GENETIC MODEL: Gold quartz veins form in lithologically heterogeneous, deep transcrustal fault zones that develop in response to terrane collision. These faults act as conduits for CO₂-H₂O-rich (5-30 mol% CO₂), low salinity (<3 wt% NaCl) aqueous fluids, with high Au, Ag, As, (±Sb, Te, W, Mo) and low Cu, Pb, Zn metal contents. These fluids are believed to be tectonically or seismically driven by a cycle of pressure build-up that is released by failure and pressure reduction followed by sealing and repetition of the process (Sibson *et al.*, 1988). Gold is deposited at crustal levels within and near the brittle-ductile transition zone with deposition caused by sulphidation (the loss of H₂S due to pyrite deposition) primarily as a result of fluid-wallrock reactions, other significant factors may involve phase separation and fluid pressure reduction.

The origin of the mineralising fluids remains controversial, with metamorphic, magmatic and mantle sources being suggested as possible candidates. Within an environment of tectonic crustal thickening in response to terrane collision, metamorphic devolatilization or partial melting (anatexis) of either the lower crust or subducted slab may generate such fluids.

COMMENTS: These deposits may be a difficult deposit to evaluate due to "nugget effect", hence the adage, "Drill for structure, drift for grade". These veins have also been mined in British Columbia as a source of silica for smelter flux.

EXPLORATION GUIDES

GEOCHEMICAL SIGNATURE: Elevated values of Au, Ag, As, Sb, K, Li, Bi, W, Te and B ± (Cd, Cu, Pb, Zn and Hg) in rock and soil, Au in stream sediments.

GEOPHYSICAL SIGNATURE: Faults indicated by linear magnetic anomalies. Areas of alteration indicated by negative magnetic anomalies due to destruction of magnetite as a result of carbonate alteration.

OTHER EXPLORATION GUIDES: Placer gold or elevated gold in stream sediment samples is an excellent regional and property-scale guide to gold-quartz veins. Investigate broad 'deformation envelopes' adjacent to regional listric faults where associated with carbonate alteration. Alteration and structural analysis can be used to delineate prospective ground. Within carbonate alteration zones, gold is typically only in areas containing quartz, with or without sulphides. Serpentinite bodies, if present, can be used to delineate favourable regional structures. Largest concentrations of free gold are commonly at, or near, the intersection of quartz veins with serpentinized and carbonate-altered ultramafic rocks.

ECONOMIC FACTORS

TYPICAL GRADE AND TONNAGE: Individual deposits average 30 000 t with grades of 16 g/t Au and 2.5 g/t Ag (Berger, 1986) and may be as large as 40 Mt. Many major producers in the Canadian Shield range from 1 to 6 Mt at grades of 7 g/t Au (Thorpe and Franklin, 1984). The largest gold-quartz vein deposit in British Columbia is the Bralorne-Pioneer which produced in excess of 117 800 kilograms of Au from ore with an average grade of 9.3 g/t.

ECONOMIC LIMITATIONS: These veins are usually less than 2m wide and therefore, only amenable to underground mining.

IMPORTANCE: These deposits are a major source of the world's gold production and account for approximately a quarter of Canada's output. They are the most prolific gold source after the ores of the Witwatersrand basin.

REFERENCES

- Ash, C.H., Macdonald, R.W.J. and Reynolds, P.H. (in preparation): Ophiolite-related Mesothermal Lode Gold in British Columbia: A Deposit Model; *B.C. Ministry Energy, Mines and Petroleum Resources*, Bulletin.
- Berger, B. R. (1986): Descriptive Model of Low-sulphide Au-Quartz Veins; *in Mineral Deposit Models*, Cox, D.P. and Singer, D.A., Editors, *U.S. Geological Survey*, Bulletin 1693, pages 239-243.
- Bohlke, J.K. and Kistler, R.W. (1986): Rb-Sr, K-Ar and Stable Isotope Evidence for the Ages and Sources of Fluid Components of Gold-bearing Quartz Veins in the Northern Sierra Nevada Foothills Metamorphic Belt; *Economic Geology*, Volume 81, pages 296-422.
- Gebre-Mariam, M., Hagemann, S.G. and Groves D.G. (1995): A Classification Scheme for Epigenetic Archean Lode-gold Deposits; *Mineralium Deposita*, Volume 30, pages 408-410.
- Groves D.I. (1993): The Crustal Continuum Model for Late Archean Lode-gold Deposits of the Yilgarn Block, Western Australia; *Mineralium Deposita*, Volume 28, pages 366-374.
- Hodgson, C.J. (1993): Mesothermal Lode-gold Deposits; *in Mineral Deposit Modeling*, Kirkham, R.V., Sinclair, W.D., Thorpe, R.I. and Duke, J.M., Editors, *Geological Association of Canada*, Special Paper 40, pages 635-678.
- Hodgson, C.J. and Hamilton, J.V. (1989): Gold Mineralization in the Abitibi Greenstone Belt: End Stage of Archean Collisional Tectonics; *in The Geology of Gold Deposits: The Perspective in 1988*, *Economic Geology*, Monograph, pages 86-100.
- Kerrich, R.W. (1990): Mesothermal Gold Deposits: A Critique of Genetic Hypotheses; *in Greenstone Gold and Crustal Evolution*, Rober, F., Sheahan, P.A. and Green, S.B., Editors, *Geological Association of Canada*, NUNA Conference Volume, pages 13-31.
- Kerrich, R. and Wyman, D. (1990): Geodynamic Setting of Mesothermal Gold Deposits: An Association with Accretionary Tectonic Regimes; *Geology*, Volume 18, pages 882-885.
- Landefeld, L.A. (1988): The Geology of the Mother Lode Gold Belt, Sierra Nevada Foothills Metamorphic Belt, California; *in Proceedings Volume*, North American Conference on Tectonic Control of Ore Deposits and the Vertical and Horizontal Extent of Ore Systems, *University of Missouri - Rolla*, pages 47-56.
- Leitch, C.H.B. (1990): Bralorne; a Mesothermal, Shield-type Vein Gold Deposit of Cretaceous Age in Southwestern British Columbia; *Canadian Institute of Mining and Metallurgy*, Bulletin, Volume 83, Number 941, pages 53-80.
- Panteleyev, A. (1991): Gold in the Canadian Cordillera - a Focus on Epithermal and Deeper Environments, *in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera*, *B.C. Ministry of Energy, Mines and Petroleum Resources*; Paper 1991-4, pages 163-212.
- Roberts, R.G. (1987): Ore Deposit Models #11. Archean Lode Gold Deposits; *Geoscience Canada*, Volume 14, Number 1, pages 37-52.
- Schroeter, T.G., Lund, C. and Carter, G. (1989): Gold Production and Reserves in British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1989-22, 86 pages.
- Sibson, R.H., Robert, F. and Poulsen, H. (1988): High Angle Faults, Fluid Pressure Cycling and Mesothermal Gold-Quartz Deposits; *Geology*, Volume 16, pages 551-555.
- Thorpe, R.I. and Franklin, J.M. (1984): Volcanic-associated Vein and Shear Zone Gold; *in Canadian Mineral Deposit Types, A Geological Synopsis*, Eckstrand, O.R., Editor, *Geological Survey of Canada*, Economic Geology Report 36, page 38.

INTRUSION-RELATED Au-PYRRHOTITE VEINS

I02

by Dani J. Alldrick¹

Revised 1997



IDENTIFICATION

SYNONYMS: Extension veins, transitional veins, contact aureole veins, “mesothermal veins”.

COMMODITIES (*BYPRODUCTS*): Au, Ag (*Cu*).

EXAMPLES (British Columbia (MINFILE #) - *Canada/International*): Scottie Gold (104B034), Snip (104B250), Johnny Mountain (104B107), War Eagle (082FSW097), Le Roi (082FSW093), Centre Star (082FSW094); *Copper Rand, Portage, Merrill, Main, and Chib-Kayrand mines, Chibougamau, Quebec; Keating and Ohio-Keating mine, Elkhorn Mountains, Montana.*

GEOLOGICAL CHARACTERISTICS

CAPSULE DESCRIPTION: Parallel tabular to cymoid veins of massive sulphide and/or bull-quartz-carbonate with native gold, electrum and chalcopyrite are emplaced in a set of en echelon fractures around the periphery or within subvolcanic plutons. Many previous workers have called these mesothermal veins.

TECTONIC SETTINGS: Volcanic arcs in oceanic and continental margin settings. Older deposits are preserved in accreted arc terranes. Deposits in Archean greenstone belts perhaps formed in immature volcanic arc settings. Local setting is the extensional environment developed at moderate depths around sub-volcanic plutons.

DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING: The subvolcanic setting for these deposits is transitional between the setting for subvolcanic porphyry copper systems and for subvolcanic epithermal systems.

AGE OF MINERALIZATION: British Columbia examples are all Early Jurassic; those in Chibougamau camp are Archean.

HOST/ASSOCIATED ROCK TYPES: Hostrocks are andesitic to basaltic tuffs, turbidites or early intrusive phases around the periphery of phaneritic, locally porphyritic, felsic to intermediate stocks and batholiths.

DEPOSIT FORM: At various deposits the form has been described as: planar, en echelon vein sets, shear veins, cymoid veins, cymoid loops, sigmoidal veins, extension veins, tension gashes, ladder veins, and synthetic Reidel shear veins. Veins vary in width from centimetres to several metres and can be traced up to hundreds of metres.

Alldrick, D.J. (1996): Intrusion-related Au Pyrrhotite Veins; *in* Selected British Columbia Mineral Deposit Profiles, Volume 2, D.V. Lefebure and T. Höy, Editors, *British Columbia Ministry of Energy, Mines and Petroleum Resources*, pages 57-58.

¹ British Columbia Geological Survey, Victoria, B.C., Canada

TEXTURE/STRUCTURE: Two dominant vein types may occur independently or together. Veins may be composed of (i) massive fine-grained pyrrhotite and/or pyrite, or (ii) massive bull quartz with minor calcite and minor to accessory disseminations, knots and crystal aggregates of sulphides. These two types of mineralization may grade into each other along a single vein or may occur in adjacent, but separate veins. Some veins have undergone ductile and brittle shearing that complicates textural and structural interpretations.

ORE MINERALOGY [Principal and *subordinate*]: Pyrrhotite, pyrite, chalcopyrite, native gold, electrum, sphalerite, galena, bornite, argentite, arsenopyrite, *magnetite, ilmenite, tetrahedrite, tennantite, molybdenite, cosalite, chalcocite, tellurobismuthite, hessite, volynskite, altaite, native bismuth, cubanite, vallerite.*

GANGUE MINERALOGY (Principal and *subordinate*): Quartz, calcite, ankerite, siderite, chlorite, *sericite, rhodochrosite, K-feldspar, biotite, albite.*

ALTERATION MINERALOGY: Regional chlorite alteration and proximal sericite alteration predominates; pyrite, silica, carbonate, rhodochrosite, biotite, epidote, K-feldspar, ankerite. Alteration occurs as narrow (4 cm) vein selvages and as moderate alteration haloes extending up to several metres into the country rock. At deeper structural levels, alteration envelopes are more extensive and may include skarn mineral assemblages with diopside, garnet, epidote, biotite, K-feldspar, plagioclase, amphibole and wollastonite.

