# Gold mineralisation and exploration on the Rio Luna Concession, Boaco, Nicaragua.

For Condor Gold PLC

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### **SUMMARY**

The Rio Luna Concession is a 4300 Ha, 25 year mining concession held be Condor Gold PLC that will be due for renewal in June 2035. The concession covers the southeast flank of an extinct Tertiary volcanic complex in the Central Highlands of Nicaragua. Three gold-mineralised vein sets with a combined strike length of over 18 km have been discovered on the concession. The veins are fault-hosted and composed of quartz-carbonate-sulphide, as both narrow veins, typically less than 1 m thick, and zones of breccia up to 10 m wide. The mineralisation is hosted by andesite tuff and minor tuff-breccia, with a strong chlorite-calcite-sulphide (propylitic) alteration halo associated with the mineralisation. The mineralisation is considered to be mid-level epithermal low sulphidation mineralisation. A quartz diorite intrusive in the northeast of the concession occurs close to some of the principal veins. It is unclear whether this rock type hosts any of the gold mineralisation.

There is a large exploration database collected by a previous explorer First Point Minerals Corporation between 2003 and 2006 available for the concession; comprising 87 stream sediment, 2690 soil, 247 rock chip, 440 trenches for 7001 m and 58 drill holes for 6261 m of core. The previous explorer appears to have followed a staged exploration strategy, systematically reducing the area of the exploration by following-up on what were considered the best targets at each phase of exploration. Soil cover is well-developed with sparse rock outcrops and most of the 18 km of mineralised veins mapped out by the previous explorer were discovered by soil and trench sampling following up on stream sediment geochemistry. Drilling concentrated on five prospects considered to have the most significant trench intercepts. A mineral resource estimate commissioned by Condor in 2011 estimates that these five prospects contain a combined Inferred Mineral Resource of 694 kt at 3.5 g/t for 80,000 oz gold and 280 kt at 56 g/t for 500,000 oz silver estimated in compliance with the definition standards of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") (Fig. 1). This resource covers a combined strike length of only 1,750 m to a depth of less than 150 m below surface (except on one cross section where drilling tested to 250 m below surface).



*Figure 1. Map showing the location of the five deposits included in the November 2011 mineral resource estimate by SRK Consulting (UK).* 

There are exploration opportunities at all stages that could be followed up. Only 16% of the concession area has been soil sampled. Soil geochemistry has proven successful in identifying gold veins and so there is reasonable probability that wide-spaced soil sampling over the remaining 34 km<sup>2</sup> of the concession would discover additional mineralisation. In particular, a stream sediment gold anomaly covering approximately 2 km<sup>2</sup> of the warrants follow-up. At a more advanced stage, there remains approximately 4 km of veining that has been identified but not tested by trenching. There are also places where trenching could be used to extend the strike length such as the eastern extension of the San Andres vein where there is a significant gold intersects of 1.0 m at 8.38 g/t gold and 25 g/t silver; the vein is open along strike. At the most advanced stage, there are at least five significant trench intercepts that have not been drill tested, ranging from 5.0 m at 4.2 g/t gold to 2.0 m at 16.4 g/t gold.

The possibility of porphyry-style mineralisation associated with the quartz diorite in the northeast of the concession could be further investigated. Magnetite veinlets have been observed in this rock which, together with the established epithermal mineralisation, could indicate a suitable fertile hydrothermal system.

## INTRODUCTION

This Exploration report is a summary of the gold mineralisation and an assessment of the exploration carried out on Condor Gold PLC's ('Condor') Rio Luna Concession in the Boaco Municipality of the Central Highlands of Nicaragua (Fig. 2). The report uses exploration data collected by previous concession holders First Point Minerals between 2004 and 2006; this was submitted to the Nicaraguan Department of Mines when they relinquished the concession. It is also draws on validation field work

carried out by Condor since 2009, and a mineral resource estimate by SRK Consulting dated November 2011. The work carried out by Condor between 2009 and 2015 was carried out under the Author's supervision in the capacity of Country Exploration Manager.

The Exploration report was commissioned by Condor Gold PLC and has been prepared by Dr Luc English, a Chartered Geologist and Fellow of the Geological Society of London with over twenty years of experience in the exploration and definition of precious and base metal resources. Luc English has sufficient experience in the relevant style of mineralisation and type of deposit under consideration, and to the type of activity which he is undertaking to qualify as a Competent Person as defined in the JORC and a Qualified Person as defined under the CIM reporting codes.



