

FORM 43-101F1

TECHNICAL REPORT

**SUMMARY REPORT  
ON THE  
GREATER CANGREJOS PROPERTY  
SOUTHWEST ECUADOR**

MINERAL TITLES  
LOS CANGREJOS, CANGREJOS 1, CANGREJOS 2,  
CANGREJOS 4, CANGREJOS 5, CANGREJOS 10,  
CANGREJOS 11, CANGREJOS 12,  
ESTERO ZAPATO, TADAO,  
CACIQUE and LAS CANARIAS,

Geographic Coordinates  
Centred at about  
3° 30' S  
79° 50' W

Ecuadorian 1: 100 000 map sheet  
Santa Rosa  
CT-NVI-C

Prepared for

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## SUMMARY

This report updates the previous NI 43-101 technical report dated 27 May 2004 by describing progress on the Greater Cangrejos property of Odin Mining and Exploration Limited (“Odin”) over the last six years. The effective date of the report is December 01, 2010.

In May 2007 the name of the property was changed from “Cangrejos” to “Greater Cangrejos” to mark the inclusion of the two concessions of the Castro block into the eastern side of the property. The Greater Cangrejos property now consists of twelve concessions ( mineral titles) covering 5,594 hectares plus the surface rights over about 540 hectares of land in critical locations with respect to the potential drill targets.

The Greater Cangrejos property is located in southwest Ecuador, some 200 km south of Guayaquil, Ecuador’s main city and principal port. The property is located in mountainous terrain on the western edge of the Andes, only 40 km inland from the port of Puerto Bolivar and 30 km inland from Machala, the capital of El Oro province.

The Greater Cangrejos property covers parts of a large gold-copper porphyry system within a quartz diorite intrusion of assumed Miocene age. Different parts of the system are considered to be highly prospective for

1. low-grade, large-tonnage, gold (+Cu) mineralization of porphyry-type
2. higher-grade, smaller-tonnage, gold ( $\pm$ Cu) mineralization along faults and fractures and in associated stockworks and shatter zones

From 1994 to 2001 all the concessions now comprising the Greater Cangrejos property were included in a large exploration project, known as the El Joven Joint Venture. This joint venture had been formed between Newmont Overseas Exploration Limited (“Newmont”) (60%), as operator, and Odin (40%) with the objective of locating the hard-rock source of the alluvial gold produced from Odin’s Biron mine (69,000 oz gold recovered). Newmont withdrew from the project in 2001 and transferred the seven concessions covered by Odin’s May 2004 NI 43-101 technical report to Odin.

Newmont tested the porphyry-style mineralization on part of the seven transferred concessions with thirteen diamond drill holes. Seven of these returned intersections greater than 70 m at a 0.5 g/t Au cut-off, as described in Odin’s 2004 NI 43-101 technical report. However, the number and location of these holes is insufficient to permit the estimation of any formal mineral resource.

From late 2005 until early 2007 Odin carried out sporadic fieldwork on the Cangrejos property. In May 2007 Odin concluded an agreement with Mr Francisco Castro Sanchez to add his block of two concessions to the Cangrejos property and thereby to fill in the obvious gap on the eastern side of the property. This agreement gave Odin access to information on a fourteenth diamond drill hole located well away from the other thirteen.

The fieldwork of all exploration companies operating in Ecuador was brought to an abrupt stop on 18 April 2008 when the Ecuadorian National Constitutional Council accepted the so-called Mining Mandate. The acceptance of this mandate imposed a moratorium on all metalliferous mining and mineral exploration in Ecuador until such time as a new Mining Law could be brought into effect. It also led, within a few months, to the cancellation of the majority of mining titles in Ecuador.

The acceptance of the Mining Mandate created huge uncertainty as to the practicality of future metalliferous mineral exploration and mining in Ecuador. A new Mining Law was promulgated on 29 January 2009. However, it was not until the accompanying Mining Regulations were published on 16 November 2009 that metalliferous mineral exploration could begin again.

After a hiatus of 20 months, Odin was able to restart fieldwork on the Greater Cangrejos property in January 2010. At the end of March 2010, Odin submitted to the Ecuadorian mining authorities a formal fieldwork budget for 2010 for all the Greater Cangrejos concessions combined of US\$ 565,000. This overall budget includes the drilling of 6 x 200 m diamond drill holes at an estimated marginal cost (inclusive of access construction, logging, sampling and assay) of US\$ 182,700.

Four of the currently proposed drillholes are targeted on the Cacique area in the Castro concession block. These holes are located away from the area of low-grade, porphyry-style mineralization drilled by Newmont in 1999/2000 and are targeted on zones interpreted to have potential for the discovery of a higher-grade, structurally-controlled style of gold mineralization above and peripheral to the main area of porphyry-style mineralization. The one, isolated hole drilled in this area by Newmont in 2000 contained an intersection of about 2.6 g/t gold (with around 0.2% copper) over a borehole width of 22 m associated with an obvious fracture zone.

The other two currently proposed drillholes are located along the Trinchera and Paloma mineralized trends, where Newmont's drilling in 1999/2000 encountered significant intersections of low grade, porphyry-style, gold-copper mineralization, including 1.6 g/t gold (plus 0.2% copper) over 192 m in hole C00-14. Odin's principal objective here is test for possible zones of higher grade material within the envelope of low-grade, porphyry-style mineralization itself, comparable to the 3.1 g/t gold (plus 0.3% copper) over 46 m contained within the C00-14 intersection.

The above targeting is based on geological interpretation of the available geochemical, geophysical and borehole data. Such targeting is by its nature conceptual and only the drilling results themselves will establish how closely the interpretation approximates the reality at depth.

At the effective date of this report, the final permits authorizing the drilling were still pending, and Odin cannot start the proposed drill program until these are received.

## 1. INTRODUCTION AND TERMS OF REFERENCE

The Greater Cangrejos property of Odin Mining and Exploration Limited (“Odin”) is located in southwest Ecuador (Figure 1). The property consists of twelve concessions (mineral titles) (Appendix 1) with a combined area of 5,594 hectares plus control over a land holding of about 540 hectares located over the main target areas (Figure 2).

Between 27 May 1994 and 01 August 2001 Newmont Overseas Exploration Limited (“Newmont”) explored the Greater Cangrejos property as operator of the El Joven Joint Venture (Newmont 60% / Odin 40%). Much of the geological data and all the borehole data reviewed are derived from the results of that work. However, as Odin’s exploration progressively generates its own information, the geological interpretation of the property becomes less reliant on the results of the Newmont work.

Odin commissioned this report to review the advances in the geological knowledge of the property since the May 2004 report and to provide a detailed presentation of the currently proposed diamond drilling program included in the formal work program and budget for 2010 submitted to the Ecuadorian Mining authorities at the end of March 2010 as part of the obligatory annual reporting process. This proposed drill program consists of six diamond drill holes with a minimum total advance of 1,200 m.

This new drilling program commits to only about 20% of the drilling proposed in Odin’s 2004 NI 43-101 technical report (Potter, 2004). However, the new program focuses on completely different target areas. The drilling program proposed in the May 2004 report remains generally valid, and Odin may yet implement it, probably in a modified form, at some future date.

I have a long standing, familiarity with the project since Odin first applied for mineral titles over the area in mid-1992. While Chief Geologist in Ecuador for Odin and its predecessors from 1989 to mid-1998 I was loosely involved in the initial (pre-drilling) stage of the El Joven Joint Venture. However, since mid-1998 I have been an independent consultant in mineral exploration working mainly in the ex-Soviet Union and now in Southern Africa. Since writing Odin’s 2004 NI 43-101 technical report on the property, I have held a watching brief on continuing developments on the property and I have signed off as the qualified person on most of Odin’s technical work. I have made at least one short field visit to the property each year since writing the 2004 NI 43-101 technical report. My last field visit to the property was September 10-13, 2010, and was made specifically in connection with the preparation of this report.





Figure 1: Location of the Greater Cangrejos Property

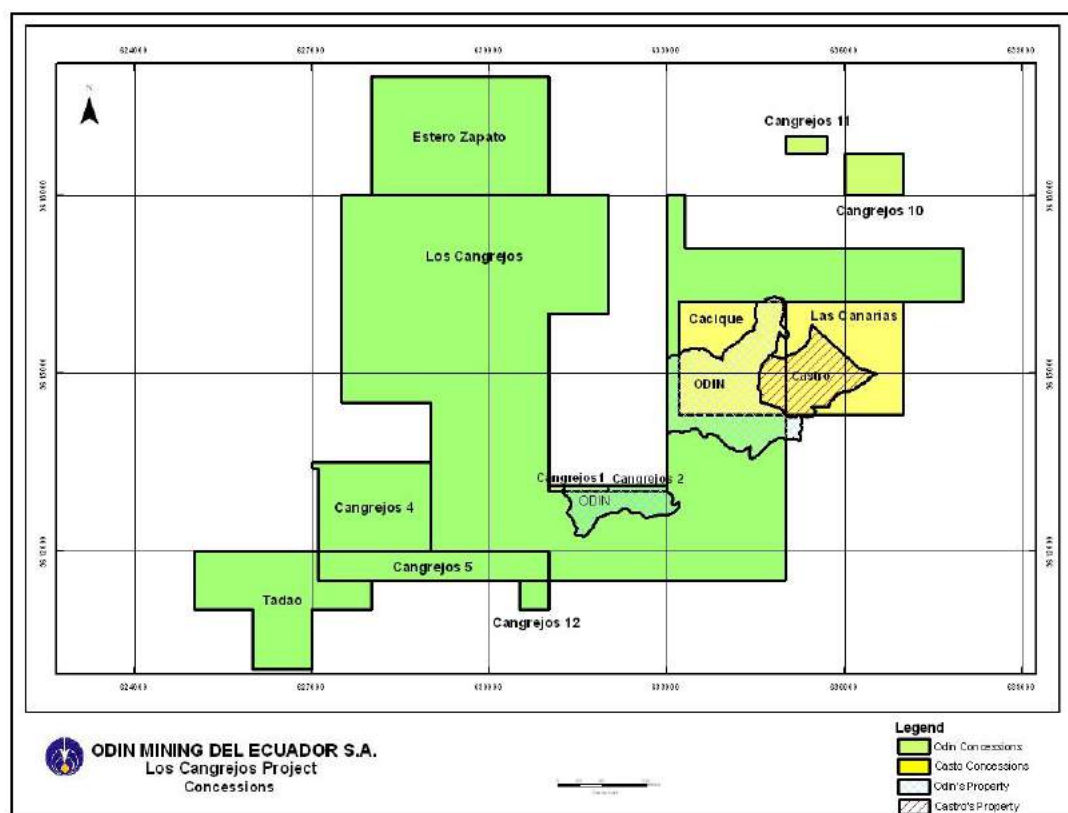


Figure 2: Composition of Odin's Greater Cangrejos Property

## **2. RELIANCE ON OTHER REPORTS**

Odin's initial NI 43-101 technical report on the Cangrejos property dated May 27, 2004 (Potter, 2004) relied heavily on the contents of the data package that Newmont supplied to Odin on withdrawing from the El Joven Joint Venture in 2001. This data package (Newmont, 2001a) consisted of a series of working plans, summary borehole logs and draft geological sections with supporting information on three compact discs. The information package did not contain a formal closure report, and written documentation was limited to a file of brief monthly reports and a short project summary prepared a year before Newmont's withdrawal (Mayor and Soria, 2000).

The closure of the Newmont office in Ecuador in late 2001 and the retrenchment or reassignment to other countries of the technical staff involved in the project resulted in a significant knowledge loss. However, Ing. Francisco Soria, Newmont's former project geologist at Cangrejos, was very helpful in filling some of the gaps. Nevertheless, shortcomings still remained in the Newmont data - especially with respect to details of the pits-to-bedrock program, the various geophysical surveys and the surveying methods.

None of the missing information has been forthcoming during the six years since the writing of the 2004 NI 43-101 technical report. Consequently, it is now reasonable to assume that the missing information is irretrievably lost. Nevertheless, Odin still remains open to the possibility that some of the missing data may eventually reappear. However, as Odin advances its own geological studies and builds its own exploration databases, Odin's reliance on the Newmont information progressively decreases.

The Ecuadorian Government introduced a new mining law on January 29, 2010, and the regulations needed for the practical implementation of that law came into effect on November 16, 2010. Appendix 2, prepared by Odin's legal adviser in Ecuador, presents a summary of the most important parts of the current Ecuadorian regulatory environment as it applies to Odin and its Greater Cangrejos property.

### 3. PROPERTY DESCRIPTION AND LOCATION

The Cangrejos property is located on the western side of the Andes in the canton of Santa Rosa in El Oro province in southwest Ecuador (Figure 1). It lies 200 km south of Guayaquil (population 2,500,000), Ecuador's principal economic centre, and 30 km to the southeast of Machala (population 250,000), the capital of El Oro province.

The property consists of twelve concessions (mineral titles) covering a total area of 5,594 hectares. Ten concessions form a single block covering 98.4 % (5,503 hectares) of the total area. The other two concessions, comprising 1.6 % (91 hectares) of the total area, occur as two isolated areas to the northeast of the main block (Figure 2).

Odin also controls about 540 hectares of land located over the most important target areas (Figure 2). After acquiring control of about 160 hectares via its agreement with Mr Castro, Odin bought outright another 380 hectares from other parties.

Ten of the concessions comprising 4,872 hectares (87.1% of the total concession area) (Table 1) are fully owned by Odin through its 100% owned Ecuadorian subsidiary Odin Mining del Ecuador SA. Eight of these concessions (4,791 hectares) are in the main block and the others comprise the two, small outlying concessions (91 hectares).

Odin is purchasing the other two concessions (Cacique and Las Canarias) comprising 722 hectares (12.9 % of the total concession area) from Mr Francisco Castro Sanchez ("Castro") according to the terms of a binding letter of agreement announced on May 08, 2007 (Odin, 2007a) and approved by the TSX-V on September 20, 2007 (Odin, 2007b).

The terms of the agreement allowed for the following payments by Odin to Castro to purchase the Cacique and Las Canarias concessions and about 160 hectares of land:

1. December 31, 2007	US\$ 80,000
2. September 20, 2008	US\$ 80,000
3. September 20, 2009	US\$ 180,000
4. March 20, 2010	US\$ 660,000
5. March 20, 2011	<u>US\$ 1,000,000</u>
TOTAL	US\$ 2,000,000

Odin made the first payment of US\$ 80,000 due on December 31, 2007 as scheduled. However, in view of the force majeure event produced by the acceptance of the Mining Mandate by the Ecuadorian Constitutional Council in April 2008, Odin and Castro agreed to suspend further payments until the legal situation clarified.

Ecuador's new Mining Law was enacted on 29 January 2009. However, the Mining Regulations required for the practical implementation of that law did not come into effect until 16 November 2009. Having been given informal indication by Odin that all twelve Greater Cangrejos concessions were apparently secure (although still subject to formal confirmation under the new regulatory regime), Odin and Castro agreed to reschedule payments as follows (Odin/Castro, 2009; Ledesma, 2010a):

1. December 31, 2007	US\$ 80,000 - paid
2. December 20, 2009	US\$ 80,000 - paid
3. September 20, 2011	US\$ 180,000 – next payment due
4. June 20, 2012	US\$ 660,000
5. June 20, 2013	<u>US\$ 1,000,000</u>
TOTAL	US\$ 2,000,000

The initial May 2007 agreement also contained a commitment by Odin to spend US\$ 500,000 on exploration of the Castro properties by September 20, 2009. Odin and Castro agreed to extend the deadline to reach this expenditure level by 18 months from the December 20, 2009 payment listed above (ie to June 20, 2011).

On May 26, 2010, Odin announced that it had received notice from the Ministry of Mines that all twelve mineral titles had been confirmed (“substituted”) under the new law and regulations (Odin, 2010b). The twelve substituted licences were re-registered with a public notary, and they are now scheduled to expire on various dates in the early 2030s (Table 1).

Name	Code	Current Title Holder	Area (ha)	Award Date	Initial Registration Date	Substitution Date	Reregistration Date	Validity After Reregistration	Expiry Date
<b>Los Cangrejos</b>	2847	Odin	3,300	06 Aug 01	21 Aug 01	4 May 10	25 May 10	21yrs 3mths 4days	29 Aug 31
<b>Cangrejos 1</b>	300071	Odin	10	06 Aug 01	21 Aug 01	4 May 10	25 May 10	21yrs 3mths 4days	29 Aug 31
<b>Cangrejos 2</b>	300067	Odin	10	06 Aug 01	21 Aug 01	4 May 10	25 May 10	21yrs 3mths 4days	29 Aug 31
<b>Cangrejos 4</b>	300183	Odin	286	18 Sep 01	20 Sep 01	5 May 10	25 May 10	21yrs 4mths 16days	11 Sep 31
<b>Cangrejos 5</b>	300185	Odin	195	18 Sep 01	20 Sep 01	4 May 10	25 May 10	21yrs 4mths 16days	11 Sep 31
<b>Cangrejos 10</b>	300972	Odin	70	03 Sep 04	30 Sep 04	6 May 10	25 May 10	24yrs 4mths 0days	25 Sep 34
<b>Cangrejos 11</b>	300971	Odin	21	03 Sep 04	30 Sep 04	4 May 10	25 May 10	24yrs 4mths 1day	26 Sep 34
<b>Cangrejos 12</b>	300977	Odin	25	20 Oct 04	15 Nov 04	4 May 10	25 May 10	24yrs 5mths 18days	13 Oct 34
<b>Estero Zapato</b>	4112	Odin	600	06 Aug 01	21 Aug 01	6 May 10	25 May 10	21yrs 5mths 13days	7 Nov 31
<b>Tadao</b>	3330	Odin	355	06 Aug 01	21 Aug 01	7 May 10	25 May 10	21yrs 3mths 1day	26 Aug 31
<b>Cacique</b>	5114	Castro	342	17 Oct 01	07 Nov 01	6 May 10	25 May 10	21yrs 3mths 1day	26 Aug 31
<b>Las Canarias</b>	2649.1	Castro	380	11 Oct 01	05 Nov 01	6 May 10	25 May 10	21yrs 3mths 7days	1 Nov 31

Table 1: Greater Cangrejos Mineral Titles (Concessions) – Basic Data

*(Table supplied by Odin's lawyers in Quito and forwarded by Ledesma (2010b))*

#### 4. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

##### Accessibility

The Pan-American Highway runs southwards from Guayaquil to the outskirts of Machala (Figure 1). It then continues towards the Peruvian border through the small country town of Santa Rosa (Figure 3). In the past, during dry weather only, 4 x 4 vehicles have been able to reach Odin's main field camp by following the tarred road from Santa Rosa towards the town of Piñas (Figure 3). From a turnoff about 5 km west of Piñas a gravelled road leads northwards to a winding dirt track that, after about 30 km of progressively rougher going, arrives at Odin's main field camp located near the site of the currently proposed drilling program. This track is now being upgraded to facilitate the passage of 4 x 4 vehicles during the rainy season (Carvajal, 2010).

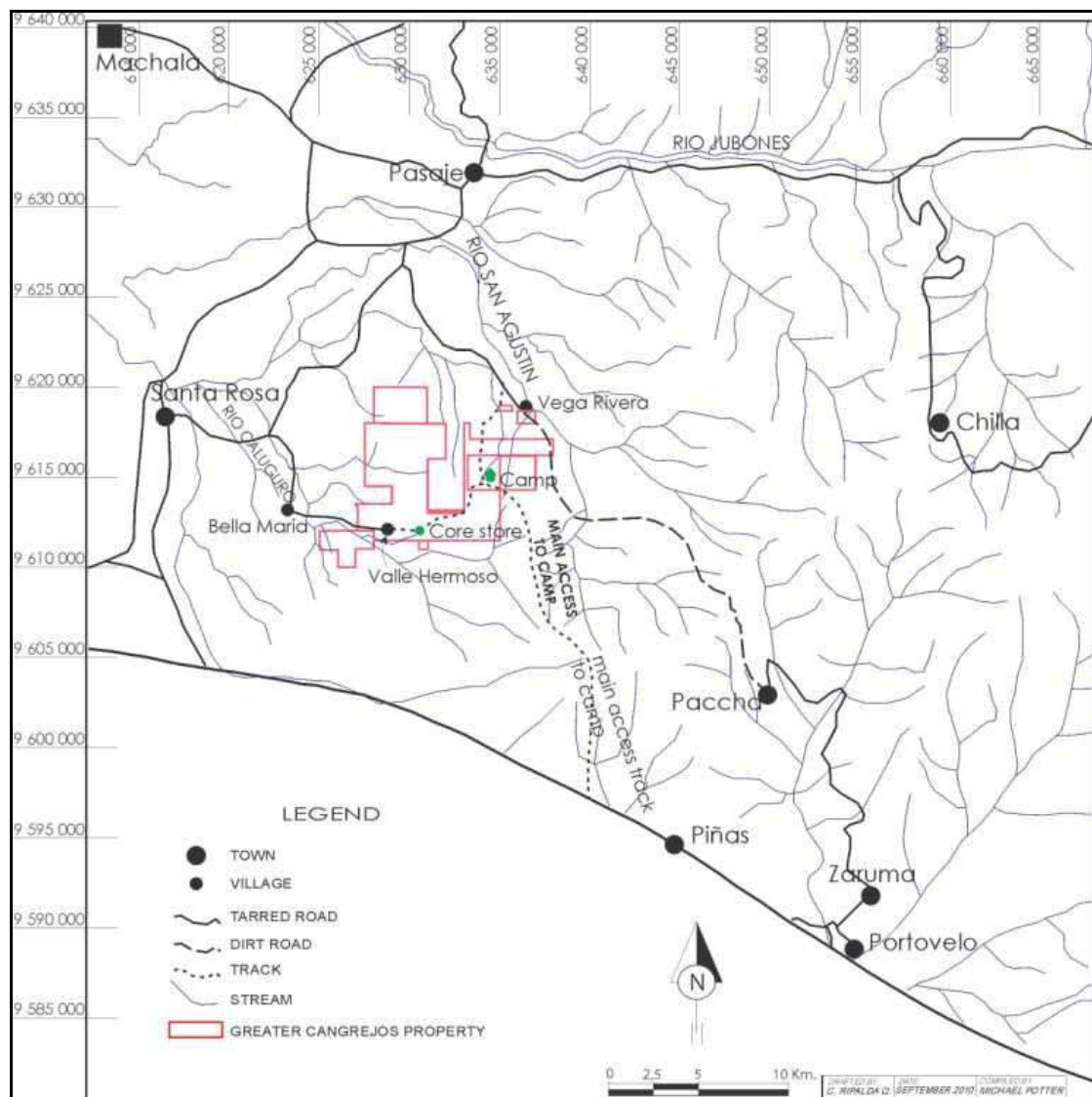


Figure 3: Access to the Greater Cangrejos Property

The southern side of the Greater Cangrejos property can be reached via a minor tarred road from Santa Rosa through the village of Bella Maria to the hamlet of Valle Hermoso. A dirt track leads from Valle Hermoso to Odin's core storage shed at the old Newmont campsite. From there a very muddy, bulldozed track leads up the mountain from the core storage shed to Odin's main field camp. The northern side of the property can be reached by a good tarred road from Machala to the town of Pasaje and then by minor tarred road to the hamlet of Vega Rivera. Another rough, bulldozed track leads up the mountain from Vega Rivera to Odin's main field camp. Both these bulldozed tracks are in poor condition and are currently only passable by pedestrians and mules.

### Climate

The climate varies from humid tropical at near sea-level elevations to more temperate at higher elevations (Auditoria Ambiental Limitada, 1998).

The average annual temperature varies from 21-24 °C, and the average annual rainfall ranges from 700 mm to 1400 mm with a marked concentration in the first 6 months of the year. The high level of precipitation, constant humidity and frequent mists, especially at higher altitudes, result from convective effects as damp winds from the sea are driven along the river valleys until forced to rise on meeting higher ground. This environment can make for challenging fieldwork conditions, especially during the rainy season.

Climatic data from relevant neighbouring measuring stations within El Oro province are given in Table 2.

Station	Altitude (m amsl)	Temp (deg C)	Precipitation (mm)	Years	Dry Mnths per year
Pasaje	15	24	770	9	6
Santa Rosa	10	25	406	7	8
Zaruma	1150	22	1340	8	6

Table 2: Climate Data for Locations near the Greater Cangrejos Property

Although further away (Figure 3), the higher elevation of Zaruma means that its climate gives a better approximation to the climate of much of the Greater Cangrejos property than that of either Santa Rosa or Pasaje.

Periodically the west coast of Ecuador is subject to torrential rains resulting from the El Nino effect. The last two major events occurred in 1982/83 and 1997/98. The latter event resulted in direct damage within Ecuador estimated at US\$ 770 million and total damage estimated at US\$ 2.6 billion (UCAR, 2007). It is clearly prudent to suspend field activities on the property during these rains. In addition, the construction and operation of any future mine will have to allow for the periodic occurrence of these abnormal climatic conditions (as well as possible major earthquakes).

The general area is historically associated with small scale mining, and Odin has operated here for several decades. As far as Odin is aware, the area is free of any issues associated with land claims by indigenous peoples (Ledesma, 2010c).

**Local resources and infrastructure**

Guayaquil has all the facilities to be expected in Ecuador's largest city (population 2,500,000), leading economic centre and principal port. These include an international airport with direct links to the USA, to South and Central America and to Europe.

Machala (population 250,000) located approximately 30 km to the northwest of the Cangrejos property is Ecuador's fourth largest city and the capital of El Oro province. It lies on the Pan-American Highway linking Guayaquil to Lima in Peru. The airport has recently been moved to Santa Rosa (Figure 3), and two Ecuadorian airlines, TAME and SAERO, run scheduled daily flights to Quito.

Puerto Bolivar located 9 km to the west of Machala is an important port that handles about 1.8 Mt per year of cargo including the export of about 1.25 million tonnes/year of bananas from the extensive plantations that cover much of the local coastal plain. In addition, Ecuacorriente (now controlled by China Railway Construction Corporation and Tongling Nonferrous Metals Group) propose to build new facilities here to handle the export of concentrate from the proposed Mirador open-pit, copper mine located 400 km away on the eastern side of the Andes (Drobe et al, 2008).

**Physiography**

The Cangrejos property straddles the Cerro Azul ridge (Figure 4). This forms the watershed between the northwesterly flowing Rio Caluguro (also known locally towards its head waters as the Rio Byron and the Rio Piloto) to the southwest and the Rio San Agustin to the northeast. About 60% of the property lies on the southwestern, Rio Caluguro, side of the ridge and about 40% on the northern, Rio San Agustin, side.

The peak of Cerro Azul reaches an elevation of 1005 m above mean sea level. However, the highest point on the ridge occurs at 1385 m at an unnamed point 2 km to the southeast of Cerro Azul itself. The lowest points within Greater Cangrejos property occur at about 100 m where the Rio Caluguro crosses the northern boundary of the Tadao concession. The target areas for the current drilling proposal are located at elevations of about 850m at Trinchera/Paloma and about 1,200 m at Cacique.

The angle of the southern slope averages 20 degrees and that of the northern slope averages 15 degrees. However, locally, slope inclinations may reach 40 degrees, especially at higher elevations,

Agricultural activity (cacao, coffee, maize) is limited to minor areas in the lowest parts of the property well away from the main areas of economic interest. Most of the main target areas for the current drilling proposal are covered by rough grasslands with some forest present locally.



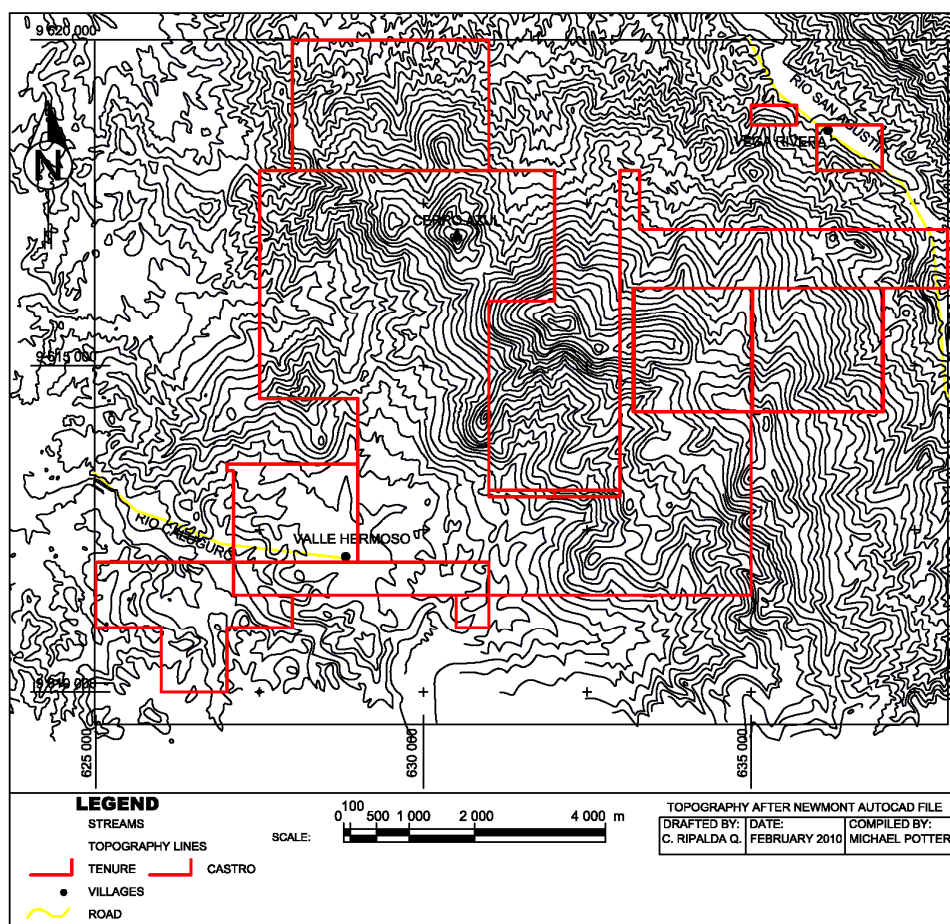


Figure 4: Topography of the Greater Cangrejos Property  
(after Newmont, 2001a)

## 5. HISTORY

From 1987 to 1997, Odin and its precursors mined a total of 176,000 oz of gold from three alluvial deposits in Ecuador (Potter, 2005). The Biron alluvial gold mine on the Rio Caluguro immediately north of Bellamaria (Figure 5) produced 69,000 oz of this total between 1987 and 1995 with the bulk of production occurring in 1993 and 1994 when two floating wash plants were operating.

In mid-1992 Odin initiated an exploration program, the “Source of Biron” project, aimed at locating the hard-rock source of the alluvial gold in the Biron deposit. A blanket application was made for exploration concessions covering the entire Rio Caluguro catchment area upstream from the mine. Immediately thereafter a two-month program of regional stream sediment sampling and geological mapping was carried. This work led to the definition of a number of gold anomalies in the general area of the gold occurrences shown in Figure 5 (Carvajal, 1993).

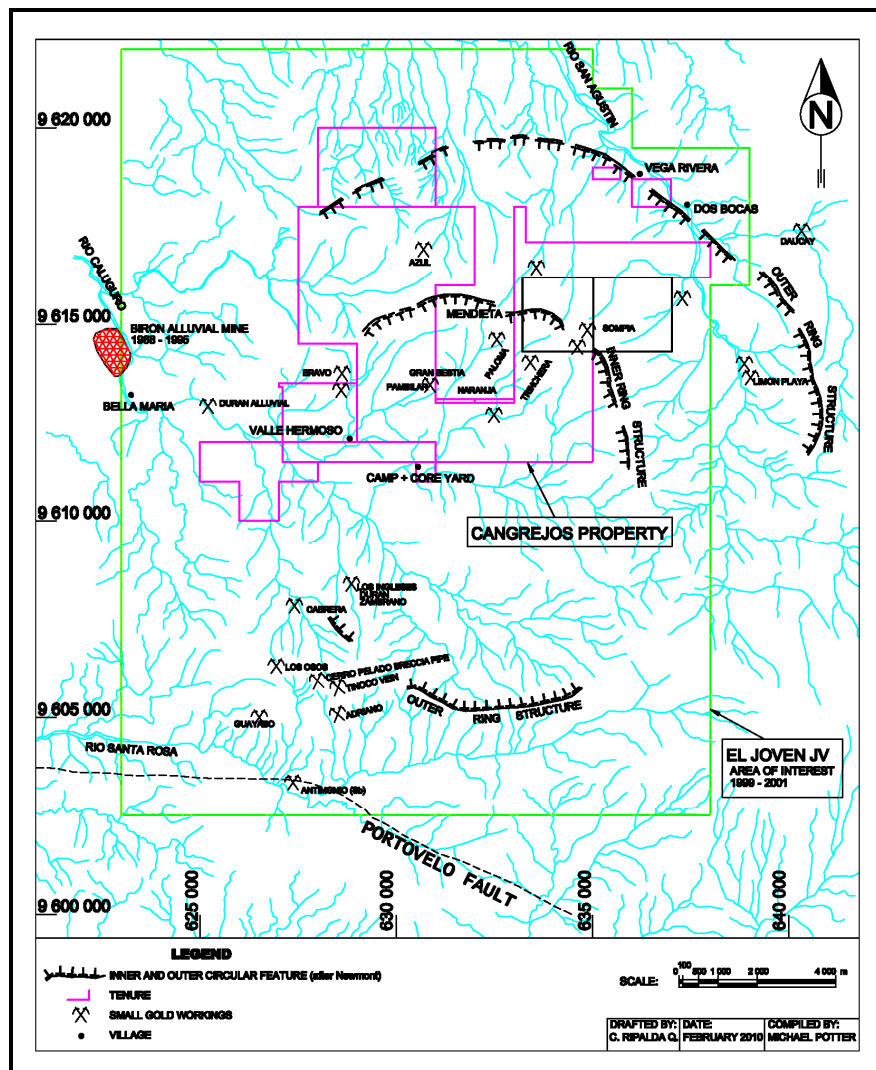


Figure 5: Gold Workings in the El Joven (1994-2001) Joint Venture Area  
(after Carvajal, 1993)

Some anomalies, particularly those arising from active workings on the veins of the Los Ingleses area in the south of Figure 5, outside of the Greater Cangrejos property, were clearly the result of contamination from the activities of local small-scale miners. Nevertheless, the overall extent of the anomalies was sufficiently encouraging for Newmont Overseas Exploration Limited to enter into a joint venture agreement over an area of interest of 22,500 hectares encompassing the whole of the Source of Biron Project area (Figure 6A).

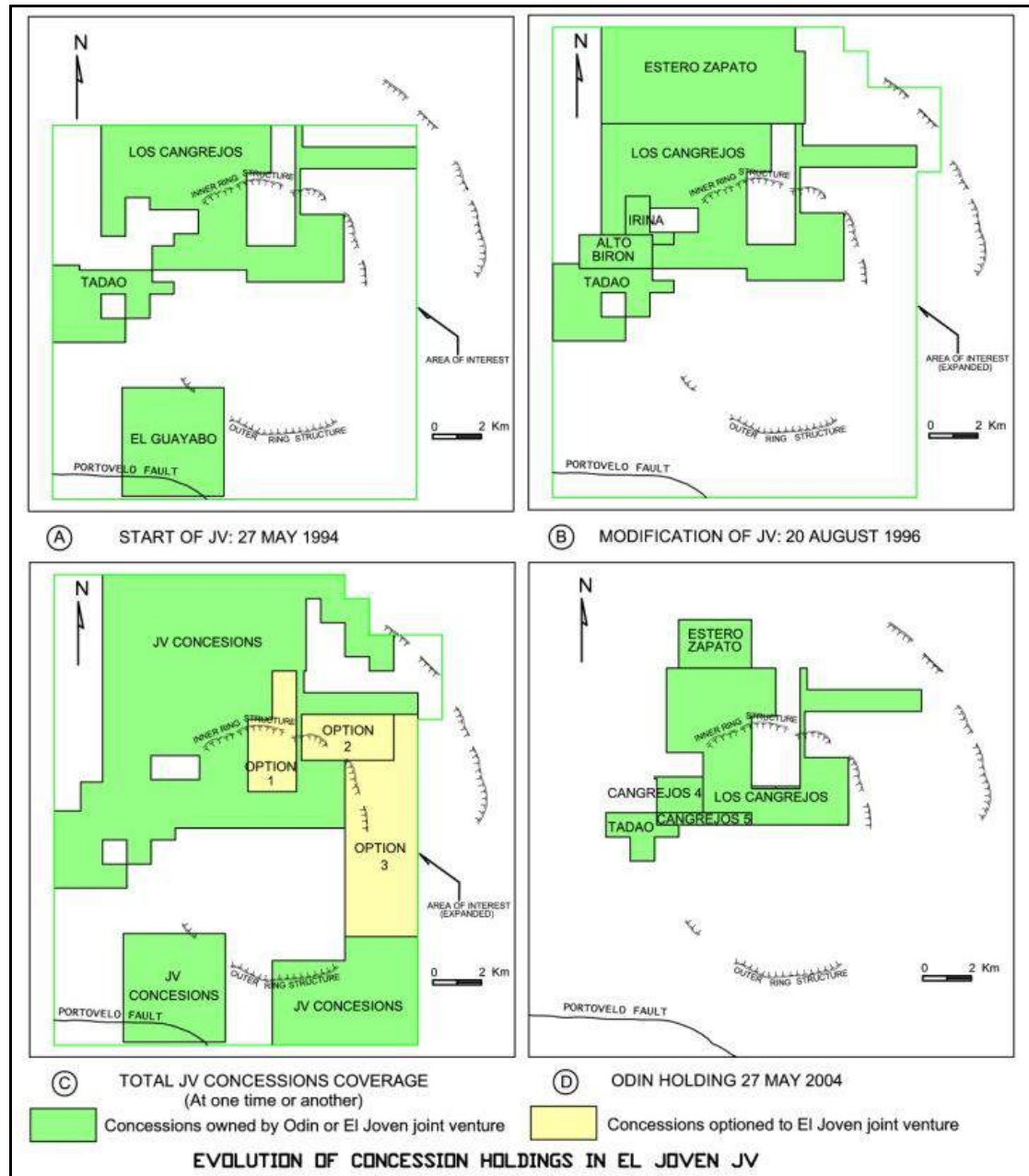


Figure 6: Evolution of the Cangrejos Project 1994-2004

This project was officially called the “El Joven Joint Venture”. Odin held a 40% interest and Newmont held 60% and took operational control. Odin contributed the El Guayabo concession and the Cangrejos and Tadao applications, which at that time were in the final stages of approval, and Newmont agreed to spend a minimum of

US\$ 1.36 million during the first four years and to provide Odin with a free carry through to feasibility (Newmont/Odin, 1994).

Newmont initially concentrated its work in the south of the area on the El Guayabo concession. After drilling 14 holes in this area in 1995, Newmont then shifted its exploration focus to the northern part of the joint venture area.

On 20 August 1996 the joint venture agreement was modified and expanded (Newmont/Odin 1996). The area of interest was increased by about 25% and the El Guayabo concession was removed from the project in exchange for the inclusion of the Estero Zapato, Alto Biron and Irina concessions (Figure 6B).

The sequence of exploration undertaken by Newmont on behalf of the joint venture is summarized in Figure 7. In 1999 and 2000 the work on the northern sector culminated in the drilling of 29 diamond drill holes including 14 holes drilled either in part or totally on the Greater Cangrejos property (inclusive of the Castro concessions). The results from these holes appeared to indicate good potential for widespread disseminated sulfide mineralization with grades of about 1 g/t Au and 0.1% Cu associated with extensive hydrothermal alteration and brecciation within a quartz diorite intrusive cut by intrusive andesites.

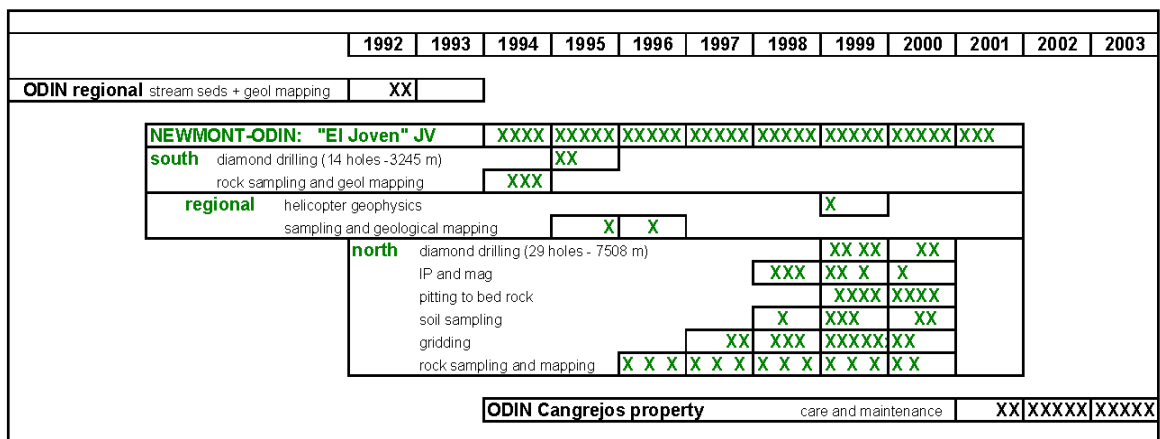


Figure 7: Chronogram of Newmont's Fieldwork on the El Joven Joint Venture Area

While this work was in progress Newmont acquired options over concessions in the east of the area of interest (Figure 6C) and extending outside of the area of interest.

Towards the end of 2000, Newmont carried out a risk and evaluation review of the project. With the gold price at about \$270/oz (London Bullion Market Association, 2000), in order to continue with the project Newmont required strong evidence for the presence of several hundred million tonnes of mineralization at a grade higher than 1 g/t gold (Newmont, 2001b). Newmont did not consider this outcome to be very likely. Consequently, Newmont reduced their work on the project and formally withdrew from the joint venture on 01 August 2001.

On termination of the joint venture, Odin was not financially in a position to accept Newmont's offer to take over the commitments of the entire joint venture (Stow,

2010). Consequently, Newmont terminated the option agreements still in force and sold all the land it had acquired during the life of the joint venture.

In accordance with the terms of the joint venture agreement Newmont transferred back to Odin the seven concessions that Odin had contributed to the joint venture (Newmont/Odin, 2001a,b). These concessions were Los Cangrejos, Cangrejos 1, Cangrejos 2, Cangrejos 4 and Cangrejos 5, Estero Zapato and Tadao with a total area of 4,576 hectares).

Newmont also transferred to Odin all the cores remaining from the drilling on those concessions and an information package. These items formed the basis Odin's May 2004 NI 43-101 technical report on the Cangrejos property.

In early 2000, when the gold price was about US\$ 300/oz (Figure 8), Odin commissioned Mr Henry Awmack of Equity Engineering, Vancouver, to carry out a review of the potential of the property as indicated by the Newmont results and AGRA Simons (now merged into AMEC (Huneault, 2001)) to carry out a conceptual scoping study based on Mr Awmack's conclusions. These studies concluded that the property had the potential for the discovery of enough volume of Au-Cu mineralization at grades of about 1 g/t Au and 0.1 % Cu to support a major open pit operation milling between 5 and 15 million tonnes per year, but that the viability of any future operation would depend on many factors which were essentially unknown at the time of writing (Awmack 2000a,b; AGRA Simons, 2000).



Figure 8: Gold Price History: 1973 – 2010 (24 November)  
( [www.goldprice.org](http://www.goldprice.org) )

The property lay dormant during 2001, 2002 and 2003. However, in early 2004 Odin commissioned Mr Colin Sinclair, an independent, Australia-based, consultant, to conduct a review of all the information available over the entire area of interest of the El Joven Joint Venture.

From 1982-1992 Mr Sinclair had been Managing Geologist / Project Manager for North Limited in Australia and had been closely involved with the development of the Northparkes porphyry copper-gold project (where in the mid-1990s the pre-mining reserve on the largest orebody stood at about 50 Mt at 1.4% copper and 0.4 g/t gold (Mining Technology, 2010)). Odin considered that this experience would be especially useful in providing insight into the porphyry potential of the property.

During the preparation of the his report (Sinclair, 2004b), Mr Sinclair often verbally emphasized a possible comparison between the mineralization at Cangrejos and at Newcrest's large, open-pit, gold-copper Cadia Hill Mine (Sinclair, 2004a). This mine, located about 100 km southeast of the Northparkes mine, initially had a combined proven and probable reserve of about 200 Mt at 0.7 g/t Au and 0.2% Cu (Newcrest Mining Staff, 1998). Today the Cadia district operations have expanded to include both open-pit and underground operations (Wilson et al, 2007; Louthan, 2010).

Shortly after receiving Mr Sinclair's report in early 2004, Odin commissioned Mr Michael Potter, who by then was an independent mineral exploration consultant of over 5 years standing, but who had been Odin's Chief geologist from 1988-1998, to write a NI 43-101 technical report on the Cangrejos property. This report was to include recommendations for a drilling program to test the known geochemical anomalies away from the areas drilled by Newmont with a view to assessing the potential of the property to contain a sufficient tonnage and grade of mineralization to support a large scale (5Mt-15Mt/yr) open pit operation consistent with the conclusions from the Awmack (2000a,b) and AGRA Simons (2000) studies.

The 2004 NI 43-101 technical report (Potter, 2004) proposed a program of 20 scout diamond drill holes totalling 5,000 metres to investigate the potential of the geochemical anomalies away from the area already drilled by Newmont. However, Odin did not implement this program. The Odin Board took the view that the eventual development of any large-tonnage / low-grade mining scenario as conceptualized in the report would eventually require access to the two most important contiguous concession blocks (marked as Option 1 and Option 2 in Figure 6). Therefore, it would be prudent commercially to attempt to consolidate one or both these properties with the Cangrejos property before committing to a large scale drilling program.

In late 2004 Odin acquired four additional concessions (Cangrejos 10, 11, 12 and 13) with a combined area of 3,043 hectares by direct application (Figure 9).

Between November 2005 and February 2006 Odin carried out a top-of-bedrock soil sampling exercise over the Dos Bocas target in the northeast corner of the concession block. Then, in July and August 2006 Odin carried out a similar exercise over the Trinchera/Paloma target in the area drilled by Newmont in 1999 and 2000.

Importantly, on 08 May 2007 Odin reached an agreement with Mr Castro to include the Cacique and Las Canarias concessions with a combined area of 722 hectares in the Cangrejos property (Figure 10). In recognition of this major advance, Odin changed the name of its property from "Cangrejos" to "Greater Cangrejos".



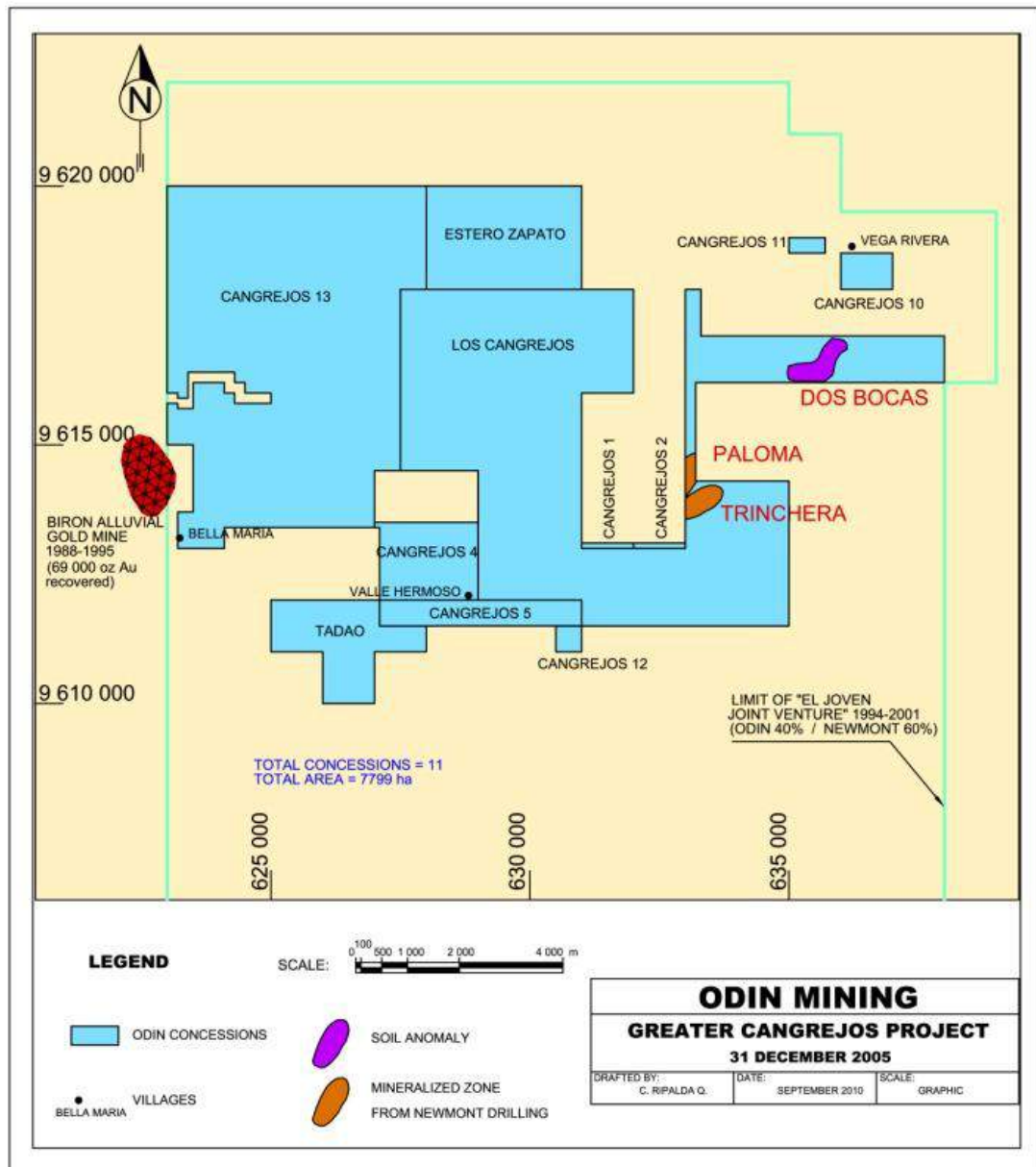


Figure 9: Cangrejos Concessions - 31 December 2005

The acquisition of the Castro concessions was very timely. Even though by mid-2007 the gold price had risen to about US\$ 650/oz (Figure 8), the construction and operation costs for large scale, open-pit mines were rising so rapidly that at least one large project (Galore Creek (Kosich, 2007)) had been suspended even after construction had begun. Consequently, Odin no longer considered the large-scale mining scenario conceptualized in the May 2004 technical report a particularly attractive exploration target. Therefore, Odin moved its first stage exploration focus away from the low-grade, high-tonnage, porphyry-style, gold-copper mineralization emphasized in the 2004 NI 43-101 technical report towards the higher-grade, lower-tonnage, structurally-controlled style of gold mineralization that was speculated to dominate on the Castro concessions.