ORE CONTROLS: Well defined faults and shears control the mineralization. Veins are peripheral to and spatially associated with porphyritic intrusive rocks which may host porphyry copper and/or molybdenum mineralization and copper-gold skarns.

GENETIC MODEL: Mineralization appears to be related to felsic to intermediate plutons that record syn to late volcanic arc magmatism. Deposits in British Columbia formed along the thermally controlled 'brittle-ductile transition envelope' that surrounds subvolcanic intrusions. Late magma movement caused local shear stress, and resultant en echelon vein sets opened and were filled by sulphides and gangue minerals precipitating from circulating hydrothermal fluids. Shearing may have superimposed foliation or brecciation onto these early-formed veins.

ASSOCIATED DEPOSIT TYPES: Typical deposits of a volcanic arc, especially those in the subvolcanic setting: porphyry Cu⁺/₋Mo⁺/₋Au (L04), skarns, epithermal veins and breccias (H04, H05), 'transitional' deposits (volcanogenic Cu-As-Sb-Au-Ag, L01) and surficial fumarolic hot spring (H03) and exhalative deposits.

COMMENTS: The genesis of these deposits remains controversial. Many have been interpreted as mesothermal veins; others, in deformed terrains, as exhalative massive sulphide deposits. Those in the Chibougamau camp have also been referred to as shear-hosted gold deposits.

EXPLORATION GUIDES

GEOCHEMICAL SIGNATURE: Elevated values of Au, Ag, Cu. (As, Zn).

GEOPHYSICAL SIGNATURE: Electromagnetic (ABEM and VLF-EM) anomalies and anomalous magnetometer lows (negative anomalies or 'magnetic troughs').

OTHER EXPLORATION GUIDES: Intense prospecting swath extending from 100 metres inside the intrusive contact to 1000 metres outside the intrusive contact of a prospective sub-volcanic pluton. Detailed soil geochemistry and detailed ground geophysics could be designed to investigate this same area. Small, 'hairline' mineralised fractures are good proximal indicators of a nearby major vein. Increased alteration intensity could also be a good proximal indicator, but this is a more subtle feature. Deposits are commonly located along shear zones. Once the vein orientation on an initial discovery is determined, additional parallel veins should be anticipated and investigated with fences of drill holes.

ECONOMIC FACTORS

TYPICAL GRADE AND TONNAGE: Gold/silver ratios are close to 1:1. Copper may also be recoverable. Typical grades are 10 to 20 g/t Au.

IMPORTANCE: The Snip gold mine is currently British Columbia's largest gold producer and the Rossland veins are the province's second largest gold camp. Two deposits in the Chibougamau camp, Copper Rand and Portage, are currently in production.

REFERENCES

- Alldrick, D.J. (1993): Geology and Metallogeny of the Stewart Mining Camp, Northwestern, British Columbia, *British Columbia Ministry of Energy, Mines and Petroleum Resources*, Bulletin 85, 105 pages.
- Alldrick, D.J., Drown, T.J., Grove, E.W., Kruckowski, E.R. and Nichols, R.F. (1989): Iskut-Sulphurets Gold, *Northern Miner Magazine*, January, 1989, Pages 46-49.
- Klepper, M.R., Ruppel, E.T., Freeman, V.L. and Weeks, R.A. (1971): Geology and Mineral Deposits, East Flank of the Elkhorn Mountains, Broadwater County, Montana, *United States Geological Survey*, Professional Paper 665, 65 pages.
- Pilote, P. and Guha, J. (1995): Metallogeny of the Eastern Extremity of the Abitibi Belt; in Metallogenic Evolution and Geology of the Chibougamau Area - from Porphyry Cu-Au-Mo to Mesothermal Lode Gold Deposits, Pilote, P., Editor, *Geological Survey of Canada*, Open File 3143, pages 31-41.
- Rhys, D. A. (1993): Geology of the Snip Mine, and its Relationship to the Magmatic and Deformational History of the Johnny Mountain Area, Northwestern British Columbia; unpublished M.Sc. thesis, *The University of British Columbia*, 278 pages.
- Rhys, D. A. (1995): The Red Bluff Gold-copper Porphyry and Associated Precious and Base Metal Veins, Northwestern British Columbia; in Schroeter, T.G., Editor, Porphyry Deposits of the northwestern Cordillera of North America, *Canadian Institute of Mining, Metallurgy and Petroleum*, Special Volume 46, pages 838-850.
- Robert, F. (1994): Timing Relationships Between Cu-Au Mineralization, Dykes, and Shear Zones in the Chibougamau Camp, Northeastern Abitibi Subprovince, Quebec; in Current Research 1994-C, *Geological Survey of Canada*, pages 287-294.

APPENDIX IV: SAMPLE DESCRIPTIONS AND ANALYSES

Table 4. Descriptions of rock samples

SAMPLE	UTM zone	UTME27 Mex	UTMN27 Mex	UTME83	UTMN83	Elev. (m)	Sampler	Width (m)	Sample type	DESCRIPTION
SJ05-MB-003	12R	248510	3178447	248452	3178644	1200	MB	2.0	Chip	Across strong fabric (cleavage, with weak siliceous halos/ sheeted quartz stringers/ aplitic 'veins' < 6 cm in a medium grained biotite granite. Euhedral K-feldspar phenocrysts < 3 cm, subangular quartz grains < 5 mm.
SJ05-MB-004	12R	248494	3178438	248436	3178636	1200	MB	2.0	Chip	Across same as SJ-05-MB-003. Vein density 15/m and wider (<10 cm). Strong Fe oxide (limonite/hæmatite), with bleached biotite.
SJ05-MB-005	12R	248476	3178429	248418	3178627	1200	MB	1.5	Chip	Across same as SJ-05-MB-003. Abundant fe oxide. Pervasive fine grained muscovite.
SJ05-MB-006	12R	248454	3178419	248397	3178616	1200	MB	1.5	Chip	Across same as SJ-05-MB-003. Quartz-aplite seams < 3 mm. Density of 25/m. Weak limonite and bleached biotite on surfaces.
SJ05-MB-007	12R	248428	3178406	248370	3178604	1200	MB	1.5	Chip	Across same as SJ-05-MB-003. Abundant fe oxide in siliceous seams, but not in granite host. Density 15/m. Quartz stringers < 1 mm with aplite (?) < 2 cm.
SJ05-MB-008	12R	248407	3178396	248350	3178593	1200	MB	1.5	Chip	Across same as SJ-05-MB-003. Abundant limonite and melanterite and minor gypsum. Cleavage density 20/m, with quartz stringers < 2 mm.
SJ05-MB-009	12R	248378	3178381	248321	3178578	1200	MB	1.5	Chip	Across dense cleavage in biotite granite, with parallel, sheeted quartz stringers (< 3 mm). Cleavage density 25/m. Abundant Fe oxide and melanterite. Pervasive fine grained muscovite.
SJ05-MB-010	12R	248347	3178365	248289	3178563	1200	MB	1.5	Chip	Across dense cleavage in biotite granite. Abundant Fe oxide within seams. Fine grained muscovite pods and lenses < 30 cm.
SJ05-MB-011	12R	248299	3178342	248242	3178539	1200	MB	1.5	Chip	Across fracture/ alteration (Fe oxide-siliceous-sulphide) zone. Includes irregular veins and lenses < 20 cm, sub parallel to cleavage of vuggy quartz veins with 3-5% fine disseminated pyrite (and clots < 5 mm). Abundant Fe oxide, melanterite, jarosite, cl
SJ05-MB-012	12R	248734	3210575	248676	3210772	67.4	PM		Grab	Blank
SJ05-MB-013	12R	248281	3178345	248224	3178543	1200	MB	1.5 (T)	Chip	Pervasive, mod ?K-feldspar altered intrusion. 1-2 mm size groundmass protolith; 3-4 mm subhedral feldspar phenocryst. Quartz sulphide veins (20%) parallel to hanging wall. Sulphide to 60% of veins: fine grained pyrite, arsenopyrite w/minor cg ?sphaler
SJ05-MB-014	12R	248281	3178341	248224	3178539	1200	MB	1.1 (T)	Chip	Quartz sulphide breccia (50cm) w/max 40% mg pyrite aggregates elongated parallel to footwall; also grey quartz w/ max 20% fine grained disseminated arsenopyrite , minor ?sphalerite. Other 60 cm quartz breccia w/ max 40% anastomosing quartz + sulphide vein
SJ05-MB-015	12R	248280	3178340	248222	3178538	1200	MB	1.0 (T)	Chip	Mod, pervasive K-feldspar alt after fine grained feldspar phyric intrusive in 013,014 host. Local patchy intense alteration. Wk veining w/ 0.5-1.0 cm footwall stringers comprising 50% grey quartz, 30% pyrite(1mm), ?20% arsenopyrite . Stringers parallel t
SJ05-MB-016	12R	248282	3178342	248224	3178540	1200	MB	1.0 (T)	Chip	Brittly fractured megacrystic granite host w/ wk to mod pervasive K-feldspar alteration, 5-10% irreg grey quartz veining and 5-10% oxidized pyrite.
SJ05-MB-017	12R	248289	3178333	248231	3178531	1200	PM	0.7 (T)	Chip	Standard
SJ05-MB-018	12R	248281	3178347	248223	3178545	1200	MB	1.7 (T)	Chip	Interval of hanging wall with sporadic sulphide mineralization. Varies from seams to pods >25 cm. Mineralized areas are grey-white with variable amounts of limonite, scorodite. Sulphide mineralization consists of globular masses of pyrite (largely oxi
SJ05-MB-019	12R	248277	3178353	248220	3178551	1200	MB	2.0	Chip	Interval of granite (same as previous) bearing sheeted quartz stringers, parallel and < 1cm. Mineralzn in quartz consists of occasional cm-scale pyrite blebs, but dominated by white powdery pyrite oxidation mineral. Accessory limonite and other Fe-alter
SJ05-MB-020	12R	248734	3210575	248676	3210772	67.4	PM		Grab	Blank