Figure 2. Location of Rio Luna Concession. 100 km grid squares.

# **RELIANCE ON OTHER EXPERTS**

This study relies heavily on exploration data collected by TSX-listed First Point Minerals Corporation between 2004 and 2006 which was submitted in paper and digital format to the Nicaraguan Department of Mines when they relinquished a concession with the same name over the area in June 2009. Condor Gold PLC obtained all exploration data from the Department of Mines when they were granted the concession. Rock chip samples collected by the Author and under the Author's supervision in 2009 when the Author was Country Exploration Manager for AIM-listed Condor Gold PLC have confirmed gold and silver mineralisation. DGPS survey of most of the drill collars by Condor Gold PLC in 2012 and 2014 confirmed the location of First Point Mineral's drilling.

# PROPERTY DESCRIPTION AND LOCATION

The Rio Luna concession covers a 4,300 Ha area in the Boaco Municipality, Boaco Department in the Central Highlands of Nicaragua. The concession was granted to Condor Gold PLC on the 15<sup>th</sup> June 2010.

It is a 25 years mining concession that will be up for renewal in June 2035. Under Nicaraguan mining law, renewal is usually granted if the concession holder has an active mining operation on the property.

# ACCESSIBILITY, CLIMATE, INFRASTRUCTURE AND PHYSIOGRAPHY

The concession is located in an area of moderate relief in the Central Highlands of Nicaragua (often locally referred to as 'the North' despite its' nationally central location to the east of the capital city). It is located on the southeast flank of a massif. The **topography** forms a series of East-West to northwest-southeast trending ridges and valleys, varying between 350 m and almost 500 m altitude and draining towards the southeast.

Most of the **land** is cleared for pasture, predominantly to support dairy farming, with an estimated 10% lightly forested, some of which is used to grow coffee beneath the tree canopy. There are approximately 21 farms of up to 200 Ha covering the known prospect areas. Other than a few isolated farmhouses, it is sparsely populated with a few small **settlements** of up to a dozen small houses spread along the main road or access tracks. **Access** is via a well maintained graded gravel road from the town of Boaco approximately 10 km away. Boaco is a departmental and municipal administrative centre, supports a population of 19,000, and provides most services. Boaco is connected to the capital city of Managua by 90 km of sealed road.

The **climate** is characterised as tropical wet and dry according to the Köppen system with an average annual rainfall of 1300 - 1500 mm concentrated, but not restricted to the 6 months between May and October. The temperature is relatively constant year round temperatures ranging between 18°C and 30°C.

### HISTORY

There is some evidence of small test pits on the principal prospects, typically less than 3 m deep and now overgrown, which preceded modern exploration. It is not known when these were excavated or by whom, but there is no evidence of any significant production. There are no historic underground workings.

The earliest exploration data sighted by the Author are 168 stream sediment samples collected at 100 m to 200 m intervals along three of the principal rivers, and 8 rock chip samples collected and analysed by **Western Mining Corporation ('WMC')** as part of a nationwide prospecting campaign in 1995-1996. Two samples returned positive assay results of 17.57 g/t gold and 68.6 g/t silver from near the El Rodeo Prospect and 3.45 g/t gold and 1.1 g/t silver from the Balsamo Prospect. WMC followed-up with a small soil geochemistry orientation survey over the Balsamo Prospect which demonstrated that the method could be used to locate surface gold mineralisation (Fig. 2). Canadian geologist Joseph Arengi visited the area on several occasions in 2000 when the exploration rights to the area were still held by WMC. He collected rock chip samples from the principal prospects with grades of up to 18.40 g/t gold and 213 g/t silver (Fig. 3).



Figure 3. Early documented exploration at Rio Luna. Assay results of WMC Mining's stream sediment, rock chip and soil orientation survey in 1995-1996 (left) and Joseph Arengi's rock chip sampling in 2000.