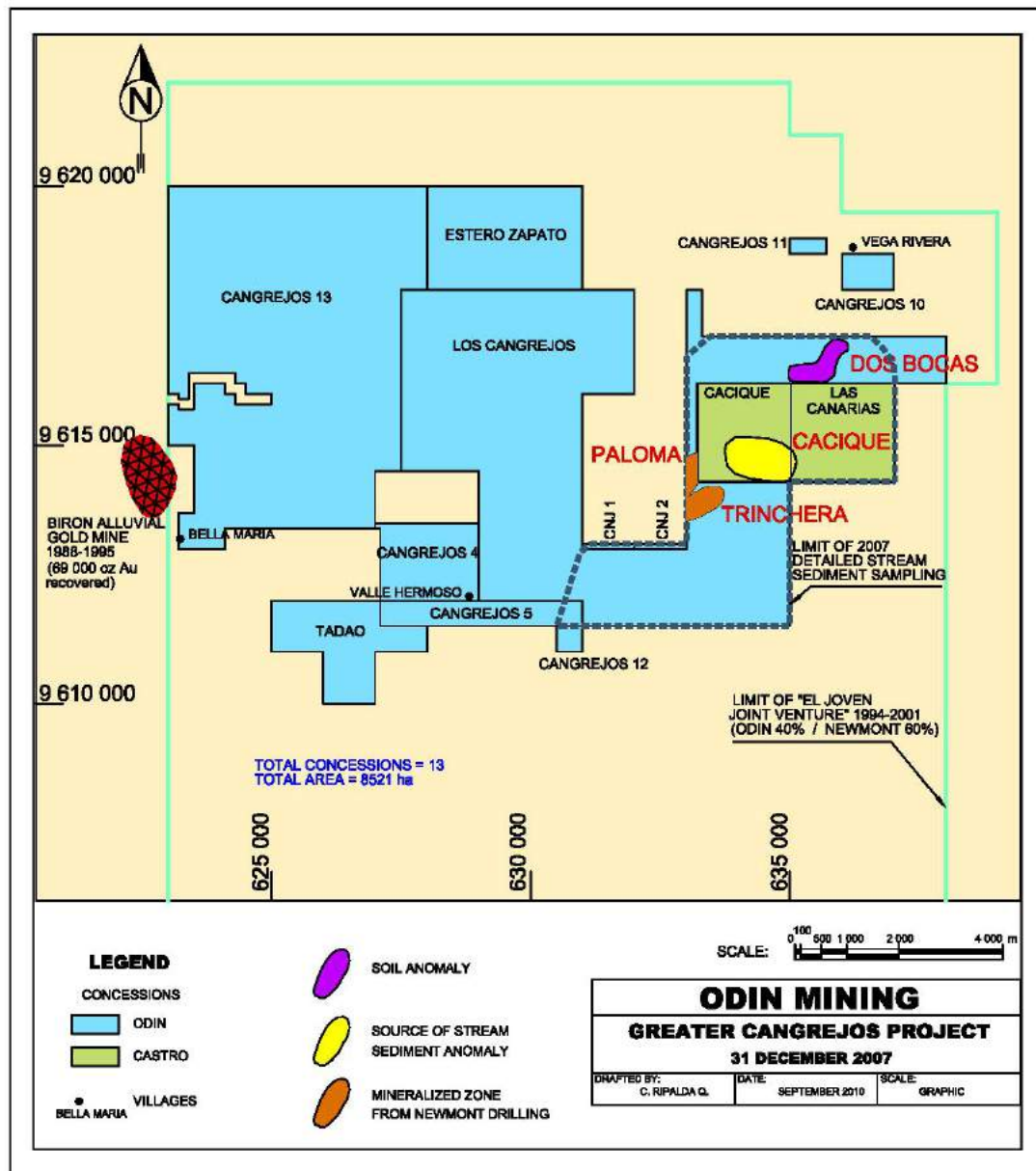


Figure 10: Greater Cangrejos Concessions - 31 December 2007

The Castro agreement included control of about 160 hectares of land. Subsequently, Odin formed the view that, given the uncertain legal, political and social situation prevailing in Ecuador, it would be advisable to own both the mineral and surface rights over the principal areas of interest. The company could then be reasonably assured of being able to carry out its exploration and, eventually, its mine development programs, in a cost effective and timely manner. Consequently, Odin purchased several additional land packages with a total area of approximately 380 hectares in critical locations with respect to its conceptual targets at Greater Cangrejos Odin (Figure 2). The last block of land purchased was registered at the public registrar on May 23, 2008.

Although the letter agreement with Mr Castro did not receive final approval from the TSX Venture Exchange until 27 October 2007 (Odin, 2007b), Mr Castro permitted



Odin to carry out a stream sediment program over his concessions from June to September 2007 (Figure 10). This work was followed by a top-of bedrock soil sampling program over the western half of the Castro block from October 2007 to early April 2008.

Shortly after the agreement with Mr Castro was reached, Mr Bruce McDonald of Encom Technology Pty Ltd, an Australian based software and consultancy company (now Pitney Bowes Business Insight) was engaged to help with the targeting of a future drill program on the combined Odin and Castro properties. Mr McDonald's work combined into a GIS database the ASTER satellite imagery specifically purchased for the project, Newmont's historic heliborne geophysical data (after reprocessing), Newmont's historic diamond drill hole results and the Newmont and Odin geochemical and geological databases. The original work proposal had included the acquisition of high resolution, Quickbird satellite imagery to assist in this task. However, as no suitable cloud free image could be obtained, high resolution, SLAR (Side Looking Aperture Radar) satellite imagery was used instead.

Through March 2008 Odin had been developing a new drill program on the Greater Cangrejos property. Consequently, on April 07, 2008, Odin announced its commitment to a 2,500 m diamond drill program to start in June 2008 and to a fund raising within 30 days to provide finance for the work (Odin, 2008a). However, on April 18, 2008, eleven days after Odin's announcement, but before commitments had been accepted, the Ecuadorian Constitutional Council accepted the so-called Mining Mandate. This not only intended to cancel without compensation the majority of mining titles in Ecuador, but also imposed a moratorium on all metalliferous mineral exploration and mining throughout the country until a new mining law could be brought into effect (Ledesma, 2008). The acceptance of this mandate created huge uncertainty as to the practicality and desirability of continued mineral exploration in Ecuador. Consequently, on April 22, 2008, Odin was obliged to announce the indefinite suspension of its drilling and fund raising plans (Odin, 2008b).

For the first few months after the imposition of the moratorium on exploration and mining, Odin was able to retain its technical staff engaged on office work in Quito. However, from July 31, 2008, Odin was forced to lay-off its entire technical team in Ecuador (Odin, 2008c) and to suspend all technical assistance from outside consultants in order to conserve its cash position. Consequently, Odin's technical work on the Greater Cangrejos property remained at a standstill until the moratorium could be lifted.

The new Mining Law came into effect on January 29, 2009 (Registro Oficial, 2009a). Nevertheless, the moratorium continued as there were no general regulations in place to facilitate the practical implementation of the law.

In March 2009 Odin's Ecuadorian legal team advised that they had informal indication that all Odin's Greater Cangrejos concessions were likely to survive this period of great uncertainty (Odin, 2009a). Nevertheless, at the end of that month Odin voluntarily relinquished the Cangrejos 13 concession (Figure 10) as a non-core asset, (Odin, 2009b). This action reduced Odin's aggregate concession holding at Greater Cangrejos to that still current at the effective date of this report (Figure 11).

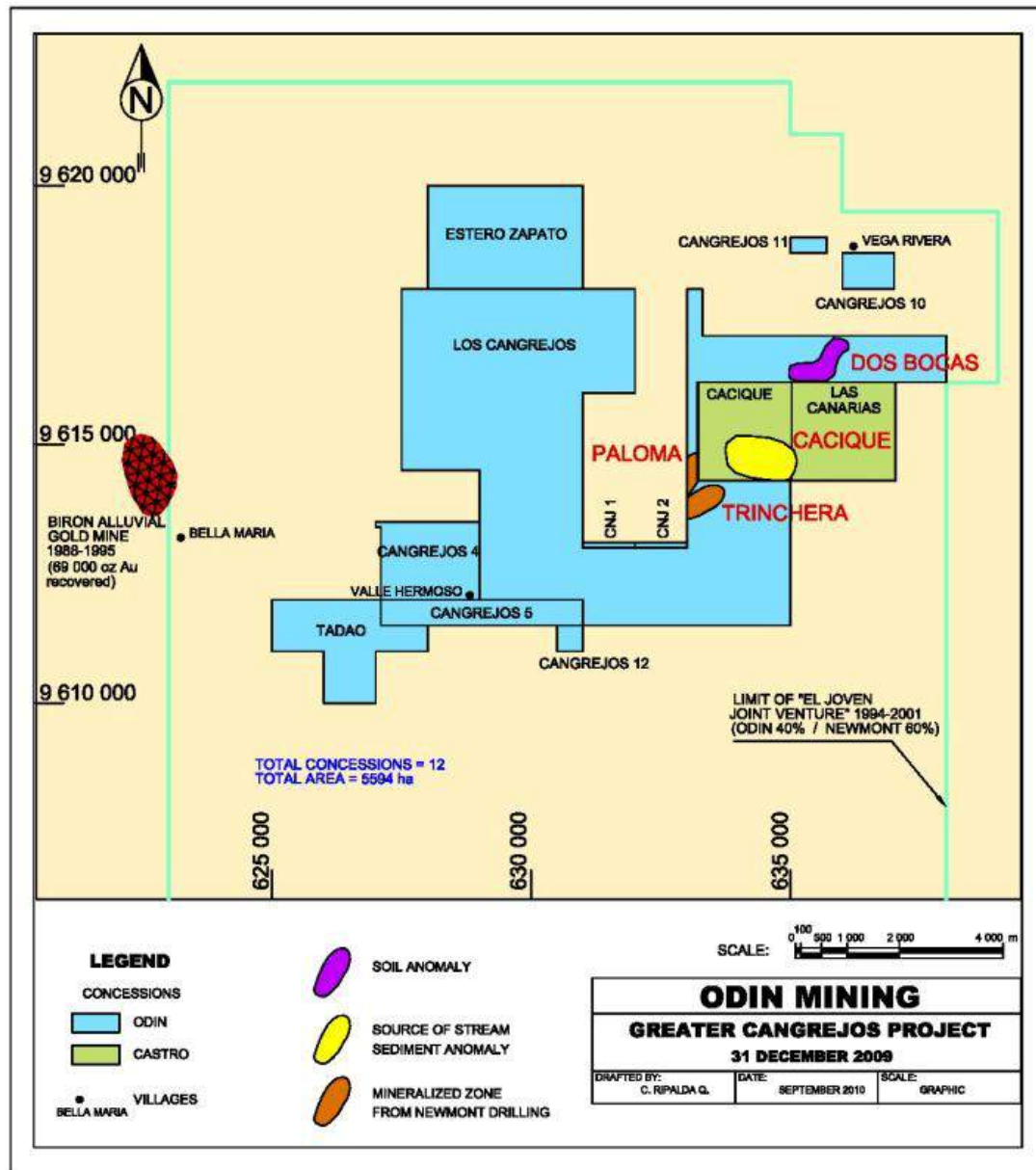


Figure 11: Greater Cangrejos Concessions - 31 December 2009

On November 16, 2009 the general regulations (Registro Oficial, 2009b) needed to implement the new Mining Law of January 29, 2009, were finally brought into effect as required to implement the Mining Law of January 29, 2009, and the mining and mineral exploration moratorium was lifted. However, exploration was now to be conducted in a much more strictly regulated regime than previously, especially with respect to environmental controls, to the provision of formalized evidence of social acceptance within the local community and to a much increased level of government involvement in the approval, review and audit of annual work plans and budgets.

With both the new mining law and regulations in place, the moratorium on mineral exploration lifted and its concessions apparently safe, Odin proceeded to complete a non-brokered private placement to raise CND 1.5 million during December 2009 (Odin, 2009c). This fresh funding allowed Odin to re-engage both its former technical

staff within Ecuador and its external technical advisors, including Mr McDonald who during the period of the moratorium transferred to ASVI Technical Services Group Limited in Kuala Lumpur, Malaysia.

In January 2010 Odin restarted fieldwork on the Greater Cangrejos property with a new top-of-bedrock soil sampling over much the same area as covered previously, but this time following the ridges and spurs rather than on a grid (Odin, 2010a).

Also, in January 2010 the company submitted a revised environmental impact study (Terrambiente, 2010) to begin the process to acquire the necessary permits to enter the “advanced stage of exploration”, which would permit diamond drilling on the property

In its formal exploration plan for 2010 submitted to the Ecuadorian Mining Authorities in March 2009 as part of the obligatory 2009 reporting process, Odin proposed to drill 6 x 200 m diamond drill holes for a total advance of 1,200 m on the Greater Cangrejos property during the year (Odin, 2010a). The planned drilling would test the prospects for both the lower-tonnage, higher-grade, structurally-controlled gold mineralization at Cacique and for higher-grade lenses within the higher-tonnage, lower-grade, and porphyry-style mineralization at Trinchera/Paloma.

In May 2010 Odin received formal confirmation that all twelve of the Greater Cangrejos mining titles had been confirmed as being in good standing under the new mining law and regulations (Odin, 2010b). However, the permits to allow drilling were still pending and seemed unlikely to be available in time to meet the original planned start date for the drilling of August 2010. Consequently, the company rescheduled the start of drilling to October 2010. This start date was also missed, and the final drill permits were still pending at the effective date of this report.

In June 2010, after the completion of the ridge and spur soil sampling Odin embarked on a program of detailed stream sediment sampling to extend the program carried out in 2007 over the eastern side of the property to cover the whole area of the Greater Cangrejos property (Odin, 2010c). This work is now nearly complete, and the anomalies identified will be followed up with top-of-bedrock soil sampling, while waiting for the drill permits to be issued.

## 6. GEOLOGICAL SETTING

### Regional Geology

The general geology of mainland Ecuador is summarized in Figure 12. To the east, in the lowlands of the Amazon jungle, Tertiary and Recent continental sediments overlay the Brazilian craton. In the centre, the Andean Cordillera is only about 150 km wide. Nevertheless, it still has a complex history of terrane accretion onto the western margin of South America (Aspden and Litherland, 1992; Kerr et al, 2002). The northern and central part of the Cordillera hosts several chains of strato-volcanoes of basaltic andesite composition (Windley, 1984). These include the active Cotopaxi, Guagua Pichincha, Sangay and Tungurahua volcanoes (Rosi et al, 2003) and the dormant Chimborazo volcano (at 6,310 m the highest peak in Ecuador). In the west, the flat coastal area is underlain by Tertiary sediments infilling the fore-arc trough in front of the Andean magmatic arc. However, a series of coastal hills to the northwest of Guayaquil expose the Mesozoic-early Cenozoic basaltic basement.

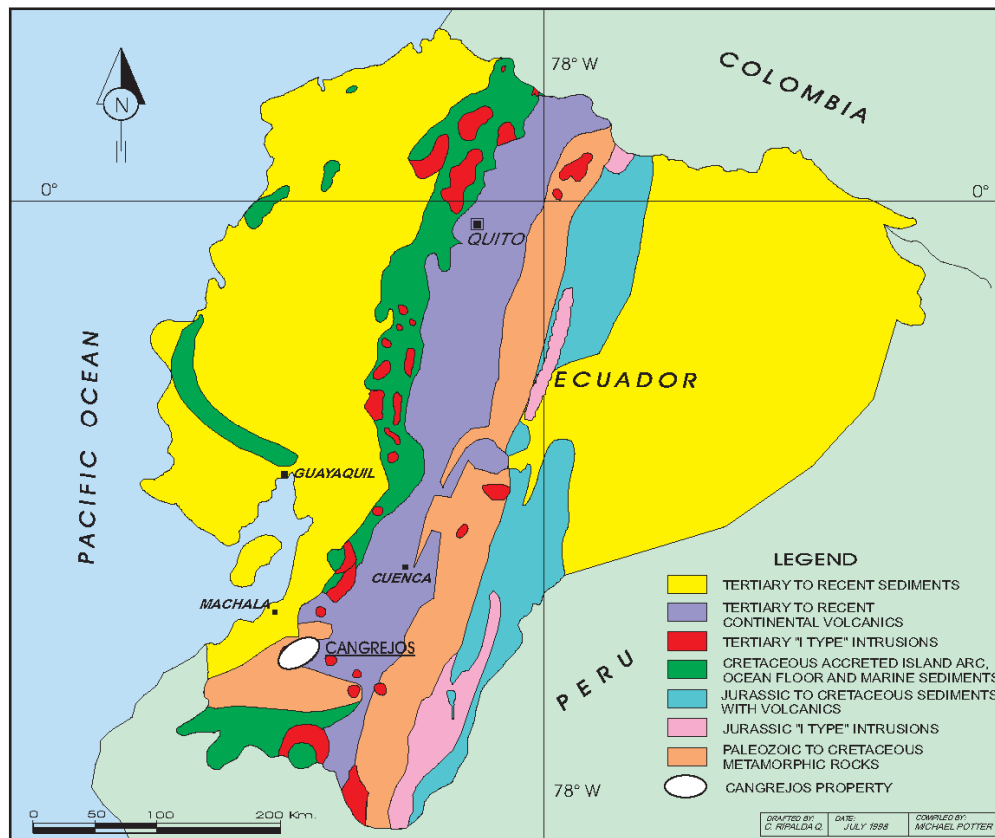


Figure 12: Generalized Geological Map of Ecuador  
(after CODIGEM/BGS, 1993)

The Cangrejos property lies within the zone of influence of the Huancabamba deflection, where the Andean Cordillera makes a distinct change in direction from a northwesterly trend in Peru to a northeasterly trend in Ecuador and Colombia (Gansser, 1973). The northern limit of the area of influence of the Huancabamba deflection is often taken at the Jubones fault (Figure 13).

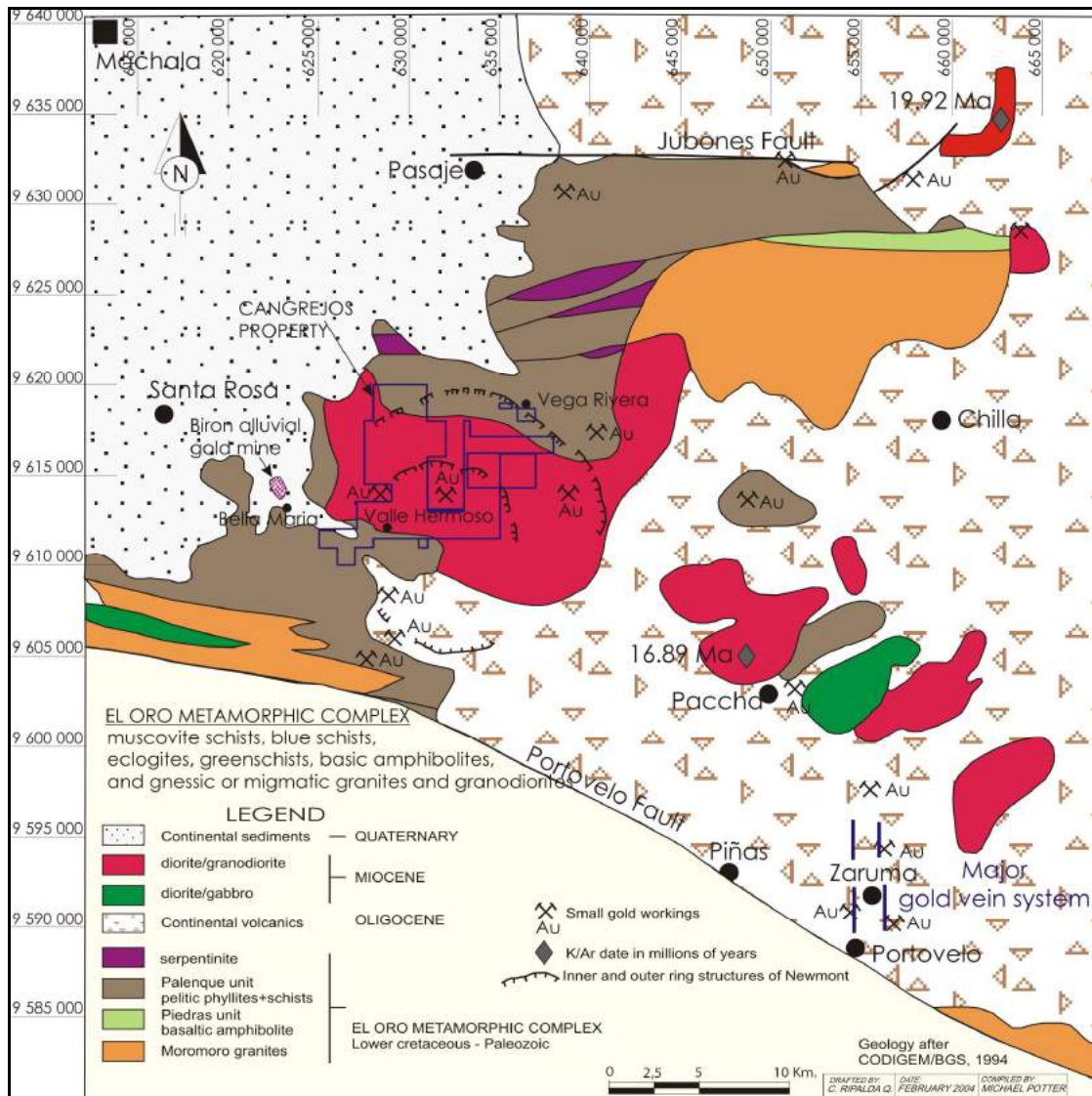


Figure 13: Geology of the Area Surrounding the Greater Cangrejos Property  
 (after CODIGEM/BGS, 1997; Newmont, 2001a)

Rocks of the El Oro Metamorphic Complex are exposed south of the Jubones fault (CODIGEM/BGS, 1997). Between the Jubones and Portovelo faults, in the area of particular interest here, the rocks consist mostly of weakly metamorphosed, fine grained, clastic sediments of the Palenque unit of Jurassic age. To the northeast of the Cangrejos property this unit contains several tectonically emplaced slices of serpentinite known as the Pasaje Ophiolite. South of the Portovelo fault the El Oro Metamorphic Complex comprises a mixture of pelitic schists, greenschists, glaucophane schists, basic amphibolites and gneissic to migmatitic granites and eclogites of the Raspas Formation of Cretaceous age.

To the north of the Portovelo fault the metamorphics are overlain by Oligocene continental volcanics of the Saraguro group consisting of andesitic to rhyolitic lavas and pyroclastics. The volcanic units are intruded by a series of granitoid plutons of Miocene age with K/Ar dates of 16.89 Ma and 19.92 Ma having been obtained on these intrusives at Paccha and near the eastern end of the Jubones fault respectively (Figure 13). According to the legend on the 1: 200,000 scale geological map



(CODIGEM/BGS, 1997) the granitoids are generally of medium to coarse grain but often show evidence of rapid chilling such as chloritized interstitial glass and granophyric and holocrystalline growth indicative of a sub-volcanic emplacement.

By using topographic imagery and helicopter magnetometry, Newmont identified what it considered to be two ring structures centred on the Cangrejos property. The inner ring structure has a diameter of approximately 8 km and the outer a diameter of approximately 16 km. These structures may be related to the caldera collapse of a major, middle Miocene strato-volcano centred over the Cangrejos property. A similar caldera collapse structure, the Caldera of Jubones, with a diameter of about 17 km, is shown on the 1:200,000 scale geological maps to the north of the northeast corner of Figure 13. Furthermore, van Thournout et al (1996) have interpreted the emplacement of the major gold-quartz vein system at Zaruma - Portovelo as being related to the formation of another major caldera of Miocene age.

### Property Geology

The local geology of the Cangrejos property is shown in Figure 14 below.

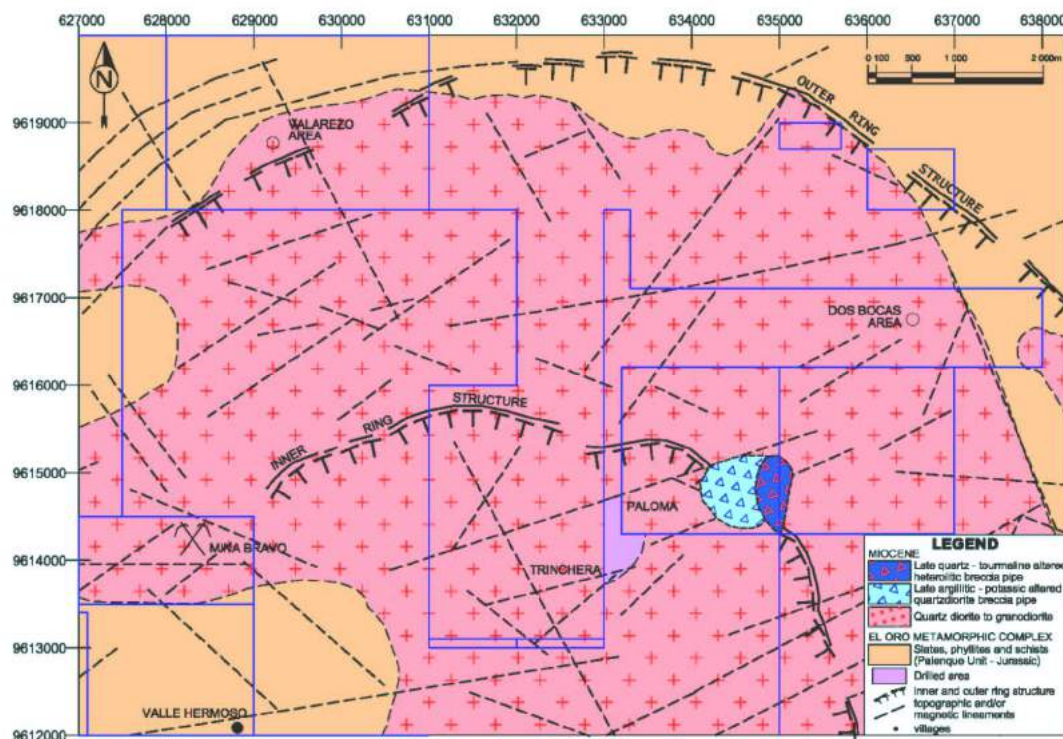


Figure 14: Geological Map of the Greater Cangrejos Property  
(after Carvajal, 1993; Newmont, 2001a; Sinclair 2004)

The bulk of the prospect is underlain by a quartz-dioritic to granodioritic intrusive, which is probably of early to middle Miocene age. The intrusive is hosted by fine-grained metasediments of the Palenque unit of the El Oro Metamorphic complex in the lower ground to the north, west and south, and by the Saraguro Group volcanics of Oligocene age in the higher ground just off the southeastern corner of Figure 14.

Newmont recognized various phases within this intrusive with the oldest, named the “Early Igneous Complex”, being characterized by a weak foliation.

The initial geological mapping on the property defined various areas of silicification and argillitization covering areas up to 1.0 km x 1.5 km, with locally prominent, quartz-tourmaline altered breccias (1: 25,000 scale geological map in Potter, 1998), often associated with topographic and magnetic lineaments.

Newmont’s drilling has shown that small bodies of micro-porphyritic andesite puncture the main intrusive in the Trinchera/Paloma area (Figure 14) and that these bodies are associated with various types of breccias, pervasive hydrothermal alteration (especially silica flooding) and weak sulfide mineralization (mainly chalcopyrite). These areas are thought to have formed part of the feeder zone for the major, middle Miocene strato-volcano referred to in the previous section.

A number of other areas, especially Dos Bocas and Valarezo with somewhat similar characteristics have been identified away from the drilled area. These often lie in the vicinity of the interpreted ring structures and/or along other hypothesized lineaments where structural movement may have produced zones of weakness conducive to the passage of hydrothermal and mineralizing fluids.

## 7. DEPOSIT TYPES

The mineralization at Greater Cangrejos is classified as belonging to a **PORPHYRY GOLD-COPPER** deposit of hypabyssal, breccia sub-type.

This deposit type is approximately equivalent to the USGS porphyry copper-gold model number 20c (Cox et al, 1987) but with gold considered to be of greater economic importance than copper. A generalized, descriptive model for this style of mineralization is illustrated in Figure 15.

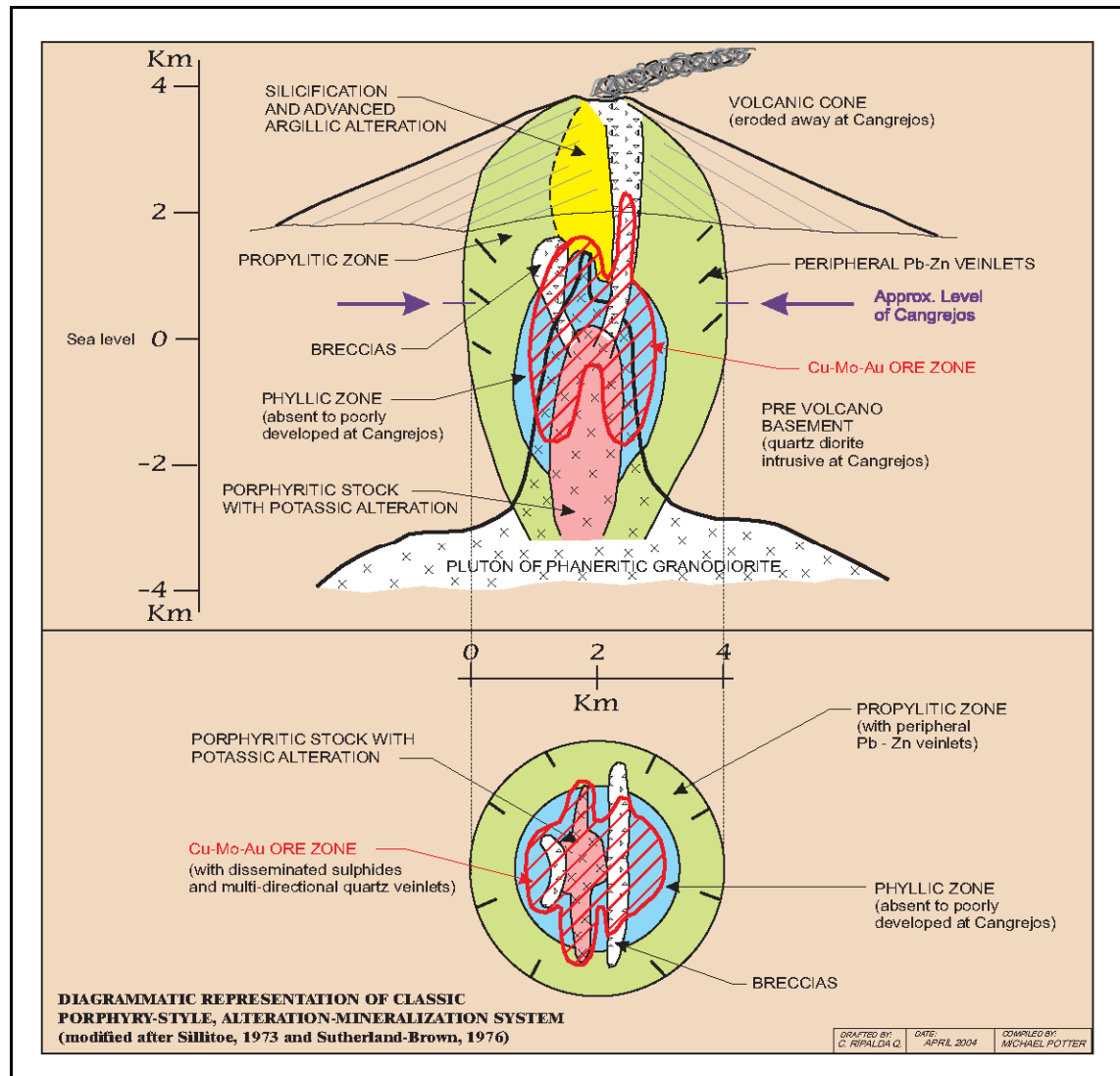


Figure 15: Descriptive Model for Porphyry Style, Cu-Mo-Au Deposits  
(modified after Sillitoe (1973) and Sutherland-Brown (1976))

When compared to standard porphyry deposit models the Greater Cangrejos mineralization is probably best described in geological terms as a mixture of the hypabyssal sub-type of Sutherland Brown (1976) and the breccia sub-type rather than the stockwork sub-type of Lowell and Guilbert (1970). However the Greater Cangrejos system has gold, rather than copper, as the metal of primary economic interest. The concentrations of molybdenum and silver at Greater Cangrejos are low, but minor amounts of these metals may eventually be recoverable as by-products.



Because of the extensive brecciation and the rather basic nature of the host compared to the standard models referred to above, the Cangrejos deposit does not appear to show the systematic, large scale zonal alteration pattern typical of a classic porphyry deposit (Guilbert and Lowell, 1974; Lowell and Guilbert, 1970). In particular, the characteristic quartz-sericite-pyrite zone appears to be absent.

It is suspected that the Greater Cangrejos mineralization may bear some comparison with the very large, low-grade, porphyry gold-copper mineralized systems at the Cadia Hill- Ridgeway - Cadia East complex in New South Wales, Australia (Wilson et al, 2002 and 2007), at Mount Milligan in British Columbia, Canada (Terrane Metals Corporation, 2010) and at Cerro Casale, Chile (Kinross Gold Corporation, 2010).

Porphyry gold-copper deposits are interpreted as forming within very large-scale systems of hydrothermal alteration and mineralization developed at depths of several kilometres around the feeder zones of major strato-volcanoes (Sillitoe, 1973). Such large scale systems may also be associated, spatially and/or genetically, with deposits of various other types (Sillitoe, 1991). For instance, they may be overlain by epithermal deposits of high sulfidation type and fringed laterally by epithermal deposits of adularia-sericite-type or by epitherma/mesothermal gold-quartz and base-metal veins. Where appropriate host lithologies are present, gold-copper and/or lead-zinc skarn deposits and disseminated, sediment-hosted, gold deposits may also occur.

By analogy with the K/Ar date on similar rocks at Paccha (Fig 9), the host intrusive to the Greater Cangrejos mineralization is thought to be about 17 million years old, ie near the top of the middle Miocene. Figure 16 shows the location of Odin's Greater Cangrejos property relative to the location of a number of noteworthy gold and/or copper deposits of porphyry and other possibly relevant mineralization styles in southern Ecuador and Northern Peru (PRODEMINCA/BGS, 2000a,b; Sillitoe, 1998). Table 3 gives an indication of the size and grade of the metal endowment at some of the deposits of supposed Miocene age, whereas Table 4 gives the equivalent data for some of the apparently older deposits.

Economic scale, porphyry deposits, irrespective of the metal of principal economic interest, are characterized by their large size and low grade (Porter, 1998). In general, they are mined using large open pits, including some of the largest in the world eg Chuquicamata, Chile (Wikipedia, 2010a), and Bingham Canyon USA (Wikipedia, 2010b). However, under certain conditions, porphyry-style deposits can also be mined by large volume, underground techniques, eg El Teniente, Chile (Wikipedia, 2010a)

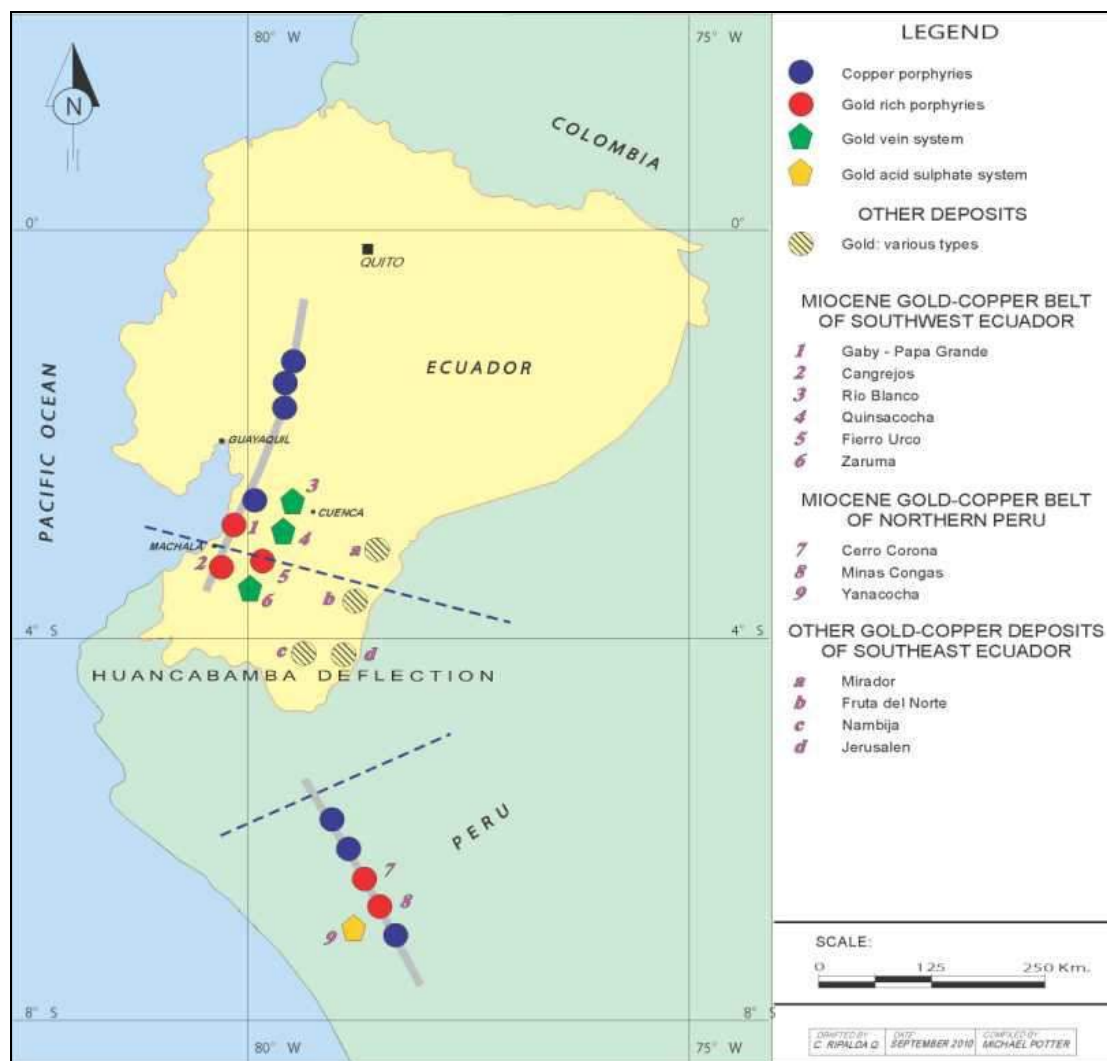


Figure 16: Miocene Gold ( $\pm$ Cu) Deposits of Southern Ecuador and Northern Peru  
(after PRODEMINCA/BGS, 2000a,b; Sillitoe, 1998)

DEPOSIT NAME	Type	Mt	g/t Au	% Cu	t Au	kt Cu	Source
<b><u>SOUTHWEST ECUADOR</u></b>							
GABY	Porphyry	350	0.6		210		Kay, 2010
RIO BLANCO	Veins	2	8.8		18		Kay, 2010
QUIMSACocha	Veins	10	6.6		65		IamGold Technical Services, 2009
FIERRO URCO	Porphyry	50	0.4	0.2	20	100	PRODEMINCA / BGS, 2000b
ZARUMA	Veins	6	25		160		PRODEMINCA / BGS, 2000b
<b><u>NORTHERN PERU</u></b>							
CERRO CORONA	Porphyry	230	0.7	0.4	160	900	Gold Fields Ltd, 2010
MINAS CONGA	Porphyry	400	0.9	0.3	360	1200	Russell, 2004
YANACocha	Disseminated	700	1		700		Turner, 1999

Table 3: Indicative Metal Endowment of Selected Miocene (?), Hydrothermal Gold ( $\pm$ Cu) Deposits in Southwest Ecuador and Northern Peru

DEPOSIT NAME	Type	Mt	g/t Au	% Cu	t Au	kt Cu	Source
<b><u>SOUTHEAST ECUADOR</u></b>							
MIRADOR	Porphyry	670	0.18	0.58	120	3900	Drobe et al, 2008
FRUTA del NORTE	Veins	40	9.1		365		Henderson, 2009
NAMBIJA	Skarn	3	20		60		PRODEMINCA / BGS, 2000b
JERUSALEM	Veins	1	12		12		Dynasty Metals and Mining Inc, 2010

Table 4: Indicative Metal Endowment of Selected pre-Miocene (?), Hydrothermal Gold ( $\pm$ Cu) Deposits in Southeast Ecuador

## 8. MINERALIZATION

Newmont concentrated their drilling on the Greater Cangrejos property in 1999/2000 on two main mineralized zones, named the Trinchera and Paloma zones, with approximately northeast-southwest trends (Figures 17 and 18). They also drilled one isolated hole in what is now known as the Cacique area on the boundary between Mr Castro's Cacique and Las Canarias concessions.

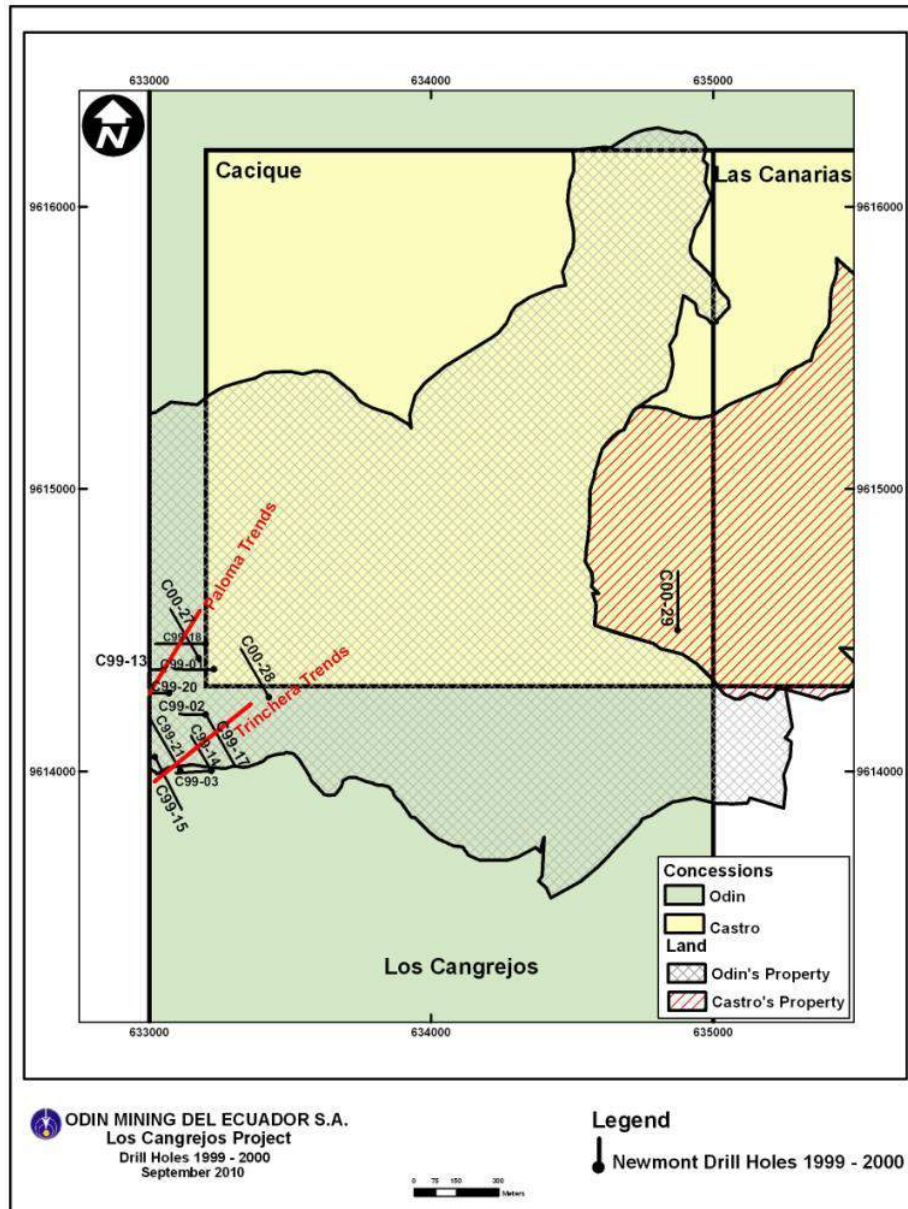


Figure 17: Location of Newmont Diamond Drill Holes at Greater Cangrejos

Taking a 0.5 g/t Au cut off in core samples the Trinchera zone is about 350 m long between holes C99-24 and C99-17. Geologically the zone is open along strike in both directions. To the northeast it could continue for nearly another 250 m to where the low-grade hole C00-28 seems to provide a north-eastern limit. To the southwest the zone leaves the Cangrejos concession at hole C00-24.

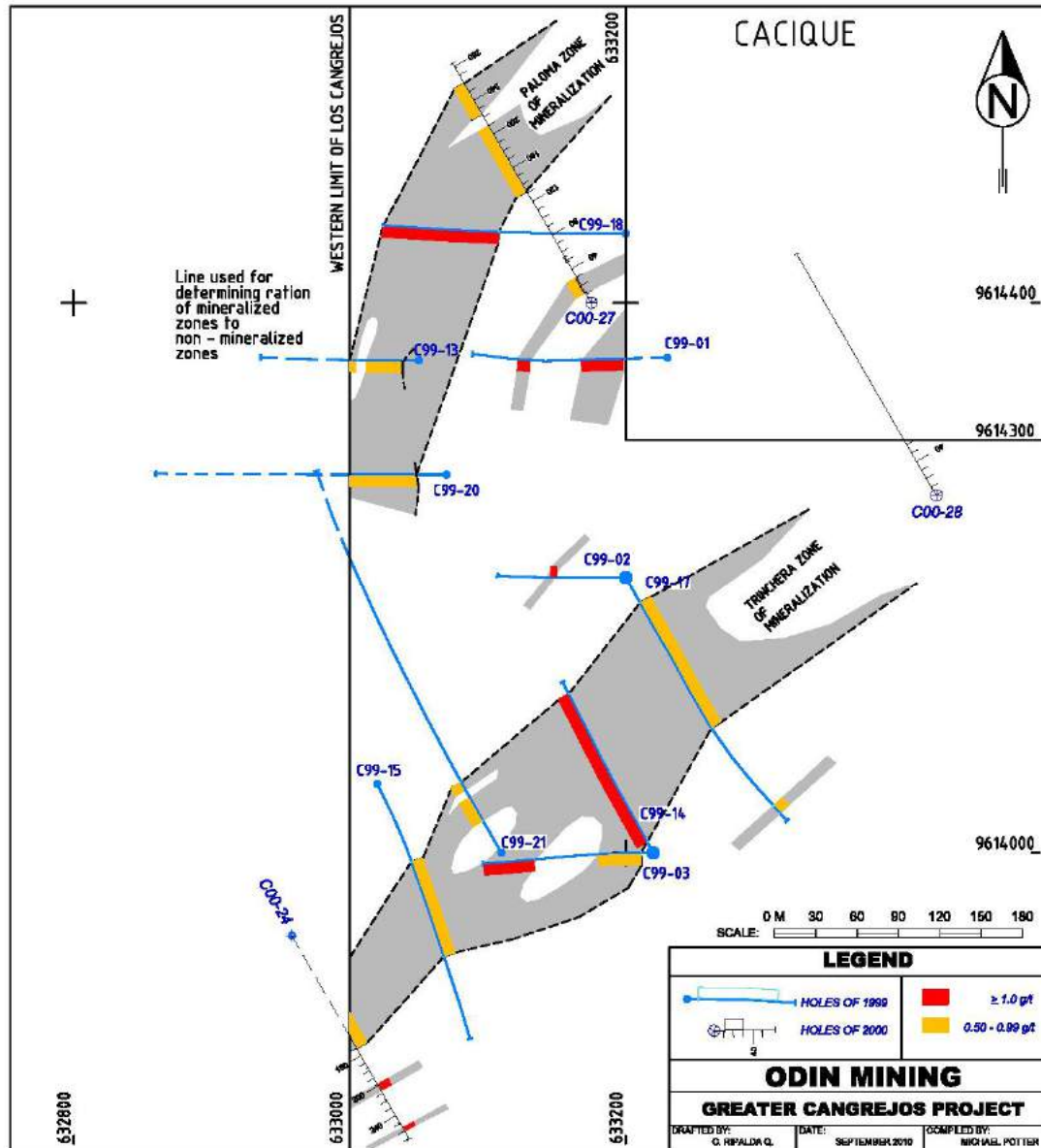


Figure 18: Newmont Drilling on the Paloma and Trincheras Mineralized Zones  
(after Newmont, 2001a)

Until additional drilling is available to better define the 3-dimensional form of the mineralization, it is assumed that all the mineralized zones are vertical. In that case, the average true width of the Trincheras mineralized zone is probably about 100 m with a variation from 40 m in C00-24 to 130 m in C99-17. Newmont's drilling suggests that the Trincheras mineralized zone extends to at least 150 m vertically below surface (Figure 19). However, it may extend considerably deeper.

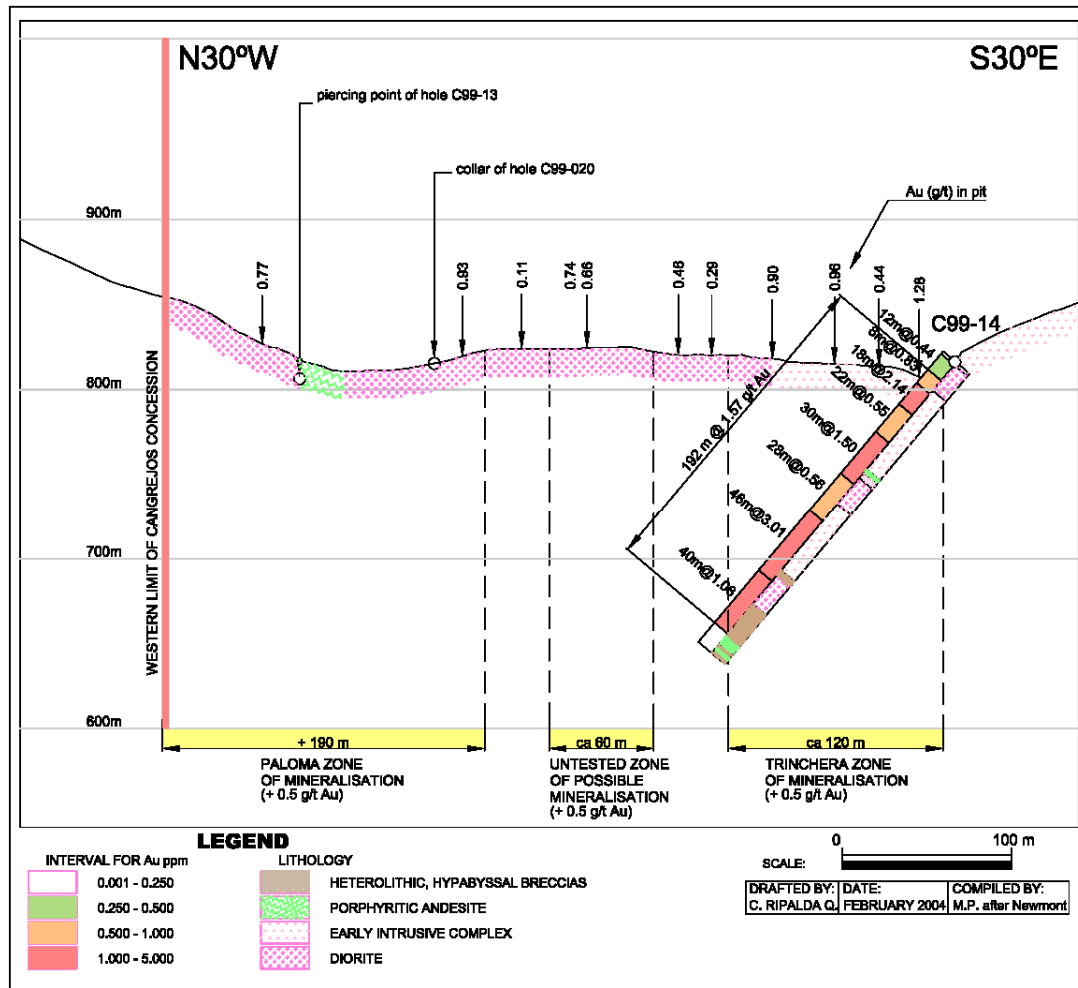


Figure 19: Cross Section along Hole C99-14 on the Trinchera Zone of Mineralization  
(after Newmont, 2001a)

The Paloma mineralized zone lies about 200 m to the northeast of the Trinchera zone (Figures 17 and 18). Its defined length on the Greater Cangrejos property is about 250 m between holes C99-20 and C00-27. To the northeast the Paloma zone remains open. In contrast, to the southwest, beyond hole C99-20, the zone may be cut off at hole C99-21. Assuming the mineralized zone to be vertical the average true width of the Paloma zone may be about 80 m with a variation from 70 m in C99-20 to 85 m in C00-27. As with the Trinchera zone, Newmont's drilling suggests that the mineralized zone continues to at least 150 m below the surface (Figure 20). However, it may extend considerably deeper.