Table 4. Descriptions of rock samples

SAMPLE	UTM zone	UTME27 Mex	UTMN27 Mex	UTME83	UTMN83	Elev. (m)	Sampler	Width (m)	Sample type	DESCRIPTION
SJ05-MB-021	12R	248269	3178358	248212	3178555	1200	MB	0.85	Chip	18 cm white quartz mineralized vein intersecting host granite. Vein mineralization consists of discrete mm-scale pyrite euhedra and more abundant globular aggregates of pyrite. Subordinate, darker grey areas of vein contain very fine grained arsenopyrit
SJ05-MB-022	12R	248267	3178358	248209	3178555	1200	MB	1.5	Chip	Alteration zone in host granite. Granite contains milky white quartz stringers and small mm-scale hæmatitealtered pyrite cubes(<1%). Alteration zone is intense for 80 cm, then eases into host. Alteration shows white, dark brown(manganese), and yel
SJ05-MB-023	12R	248263	3178362	248205	3178560	1200	MB	1.25	Chip	Host granite mineralized with mm to 1cm sized pyrite(<=5%) sub- to euhedra which are oxidizing to hæmatitealtered and corroding out. Present in host are small (cm scale) white quartz blebs which carry sub- and euhedral and aggregated pyrite. These are alt
SJ05-MB-024	12R	248260	3178372	248202	3178570	1200	MB	0.85	Chip	Host quartz-feldspar phyrlic granite(same as previous) bearing trace amounts of fine grained disseminated pyrite and a black soot like material (h=4). Host is variably altered, alteration ranges from obliteration of protolith by chalky iron, arsenic, mang
SJ05-MB-025	12R	248250	3178387	248192	3178584	1200	MB	1.5	Chip	Interval of quartz veins in host granite (same as previous protolith). Granite contains 2% sub to euhedral mm scale disseminated pyrite and is pervaded by small (mm-scale) quartz stringers; as frequency of stringers increase with pyrite texture tending
SJ05-MB-026	12R	248237	3178403	248180	3178600	1200	MB	1.0	Chip	White-yellow-orange-brown clay. Highly altered host (quartz feldspar phyrlic granite) is distinguishable in a portion of interval. Highly fractured and contains trace disseminated sulphides too fine to identify. Abundant Mn dendrites and coatings.
SJ05-MB-027	12R	248275	3178328	248217	3178525	1200	MV	2.0 (T)	Chip	Leucocratic, granitic, medium to coarse grained dyke, approximately 2.0 m (true) wide. 1-2% very coarse, euhedral pyrite (< 3 mm, oxidized). Also 2-3% pods and lenses < 10 cm wide of massive pyrite (-quartz), locally as crackle breccia (quartz-pyrite mat
SJ05-MB-028	12R	248267	3178323	248210	3178521	1200	MV	1.5 (T)	Chip	Leucocratic, granitic, medium to coarse grained dyke, approximately 1.5 m (true) wide. 1-2% very coarse, euhedral pyrite (< 3 mm, oxidized). Also pods and lenses < 10 cm wide of massive pyrite (-quartz), locally as crackle breccia (quartz-pyrite matrix).
SJ05-MB-029	12R	248216	3178377	248158	3178575	1260	MB		Grab	Granitic host w/ about 2% blue-green cu? Mineralzn
SJ05-MB-030	12R	244672	3191753	244614	3191950	1260	MB		Grab	Mine dump; grey-white quartz w/about 3% fine grained disseminated arsenopyrite , 3% mm-scale pyrite aggregates
SJ05-MB-036	12R	244241	3188578	244183	3188776	1059	MB	0.7 (T)	Chip	Vein of milky white quartz w/inclusions of wall (schist);limonite alteration, tr. sulphide.
SJ05-MB-037	12R	244240	3188578	244183	3188775	1059	MB	0.5 (T)	Chip	Hanging wall- grey quartz veined brecciated schist
SJ05-MB-038	12R	244249	3188569	244192	3188767	1059	PM	0.8 (T)	Chip	Interval of vein leader: grey quartz +/- sulphide breccia
SJ05-MB-039	12R	244252	3188566	244194	3188764		MV	0.95 (T)	Chip	Glassy white quartz vein/vein breccia, with various amounts of euhedral disseminated sulphides, becoming more banded towards footwall. Adjacent to main shaft, but different vein. Pods < 7 cm, of up to 50% euhedral disseminated pyrite. Mostly leached out.
SJ05-MB-040	12R	248734	3210575	248676	3210772	67.4	PM		Grab	Blank
SJ05-MV-001	12R	244629	3191749	244571	3191946		MV		Subcrop grab	Quartz-hæmatitealtered breccia. Angular fragments < 3 cm of glassy white quartz, matrix supported in fine grained to saccharoidal, dark grey to red quartz-hæmatitealtered matrix. No fabric. Breccia zone is approximately 1 to 1.5 metres wide, trending approxim

Table 4. Descriptions of rock samples

SAMPLE	UTM zone	UTME27 Mex	UTMN27 Mex	UTME83	UTMN83	Elev. (m)	Sampler	Width (m)	Sample type	DESCRIPTION
SJ05-MV-002	12R	244675	3191681	244617	3191878		MV	0.6	Chip	Limonitic, sheared granite with milky white quartz veins < 5 cm. Sample at bottom of shaft.
SJ05-MV-003	12R	244675	3191681	244617	3191878		MV	0.5	Chip	0.36 metres true across quartz-sulphide vein, which pinches and swells, 20 cm to 50 cm. Patchy sulphides, with up to 1% pyrite, and 5% chalcocite. Malachite-azurite stain. Sample in shaft.
SJ05-MV-014	12R	244545	3190290	244487	3190487		MV		Subcrop grab	Vuggy, banded and cockscomb quartz vein, variably limonitic. Trace of galena(?) in one piece. Approximate contact with basalt cap. Well developed quartz crystals <5 mm in vugs. One crosscutting phase of white, glassy quartz.
SJ05-MV-021	12R	247713	3178466	247655	3178664		MV	1.5	Chip	Coarse grained, oxidized biotite granite with quartz vein stockwork (grey quartz-sulphide)< 1 cm. Minor pyrite in quartz veins, and very fine sulphides in grey quartz veins. Very abundant limonite. Coronado shaft sunk into this unit. Old sample VV-04-30
SJ05-MV-022	12R	247695	3178464	247637	3178662		MV		Grab	Mixed material from spoil pile at Coronado shaft. Quartz-sulphide vein and quartz-sulphide breccia, with up to 15% euhedral pyrite, also clots < 15 cm of massive pyrite and 1-2% arsenopyrite. Abundant limonite, jarosite and minor scorodite.
SJ05-MV-023	12R	247408	3177833	247350	3178030		MV	1.7	Chip	Quartz-sulphide breccia. Angular fragments of quartz and leached out granite < 5 cm in a medium blue-grey, very fine sulphide rich quartz matrix, with 5% euhedral pyrite abundant, very fine grained unidentified sulphide and a few subrounded blebs < 2 mm of
SJ05-MV-024	12R	247838	3178489	247780	3178687		MV	1.5	Composite	Quartz vein with abundant limonite and jarosite, with a few patches of very fine grained grey (?) sulphide.
SJ05-MV-025	12R	248289	3178333	248231	3178531	1200	MV	0.7 (T)	Chip	Standard
SJ05-PM-002	12R	244847	3199469	244789	3199666	1065	PM		Grab	Bull quartz float
SJ05-PM-003	12R	244848	3199462	244790	3199659	1062	PM	1.4 (T)	Chip	Across quartz vein. Milky to glassy quartz, with hæmatite and limonite in fractures. Pods and clots < 5 cm of leached pockets (sulphides). Also some vugs with murky quartz crystals < 5 mm. Caliche in fractures.
SJ05-PM-004	12R	244848	3199462	244790	3199659	1062	PM	1.0 (T)	Chip	Sheared, muscovite rich schist (schistosity parallel to vein). Minor (< 1/2 %) 1ry biotite, with approximately 10% fine 2ry fine grained muscovite. Includes quartz veins and breccia zones < 20 cm. Limonitic. Overall quartz content approximately 60%.
SJ05-PM-005	12R	244848	3199462	244790	3199659	1062	PM	1.0 (T)	Chip	Sheared, sericitic schist. No significant silicification or sulphides.
SJ05-PM-006	12R	244877	3199466	244819	3199663	1050	MB	0.9 (T)	Chip	Brecciated white quartz healed w/as much as 5% sulphide, now oxidized
SJ05-PM-007	12R	244877	3199466	244819	3199663	1050	MB	1.0 (T)	Chip	Hanging wall: muscovite schist
SJ05-PM-008	12R	244877	3199466	244819	3199663	1050	PM		Grab	Brecciated white quartz w/trace oxidized pyrite on fractures
SJ05-PM-009	12R	253273	3190505	253215	3190702	48.9	GR		Composite Tailings	From abandoned mill at Las Flores
SJ05-PM-010	12R	253273	3190505	253215	3190702	48.9	PM		Composite Grab	Various grab samples from Las Flores mill site: mixed samples from San Juan mine
SJ05-PM-011	12R	248292	3178322	248234	3178520	1200	MV	1.33 (T)	Chip	Intensely brecciated intrusive rock w/ intense pervasive silica flood and disseminated to semi-massive sulphide mineralization. Sample semi mass sulphide: variable, as much as 5% fine grained pyrite, 5% brown-black sphalerite, 10% arsenopyrite. Microvee
SJ05-PM-012	12R	248291	3178322	248234	3178520	1200	PM		Grab	Footwall vein: bleached and silica flooded, minimal sulphide: to 1%. Mod to intense pervasive K-feldspar alteration w/second ?sericite, also yellow sulphide alteration, likely scorodite.