Inversiones Terranova SA (INTERSA) were granted the mining concession over the area in the then new mining law on the 6<sup>th</sup> August 2002. TSX-listed **First Point Minerals Corporation** acquired the concession in 2003 and invested a reported US\$ 1.8 million in exploration over the next three years, including:

- 87 stream sediment samples as part of a regional survey.
- 2690 soil samples including 73 at >100 ppb Au with a maximum of 970 ppb gold.
- 247 rock chip samples with 57 assaying over 1 g/t gold including 10 samples with >5 g/t gold up to a best assay of 262.41 g/t gold and 53.7 g/t silver from the Santa Juana Prospect.
- 440 trenches for 7,001 m to define 18 km of veins at between 25 m and 80 m spacing. The trenching was not only used to follow-up on rock chip and strong soil anomalies, but also as a method of tracing the gold mineralised veins along strike where there was no outcrop and only a weak soil anomaly. In the first half of 2005 the grade and width of gold mineralisation along the 6 km El Paraiso trend was defined by trenching. In late 2005 and early 2006 trenching focussed on the parallel El Rodeo and San Andres vein sets.
- 58 drill holes for 6261.6 m to test beneath the best trench intercepts in two campaigns. In 2004 they drilled 33 holes for 3397.48 m on the Balsamo, Balsamo East, Santa Rita and El Rodeo prospects. In 2006 they drilled an additional 25 holes for 2864.15 m which included first pass drilling on the Filadelfia and San Andres prospects as well as follow-up on the Balsamo, Balsamo East and Santa Rita prospects.

First Point Minerals reduced the concession area to a 209 Ha area covering only the Santa Juana, Balsamo and Balsamo East prospects in the west of the concession before relinquishing it completely in June 2009 as they re-allocated their resources during the financial crisis.

**Condor gold PLC** applied for the concession in July 2009 and was granted the concession on the 15<sup>th</sup> June 2010. Condor collected 3 rock chip samples in 2010 to validate mineralisation with a best of 5.49 g/t gold and 22.5 g/t silver from the Filadelfia Prospect and commissioned SRK Consulting (UK) to undertake a mineral resource estimation in 2011. SRK estimated that the five prospects that had been drill tested with two or more drill holes contained a combined inferred mineral resource of 695,000 tonnes at 3.50 g/t gold for 80,000 oz gold, and a supplementary silver resource of 280,000 tonnes at 56 g/t for 500,000 oz silver. Condor has since re-surveyed the location of most of the drill hole collars using DGPS and completed a preliminary magnetic susceptibility survey in preparation for proposed magnetic survey.

Vein Set	Prospect	Trench	Trench	Trench	Drill	Drill	Drill	Drill	Drill length
		Number	length	length	Number	length	length	length	total (m)
			average	total (m)		Min. (m)	Max.	average	
			(m)				(m)	(m)	
El Paraiso	Santa Juana	26	19.68	511.80					
	North								
	Santa Juana	18	15.50	279.05					
	South								
	Balsamo	136	15.32	2083.84	11	25.50	175.00	103.02	1133.22
	Balsamo	42	16.17	678.95	19	59.76	268.75	128.58	2443.11
	East								
	Santa Rita	28	12.53	350.85	10	55.49	120.05	80.72	807.18
	Filadelfia	21	13.65	286.60	2	68.00	135.30	101.65	203.30
	Total	271	15.47	4191.09	30	25.50	268.75	119.21	3576.33
El Rodeo	El Rodeo	52	16.24	844.68	5	64.00	85.37	77.09	385.47
	El Rodeo	12	11.25	134.95					
	South								
	Total	64	15.31	979.63	5	64.00	85.37	77.09	385.47
San Andres	San Andres	69	17.66	1218.45	11	75.55	172.30	117.21	1289.35
	San Andres	36	16.99	611.60					
	South								
	Total	105	17.43	1830.05	11	75.55	172.30	117.21	1289.35
Rio Luna	TOTAL	440	15.91	7000.77	58	25.50	268.75	107.96	6261.63

Table 1. Summary of data collected on the Rio Luna concession since the mid-1990's.