Decreasing the grade used to define the mineralized zones to 0.25 g/t Au increases the width of the zones, but the two zones do not coalesce and still remain separated by a significant area with only sporadic values greater than 0.25 g/t Au.

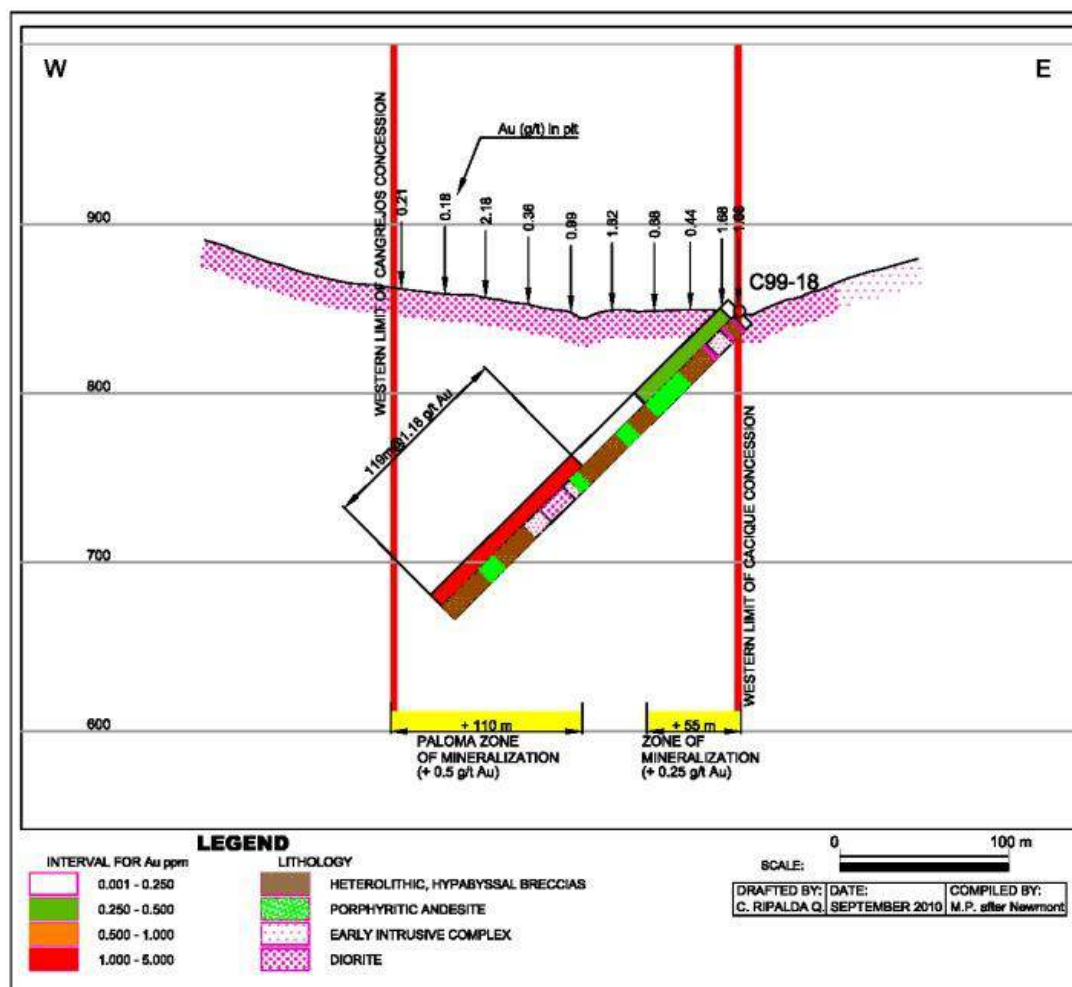


Figure 20: Cross-Section along Hole C99-18 on the Paloma Zone of Mineralization  
(after Newmont, 2001a)

Within the mineralized zones the gold appears to be intimately associated with fine-grained (often less than 100 micron) sulfide mineralization disseminated at the level of 1-2 volume percent in the hydrothermally altered host rock. To a lesser extent, the gold also occurs as somewhat coarser grains in sporadically developed multi-directional quartz veinlets. There is some suggestion that higher grades, as in hole C99-14, might be associated with the presence of bornite in addition to the chalcopyrite. Pyrite does not seem to be well represented in the cores obtained so far. However, molybdenite is present locally in some quartz veinlets.

In the Paloma and Trincheras zones the mineralization is present in all rock types, including diorite, intrusive andesite and the various breccias recognized by Newmont. The mineralization appears to be related to silica flooding and possibly to faulting.

On the Greater Cangrejos property Newmont drilled only one hole away from the Trincheras/Paloma area. This was located near the border of the Cacique and Las Canarias concessions at an elevation about 400 m higher than the Paloma/Trincheras area. This hole also encountered porphyry-style mineralization similar to that at Trincheras/Paloma with an intersection of 22 m at 2.56 g/t Au and about 0.2% Cu.



(Figure 20). This intersection seems to be strongly associated with a significant fault or fracture zone indicated by a run of very broken core.

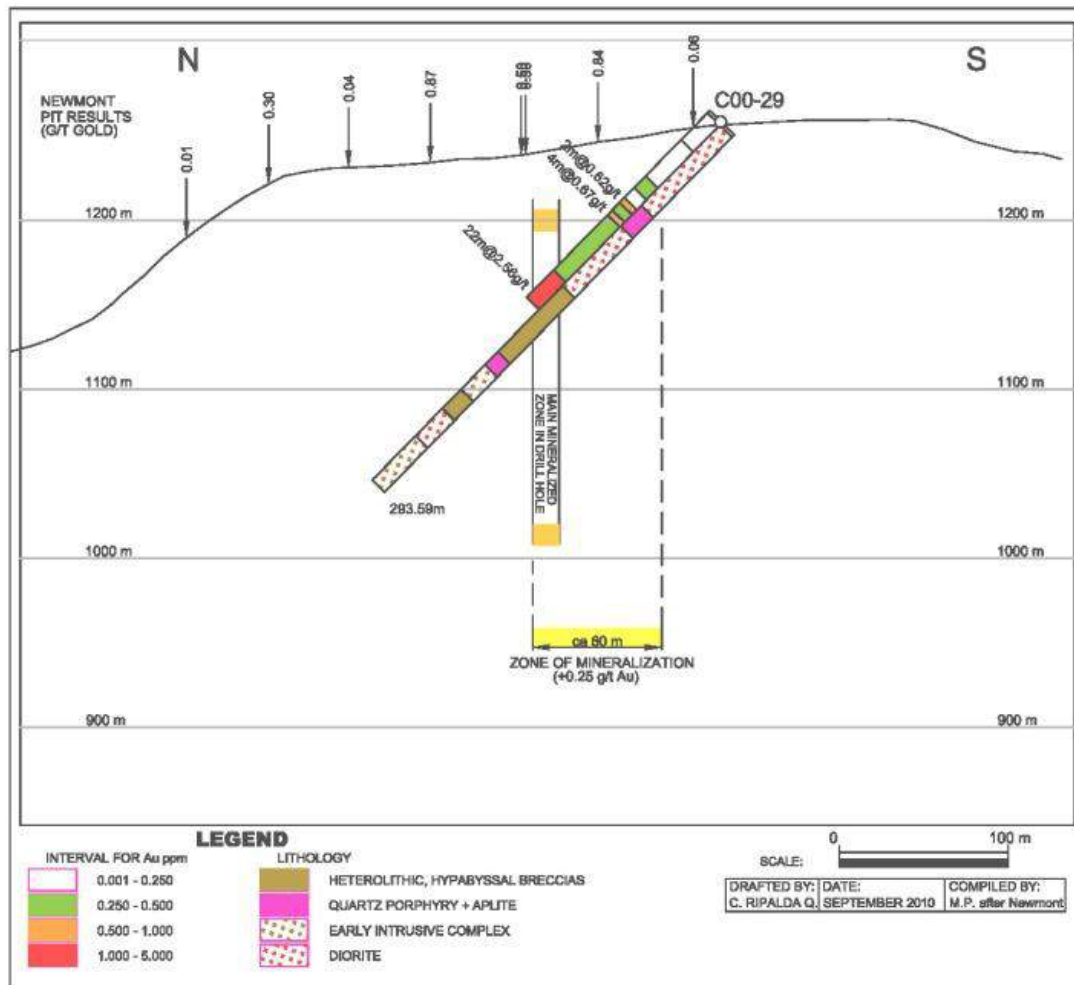


Figure 21: Cross-Section along Hole C00-29 at Cacique  
(after Newmont, 2001a)

During the life of the El Joven Joint Venture, Newmont did not carry out any petrographic work on samples from the Greater Cangrejos area. However, Newmont did carry out a limited amount of thin section, polished section and XRD-XRF work on behalf of the joint venture on seven samples from a hole drilled on an adjacent property. This hole tested a different mineralized zone to either the Paloma or Trincheras zone, but the mineralization is of a generally similar aspect.

The summary from Newmont Metallurgical Services report (Odekirk, 1999) states:

*“Microscopic examination determined that all seven samples contained chalcopyrite mineralization. The sample from the 170-meter interval exhibited supergene enrichment consisting of covellite replacement of chalcopyrite. The sample from the 123.3-meter interval contained native gold in association with chalcopyrite in a quartz vein. The sample from the 147-meter interval contained molybdenite and chalcopyrite mineralization in quartz veins.”*



*“Propylitic alteration is the most common form of alteration. However, in several cases siliceous, sericitic, and/or potassic alteration overprint the propylitic alteration.”*

Notwithstanding the comment noted above by Odekirk (1999) about supergene enrichment at a depth of 170 m, in general, weathering does not seem to extend to any great depth. For example, in hole CC99-18, most indications of weathering have disappeared by a borehole depth of 23 m, equivalent to a vertical depth below surface of about 16 m.

In addition to the wide zones of low-grade gold mineralization referred to above, high-grade mineralization with 10–30 g/t in quartz-tourmaline altered rocks (Potter, 1998) has been mined on a small scale by informal miners at various sites in and around the Trinchera/Paloma and Cacique areas.

At the time of writing of Odin’s 2004 NI 43-101 technical report, these occurrences of high-grade material were not expected to be a significant factor in the overall assessment of the potential of the property. However, the inclusion of the Castro concessions into the property lead to a change of opinion, since this style of mineralization was expected to dominate there.

During the period under review Odin commissioned two petrographic studies (Thompson, 2004 and Dunne, 2008). Thompson’s 2004 report covered eight core samples of diorites and andesites from the Trinchera and Paloma zones and confirmed that the *“composition of intrusions and styles of hydrothermal alteration and mineralization are consistent with a porphyry copper-gold model with gold associated with the central deeper portions of the system. Mosaics of microgranular quartz are present in most samples and are interpreted to represent silicification. The alteration sequence seems to be 1) actinolite, 2) biotite-K-feldspar 3) chlorite-carbonate. However, not all variations are observed in each sample, and cross cutting / replacement textures are complicated. The hypogene sulfides are dominantly chalcopyrite with bornite noted in two samples, apparently associated with elevated gold values and traces of pyrite noted in three, low gold, samples.”* Dunne’s 2008 report covered eight rock samples and three core samples (from C00-29) from the Cacique area. Five of the six, black, tourmaline bearing rocks were described as “heterolithic tourmaline quartz breccias” and the sixth as a “tourmaline-quartz hematite rock”. Traces of gold were visible in the last sample and in one of the tourmaline quartz breccias samples. The report states that, *“These samples are similar to tourmaline-bearing breccias associated with porphyry deposits as described at the Sur-Sur tourmaline breccias, Rio Blanco-Los Bronces porphyry Cu-Mo Deposit, Chile (Warnaars et al., 1985; Frikken et al, 2005), in the Yerington porphyry Cu district, Nevada (Einaudi, 1994), at the Turmalina Cu-Mo-bearing breccias pipe, Peru (Carson and Sawkins, 1980) and elsewhere.”* The two samples from the strongly mineralized zone in hole C00-29 were both described as “fragment-supported heterolithic intrusive breccias”. However, traces of sulfides (chalcopyrite and pyrite) were only described from one of the samples. The other three barren (maximum 0.06 g/t gold) samples consisted of two samples of quartz diorite (including one from the upper part of hole C00-29) and one sample of fragment-supported heterolithic intrusive breccias.

## **9. EXPLORATION**

### **9a. Newmont Data**

#### **Newmont - Introduction**

At the start of Newmont's exploration of the joint venture area little was known beyond the information provided by the published 1:100,000 scale geological map (DNGM, 1986) and the regional stream sediment sampling and geological mapping program carried out by Odin in 1992 (Carvajal, 1993). Initially Newmont focussed their work on the southern part of the joint venture area. However, in February 1996 (Mayor and Soria, 2000) Newmont began to shift the emphasis of its work to the northern, Greater Cangrejos, area (Figure 7).

By mid-1997 Newmont's reconnaissance program of rock sampling and geological mapping had provided sufficient encouragement for them to embark on more systematic work. Consequently, they began to survey and cut 100 m x 100 m and 200 m x 100 m grids over areas of particular interest. Eventually they covered most of the property with a grid of at least 400 m x 100 m.

Following an orientation survey in late 1997, Newmont began systematic soil sampling at a depth of 40 cm (Mayor and Soria, 2000) on the grids in early 1998. Shortly thereafter they started an exhaustive, pits-to-bedrock program on the same grids to check the soil sampling results. Newmont supplemented these geochemical programs with geological mapping and airborne and ground geophysics (Figure 7).

The joint venture exploration program in the Greater Cangrejos area culminated in 1999 and 2000 with the drilling of 29 holes for a total of 7,508 metres. Ten holes were drilled totally and another four holes partially on the Greater Cangrejos property (Figure 17) for a total of advance of 3,314 metres.

Newmont's own staff carried out all the technical exploration work. Connors Perforaciones SA drilled the holes, Bondar-Clegg (now absorbed by ALS-Chemex) undertook all the analytical work and Aeromasters provided the helicopter for the airborne work.

#### **Newmont - Soil Sampling**

Figures 22 to 27 show the results of the systematic soil sampling undertaken by Newmont on the Greater Cangrejos property during the tenure of the El Joven Joint Venture. These results have been plotted from the data file on one of the CDs in the information package (Newmont, 2001a). The data package itself only has a 1: 2,000 scale contour plan for gold. However, that plan was validated against a 1:2,000 scale plot of the same information as presented here both with respect to the location and level of the values. To the south of the Mina Bravo block, data points appear to be missing from the CD as the hand plotted contour map in the information package shows more sample lines.

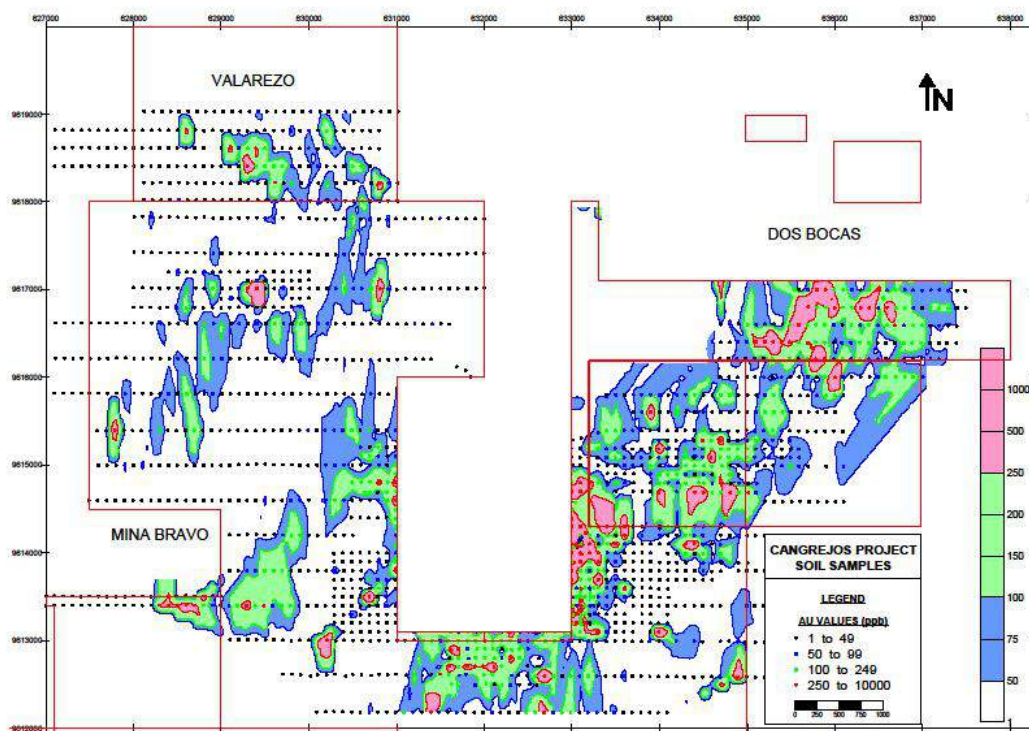


Figure 22: Newmont Soil Sampling Results – GOLD (ppb)  
(after Newmont, 2001a)

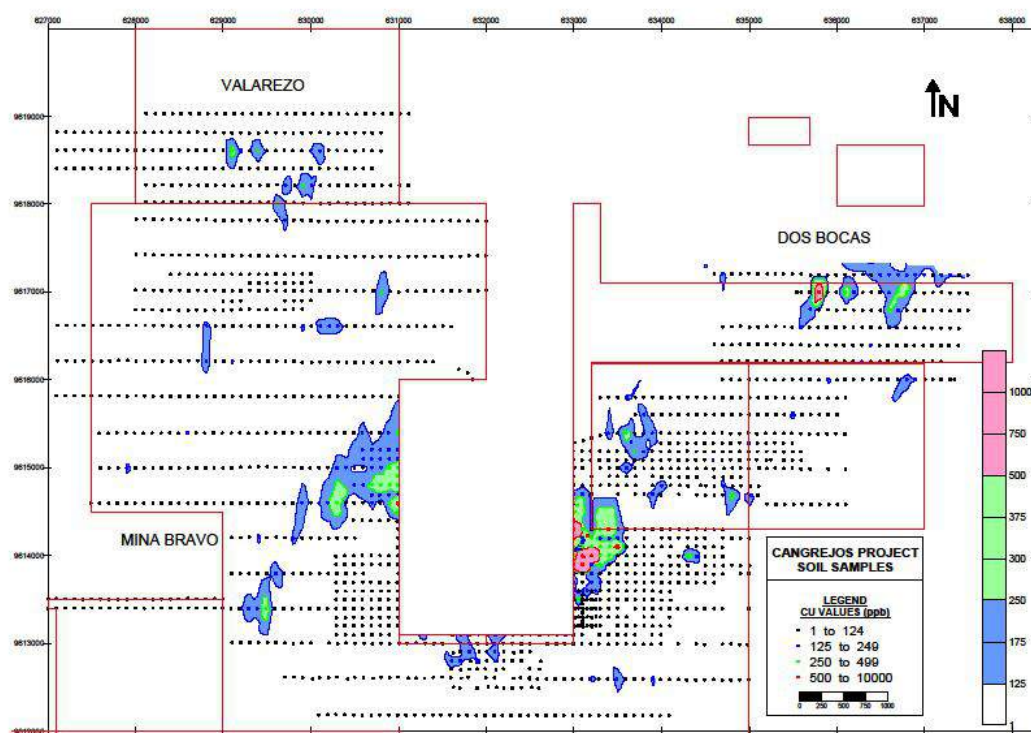


Figure 23: Newmont Soil Sampling Results – COPPER (ppm)  
(after Newmont, 2001a)

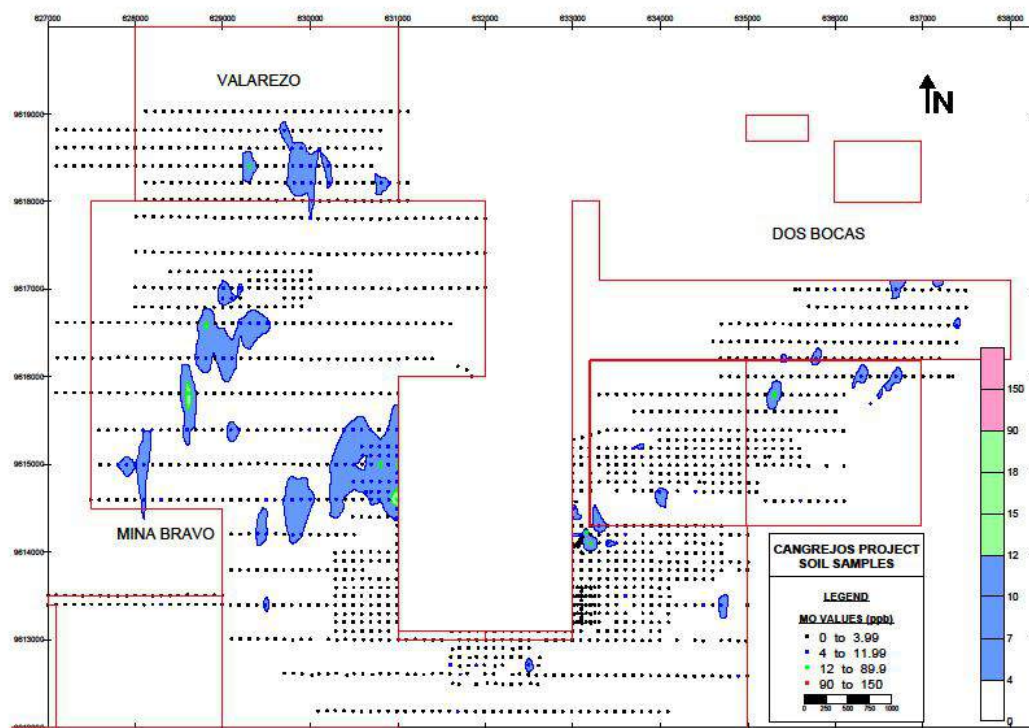


Figure 24: Newmont Soil Sampling Results – MOLYBDENUM (ppm)  
(after Newmont, 2001a)

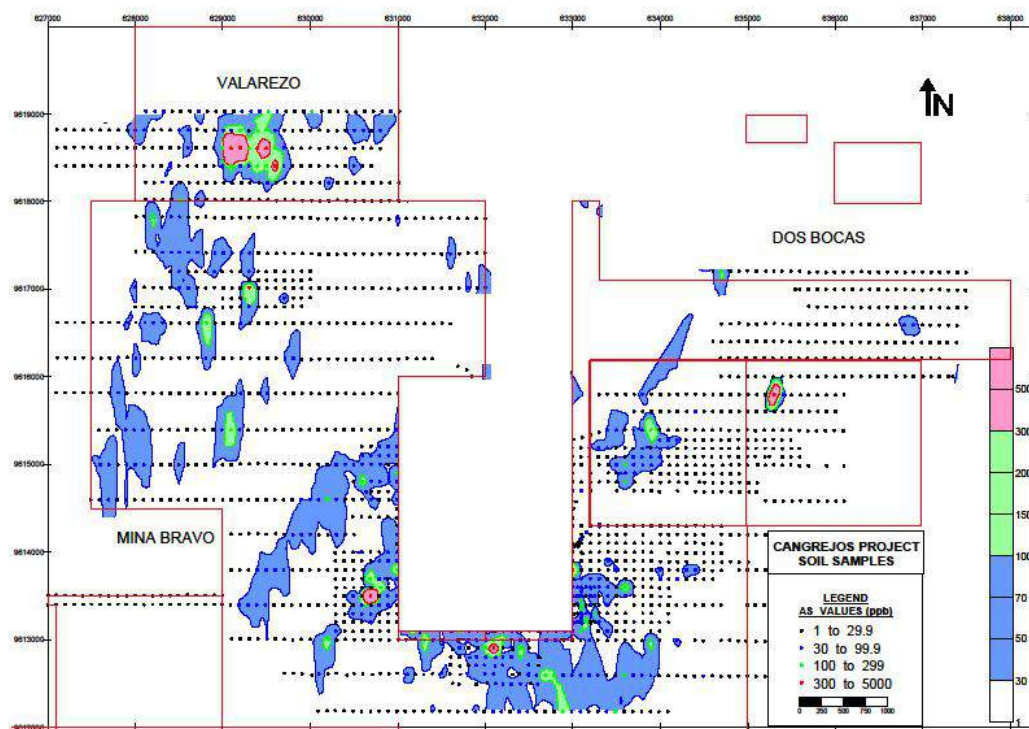


Figure 25: Newmont Soil Sampling Results – ARSENIC (ppm)  
(after Newmont, 2001a)



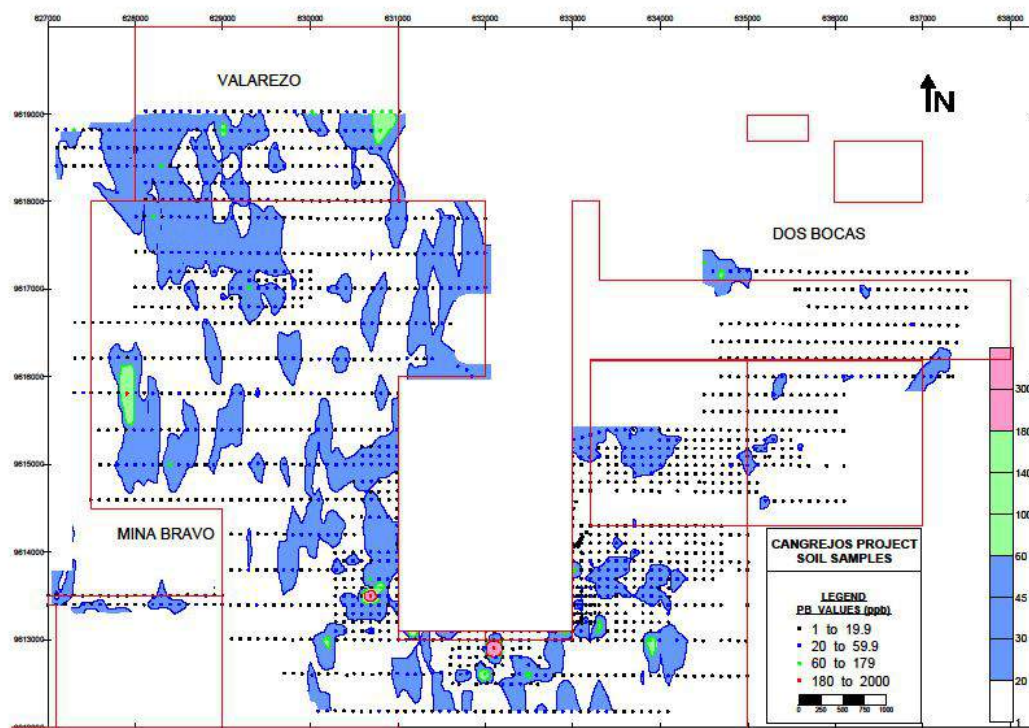


Figure 26: Newmont Soil Sampling Results – LEAD (ppm)  
(after Newmont, 2001a)

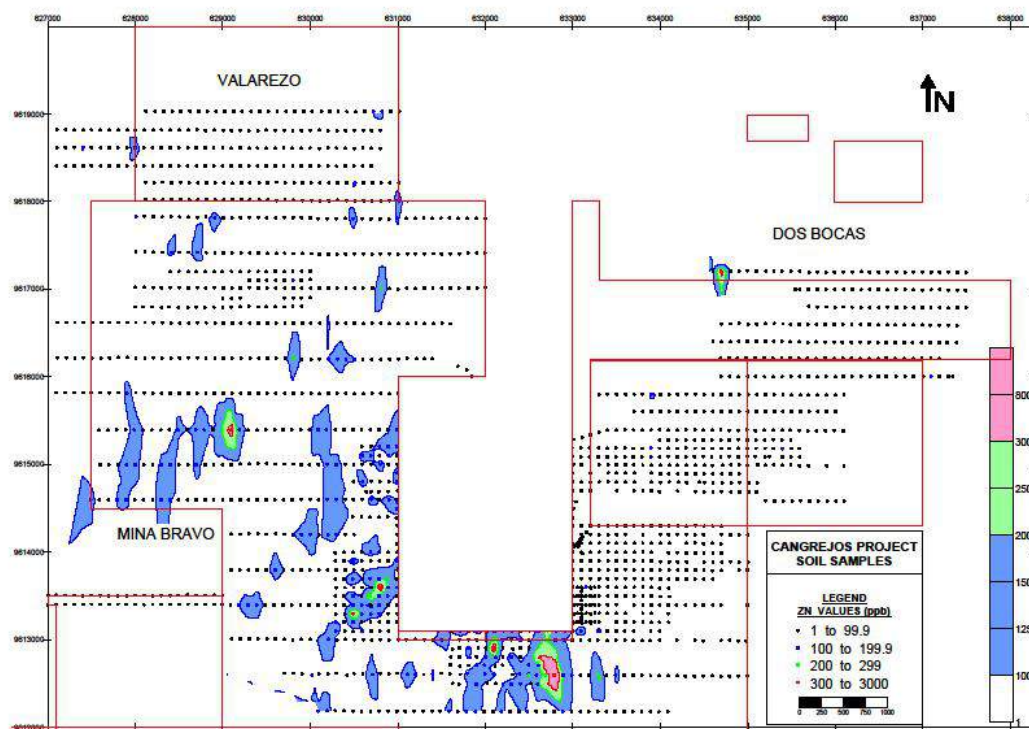


Figure 27: Newmont Soil Sampling Results – ZINC (ppm)  
(after Newmont, 2001a)

The contour intervals in the above diagrams have been defined empirically and chosen to agree with those used by Newmont in the case of gold and copper.

The gold anomalies appear to be more extensive than the anomalies for other elements. Consequently, different areas are characterized by different geochemical signatures. Most notably gold is strongly supported by copper at Trinchera/Paloma and by arsenic at Valarezo. There seems to be little correlation anywhere between gold and lead or between gold and zinc.

The 2 km wide, northeast trending channel of relatively low, though still clearly anomalous, gold values running across the Castro block of concessions and linking the partially drilled area of Trinchera/Paloma with Dos Bocas is clearly evident in Figure 22. It was the potential of this trend that initially stimulated Odin's interest in the Castro concessions.

### **Newmont - Rock and Pit Sampling**

Newmont's initial reconnaissance rock sampling was carried out on an opportunistic basis, mainly on outcrops along creeks as can be seen from the non-systematic, sinuous distribution of many of the points in Figures 28 and 29.

Subsequently, systematic pitting to bedrock was carried out on 100 m x 100 m centres over the Trinchera/Paloma grids and on 200 m x 100 m centres on the Dos Bocas and Valarezo grids. Locally the spacing of the pitting on each grid was closed up to 25 m x 25 m over areas of particular interest (Mayor and Soria, 2000).

The information package (Newmont, 2001a) contains verifiable detailed information only for the systematic pitting for the Trinchera/Paloma area. Elsewhere, the information available consists of gold values hand-plotted onto a 1: 10,000 scale plan without any supporting data.

For the Trinchera/Paloma grids the gold results from the pits-to- bedrock program closely mirror the results from the soil sampling both with respect to the patterns defined and the actual values obtained. However, for the Valarezo and Dos Bocas grids, the pitting to bedrock defines anomalies in similar areas to the soil sampling results, but with lower values.

### **Newmont - Geological Mapping and Drill Hole Logging**

Newmont reportedly mapped all outcrops and pits in the areas of systematic pitting to bedrock. However, on the hand-plotted, preliminary borehole sections supplied in the information package, there appears to be a rather poor correlation between the surface geology and the geology logged in the boreholes. This lack of correlation is possibly due, at least in part, to the problems of recognizing the original lithologies when dealing with weathered (rather than fresh), soft, hydrothermally altered rocks. Furthermore, the limited information on the summary logs in the information package suggests that these may be only preliminary logs. More detailed logging, with petrographic support in the light of the analytical results now available, may be useful in providing new insights into the relationships between lithology, structure, hydrothermal alteration and mineralization.

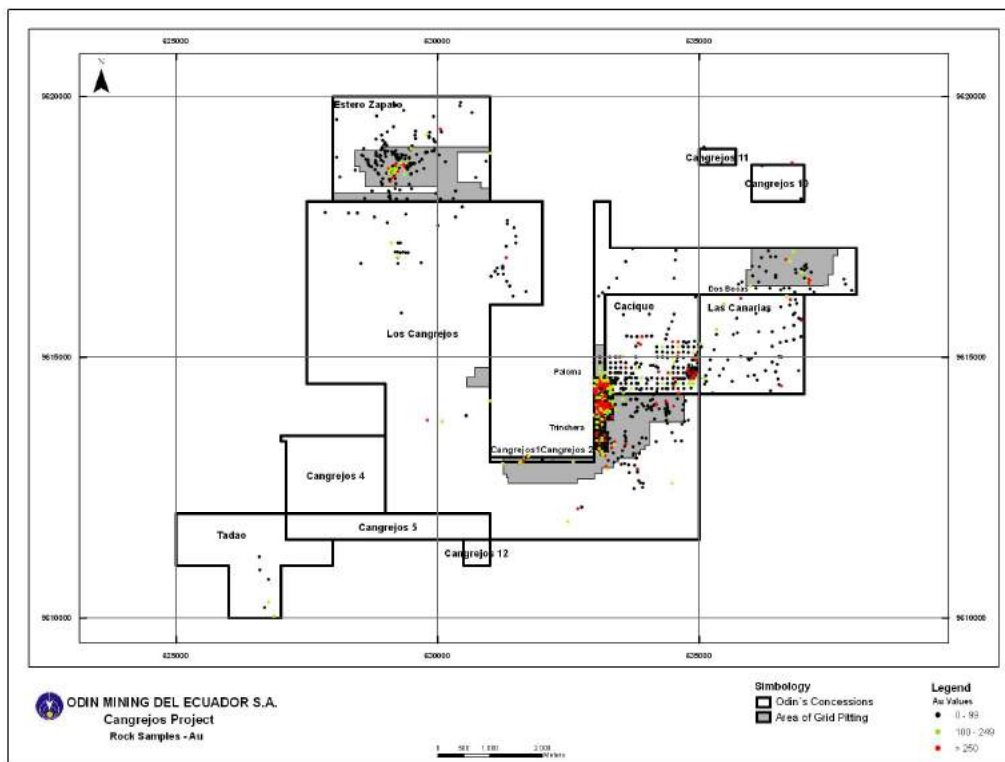


Figure 28: Newmont's Rock and Pit Sampling Results – GOLD (ppb)  
(after Newmont, 2001a)

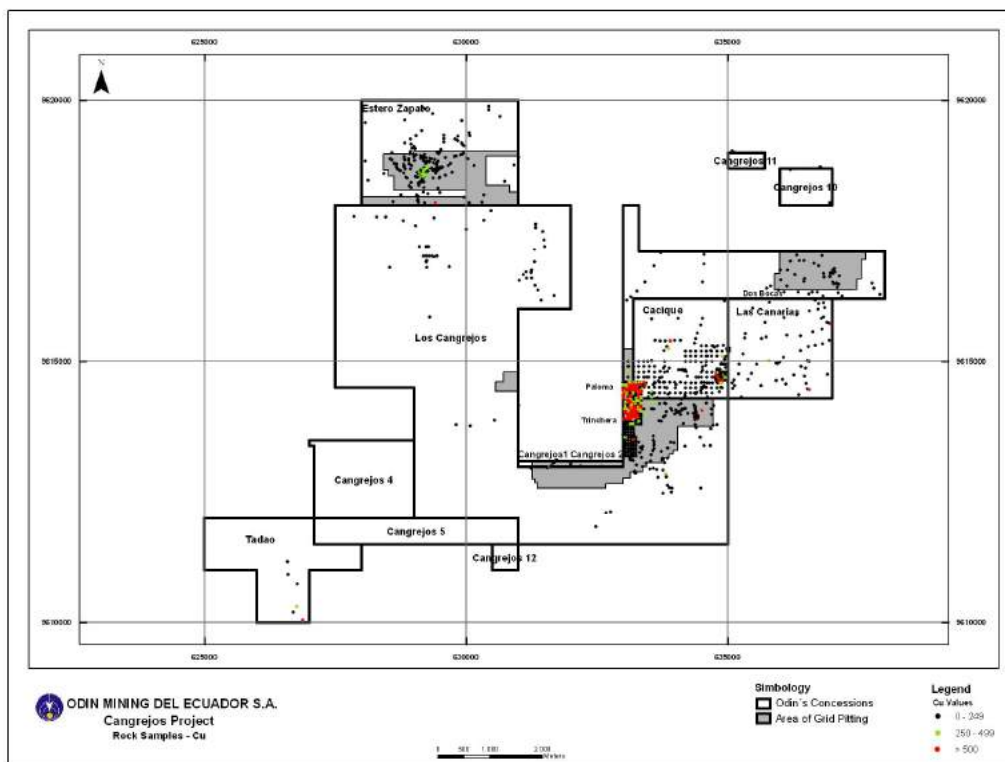


Figure 29: Newmont's Rock and Pit Sampling Results – COPPER (ppm)  
(after Newmont, 2001a)

### Newmont - Geophysics

Two thousand seven hundred line kilometres of airborne magnetometry and radiometrics were flown by helicopter on north-south lines over the area of interest of the joint venture (Mayor and Soria, 2000). One of the CDs in the information package contains an image of magnetic results (Figure 30 A - assumed to be total field reduced to pole) and a topographic image (Figure 30B – assumed to have been produced from radar altimeter records). These images help define the structural setting of the property, especially with respect to the interpreted ring structures. No maps of the corresponding radiometric results were found in the Newmont data package.

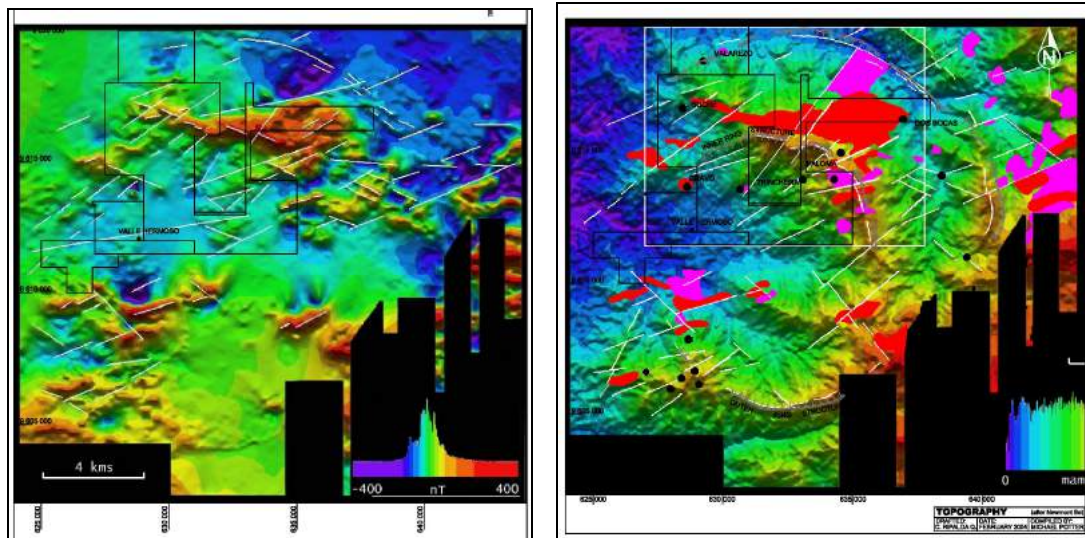


Figure 30: Images Derived from Newmont's Heliborne Geophysical Survey

A (on left) Magnetics (reduced to pole?)

B (on right) Topography (with magnetic anomalies superimposed)  
(after Newmont, 2001a)

One of the CDs in the information package appeared to contain raw data from the airborne geophysics program. Odin had this data reprocessed by Encom Technology in 2007 and the results are presented in the next section.

Ground geophysics, including IP, resistivity and magnetic surveys, are referred to in the joint venture monthly reports. No reports on this work were included in the information package. However, some draft IP pseudo-sections were found in the data package, and during my site visit in July 1998 I saw a Newmont field map showing geophysical anomalies in the area of the Cangrejos property (Potter, 1998).

### Newmont - Survey

The information package does not give any information on the survey methods used to control the east-west orientated grid lines. Coordinates are given on one of the CDs for most of the soil sample points (Figures 22 to 27), but only some of the systematic pitting samples (Figures 28 and 29). The package contains the collar coordinates of all diamond drill holes. However, it seems to contain the results of down-the-hole Tropari surveys only for those holes drilled in 1999.



## b. Odin Data (post May 2004)

### Odin - General

As stated in Section 5, Odin did not implement the drilling program proposed in the 2004 NI 43-101 technical. The Odin Board decided that access should be acquired to the neighbouring properties (labelled Option 1 and Option 2 in Figure 6) before embarking on a costly drilling program.

In May 2007 Odin reached agreement with Mr Francisco Castro Sanchez (“Castro”), the owner of the concession package labelled Option 2 in Figure 6 to incorporate his concession holding into the (Greater) Cangrejos property (Odin, 2007a).

The work carried out by Odin from June 2004 until the effective date of this report is summarized in Figure 31 below, and most of the results until the end of 2007 are covered by a summary report by Odin’s long-term Ecuadorian chief geologist, Ing Armando Carvajal (Carvajal, 2008). An account of the progress of the fieldwork is also given in Odin’s quarterly MD&As and annual reports for 2004 to 2010.

	2004	2005	2006	2007	2008	2009	2010
<b>NI 43-101 TECHNICAL REPORT</b>	X						
Grid TBR Soils - Dos Bocas			XXX				
Stream sediments - Dos Bocas		X X					
Grid TBR Soils - Trinchera/Paloma			X				
<b>CASTRO AGREEMENT</b>				X			
Stream sediments - Eastern Greater Cangrejos				XX			
Grid TBR Soils - Trinchera/Paloma				XXX			
<b>EXPLORATION MORATORIUM</b>					XXXXX	XXXXX	
Ridge+Spur TBR - Cacique/Trinchera/Paloma							XXX
Stream sediments - Western Greater Cangrejos							XXX
Care and maintenance	XXXXXX	XXXX	X XXX	XX	XXXXXX	XXXXXX	

TBR = top-of-bedrock

Figure 31: Chronogram of Odin’s Fieldwork: June 2004 - November 2010

The systematic fieldwork undertaken during this time has consisted of four phases of top-of-bedrock (“TBR”) soil sampling and three phases of stream sediment sampling, the last of which is now nearing completion (Table 5). Geological mapping and rock sampling along the creeks accompanied the stream sediment sampling.

All fieldwork has been under the direct control of Ing Armando Carvajal, Odin’s Ecuadorian Chief Geologist. Ing Carvajal has been involved with the company in various technical capacities on and off since 1989. Mr Michael Potter (independent consultant) has held a watching brief over the work undertaken and has acted as the qualified person with respect to the compliance with the requirements of NI 43-101.

In addition to the fieldwork, two petrographic studies (Thompson, 2004 and Dunne, 2008) have been carried out, the AGRA Simons/Awmack scoping study updated (AMEC, 2005a,b) and a series of interpretations of the Newmont geochemical and geophysical data within the context of a GIS system supported by satellite imagery interpretation prepared (Encom Technology, 2007, McDonald, 2008a, 2009b).

Year	Phase	Location	Normal Samples	Field Dups	Field Check
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**TOP-OF-BEDROCK ("TBR") SOILS**

2005/2006	TBR 1	Dos Bocas Grid	583	20	20
2006	TBR 2	Trinch/Paloma Grid	130	4	10
2007/2008	TBR 3	Cacique Grid	1429	44	21
2008	<b>EXPLORATION MORATORIUM</b>		0	0	0
2009			0	0	0
2010	TBR 4	T/P+C Ridge+Spur	824	25	24
<b>TOTALS</b>			<b>2966</b>	<b>93</b>	<b>75</b>

(Nb T/P+C = Trinchera/Paloma + Cacique)

**STREAM SEDIMENTS**

2005/6	SS 1	Dos Bocas	12	0	2
2007	SS 2	East Cangrejos	365	12	13
2008	<b>EXPLORATION MORATORIUM</b>		0	0	0
2009			0	0	0
2010	SS 3	West Cangrejos	272	8	0
<b>TOTALS</b>			<b>649</b>	<b>20</b>	<b>15</b>

**ROCKS**

2004		Trinchera-Paloma	0	0	8*
2005/2006		Dos Bocas	52	1	0
2006		Trinchera-Paloma	10	0	0
2007		East Cangrejos	154	5	0
2007/2008		Cacique	94	2	11*
2008	<b>EXPLORATION MORATORIUM</b>		0	0	0
2009			0	0	0
2010		West Cangrejos	55	1	0
<b>TOTALS</b>			<b>365</b>	<b>9</b>	<b>19*</b>

(\* = petrographic samples)

Table 5: Summary of Samples Taken 2005 -2010 (mid-July)

**b.1 Odin - Dos Bocas Target****Top-of-Bedrock Soil Sampling**

The first systematic fieldwork that Odin carried out after the release of the May 2004 NI 43-101 technical report was a top-of-bedrock soil sampling survey over the Dos Bocas area in the northeast corner of the Cangrejos property (Figures 9,10,11), where Odin had interpreted the possibility of locating porphyry-style mineralization in a classical ore-shell.

The top-of-bedrock soil sampling technique, which is described in Section 11, is designed to sample the C-horizon of weathered bedrock and is particularly suitable for obtaining reliable results in areas of transported soil cover such as occur in the steep, mountainous areas of the western Andean foothills, where sudden, tempestuous rains give rise to many landslides, especially during El Niño events.

Figures 32, 33 and 34 show the gold and copper results and the bedrock geology as determined the logging of the top-of-bedrock samples. Table 6 gives the sample distribution of the soil geochemical values for gold and copper (Odin 2006).

Although impenetrable colluvial cover prevented the collection of samples from about 65% of the planned site (Odin, 2006), the results of Odin's deep and close spaced sampling shows anomalous gold values in approximately the same locations as in the results from Newmont's shallower and wider spaced sampling. However, the interpretation of a possible circular, porphyry-type ore-shell based on the Newmont data does not seem to be borne out by Odin's data. Instead there seems to be a very strongly developed northeast trending linearity in the results indicating a possible control on the underlying mineralization by northeasterly trending structures.

With this result at the end of 2005, Odin's immediate interest in the Dos Bocas area weakened, especially as the matrix-free landslide material with large angular blocks up to 5-10 m across covering much of the area (grey colour in Figure 34) would make the further phases of exploration difficult, slow and expensive.