Table 4. Descriptions of rock samples

SAMPLE	UTM zone	UTME27 Mex	UTMN27 Mex	UTME83	UTMN83	Elev. (m)	Sampler	Width (m)	Sample type	DESCRIPTION
SJ05-PM-013	12R	248307	3178321	248249	3178518	1200	MV	1.47(T)	Chip	Grey-white silica; very fine grained disseminated arsenopyrite : 10-15%wr; coarse (to>1 cm) sub to euhedra of black sphalerite. Minor K-feldspar alteration.
SJ05-PM-014	12R	248307	3178321	248250	3178519	1200	PM	0.2 (T)	Chip	Brecciated, clay altered hanging wall
SJ05-PM-015	12R	248291	3178340	248234	3178538	1200	PM		Grab	Footwall: igneous rock w/ intense pervasive K-feldspar then argillic/sericitic alteration after quartz (20%); trace oxidized sulphide.
SJ05-PM-016	12R	248292	3178341	248234	3178538	1200	PM	0.95 (T)	Chip	Grey quartz breccia <5% angular. K-spar alteration after intrusion. Pyrite 25%, 10% as discrete subhedra as large as 1cm, remainder fine grained anhedral <1mm w/quartz. arsenopyrite 20%, 5% as discrete 3mm subhedra, remainder as fine grained<<1mm aggregate
SJ05-PM-017	12R	248293	3178340	248236	3178538	1200	PM	0.35 (T)	Composite	Grey quartz +/- sulphide breccia comprising 30-50% sheeted dark grey quartz veins w/ internal waste of mod & pervasive K-feldspar altered intrusion; 25-30% 2-3mm quartz anhedral in pervasive K-feldspar sericitic/ argillic altered matrix. Oxidized sulphide
SJ05-PM-018	12R	248734	3210575	248676	3210772	67.4	PM		Grab	Blank
SJ05-PM-019	12R	248289	3178333	248231	3178531	1200	PM	0.7 (T)	Chip	Standard
SJ05-PM-020	12R	248290	3178333	248233	3178531	1200	PM	2.0 (T)	Chip	40 cm is open quartz breccia w/ as much as 25%pyrite & 25%arsenopyrite , locally clots of 10cm. 1.6 m is crackle brecciated mod & pervasive K-feldspar altered fine grained K-feldspar porphyry. Irreg sulphide veining , up to 15% by vol. Veins are grey
SJ05-PM-021	12R	248201	3178395	248143	3178593	1260	PM	0.7 (T)	Chip	Hanging wall vein: grey quartz w/ very fine grained disseminated arsenopyrite 5% and 5% fine grained-mg disseminations, aggregates of pyrite, also subhedra.
SJ05-PM-022	12R	248201	3178396	248144	3178593	1260	PM	0.5 (T)	Chip	Footwall vein: grey brecciated quartz w/ disseminated fine grained sulphide .
SJ05-PM-023	12R	248197	3178382	248140	3178579	1285	PM	0.93 (T)	Chip	quartz + arsenopyrite + pyrite breccia, open crackle texture. Grey translucent quartz comprises 50% whole rock. Clasts are quartz phytic: mod, pervasive. K-spar altered; crackle brecciated to ang clasts 0.5-5 cm, matrix supported. sulphide : 10% discr
SJ05-PM-024	12R	248734	3210575	248676	3210772	67.4	PM		Grab	Blank
SJ05-PM-025	12R	244671	3191726	244613	3191923	1258	PM		Grab	Vein subcrop: grey translucent quartz w/banding and vugs; tr-1% hæmatitealteration in banding, as much as 5% vugs contain scorodite.
SJ05-PM-026	12R	244675	3191682	244617	3191879	1250	PM	0.3 (T)	Chip	Vein: pale grey quartz: as much as 10% oxidized sulphide .
SJ05-PM-027	12R	244672	3191753	244614	3191950	1260	PM		composite Grab	quartz sulphide breccia w/ angular clasts of wall rock pervasive sericitized; granite protolith. Dark grey quartz w/ about 10% fine disseminated arsenopyrite <1mm: abundant scorodite. No pyrite. As much as 5% late sphalerite?, trace tennantite?; trac
SJ05-PM-028	12R	244672	3191753	244614	3191950	1260	PM		Grab	Host feldspar intrusive w/ intense and pervasive sericite alteration; as much as 25% quartz phenocrysts, to 1cm size. Trace intersertal, oxidized sulphide .
SJ05-PM-029	12R	244672	3191753	244614	3191950	1260	PM		Grab	Grey quartz vein float w/ as much as 2% fine grained arsenopyrite aggregates, 1-3mm. 2% discrete 1-3mm oxidized pyrite subhedra. arsenopyrite part replaced by scorodite.
SJ05-PM-041	12R	248034	3178736	247976	3178934	1162	PM		Grab	White quartz breccia; hæmatite/limonite alteration, quartz translucent to milky white; some open space text w/ 5% oxidized Fe sulphide .
SJ05-STD	12R	248289	3178333	248231	3178531	1200	PM	0.7 (T)	Standard	Standard - mean of three analyses

Table 5. Analytical results from rock sampling

SAMPLE	TotAu or Au gm/t Gp 6	Au ppb 1DX	Ag ppm 1DX	Ag gm/t Gp 6	Ag gm/t 7AR	Mo ppm 1DX	Cu ppm 1DX	Cu % 7AR	Pb ppm 1DX	Pb % 7AR	Zn ppm 1DX	Zn % 7AR	Ni ppm 1DX	Co ppm 1DX	Mn ppm 1DX	Fe % 1DX	Fe % 7AR	As ppm 1DX	As % 7AR	U ppm 1DX	Th ppm 1DX	Sr ppm 1DX	Cd ppm 1DX	Cd % 7AR	Sb ppm 1DX	Sb % 7AR	Bi ppm 1DX	V ppm 1DX
SJ05-MB-003	na	10	0.2	na	na	0.9	82.3	na	20.5	na	59	na	4.6	2.3	207	0.86	na	8.7	na	0.7	3.2	13	0.4	na	0.7	na	1.2	11
SJ05-MB-004	na	3.35	0.1	na	na	2.25	28.55	na	9.95	na	119	na	6.7	2.15	191	1.445	na	18.9	na	1	2.35	12	0.65	na	12.85	na	0.35	17
SJ05-MB-005	na	63.9	2	na	na	1.5	9	na	151.4	na	73	na	5.4	1.9	233	0.97	na	36	na	1.1	2.9	26	0.3	na	4.6	na	0.4	12
SJ05-MB-006	na	18	1.4	na	na	1.8	12.2	na	43.6	na	48	na	3.2	1.6	162	0.69	na	17.2	na	0.8	2.5	33	0.2	na	1.6	na	0.7	16
SJ05-MB-007	na	8.4	0.9	na	na	0.8	7.8	na	62	na	48	na	4.2	1.9	227	1	na	19.3	na	0.6	2.7	16	0.2	na	4.7	na	1.2	21
SJ05-MB-008	na	9.6	0.7	na	na	1.9	4.8	na	113.3	na	44	na	4.4	0.9	169	0.56	na	12.2	na	0.7	2.1	21	0.4	na	2.8	na	0.5	5
SJ05-MB-009	na	15.4	0.8	na	na	2.1	4.7	na	131.5	na	187	na	4.6	0.9	108	1.14	na	30.6	na	1	2.8	14	0.5	na	17.3	na	0.7	8
SJ05-MB-010	na	122.8	3.1	na	na	2.1	8.4	na	235.9	na	200	na	2	0.6	104	1.06	na	49.2	na	1.1	1.8	32	0.8	na	26.8	na	0.3	6
SJ05-MB-011	na	785.8	1.1	na	na	0.7	50.8	na	352.8	na	3624	na	4.2	1.7	58	1.99	na	5169.6	na	5.5	2.5	14	134.8	na	26.8	na	0.2	57