# GEOLOGICAL SETTING AND MINERALISATION

### **Geological setting**

The Rio Luna Concession is located within the Tertiary volcanic arc that runs down the centre of Nicaragua. The concession is on the southeastern flank of a 35 km diameter Santa Lucia strato-shield volcanic complex (Fig. 4). The bedrock in this area have been described by Ehrenborg (1996) as the Upper Coyol Group Santa Lucia Sequence which he has attributed to Middle Miocene to Pliocene in age (the Author is not aware of any radiometric dating to confirm this). Note that this geological stratigraphy differs from the widely published 1972 scheme that assigned the rocks to the top of the older Matagalpa Group (1:250,000 Geological Mapping by Ehrenborg 1986-1991; 1:50,000 Santa Lucía Sheet Geological Mapping by Servicio Geologia Checo (CGS) 2008, available from INETER, Nicaragua).

The oldest rocks are found in the East of the Concession where felsic pyroclastics of the Juigalpa Unit, Matagalpa Group, considered Oligocene, underlie low country on the East bank of the Rio Las Cañas. There is no recorded gold mineralisation in this rock unit. Available large-scale geological maps show the western end of the Concession as underlain by thick unit of andesite, intercalated with subordinate tabular basalt flows (Czech Geological Survey, 2008). This unit, known as the 'Lower Andesite', is the basal member of a strato-shield volcanic sequence and was probably deposited from eruptions originating at either of the Santa Lucia Caldera located 7 km to the west, or from the much larger La Luna double-Caldera located 7 km to the northwest. Outcrops are sparse in the concession area, but fine-grained, generally chlorite-altered andesite tuff and andesite tuff-breccia is common, and fresh unaltered basaltic outcrops, interpreted as shallow intrusive dykes and sills are noted. Intrusive rocks are noted in large areas in the northwestern part of the concession, mapped as a coarse-grained porphyry by First Point Minerals' geologists (Fig. 5) and described as quartz-diorite and microdiorite in reconnaissance trip by Condor (Consultant Geologist Dr Warren Pratt, Condor internal video report).

The Lower Andesite is thought to be over 200 m thick and is overlain on higher ground immediately to the north and west of the Concession by a 150 m-thick ignimbrite sequence, which in turn is overlain as far as the caldera rims by an 80 m-thick cap of porphyritic andesite and minor basalt flows known as the 'Upper Andesite'. Gold mineralisation discovered to date has been confined to epithermal veining hosted by the Lower Andesite at Rio Luna.



Figure 4. Map showing the location of the Rio Luna Concession (black) and gold mineralisation (red) on the southeast flank of the Tertiary-aged Santa Lucia volcanic complex (thick dashed blue). The location of the main interpreted calderas outlined by thin dashed blue. Scale = 10 km grid squares.

# Structural setting

At Rio Luna, the development of geological structures from the Tertiary onwards reflects stresses caused by the subduction of the Cocos oceanic plate beneath the Nicaraguan landmass on the edge of the Caribbean Plate. In a study of the nearby La India Mining District, consultant geologist Tony Starling (2015) recognised three structural deformation phases during this time period:

- Deformation phase 1 (D1) was a north-northeast to north-south extensional stress regime that was active during and probably for at least 10 M years after the Santa Lucia volcanic complex was formed.
- 2. Deformation phase 2 (D2) occurred when the subducting slab of oceanic plate detached to cause a pause in volcanic activity and the extensional stress regime changed to between east-northeast and east-west. This occurred approximately 8 M years ago.
- 3. Deformation phase 3 (D3), the current north-northeast to north-south extensional regime. This extensional regime is less directly affected by the now distant subduction zone and current active volcanic arc. It is also subject to stresses caused by the northwestward sliding of the detached Central American tectonic slither which forms the Nicaraguan Depression.

At Rio Luna the structures that host gold mineralisation appear to follow three directions (Fig. 5):

1. The southern end of the El Paraiso structure that hosts the Santa Rita and Filadelfia gold prospects forms a single fault that can be traced for at least 3 km. It strikes 135-150° and dips steeply southwest.

- 2. East-southeast to east-west (100-110°) striking structural corridors that host wide zones of discontinuous veins occur at the northern end of the El Paraiso trend (Santa Juana and Balsamo prospects), the El Rodeo trend and the San Andres trend. At least two of these dip to the south. There is uncertainty about the dip at the Balsamo prospect which may be to the north.
- 3. Some veins have been mapped as striking east-northeast (080°) at the Santa Juana area at the north end of the El Paraiso trend. These have not been verified by the Author.