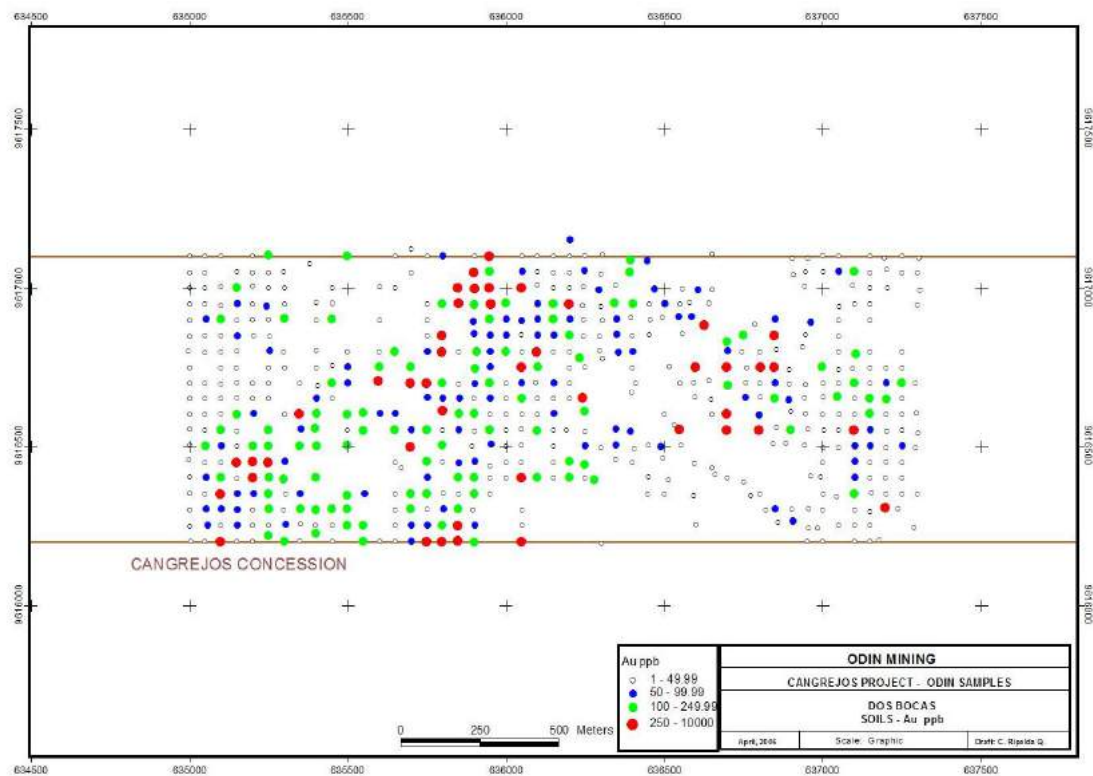


Figure 32: Dos Bocas - Top-of-Bedrock Soil Sampling Results – GOLD (ppb)

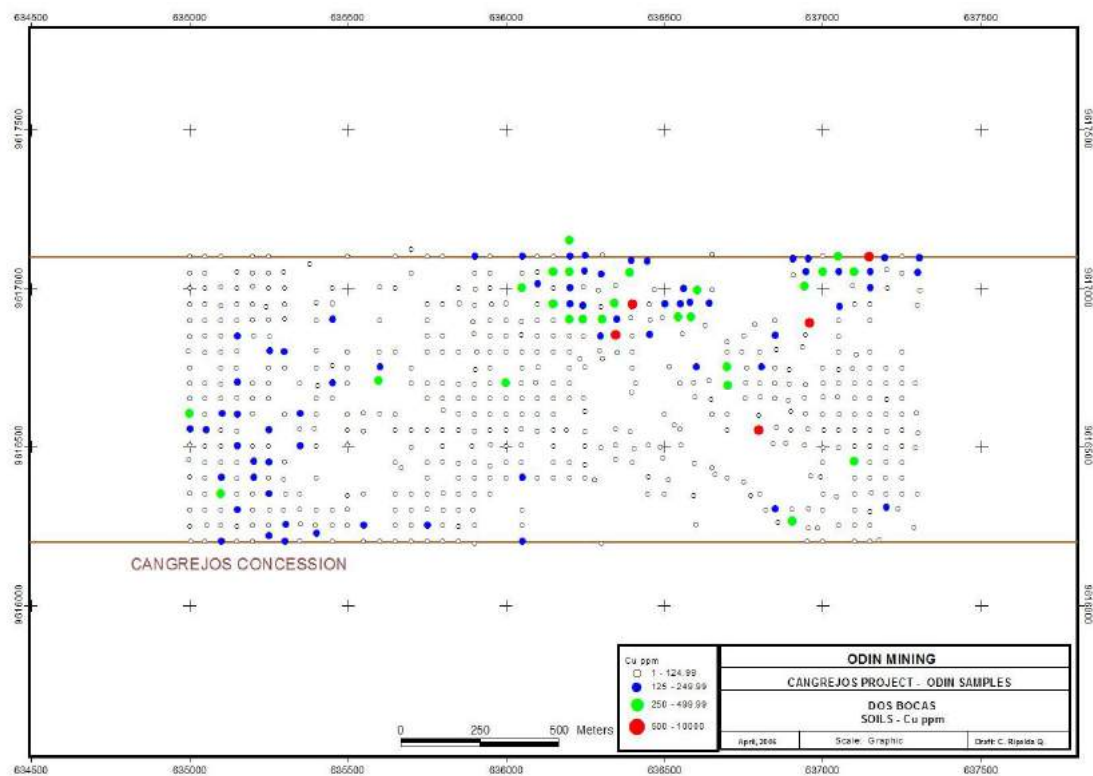


Figure 33: Dos Bocas - Top-of-Bedrock Soil Sampling Results – COPPER (ppm)

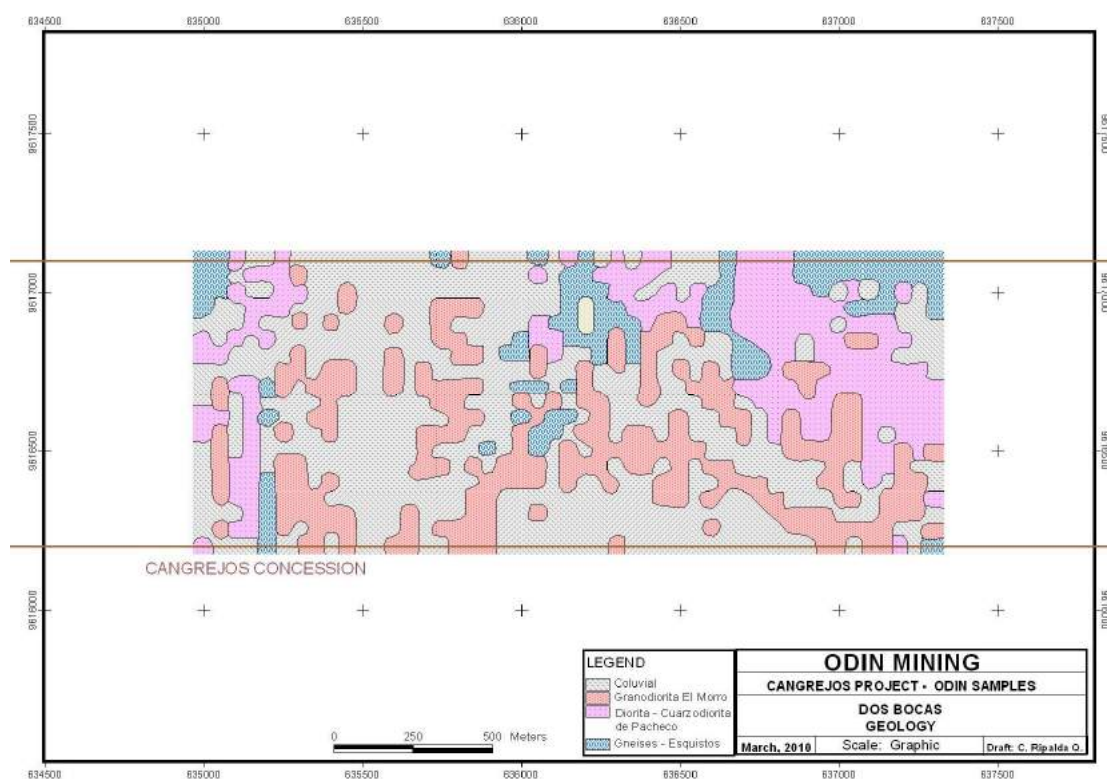


Figure 34: Dos Bocas - Top-of-Bedrock Soil Sampling - GEOLOGY

ppb Au	number	percent	ppm Cu	Number	percent
>1000	3	0.5	>1000	0	0.0
500-999	8	1.4	500-999	5	0.9
250-499	33	5.7	250-499	26	4.4
100-249	101	17.3	125-249	65	11.2
50-99	93	16.0	<125	487	83.5
<50	345	59.1			
<b>TOTALS</b>	<b>583</b>	<b>100.0</b>	<b>TOTALS</b>	<b>583</b>	<b>100.0</b>

Table 6: Dos Bocas - Top-of-Bedrock Soil Values - 50 m x 50 m Grid  
GOLD (ppb) and COPPER (ppm)

### Stream Sediment Sampling

A few stream sediment samples were taken in the area (Figure 35). Surprisingly those from the Rio Pomelo (the stream with the prominent dog-leg indicative of drainage capture) returned very high gold values (> 10,000 ppb) and showed very obvious fine grained gold in the pan. This result was taken to indicate the possible presence of a significant gold source in the nearby Cacique concession, which was not available to Odin at the time of sampling (end of 2005 / start 2006).

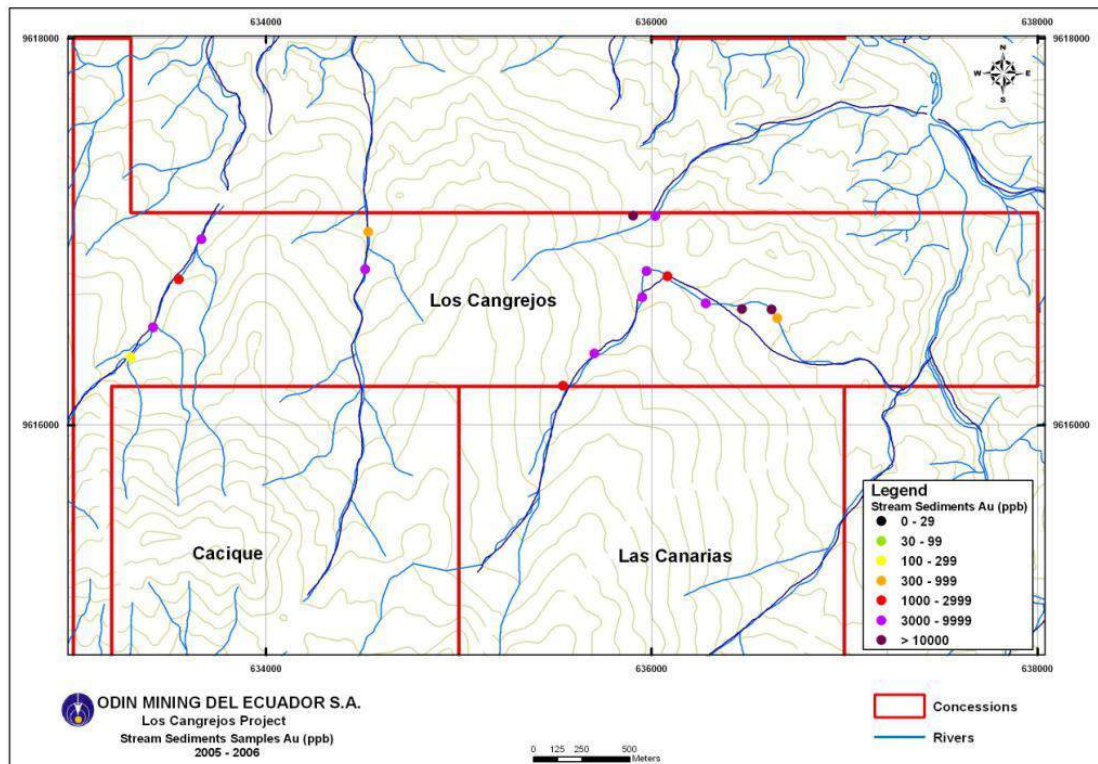


Figure 35: Dos Bocas – Stream Sediment Sampling – GOLD (ppb)



## b.2 Odin - Trinchera/Paloma/Cacique Target

### b.2.1 Pre-Castro Agreement

The first systematic work carried out by Odin over this area consisted of a limited top-of-bedrock soil-sampling exercise over the Trinchera/Paloma area drilled by Newmont. This exercise was carried out as an orientation survey to check on the sort of results that might be expected by using top-of-bedrock soil sampling over an area of known bedrock mineralization in anticipation of agreements eventually being reached with the neighbouring concession holders. The results of this exercise are shown in Table 7 and Figures 36 and 37.

<b>ppb Au</b>	<b>number</b>	<b>percent</b>	<b>ppm Cu</b>	<b>number</b>	<b>Percent</b>
<b>&gt;1000</b>	6	4.6	<b>&gt;1000</b>	17	13.1
<b>500-999</b>	10	7.7	<b>500-999</b>	33	25.4
<b>250-499</b>	19	14.6	<b>250-499</b>	31	23.8
<b>100-249</b>	26	20.0	<b>125-249</b>	27	20.8
<b>50-99</b>	39	30.0	<b>&lt;125</b>	22	16.9
<b>&lt;50</b>	30	23.1			
<b>TOTALS</b>	<b>130</b>	<b>100.0</b>	<b>TOTALS</b>	<b>130</b>	<b>100.0</b>

Table 7: Trinchera/Paloma - Top-of-Bedrock Soil Values - 50 m x 50 m Grid  
GOLD (ppb) and COPPER (ppm)

Unlike the situation at Dos Bocas there were no extensive zones of impenetrable colluvial and boulder cover at Trinchera/Paloma. Consequently, samples were recovered from about 95% of the sites planned.

As expected the two, northeast trending mineralized zones interpreted from the Newmont drilling are both reflected in the results of the top-of-bedrock sampling. However, both these zones appeared to extend outside of Odin's Los Cangrejos into the neighbouring concessions. These neighbouring concessions were not accessible to Odin at the time of this sampling. However, Odin did gain access to the Cacique concession in the northeast corner of Figures 36 and 37 following the Castro agreement in 2007.

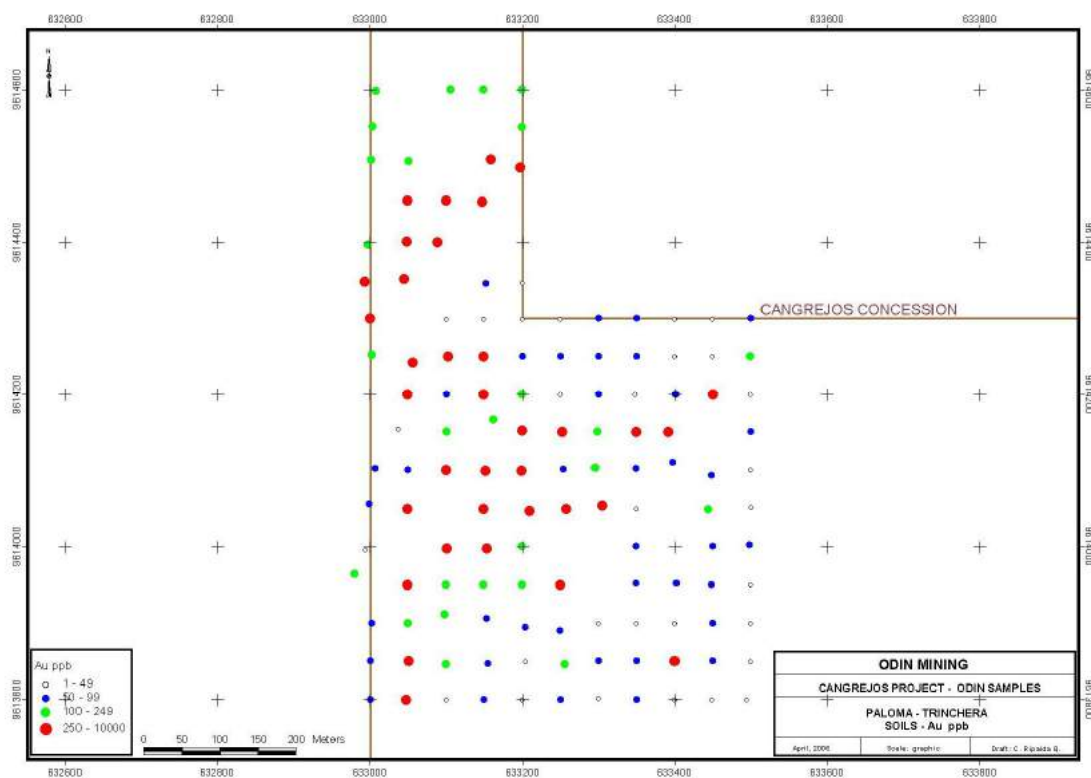


Figure 36: Trinchera/Paloma - Top-of-Bedrock Soil Sample Results – GOLD (ppb)

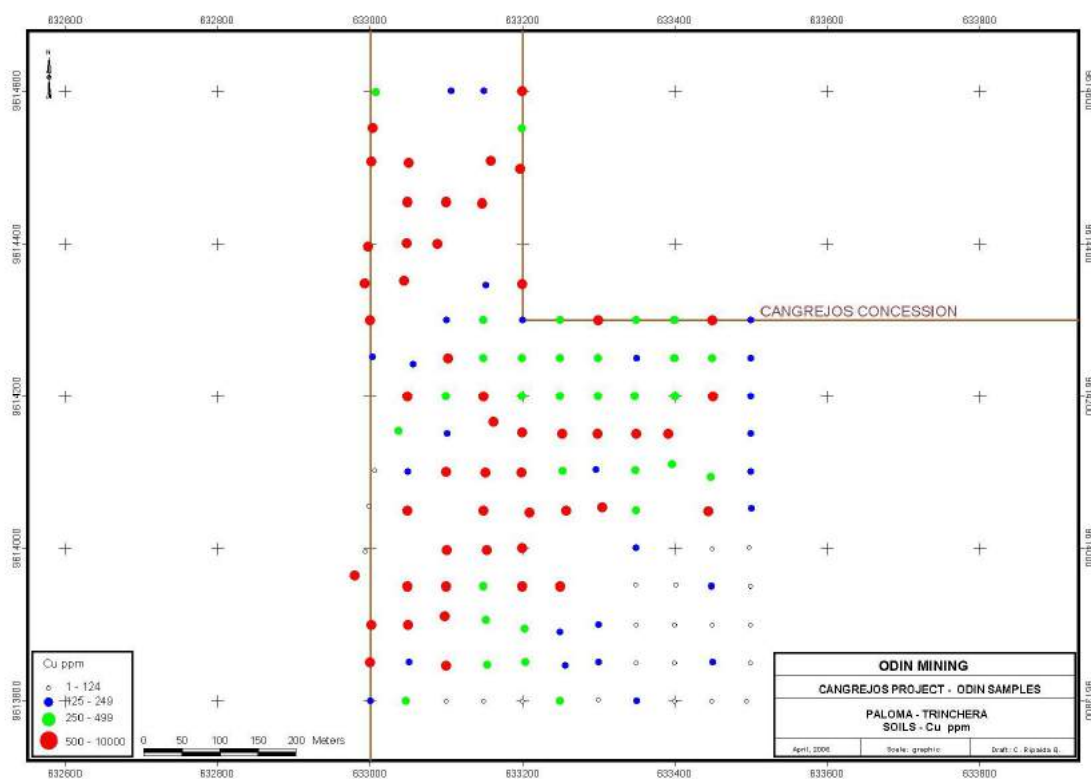


Figure 37: Trinchera/Paloma- Top-of-Bedrock Soil Sample Results– COPPER (ppm)

### b.2.1 Post-Castro Agreement

#### Stream Sediment Sampling: 2007

Following the signing of the agreement with Mr Castro in May 2007, Odin completed a detailed stream sediment survey over the eastern side of the Greater Cangrejos property including the Castro block. Samples were taken at intervals of approximately 200 m along the stream courses and the -80 mesh fraction analysed for gold and 35 other elements by ICP-MS as described in Sections 11 and 12. Figure 38 gives the results for gold and Figures 39 to 44 give the corresponding results for copper, molybdenum, silver, arsenic, lead and zinc.

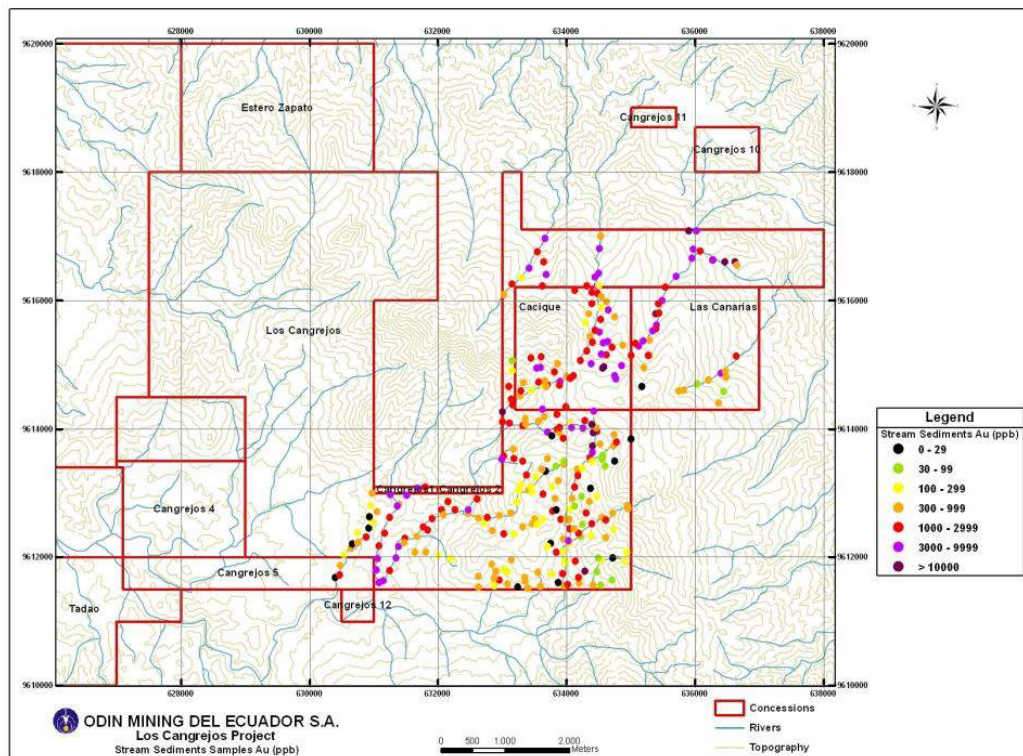


Figure 38: Eastern Greater Cangrejos - Stream Sediment Results – GOLD (ppb)



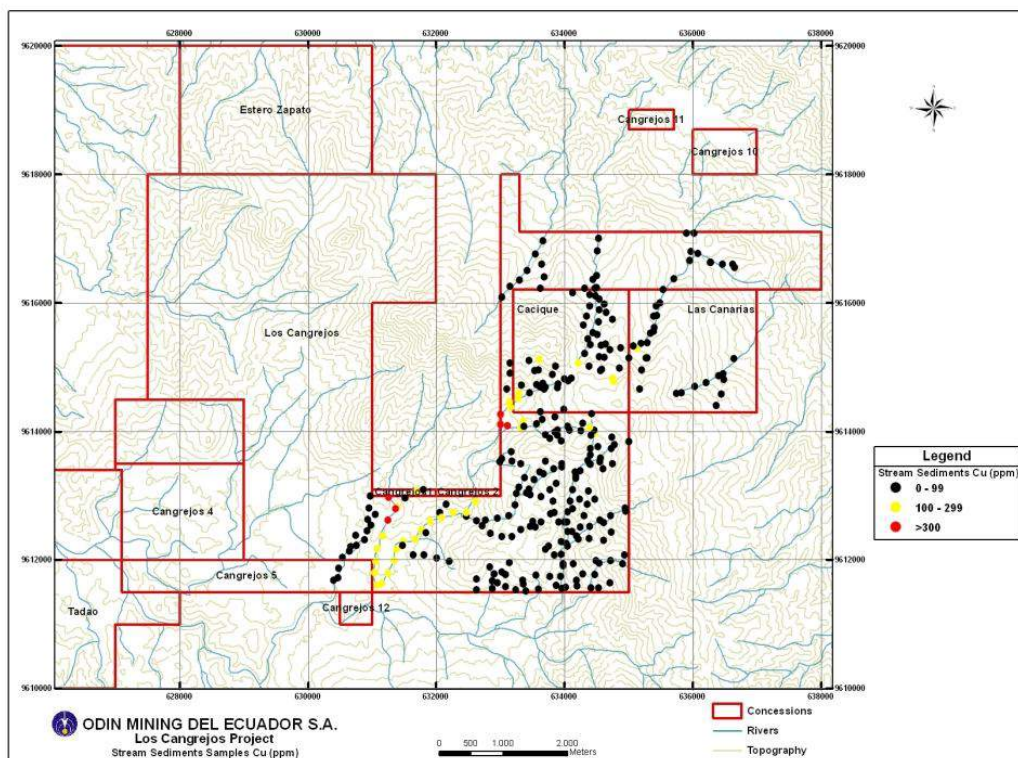


Figure 39: Eastern Greater Cangrejos - Stream Sediment Results – COPPER (ppm)

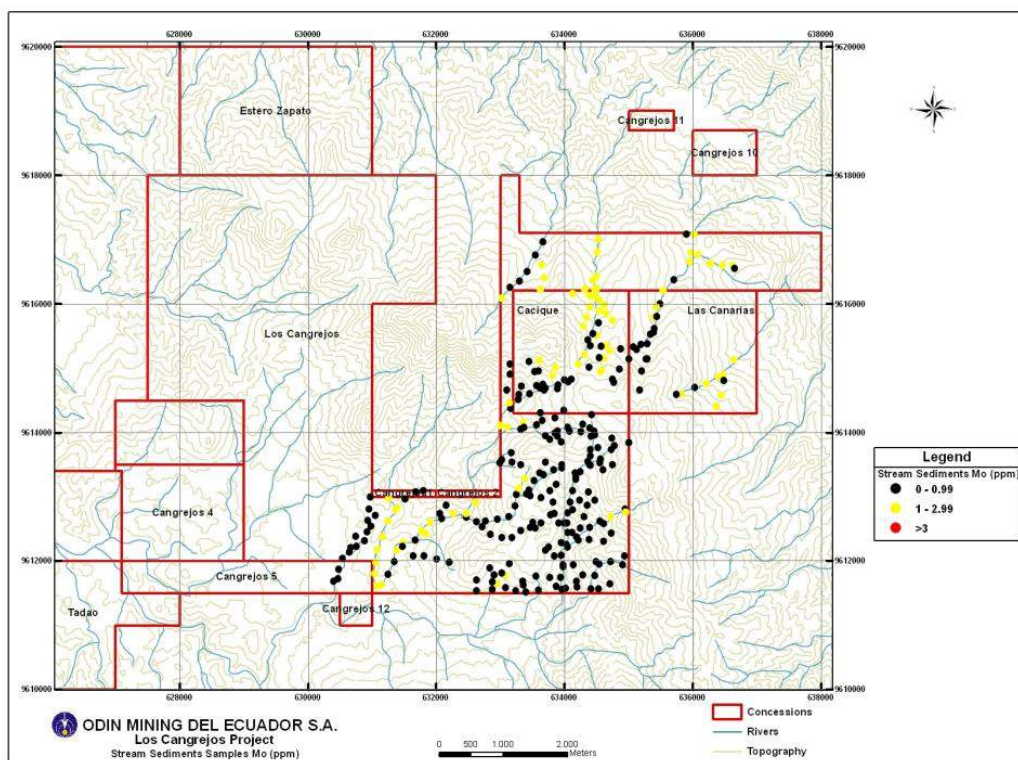


Figure 40: Eastern Greater Cangrejos - Stream Sediment Results – MOLYBDENUM (ppm)



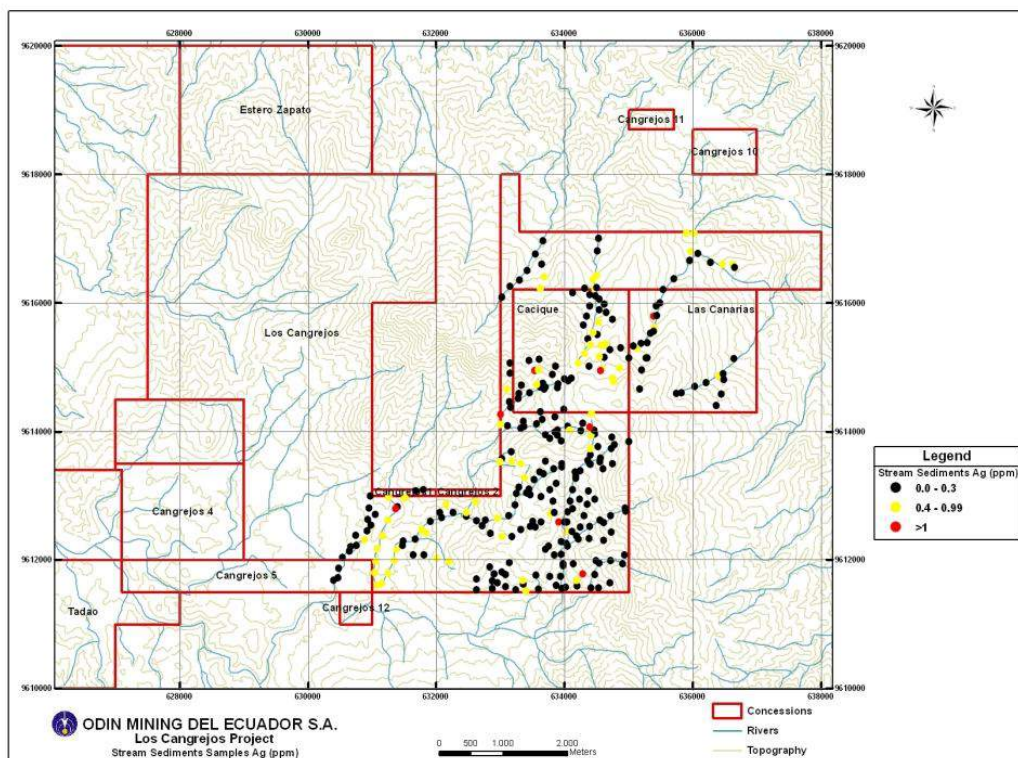


Figure 41: Eastern Greater Cangrejos - Stream Sediment Results - SILVER (ppm)

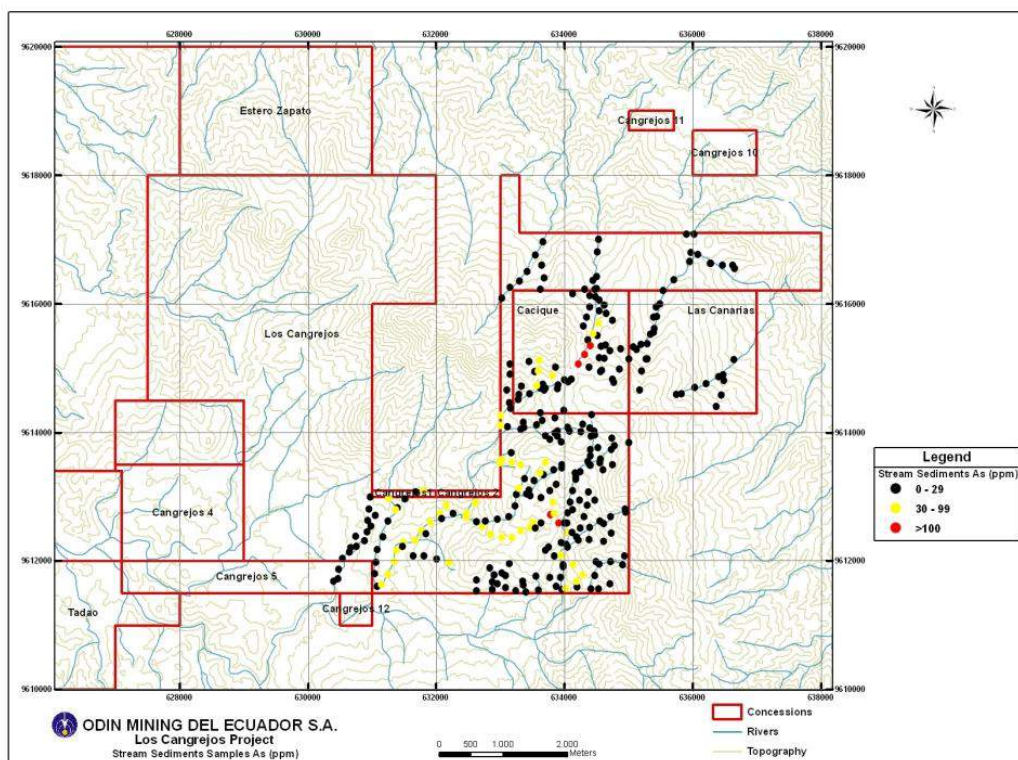


Figure 42: Eastern Greater Cangrejos - Stream Sediment Results - ARSENIC (ppm)



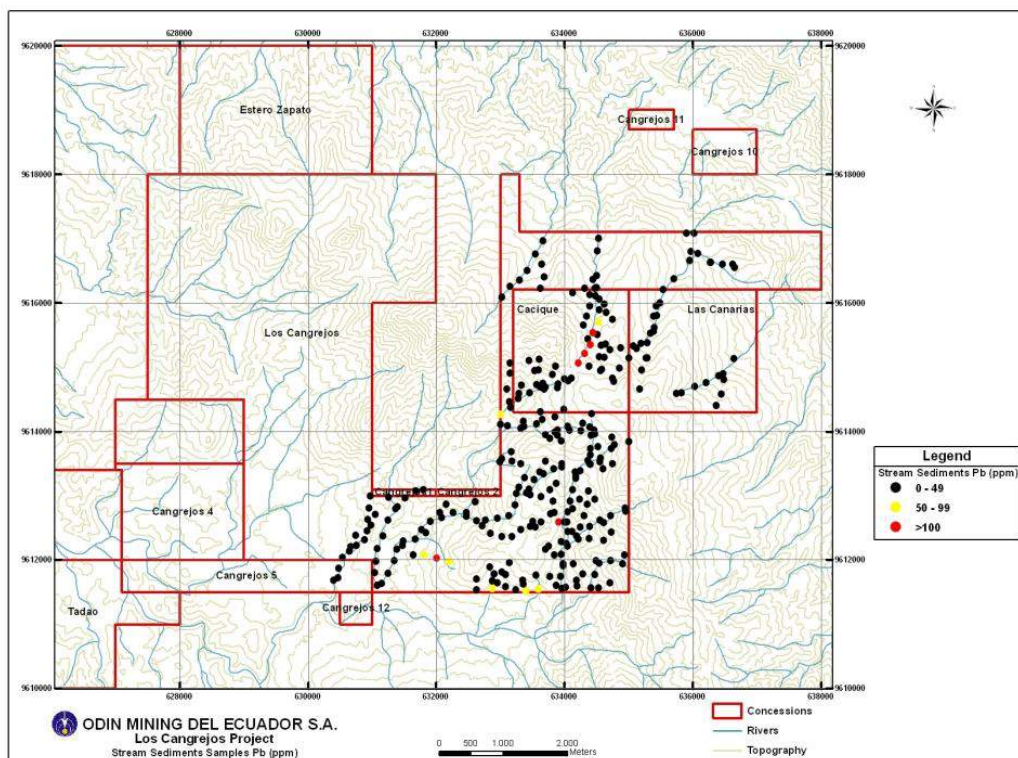


Figure 43: Eastern Greater Cangrejos - Stream Sediment Results - LEAD (ppm)

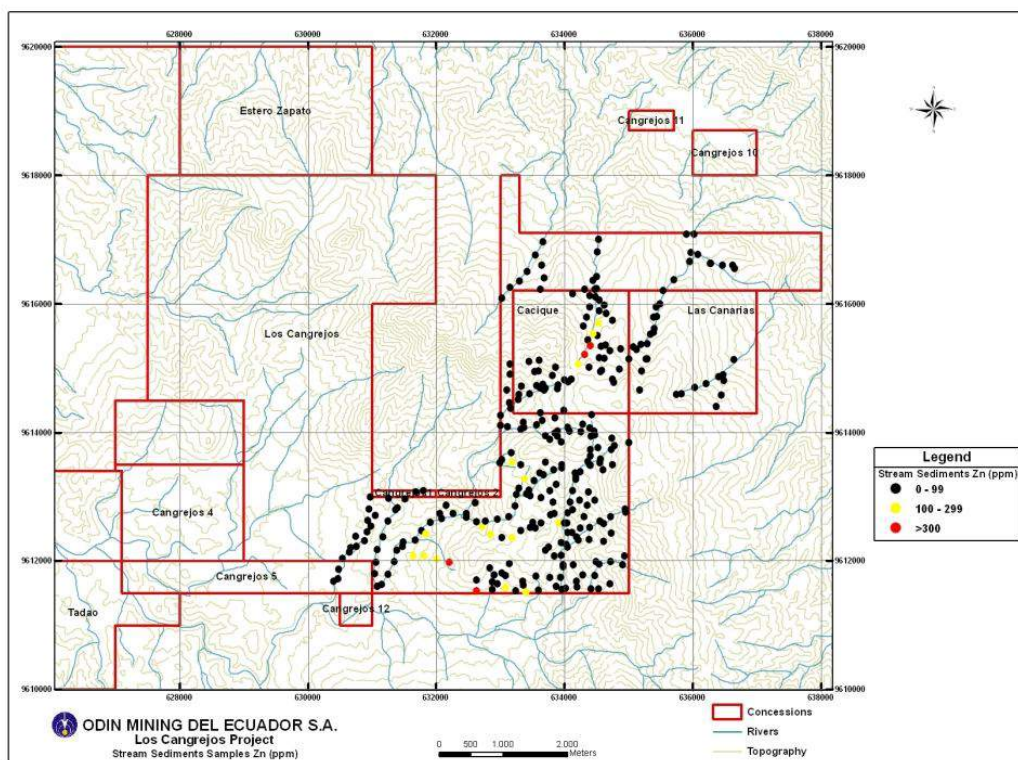


Figure 44: Eastern Greater Cangrejos - Stream Sediment Results - ZINC (ppm)

The gold values are consistently high through the area sampled both in the analytical results (Table 8) and in the results of the systematic panning carried out at each sample point (Section 11). Some of the results, such as those downstream from the former, informal, small-scale Abad mine in the Trinchera/Paloma area (Fig 45), are undoubtedly enhanced by tailings from informal artisanal mining operations. Nevertheless, many of the streams do not have this problem, and the gold results appear to point to an important gold source centred on the northwest-trending ridge of high ground crossing the Cacique concession (Odin, 2007c) as shown in Figure 45.

<b>ppb Au</b>	<b>number</b>	<b>Percent</b>
>3000	70	19.2
1000-2999	99	27.1
300-999	102	27.9
100-299	48	13.2
30-99	24	6.6
<30	22	6.0
<b>TOTALS</b>	<b>365</b>	<b>100.0</b>

Table 8: Eastern Greater Cangrejos - Stream Sediment Values – GOLD (ppb)

None of the other elements show such a generally anomalous picture as the gold. Nevertheless, copper shows anomalous values in the Trinchera/Paloma area which presumably reflects the presence of the copper in the porphyry-style mineralization drilled there by Newmont in 1999/2000, and molybdenum, silver, arsenic, zinc and lead all show some elevated values in one or more of the streams draining northeastwards from the middle of the Cacique gold anomaly.

The results of the stream sediment sampling exercise confirmed the importance of the Castro concessions and especially the southern portion of the Cacique concession. Therefore, in view of the timing and size of the payment schedule and the exploration expenditure commitment in the agreement with Mr Castro, the next phase of work, consisting mainly of a top-of-bedrock soil sampling program on a 50 m x 50 m grid was focused on this area.

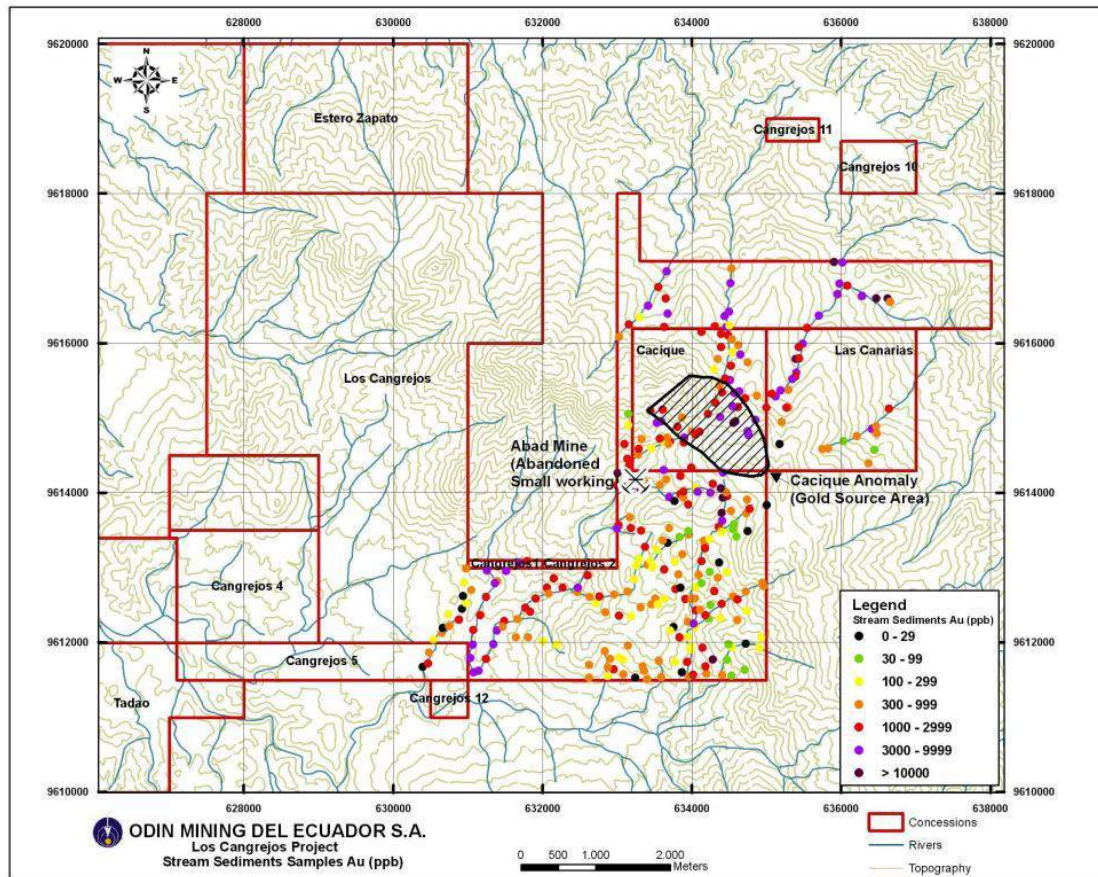


Figure 45: Interpreted Location of Cacique Hardrock Gold Source

### Top-of-Bedrock Soil Sampling: 2007-2008

In late 2007 Odin embarked upon a new program of top-of-bedrock sampling on a 50 m x 50 m grid to extend the small 2006 program at Trinchera/Paloma across all the southern part of the Cacique concession and into the western part of the Las Canarias concession (Figure 46). This program was designed to cover any extensions of the partially drilled Trinchera and Paloma mineralized trends to the northeast and across the high ridge sourcing the Cacique alluvial gold in Figure 45.

The 50 m x 50 m grid position was generally laid out using hand-held GPSs with each planned sample site marked with a numbered stake so that the exact sample position could always be relocated, provided that the grid was properly maintained. From checks described in Section 13, it would seem that the pegs were usually within a metre or two of their planned position, although in a few cases the actual peg location could be displaced 10 m or more from the plan position. In a few areas, steep slopes and thick forest cover eliminated the GPS signal and pegs had to be placed using tape and compass.

During the period of the exploration moratorium, Odin discontinued the maintenance of the grid to conserve cash. Consequently, the vast majority of the pegs have now disappeared, and Odin is forced to rely on relocating sample points solely from the recorded GPS positions.



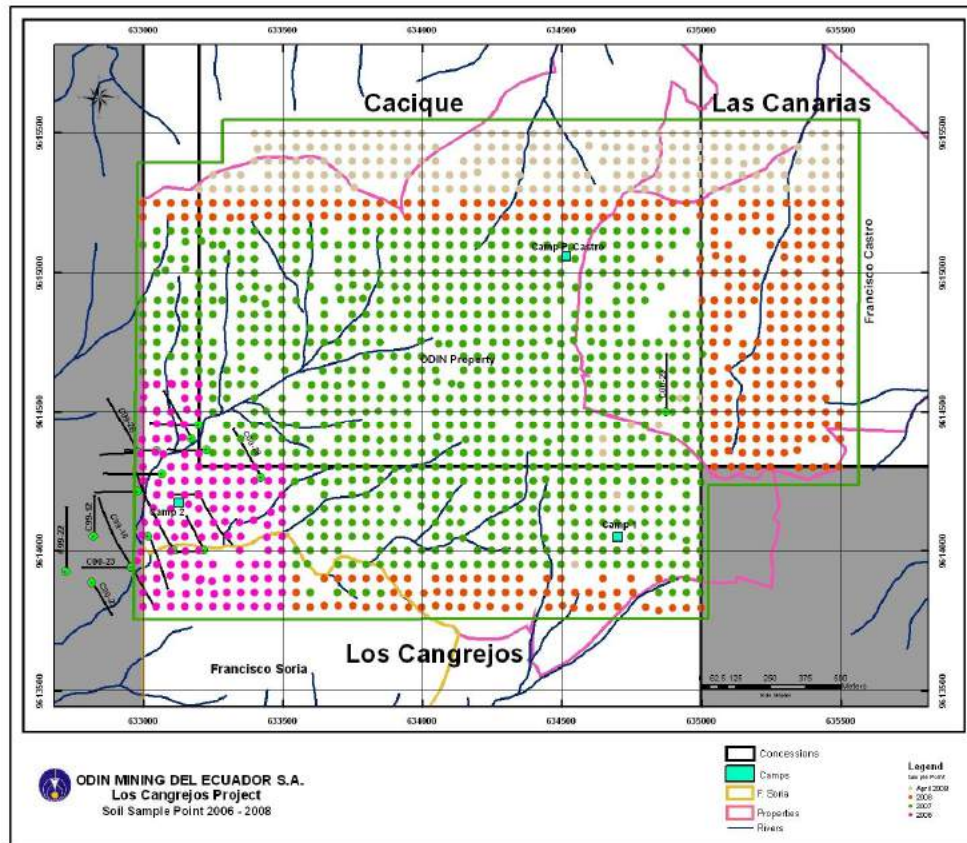


Figure 46: Trinchera/Paloma/Cacique – Top-of-Bedrock Soil Sample Sites

Exactly the same sampling methodology and assay techniques were used as at Dos Bocas in 2005/2006. These are described in Sections 11 and 12.