SJ05-MB-012	na	0.6	<1	na	na	3.4	10.2	na	4.2	na	32	na	8.6	3.5	281	1.27	na	5.1	na	1.1	7.4	28	0.1	na	0.1	na	0.1	20
SJ05-MB-013	2.1	2877.8	3.1	na	4	1.2	10.1	0.001	214.2	0.02	873	0.09	6.3	3.9	26	4.36	4.4	10000	1.59	5.1	2.8	9	15.4	0.001	54.2	0.005	1.6	9
SJ05-MB-014	7.16	7781.8	100	239	235	2.8	268	0.027	10000	1.06	5019	0.54	4	4.5	32	6.15	6.43	10000	2.01	2.8	0.9	5	55.3	0.005	338.5	0.034	7.7	16
SJ05-MB-015	na	76.8	1.1	na	na	0.8	10.7	na	174.1	na	272	na	3.8	2.3	22	1.75	na	1094.3	na	2.4	1.5	18	7.9	na	15.9	na	0.8	9
SJ05-MB-016	na	380.4	7.7	na	8	6.7	15.4	0.002	984.3	0.09	1836	0.16	9.2	8.5	1846	5.32	5.34	1452.7	0.14	4.4	1.5	12	12.8	0.001	95.2	0.011	0.7	259
SJ05-MB-017	6.39	7231.9	22.2	na	24	5.4	15.8	0.002	2375	0.24	1814	0.18	5.3	7.6	72	7.68	7.58	10000	1.5	11.4	0.4	5	81.1	0.007	297.2	0.032	1.4	18
SJ05-MB-018	na	666.1	7.4	na	9	2.6	281	0.026	668.3	0.06	7730	0.755	9.5	13.6	317	3.42	3.315	4600	0.43	14.9	2.7	9	188.4	0.018	34.2	0.0035	1.3	53
SJ05-MB-019	na	373.6	2.7	na	na	0.8	13.7	na	207.5	na	651	na	6.2	5	272	2.19	na	804.1	na	3.4	2.1	6	13.6	na	7.9	na	1	29
SJ05-MB-020	na	3.5	0.1	na	na	3.6	11.9	na	8.5	na	39	na	8.9	3.8	280	1.24	na	9.3	na	1.1	7.7	34	0.2	na	0.4	na	0.1	22
SJ05-MB-021	na	480.8	7.9	na	8	2.5	17.2	0.002	599.4	0.05	1627	0.14	13	12.1	1444	6.13	5.88	932.5	0.09	2.4	2.5	12	14.7	0.001	14.5	0.002	11.2	20
SJ05-MB-022	na	107.6	0.5	na	na	2.1	10.1	na	100.5	na	1104	na	3	4.5	580	1.62	na	317	na	1	1.9	15	12.1	na	16.3	na	0.4	37
SJ05-MB-023	na	370.8	6.3	na	7	0.9	98.8	0.009	673.2	0.06	7321	0.71	9.3	19.7	1163	2.95	2.88	706	0.07	15.1	2.2	33	1098.2	0.105	31.2	0.004	2.1	82
SJ05-MB-024	na	97.4	4.6	na	na	1.8	14.2	na	215.8	na	3088	na	10.9	7.6	2644	3.15	na	725	na	2.7	0.8	25	84	na	26	na	0.2	20
SJ05-MB-025	na	170.6	4.2	na	na	1.7	12.8	na	306.9	na	1449	na	4.9	2.4	385	1.93	na	530	na	3.5	1.5	13	68.1	na	4.9	na	0.5	21
SJ05-MB-026	na	246	3.4	na	na	2.6	18.3	na	310.3	na	1733	na	6.1	3.3	3031	1.83	na	260	na	1.4	1.9	42	35.9	na	9	na	0.3	38
SJ05-MB-027	na	610.6	26	na	na	1.1	90.4	na	6259	na	2517	na	8	7	104	2.88	na	2643	na	6.7	2.5	8	99.8	na	395.2	na	1	11
SJ05-MB-028	na	56.4	13.1	na	na	2.5	13.6	na	927.4	na	969	na	7.9	2.8	125	1.91	na	270	na	1.1	2.6	12	10.2	na	19	na	1.6	4
SJ05-MB-029	2.48	2839.3	34.5	na	33	4.8	4363	0.423	1204.1	0.16	175	0.02	7.4	1.2	56	2.72	2.67	10000	1.64	2.4	0.9	17	32	0.003	52.8	0.007	0.2	4
SJ05-MB-030	1.11	1076.4	25.2	na	26	3.2	156.5	0.015	2165.3	0.23	1091	0.11	6.9	3.7	42	2.25	2.31	10000	1.66	0.1	-0.1	3	19.5	0.002	57.3	0.005	0.1	1
SJ05-MB-036	8.51	8431.6	8.2	na	8	3.5	726	0.072	1270.2	0.19	1231	0.13	16.1	3.2	192	9.19	9.71	4259.3	0.45	2.6	2.4	51	37	0.004	33.6	0.005	3.5	25
SJ05-MB-037	1.47	1112.4	6.5	na	6	8.1	1051.4	0.104	288.5	0.03	1224	0.12	22.6	3.7	472	10.5	10.75	5529.4	0.56	2.2	9.3	23	32.9	0.003	17.9	0.003	1.1	44
SJ05-MB-038	7.1	6766.2	35.8	na	35	5.8	904.9	0.09	1400.4	0.16	980	0.15	9.2	0.8	98	13.31	16.84	9720.1	0.97	2.7	1.3	103	43.8	0.004	18.6	0.003	4.2	23
SJ05-MB-039	20.93	24383.4	60.6	na	57	3.5	114.2	0.011	7627	0.76	183	0.02	3.4	0.5	20	3.3	3.31	7073.9	0.73	0.2	1.6	9	6.6	0.001	17.2	0.002	68.9	8
SJ05-MB-040	na	17.1	0.1	na	na	3.7	17.8	na	12.2	na	41	na	9.4	3.7	279	1.28	na	31.3	na	1	8.3	29	0.4	na	0.3	na	0.2	22
SJ05-MV-001	4.21	3697.2	77.1	na	77	2	36.2	0.004	10000	1.48	111	0.01	3.1	1.4	40	8.14	8.17	3875.6	0.37	0.3	0.1	52	1.9	-0.001	32.9	0.003	139.6	63
SJ05-MV-002	1.07	1039.2	100	na	353	2	303.2	0.027	4835	0.49	894	0.08	5.7	3.1	127	3.36	3.24	3401.4	0.34	1.6	1.2	104	35.6	0.003	320.1	0.046	0.7	61
SJ05-MV-003	0.95	962.4	100	na	253	1.2	304.2	0.029	3242	0.36	221	0.02	5.6	1.4	28	2.72	2.77	10000	1.25	0.5	0.3	129	15.5	0.001	166.5	0.021	1.4	9
SJ05-MV-014	na	53.9	100	na	343	3.3	69.4	0.007	2893.2	0.29	958	0.08	8.7	1.5	131	1.29	1.3	31.6	-0.01	0.3	0.3	8	7.6	0.001	52.2	0.005	0.1	9
SJ05-MV-021	5.59	6223.3	100	na	148	2.3	164.2	0.016	10000	1.3	160	0.02	2.8	0.5	51	5.18	5.28	10000	1.49	1.1	5.7	20	15.8	0.002	1922.3	0.278	1.2	9
SJ05-MV-022	7.24	9070.1	100	na	257	15.7	149.6	0.013	10000	2.11	8306	0.86	4.5	2.5	35	8.33	7.8	10000	1.23	0.4	0.5	10	88.8	0.007	2000	0.704	0.6	-1
SJ05-MV-023	3.27	3466.6	100	na	225.5	2.5	447.8	0.043	10000	1.688	3879	0.36	6.6	1.6	272	4.81	4.76	10000	2.345	0.6	1	12	42.2	0.004	715.1	0.088	0.6	55
SJ05-MV-024	19.8	19.8	1.9	na	22	3	39.5	0.004	157.4	0.02	48	0.01	6.3	0.8	63	3.98	3.8	103	0.02	0.4	1.5	53	11	-0.001	15.6	0.003	2.4	6
SJ05-MV-025	8.03	7816.5	26.5	na	27	3.9	9.9	-0.001	5198.8	0.56	728	0.08	4.4	3.5	37	6.48	6.78	10000	2.38	6.7	0.2	3	22.6	0.002	264.8	0.031	1.3	15
SJ05-MV-026	na	22	1.1	na	na	3	9.6	na	98.5	na	49	na	5	3.3	215	1.16	na	59.3	na	1	7.7	27	0.4	na	29.8	na	0.1	19
SJ05-PM-002	1.68	1879.1	80.3	na	85	17.1	50.3	0.005	10000	1.4	185	0.02	4.6	1.7	59	3.69	3.74	294.7	0.03	0.7	0.4	31	1.3	-0.001	19	0.003	33.1	4
SJ05-PM-003	1.4	1538.7	29.9	na	na	7.4	34.5	na	8253	na	153	na	6.7	1.2	44	3.23	na	230.3	na	0.5	0.3	13	1.4	na	10.4	na	20.7	6
SJ05-PM-004	3.58	2955.5	10.5	na	na	2.5	24.6	na	3656.6	na	107	na	3.8	0.9	54	2.61	na	372.6	na	0.8	0.9	84	1.1	na	4.4	na	7.5	9
SJ05-PM-005	na	291.2	0.5	na	na	4.9	44.6	na	148.3	na	319	na	37.8	17.6	664	3.41	na	18.3	na	1	3.6	22	3.7	na	2.3	na	0.3	29
SJ05-PM-006	3.42	3372.8	7.6	na	na	2	9.9	na	2998.7	na	133	na	4.7	1.5	111	2.06	na	118.2	na	0.3	0.5	11	0.9	na	5.2	na	10.4	-1
SJ05-PM-007	na	117.8	0.85	na	na	7.75	124.15	na	407.25	na	986.5	na	49.2	21.8	1386	3.61	na	31.55	na	1.05	5.9	11	4.6	na	1.9	na	0.4	34
SJ05-PM-008	na	267.5	0.3	na	na	2.1	5	na	44.1	na	64	na	4.4	0.4	46													