The orientations of the two main structures hosting the gold veins at Rio Luna are consistent with conjugate normal (dip-slip) faults formed under north-northeast extension (i.e. D1). The inferred 080° structures would be strike-slip or trans-tensional faults under this stress regime. Under the east-northeast extensional D2 regime the two principal structures would likely have been reactivated as trans-tensional structures and the 080° structures would have been reactivated as strike-slip faults.



*Figure 5. Map showing the geological mapping by previous explorer First Point Minerals and an inset (bottom left) structural interpretation of the veins as occupying three differently orientated structures.* 

## Veining and gold mineralisation

Gold mineralisation occurs in quartz veins with minor calcite and possibly some adularia (accounting for the potassium enrichment in soil near to gold mineralised veins). The veins fill laterally continuous, steep-dipping tabular structures (faults and fault zones) as narrow veins and breccia matrix-fill. Abundant vugs lined with drusy quartz indicate that the quartz and carbonate precipitated in open structures.

The only preserved drill core where fresh, unweathered veins can be seen, is from the highest-grade mineralised intervals of the Balsamo East Prospect. These show several phases: (1) Early amorphous grey finely crystalline, to chalcedonic, quartz, locally weakly banded and forming veins and rims around breccia clasts (Fig. 6). (2) This grades into later white quartz-calcite +/- adularia) veining, filling or partially filling the remaining space in the breccia matrix (Fig. 7). Both quartz phases locally contain disseminated to blebby sulphides including pyrite, sphalerite and galena. Bladed calcite (replaced by quartz) indicates probable boiling conditions (Fig. 8). The highest gold grades appear to be associated

with the white saccharoidal quartz. (3) There is a later stage of fracturing and brecciation, and injection of fine sand cataclasite cement.



Figure 7. Left: Mixed (transitional) early amorphous grey quartz and saccharoidal white quartz with abundant disseminated and blebby sulphides. Right: *High-grade transitional amorphous grey to saccharoidal white quartz vein with qhost bladed calcite replacement texture and disseminated sulphides that assayed at 57.6 g/t gold.* 



Figure 8. Left: Platy calcite replaced by quartz in an outcrop at the Balsamo Prospect. Right: Early amorphous grey quartz forming clast rim (right) surrounded by later saccharoidal white quartz with bladed calcite replacement texture filling the matrix and replacing the clast.

The **structural controls on the distribution of gold** mineralisation are not fully understood. Two, possibly three, differently oriented structures host gold mineralisation. Some of the main gold concentrations appear to occur at flexures on the structures hosting the veins, notably the Balsamo East Prospect, and perhaps as more subtle flexures on the Santa Rita, Filadelfia and San Andres prospects. Further studies are required to better understand the structural history with relation to gold mineralisation. But bends can host significant oreshoots, with higher grades; this is the case at La India (Condor Gold plc).

## Alteration

There is a strong regional chlorite alteration of the host andesitic rocks (Fig. 9). Close to the epithermal veins, calcite veinlets with a fine sulphide selvedge and pervasive calcite alteration become more common. This can be recognised at surface as soft pale green weathered rock forming a halo 10's of metres around the veins (Fig. 10). Compared with 'classic' low sulphidation epithermal veins, these assemblages imply a relatively deep position; smectite and illite, implying higher levels, are not seen.



*Figure 9. Left: Chlorite-calcite altered andesite tuff and fracture–fill calcite vein with disseminated fine pyrite selvedge in outcrop (San Andres Prospect) and drill core (Balsamo East Prospect).* 



Figure 10. Left: Distinctive weathering of the proximal chlorite-calcite (propylitic) altered andesite tuff to a soft pale green forming a halo 10's of metres around the veins. Right: Unaltered basalts are common and are interpreted as post-mineralisation dykes and sills.

#### **Other styles of alteration**

Observations of magnetite veinlets with a bleached alteration halo in a quartz diorite outcrop just north of the Balsamo prospect could be interpreted as evidence of proximity to porphyry mineralisation.

## Geochemistry

**Veins:** Assay results indicate similar values of gold and silver in samples from the main El Paraiso Vein Set. Some samples from the San Andres Vein Set show high grade silver with a gold:silver ratio of up to 1:15 such as drilling interval 0.48 m at 17.5 g/t Au and 307 g/t Ag in drill hole DDRL39. Rock chips are enriched in base metals with maximums of 2996 ppm Cu, 9575 ppm Pb and 5472 ppm Zn.