Table 9 summarizes the values obtained for gold and copper as taken from Odin's various MD&As in 2007 and 2008. Figures 47 and 48 present plots of the individual results for gold and copper. Figures 49 and 50 present the equivalent hand-contoured plots. As was to be expected from the stream sediment plots, no other elements are obviously anomalous, except possibly arsenic, which shows a zone of elevated values in the northwest sector of the sampled area (Figure 51). Figure 52 presents the geology as interpreted from the logging of the top of bedrock samples.

ppb Au	Number	Percent	ppm Cu	Number	Percent
>1000	29	1.9	>1000	20	1.3
500-999	23	1.4	500-999	57	3.7
250-499	77	4.9	250-499	109	7.0
100-249	136	8.7	125-249	199	12.8
50-99	230	14.8	<125	1174	75.2
<50	1064	68.2			
<b>TOTALS</b>	<b>1569</b>	<b>100.0</b>	<b>TOTALS</b>	<b>1559</b>	<b>100.0</b>

Table 9: Cacique - Top-of-Bedrock Soil Values - 50 m x 50 m Grid  
GOLD (ppb) and COPPER (ppm)

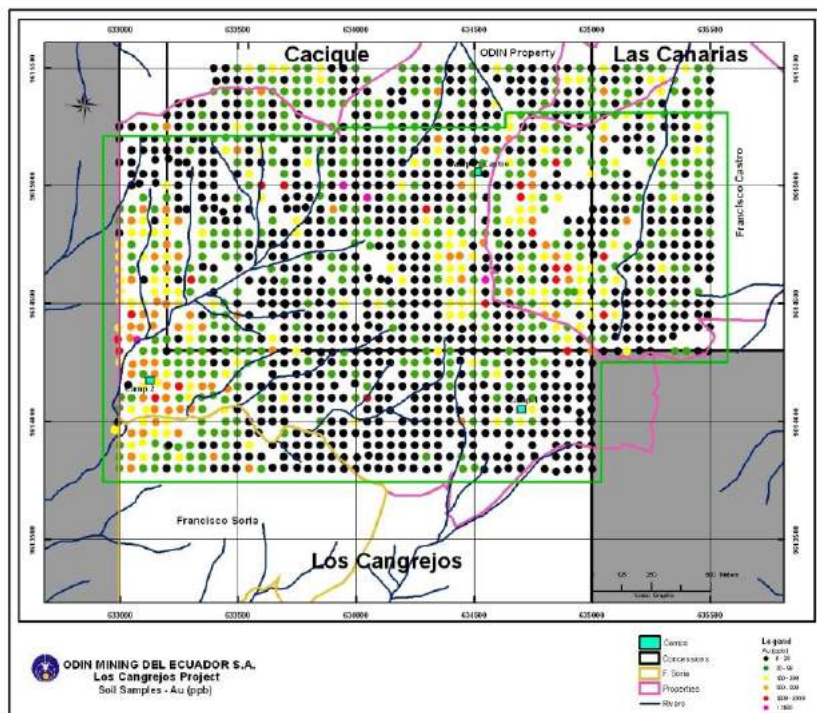


Figure 47: Trinchera/Paloma/Cacique - Top-of-Bedrock Soil Results – GOLD (ppb)

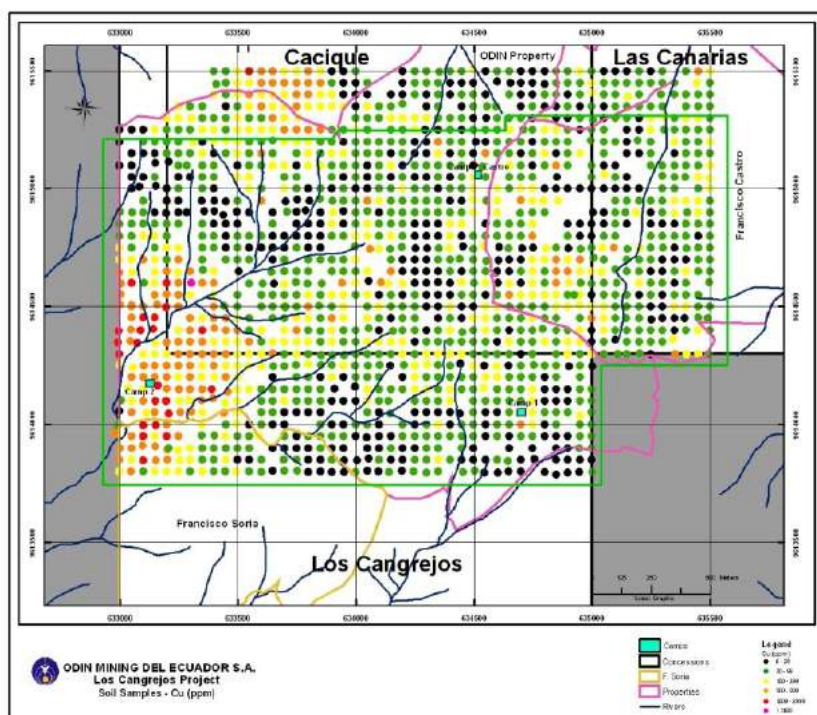


Figure 48: Trinchera/Paloma/Cacique - Top-of-Bedrock Soil Results – COPPER (ppm)



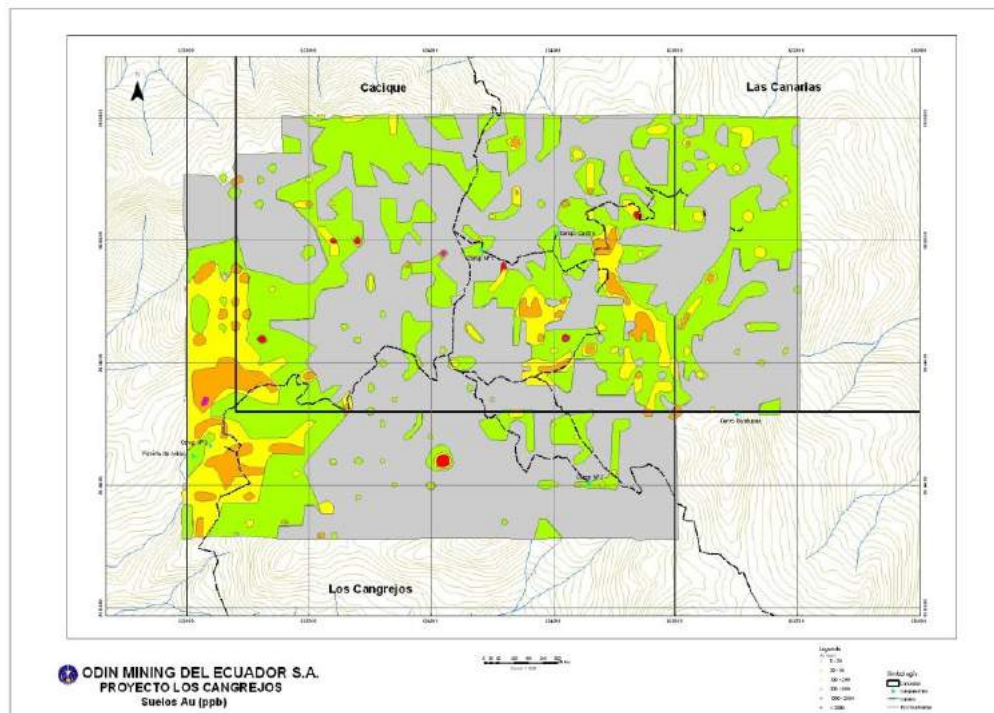


Figure 49: Trinchera/Paloma/Cacique - Top-of-Bedrock Contours – GOLD (ppb)

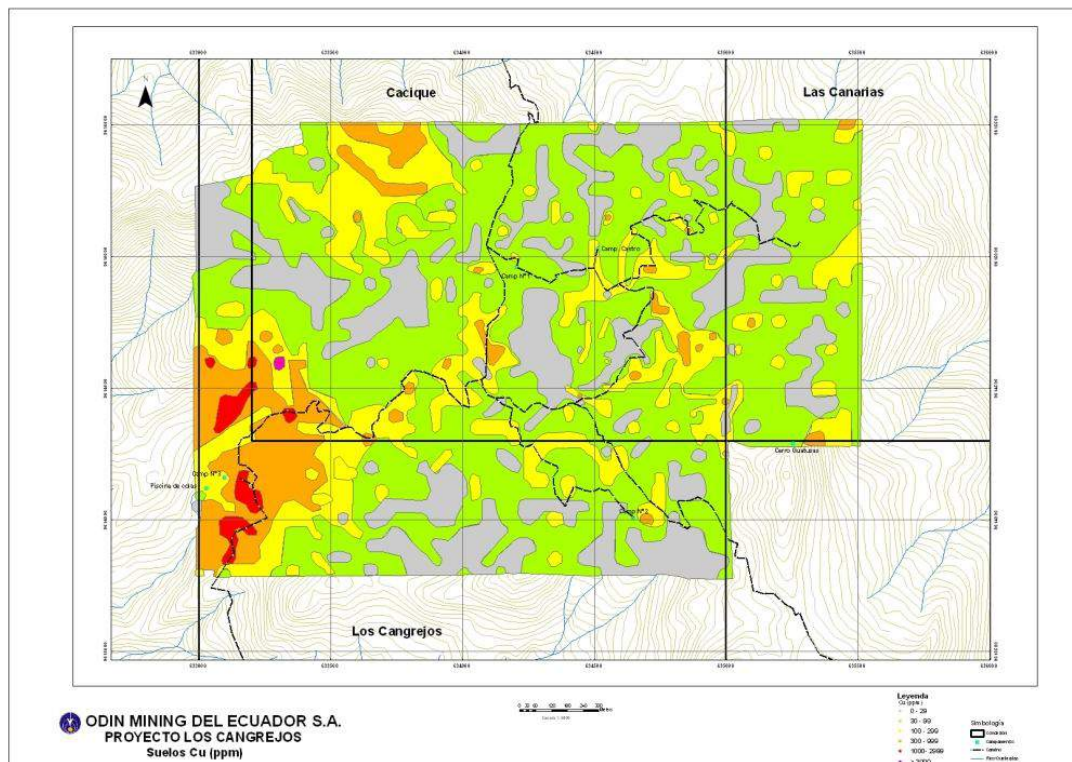


Figure 50: Trinchera/Paloma/Cacique - Top-of-Bedrock Contours – COPPER (ppm)



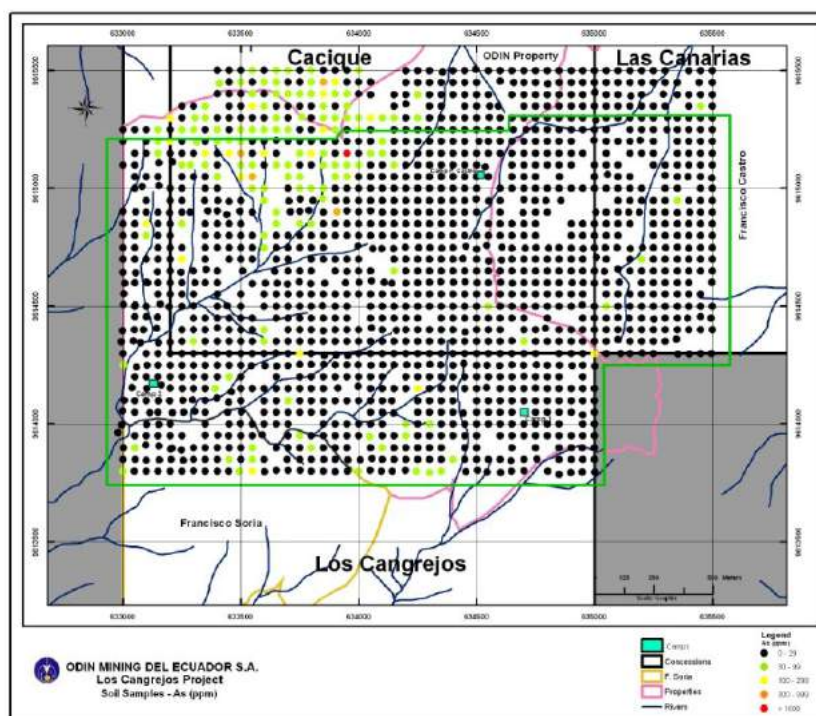


Figure 51: Trinchera/Paloma/Cacique –Top-of-Bedrock Results – ARSENIC (ppm)

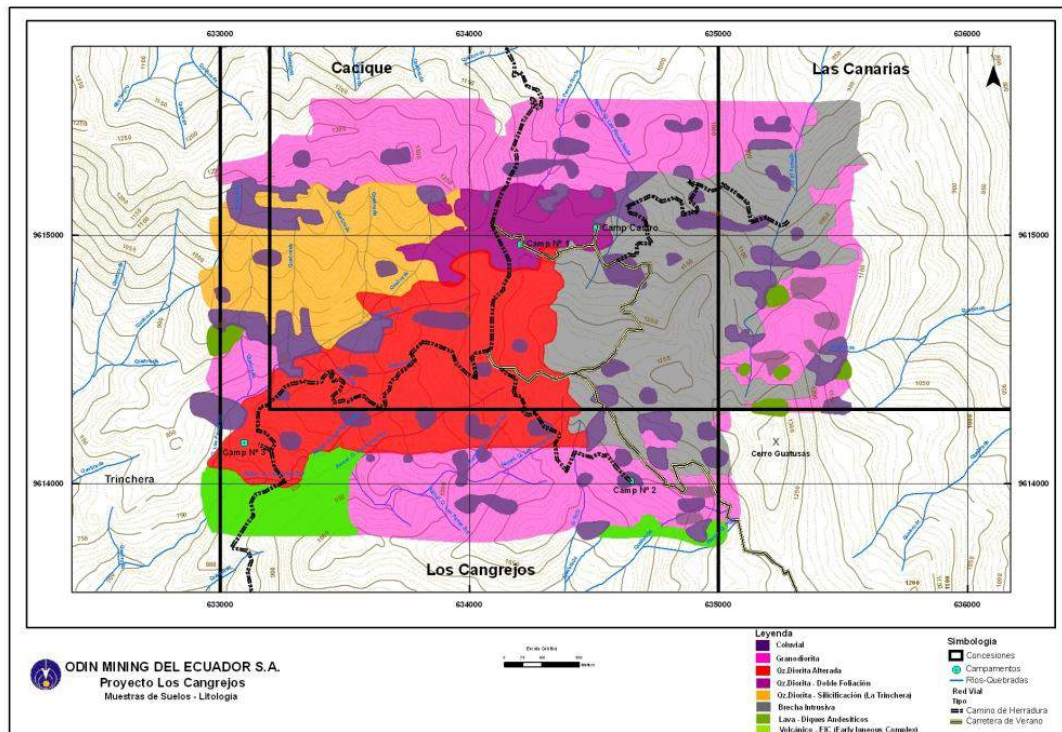


Figure 52: Trinchera/Paloma/Cacique – Top-of-Bedrock Soil Sampling - GEOLOGY

Figures 53 and 54 present a structural interpretation imposed on a simplified presentation of the gold and copper results shown in Figures 47 and 48. This interpretation is based not only on the available geochemical and geological information, but also on satellite imagery and recalculated airborne geophysical data as interpreted by Mr McDonald as described in the next section.

The interpreted structural elements shown on Figures 53 and 54 consist of three east-northeasterly trending lineaments labelled A, B and C, a markedly curved lineament, labelled Y, which varies in trend from north-south to northwest-southeast, and a northwesterly trending lineament labelled X. All the lineaments are believed to be related to faults.

Lineaments X and Y appear to be related to the interpreted 8 km inner ring structure referred to in Section 6 and shown on Figure 13 and 14. Lineaments A, B and C are thought to represent some of the faults within the 2 km wide northeasterly trending corridor of weakly anomalous gold values in Newmont's gold soil geochemistry referred to in Section 9 and shown in Figure 22. These two sets of structural elements intersect on the ridge crest in the southeast corner of the Cacique concession exactly in the source area of the Cacique gold anomaly in Odin's stream sediment data (Figure 45). The intersection of these structural elements in this zone may be expected to have produced a high degree of fracturing, which may in turn have provided a favourable plumbing system for the emplacement of breccias bodies and the circulation of metal-bearing hydrothermal solutions.

The southwest end of Lineament A follows a small, southwesterly flowing stream passing through the southwest corner of the Cacique concession (Figure 53), where, in part, at least it may correspond to the Paloma mineralized trend as interpreted from Newmont's holes C99-13, C99-18, C99-20 and C00-27 (Figures 18, 53 and 54). For much of its length Lineament A also appears to show a close correspondence with the northwestern, linear contacts of both the "altered quartz diorite" (indicated in red in Figure 52) and the "intrusive diorite" of Peña de Gallo (indicated in grey in Figure 52). Consequently, it is expected that Lineament A may represent a significant fault.

Lineament B also follows a small southwest flowing stream at its southwest end. However, it does not have any obvious expression in the geological map of Figure 52. Nevertheless, there does seem to be a suggestion of its trace in the copper results from Odin's top-of-bedrock soil sampling program (Figure 50). Lineament B appears to correspond to the Trinchera Mineralized zone as interpreted from Newmont's drill holes C99-03, C99-14, C99-15, C99-17, C99-21 and C00-24 (Figures 18, 53 and 54).

Lineament C has no obvious topographical or lithological correspondence, and its presence was interpreted from a 3D-projection of mineralization cut at the very southeast end of Newmont's hole C00-24 located at the southwest end of the Trinchera mineralized zone and that cut by Newmont's hole C00-29 close to the Cacique/Las Canarias boundary at an elevation about 400 m higher (Figure 55) (McDonald, 2008b).

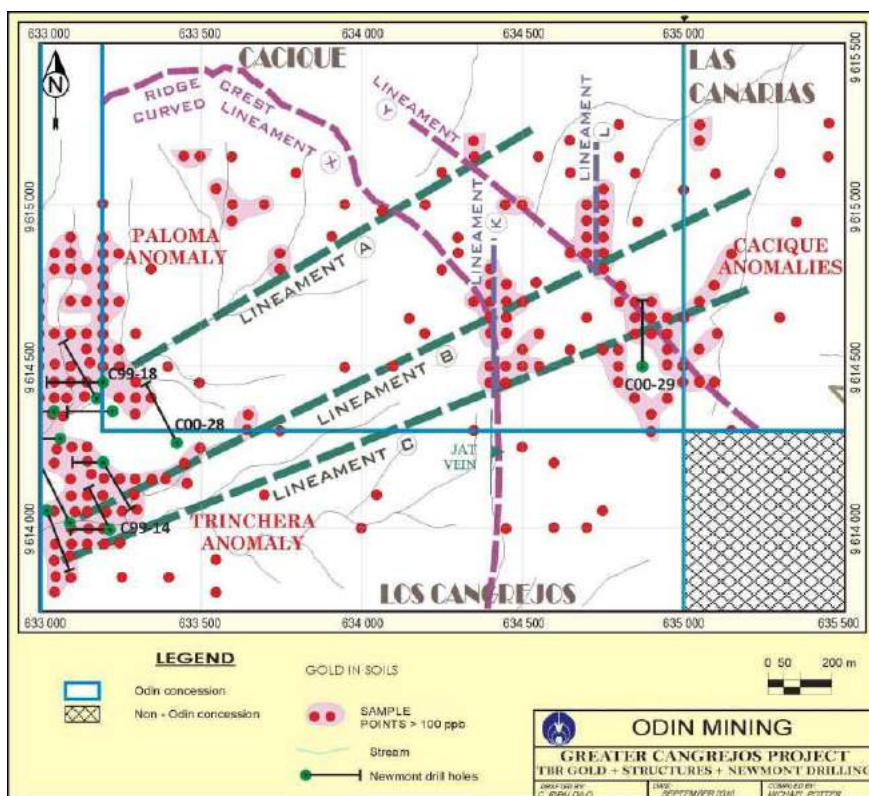


Figure 53: Trinchera/Paloma/Cacique – Structural Interpretation Overlaying Simplified Top-of-Bedrock Gold (ppb)

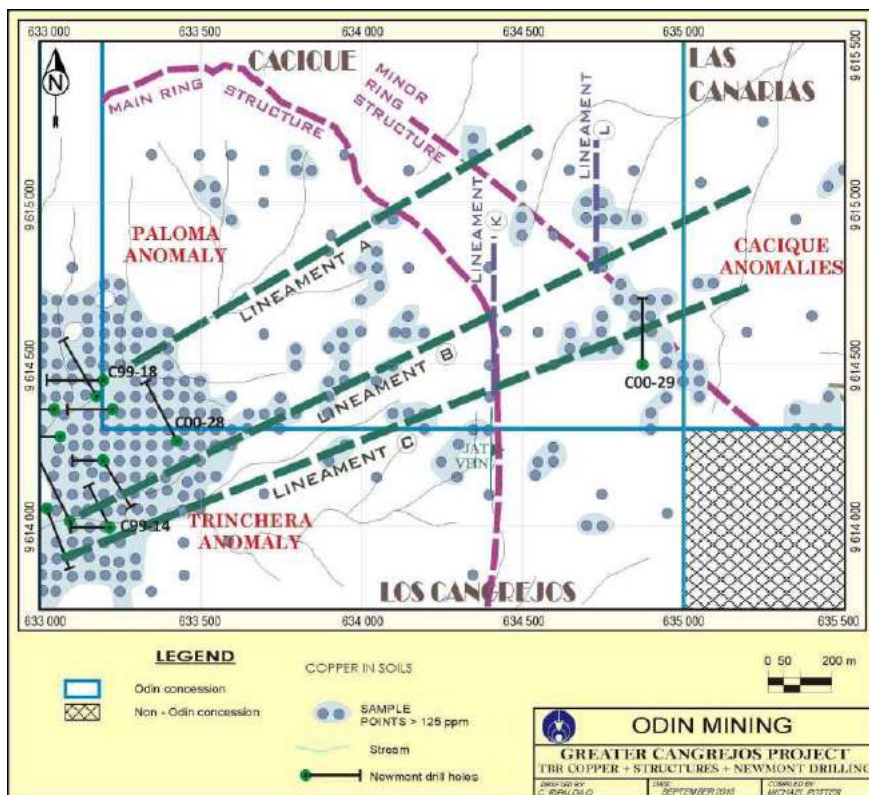


Figure 54: Trinchera/Paloma/Cacique - Structural Interpretation Overlaying Simplified Top-of-Bedrock Copper (ppm)



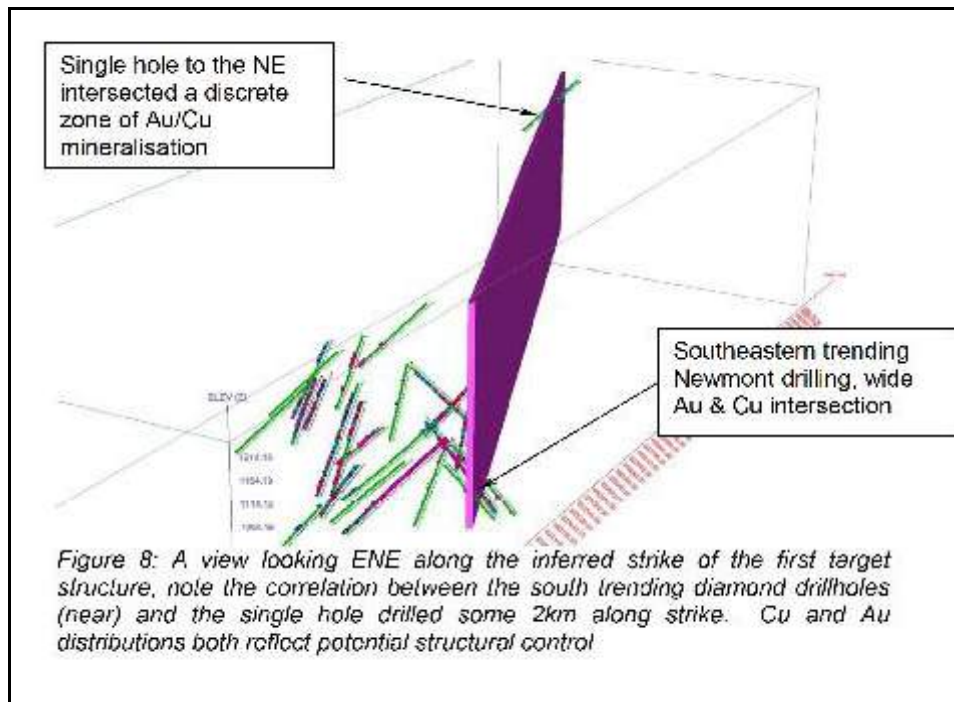


Figure 55: 3D Interpretation of Lineament C  
(McDonald, 2008b)

### Rock Sampling

Figure 56 summarizes the gold results obtained from all Odin's rock sampling carried out since 2005. Apart from the expected grouping of >3 g/t gold values in the Cacique-Trinchera-Paloma area, there is another grouping of >3 g/t gold values in the southeast corner of the Los Cangrejos concession. This raises the possibility of another, as yet unrecognized, high-grade gold target in this area at a significantly lower elevation of around 400 m to 600 m than that of between 800 m and 1200 m at Trinchera/Paloma/Cacique. It can be seen from Table 10 that many of the >3 g/t gold samples from the lower elevations have distinctly elevated arsenic levels compared to the samples from higher elevations suggesting the presence of a different style of mineralization.

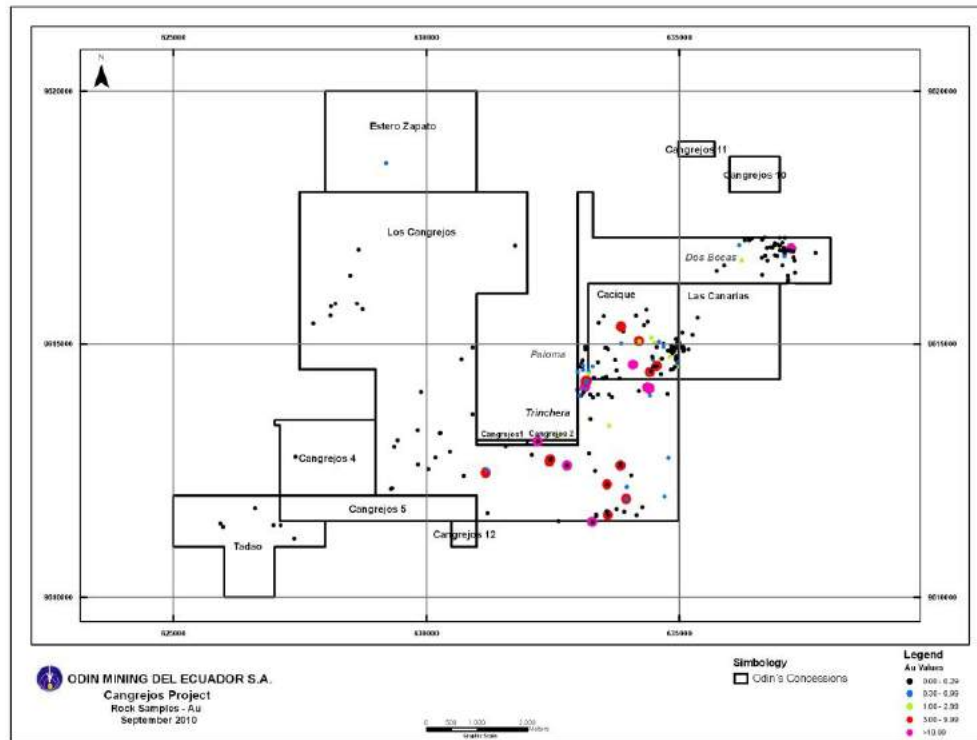


Figure 56: Summary of Odin's Rock Sampling Results – GOLD (g/t)

Sample ODN	Year	Easting	Northing	Height M	GOLD g/t	Ag ppm	Cu ppm	As Ppm	Rock
1606	2006	637228	9616885	388	12.7	6.9	555	180	ore for milling
2016	2006	633150	9614150	826	63.6	6.2	160	342	dump
2019	2006	634100	9614594	1140	80.3	46.5	8772	90	ore for milling
3919	2007	631180	9612458	333	3.1	101.0	3671	+10000	quartz + sulfide
3930	2007	632209	9613075	504	21.4	29.2	1443	+10000	quartz + sulfide
3932	2007	632447	9612678	427	5.7	26.5	150	+10000	quartz + sulfide
3936	2007	632789	9612604	522	68.8	54.2	115	+10000	quartz + sulfide
3940	2007	632463	9612722	422	6.5	18.3	2613	+10000	quartz + sulfide
3980	2007	633601	9611622	595	5.8	4.6	28	344	quartz + sulfide
3983	2007	633291	9611484	537	14.5	15.6	67	2865	quartz + sulfide
3989	2007	633854	9612598	751	5.5	52.3	119	+10000	quartz + sulfide
4210	2007	633587	9612230	750	6.1	5.7	290	3744	shear
4212	2007	633963	9611940	613	3.3	16.6	45	2728	shear
4223	2007	634212	9615056	1123	4.1	1.1	335	682	altd intrusive
4258	2007	634566	9614567	1243	5.2	0.5	354	257	dump
4264	2007	634383	9614140	1160	11.1	1.7	475	57	breccia
4266	2007	634424	9614119	1141	13.2	1.9	944	144	ore for milling
4273	2007	633181	9614269	829	28.9	4.3	1366	77	quartz
4274	2007	633167	9614271	830	6.7	10.7	1288	597	breccia
5652	2008	633858	9615346	1248	4.7	10.4	71	126	breccia
5672	2008	634425	9614446	1205	3.0	0.6	441	292	quartz+ tourm
6982	2010	634416	9614131	1119	25.0	2.7	2962	151	ore for milling
Key =					> 1000	>10.0		+10000	
					700-1000				
					<700				

Table 10: Odin Rock Sampling Results with &gt; 3 g/t GOLD

**McDonald Studies**

Immediately after reaching agreement with Mr Castro in May 2007, Odin appointed Encom Technologies Limited (now Pitney Bowes Insight) to reprocess the Newmont heliborne geophysical data, to replot the Newmont geochemical, lithological and borehole data and the Odin geochemical data, to acquire appropriate satellite imagery and to provide an integrated interpretation for the whole Greater Cangrejos property with a special emphasis on possible drill targets on the Castro block of concessions (Odin, 2007a).

The technical team at Encom was led by Mr Bruce MacDonald, and prior to the exploration moratorium in Ecuador, the McDonald team provided three principal reports. Two provide an overview of their interpretation of the data from the Greater Cangrejos property (Encom Technology, 2007 and McDonald, 2008a) and the third gave an initial drill program proposal (McDonald, 2008b).

During the period of the exploration moratorium, Mr McDonald and much of his team transferred to ASVI Technical Services Group Limited of Kuala Lumpur, Malaysia. Nevertheless, they still continue to provide the same services to Odin as previously.

In the second half of 2009 and into 2010 the McDonald team continued to develop their ideas on a proposed diamond drilling program for the Trinchera/Paloma/Cacique area (McDonald, 2009a,c,d, McDonald, 2010). They also recommended that the top-of-bedrock sampling on the 50 m x 50 m grid be checked with another top-of-bedrock sampling program confined to the crest of the ridges and spurs (McDonald, 2009b).

The re-processed and re-presented geophysical, geochemical and geological data have been of considerable assistance in understanding the geological controls on the mineralization at Greater Cangrejos. In particular, the images produced from the re-processed and re-presented heliborne geophysical data (Figures 56 and 57) have been of much higher quality than those available in the Newmont (2001a) data package. The image of the analytical signal from the reprocessed magnetic data has been especially useful in emphasizing the reality of lineaments interpreted from the geochemical data and satellite imagery over the Trinchera/Paloma/Cacique area (Figure 58). Furthermore, the ability to provide different types of images allows data to be viewed from different perspectives (eg Figure 59).



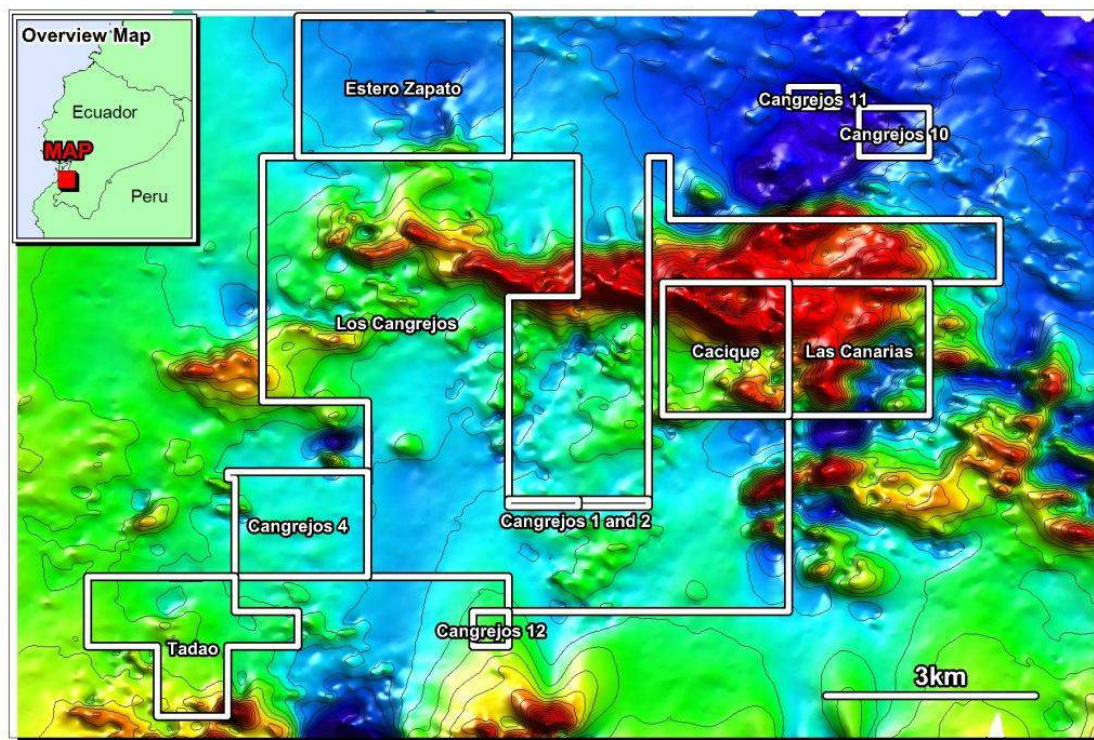


Figure 57: Reprocessed Heliborne Magnetic Data – REDUCED TO POLE

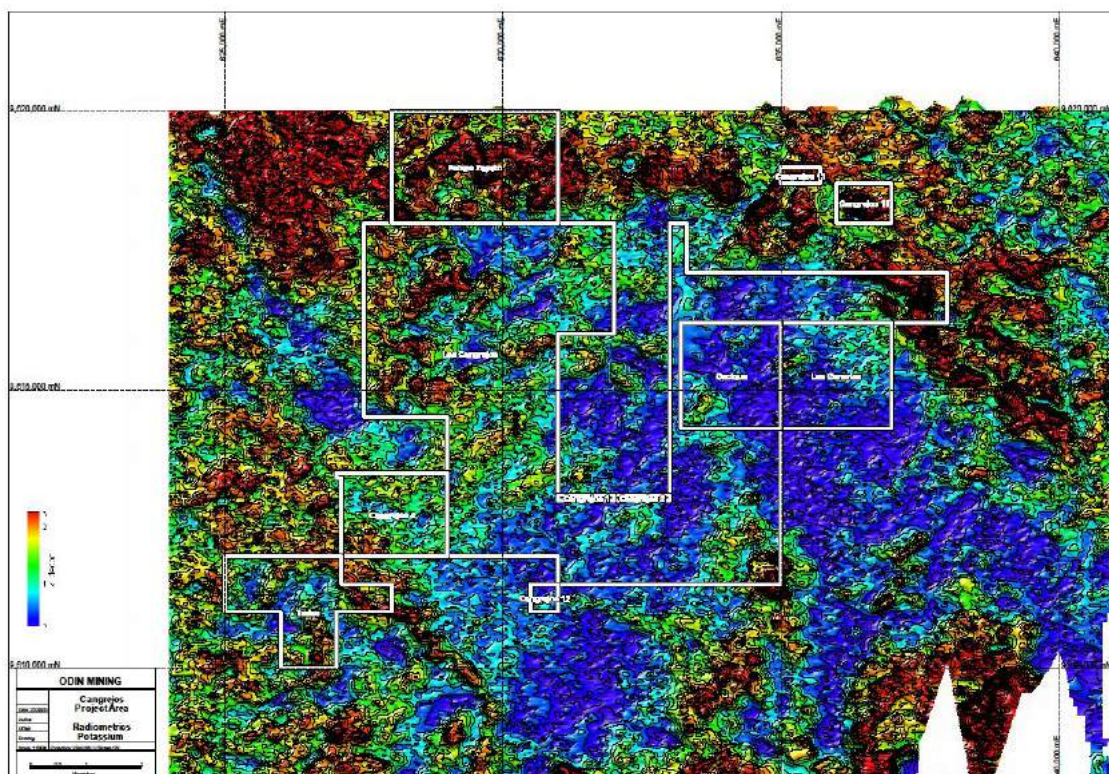


Figure 58: Reprocessed Heliborne Radiometric Data – TOTAL COUNT



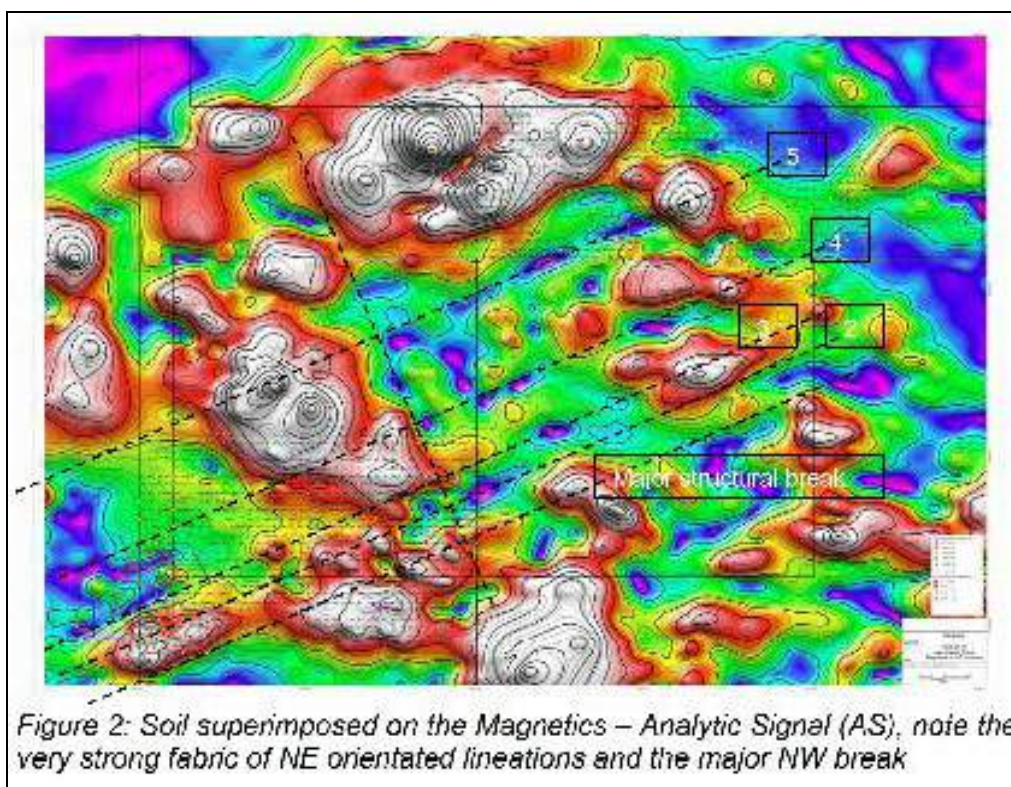


Figure 59: Trinchera/Paloma/Cacique - Reprocessed Heliborne Magnetic Data – ANALYTICAL SIGNAL

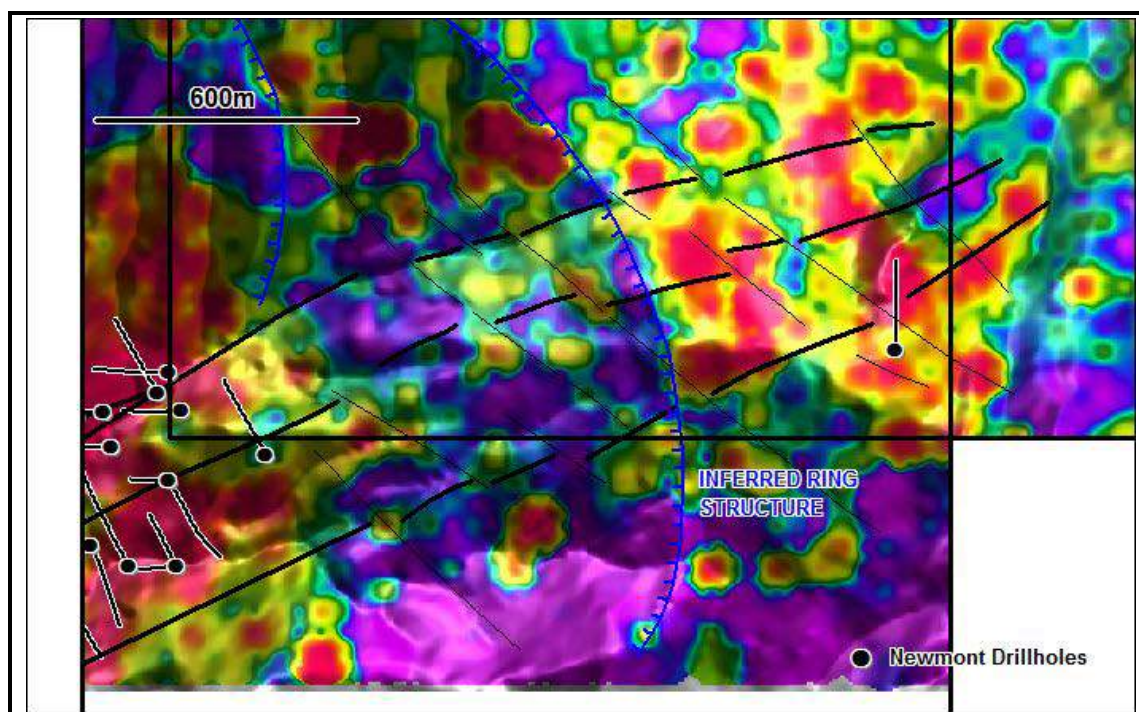


Figure 60: Trinchera/Paloma/Cacique - TBR Soil Gold over Shaded Topography

## 10. DRILLING

During 1999 and 2000 Newmont contracted Connors Perforaciones SA to drill 29 holes totalling 7,508 m within the northern part of the El Joven Joint Venture area. Because of the difficult terrain the drill was lifted into the general area by helicopter and then large crews of local workers carried the drill between the individual sites.

Newmont drilled fourteen holes on the Greater Cangrejos property. Thirteen holes were located along the Trinchera and Paloma mineralized zones mainly within Odin's Los Cangrejos concession near the southwest corner of the Cacique concession (Figure 17). One isolated hole was located in Mr Castro's Cacique concession, close to the border with his Las Canarias concession (Figure 17).

Table 11 lists the basic data for these 14 holes as given in the Newmont data package. Ten holes have their whole length within the Greater Cangrejos property and four others have only part of their length within the Greater Cangrejos property (Table 12). The total length of hole that Newmont drilled within the Greater Cangrejos property was 3,314 metres.

The holes were diamond drilled starting at HQ size and reducing to NQ size as necessary. These sizes give nominal core diameters of 63.5 mm and 47.6 mm respectively. Hole deviation data is available in the data package for the holes drilled in 1999, but the equivalent data for those holes drilled in 2000 appears to be missing.

From personal observation of holes C99-14 and C99-18, the rock, even where extensively hydrothermally altered, appears to be generally solid and core recoveries good. However, close to fractures and faults (eg in C00-29) the core can become very broken. No core was recovered at the top of the holes, and the amount of core missing varies from about 1 metre (C99-01 and C99-03) to about 18 metres (C99-13).

Table 13 gives a summary of the intersections made on the Greater Cangrejos property. This should be read in conjunction with the borehole location plans (Figures 17 and 18) and the cross-section plots of hole C99-14 on the Trinchera mineralized trend (Figure 19), of hole C99-18 on the Paloma mineralized trend (Figure 20) and of hole C00-29 in the Cacique anomaly (Figure 21).

The analytical procedures are described in Section 11. However, it should be noted here that Newmont analysed for gold by two different methods because of concerns about complications brought about by the possible presence of coarse grained gold. Initially all core samples were analysed using a standard fire assay with atomic absorption finish on a 30 g charge (30 g FAA). Subsequently, all intersections averaging greater than 0.5 g/t Au in holes up to C00-24 were reanalysed using the "blaster" technique - a screen type fire analysis based on a pulverized sample with a mass of about 5 kg. Most samples from these +0.5 g/t Au intersections were also analysed for Cu, Mo, Pb, Zn and Ag.

Target	Hole ID	Easting	Northing	Elevation (m)	Azimuth	Inclination (degrees)	Depth (m)	Timing
Paloma	C99-01	633230	9614360	873	270	-50	222	Phase 1
Trinchera	C99-02	633200	9614200	838	270	-65	222	Phase 1
Trinchera	C99-03	633220	9614000	815	270	-60	249	Phase 1
Paloma	C99-13	633050	9614358	824	270	-50	172	Phase 2
Trinchera	C99-14	633220	9614000	815	330	-50	222	Phase 2
Trinchera	C99-15	633020	9614050	775	153	-50	322	Phase 3
Trinchera	C99-17	633200	9614200	838	150	-45	301	Phase 3
Paloma	C99-18	633200	9614450	852	270	-45	249	Phase 3
Paloma	C99-20	633070	9614275	810	270	-50	331	Phase 3
Trinch-Pal.	C99-21	633110	9614000	788	330	-45	432	Phase 3
Trinchera	C00-24	632958	9613940	758	150	-51	271	Phase 4
Paloma	C00-27	633175	9614400	840	330	-45	284	Phase 4
Paloma	C00-28	633425	9614260	930	330	-45	286	Phase 4
Cacique	C00-29	634875	9614500	1245	0	-45	294	Phase 4
<b>Phase 1</b> 16 Apr 99 - 16 May 99					<b>Phase 3</b>	04 Nov 99 - 13 Dec 99		
<b>Phase 2</b> 21 Sep 99 - 25 Oct 99					<b>Phase 4</b>	11 Jun 00 - 14 Jul 00		

Table 11: Basic Data for Newmont's Diamond Drillholes at Greater Cangrejos

Hole ID	Start (m)	End (m)	Length (m)	Observations
C99-01	0	222	222	
C99-02	0	222	222	
C99-03	0	249	249	
C99-13	0	70	70	hole ends outside Greater Cangrejos property
C99-14	0	222	222	
C99-15	0	322	322	
C99-17	0	301	301	
C99-18	0	249	249	
C99-20	0	108	108	hole ends outside Greater Cangrejos property
C99-21	0	346	346	hole ends outside Greater Cangrejos property
C00-24	132	271	139	hole starts outside Greater Cangrejos property
C00-27	0	284	284	
C00-28	0	330	286	
C00-29	0	294	294	
Total length =			<b>3,314</b>	Metres

Table 12: Length of Newmont Diamond Drillholes at Greater Cangrejos

HOLE	INTERSECTION (metres)			ppb Au	ppm Au	ppm Cu	ppm Mo	ppm Ag
Mineralized Zone	From	To	Length	30g FAA	Blaster			
<b>C99-01</b>	0.00	1.10	1.10	no core recovered				
	1.10	42.00	40.90	60				
	42.00	50.00	8.00	418				
no name	<b>50.00</b>	<b>98.00</b>	<b>48.00</b>	<b>1163</b>	<b>1.16</b>	<b>1668</b>	<b>9</b>	<b>2.3</b>
	98.00	108.00	10.00	447				
	108.00	122.00	14.00	117				
	122.00	138.00	16.00	329				
	138.00	150.00	12.00	73				
	150.00	156.00	6.00	298				
no name	<b>156.00</b>	<b>168.00</b>	<b>12.00</b>	<b>1392</b>		<b>1816</b>	<b>28</b>	<b>0.6</b>
	168.00	170.00	2.00	482				
	170.00	200.00	30.00	105				
	200.00	221.59	21.59	286				
<b>C99-02</b>	0.00	6.71	6.71	no core recovered				
	6.71	114.00	107.29	200				
no name	<b>114.00</b>	<b>122.00</b>	<b>8.00</b>	<b>1182</b>		<b>843</b>	<b>45</b>	<b>0.1</b>
	122.00	221.59	99.59	150				
<b>C99-03</b>	0.00	0.9	0.90	no core recovered				
	0.90	18.00	17.10	281				
Trinchera	<b>18.00</b>	<b>80.00</b>	<b>62.00</b>	<b>634</b>		<b>1331</b>	<b>28</b>	<b>0.3</b>
Trinchera	80.00	174.00	94.00	425		<b>844</b>	68	0.2
Trinchera	<b>174.00</b>	<b>248.00</b>	<b>74.00</b>	<b>1030</b>	<b>0.92</b>	<b>1237</b>	<b>30</b>	<b>0.3</b>
	248.00	249.02	1.02	437		<b>403</b>	29	<.1
<b>C99-13</b>	0.00	18.29	18.29	no core recovered				
Paloma	<b>18.29</b>	<b>44.00</b>	<b>25.71</b>	<b>860</b>	<b>0.94</b>	<b>755</b>	<b>7</b>	<b>0.4</b>
Paloma	44.0	60.00	16.00	345		<b>430</b>	26	0.2
Paloma	<b>60.0</b>	<b>68.00</b>	<b>8.00</b>	<b>1760</b>	<b>1.93</b>	<b>2123</b>	<b>32</b>	<b>0.4</b>
	68.0	70.00	2.00	201		<b>370</b>	48	<0.1
	70.0	171.60	101.60	hole outside Odin's concession				
<b>C99-14</b>	0.00	2.13	2.13	no core recovered				
	2.13	14.00	11.87	436				
Trinchera	<b>14.00</b>	<b>22.00</b>	<b>8.00</b>	<b>827</b>	<b>0.82</b>	<b>1318</b>	<b>128</b>	<b>0.3</b>
Trinchera	<b>22.00</b>	<b>40.00</b>	<b>18.00</b>	<b>2139</b>	<b>1.86</b>	<b>1597</b>	<b>354</b>	<b>0.6</b>
Trinchera	<b>40.00</b>	<b>62.00</b>	<b>22.00</b>	<b>553</b>	<b>0.59</b>	<b>1128</b>	<b>30</b>	<b>0.2</b>
Trinchera	<b>62.00</b>	<b>92.00</b>	<b>30.00</b>	<b>1492</b>	<b>1.58</b>	<b>3353</b>	<b>38</b>	<b>0.4</b>
Trinchera	<b>92.00</b>	<b>120.00</b>	<b>28.00</b>	<b>561</b>	<b>0.60</b>	<b>1028</b>	<b>44</b>	<b>0.2</b>
Trinchera	<b>120.00</b>	<b>166.00</b>	<b>46.00</b>	<b>3055</b>	<b>2.82</b>	<b>3148</b>	<b>127</b>	<b>1.0</b>
Trinchera	<b>166.00</b>	<b>206.00</b>	<b>40.00</b>	<b>1084</b>	<b>1.00</b>	<b>1052</b>	<b>44</b>	<b>0.5</b>
	206.00	221.59	15.59	107				

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Table 13: Intersection Data for Newmont Diamond Drillholes at Greater Cangrejos  
(after Newmont, 2001a)

HOLE	INTERSECTION (metres)			ppb Au	ppm Au	ppm Cu	ppm Mo	ppm Ag
Mineralized Zone	From	To	Length	30g FAA	Blaster			
<b>C99-15</b>	0.00	8.23	8.23	no core recovered				
	8.23	14.00	5.77	76		311	3	0.2
	14.00	28.00	14.00	498		774	3	0.2
	28.00	62.00	34.00	165		335	9	0.1
	62.00	98.00	36.00	369		1341	12	0.3
Trinchera	<b>98.00</b>	<b>118.00</b>	<b>20.00</b>	677	0.69	1421	24	0.3
Trinchera	<b>118.00</b>	<b>196.00</b>	<b>78.00</b>	710	0.82	3227	24	0.8
Trinchera	<b>196.00</b>	<b>214.00</b>	<b>18.00</b>	1418	1.49	4144	26	1.4
Trinchera	<b>214.00</b>	<b>218.00</b>	<b>4.00</b>	835	0.81	2066	10	0.7
	218.00	322.17	104.17	272		999	23	0.5
<b>C99-17</b>	0.00	6.10	6.10	no core recovered				
	6.10	30.00	23.90	76				
Trinchera	<b>30.00</b>	<b>66.00</b>	<b>36.00</b>	810	0.73	797	7	0.6
Trinchera	<b>66.00</b>	<b>70.00</b>	<b>4.00</b>	2442	1.59	597	20	0.6
Trinchera	<b>70.00</b>	<b>178.00</b>	<b>108.00</b>	701	0.66	1097	63	0.4
	178.00	218.00	40.00	486	0.44	901	72	0.3
	218.00	234.00	16.00	347		978	12	0.4
	234.00	280.00	46.00	154		636	8	0.2
no name	<b>280.00</b>	<b>290.00</b>	<b>10.00</b>	1437		3386	11	1.0
	290.00	300.84	10.84	205		1109	6	0.5
<b>C99-18</b>	0.00	4.57	4.57	no core recovered				
	4.57	8.00	3.43	35				
	8.00	12.00	4.00	320				
	12.00	80.00	68.00	427		725	49	0.1
	80.00	130.00	50.00	178				
Paloma	<b>130.00</b>	<b>249.02</b>	<b>119.02</b>	1183	1.00	1051	88	0.2
<b>C99-20</b>	0.00	7.12	7.12	no core recovered				
	7.12	22.00	14.88	88				
	22.00	34.00	12.00	358				
Paloma	<b>34.00</b>	<b>48.00</b>	<b>14.00</b>	787	0.69	370	14	0.6
Paloma	<b>48.00</b>	<b>100.00</b>	<b>52.00</b>	511	0.53	625	23	0.5
Paloma	<b>100.00</b>	<b>108.00</b>	<b>8.00</b>	539	0.50	306	42	0.2
	108.00	331.32	223.32	hole outside Odin's concession				
<b>C99-21</b>	0.00	12.03	12.03	no core recovered				
Trinchera	12.03	24.00	11.97	469	0.43	1027	7	0.4
Trinchera	24.00	38.00	14.00	134	0.18	216	4	0.1
Trinchera	<b>38.00</b>	<b>62.00</b>	<b>24.00</b>	914	0.82	994	22	0.4
Trinchera	62.00	70.00	8.00	145	0.20	216	14	<0.1
Trinchera	<b>70.00</b>	<b>84.00</b>	<b>14.00</b>	1563	1.45	1352	36	0.4
	84.00	130.00	46.00	436	0.43	530	29	0.1
	130.00	232.00	102.00	145				
	232.00	346.00	114.00	45				
	346.00	431.90	85.90	hole outside Odin's concession				

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Table 13: Intersection Data for Newmont Diamond Drillholes at Greater Cangrejos



HOLE	INTERSECTION (metres)			ppb Au 30g FAA	ppm Au Blaster	ppm Cu	ppm Mo	ppm Ag
Mineralized Zone	From	To	Length					
<b>C00-24</b>	0.00	132.00	132.00	hole outside Odin's concession				
Trinchera	<b>132.00</b>	<b>138.00</b>	<b>6.00</b>	<b>1201</b>	<b>0.93</b>	<b>3442</b>	<b>27</b>	<b>1.3</b>
Trinchera	<b>138.00</b>	<b>150.00</b>	<b>12.00</b>	<b>597</b>	<b>0.63</b>	<b>3209</b>	<b>27</b>	<b>1.9</b>
	150.00	198.00	48.00	<b>361</b>				
no name	<b>198.00</b>	<b>206.00</b>	<b>8.00</b>	<b>1111</b>	<b>1.15</b>			
	206.00	258.00	52.00	<b>313</b>				
no name	<b>258.00</b>	<b>260.00</b>	<b>2.00</b>	<b>3182</b>				
	260.00	270.76	10.76	108				
<b>C00-27</b>	0.00	12.19	12.19	no core recovered				
no name	<b>12.19</b>	<b>30.00</b>	<b>17.81</b>	<b>662</b>				
	30.00	46.00	16.00	140				
	46.00	66.00	20.00	<b>416</b>				
	66.00	106.00	40.00	170				
	106.00	136.00	30.00	<b>312</b>				
Paloma	<b>136.00</b>	<b>210.00</b>	<b>74.00</b>	<b>531</b>				
Paloma	210.00	224.00	14.00	<b>299</b>				
Paloma	<b>224.00</b>	<b>260.00</b>	<b>36.00</b>	<b>563</b>				
	260.00	278.00	18.00	<b>403</b>				
	278.00	284.38	6.38	149				
<b>C00-28</b>	0.00	12.19	12.19	no core recovered				
	12.19	186.00	173.81	124				
Trinchera	<b>186.00</b>	<b>196.00</b>	<b>10.00</b>	<b>1433</b>		<b>3880</b>	19	2.5
	196.00	254.00	58.00	204				
no name	<b>254.00</b>	<b>258.00</b>	<b>4.00</b>	<b>650</b>		<b>1346</b>	11	0.8
	258.00	266.00	8.00	<b>307</b>		<b>1552</b>	22	0.6
no name	<b>266.00</b>	<b>276.00</b>	<b>10.00</b>	<b>514</b>		<b>1684</b>	10	0.5
	276.00	285.90	9.90	214		<b>984</b>	14	0.4
<b>C00-29</b>	0.00	7.01	7.01	no core recovered				
	7.01	50.00	42.99	109				
	50.00	58.00	8.00	<b>448</b>		<b>468</b>	5	0.2
	58.00	66.00	8.00	202		<b>304</b>	6	0.2
no name	<b>66.00</b>	<b>68.00</b>	<b>2.00</b>	<b>620</b>		<b>987</b>	11	0.2
	68.00	78.00	10.00	260		<b>618</b>	7	0.3
no name	<b>78.00</b>	<b>82.00</b>	<b>4.00</b>	<b>674</b>		<b>742</b>	6	0.3
	82.00	130.00	48.00	260				
Cacique	<b>130.00</b>	<b>152.00</b>	<b>22.00</b>	<b>2560</b>		<b>*2350</b>	<b>*8</b>	<b>*0.7</b>
	152.00	293.52	141.52	74				
*estimate: non-gold data missing 140-142 m								
<b>COLOUR CODING</b> <b>30 g FAA Au &gt;1000ppb</b> <b>Values 500-999 ppb</b> <b>250-499 ppb</b> <b>0-249 ppb</b>								

Table 13: Intersection Data for Newmont Diamond Drillholes at Greater Cangrejos  
(after Newmont, 2001)

Newmont's drilling established the general strike direction of the Trinchera and Paloma mineralized zones. However, additional holes are needed to define the vertical extent and true dip of these zones. Until such data become available, it is assumed that the mineralized zones are vertical. Therefore, the (assumed) true width of the intersections is given by the following formula: -

$$\text{True width} = \text{borehole intersection width} \times \cos(\text{inclination of hole from horizontal}) \times \cos(\text{angle between borehole direction and the normal to the strike of the mineralized zone})$$

Holes C99-03 and C00-27 were drilled in markedly oblique directions to the average strike of the mineralization and holes C99-02 and C99-03 were drilled at steeper angles (about  $-60^\circ$ ) to the average of  $-45^\circ$  to  $-50^\circ$ . For the other holes the assumed true width of the intersections listed in Table 10 can be approximated by multiplying the lengths of the borehole intersections given by a factor of 0.7 (about  $\cos 45^\circ$ ).