Table 5. Analytical results from rock sampling

SAMPLE	Ca % 1DX	Ca_% 7AR	P % 1DX	P_% 7AR	La ppm 1DX	Cr ppm 1DX	Mg % 1DX	Mg_% 7AR	Ba ppm 1DX	Ti % 1DX	B ppm 1DX	Al % 1DX	Al_% 7AR	Na % 1DX	Na_% 7AR	K % 1DX	K_% 7AR	W ppm 1DX	W_% 7AR	Hg ppm 1DX	Sc ppm 1DX	Tl ppm 1DX	S % 1DX	Ga ppm 1DX	Se ppm 1DX	1DX batch	Gp6 batch	7AR batch
SJ05-MB-003	0.09	na	0.011	na	6	15.4	0.14	na	79	0.021	1	0.55	na	0.037	na	0.3	na	9.7	na	0.06	1.7	0.1	0.09	3	0.7	A540166		
SJ05-MB-004	0.13	na	0.0195	na	10.5	15.1	0.21	na	66.5	0.007	3	0.665	na	0.0655	na	0.225	na	28.65	na	0.065	1.4	0.1	-0.05	3	0.5	A540166		
SJ05-MB-005	0.53	na	0.02	na	8	17.3	0.23	na	89	0.021	4	0.53	na	0.061	na	0.3	na	6.8	na	0.87	1.7	0.1	0.06	3	-0.5	A540166		
SJ05-MB-006	0.67	na	0.022	na	8	29.2	0.17	na	72	0.014	2	0.49	na	0.074	na	0.25	na	5.6	na	1.12	1.5	0.1	0.24	3	-0.5	A540166		
SJ05-MB-007	0.23	na	0.023	na	10	15.4	0.25	na	77	0.016	2	0.67	na	0.097	na	0.27	na	18.5	na	0.18	1.6	0.1	-0.05	3	-0.5	A540166		
SJ05-MB-008	0.25	na	0.014	na	6	10.8	0.09	na	33	0.002	4	0.36	na	0.153	na	0.18	na	11.6	na	0.3	0.9	0.1	0.09	1	-0.5	A540166		
SJ05-MB-009	0.3	na	0.021	na	7	12.5	0.08	na	32	0.001	5	0.48	na	0.044	na	0.22	na	59.9	na	0.51	1	0.1	0.16	2	0.6	A540166		
SJ05-MB-010	0.14	na	0.013	na	4	23.7	0.08	na	26	0.001	3	0.34	na	0.05	na	0.21	na	47.4	na	0.47	0.8	0.1	0.06	2	0.6	A540166		
SJ05-MB-011	0.26	na	0.026	na	3	11	0.04	na	57	-0.001	2	0.22	na	0.031	na	0.15	na	21	na	0.66	0.6	0.1	1.34	1	4.7	A540166		
SJ05-MB-012	0.29	na	0.034	na	10	16	0.34	na	281	0.078	3	0.61	na	0.116	na	0.36	na	2.9	na	0.01	2.4	0.1	<0.5	2	<5	A540166		
SJ05-MB-013	0.02	0.03	0.004	0.002	2	10.6	0.02	0.02	24	-0.001	5	0.26	0.32	0.007	0.05	0.2	0.29	13.1	0.001	0.84	0.2	0.1	3.94	1	0.7	A540166	A540166R2	A540166R4
SJ05-MB-014	0.01	0.02	0.004	0.007	1	32.4	0.01	0.01	26	-0.001	5	0.15	0.2	0.005	0.02	0.13	0.19	28.2	0.003	4.39	0.1	0.2	5.17	1	4.8	A540166	A540166R3	A540166R4
SJ05-MB-015	0.01	na	0.004	na	4	9.7	0.03	na	48	0.001	2	0.24	na	0.008	na	0.22	na	18.8	na	0.18	0.4	0.1	1.32	1	1.8	A540166		
SJ05-MB-016	0.04	0.04	0.01	0.01	3	18.6	0.03	0.02	158	-0.001	5	0.29	0.31	0.008	0.01	0.18	0.24	100	0.012	1.39	1.7	0.2	0.1	1	1	A540166		A540166R5
SJ05-MB-017	0.02	0.04	0.004	0.003	-1	17.1	0.03	0.02	22	-0.001	3	0.31	0.33	0.005	-0.01	0.08	0.1	85.3	0.008	9.25	0.8	1.1	5.19	2	6.1	A540166	A540166R2	A540166R4
SJ05-MB-018	0.05	0.05	0.005	0.0055	3	34.2	0.06	0.05	30	-0.001	4	0.29	0.31	0.015	0.01	0.19	0.21	100	0.012	1.19	0.4	0.1	2.91	1	2.1	A540166	A540166R5	
SJ05-MB-019	0.04	na	0.019	na	3	10	0.03	na	36	-0.001	4	0.26	na	0.011	na	0.23	na	14.1	na	0.59	0.5	0.1	1.77	1	2.2	A540166		
SJ05-MB-020	0.74	na	0.04	na	10	16.4	0.41	na	276	0.084	2	0.68	na	0.114	na	0.33	na	3.4	na	0.02	2.6	0.1	<0.5	3	<5	A540166		
SJ05-MB-021	0.05	0.05	0.019	0.017	11	12.3	0.06	0.05	27	-0.001	3	0.28	0.28	0.013	0.01	0.21	0.21	100	0.012	0.53	1.1	0.1	5.65	1	2.1	A540166		A540166R5
SJ05-MB-022	0.13	na	0.018	na	5	28.6	0.07	na	74	-0.001	5	0.31	na	0.009	na	0.21	na	22.3	na	0.66	0.6	0.1	0.08	1	0.5	A540166		
SJ05-MB-023	0.18	0.18	0.015	0.016	5	7.1	0.11	0.11	56	-0.001	3	0.6	0.6	0.037	0.04	0.24	0.25	78.8	0.009	0.66	0.8	-0.1	1.88	1	4.1	A540166		A540166R5
SJ05-MB-024	0.1	na	0.009	na	2	10.5	0.12	na	42	-0.001	10	0.58	na	0.046	na	0.21	na	24.4	na	0.51	0.9	0.1	2.31	2	1.1	A540166		
SJ05-MB-025	0.06	na	0.015	na	3	10.9	0.04	na	50	-0.001	5	0.28	na	0.015	na	0.19	na	11.4	na	0.8	0.5	0.1	0.54	1	5.1	A540166		
SJ05-MB-026	0.29	na	0.017	na	7	26.5	0.16	na	147	0.001	6	0.41	na	0.032	na	0.2	na	23.3	na	0.78	1.4	0.1	-0.05	1	-0.5	A540166		
SJ05-MB-027	0.06	na	0.031	na	2	7.1	0.02	na	35	-0.001	1	0.2	na	0.013	na	0.17	na	8.9	na	1.36	0.4	0.1	2.48	1	2	A540166		
SJ05-MB-028	0.11	na	0.017	na	5	13.3	0.04	na	58	0.007	1	0.22	na	0.021	na	0.17	na	19.5	na	0.4	0.5	0.2	1.76	1	1.4	A540166		
SJ05-MB-029	0.01	0.02	0.01	0.009	3	31	0.02	0.02	143	-0.001	6	0.37	0.53	0.018	0.04	0.29	0.44	26.4	0.003	2	0.3	0.5	0.82	1	7.9	A540166	A540166R2	A540166R4
SJ05-MB-030	-0.01	0.03	0.001	-0.001	-1	47.5	-0.01	-0.01	12	-0.001	1	0.03	0.05	0.006	0.04	0.02	0.04	7.2	0.001	0.52	0.1	-0.1	1.43	-1	0.5	A540166	A540166R2	A540166R4
SJ05-MB-036	0.03	0.03	0.026	0.031	3	30.8	0.03	0.03	114	0.001	2	0.18	0.25	0.12	0.13	0.13	0.18	100	0.219	1.89	1.4	0.1	0.28	1	6	A540166	A540166R2	A540166R5
SJ05-MB-037	0.05	0.05	0.042	0.042	10	27.8	0.08	0.08	187	0.002	3	0.29	0.43	0.188	0.21	0.21	0.33	100	0.058	3.94	2.1	0.1	0.09	2	23.7	A540166	A540166R2	A540166R5
SJ05-MB-038	0.02	0.02	0.026	0.03	3	15.6	0.02	0.02	150	0.001	2	0.27	0.34	0.125	0.15	0.51	0.57	30.4	0.004	6.45	2.5	0.1	0.98	2	14.8	A540166	A540166R2	A540166R5
SJ05-MB-039	-0.01	-0.01	0.028	0.028	3	20.3	-0.01	-0.01	102	0.017	1	0.08	0.09	0.035	0.04	0.36	0.36	18.9	0.002	6.92	1.5	-0.1	0.96	1	14	A540166	A540166R2	A540166R5
SJ05-MB-040	0.81	na	0.059	na	11	18.1	0.4	na	369	0.091	3	0.65	na	0.09	na	0.33	na	5.6	na	0.02	2.3	0.1	<0.5	2	<5	A540166		
SJ05-MV-001	0.11	0.14	0.018	0.02	1	27.7	0.02	0.01	74	0.009	-1	0.08	0.08	0.157	0.1	0.95	0.96	5.4	0.001	2.44	0.2	0.3	2.27	5	4.3	A540166	A540166R2	A540166R4
SJ05-MV-002	0.18	0.17	0.032	0.03	5	36.6	0.06	0.05	188	0.001	4	0.26	0.34	0.052	0.05	0.37	0.47	3.4	0.001	4.03	2	0.1	0.32	1	0.9	A540166	A540166R2	A540166R5
SJ05-MV-003	0.04	0.05	0.007	0.003	2	25.1	0.03	0.02	136	0.002	3	0.15	0.23	0.06	0.01	0.3	0.37	7	0.001	5.11	0.6	0.1	0.51	1	1	A540166	A540166R2	A540166R4
SJ05-MV-014	0.03	0.03	0.016	0.015	1	24.9	0.02	0.02	75	0.001	2	0.08	0.09	0.004	0.01	0.04	0.06	5.4	0.001	1.73	0.9	-0.1	-0.05	-1	-0.5	A540166		A540166R5
SJ05-MV-021	0.01	0.01	0.05	0.053	6	18.6	0.01	0.01	121	0.001	4	0.26	0.36	0.027	0.06	0.8	0.84	41.2	0.007	1.3	2.7	0.4	1.26	4	2.6	A540166	A540166R2	A540166R4
SJ05-MV-022	0.01	0.03	0.007	0.005	-1	50.9	0.01	-0.01	31	0.003	1	0.1	0.12	0.009	-0.01	0.06	0.07	4.4	0.002	4.08	0.1	0.9	8.14	1	3.4	A540166	A540166R2	A540166R4
SJ05-MV-023	0.01	0	0.02	0.0195	1	23.6	0.01	0.01	84	0.001	1	0.11	0.135	0.014	0	0.22	0.205	22.1	0.004	6.73	1.6	0.5	2.2	1	3.7	A540166	A540166R2	A540166R5
SJ05-MV-024	0.02	0.02	0.032	0.035	8	21.2	0.02	0.03	100	0.002	2	0.16	0.22	0.016	0.02	0.33	0.45	100	0.109	0.17	1	-0.1	0.36	1	1.6	A540166		A540166R5
SJ05-MV-025	0.01	0.02	0.005	0.006	-1	15.1	0.01	0.01	28	-0.001	2	0.11	0.14	0.004	-0.01	0.04	0.06	40.1	0.005	4.39	0.5	0.7	3.93	-1	5.3	A540166	A540166R2	A540166R4
SJ05-MV-026	0.55	na	0.029	na	9	26.7	0.36	na	292	0.091	2	0.57	na	0.091	na	0.32	na	3.2	na	0.04	2.3	0.1	-0.05	2	-0.5	A540166		
SJ05-PM-002	0.12	0.09	0.003	0.003	1	16.4	0.01	-0.01	111	0.001	1	0.06	0.08	0.037	0.02	0.12	0.13	7.8	0.001	0.29	0.3	-0.1	0.25	-1	14.6	A540166	A540166R2	A540166R4
SJ05-PM-003	0.51	na	0.003	na	1	19.2	0.01	na	31	0.002	-1	0.05	na	0.024	na	0.13	na	7.8	na	0.2	0.3	-0.1	0.41	-1	7	A540166	A540166R2	
SJ05-PM-004	7.17	na	0.022	na	1	17.2	0.12	na	128	0.003	4	0.22	na	0.02	na	0.43	na	4.6	na	0.16	0.8	0.1	0.82	1	13.8	A540166	A540166R2	
SJ05-PM-005	2.05	na	0.043	na	9	39	0.32	na	95	0.008	3	0.69	na	0.012	na	0.19	na	2	na	0.03	2.7	0.1	0.07	2	4.7	A540166		
SJ05-PM-006	0.06	na	0.005	na	1	18.7	0.01	na	25	0.002	2	0.06	na	0.014	na	0.												

Table 6. Bulk leach extractable gold samples: description and analysis

Client : Acme
 Project : Cyanidation of Acme Samples
 CEMI Project : 0531
 Test : Cyanidation
 Test Date : July 5, 2005

Sample	SJ05-MV-019-B	SJ05-PM-035-B	SJ05-PM-036-B	SJ05-PM-037-B	SJ05-PM-039-B	SJ05-MB-042-B	SJ05-PM-043-B	SJ05-MB-047-B	SJ05-MB-050-B	SJ05-MB-052-B
UTM Zone	12R	12R	12R	12R	12R	12R	12R	12R	12R	12R
UTME27 Mex	244398	244138	244621	248831	248927	251441	248910	245045	247620	247556
UTMN27 Mex	3190558	3191751	3191718	3178381	3178509	3209521	3177810	3190329	3178818	3178908
UTME83	244340	244080	244563	248773	248869	251383	248852	244987	247562	247498
UTMN83	3190755	3191948	3191915	3178579	3178707	3209718	3178008	3190526	3179016	3179106
Elev (m)		1224	1245	1072	1072	2.77	1005	1264	1029	1026
Sampler	MV	PM	PM	PM	PM	MB	PM	MB	MB	MB
Depth (cm)	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface
DESCRIPTION	No o/c. Subdued topography.	Medium sand; intrusive protolith	Fine-medium grained sand.	In area of fractured and veined granite o/c; 2 mica silt & sand.	Centre of 2m wide dry channel with micaceous granite float	Blank; beach sand	Same as above	In arroyo: boulders of K-feldspar, quartz phyric biotite granite.	Same as above	Same as above
Input										
Weight (g)	100	100	100	100	100	100	100	100	100	100
Head Gold Assay (g/tonne)	<0.002	<0.002	0.117	0.164	<0.002	<0.002	0.055	<0.002	0.005	0.005
Gold (ug)	<0.02	<0.02	11.7	16.4	<0.02	<0.02	5.5	<0.02	0.5	0.5
Sodium Cyanide (NaCN) g	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Hydrate Lime (Ca(OH)2) (g)	0.05	0.03	0.02	0.02	0.03	0.05	0.02	0.11	0.02	0.02
Water (mL)	185	185	185	185	185	185	185	185	185	185
Initial pH	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Output										
Residue Wt. (g)	99	98.4	98.8	98.8	98.6	98.6	94.8	98.5	99.1	99
Tail Gold Assay (g/tonne)	0.018	0.041	0.006	0.006	0.007	<0.002	0.003	0.003	0.002	0.007
Gold (ug)	1.782	4.0344	0.5928	0.5928	0.6902	<0.20	0.2844	0.2955	0.1982	0.693
Sodium Cyanide (NaCN) (g)	0.059	0.0567	0.051	0.0598	0.0735	0.06375	0.067	0.0789	0.0735	0.0831
Pregnant Soln with wash Vol. (mL)	295	252	343	299	245	255	335	263	294	277
Gold Assay of solution (mg/L)	<0.01	<0.01	0.06	0.1	<0.01	<0.01	0.02	<0.01	0.01	<0.01
Gold Solution (ug)	<3	<3	20.6	29.9	<3	<3	6.7	<3	2.9	<3
Final pH	9.33	9.44	9.50	9.25	9.52	9.43	9.51	9.45	9.42	9.43
Calculated Head										
Au (g/tonne)	1.78	4.03	21.17	30.49	0.69	<0.20	6.98	0.30	3.14	0.69
Gold Extraction										
(%)	0.0%	0.0%	97%	98%	0.0%	0.0%	96%	0.0%	94%	0.0%
Reagent Consumption										
NaCN (kg/tonne)	0.41	0.43	0.49	0.40	0.27	0.36	0.33	0.21	0.27	0.17
Ca(OH)2 (kg/tonne)	0.50	0.25	0.15	0.20	0.30	0.50	0.15	1.10	0.20	0.15