### Trinchera/Paloma Holes

The generalized, intersection-length weighted average grades for the Trinchera and Paloma mineralized zones are given in Table 14. They indicate distinct differences, especially in copper content, between the two zones. Silver values are very low and generally only about half the corresponding gold values. Molybdenum values are also generally low, but some higher values are present locally and could eventually be of some economic interest.

	Au g/t	Cu %	Mo ppm	Ag g/t
Trinchera	1.1	0.18	50	0.6
Paloma	0.8	0.09	40	0.3

Table 14: Indicative Grades for the Trinchera and Paloma Zones of Mineralization

Figure 61 shows the close correlation between the gold values obtained by the “blaster” and standard techniques for the intersections listed in Table 13. This low dispersion of the points around the trend line in this plot suggests that, although the spread about the regression line is much higher when individual sample values are concerned (Figure 62), the additional cost of the expensive “blaster” analysis might not be warranted, except where the results from individual samples are critical. However, it would probably be recommendable, and not particularly expensive, to increase the charge size for the standard samples from 30 g to 50 g and to routinely request the re-analysis of all samples with results over 1000 ppb (1g/t) gold.



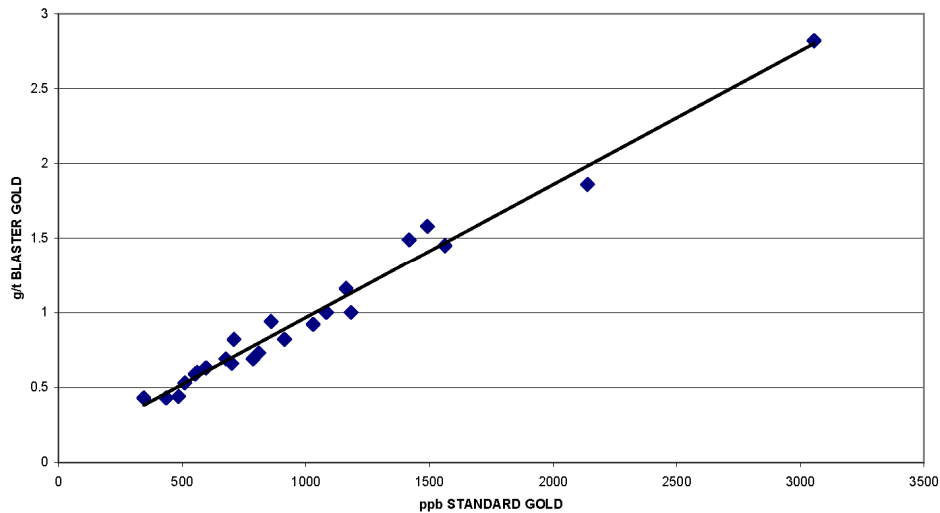


Figure 61: Plot of “Blaster” Gold (g/t) Results versus Standard Gold (ppb) Results  
for the Intersections of Table 13

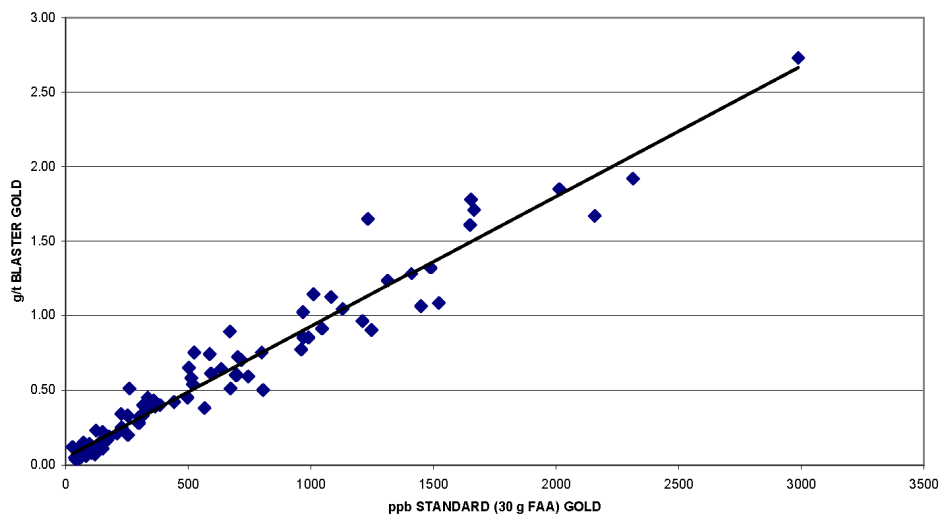


Figure 62: Plot of “Blaster” Gold (g/t) Results versus Standard Gold (ppb) Results  
for Individual 2 m Core Samples

Figure 63 indicates that the gold in the coarse (+150 mesh or + 105 micron) fraction is less than 4 % of the total gold present in about half the samples and less than 12 % in most of the others. This is considered to provide further evidence in favour of the routine use of the standard gold analysis in place of the “blaster” analysis. However, the presence of a significant quantity of coarser gold locally suggest that some check work will have to be carried out from time to time using “screen” fire assay.

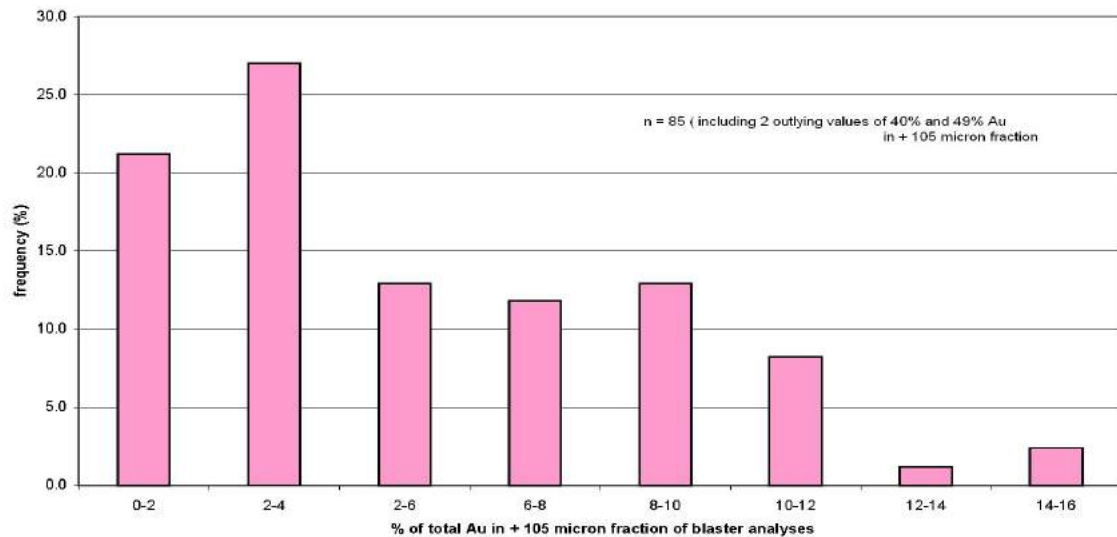


Figure 63: Coarse (+150 mesh) Fraction Gold as Percentage of Total Gold for 2 m Core Samples Analysed by the “Blaster” Technique

The generally positive correlation expected in the intersections between gold and copper is emphasized by Figure 64. This figure also indicates the possible presence of a high copper population where gold may not correlate with copper.

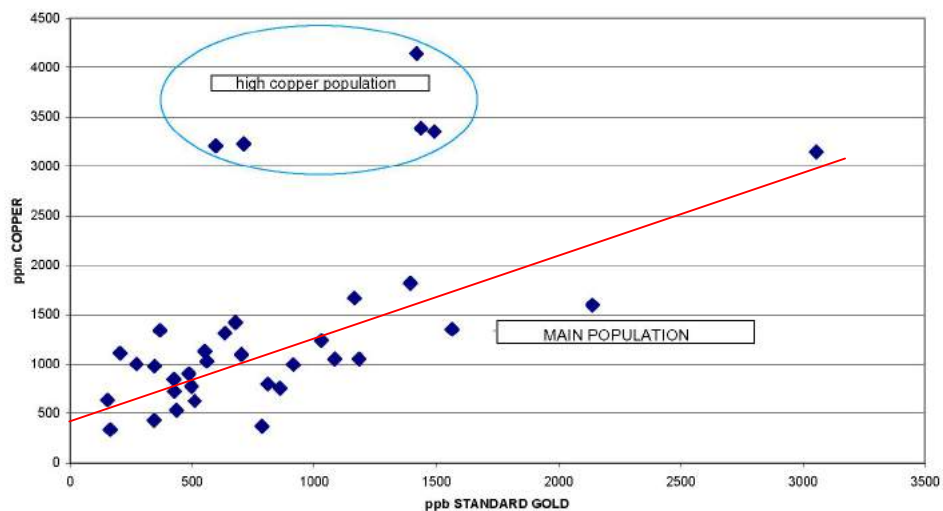


Figure 64: Plot of Copper (ppm) versus Standard Gold (ppb) for the Intersections in Trinchera/Paloma Holes in Table 13

## 11. SAMPLING METHOD AND APPROACH

### **Newmont - Stream Sediment Sampling**

Newmont do not appear to have taken any stream sediment samples within the Greater Cangrejos area during the tenure of the El Joven Joint Venture.

### **Newmont - Soil Sampling**

After an orientation survey in late 1997, Newmont took soil samples systematically at a nominal depth of 40 cm (Mayor and Soria, 2000) on a 100 m x 100 m square grid in the Trinchera / Paloma and adjacent areas and, later, on a 200 m x 100 m, north-south elongated, rectangular grid in the Dos Bocas and Valarezo areas. Eventually, most of the Greater Cangrejos property was covered by a 400 m x 100 m, north-south elongated grid (Figures 22 to 27). These are relatively coarse grids, but Newmont considered them appropriate for the exploration of large scale, porphyry-type systems.

Newmont recognized the possibility of transported soils, but the problem was considered to be of only local importance in their main area of interest.

### **Newmont - Rock Sampling**

Newmont carried out a pits-to-bedrock program on the soil sampling same grids (Figures 21 and 22) to confirm the results of the soil sampling program.

The program consisted of 1 m square, hand-dug pits extended to the saprolite/bedrock contact. The sample was taken from channels cut in the floor of each pit. Some pits are reported to have clearly not reached the saprolite/bedrock contact due to abnormally deep saprolite and this fact was noted on the sample description (not available in the information package) (Mayor and Soria, 2000).

Mayor and Soria (2000) concluded that: "In general, the assay results from the pits-to-bedrock program confirm the validity of the [shallow] soil samples as representative of the underlying bedrock." However, much of Newmont's pit sampling during the lifetime of the El Joven Joint Venture was not undertaken on the area now comprising the Greater Cangrejos property, and this conclusion may not be valid for much of the Greater Cangrejos property, especially where small, structurally-controlled targets, rather than large, porphyry-style targets, are being sought.

### **Newmont - Core Sampling**

As a matter of course Newmont cut all core, irrespective of variation in rock type, structure, hydrothermal alteration or mineralization, in half by diamond saw and sampled in standard 2 m lengths (Mayor and Soria, 2000). One half of the core was sent for sample preparation and analysis and the other half was retained at the base camp near Valle Hermoso for reference purposes.

Newmont considered the use of a 2 m standard sample length appropriate for deposits of finely disseminated mineralization where long mineralized intersections were to be expected. The long lengths of the intersections listed in Table 13 confirm the suitability of the use this sample interval for the cores from porphyry-style mineralization on the Greater Cangrejos property. However, a shorter sample length may be more appropriate in the future in areas where Odin is focussed on narrow, high-grade, structurally controlled targets.

Personal observation of the core from holes C99-14 and C00-18 indicate that the rock is generally fairly solid even where it has been subjected to intense, pervasive hydrothermal alteration. Consequently, it is expected that the samples obtained were not unduly biased by significant core losses either during the drilling or cutting processes. In their project summary Mayor and Soria (2000) specifically state that cores were logged for rock quality and that specific gravity measurements were made. This information has not been found.

### **Odin - Stream Sediment Sampling**

Odin has used the same methodology for its stream sediment sampling ever since starting fieldwork in Ecuador in 1989. Consequently, the description given below applies equally to the samples taken during the initial regional reconnaissance in 1992 (Carvajal, 1993), to the detailed stream sediment program carried out over the eastern side of the property in 2007 and to program now in progress over the western half of the property. In the 1992 reconnaissance program the sample spacing was rather coarse, but in the 2007 and 2010 programs the spacing was closed up to approximately 200 m.

Odin takes its stream sediment samples by locating visually favourable trap sites and then digging down into the creek bed to a depth of about 50 cm, preferably into bouldery gravel with a somewhat clayey matrix. Odin extracts 5 litre of <1 cm material from the bottom of the hole, wet sieves it on site first at 2 mm and then at 1 mm to recover around 750 g of <1 mm material. This <1 mm material is placed in a numbered, stout, plastic bag along with a ticket (bearing the same number as on the outside of the bag) ready for transport to camp and then to ACME's sample preparation laboratory in Cuenca.

In addition, at each site Odin fills two bateas (round wooden panning dishes of approximately 3 litre volume) with approximately <2 cm material and concentrates it to a black sand and counts the contained gold grains in various, visually determined, grain size categories. These counts are then used to make an estimate of the weight of the contained gold. This visible gold provides an independent check on the analytical results. On the Greater Cangrejos property nearly all the samples panned contain at least a few grains of visible gold, even if they are very fine. In some areas, the concentrates also contain very obvious pale purple zircon in addition to the black sand. The concentrates from the two bateas samples at each site are carefully transferred into a small plastic bag, drained, marked and sealed for future reference.

Before departure each site was marked by flagging tape and by nailing an aluminium tag with the sample number to a convenient nearby tree.

### **Odin - Soil Sampling**

Since starting fieldwork in Ecuador in 1988/89, Odin has used the top-of-bedrock soil sampling technique. This method essentially samples the C-horizon of weathered rock. Consequently the results should be more representative of immediate bedrock values than those obtained from shallow soil sampling since under the local conditions prevailing in the western Andean foothills tropical weathering and sudden, tempestuous rains, especially during El Niño events, often give rise to undifferentiated, transported, clayey soils 1-10 m deep.

The technique involves hand augering to the bedrock contact (as determined by the site geologist) and sampling the C-horizon of weathered bedrock. Identification of the bedrock, especially when dealing with highly weathered, hydrothermally altered materials, requires a skill that must be learnt by experience in the field.

The technique is time consuming and labour intensive. The average depth of the holes at Greater Cangrejos is 3-4 m, although the deepest holes located over the exact centres of the projected, mineralized lineaments have reached more than 10 m. On average one sampling group, consisting of one geologist and 4 labourers, can take about 8 samples per day.

Approximately 750 g of top-of-bedrock material is extracted from the auger head, tagged and bagged. The samples are then sent to the ACME sample preparation facility in Cuenca for drying, sieving and dispatch to Vancouver for analysis.

### **Odin - Rock Sampling**

Starting with the regional reconnaissance program of 1992 (Carvajal, 1993), Odin has always accompanied its stream sediment and top-of-bedrock sampling programs with a small amount of rock sampling, where outcrop and float occurrences permit. Each sample consists of 1-2 kg of rock chips and is logged, bagged and tagged in the field and sent to the ACME sample preparation facility in Cuenca for further processing.



## **12. SAMPLE PREPARATION, ANALYSES AND SECURITY**

### **a. Newmont - General**

Newmont sent all their field samples to the Bondar-Clegg (now ALS-Chemex) sample preparation facility in Quito for preparation. From there approximately 100 g of pulp for each sample were air freighted to the Bondar-Clegg (now ALS-Chemex) laboratory in Vancouver, Canada, for analysis.

There is no record of any special steps being taken to monitor the security of the samples during transport either between the field and Quito, or between Quito and Vancouver.

Norcross (2004) states that, according to ALS-Chemex records, the Bondar-Clegg laboratory was issued with ISO 9002:1994 certification on 1 May 1998 and that this was renewed on 4 May 2001.

### **Newmont - Rock and Pit Samples**

In their project summary Mayor and Soria (2000) do not describe the preparation of rock and pit samples taken during the joint venture. However, it is expected that the sample preparation procedure was much the same as Odin's standard procedure for core samples described below.

According to the analytical sheets, gold was analysed by standard fire assay on a 30 g charge with an atomic absorption finish giving a nominal 5 ppb Au detection limit. The pulps were also analysed for 34 other elements (including Ag, Cu, Mo, Pb, Zn, and As) using an aqua regia extraction and a standard multi-element ICP package.

### **Newmont - Soil Samples**

Mayor and Soria (2000) do not describe the preparation of the soil samples. They could either have been sieved to minus 80 mesh (<180 microns) or pulverized in the same way as rocks or core. My experience in this type of tropically weathered, mountainous terrain in Ecuador indicates that either technique will give usable results, although sporadic high values can be expected where larger gold grains occur.

According to the analytical sheets, the pulps from the soils were analysed for gold by standard fire assay on a 30 g charge with an atomic absorption finish with a nominal 5 ppb Au detection limit. The pulps were also routinely analysed for 34 other elements (including Ag, Cu, Mo, Pb, Zn, and As) using an aqua regia extraction and a standard multi-element ICP package.

### **Newmont - Core Samples -Standard Sample Preparation and Analysis for Gold**

Mayor and Soria (2000) state that each 2 m sample of half core was dried, crushed to a nominal minus 10 mesh (<2 mm), and 250 g of chips split out and pulverized. A sub-sample of pulp was sent for analysis for gold by standard fire assay on a 30 g charge with an atomic absorption finish with a nominal 5 ppb Au detection limit.

Because of concerns about possible reproducibility problems in the gold values resulting from the presence of coarse gold, the coarse crusher rejects for all samples with results greater than 0.5 g/t were reassayed using the "blaster" total sample preparation technique described below.

**Newmont - Core Samples - “Blaster” Sample Preparation and Analysis for Gold**

Mayor and Soria (2000) state that Newmont developed this method for samples expected to contain a significant amount of coarse gold. The coarse crusher rejects from the standard sample preparation of each 2 m core sample that was found to contain more than 0.5 g/t Au were pulverized to a nominal minus 150 mesh (minus 105 microns). The pulp was sieved into a plus 150 mesh fraction (usually about 25 g) and a minus 150 mesh fraction (usually about 5 kg). The coarse fraction was weighed and analysed in its entirety for gold by fire assay with a 0.2 ppm detection limit. The fine fraction was also weighed and two or three 30 g splits analysed by fire assay with an atomic absorption finish (0.03 ppm detection limit). The average of the results was accepted as the value for the fine fraction. However, the assay sheets only show one value for the gold for the fine fraction. This presumably represents the average of the two or three individual values actually measured. The sheets do not show the individual values themselves. The final assay result was determined by taking the mass weighted average of the results from the coarse and fine fractions.

Pulps of most samples with gold values greater than 0.5 g/t Au were analysed for Cu, Pb, Zn, Mo and Ag by Atomic Absorption following a multi-acid digestion (HF-HNO<sub>3</sub>-HClO<sub>4</sub>-HCl) on a 0.5 g aliquot (Mayor and Soria, 2000). According to Bondar-Clegg's analytical sheets, this method gives the following nominal detection limits: Cu 1 ppm, Pb 2 ppm, Zn 1 ppm, Mo 1 ppm and Ag 0.1 ppm.

**b. Odin – General**

After arrival from the field at the relevant camp, all samples were checked for obvious numbering errors and bag damage. Any discrepancies found were investigated and corrected before the appropriate blanks and duplicates were added. Samples were then packed into sacks for transport to the sample preparation laboratory. During the dry season the sacks of samples could be transported directly by pick-up from the field camp. However, during the wet season the sacks had to be packed out on mules to the nearest point accessible by pick-up. The samples were always accompanied during transport from the field camp to the sample preparation laboratory by a trusted member of Odin's local field staff.

All Odin's routine sample preparation and analysis was carried out by ACME Laboratories, an ISO 9001 and ISO/TEC 17025 certified laboratory (AcmeLabs, 2010a). The sample preparation was carried out at ACME's sample preparation facility in Cuenca, Ecuador, from where 100 g of pulp from each sample were airfreighted to ACME's analytical laboratory in Vancouver, Canada. After sample preparation in Cuenca all oversize material was dumped, but all excess pulps were transported to Quito and stored permanently at Odin's office, where they remain still.

On two occasions, in April 2008 and June 2010, Odin sent selected excess pulps to ALS-Chemex in Quito for shipment to their analytical laboratory in Lima for independent analysis to check on the results obtained from ACME.

The sample preparation and analytical techniques used by ACME and ALS-Chemex are summarized in Table 15 based on their current brochures (AcmeLabs, 2010b) and ALS Laboratory Group, 2010). Additional notes are given below.

Table 15: Sample Preparation and Analysis Summary - Routine Samples by ACME Laboratories with Checks by ALS-Chemex

Table 15: Sample Preparation and Analysis Summary - Routine Samples by ACME Laboratories with Checks by ALS-Chemex

**Odin – Stream Sediment and Soils**

Odin's sample preparation and analysis for these two sample types was the same.

After arrival at ACME's sample preparation facility in Cuenca the samples were oven dried at 60 °C, sieved at 80 mesh (180 microns), and 100 g of undersize material (silt) split out and packeted for shipment by airfreight to Vancouver, Canada, for analysis. Any excess undersize was also packeted and sent to Odin's office in Quito for permanent storage. The coarse, oversize fraction was dumped.

On arrival in Vancouver, each 100 g sample of minus 80 mesh material was lightly pulverized to rehomogenize, and a 30 g aliquot taken for analysis by the Inductively Couple Plasma – Mass Spectrometer (ICP-MS) technique after an aqua regia leach. Although the aqua regia leach only gives a partial, rather than a total extraction, it is expected to recover virtually all elements of interest in these oxidized materials, namely the fine, free gold and the base metals attached to iron oxides, clays, and carbonates. The use of a mass spectrometer allows gold values to be determined to 0.1 ppb. Consequently, gold and base metals can both be determined to the detection limit required in the one analysis (Table 15).

**Odin – Rock Samples**

Odin's rock samples were dried at ACME's sample preparation facility in Cuenca, crushed in their entirety to minus 2 mm, and 250 g of chips split out and pulverized. The remaining chips were dumped, and a sub-sample of 100 g of pulp split out, packeted and sent to Vancouver, Canada for analysis. The remaining pulp (about 150 g) was also packeted and sent to Odin's Quito office for permanent storage.

On arrival in arrival in Vancouver, 30 g of pulp were taken for conventional fire assay generally with an instrumental finish for lower gold values and a gravity finish for high values. The use of fire assay should give an almost total extraction of gold including that locked in any refractory sulfides.

In addition, 0.5 g of pulp were analysed by Inductively Couple Plasma – Emission Spectrometry (ICP-ES) to give a measure of the base metal, and especially the copper, content of the samples. ACME report gold in the ICP-ES results and although the detection limit is only 2 ppm, the result can give a useful, if semi-quantative, cross-check on the fire assay result for higher value samples. On at least one occasion the ICP result for gold has been helpful in identifying a fluxing problem in the fire assay.

**ALS-Chemex Check Analysis**

ALS-Chemex do not offer an exact equivalent of ACME's 30 g aqua regia ICP-MS analysis. Their 25 g aqua regia with ICP-MS finish has an upper detection limit of only 1000 ppb Au and consequently cannot be used to check the upper ranges of the soil and stream sediment gold values present on the Greater Cangrejos property. For higher values the normal 30 g fire assay with an AAS finish was used (Table 15).

**Stored Materials – Core and Pulps**

Odin continues to store all core remaining from Newmont's drill programme at Valle Hermoso (Figure 3) in Newmont's old core shed. Although roofed, the core shed is only partially walled, and a large open space remained between the top of the walls and the roof during my last visit in September 2010. Odin will now cover this space with wire diamond mesh (Ledesma, 2010d).

The core is stored in wooden boxes supported off the ground on wooden racks. The condition of the wooden boxes deteriorates quite rapidly in the warm, humid climate. The core was reboxed in 2006 and will need to be reboxed again quite soon.

Where half core remains the core is generally in reasonable condition. However, only quarter core remains where Newmont removed material for metallurgical testing. As this sits very loosely in the boxes, it has a tendency to become jumbled as the boxes are moved around over the years.

All excess pulps from Odin's work since 2004 are stored in paper packets, boxed according to the assay dispatch number, in Odin's office in Quito. This record is not quite complete, especially with respect to the stream sediment and soil samples, as in a number of cases there was only sufficient material to send for assay, with no excess remaining for the archive.

There are no pulps remaining from Newmont's analytical work.



### **13. DATA VERIFICATION**

#### **a. Newmont Data**

##### **Newmont - General**

In the six years since the filing of the previous NI 43-101 technical report, Odin has not recovered any of the missing chemical, geophysical and survey data referred to in Section 2. Consequently, the Newmont database remains the same as in 2004.

Following the agreement with Mr Castro in May 2007, Odin can now report those parts of the Newmont data base from the El Joven Joint Venture area referring to Cacique and Las Canarias concessions. Consequently, the geochemical maps presented as Figures 21 to 29 have been updated to include data on both these concessions. These areas were left blank in the equivalent maps of Odin's 2004 NI 43-101 technical report. In addition, in Table 13 Odin can now include the assay results from the end of hole C00-28 and from all of hole C00-29.

The verification and checks on the Newmont data during the process of preparation of Odin's 2004 NI 43-101 technical report are still valid. However, only the description of the contents of Newmont's data package and the description of the verification work carried out on the core are repeated here with slight additions where appropriate to cover additional material from the Castro concessions. In many respects the results of Odin's geochemical fieldwork carried out since 2004 have now superseded the Newmont's geochemical results. However, Newmont's results from the cores remain the only subsurface analytical data available.

In 2004 Newmont's information package was found to consist of an un-indexed series of working plans, summary borehole logs and draft geological sections with supporting information on three compact discs. There was no formal exit report and the written documentation was confined to a file of monthly reports, each of one or two pages, and a short project summary prepared Mayor and Soria (2000). However, two meetings with Ing Francisco Soria, ex-project geologist for Newmont on the El Joven Joint Venture helped fill some of the gaps in the information package. Because of other commitments, Ing Soria was unable to accompany the field visit to the Cangrejos property in 2004. However, he did arrange for a knowledgeable, but non-technical, guide to assist on the trip in January 2004.

##### **Newmont Data – Odin Checks**

The exploration history and results reconstructed from the information package were found to be internally consistent and credible. The following specific checks were made to test the overall accuracy of the information.

- With Newmont's authorization, ALS-Chemex (the successor of Bondar-Clegg) in Vancouver, Canada, re-issued to Odin paper and electronic copies of all the analytical reports covering the work on the core samples from the holes drilled on Odin's Cangrejos property (which at that time did not include hole C00-29) and selected reports for soil and rock samples from each of the main geochemical anomalies. All the results for holes C99-03, C99-14, C99-18 and C00-27 were checked in detail against the spreadsheets in Newmont's data package and found to agree. (Post-2004 only one error has come to light in

Newmont's geochemical and assay databases. This occurs in hole C00-29, which was not covered by the 2004 technical report. For the interval 140.00 m to 142.00 m the value for an adjacent blank ( $<0.005$  ppb gold) has been inadvertently substituted in Newmont's database for the 2000 ppb gold value shown in the hard copy log.)

- The soil sample, rock and pit sample results, where available, were re-plotted from the data files on the CDs and checked against the corresponding draft plans in the information package. The soil sample information was found to be almost complete, except for a relatively small area to the south of Mina Bravo (Figures 21 to 27). In contrast, much of the pit data from the various gridded areas shown in Figures 28 to 29 could not be found on the CDs. However, as the CDs were found to contain many sample values without coordinates and the draft pit plans contain no sample numbers, the missing data may be present, but not cross-referenced.
- The physical presence of the cores in the core-store at Valle Hermoso was confirmed in 2004, and the cores have remained there since.
- In early 2004 hole C99-18 was examined in detail to confirm the types of lithology, hydrothermal alteration and mineralization present. As a check on Newmont's analytical results, the remaining material from five 2 m core samples was sent for sample preparation at the ALS-Chemex facility in Quito followed by check analysis (using a 50 g charge for gold) at the ALS-Chemex laboratory in Vancouver. The results were in close agreement with those reported by Newmont (Table 16). This outcome was reassuring, but it obviously did not provide a comprehensive check on Newmont's results.
- Later in 2004 hole C99-14 was also check logged, five samples sent for petrographic study, along with two samples from C99-18.
- The core from hole C00-29 was brought to the core store following the Castro agreement in 2007. In December 2007 hole C00-29 was check logged between 120 m and 160 m to cover the mineralized zone of 22 m at 2.56 g/t Au from 130 m to 152 m. At the same time, one analytical sample (outside of the mineralized zone) and three petrographic samples were taken (Table 16). Check sampling and analysis of the mineralized section were not undertaken as no diamond saw was available to cut the remaining half core.
- The Trinchera/Paloma area was visited in 2004. Several borehole collars were located and the coordinates were checked by handheld GPS. Additional checks have been carried out since 2004, including those on the collar of C00-29 in Castro's Cacique concession. The results are given in Table 17.

*(The consistent difference seen over the years in Odin's GPS coordinates for Newmont's hole C00-29 suggest that the coordinates for this hole given in the Newmont data package may be the planned, rather than actual, coordinates.)*

Sample No	Location	Type	g/t Au (Nwmt)	Cu ppm	Mo ppm	Ag Ppm	S %	Description
<b><u>SAMPLING OF 2004</u></b>								<i>(ALS analytical report QU04-005672) (Petrography report: Thompson, 2004)</i>
MP/E 1713	Ddh: C99-14		Petrographic sample only (0.35)					51 m: altered diorite
MP/E 1716	Ddh: C99-14		Petrographic sample only (2.62)					131 m: altered andesite
MP/E 1719	Ddh: C99-14		Petrographic sample only (1.18)					165 m: altered diorite
MP/E 1720	Ddh: C99-14		Petrographic sample only (1.10)					205 m: altered diorite
MP/E 1721	Ddh: C99-14		Petrographic sample only (0.07)					211 m: altered hornelende(?) porphyry
MP/E 1722	Ddh: C99-18		Petrographic sample only (0.05)					7.4 m: foliated diorite
MP/E 1705	Ddh: C99-18		Petrographic sample only (1.46)					7.4 m: altered andesite
MP/E 1706	Ddh: C99-18	1/4 core	0.52 (0.57)	391	61	<0.2	0.04	142-144 m: grey-green altered diorite grading into brown altered rock with local quartz veinlets and traces of chalcopyrite
MP/E 1707	Ddh: C99-18	1/4 core	3.01 (3.14)	2180	63	0.8	0.24	180-182 m: white/grey-green/brown mottled rock with local disseminated chalcopyrite to 5 vol% (altered andesite?)
MP/E 1708	Ddh: C99-18	1/4 core	0.84 (0.93)	331	51	<0.2	0.04	182-184 m: white/grey green mottled rock with local quartz veinlets and traces of disseminated chpy (altered andesite?)
MP/E 1709	Ddh: C99-18	1/4 core	3.01 (2.09)	1605	118	0.7	0.17	236-238 m: grey-green altered diorite with scattered quartz veinlets and traces of disseminated chalcopyrite
<b><u>SAMPLING OF 2007</u></b>								<i>(ACME analytical report A7-70446) (petrography report: Dunne, 2008)</i>
ODN 4272	Ddh: C00-29		Petrographic sample only (0.12)					45.15m: unaltered 1-2mm diorite
ODN 4271	Ddh: C00-29	1/2 core	0.19 (0.13)	281	<1	<0.3	Nd	52-54 m: soft, off-white friable clay after diorite
ODN 4270	Ddh: C00-29		Petrographic sample only (1.86)					149.6 m: off-white, altered breccias
ODN 4269	Ddh: C00-29		Petrographic sample only (4.61)					150.9 m: grey, altered breccias

Table 16: Check Sampling of Newmont Cores

Hole	Date	Easting	Northing	Elev	Δ East	Δ North	Δ Elev	Notes
<b>C99-01</b>	<b>1999</b>	<b>633230</b>	<b>9614360</b>	<b>873</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2004	633241	9614366	891	11	6	18	marked pipe
	2007	Nd	nd	nd	nd	Nd	nd	site destroyed
<b>C99-02</b>	<b>1999</b>	<b>633200</b>	<b>9614200</b>	<b>838</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2004	633206	9614213	842	6	13	4	unmarked pipe
	2007	633205	9614210	845	5	10	7	unmarked pipe
<b>C99-03</b>	<b>1999</b>	<b>633220</b>	<b>9614000</b>	<b>838</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2004	633219	9614023	843	-1	23	5	unmarked pipe
<b>C99-13</b>	<b>1999</b>	<b>633050</b>	<b>9614358</b>	<b>824</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2004	633059	9614376	844	9	18	20	unmarked pipe
<b>C99-14</b>	<b>1999</b>	<b>633220</b>	<b>9614358</b>	<b>824</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>SAME AS C99-03</b>
<b>C99-15</b>	<b>1999</b>	<b>633020</b>	<b>9614050</b>	<b>775</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2006	633025	9614060	793	5	10	18	unmarked pipe
	2009	633018	9614058	790	-2	8	15	unmarked pipe
<b>C99-17</b>	<b>1999</b>	<b>633200</b>	<b>9614200</b>	<b>838</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>SAME AS C99-03</b>
<b>C99-18</b>	<b>1999</b>	<b>633200</b>	<b>9614450</b>	<b>852</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2004	633207	9614457	884	7	7	32	unmarked site
<b>C99-20</b>	<b>1999</b>	<b>633070</b>	<b>9614275</b>	<b>810</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2004	633076	9614285	821	6	10	11	unmarked site
	2010	633072	9614287	812	2	12	2	unmarked pipe
<b>C99-21</b>	<b>1999</b>	<b>633110</b>	<b>9614000</b>	<b>788</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2006	633118	9614007	787	8	7	-1	unmarked pipe
<b>C00-27</b>	<b>2000</b>	<b>633175</b>	<b>9614400</b>	<b>840</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2004	633178	9614407	860	3	7	20	unmarked pipe
	2009	633181	9614401	850	6	1	10	unmarked pipe
<b>C00-28</b>	<b>2000</b>	<b>633425</b>	<b>9614260</b>	<b>930</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2008	633425	9614263	952	0	3	22	unmarked pipe
	2009	633426	9614266	943	1	6	13	unmarked pipe
	2010	633433	9614266	938	8	6	8	unmarked pipe
<b>C00-29</b>	<b>2000</b>	<b>634875</b>	<b>9614500</b>	<b>1245</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>Newmont data</b>
	2007	634890	9614524	1255	15	24	10	unmarked pipe
	2010	634892	9614524	1252	17	24	7	unmarked pipe
	2010	634889	9614522	1250	14	22	5	unmarked pipe

Table 17: Coordinate Check on Newmont Drill Hole Locations  
(Datum: South American Provisional 1956)

**Newmont Analytical Quality Control**

Only the comments on the quality control on the core analyses are repeated here from Odin's 2004 NI 43-101 technical report since Newmont's analytical data on rocks and soils is being superseded by Odin's own data. Nevertheless, the original notes on the quality control on Newmont's soils and rocks can still be seen in Odin's NI 43-101 technical report of 2004.

The analytical reports that Odin had reissued in 2004 for Newmont's core, rock and soil samples provided details on the results of the analyses of Bondar Clegg's and Newmont's control standards and on the duplicated pulps added by Bondar-Clegg.

**a) Results from Bondar-Clegg Standards**

Table 18 presents a summary of the results of all Bondar-Clegg's internal standards included in the analytical reports for Newmont's core samples. The number of results outside a 5% channel around the accepted value is rather high. However, hardly any results are more than 10% away from the accepted values. Depending on the nature of the internal checks this might be expected for gold where the particulate nature of the gold might give rise to "noisy" results. More homogeneity would normally be expected in the results for copper. However, the highest copper standard used was only 300 ppm, and this hardly enters the 250 ppm to 5000 ppm range of most of the copper values of interest at Cangrejos.

**b) Results from Newmont Standards**

Details of the nature and accepted values of the standards used by Newmont with the core analyses are not known. However, the plot presented in Odin's 2004 NI 43-101 technical report suggests that the value of each of them was about 1200 ppb. Some individual results vary by more than 200 ppb from the 1200 ppb value. However, this fluctuation might be due to the presence of particulate gold. Some of the standards were also analysed for Cu, Mo, Pb, Zn, Ag. However, too few results were found in the data package to provide any effective routine quality control.

**c) Precision: Gold and Copper Results from Core Samples**

Bondar-Clegg analysed more than 50 duplicates for the standard and "blaster" analysis for gold and for the atomic absorption analysis for copper for Newmont's core samples. Consequently, the analytical precision and effective detection limit can be estimated using Method 1 of Thompson and Howarth (1978). The results are summarized in Table 19 and were estimated from the plots given in Appendix 6 of Odin's 2004 NI 43-101 technical report (Potter, 2004).

*(Note that "blaster" analysis is an informal term used by Newmont for a screen type fire analysis, details of which have already been given in Section 12.)*



Sample	Batches	Samples	Blank		±200 ppb		±400 ppb		±1000 ppb		±1500 ppb		±2800 ppb		±6500ppb	
Type			no.	+/- 5%	No.	+/- 5%	no.	+/- 5%	No.	+/- 5%	no.	+/- 5%	no.	+/- 5%	no.	+/- 5%
<b><u>A. STANDARD (30 FAA) GOLD</u></b>																
Core	16	1973	97	98%	19	79%	22	100%	18	83%	2	100%	20	95%	12	83%
Sample	Batches	Samples	Blank		±0.2 g/t		±0.5 g/t		± 1.0 g/t		±1.5 g/t		± 2.8 g/t		± 6.5 g/t	
Type			no.	+/- 5%	No.	+/- 5%	no.	+/- 5%	no.	+/- 5%	no.	+/- 5%	no.	+/- 5%	no.	+/- 5%
<b><u>B. "BLASTER" GOLD</u></b>																
Core	11	859	45	100%	11	100%	9	100%	8	100%	1	100%	25	80%	27	85%
Sample	Batches	Samples	Blank		± 35 ppm		± 65 ppm		± 100 ppm		± 150 ppm					
Type			no.	+/- 5%	No.	+/- 5%	No.	+/- 5%	no.	+/- 5%	no.	+/- 5%				
<b><u>C. AA (Atomic Absorption) COPPER</u></b>																
Core	17	1042	36	86%	8	50%	8	62%	10	50%	10	100%				

Table 18: Summary of Gold and Copper Results for Bondar-Clegg Standards Included with Newmont Core Samples

METAL	Analysis Type	Units	Number Duplicate Pairs	So	K	Empirical Precision	Empirical Detection Limit
<b>GOLD</b>	<b>Standard</b> (30 g fire assay)	<b>ppb</b> (= 0.001 g/t)	195	14	0.088	18%	34
<b>GOLD</b>	<b>"blaster"</b> (5 kg screen fire assay)	<b>g/t</b> (= 1000 ppb)	85	-0.01	0.094	19%	-0.02
<b>COPPER</b>	<b>atomic absorption</b> (after 4 acid digestion)	<b>ppm</b> (= 0.0001%)	63	2.3	0.009	2%	10
So and k are factors determined from Thompson and Howarth (1978) plots The empirical precision is approximately equal to 2So. The empirical detection limit is equal to 2So(1-2k).							

Table 19: Thompson and Howarth (1978) Method 1 Statistics - Newmont 2m Cores  
(after Table 9 in Odin's 2004 NI 43-101 Technical Report)

These results are consistent with expectations and are appropriate for use on the Cangrejos property. Analysis for gold often gives poorer precision (higher percentage figure) than analysis for base metals, eg copper, because of gold's particulate nature.

The spread of points about the corresponding regression lines (Appendix 6-A, B in the 2004 technical report) is much greater for standard gold values than for "blaster" gold values. Nevertheless, the precisions obtained for gold from both the standard and "blaster" techniques are very similar. This supports the suggestion made at the end of Section 10 in the 2004 technical report that the standard method of gold analysis may be adequate at Cangrejos (at least for initial work).

The negative detection limit of -0.02 g/t gold obtained from the Thompson and Howarth (1978) plot for the "blaster" duplicates is unexpected. Normally the detection limit obtained empirically from such a plot is greater than the nominal detection limit (in this case 0.03 g/t). This may be an artifice of the estimation and could turn positive if there were more data.

## b. ODIN DATA

### Odin GPS Coordinates: Top-of-Bedrock Soil Sampling Grids

Odin initially established cut and pegged grids using a mixture of tape and compass and GPS coordinates (South American Provisional 1956 datum) to control its top-of-bedrock soil sampling grids. The physical presence of the pegs in the field meant that Odin would not have to rely solely on GPS coordinates to locate follow up work as long, as the grids were properly maintained. This was especially important in the more incised and more heavily forested areas where some pegs had to be positioned solely using tape and compass as the GPS signal was very poor or non-existent. Unfortunately, during the 20-month period of the exploration moratorium imposed after the acceptance of the Mining Mandate, Odin discontinued the maintenance of its

grids. By the time Odin resumed fieldwork in January 2010, two rainy seasons had passed and very few pegs remained from the original grids. Consequently, the recovery of former sample points and the location of new drillhole sites must now rely solely on GPS coordinates.

Figure 65 shows the location of the grid pegs checked prior to the exploration moratorium along with a representation of the discrepancy of the check GPS coordinates as compared to the planned coordinates.

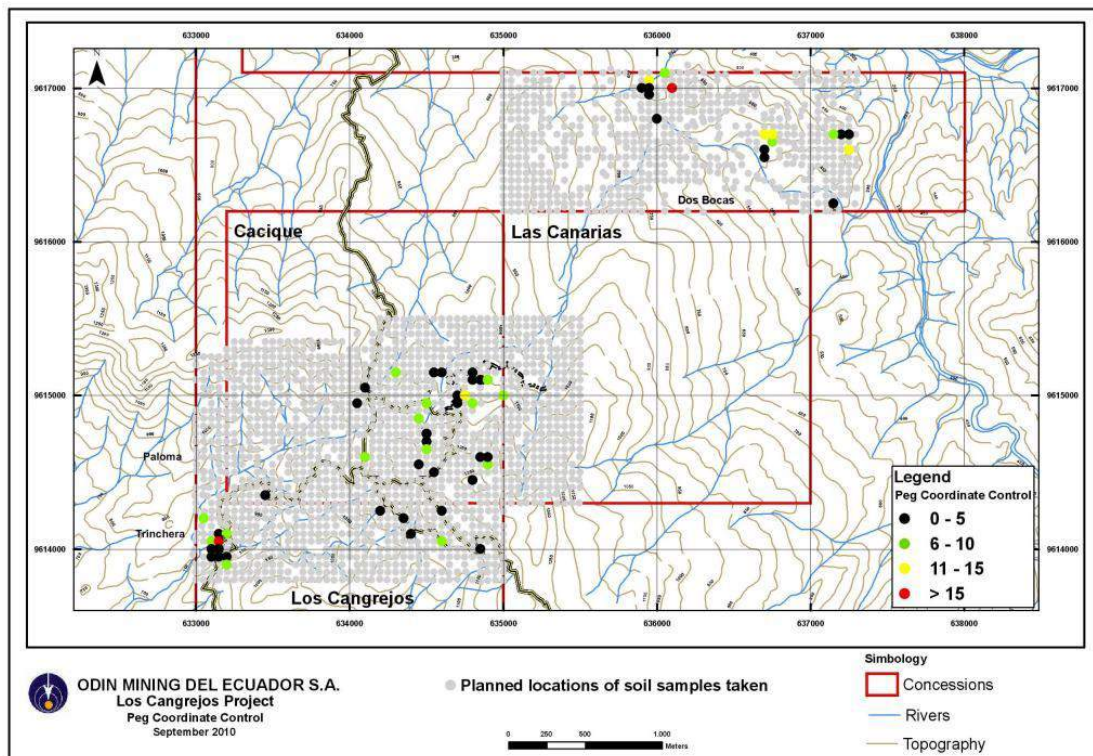


Figure 65: Location of Checked Grid Pegs

Table 20 presents a summary of the check GPS readings taken on peg locations during my various site visits since the end of 2005. Most pegs checked appear to have been within a few metres of their planned positions. However, a few pegs showed deviations greater than 10 m from the planned positions in either the northing and/or the easting. Consequently, this level of positional uncertainty must be allowed for in the follow-up work.

Target Area	Date	<b>SAMPLE NUMBER</b>	Plan Easting	Plan Northing	GPS Average Easting	GPS Average Northing	Avg-Plan Difference Easting	Avg-Plan Difference Northing
						<b>Average</b>	<b>1</b>	<b>0</b>
						<b>Std Dev</b>	<b>5</b>	<b>5</b>
						<b>Min</b>	<b>-12</b>	<b>-12</b>
						<b>Median</b>	<b>1</b>	<b>0</b>
						<b>Max</b>	<b>13</b>	<b>22</b>
Dos Bocas	16-Dec-05	<b>ODN 1311</b>	636100	9617000	<b>636088</b>	<b>9617022</b>	<b>-12</b>	<b>22</b>
Dos Bocas	16-Dec-05	<b>ODN 1554</b>	635900	9617000	<b>635897</b>	<b>9616997</b>	<b>-3</b>	<b>-3</b>
Dos Bocas	17-Dec-05	<b>ODN 1315</b>	635950	9617050	<b>635962</b>	<b>9617050</b>	<b>12</b>	<b>0</b>
Dos Bocas	17-Dec-05	<b>ODN 1293</b>	636000	9616800	<b>636002</b>	<b>9616802</b>	<b>2</b>	<b>2</b>
Dos Bocas	17-Dec-05	<b>ODN 1317</b>	635950	9616960	<b>635953</b>	<b>9616956</b>	<b>3</b>	<b>-4</b>
Dos Bocas	17-Dec-05	<b>ODN 1316</b>	635950	9617000	<b>635953</b>	<b>9617005</b>	<b>3</b>	<b>5</b>
Dos Bocas	17-Dec-05	<b>ODN 1271</b>	636050	9617100	<b>636047</b>	<b>9617109</b>	<b>-3</b>	<b>9</b>
Dos Bocas	18-Dec-05	<b>ODN 1845</b>	637250	9616600	<b>637239</b>	<b>9616594</b>	<b>-11</b>	<b>-6</b>
Dos Bocas	18-Dec-05	<b>ODN 1796</b>	637150	9616250	<b>637145</b>	<b>9616253</b>	<b>-5</b>	<b>3</b>
Dos Bocas	12-May-06	<b>ODN 1755</b>	636750	9616650	<b>636760</b>	<b>9616641</b>	<b>10</b>	<b>-9</b>
Dos Bocas	12-May-06	<b>ODN 1756</b>	636750	9616700	<b>636762</b>	<b>9616702</b>	<b>12</b>	<b>2</b>
Dos Bocas	12-May-06	<b>ODN 1763</b>	636700	9616700	<b>636708</b>	<b>9616688</b>	<b>8</b>	<b>-12</b>
Dos Bocas	12-May-06	<b>ODN 1764</b>	636700	9616600	<b>636695</b>	<b>9616595</b>	<b>-5</b>	<b>-5</b>
Dos Bocas	12-May-06	<b>ODN 1765</b>	636700	9616550	<b>636701</b>	<b>9616546</b>	<b>1</b>	<b>-4</b>
Dos Bocas	13-May-06	<b>ODN 1906</b>	637200	9616700	<b>637200</b>	<b>9616700</b>	<b>0</b>	<b>0</b>
Dos Bocas	13-May-06	<b>ODN 1843</b>	637150	9616700	<b>637148</b>	<b>9616694</b>	<b>-2</b>	<b>-6</b>
Dos Bocas	13-May-06	<b>ODN 1917</b>	637250	9616700	<b>637252</b>	<b>9616698</b>	<b>2</b>	<b>-2</b>
T-P	31-Aug-06	<b>???</b>	633100	9614050	<b>633105</b>	<b>9614057</b>	<b>5</b>	<b>7</b>
T-P	31-Aug-06	<b>ODN 2127</b>	633200	9613950	<b>633204</b>	<b>9613947</b>	<b>4</b>	<b>-3</b>
T-P	1-Sep-06	<b>ODN 2071</b>	633050	9614200	<b>633052</b>	<b>9614193</b>	<b>2</b>	<b>-7</b>
T-P	4-Sep-06	<b>???</b>	633150	9614100	<b>633152</b>	<b>9614100</b>	<b>2</b>	<b>0</b>
T-P	4-Sep-06	<b>ODN 2016</b>	633200	9614100	<b>633198</b>	<b>9614093</b>	<b>-2</b>	<b>-7</b>
T-P	4-Sep-06	<b>ODN 2103</b>	633150	9614050	<b>633154</b>	<b>9614066</b>	<b>4</b>	<b>16</b>
T-P	4-Sep-06	<b>ODN 2092</b>	633100	9614000	<b>633105</b>	<b>9613996</b>	<b>5</b>	<b>-4</b>
T-P	4-Sep-06	<b>ODN 2093</b>	633150	9614000	<b>633154</b>	<b>9613996</b>	<b>4</b>	<b>-4</b>
T-P	5-Sep-06	<b>ODN 2129</b>	633100	9613950	<b>633099</b>	<b>9613948</b>	<b>-1</b>	<b>-2</b>
T-P	5-Sep-06	<b>ODN 2128</b>	633150	9613950	<b>633147</b>	<b>9613947</b>	<b>-3</b>	<b>-3</b>
T-P	5-Sep-06	<b>ODN 2152</b>	633200	9613900	<b>633196</b>	<b>9613891</b>	<b>-4</b>	<b>-9</b>

Table 20: Odin Grid Pegs – GPS Coordinate Checks – Part 1

Target Area	Date	<b>SAMPLE NUMBER</b>	Plan Easting	Plan Northing	GPS Average Easting	GPS Average Northing	Avg-Plan Difference Easting	Avg-Plan Difference Northing
Cacique	2-Dec-07	<b>ODN 4566</b>	634800	9614950	<b>634808</b>	<b>9614940</b>	<b>8</b>	<b>-10</b>
Cacique	4-Dec-07	<b>ODN 4537</b>	634100	9615050	<b>634099</b>	<b>9615048</b>	<b>-1</b>	<b>-2</b>
Cacique	5-Dec-07	<b>ODN 4463</b>	634600	9615150	<b>634600</b>	<b>9615148</b>	<b>0</b>	<b>-2</b>
Cacique	5-Dec-07	<b>ODN 4462</b>	634550	9615150	<b>634550</b>	<b>9615150</b>	<b>0</b>	<b>0</b>
Cacique	5-Dec-07	<b>ODN 4492</b>	634850	9615100	<b>634852</b>	<b>9615095</b>	<b>2</b>	<b>-5</b>
Cacique	5-Dec-07	<b>ODN 4491</b>	634800	9615100	<b>634796</b>	<b>9615104</b>	<b>-4</b>	<b>4</b>
Cacique	5-Dec-07	<b>ODN 4493</b>	634900	9615100	<b>634896</b>	<b>9615094</b>	<b>-4</b>	<b>-6</b>
Cacique	5-Dec-07	<b>ODN 4467</b>	634800	9615150	<b>634801</b>	<b>9615150</b>	<b>1</b>	<b>0</b>
Cacique	5-Dec-07	<b>ODN 4457</b>	634300	9615150	<b>634302</b>	<b>9615158</b>	<b>2</b>	<b>8</b>
Cacique	5-Dec-07	<b>ODN 4625</b>	634450	9614850	<b>634443</b>	<b>9614852</b>	<b>-7</b>	<b>2</b>
Cacique	5-Dec-07	<b>ODN 4752</b>	634500	9614750	<b>634500</b>	<b>9614750</b>	<b>0</b>	<b>0</b>
Cacique	6-Dec-07	<b>ODN 4752</b>	634500	9614750	<b>634501</b>	<b>9614750</b>	<b>1</b>	<b>0</b>
Cacique	6-Dec-07	<b>ODN 4810</b>	634500	9614700	<b>634503</b>	<b>9614699</b>	<b>3</b>	<b>-1</b>
Cacique	6-Dec-07	<b>ODN 4927</b>	634500	9614650	<b>634507</b>	<b>9614654</b>	<b>7</b>	<b>4</b>
Cacique	6-Dec-07	<b>ODN 4850</b>	634550	9614500	<b>634549</b>	<b>9614505</b>	<b>-1</b>	<b>5</b>
Cacique	6-Dec-07	<b>ODN 4945</b>	634600	9614250	<b>634601</b>	<b>9614252</b>	<b>1</b>	<b>2</b>
Cacique	7-Dec-07	<b>ODN 5078</b>	634200	9614250	<b>634205</b>	<b>9614249</b>	<b>5</b>	<b>-1</b>
Cacique	7-Dec-07	<b>ODN 5127</b>	634350	9614200	<b>634354</b>	<b>9614197</b>	<b>4</b>	<b>-3</b>
Cacique	7-Dec-07	<b>ODN 5149</b>	634400	9614100	<b>634401</b>	<b>9614100</b>	<b>1</b>	<b>0</b>
Cacique	8-Dec-07	<b>ODN 4561</b>	634500	9614950	<b>634497</b>	<b>9614958</b>	<b>-3</b>	<b>8</b>
Cacique	8-Dec-07	<b>ODN 4839</b>	634900	9614550	<b>634900</b>	<b>9614559</b>	<b>0</b>	<b>9</b>
Cacique	8-Dec-07	<b>ODN 4765</b>	634900	9614600	<b>634898</b>	<b>9614600</b>	<b>-2</b>	<b>0</b>
Cacique	8-Dec-07	<b>ODN 4766</b>	634850	9614600	<b>634845</b>	<b>9614601</b>	<b>-5</b>	<b>1</b>
Cacique	8-Dec-07	<b>ODN 5001</b>	634800	9614450	<b>634795</b>	<b>9614452</b>	<b>-5</b>	<b>2</b>
Cacique	8-Dec-07	<b>ODN 4656</b>	634100	9614600	<b>634109</b>	<b>9614601</b>	<b>9</b>	<b>1</b>
Cacique	8-Dec-07	<b>ODN 5109</b>	633450	9614350	<b>633447</b>	<b>9614350</b>	<b>-3</b>	<b>0</b>
Cacique	25-Mar-08	<b>ODN 5290</b>	634850	9614000	<b>634849</b>	<b>9613996</b>	<b>-1</b>	<b>-4</b>
Cacique	25-Mar-08	<b>ODN 5172</b>	634600	9614050	<b>634604</b>	<b>9614043</b>	<b>4</b>	<b>-7</b>
Cacique	26-Mar-08	<b>ODN 4552</b>	634050	9614950	<b>634046</b>	<b>9614951</b>	<b>-4</b>	<b>1</b>
Cacique	26-Mar-08	<b>ODN 4903</b>	634450	9614550	<b>634449</b>	<b>9614549</b>	<b>-1</b>	<b>-1</b>
Cacique	26-Mar-08	<b>ODN 4592</b>	634700	9615000	<b>634704</b>	<b>9614998</b>	<b>4</b>	<b>-2</b>
Cacique	26-Mar-08	<b>ODN 4593</b>	634750	9615000	<b>634763</b>	<b>9615003</b>	<b>13</b>	<b>3</b>
Cacique	26-Mar-08	<b>ODN 4564</b>	634700	9614950	<b>634698</b>	<b>9614948</b>	<b>-2</b>	<b>-2</b>
Cacique	26-Mar-08	<b>ODN 5607</b>	635000	9615000	<b>635010</b>	<b>9614998</b>	<b>10</b>	<b>-2</b>
Cacique	27-Mar-08	<b>ODN 4462</b>	634550	9615150	<b>634549</b>	<b>9615151</b>	<b>-1</b>	<b>1</b>

Table 20: Odin Grid Pegs – GPS Coordinate Checks - Part 2



The use of location coordinates determined by simple handheld GPS instruments is appropriate for the initial stages of exploration. However, once the work becomes more advanced, the area will have to be accurately surveyed by a qualified surveyor.

### Odin GPS Coordinates: Stream Sediment Sampling

Figure 66 shows the location of the check GPS readings made at selected stream sediment sampling sites. The figure also gives an indication of the order of deviation involved from the planned position of the points.

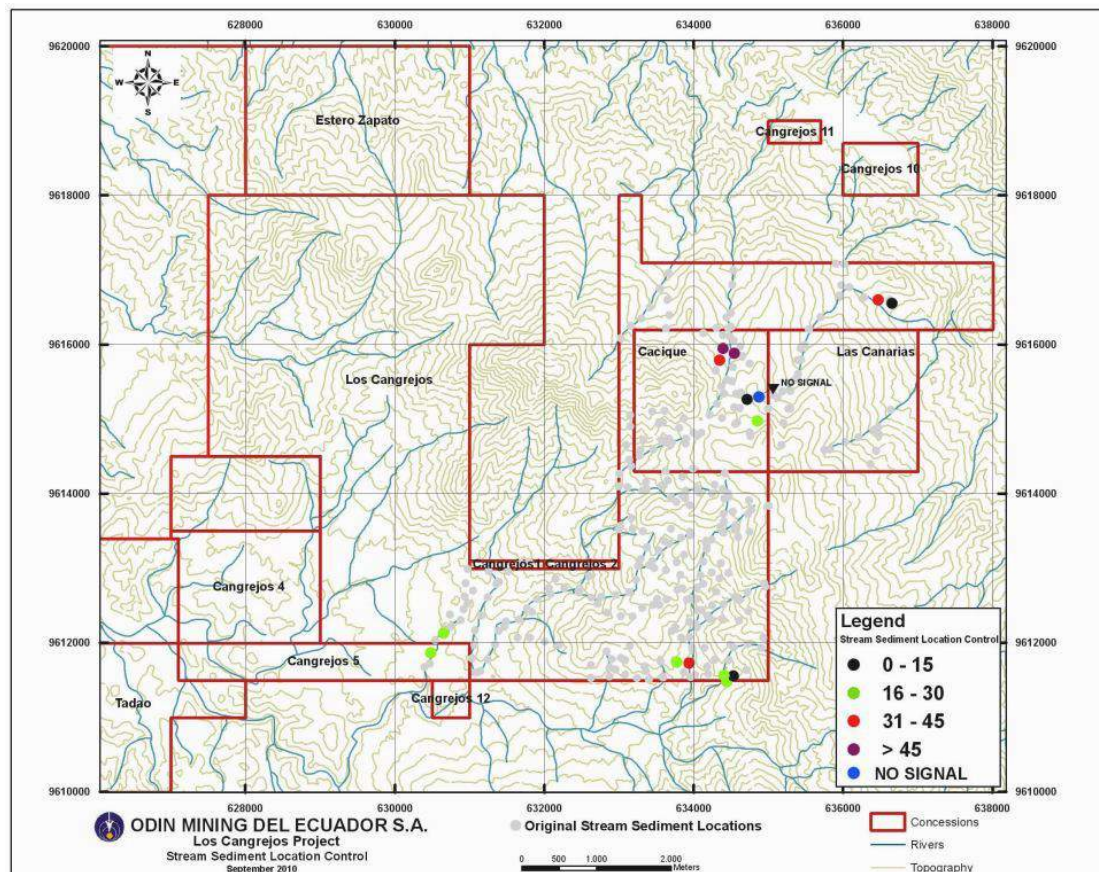


Figure 66: Location of Checked Stream Sediment Sample Sites

The precision of the GPS coordinates is significantly poorer than is the case for the soil sampling pegs. At times deviations from the planned positions reach 50 m. However, this is to be expected given the errors involved in locating sample sites from field maps scaled up from 1:50,000 base maps and in trying to obtain an adequate signal along deeply incised stream courses under thick forest cover. In spite of these problems, the locations of the sample sites are considered to be sufficiently well determined for the purpose of the survey.



### **Odin Analytical Results - General**

Both ACME Laboratory and Odin inserted their own blanks into each sample batch to check for contamination. ACME also duplicated the analysis of a number of pulps in each sample batch and Odin split in two every sample in the field with a number ending in 33, 66 or 99 and submitted each half in the same sample batch but with different sample numbers. Until now, Odin have relied on the internal standards inserted by ACME Laboratories. Instead of inserting its own standards Odin preferred to request more duplicate analyses when the range of covered by the initial selection of duplicates by the analytical laboratory did not give an adequate coverage of the range of values obtained.

In addition to the internal quality control carried out by the analytical laboratory and by Odin's field staff, on each of my field visits I normally resampled a number of soil and/or stream sediment sample sites in order to monitor the sampling methodology and to provide an independent set of duplicate values.

On two occasions excess pulps returned from ACME's sample preparation laboratory in Cuenca have been submitted to another laboratory (ALS-Chemex in Quito, although the actual work is carried out in Peru) for alternative analysis.

Over the years Odin has identified several occurrences of isolated bad analyses. Poor fluxing in one case gave a fire assay gold value which was surprisingly low, and there have been a couple of instances where an instrumental failure resulted in every value from a particular sample being analysed by ICP-MS being below detection. However, such isolated gross analytical failures are very rare, and the best safeguard against them is constant vigilance and checking by the geologist managing the program.

The discussion on the quality control of the analyses given below concentrates on the results from top-of-bedrock (TBR) soil sampling since it is these results which have the most impact on the layout of the proposed drill plan.

### **Odin Analytical Results – Blanks Inserted into Soil Sample Batches**

Although it appears from Table 21 below that the Odin blank (ground glass) tends to give somewhat noisier results than the ACME blank, the maximum values from each set of blanks is negligible compared with the level of the sample values. Consequently, it is concluded that there is no evidence of any significant contamination of the sample results.

<b>Blanks</b>	<b>Batches</b>	<b>Blanks</b>	<b>Below detection</b>	<b>Max value</b>
<b>ACME</b>	<b>12</b>	<b>69</b>	<b>97%</b>	<b>3 ppb Au</b>
<b>Odin</b>	<b>16</b>	<b>32</b>	<b>69%</b>	<b>2 ppb Au</b>

Table 21: Analytical Results for GOLD from Blanks in Odin Soil Sample Batches

### Odin Analytical Results – ACME Standards Inserted into Soil Sample Batches

ACME's standard DS7 has a mean value of 70 ppb gold, which is comparable to the practical threshold of 100 ppb gold that Odin uses in its soil sample work. Figure 67 shows that the values obtained for standard DS7 over the years mainly lie within a channel of 60-80 ppb gold, but there are isolated values reaching 130 ppb. This is consistent with the mean and standard deviation given in Table 22. However, the fact that the isolated peaks are not compensated by any isolated lows suggests that there is a particulate component to the gold in the standard, which is giving rise to some "nugget effect". This situation is not ideal in a low value gold standard. Therefore, it is recommended that Odin inserts its own, more homogenous, gold standards in future sample batches.

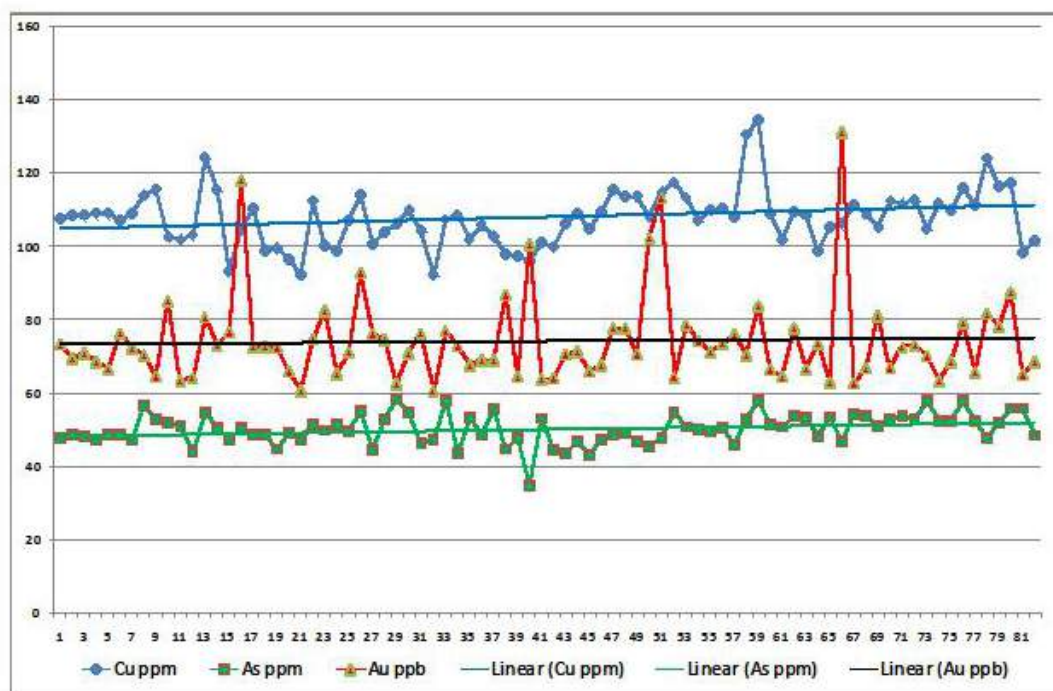


Figure 67: Analytical Results - ACME Standard DS7 in TBR Soil Sample Batches.

Element	Symbol	Unit	Mean	Standard deviation	Range ( $\pm 2\sigma$ )
<b>COPPER</b>	Cu	ppm	<b>109</b>	10	89-129
<b>GOLD</b>	Au	ppb	<b>70</b>	30	10-130
<b>ARSENIC</b>	As	ppm	<b>48</b>	5	38-58

Table 22: Data for ACME Standard DS7

The values for copper and arsenic from ACME standard DS7, along with those for gold, already discussed above, given in Figure 67 are consistent with the specifications given in Table 22. However, all three elements in Figure 67 appear to show a slight trend towards increased values with time. This upwards drift is not a problem at the level of values in Odin's samples. However, it could become of some concern in more sensitive work.

**Odin Analytical Results – Pulp, Field, and Resampling Duplicates**

The plots of gold and copper values for ACME's pulp duplicates (Figures 68 and 69), Odin's field duplicates (Figures 70 and 71) and my own resampling duplicates (Figures 72 and 73) invariably show a poorer reproducibility for copper than for gold and a decreasing reproducibility for each of the elements as one progresses from the pulp duplicates, through the field duplicates to the resampling duplicates.

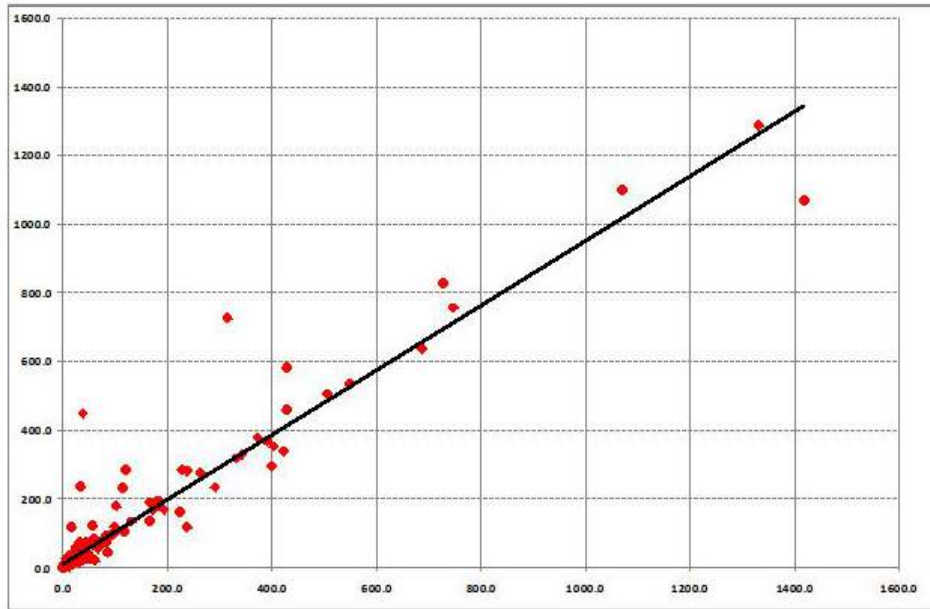


Figure 68: Plot of ACME Pulp Duplicates for TBR Soil Samples – GOLD (ppb)

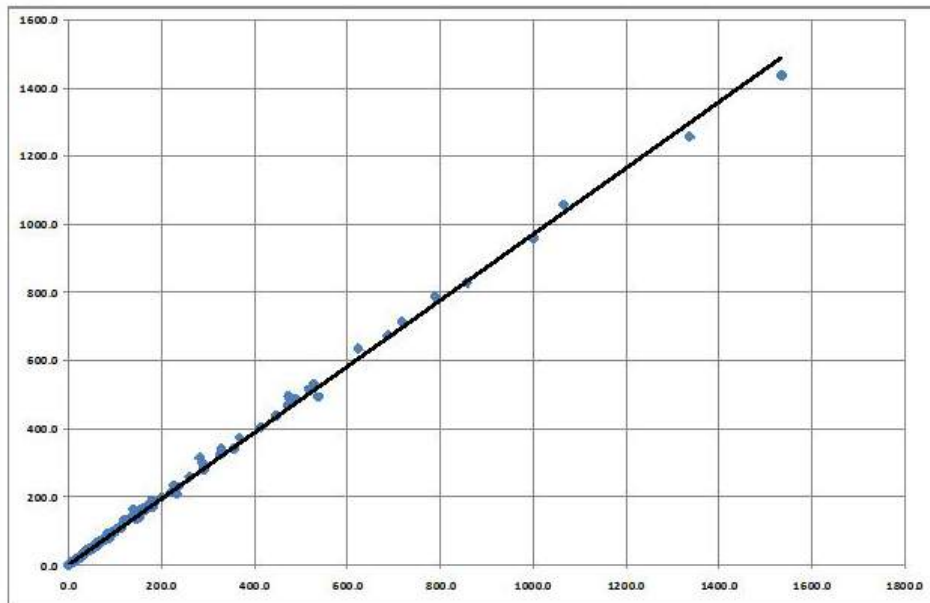


Figure 69: Plot of ACME Pulp Duplicates for TBR Soil Samples – COPPER (ppm)

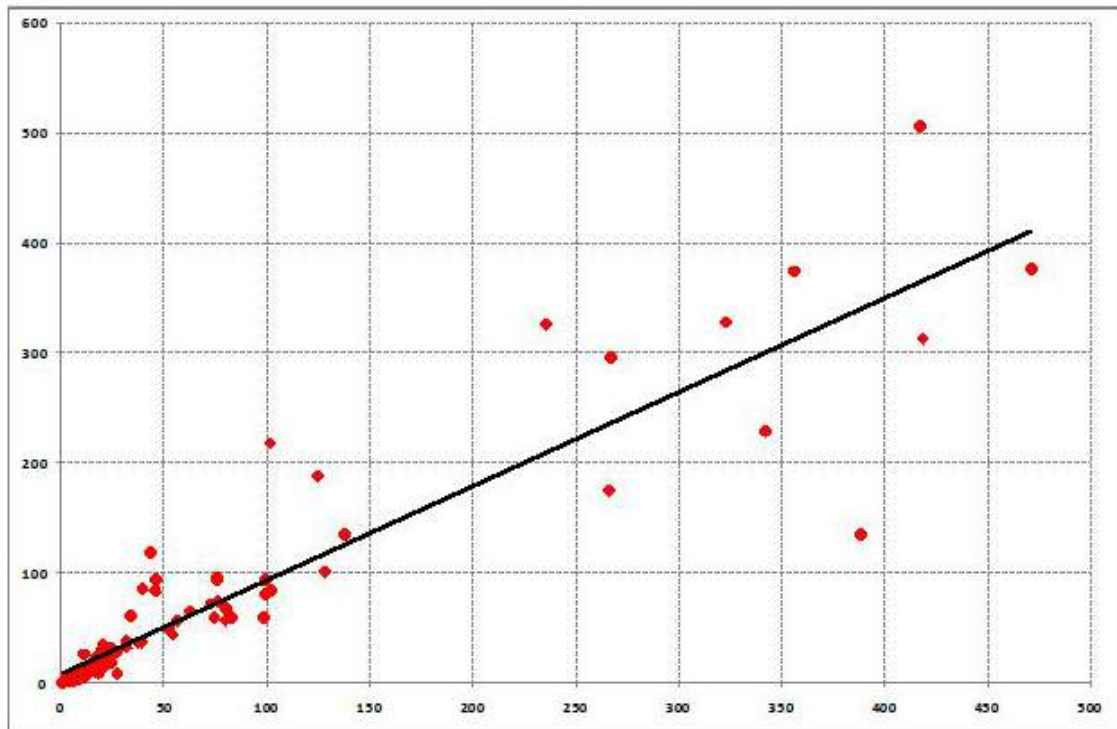


Figure 70: Plot of Odin Field Duplicates for TBR Soil Samples – GOLD (ppb)

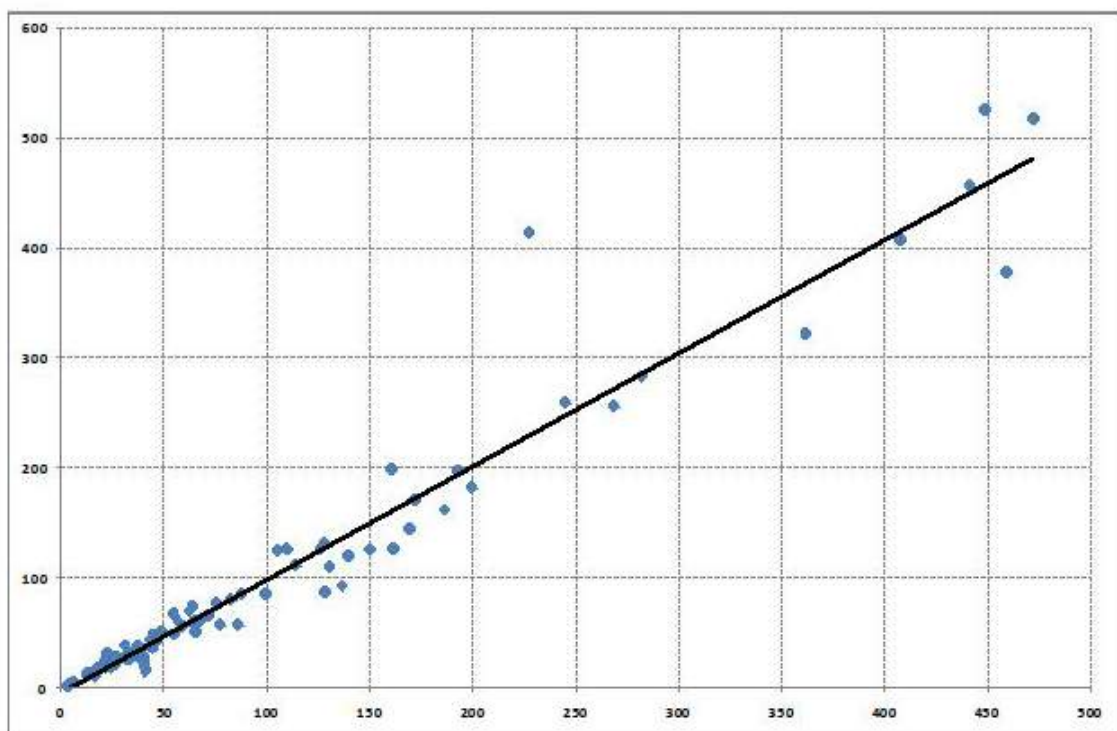


Figure 71: Plot of Odin Field Duplicates for TBR Soil Samples – COPPER (ppm)

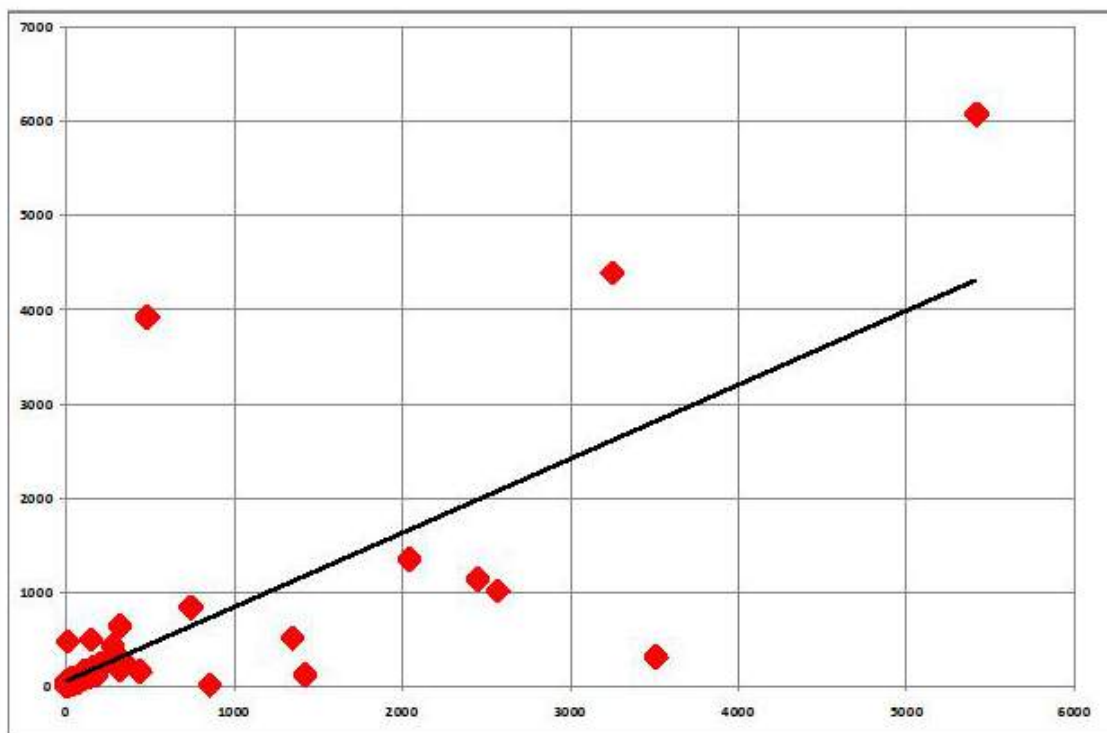


Figure 72: Plot of Resampling Duplicates for TBR Soil Samples – GOLD (ppb)

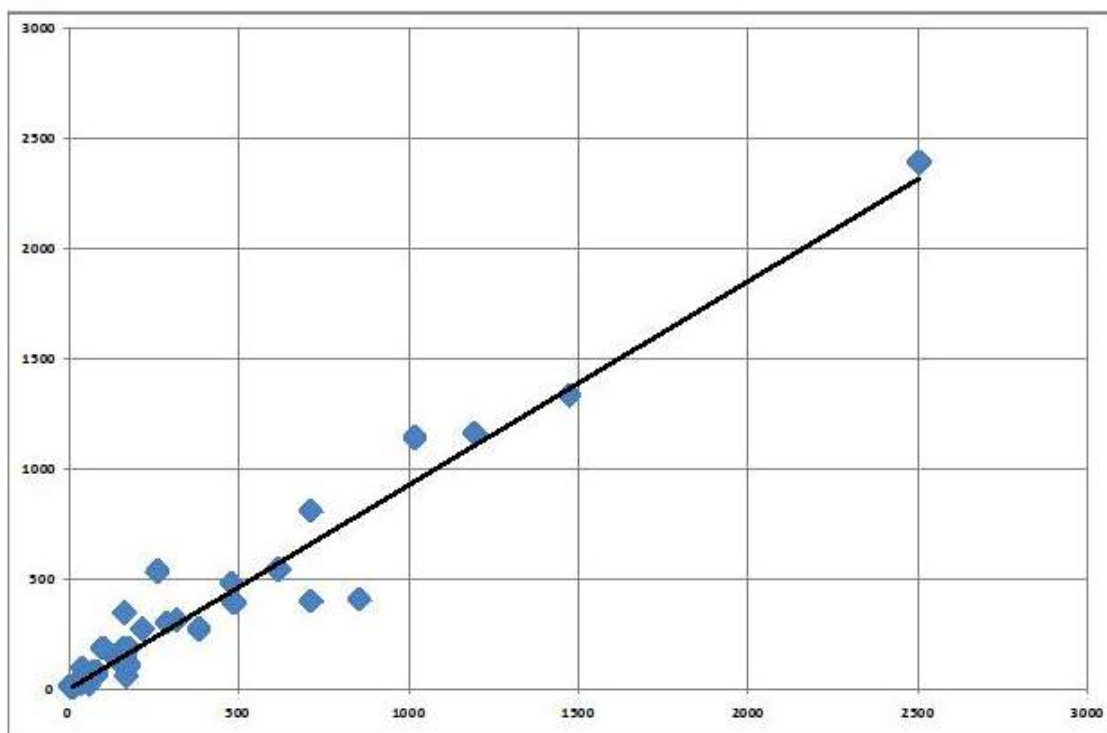


Figure 73: Plot of Resampling Duplicates for TBR Soil Samples – COPPER (ppm)



This is reflected in the precision figures given in Table 23 for ACME's pulp duplicates and for Odin's field duplicates calculated by Method 1 of Thompson and Howarth. Unfortunately, the number of the resampling duplicates (47) is still insufficient to meet the minimum number of duplicates (55) required to carry out the Thomson and Howarth's Method 1 analysis.

Duplicate Type	Number of Duplicate Pairs	So	K	Empirical Precision	Empirical Detection Limit
<b><u>GOLD (30 g aqua regia ICP-MS)</u></b>					
ACME lab pulp split	180	5.5	0.066	<b>13%</b>	<b>10 ppb</b>
ODIN field sample split	93	-3.0	0.354	<b>71%</b>	<b>-2 ppb</b>
<b><u>COPPER (30 g aqua regia ICP-MS)</u></b>					
ACME lab pulp split	180	2.0	0.026	<b>5%</b>	<b>4 ppm</b>
ODN field sample split	93	1.8	0.069	<b>14%</b>	<b>3 ppm</b>
So and k are factors determined from Thompson and Howarth (1978) plots The empirical precision is approximately equal to 2So. The empirical detection limit is equal to 2So(1-2k).					

Table 23: Thompson and Howarth (1978) Method 1 Statistics – TBR Soil Samples

The trends seen are consistent with expectations. For the same type of sample material gold duplicates normally show a greater variability than copper duplicates, because the particulate nature of the gold will tend to give rise to a noticeable “nugget” effect. Furthermore, as the homogeneity of the sample medium decreases, it becomes more difficult to take truly representative sub-samples. Consequently, the reproducibility of both the gold and copper values will decrease as one progresses from the highly homogeneous pulp duplicates through the much less homogeneous field duplicates to the resampling duplicates, which may have been taken up to several metres apart. The negative detection limit for the Odin field sample splits is probably an artifact of the estimation and is expected to turn positive once more duplicate pairs are available.

For interpretation purposes the degree of variability indicated by even the Odin field sample splits for gold could become problematic. The precision determined from the resampling duplicates, once sufficient data is available, will probably be even poorer. However, the amplification of the area of lower values for the resampling duplicates in Figure 74 suggests that the reproducibility for gold in the critical area around 100 ppb gold could be significantly better than is indicated for the data sample set considered as a whole. More sample duplicates are needed to allow the lower and higher values to be treated as separate data sets using Method 1 of Thompson and Howarth (1978).

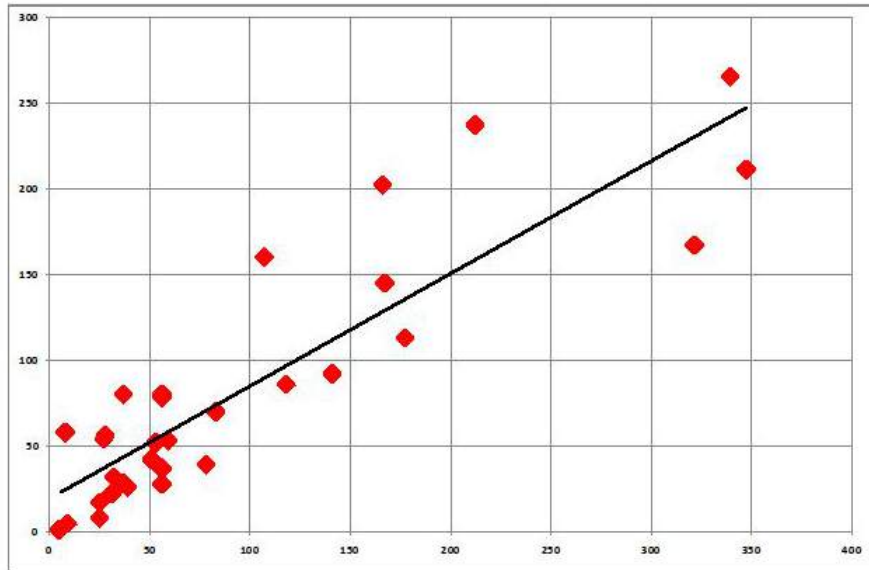


Figure 74: Plot of Resampling Duplicates for TBR Soil Samples – Lower Value GOLD (ppb)

In March 2008 the possibility that the level of variability shown in gold results might result in significant variation in the defined anomalies was checked by infilling the original 50 m x 50 m grid at selected areas of the Cacique anomalies to 25 m x 50 m.

A comparison of Figures 75 and 76 suggests that the main anomalies (>100 ppb Au) remain relatively unchanged as the sampling grid is tightened. Consequently, the anomalies are considered to be reliable even if the individual results within each anomaly may be very variable.

Following a recommendation by McDonald (2009b), the general area of the Cacique anomalies was further checked in early 2010 by a campaign of top-of-bedrock (TBR) soil sampling at 25 m intervals along the topographic ridges and spurs. The results of this work are again considered to confirm the general validity of the results obtained in the original 50 m x 50 m grid sampling (Figure 77).

Odin endeavoured to provide physical confirmation of the presence of the interpreted structural lineament shown in Figures 53 and 54 by traversing the projected trends of these lineaments with line of close spaced (10 m) auger holes. This program was not a success since, as the projected positions of the lineaments were approached, the colluvial cover thickened to greater than 10 m and the auger was not able to penetrate to the top of the bedrock. This observation itself suggests that the lineaments may well be indicative of real structures in the bedrock, since the situation could have developed through erosion by stream action having incised preferentially into soft, probably hydrothermally altered, zones along the structures to produce small valleys, which were then infilled by thick colluvial material.

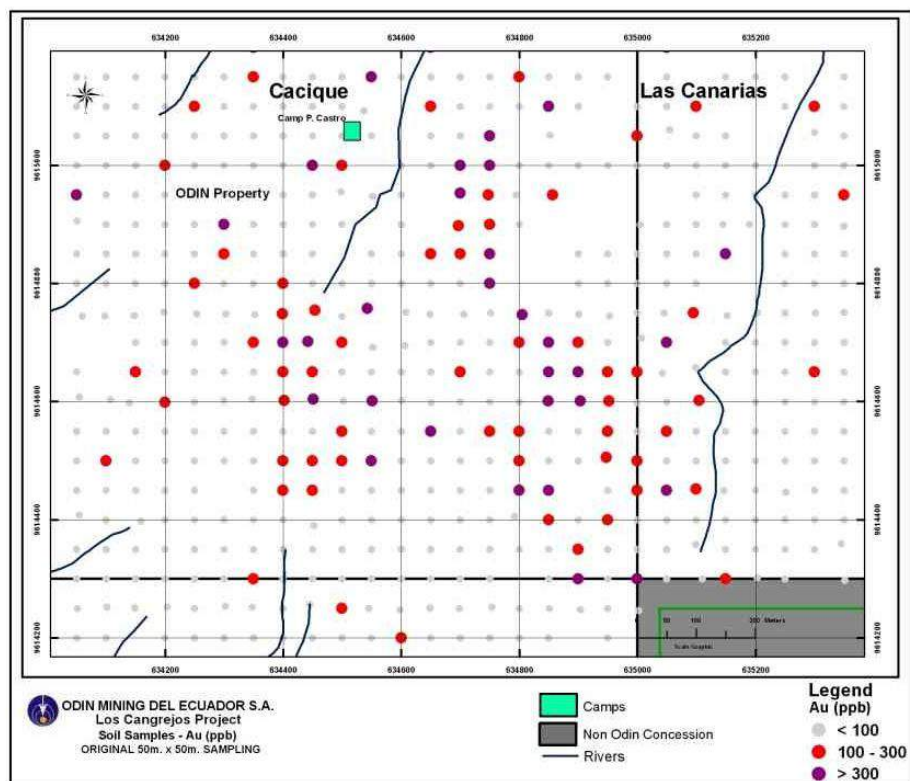


Figure 75: Cacique – TBR Soil Sample Results – 50 m x 50 m Grid – GOLD (ppb)

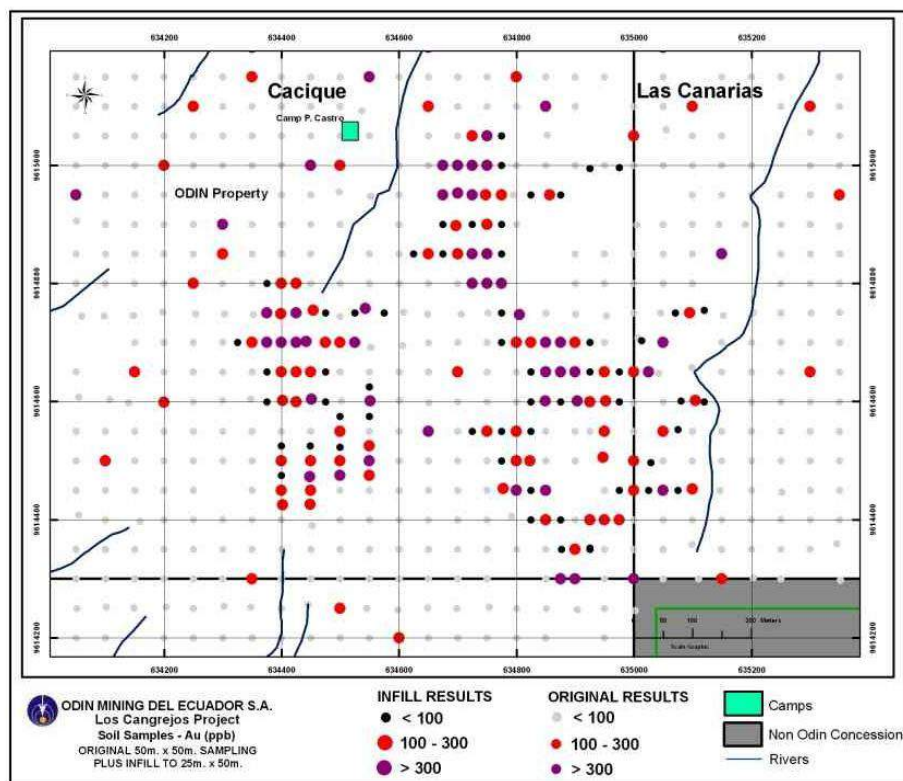


Figure 76: Cacique – TBR Soil Sample Results – 25 m x 50 m Grid – GOLD (ppb)

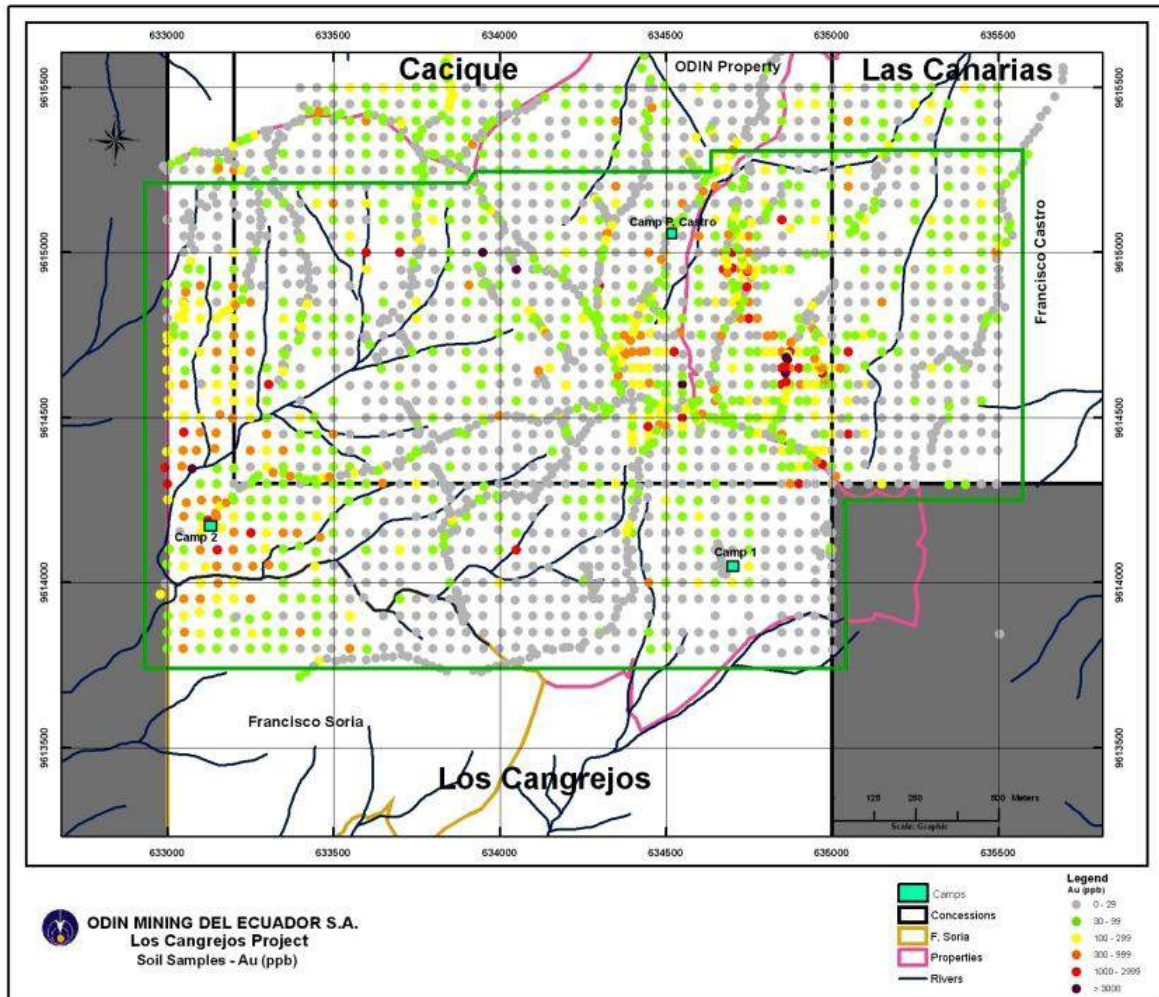


Figure 77: Trinchera/Paloma/Cacique – Top-of-Bedrock (TBR) Soil Results – Ridge and Spur (Sinuous Lines) over 50 m x 50 m Grid – GOLD (ppb)

#### **Odin Analytical Results – Reanalysis of Pulps by ALS-Chemex**

In April 2008 and June 2010 selected a number of excess pulps for soils, stream sediments and rocks from storage in Odin's Quito office for submission to ALS-Chemex in Quito for reanalysis in Peru.

Most of the pulps were for top-of-bedrock soil samples, and Figures 78 and 79 present a comparison of the results for gold and copper from the two laboratories. The spread of the results for gold is consistent with the presence of some “nugget” effect and for both gold and copper more duplicate pairs are desirable to give a better distribution of values. Nevertheless, the two sets of results appear broadly consistent with each other.

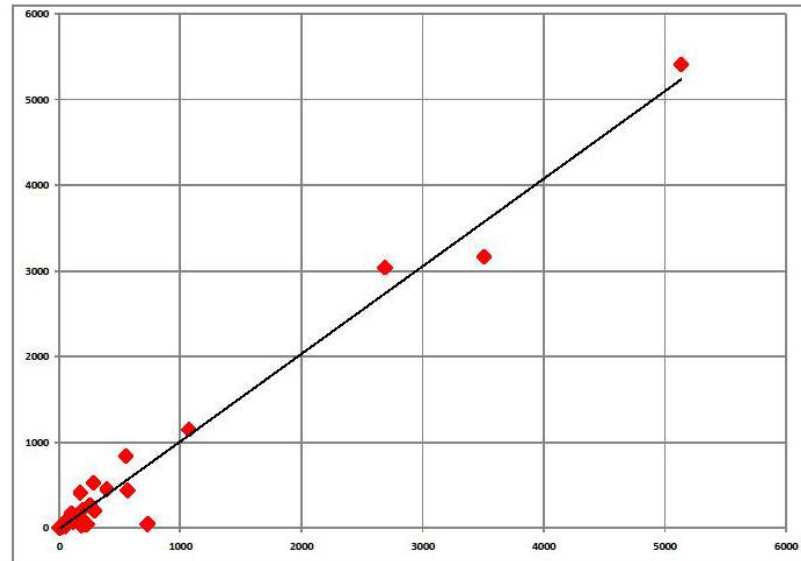


Figure 78: ALS-Chemex versus ACME - TBR Soil Results – GOLD (ppb)

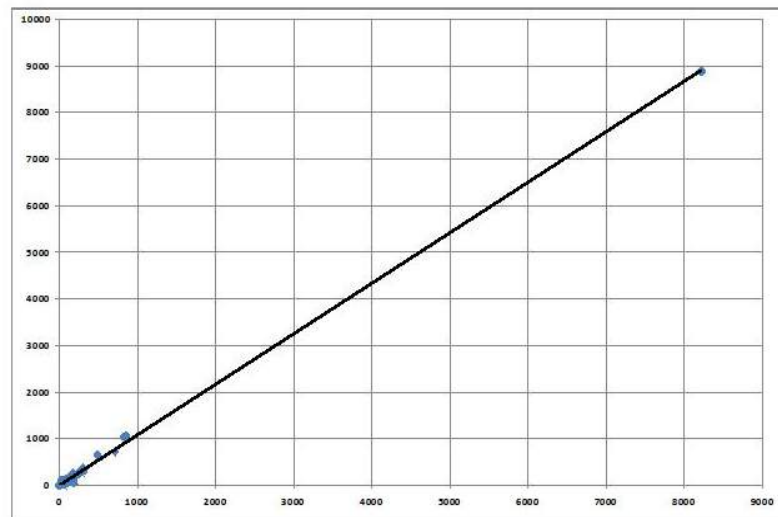


Figure 79: ALS-Chemex versus ACME - TBR Soil Results – COPPER (ppm)

Much smaller numbers of excess pulps were available for the rocks and stream sediments. Nevertheless, the results presented in Tables 24 and 25 indicate that, despite the different methods of analyses employed by the two laboratories as indicated in Section 12, there exists a general level of consistency between the two sets of analyses, although there are differences in detail. Most importantly the ALS results confirm the high values reported by ACME for the stream sediment samples.



ROCK PULP			ACME	ALS	ACME	ALS
CODE	NUMBER	ECU Batch	g/t Au	g/t Au	ppm Cu	ppm Cu
ODN	4266	2007/16	13.23	12.3	944	910
ODN	4258	2007/16	5.18	2.38	354	357
ODN	5964	2010/01	1.20	1.22	942	1010
ODN	4000	2007/16	1.00	0.75	156	162
ODN	5965	2010/01	0.67	0.31	85	92
ODN	4257	2007/16	0.63	0.39	242	264
ODN	6978	2006/10	0.42	0.36	494	504
ODN	5601	2008/01	0.39	0.05	147	146
ODN	6977	2006/10	0.16	0.18	190	188
ODN	4424	2008/01	0.06	0.05	74	84
ODN	4416	2007/19	<0.01	0.02	4	5

Table 24: ACME Analyses versus ALS-Chemex Check Analyses – ROCKS

STREAM SEDIMENT PULP			ACME	ALS	ACME	ALS
CODE	NUMBER	ECU Batch	ppb Au	ppb Au	ppm Cu	ppm Cu
ODN	4337	2007/18	3148	3740	91	115.5
ODN	4338	2007/18	2472	1630	90	118
ODN	4339	2007/18	606	2070	45	61.5
ODN	4348	2007/18	194	52	14	18.1

Table 25: ACME Analyses versus ALS Check Analyses – STREAM SEDIMENTS

It should be possible to improve the precision figures for gold found in all sample mediums by using screen assay techniques. This would be an expensive process to use as routine, but it may be worth considering in critically important areas. The use of a screen assay technique work on a routine basis is probably not worth the extra expense involved, as the work carried out by Newmont with the 5 kg screen, “blaster” technique on core samples, reported in Table 19, gave a minimal improvement in precision (from 19% to 18%).

#### 14. ADJACENT PROPERTIES

In 1999/2000 Newmont drilled a total of 22 holes on behalf of the El Joven Joint Venture. All the holes not drilled on the Greater Cangrejos property were drilled on the adjacent property almost surrounded by the Cangrejos property (Option 1 in Figure 6). Odin does not control this property, but at the time of drilling Newmont, as operator of the El Joven Joint Venture, held the property under option. Odin announced summarized results of the first 22 holes in three press releases in 1999 and 2000 (Odin, 1999a, 1999b, 2000). The results of the last seven holes were apparently never announced.

#### 15. MINERAL PROCESSING AND METALLURGICAL TESTING

Although Newmont removed quarter core from a number of the holes drilled on Greater Cangrejos for metallurgical tests work no results are available. However, the Newmont (2001a) data package does contain the results of exploratory metallurgical studies on cores from the adjacent property. These are not from extensions of either the Trinchera or Paloma mineralized zones but they do have broadly similar characteristics to the mineralization in these zones. Hence, the results may be a guide to what might be expected for the Trinchera-Paloma porphyry style of mineralization. The most significant conclusions from this preliminary work as presented in the project summary of Mayor and Soria (2000) are considered to be as follows: -

- kinetic data for Au and Cu show very good flotation characteristics
- this is not a typical heap leach project
- bio-oxidation pre-treatment is not applicable

Odin has never carried out any mineral processing or metallurgical testing on material from the Greater Cangrejos property.