Table 7. Sample descriptions and analytical data for stream sediments

SAMPLE	UTM Zone	UTME27 Mex	UTMN27 Mex	UTME83	UTMN83	Elev (m)	Sampler	Sediment type	Depth (cm)	DESCRIPTION
SJ05-MB-034T	12R	244138	3191751	244080	3191948	1221	MB	Silt	Surface	In arroyo, w/ granite boulders
SJ05-MB-035T	12R	244621	3191718	244563	3191915	1245	MB	Silt	Surface	In arroyo
SJ05-MB-041T	12R	251441	3209521	251383	3209718	2.77	MB			Blank; beach sand
SJ05-MB-049T	12R	247620	3178818	247562	3179016	1029	MB	Silt	Surface	In arroyo w/ quartz feldspar biotite granodiorite: minor limonite
SJ05-MB-051T	12R	247556	3178908	247498	3179106	1026	MB	Silt	Surface	In arroyo w/ mixed boulder lithology: same as 049, and muscovite altered granite. Some quartz.
SJ05-PM-038T	12R	248831	3178381	248773	3178579	1072	PM	Silt	Surface	Same as above
SJ05-PM-040T	12R	248927	3178509	248869	3178707	1072	PM	Silt	Surface	Same as above
SJ05-PM-042T	12R	248910	3177810	248852	3178008	1005	PM	Silt	Surface	In area of quartz sericite, sericite altered megacrystic intrusion. Some boulders brecciated w/ as much as 10% oxidized

SAMPLE	Sample (gm)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Ni (ppm)	Co (ppm)	Mn (ppm)	Fe (%)	As (ppm)	U (ppm)	Au (ppb)	Th (ppm)	Sr (ppm)	Cd (ppm)	Sb (ppm)	Bi (ppm)	V (ppm)
SJ05-MB-034T	15	0.1	11.3	5.2	80	0.1	16.2	9.5	544	2.08	1.5	1	-0.5	8	59	0.1	0.1	0.1	46
SJ05-MB-035T	15	0.2	26.4	502.2	326	3	23.2	15.2	592	3.16	312.3	1	105.4	7.1	44	4	5.1	1.6	71
SJ05-MB-041T	15	1.5	16.8	7.5	23	0.1	18.5	4.7	147	1.52	3.8	2.3	-0.5	22.1	54	0.1	0.2	0.1	27
SJ05-MB-049T	15	1.4	17.1	31.3	119	0.3	16.2	11.1	655	3.32	21.2	1.8	12.6	15.1	39	0.4	1.6	0.4	85
SJ05-MB-051T	1	0.8	14.1	58.8	123	0.1	15.3	10.7	570	2.73	18.9	1.5	18.8	19.7	26	0.7	2.5	0.4	74
SJ05-PM-038T	15	2.1	78.2	1910.7	633	22.3	6.8	5	325	2.65	1494.5	5.1	1196.2	6.3	31	9.8	117.9	1.5	55
SJ05-PM-040T	7.5	0.6	8.6	25.9	75	0.2	7.7	6.4	466	1.96	11.7	1.8	3.9	12.2	31	0.3	1.5	0.3	43
SJ05-PM-042T	7.5	0.9	14	252	156	3	5.7	3.5	426	1.36	113.1	1.1	181.2	3.2	22	1.8	14.7	1	22

SAMPLE	Sample (gm)	Ca (%)	P (%)	La (ppm)	Cr (ppm)	Mg (%)	Ba (ppm)	Ti (%)	B (ppm)	Al (%)	Na (%)	K (%)	W (ppm)	Hg (ppm)	Sc (ppm)	Tl (ppm)	S (%)	Ga (ppm)	Se (ppm)
SJ05-MB-034T	15	0.74	0.209	16	57.9	0.78	117	0.097	4	1.53	0.007	0.71	0.3	0.03	3.1	0.3	-0.05	8	-0.5
SJ05-MB-035T	15	0.89	0.196	15	77.3	0.82	168	0.079	4	1.47	0.007	0.64	0.1	0.13	5.8	0.2	-0.05	6	-0.5
SJ05-MB-041T	15	0.75	0.122	24	15.8	0.32	38	0.032	6	0.45	0.089	0.15	0.2	-0.01	1.7	0.1	-0.05	1	1.1
SJ05-MB-049T	15	0.72	0.27	32	64.5	0.97	193	0.183	3	2.04	0.01	0.99	2.9	0.08	6.1	0.4	-0.05	8	-0.5
SJ05-MB-051T	1	0.6	0.214	25	56.8	0.93	190	0.175	3	1.34	0.008	0.98	3.3	0.05	4.1	0.5	-0.05	8	-0.5
SJ05-PM-038T	15	0.16	0.088	17	16.9	0.33	121	0.053	3	1.03	0.02	0.41	27.8	0.71	3.3	0.4	0.24	5	1.9
SJ05-PM-040T	7.5	0.47	0.144	19	23.6	0.48	103	0.076	2	0.98	0.012	0.46	1.8	0.04	4.2	0.2	-0.05	5	-0.5
SJ05-PM-042T	7.5	0.15	0.039	14	11.7	0.3	87	0.053	2	0.73	0.005	0.36	17.4	0.2	3	0.3	-0.05	4	0.7

Table 8. Descriptions of soil samples

SAMPLE	UTM Zone	UTME27 Mex	UTMN27 Mex	UTME83	UTMN83	Elev (m)	Sampler	Sediment type	Depth (cm)	Horizon	Colour	Texture	DESCRIPTION
SJ05-MB-031L	12R	244676	3191740	244618	3191937	1259	MB	Soil	20	C	Tan orange	med to coarse sand	Peripheral to vein; at base of exposure.
SJ05-MB-032L	12R	244530	3191732	244472	3191929	1244	MB	Soil	24	C	light brown-grey	upper fine to lower coarse sand	In area of boulders and o/c of granodiorite to diorite;
SJ05-MB-033L	12R	244433	3191745	244375	3191942	1249	MB	Soil	37	C	buff orange	med sand	On hummock composed of eroding sericite altered, bleached granite
SJ05-MB-043L	12R	244761	3190293	244703	3190490	1281	MB	Soil	30	C	milky brown	unsorted fine to coarse sand	Coarse sand covered slope base: biotite granite
SJ05-MB-044L	12R	244880	3190328	244822	3190525	1304	MB	Soil	24	C	milky brown	unsorted fine to coarse sand	Near contact between quartz vein & (?)volcanic rock with limonite staining. Country rock intrusive: sericite-albite altered.
SJ05-MB-045L	12R	244952	3190329	244894	3190526	1287	MB	Soil	16	C	milky brown	fine to med sand	No o/c. Float comprises Fe stained, muscovite-altered granite
SJ05-MB-046L	12R	245029	3190333	244971	3190530	1273	MB	Soil	Upper 10	C	milky brown w/white pebbles	very coarse sand to pebbles	Area of unaltered intrusive country rock.
SJ05-MB-048L	12R	245127	3190335	245069	3190532	1272	MB	Soil	Upper 8	C	milky brown w/white pebbles	med to very coarse sand	Same as above
SJ05-MV-004L	12R	244736	3191739	244678	3191936		MV	Soil		C			In area of sericite altered granite subcrop, with abundant limonite and banded quartz vein (<3 cm) material.
SJ05-MV-005L	12R	244808	3191739	244750	3191936		MV	Soil		C			In pale brown alteration zone. Only granite chips.
SJ05-MV-006L	12R	244884	3191732	244826	3191929		MV	Soil		C			Area of weathered out granite (coarse sand) and quartz vein fragments <5 cm.
SJ05-MV-007L	12R	244975	3191720	244917	3191917		MV	Soil		C			Area of sericite altered, limonitic granite, with abundant white bull quartz, parallel to dense fracture set (132/37NE). Quartz vein vuggy and leached, with well developed quartz crystals. Vugs filled with limonite. Blots of 5% leached out sulphides (pyrite?).
SJ05-MV-008L	12R	245051	3191724	244993	3191921		MV	Soil		C			Sandy area with neither outcrop, nor subcrop. Transition area from alteration zone to unaltered granite.
SJ05-MV-009L	12R	245096	3191730	245038	3191927		MV	Soil		C			Coarse sand, in area of unaltered biotite granite.
SJ05-MV-010L	12R	245164	3191731	245106	3191928		MV	Soil		C			Coarse sand, in area of unaltered biotite granite.
SJ05-MV-011L	12R	244730	3190522	244672	3190719		MV	Soil		C			Area of biotite granite, with some sheared, muscovite schistose subcrop. Abundant bull quartz veins, 2-3 mm. Very straight quartz stringers, with siliceous halo up to 6 cm wide, very resistant to weathering, trending 056/46NW.
SJ05-MV-012L	12R	244646	3190292	244588	3190489		MV	Soil		C			Soil in area of biotite granite, limonitic. Orange-white colour anomaly.
SJ05-MV-013L	12R	244564	3190288	244506	3190485		MV	Soil		C			Area of biotite granite, with abundant vuggy quartz veins <10 cm, trending 170/58E. Vugs filled with limonite. Limonite also in fractures. Abundant vesicular, weakly magnetic basalt float in area as well.
SJ05-MV-015L	12R	244470	3190283	244412	3190480		MV	Soil		C			Area of medium grained biotite granite, weakly limonitic.
SJ05-MV-016L	12R	244342	3170269	244284	3170467		MV	Soil		C			Area of very weathered biotite granite and some bull quartz float.
SJ05-MV-017L	12R	244233	3190306	244175	3190503		MV	Soil		C			Area of unaltered biotite granite. No quartz veining.
SJ05-MV-018L	12R	244143	3190340	244085	3190537		MV	Soil		C			Area of no outcrop or subcrop. Subdued topography, with only sand.
SJ05-MV-020L	12R	246317	3188198	246259	3188396		MV	Soil		C			Area of gossanous, very limonitic, weakly foliated (164/25E) biotite granite, partially sericitized. Very abundant quartz vein material. Joints in granite @ 178/70W. Zone trends 030 for more than 1 km towards the Northeast. Overall zone of quartz veining, more than 50 m wide. Some quartz-muscovite-feldspar pegmatite in float.
SJ05-PM-030L	12R	244651	3191742	244593	3191939	1254	PM	Soil	5	C	light sandy brown		Light sandy brown sand in area of muscovite-altered intrusion w/minor quartz
SJ05-PM-031L	12R	244631	3191744	244573	3191941	1248	PM	Soil	10	C	med red brown		Medium red brown; quartz-muscovite altered intrusion. On trace of quartz breccia vein.
SJ05-PM-032L	12R	244604	3191741	244546	3191938	1247	PM	Soil	15	C	sandy yellow		Sandy yellow surficial gravel of quartz muscovite altered intrusion.
SJ05-PM-033L	12R	244385	3191747	244327	3191944	1241	PM	Soil	15	C	light sandy brown		Light sandy brown altered intrusion w/ pervasive sericitic alteration.
SJ05-PM-034L	12R	244187	3191751	244129	3191948	1231	PM	Soil	5	C	pale muddy brown		Weathered bedrock fragments: bio hornblende granite w/ minor oxidized pyrite. 5% organic.