#### 16. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

**NO MINERAL RESOURCE OF MINERAL RESERVE OF ANY CATEGORY AS DEFINED BY THE CANADIAN INSTITUTE OF MINING, METALLURGY AND PETROLEUM DEFINITION STANDARDS ON MINERAL RESOURCES AND MINERAL RESERVES CURRENTLY EXISTS ON THE PROPERTY**

Significant mineralized intersections have been made on the Trinchera and Paloma mineralized zones and the generally northeasterly strike of the two zones has been defined. However, additional drilling is needed to establish the vertical profile of the mineralization on a number of sections before any initial mineral resource estimate can be made.

Once a formal mineral resource has been estimated and classified as belonging to the measured or indicated category, a technical, legal, environmental and economic analysis will be required to demonstrate financial viability before a mineral reserve can be estimated.

## 17. OTHER RELEVANT DATA AND INFORMATION

### Conceptual Scoping Studies

Conceptual scoping studies were carried out by Newmont (2001a) and on behalf of Odin by AGRA Simons (2000) and by AMEC (2005a,b). Such studies are highly speculative in nature, and in this case they were designed solely to provide guidance to exploration as to the size of deposit that may be needed to support a viable mining operation given the type of mineralization and the range of gold and copper grades found in the drilling undertaken prior to the studies. The results of the studies do not imply that the quantities and grades of mineralization outlined in the studies will be found by ongoing exploration or that, if such quantities and grades of mineralization were to be found, they would be capable of supporting a viable mine.

The Newmont (2001a) and AGRA Simons (2000) studies agreed that with average grades probably around 1 g/t Au and 0.1% Cu, any economically viable, mining project would need to involve a large scale (5-15 Mt/yr) open-pit based on a reserve of several hundred million tonnes. The scoping studies agreed that the mineralization at Cangrejos would probably be unsuitable for heap leaching and that it would probably require crushing and milling before metal recovery. AGRA Simons (2000) considered that the flotation of a gold-rich copper sulfide concentrate for export to a foreign smelter might be a particularly attractive route in environmental terms in view of the extensive banana plantations and shrimp farms downstream from the property.

A number of such large-scale, low-grade open-pit gold ( $\pm$ Cu) mines were brought into production around the world in the 1990s. These included Cadia Hill, Australia (Porter, 1998), Fort Knox, Alaska (Bakke et al, 1998) and Troilus, Canada (AGRA Simons, 2000 and Goodman, 2005). The Gaby prospect, 50 km to the north of Cangrejos, is a local example of a similar property that reached the prefeasibility stage at this time (EMC, 1997) but did not make it into production.

In 2005 Odin commissioned AMEC to update the AGRA Simons (2000) scoping study. The results from the AMEC study (AMEC, 2005a,b) indicated that an even larger scale mine (30 Mt/y) of this type might be needed to give the best economic result and that, even then, such an operation might only be marginally viable at the gold price then prevailing of about US\$ 400/oz (Figure 8).

In the light of these tentative conclusions Odin refocused its exploration emphasis towards the search for higher-grade, lower-volume styles of gold mineralization in structurally- controlled positions either peripheral to the porphyry-style mineralization or within the overall envelope of the porphyry-style mineralization itself. The Castro block (in particular the Cacique concession) added to the concession holding in 2007 was hypothesized to be especially favourable for the discovery of higher-grade mineralization in structurally-controlled situations peripheral to the main porphyry-style mineralization. The Trinchera-Paloma area on Odin's Los Cangrejos concession was hypothesized to have potential for the discovery of higher-grade mineralization within the overall envelope of the porphyry-style mineralization.

With the gold price at the effective date of this report well above US\$ 1200 /oz (Figure 8), low-grade , high-volume opportunities are returning to favour and new large-scale mines, both open-pit, eg Mt Milligan in Canada (Terrane Metals

Corporation, 2010) and Cerro Casale in Chile (Kinross Gold Corporation, 2010) and underground, eg Cadia East in Australia (Louthean, 2010), are being planned.

### Target Definition and Proposed Diamond Drilling Program – General Comment

It is emphasized that the targets discussed below are conceptual. The potential grades, tonnages and styles of mineralization hypothesized are based on a reasonable interpretation of the available geological, geochemical and geophysical databases. It is the interpretation derived from the study of these databases that drives the location of the proposed drill holes. However, only the results from the drill holes themselves will indicate how closely the interpretation approximates the reality to found at depth.

The various databases are continually being updated, improved and re-evaluated as exploration progresses. Consequently, the interpretation will also evolve and change, especially as new drilling results provide additional information from the subsurface.

### Target Definition and Proposed Diamond Drilling Program - 2004

Odin's 2004 NI 43-101 technical report (Potter, 2004) proposed a diamond drill program of 20 x 250 m holes for a total advance of 5,000 m focused on locating new areas of low-grade, high-volume, porphyry-style, gold-copper mineralization away from the areas partially drilled by Newmont in 1999/2000 (Figure 80).

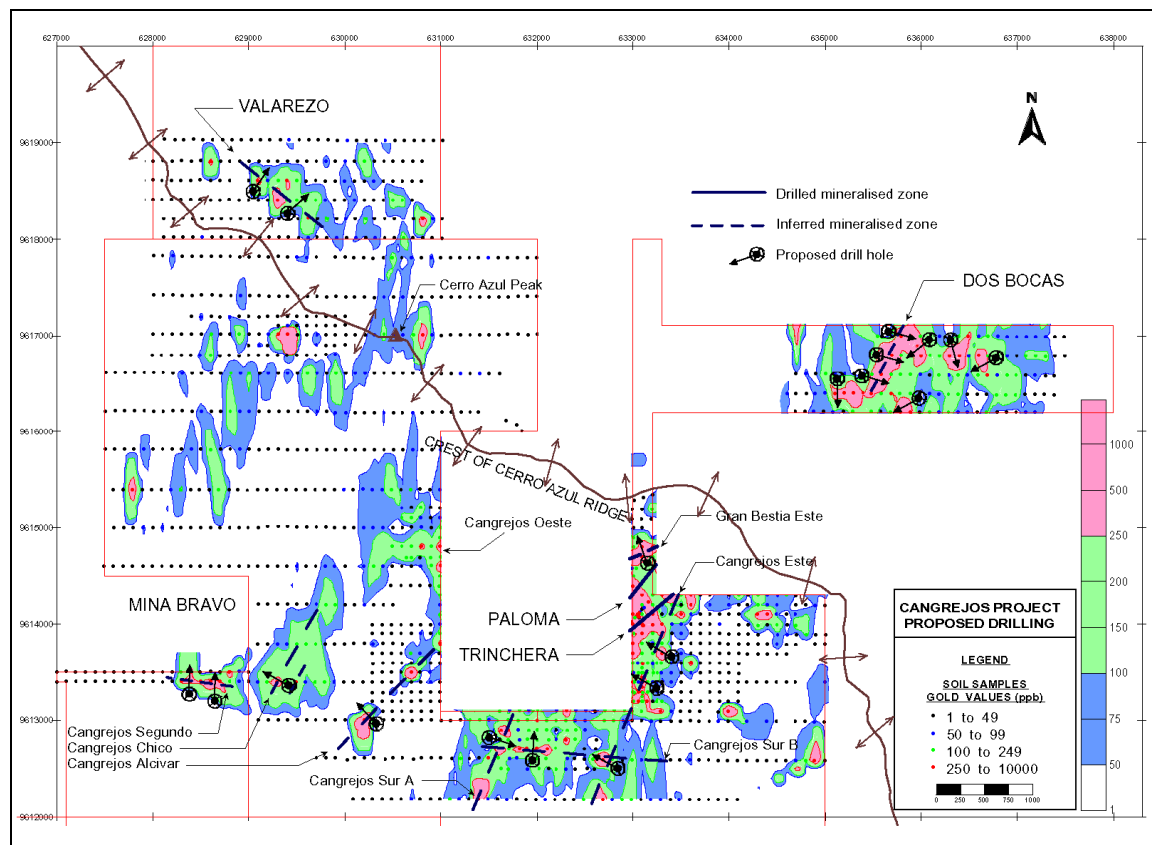


Figure 80: Location of 20 x 250 m Drill Holes Proposed in 2004  
(Figure 29 of Odin's 2004 NI 43-101 technical report)

Based on the grade and length of Newmont's drill intersections and the size of the various soil anomalies, Table 10 of the 2004 report hypothesized that most individual targets for the low-grade porphyry-style mineralization might have a conceptual

potential in the range of 10 million to 30 million tonnes at grades of about 1 g/t gold (with a range 0.5 g/t to 1.5 g/t Au) and around 0.1% copper (with a range 0.0 % to 0.2 % Cu). This table also suggested that there may be sufficient individual targets to reach an aggregate of several hundred million tonnes of such mineralization.

This drill program proposed in 2004 was not implemented, and it is very different from the currently proposed program. Nevertheless, the 2004 drill plan itself and the logic behind it are still valid, although the details will undoubtedly change in the usual course of such projects as Odin's geological knowledge of the property increases and its databases are enhanced and re-evaluated.

### **Target Definition and Proposed Diamond Drilling Program - 2010**

Since 2007 the change in emphasis on the type of mineralization sought and the consideration of the staged financial payments and exploration expenditure commitment with respect to the Cacique and Las Canarias concessions under the Castro agreement of May 2007 have driven Odin to focus most of its exploration effort since 2007 (including the location of the 6 holes currently proposed) on and around these two concessions.

Figures 81 and 82 show the locations of the 6 x 200 m currently proposed diamond drill holes plotted over the gold and copper top-of-bedrock (TBR) soil geochemistry. Figures 83 and 84 show a similar plot but with the tentative structural interpretation added. Table 26 gives the basic parameters of the six proposed holes. However, these parameters (especially the hole length) may change depending on the results obtained as the program advances within the limits imposed by the relevant drill permits.

Four of the newly proposed holes (P1, P5, P6, PD) are sited on the Cacique anomalies in the search for higher-grade, gold mineralization with a strongly localized, structural control (along faults and fractures and in associated stockworks and shatter zones) external to the envelope of porphyry-style mineralization. The other two holes (P12 and P13) are sited to search for zones of higher-grade gold mineralization within the envelope of the porphyry mineralization itself. All six proposed holes are sited at or close to sites proposed by Mr McDonald (2009c,d; 2010).

Based on the size of the soil anomalies and the grade and length of Newmont's very limited number of higher grade drill intersections, it can be hypothesized that individual conceptual targets for the structurally-controlled mineralization might each consist of perhaps around 1 million to 3 million tonnes (200 m long x 10-30 m wide x 200 m deep x 2.6 tonnes/m<sup>3</sup>) at gold grades above 2.5 g/t and at copper grades in the range 0.0 % to 0.3 % copper. Some of the rock sample results indicate that there is also potential to locate veins with gold grades greater than 10 g/t. However, at present there is little basis from which to project any conceptual tonnage for such veins.



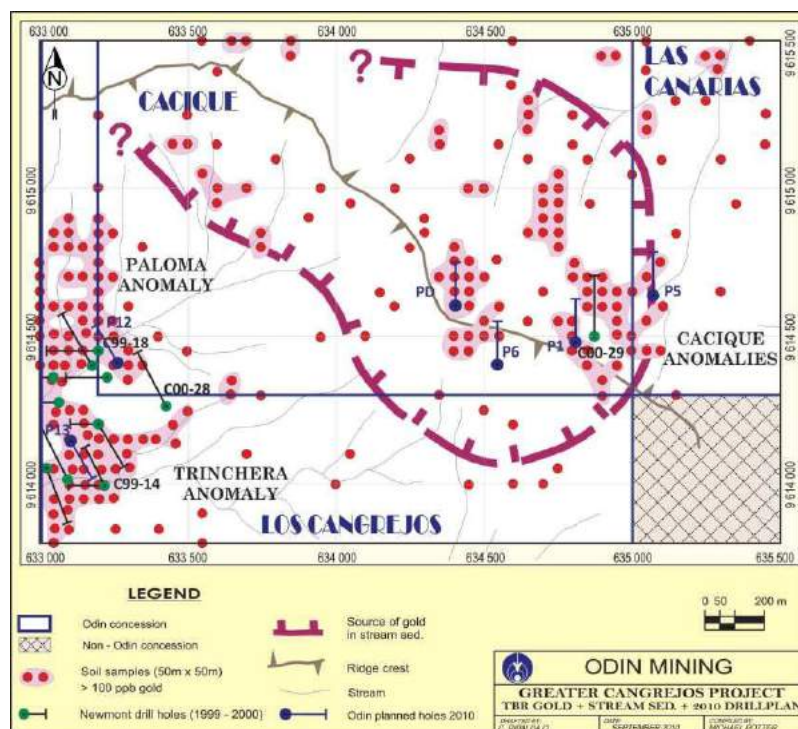


Figure 81: Location of Odin's Six Currently Proposed Drillholes with Newmont's Drillholes, the 2007 Stream Sediment Anomaly Source and the TBR Results for GOLD (ppb)

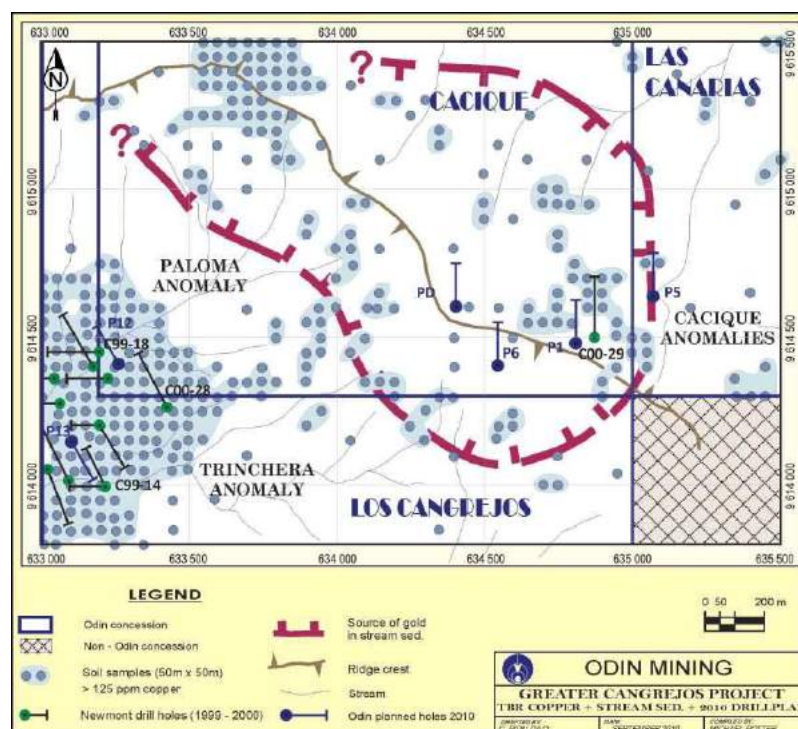


Figure 82: Location of Odin's Six Currently Proposed Drillholes with Newmont's Drillholes, the 2007 Stream Sediment Anomaly Source and the TBR Results for COPPER (ppm)

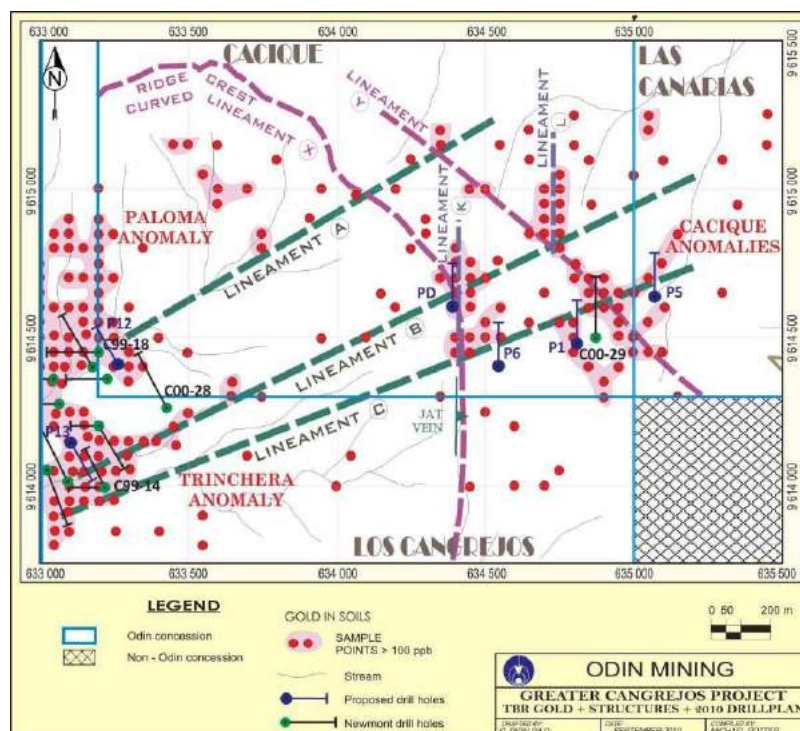


Figure 83: Location of Odin's Six Currently Proposed Drillholes with Newmont's Drillholes, the Tentative Structural Interpretation and the TBR Soil Results for GOLD (ppb)

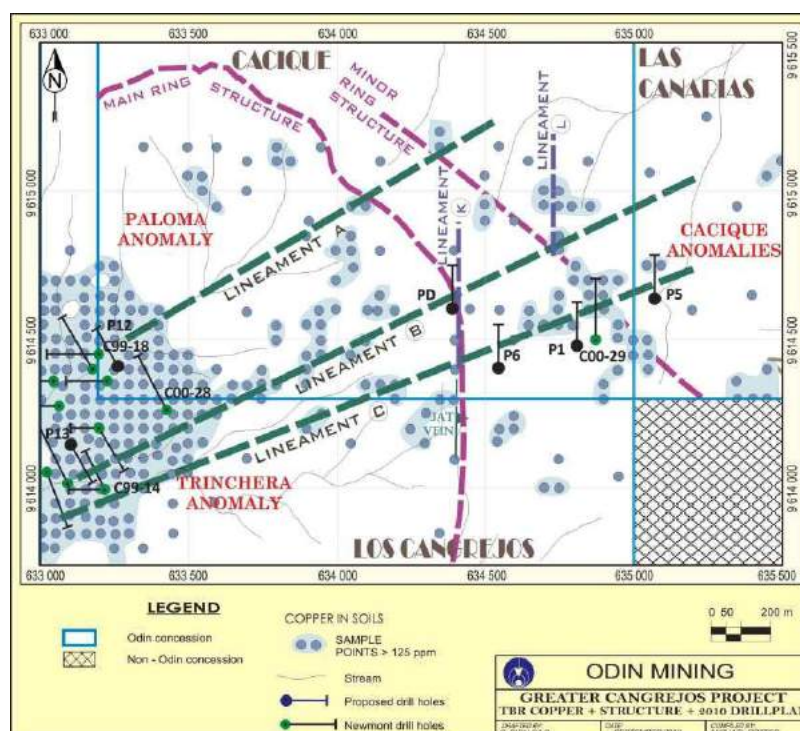


Figure 84: Location of Odin's Six Currently Proposed Drillholes with Newmont's Drillholes and the Tentative Structural Interpretation and the TBR Soil Results for COPPER (ppm)

Hole	Concession	Easting	Northing	Azimuth	Dip	Length
P 1	Cacique	634804	9614484	360°	-50°	200m
P 5	Las Canarias	635065	9614642	360°	-50°	200m
P 6	Cacique	634541	9614409	360°	-50°	200m
P D	Cacique	634400	9614608	360°	-50°	200m
P 12	Cacique	633262	9614415	330°	-50°	200m
P 13	Los Cangrejos	633105	9614209	150°	-50°	200m
<b>TOTAL for 6 holes =</b>						<b>1200m</b>

Table 26: Basic Parameters for the Currently Proposed Diamond Drill Holes

Although the cost of only six diamond drillholes were included in Odin's formal budget for 2010, an additional 17 sites were added to the environmental impact study (TerraAmbiente, 2010) so as to avoid delays in satisfying environmental requirements so that successful drilling results could be followed up quickly with more holes. These extra sites include both sites proposed by Mr McDonald and sites proposed by Odin's Ecuadorian geological staff. The later sites cover other potentially mineralized trends in addition to the NNE-WSW trend favoured by the McDonald team.

Of the four proposed holes sited on the Cacique anomalies, three holes (P1, P6 and PD) are located on the Cacique concession and the other (P 5) is located on the Las Canarias concession. Holes P1 and P5 are sited on the projected continuation along Lineament C of the mineralization intersected by Newmont's hole C00-29. The intersection in this borehole gave 2.56 g/t Au (with about 0.2 % Cu) over a borehole interval of 22 m starting at a downhole depth of 13 m below the surface. The other two holes P6 and PD are sited to test separate gold geochemical anomalies close to intersections of an inferred ring fracture with Lineaments B and C respectively.

The other two proposed holes (P12 and P13) are sited on the Trinchera and Paloma mineralized trends to test for the occurrence of possible higher grade zones within the low-grade, high-tonnage, porphyry-style, gold-copper mineralization partially drilled by Newmont in 1999/2000. Hole P12 is sited to test for any lateral continuation of the mineralization of Newmont's Paloma mineralized zone northeast along Lineament B, from Newmont's hole C99-18 (1.18 g/t gold over 119 m starting at a down hole depth of 130 m and open at depth). Hole P13 is sited to cut the Trinchera mineralized zone (Lineament B) and to provide confirmation of the high grade zone cut by Newmont's hole C99-14 (3.06 g/t gold, plus 0.31 % copper, over a borehole length of 46 m starting at a down hole distance of 120 m below surface).

The total formal field-based budget for 2010 for all twelve licences making up the Greater Cangrejos project as submitted to the Ecuadorian mining department as part of the obligatory 2009 annual reporting process in March 2010 is US\$ 565,000 (Table 27). Within this total figure the marginal cost of drilling the minimum six holes was estimated at US\$ 182,700 (items 6+7+8 in Table 27), and the marginal cost of the ongoing soil sampling, stream sediment sampling and geological mapping was estimated at US\$ 241,600 (items 3+4+9 in Table 27). The latter figure is approximately equivalent to an ongoing field cost of US\$ 20,000 per month.

1	Annual concession payments	US\$	62,500
2	Camp reconstruction and running costs	US\$	43,000
3	Geological salaries	US\$	143,600
4	Field crew wages	US\$	53,800
5	Technical consulting	US\$	23,500
6	Drill Access	US\$	11,500
7	Diamond drilling (1200 m @ US\$ 125 / m)	US\$	150,000
8	Drill logging, sampling and assay	US\$	21,200
9	Geochemistry (stream sediments, soils and rocks)	US\$	44,200
10	Permitting, environment and community costs	US\$	11,700
	<b>TOTAL</b>	<b>US\$</b>	<b>565,000</b>

Table 27: Summarized Formal Field-Based Budget for 2010 for Greater Cangrejos.

At the effective date of this report, Odin was well-advanced in rehabilitating its various, pre-existing camps and pre-existing access to the general vicinity of the currently proposed drillhole sites. In addition, Odin has identified a suitable drill contractor, whose representative has already made a field inspection of the site. However, the drilling cannot start until Odin has received all the required permits from the regulating authorities. At the effective date of this report the final permits necessary to allow drilling were still pending.

## 18. INTERPRETATION AND CONCLUSIONS

### a. General

Geographically, the project area is very favourably located. It lies at the western edge of the Andes approximately 30 km south of Machala (population 250 000), the capital of El Oro province, and 40 km from the port at Puerto Bolivar, where Ecuacorriente plans to build extra facilities to handle the export of concentrates from its proposed open-pit, copper mine at Mirador on the eastern, Amazonian, side of the Andes.

The Greater Cangrejos property consists of twelve concessions (mineral titles) covering 5,594 hectares. Odin owns ten concessions (4,872 hectares) outright and is completing acquisition of the other two from Mr Francisco Castro Sanchez through a series of staged payments. Odin also controls about 540 hectares of land/surface rights strategically located over the main target areas.

The property is mountainous with the elevations varying from 100 m to 1385 m above sea level. Currently, the main targets are at elevations of about 850 m for Trinchera/Paloma and at about 1,200 m for Cacique. The climate at the lowest elevations is tropical, hot, and humid, but the higher parts of the property are somewhat cooler and covered in cloud or mist for most of the year. The rainy season generally occupies the first half of the year. In some years the El Nino phenomenon results in torrential rainfall and major disruption of the local infrastructure.

Agricultural activity (cacao, coffee, maize) is limited to minor areas in the lowest parts of the property well away from the main areas of economic interest. Most of the main target areas are covered by a mixture of rough grasslands given over to stock grazing, although some forest is present locally.

At the time of writing of Odin's 2004 NI 43-101 technical report, nearly all the data available on the Cangrejos property (as it was then called) came from the information package provided by Newmont on withdrawal from the El Joven Joint Venture (Newmont 60% / Odin 40%). At that time it was considered that sufficient information was available to permit an adequate representation of the bulk of the work carried out by Newmont. There were, however, obvious specific shortcomings in the Newmont data pack, in particular with respect to the results of the pitting-to-bedrock program, the ground geophysics and the survey control. No material to rectify these shortcomings has been forthcoming in the six years since the writing of that report.

Since May 2004 Odin has generated a considerable amount of its own data covering the main target areas of the Greater Cangrejos property. Consequently, except for the drilling results, Odin is no longer dependent on the Newmont data over the current main target areas Trinchera/Paloma, Cacique and Dos Bocas.

Although Newmont carried out some diamond drilling (3,314m in 14 holes) on the Greater Cangrejos property in 1999/2000, the property remains in a relatively early stage of exploration. In particular, the amount of drilling is insufficient to permit the estimation of any formal mineral resource.

**b. Target Types**

There are currently considered to be two main types of conceptual target on the Greater Cangrejos property.

**Low-grade / high-tonnage, porphyry-style, gold mineralization**

As concluded in Odin's 2004 NI 43-1010 technical report for the then somewhat smaller Cangrejos property, Odin's Greater Cangrejos property is highly prospective for the discovery and delineation of porphyry-style, gold-copper mineralization with the potential for finding multiple zones individually containing up to several tens of millions of tonnes of mineralized ground with gold grades around 1.0 g/t (with a range 0.5-1.5 g/t) and copper grades about 0.1 % (with a range 0.0-0.2%). Boreholes drilled in the area by Newmont in 1999/2000 produced intersections with lengths and grades consistent with this type of target. However, much more drilling is needed before any formal quantification of a mineral resource can be attempted.

**Higher-grade / lower-tonnage, structurally-controlled, gold mineralization**

The inclusion of the two Castro concessions into Odin's concession package increased the possibility of locating higher-grade, lower-tonnage, structurally-controlled, gold mineralization above and peripheral to the low-grade, high-tonnage, porphyry-style gold mineralization which formed the focus of Odin's 2004 NI 43-101 technical report. The details of the type of mineralization are still uncertain. However, current indications are that the mineralization could occur along faults and fractures and in associated stockworks and shatter zones. The conceptual potential of individual lenses of this type of mineralization is expected to be of the order of several million tonnes with a guideline grade in excess of 2.5 g/t gold. Conceptually, there is also potential for the discovery of discrete, high grade (>10 g/t) gold-bearing veins, although, as yet, there is no basis for the estimation of the possible size of such veins.

The only drill hole sited in the Cacique area by Newmont (C00-29) made an intersection of 22 m of about 2.6 g/t Au. Although clearly associated with very strong fracturing indicative of the possibility of significant faulting, the gold in this intersection was accompanied by about 0.2% copper, and the general style of the mineralization was reminiscent of the porphyry mineralization of Trinchera/Paloma. The presence of copper in this intersection may be uncharacteristic, but it does raise the possibility that the situation in the Cacique area may be complex, with different styles of mineralization in relatively close proximity.

Potential for higher-grade gold mineralisation also occurs within the envelope of low-grade gold-copper porphyry mineralization drilled by Newmont at Trinchera/Paloma in 1999-2000. Hole C99-14 made a higher grade intersection of 3 g/t (with 0.3% Cu) over a borehole width of 46 m. Consequently, Odin sees conceptual potential for locating higher-grade lenses each, perhaps, of a few million tonnes within the overall envelope of lower-grade porphyry mineralization.



**c. Proposed Diamond Drilling Program**

At end March 2010 Odin included a proposal to drill 6 x 200 m diamond drillholes on the Greater Cangrejos property in its formal work program and budget for 2010 submitted to the Ecuadorian mining authorities.

Four of these proposed holes are to be sited to search for suspected occurrences of higher-grade, gold mineralization with a strong structural control along faults and fractures and in associated stockworks and shatter zones in the Cacique area. All the proposed holes are on concessions covered by the Castro agreement – three are on the Cacique concession and one is on the Las Canarias concession.

The other two proposed holes are to be sited to search for possible higher-grade gold mineralization within the envelope of low-grade, porphyry-style mineralization along the Paloma and Trinchera mineralized trends partially drilled by Newmont in 1999-2000. One hole is sited on Castro's Cacique concession and the other on Odin's Los Cangrejos concession.

The marginal cost of this drill programme (including access, logging, sampling and assay) was estimated at US\$ 182,700 within an overall field-based exploration budget of US\$ 565,000 for the whole Greater Cangrejos property for 2010.

There is considerable scope to drill additional holes both at Cacique and at Trinchera/Paloma. Consequently, allowance for the possibility of additional holes was built into the initial Environmental Impact Statement (Terrambiente, 2010)

At the effective date of this report, Odin had not received all the permits required to allow drilling. Consequently, Odin cannot implement the proposed diamond drilling program until all the necessary permits have been issued.

**d. Continuing Exploration Throughout the Property**

Under the new mining law and regulations of 2009 all concession holders are obliged to carry out a technically credible exploration program each year on each concession held. Consequently, in addition to the drilling program described above, Odin is extending the detailed stream sediment and geological mapping program carried out in 2007 over the eastern part of the property to cover the entire property. Where justified by results, the stream sediment sampling program will be followed by top-of-bedrock soil sampling programs comparable to those already carried out at Dos Bocas, Trinchera/Paloma and Cacique.

The marginal cost for this ongoing soil sampling, stream sediment sampling and geological mapping during 2010 was estimated at US\$ 241,600 within an overall field-based exploration budget of US\$ 565,000 for the whole Greater Cangrejos property for 2010. This is approximately equivalent to an average ongoing cost of US\$ 20,000 per month.

## 19. RECOMMENDATIONS

It is recommended that:-

1. the 6 hole / 1200 m diamond drill program described in the previous section be carried out as soon as the necessary permits have been received at a marginal cost (including access, logging, sampling and assay) estimated at US\$ 182,700.
2. depending on the availability of adequate funding, this drilling program should be expanded to include additional holes where technically justified and where allowed by the conditions of the relevant government permits.
3. the present ongoing exploration, consisting initially of detailed stream sediment sampling and geological mapping, be completed to provide coverage over all twelve of the Greater Cangrejos concessions and that the anomalies identified by investigated, where appropriate, by top-of-bedrock soil sampling at an estimated marginal cost of approximately US\$ 20,000 per month.

XXXXXXXXXX

“signed”

**Michael POTTER**

BA, MSc, DIC, MBA

FGS, MAusIMM, MIMMM, CEng

Encamp, Principat de Andorra

01 December 2010

**Effective date: 01 December 2010**

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**APPENDIX 1****GREATER CANGREJOS CONCESSIONS**  
**COORDINATES OF CORNER POINTS**

<b>LOS CANGREJOS (CODIGO No. 2847)</b> <b>(area = 3300 ha)</b>				
VERTEX	X	Y	SIDE	METRES
P.P	629,000	9,612,000	P.P – 1	2,500
1	629,000	9,614,500	1 - 2	1,500
2	627,500	9,614,500	2 - 3	3,500
3	627,500	9,618,000	3 - 4	4,500
4	632,000	9,618,000	4 - 5	2,000
5	632,000	9,616,000	5 - 6	1,000
6	631,000	9,616,000	6 - 7	3,000
7	631,000	9,613,000	7 - 8	2,000
8	633,000	9,613,000	8 - 9	5,000
9	633,000	9,618,000	9 - 10	300
10	633,300	9,618,000	10 - 11	900
11	633,300	9,617,100	11 - 12	4,700
12	638,000	9,617,100	12 - 13	900
13	638,000	9,616,200	13 - 14	4,800
14	633,200	9,616,200	14 - 15	1,900
15	633,200	9,614,300	15 - 16	1,800
16	635,000	9,614,300	16 - 17	2,800
17	635,000	9,611,500	17 - 18	4,000
18	631,000	9,611,500	18 - 19	500
19	631,000	9,612,000	19 - P.P.	2,000

<b>CANGREJOS UNO (CODIGO No. 300071)</b> <b>(area = 10 ha)</b>				
VERTEX	X	Y	SIDE	METRES
P.P.	631,000	9,613,000	P.P. -1	100
1	631,000	9,613,100	1 – 2	1000
2	632,000	9,613,100	2 – 3	100
3	632,000	9,613,000	3 – PP	1000

<b>CANGREJOS DOS (CODIGO No. 300067)</b> <b>(area = 10 ha)</b>				
VERTEX	X	Y	SIDE	METRES
P.P.	632,000	9,613,000	P.P -1	100
1	632,000	9,613,100	1 – 2	1000
2	633,000	9,613,100	2 – 3	100
3	633,000	9,613,000	3 - P.P.	1000

**APPENDIX 1**

(continued)

**GREATER CANGREJOS PROPERTY CONCESSIONS**  
**COORDINATES OF CORNER POINTS**

<b>CANGREJOS CUATRO (CODIGO No. 300183)</b> (area = 286 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	629,000	9,612,000	P.P -1	1,900
1	627,100	9,612,000	1 - 2	1,400
2	627,100	9,613,400	2 - 3	100
3	627,000	9,613,400	3 - 4	100
4	627,000	9,613,500	4 - 5	2,000
5	629,000	9,613,500	5 - P.P.	1,500

<b>CANGREJOS CINCO (CODIGO No. 300185)</b> (area = 195 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	631,000	9,612,000	P.P -1	500
1	631,000	9,611,500	1 - 2	3900
2	627,100	9,611,500	2 - 3	500
3	627,100	9,612,000	3 - P.P.	3900

<b>CANGREJOS 10 (CODIGO No. 300972)</b> (area = 70 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	637,000	9,618,700	P.P -1	700
1	637,000	9,618,000	1 - 2	1000
2	636,000	9,618,000	2 - 3	700
3	636,000	9,618,700	3 - P.P.	1000

<b>CANGREJOS 11 (CODIGO No. 300971)</b> (area = 21 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	635,700	9,618,700	P.P -1	700
1	635,000	9,618,700	1 - 2	300
2	635,000	9,619,000	2 - 3	700
3	635,700	9,619,000	3 - P.P.	300

<b>CANGREJOS 12 (CODIGO No. 300977)</b> (area = 25 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	630,500	9,611,500	P.P -1	500
1	631,000	9,611,500	1 - 2	500
2	631,000	9,611,000	2 - 3	500
3	630,500	9,611,000	3 - P.P.	500

**APPENDIX 1**

(continued)

**GREATER CANGREJOS PROPERTY CONCESSIONS**  
**COORDINATES OF CORNER POINTS**

<b>ESTERO ZAPATO (CODIGO No. 4112)</b> (area = 600 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	628,000	9,620,000	P.P - 1	3,000
1	631,000	9,620,000	1 - 2	2,000
2	631,000	9,618,000	2 - 3	3,000
3	628,000	9,618,000	3 - 4	2,000

<b>TADAO (CODIGO No. 3330)</b> (area = 355 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	625,000	9,612,000	P.P - 1	2,100
1	627,100	9,612,000	1 - 2	500
2	627,100	9,611,500	2 - 3	900
3	628,000	9,611,500	3 - 4	500
4	628,000	9,611,000	4 - 5	1,000
5	627,000	9,611,000	5 - 6	1,000
6	627,000	9,610,000	6 - 7	1,000
7	626,000	9,610,000	7 - 8	1,000
8	626,000	9,611,000	8 - 9	1,000
9	625,000	9,611,000	9 - P.P.	1,000

<b>CACIQUE (CODIGO No. 5114)</b> (area = 342 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	633,200	9,616,200	P.P -1	1800
1	635,000	9,616,200	1 - 2	1900
2	635,000	9,614,300	2 - 3	1800
3	633,200	9,614,300	3 - P.P.	1900

<b>LAS CANARIAS (CODIGO No. 2649.1)</b> (area = 380 ha)				
<b>VERTEX</b>	<b>X</b>	<b>Y</b>	<b>SIDE</b>	<b>METRES</b>
P.P.	635,000	9,616,200	P.P -1	2000
1	637,000	9,616,200	1 - 2	1800
2	637,000	9,614,300	2 - 3	2000
3	635,000	9,614,300	3 - P.P.	1800

## APPENDIX 2

**LAWYER'S REPORT ON CURRENT ECUADORIAN MINING LAW AND REGULATIONS**

Trejo Rodríguez &amp; Asociados Abogados Cía. Ltda.

November 30, 2010

**REPORT ON THE GREATER CANGREJOS PROJECT**

Mining norms in Ecuador have undergone major changes in the last few years, both in terms of enforcement and in granting and expiration of mining rights. Those changes have meant that all mining titles that were not terminated pursuant to the Mining Mandate issued by the National Constitutional Assembly on April 22, 2008 have replaced mining rights under current mining legislation.

The mining concessions for the project called GREATER CANGREJOS have fulfilled all legal, economic and environmental requirements for their respective titles and therefore they are fully in effect.

**BACKGROUND:****1. "GREATER CANGREJOS" MINING PROJECT**

The "GREATER CANGREJOS" mining project is located in the site called Valle Hermoso, canton of Santa Rosa, Province of El Oro, and comprises 12 mining concessions in the exploration phase, in effect for 30 years starting on the date the mining title was registered with the Mining Register. According to the Mining Law currently in effect, these titles replaced the previous ones and were registered in the Mining Register, which is under the authority of the Mining Regulation and Control Agency (ARCOM), an entity under the Ministry of Non Renewable Natural Resources (MRNRR), keeping the registration of the original title as the date on which their effective period began.

The mining concessions comprising the Greater Cangrejos project are:

Name	Holder	Area (ha)	Award Date	Registration Date	Substitution Date	Re-registration Date	Validity from re-registration	Expiry Date
Los Cangrejos	Odin	3,932	06-Aug-01	21-Aug-01	04-May-10	26-May-10	21 yrs 3 mths 4 days	28-Aug-31
Cangrejos 1	Odin	13	06-Aug-01	21-Aug-01	04-May-10	26-May-10	21 yrs 3 mths 4 days	28-Aug-31
Cangrejos 2	Odin	10	06-Aug-01	21-Aug-01	04-May-10	26-May-10	21 yrs 3 mths 4 days	28-Aug-31
Cangrejos 4	Odin	285	10-Sep-01	20-Sep-01	05-May-10	25-May-10	21 yrs 4 mths 16 days	11-Sep-31
Cangrejos 5	Odin	195	10-Sep-01	20-Sep-01	05-May-10	25-May-10	21 yrs 4 mths 16 days	11-Sep-31
Cangrejos 10	Odin	70	03-Sep-04	31-Sep-04	04-May-10	25-May-10	24 yrs 4 mths 0 days	29-Sep-34
Cangrejos 11	Odin	21	03-Sep-04	31-Sep-04	04-May-10	25-May-10	24 yrs 4 mths 1 day	29-Sep-34
Cangrejos 12	Odin	20	20-Oct-04	15-Nov-04	04-May-10	25-May-10	24 yrs 5 mths 15 days	13-Oct-34
Estero Zapato	Odin	600	08-Aug-01	21-Aug-01	06-May-10	26-May-10	21 yrs 5 mths 13 days	07-Nov-31
Tadão	Odin	355	06-Aug-01	21-Aug-01	07-May-10	26-May-10	21 yrs 3 mths 1 day	28-Aug-31
Castro	Castro	342	17-Oct-01	07-Nov-01	06-May-10	26-May-10	21 yrs 3 mths 1 day	28-Aug-31
Las Canarias	Castro	380	11-Oct-01	05-Nov-01	06-May-10	26-May-10	21 yrs 5 mths 7 days	21-Nov-31

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- On 29 January 2009 the new Mining Law was enacted; and on 16 November of the same year the General Regulations for the Mining Law and the Environmental Regulations for Mining Activities in the Republic of Ecuador were issued, which completed Ecuador's mining norms and gave rise to resumption of mining activities, on those concessions that have approved an Environmental License (EL).
- ODIN MINING OF ECUADOR S.A., holder of the above mining concessions, replaced them and has met all economic and legal obligations; so, the current MRNNR has ratified in a timely manner the full legal status of all concessions comprising the Greater Cangrejos project. (See Chart).

#### GENERAL ASPECTS:

New mining titles granted by the MRNNR will last for 25 years, and may be renewed for that same period by the Ministry of this sector, upon prior authorization by ARCOM and the Ministry of the Environment.

Article 27 of the new Mining Law states that mining activity comprises the following 3 phases:

- a. Prospecting: There is freedom to prospect, except for in specifies areas, which includes areas covered by valid mining titles. The Law sets no limits on the scope of the activities involved, but it is to be understood that activities that cause environmental damage are not allowed.
- b. Exploration: Determining the size and shape of the deposit. The duration is up to 12 years, subdivided into the following sub phases:
 

b.1 Initial Exploration Phase:	first 4 years
b.2 Advanced Exploration Phase:	the following 4 years
b.3 Evaluation Phase:	2 years to evaluate the deposit, renewable for (2) two years more (During this period, it is mandatory to apply for a change to the exploitation phase).
- c. Exploitation [extraction] Phase: up to the end of the 25 years.
- d. There are also phases of: Smelting, Foundry, Refining, Marketing and Closing the Mine.

At this time the relevant Ministry is not granting new titles until the National Development Plan is in place, which will have all the areas in which mining activity may take place and/or concessions may be granted, in all cases respecting pre-established mining rights.

Mining rights holders may change phase at any time, by applying to ARCOM, the sub-agency under MRNNR, for authorization; having met all environmental, technical, economic and legal requirements set forth in the Law.





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## BEGINNING ACTIVITIES

To begin mining activities, mining concessionaires must meet the following requirements:

1. Environmental License authorized by the Ministry of the Environment.
2. Water Use Permit issued by SENAGUA.
3. Obtain Certificates from public entities stipulated in Article 26 of the Mining Law.
4. Be current in fulfilling all legal obligations under the mining title.
5. Certificate of Compliance with the above items, obtained from MRNNR.

### Environmental License:

According to the General Regulations of the Mining Law "holders of mining concessions may resume their activities on the basis of approved EIAs or, as the case may be, once their updated environmental impact management plans are approved, providing that resumption of activities is solely and exclusively in the same phase in which they suspended work. To resume activities in another phase will require the respective environmental license."

That is, until ODIN has an Environmental License for the "Greater Cangrejos" Project, it can carry out only activities of maintaining facilities (camp, cleaning the properties, among other minor activities), administrative and technical office work, and prospecting work (basic mining exploration, since this is not clear in the Law).

According to Article 26 of the Environmental Regulations for Mining Activities currently in force, joint EIAs may be made. Mining title holders, through a qualified service provider selected for this purpose, may submit joint EIAs "for two or more mining concessions for technical or operational reasons and/or because of the deposit's characteristics, on surface areas of two or more adjacent concessions to the same holder, which may not exceed a total of 15,000 mining hectares, on the basis of a single mining project."

The Greater Cangrejos project comprises ten (10) concessions of ODIN MINING OF ECUADOR S.A., and two concessions (CASIQUE and LAS CANARIAS) held by Francisco Castro-Sánchez which, under the Mining Rights Purchase Option Agreement signed on 27 September 2007, were integrated into the Los Cangrejos project. Therefore it is in order to prepare a single joint EIA for all concessions currently making up the Greater Cangrejos project.

To obtain the Environmental License, the following is required: i) EIAs, which include social approval report, which is directly carried out by the Government, and basically checks for any problems that the company could cause in the nearby communities.. ii) Guarantee of Compliance, iii) Certificate of being up to date in paying conservation patents, iv) Water use concession permit.

### Water Use Permit:

The water use permit is obtained from the National Water Under-Secretariat (SENAGUA), at the Regional Agency for the corresponding jurisdiction. The mining concessionaire must submit the technical rationale for the work to be done and the flow rate required. SENAGUA is processing all water concession applications for different mining concessions under the current norms.

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The National Assembly is working on a proposed Water Law which, pursuant to the Constitution, must first be discussed publicly. This process will take several months more, so we understand that in the medium term we will have a final regulatory framework.

In the case of ODIN, the SENAGUA - Machala Regional Office, already issued the Water Use Permit on November 16, 2010.

Certificates. Article 26, Mining Law.

The current Mining Law establishes that mining title holders must have favorable certificates issued by the following public entities in order to engage in mining activities in this country: Ministry of the Environment (Environmental License); Municipal Council (within urban zones); Ministry of Public Works (buildings and public roads); National Telecommunications Secretariat; Ministry of Defense (zones on borders and beaches); Water Authority (SENAGUA); National Directorate of Hydrocarbons (oil pipelines and petroleum facilities); Ministry of Electricity and Renewable Energy (power plans and National Integrated System power lines); Directorate of Civil Aviation (airports and aerodromes); and, the National Institute of Cultural Heritage.

These certificates must mandatorily be obtained by mining title holders from all the above public agencies, whether relevant or not. That is, if the certificate is irrelevant, it must mention that it is not applicable. These documents are required for the MRNNR to grant authorization to begin mining activities.

ODIN has submitted these applications in all the above public entities, attaching all required supporting documentation, to issue the certificates referred to in Article 26 of the Mining Law. We expect that by the end of December, all certificates that have been requested will have been granted.

**ECONOMIC ASPECTS:**

- I) Conservation Patents: All mining title holders are obliged to pay the Conservation Patent, per hectare of mining concession, no later than 31 March every year, according to the following Table:

- Initial exploration:	2.5% of an RBU / hectare
- Advanced Exploration:	5.0% of an RBU / hectare
- Economic Evaluation	5.0% of an RBU / hectare
- Exploitation:	10.0% of an RBU / hectare

\*RBU: unified basic (monthly) remuneration which currently is US\$ 240,00, but is subject to variation from time to time.

- II) Royalties and Other Taxes: The Mining Law establishes that the Ecuadorian Government will share in the economic benefits, receiving no less than the mining concessionaire's part. Accordingly, the following economic obligations have been set:

- a) The mining concessionaire must pay the Government a royalty equivalent to a percentage of sales of the main ore and secondary ores that is no less than 5% of sales. This will be calculated on the net income actually received by the mining concessionaire. Royalties are paid every six months in March and September of each year.

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The Exploitation Contract may establish prepayment of Royalties; as well as the expenses to be deducted from gross income (which involves exclusively those expenses incurred in the refining and transport processes).

- b) The Ecuadorian Tax regime includes the following items: i) 15% Employee Profit Sharing. The Mining Law has redistributed the Employee Profit Sharing to be 3% to the Employees and 12% to the Government. ii) 25% income tax, iii) a 12% VAT, and iv) for Mining activities only, a 70% super tax on extraordinary income (this part is still to be determined depending on a set mineral price). Most of this tax practices are common in the rest of South America.

#### 2010 WORK PLAN AND 2011 INVESTMENT PLAN:

Pursuant to Article 38 of the Mining Law, by 31 March every year a mining title holder must submit to MRNNR an annual report on activities carried out in the concession area (eg year 2010) and an investment plan for the current year (eg year 2011). This report must, prior to submission, be audited by a certified auditor appointed by ARCOM.

In the case of the Greater Cangrejos project, since the Environmental License is pending approval by the Ministry of the Environment, no initial or advanced exploration activities may be done, only Prospecting (basic mining exploration).

As we have explained, the Environmental License is an indispensable requirement for ODIN to resume its activities of initial or advanced exploration, as the case may be; consequently, the activities report to be presented this coming March must report on activities of prospecting (basic mining exploration done), administrative, economic and legal activities that the Company has carried out during this year, in order to keep the mining concessions in effect. The Prospecting investment that Odín has carried out, until the end of October, is over and above the prospecting activities that Odín intended to perform and committed in its work plan for year 2010, and therefore Odín will not face any legal problems for not compliance.

ODIN is not obliged to make the full investment because it has not begun mining activities (initial or advanced exploration) since it does not yet have the environmental license approved. The annual report will inform that all activities, except drilling, were completed, and that those activities are fully covered by the investment done by Odín.

ODIN will also submit a letter to ARCOM to inform of the situation before the end of the year.

Sincerely,

Date: 30 November, 2010

Signed by:

Dr. Juan Xavier Trejo-P.  
ATTORNEY – MINING CONSULTANT

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**APPENDIX 3****CERTIFICATE OF QUALIFIED PERSON**

I, Michael Potter, a mineral exploration consultant, residing at Apto 303, Edifici El Pedral, Carrer del Pedral s/n, Principat de Andorra, do state that

1. I was awarded a BA in Geology by the University of Oxford (UK) in 1973, a Diploma of Imperial College and a MSc in Mineral Exploration by the University of London (UK) in 1979 and a MBA by Heriot-Watt University (UK) in 2000.
2. I have worked as an exploration geologist for about 35 years in South America, the former Soviet Union, Africa and the South Pacific. For half of that period I have been involved in gold exploration with approximately 12 years spent on hydrothermal gold mineralization of relevance to the Greater Cangrejos style of mineralization. My MSc dissertation entitled "Porphyry-style Copper Mineralization in the Appalachian-Caledonian Orogen" is also of relevance to the mineralization style at Greater Cangrejos.
3. I am a Fellow of the Geological Society, a Member of the Australian Institute of Mining and Metallurgy, a Member of the Institution of Materials, Mining and Metallurgy and a Chartered Engineer.
4. By qualification and experience I am a "qualified person" for the purposes of NI 43-101.
5. I was Chief Geologist for the Odin Mining group of companies based in Ecuador from 1989 to 1998. In that capacity I was responsible for the design and implementation of the 1992 regional exploration programme that led to the El Joven Joint Venture between Odin and Newmont and for monitoring the progress of the joint venture through Newmont's monthly reports until I left Odin in July 1998. I wrote the NI 43-101 technical report entitled "Summary Report on the Cangrejos Property" dated 27 May 2004. Since 2004 I have maintained a watching brief on exploration work on Odin's Cangrejos/Greater Cangrejos property and signed off as "qualified person" on the technical section of Odin's quarterly MD&As and various technical news releases.
6. During the preparation of this report, I last visited the Greater Cangrejos property on September 10-13, 2010.
7. I am responsible for the report entitled "Summary Report on the Greater Cangrejos Property, Southwest Ecuador" dated 01 December 2010. I am not aware of any material fact or material change with respect to the subject matter of the report that is not reflected in the report.
8. Notwithstanding my prior association with Odin Mining and Exploration Limited and my former involvement with the Cangrejos / Greater Cangrejos project disclosed above, I qualify as an independent qualified person subject to the tests of Section 1.4 of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101F, and this report has been prepared in compliance with NI 43-101 and Form 43-101F.

"signed"

Michael Potter  
BA, MSc, DIC, MBA  
FGS, MAusIMM, MIMMM, CEng

"dated"

December 01, 2010