Table 9. Analytical results from soil sampling

SAMPLE	Sample (gm)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Ni (ppm)	Co (ppm)	Mn (ppm)	Fe (%)	As (ppm)	U (ppm)	Au (ppb)	Th (ppm)	Sr (ppm)	Cd (ppm)	Sb (ppm)	Bi (ppm)	V (ppm)
SJ05-MB-031L	15	0.3	46.6	283.9	1273	11.1	34.4	25.9	767	4.07	358.1	1.2	543.6	16	49	3.4	10.7	0.2	94
SJ05-MB-032L	15	0.1	29.7	11.1	89	0.5	25.9	14.6	372	2.58	6.1	0.3	1.5	2.4	56	0.8	0.7	-0.1	64
SJ05-MB-033L	15	0.2	6.9	25.6	91	0.8	23.9	16.3	898	2.9	75.8	1.2	13.5	2.9	33	0.6	2.1	0.5	42
SJ05-MB-043L	15	0.3	19.5	8	132	0.5	25.5	15.7	578	3.6	6.2	1	-0.5	8	67	0.5	1.2	0.1	64
SJ05-MB-044L	15	0.6	19	18	93	0.9	20	11.9	687	3.03	16.5	1.1	1.3	3.7	51	0.3	3.3	0.2	39
SJ05-MB-045L	15	0.4	12.3	8.7	68	0.2	15.4	13	345	3	4.1	1.1	1.1	7.1	38	0.1	2.3	0.1	36
SJ05-MB-046L	15	0.1	16.3	7.2	91	-0.1	18.2	10.8	463	2.61	1.6	1.7	-0.5	12.4	69	-0.1	0.1	0.1	64
SJ05-MB-048L	15	0.2	17.6	8.6	107	0.1	21.3	11.2	796	2.56	1.8	1.2	1.1	10.3	133	0.1	0.1	0.1	53
SJ05-MV-004L	15	0.2	30	132.1	314	0.5	22.6	14.3	459	3.54	22.9	0.7	2.9	6.5	63	0.8	0.7	0.1	88
SJ05-MV-005L	15	0.2	12.4	16.4	110	0.3	21.1	11.2	510	2.74	13.3	0.8	1	7.1	42	0.5	0.6	0.1	58
SJ05-MV-006L	15	0.2	15.5	8.2	111	0.2	23.8	12	571	2.87	13.4	0.7	0.9	6.6	54	0.3	0.4	0.1	65
SJ05-MV-007L	15	0.2	13.7	20.5	101	0.3	18.8	12.9	560	2.68	64	1.6	2.2	10.2	93	0.5	2.7	0.1	46
SJ05-MV-008L	15	0.1	23.9	5.3	90	0.1	31.6	13.2	441	2.76	3.9	0.5	-0.5	5.5	55	0.1	0.1	-0.1	65
SJ05-MV-009L	15	0.1	29.8	4.2	76	0.1	40.8	16.8	378	3.05	3.9	0.3	1.7	3	48	0.1	0.1	0.1	85
SJ05-MV-010L	15	0.1	25.6	7.2	106	0.3	28.6	15	463	3.17	5.9	0.5	1.1	4.9	96	0.2	0.2	-0.1	78
SJ05-MV-011L	15	0.1	19.1	8.4	99	0.1	23	14.3	475	3.21	5.1	1.2	0.5	12.5	57	0.2	0.5	0.1	78
SJ05-MV-012L	15	0.2	14.4	11.1	115	0.1	25.5	16.1	495	3.75	4.1	1	-0.5	8.8	29	0.4	0.7	0.1	73
SJ05-MV-013L	15	0.2	16.9	13.2	102	0.5	19.8	13.4	418	3.48	7.7	1.2	3.9	10.3	47	0.1	1.3	0.1	63
SJ05-MV-015L	15	0.3	9.8	10.4	62	0.1	25.2	10.8	446	2.09	2.9	0.6	3.9	7.3	31	0.1	0.3	0.1	48
SJ05-MV-016L	15	0.1	10.5	4.1	100	-0.1	23.8	11.5	450	2.77	1.2	0.6	-0.5	7.3	62	-0.1	0.1	-0.1	60
SJ05-MV-017L	15	0.1	10.1	6.65	92.5	-0.1	19.05	10.1	439.5	2.47	1.2	0.85	0.5	6.75	67	0.1	0.1	0.1	60
SJ05-MV-018L	15	0.2	15.3	6.2	110	-0.1	20.9	11.5	624	2.8	1.5	0.8	0.7	7	82	0.2	0.1	0.1	61
SJ05-MV-020L	15	2.6	39.9	7.9	90	0.1	32.1	9.4	338	2.84	2.2	0.9	0.8	2.5	32	-0.1	0.1	0.1	88
SJ05-PM-030L	15	0.2	21.9	74.6	444	5.7	22.6	13.6	612	2.56	218.5	0.9	48	2.3	54	5.3	5.6	0.1	33
SJ05-PM-031L	15	0.5	50.9	644.8	2391	3.2	23.8	36.5	814	4.13	1694.6	1.3	476	2.5	93	17.2	20.7	7.2	70
SJ05-PM-032L	15	0.1	18.5	20.8	136	1.2	23.9	13.9	534	3.26	32.5	0.7	2.9	7.2	75	1	0.6	0.1	80
SJ05-PM-033L	15	0.7	17.2	24.2	114	0.3	27.7	19.2	949	2.9	30.3	0.8	3.4	1.1	161	1	2	0.2	39
SJ05-PM-034L	15	0.1	8.1	6	68	0.1	13.4	8.6	335	2.1	1.4	1.5	-0.5	14.5	42	0.1	-0.1	-0.1	44

SAMPLE	Sample (gm)	Ca (%)	P (%)	La (ppm)	Cr (ppm)	Mg (%)	Ba (ppm)	Ti (%)	B (ppm)	Al (%)	Na (%)	K (%)	W (ppm)	Hg (ppm)	Sc (ppm)	Tl (ppm)	S (%)	Ga (ppm)	Se (ppm)
SJ05-MB-031L	15	0.64	0.101	47	100.5	0.89	169	0.044	4	2.21	0.01	0.41	0.1	0.85	16.9	0.3	0.09	9	-0.5
SJ05-MB-032L	15	0.6	0.174	7	100.1	1	325	0.162	5	1.85	0.01	0.93	0.1	0.03	2.8	0.3	-0.05	7	-0.5
SJ05-MB-033L	15	1.93	0.089	24	35.1	0.52	121	0.02	3	1.04	0.005	0.32	0.1	0.11	5.1	0.2	-0.05	4	-0.5
SJ05-MB-043L	15	0.72	0.192	24	78.4	0.98	158	0.1	4	1.96	0.011	0.81	0.1	0.04	6.3	0.3	-0.05	10	-0.5
SJ05-MB-044L	15	3.15	0.146	22	37.1	0.79	212	0.025	7	1.55	0.012	0.4	0.3	0.07	5.9	0.2	-0.05	5	0.7
SJ05-MB-045L	15	0.48	0.092	31	35	0.53	163	0.018	3	1.2	0.007	0.35	0.1	0.07	6.5	0.2	-0.05	5	-0.5
SJ05-MB-046L	15	0.73	0.219	31	77	1.06	100	0.164	1	2.03	0.012	0.76	-0.1	0.03	4.2	0.6	-0.05	10	-0.5
SJ05-MB-048L	15	0.87	0.187	19	67.5	0.98	139	0.145	4	2.2	0.012	0.97	-0.1	0.05	3.3	0.5	-0.05	10	-0.5
SJ05-MV-004L	15	0.87	0.229	17	111.5	1.06	165	0.119	4	2.3	0.011	0.66	0.1	0.06	8.4	0.3	-0.05	12	-0.5
SJ05-MV-005L	15	0.44	0.162	17	72.6	0.9	152	0.134	2	1.92	0.009	0.83	0.1	0.03	3.9	0.4	-0.05	8	-0.5
SJ05-MV-006L	15	0.54	0.158	14	92.4	1.08	150	0.17	3	1.97	0.011	1.02	0.1	0.03	4.1	0.5	-0.05	10	-0.5
SJ05-MV-007L	15	0.66	0.127	20	51.7	0.71	84	0.078	6	1.58	0.009	0.56	0.1	0.06	5.4	0.3	-0.05	8	-0.5
SJ05-MV-008L	15	0.61	0.194	11	120.8	1.21	152	0.174	3	2.15	0.011	1.07	-0.1	0.02	3.7	0.4	-0.05	10	-0.5
SJ05-MV-009L	15	0.7	0.201	6	163.8	1.25	205	0.209	3	2.25	0.01	1.28	-0.1	0.02	5.5	0.4	-0.05	9	-0.5
SJ05-MV-010L	15	0.85	0.252	16	109.2	1.28	197	0.192	3	2.29	0.014	1.18	-0.1	0.03	4.1	0.4	-0.05	10	-0.5
SJ05-MV-011L	15	0.73	0.223	27	95.3	1.04	128	0.162	2	1.85	0.011	0.99	0.1	0.04	5.2	0.4	-0.05	9	-0.5
SJ05-MV-012L	15	0.49	0.188	28	80.9	1.01	108	0.101	3	1.7	0.018	0.51	0.1	0.06	8.1	0.3	-0.05	9	-0.5
SJ05-MV-013L	15	0.58	0.187	31	66.1	0.78	111	0.08	3	1.63	0.01	0.49	0.1	0.08	8.1	0.3	-0.05	8	-0.5
SJ05-MV-015L	15	0.28	0.08	16	54.9	0.68	96	0.101	3	1.49	0.008	0.57	0.1	0.04	3.5	0.3	-0.05	7	-0.5
SJ05-MV-016L	15	0.69	0.23	32	82.9	1.21	133	0.184	2	2.17	0.013	1.22	-0.1	0.02	3.9	0.5	-0.05	10	-0.5
SJ05-MV-017L	15	0.6	0.177	19	72.45	1.07	104.5	0.163	2	2.18	0.0125	1.05	-0.1	0.045	3.35	0.45	-0.05	9.5	-0.5
SJ05-MV-018L	15	0.63	0.157	22	76	1.12	187	0.171	2	1.98	0.013	1.04	0.2	0.03	4.6	0.5	-0.05	10	-0.5
SJ05-MV-020L	15	0.1	0.018	6	50.8	0.82	146	0.233	2	2	0.015	1.12	0.1	0.02	8	0.5	-0.05	8	1.7
SJ05-PM-030L	15	2.69	0.124	19	40.2	0.57	100	0.01	4	1.04	0.006	0.28	0.1	0.49	7.5	0.1	0.07	4	0.5
SJ05-PM-031L	15	0.51	0.065	11	15	0.26	127	0.006	5	0.71	0.006	0.26	0.2	0.28	3.1	0.1	0.11	2	0.7
SJ05-PM-032L	15	0.81	0.234	38	95.1	1.1	147	0.131	3	2.22	0.01	0.85	-0.1	0.06	7.7	0.4	-0.05	11	-0.5
SJ05-PM-033L	15	11.07	0.121	8	27.1	0.73	203	0.007	7	0.73	0.007	0.2	0.3	0.13	7.7	0.1	0.09	2	0.5
SJ05-PM-034L	15	0.59	0.164	22	56.6	0.81	73	0.1	2	1.67	0.007	0.68	0.2	0.03	3.8	0.4	-0.05	8	-0.5