<u>Alteration</u>: In addition, the soil geochemistry data shows that potassium (K) enrichment is associated with the mineralised veins. This suggests some adularia alteration.

### Weathering

Trenching and drilling shows that the weathering zone is fairly shallow with fresh rock and sulphides typically encountered at surface or less than 10 m below surface. This implies that most of the ore is sulphide.

# **DEPOSIT TYPE**

The host geology, structural control and vein textures are all characteristic of epithermal vein deposits. The enrichment in gold and silver, and the elevated base metal content is characteristic of mid to deeplevel epithermal setting. The strong chlorite-calcite (propylitic) alteration is associated with alkaline to neutral pH fluids and is common in arc-related low-sulphidation epithermals (as opposed to rift margin epithermals). The early phase amorphous cryptocrystalline quartz and fine sulphides has been described in some polymetallic vein deposits: the fine opaline quartz texture has been attributed to rapid cooling triggered by the mixing of hot magmatic fluids (source of the sulphides) with cold, deep circulating meteoric water (Corbett, 2017).

These characteristics suggest that the Rio Luna mineralisation could be classified as mid- to low-level, arc-related low sulphidation polymetallic gold-silver or carbonate base metal gold under the Corbett (2017) system. The sulphide assemblage means that it would be classified as Intermediate Sulphidation according to the alternative Sillitoe and Hedenquist system (2003). More study is required on the sulphide types to confirm that. The lower silver to gold ratio and the molybdenum enrichment in the soil in the northern end of the El Paraiso vein (see Exploration section below) suggests that the magmatic source of the hydrothermal fluids is west of the Rio Luna Concession, closer to, or at the centre of the volcanic complex.

The possibility of proximity to a porphyry deposit cannot be discounted. The quartz diorite north of the Balsamo prospect would provide a suitable host. The observation of magnetite veinlets in outcrop in the quartz porphyry (Consultant geologist Dr Warren Pratt, Condor internal video report), as well as the presence of the intermediate sulphidation system is evidence of the circulation of suitable hydrothermal fluids. Further work is required to assess the porphyry exploration potential.

# **EXPLORATION**

### Stream sediment geochemistry

Stream sediment samples collected by First Point Minerals in 2003 identified the principal prospects, but also suggest a **gold anomaly in the northwest corner of the concession** area that has not been verified by rock chip or trenching and therefore **represents an exploration target** (Fig. 11).



Figure 11. Gold values of stream sediment samples collected by First Point Minerals on the concession area in 2003 (left) and with known gold-quartz veins. There are some stream sediment gold anomalies

in the northwest of the concession that have not yet been attributed to quartz veins (right) and therefore represent an exploration target.

### Soil geochemistry survey

Following the WMC orientation soil survey, First Point Minerals collected 2690 soil samples mostly on 100 m spaced lines with 25 m North-South sample spacing, locally at 200 m or 50 m infill line spacing, covering a 700 Ha area. Samples were taken from the B-horizon using a bucket auger (Fig. 12) and analysed at ACME Laboratory in Vancouver for a suite of 36 elements at trace level. The grid was particularly effective at defining the San Andres, El Rodeo and the north-western end of the El Paraiso Vein which strike reasonably close to East-West, but is less effective at the southeastern end of the El Paraiso Vein (including the Filadelfia Prospect) where it swings closer to North-South.



Figure 12. Soil sampling by First Point Minerals using an auger in 2003.

Certain elements are concentrated at different levels of an epithermal system. Shallow levels tend to be rich in mercury, arsenic, and antimony, mid-level in silver, lead and zinc, and deep levels in bismuth, copper and mercury.

The deep level indicator molybdenum (Mo) is concentrated in the western Balsamo and Santa Juana prospect areas. The moderately deep level indicator bismuth is mostly below detection, but a concentration near to the Balsamo prospect could be interpreted as representing a transition from deep to mid-level mineralisation towards the East (Fig. 13).



Figure 13. Bismuth (Bi) enrichment near to the Balsamo Prospect (left) may represent a transition from mid-level to deep epithermal mineralisation indicated by molybdenum (Mo) enrichment to the West (right).

Mid-level indicators silver (Ag), lead (Pb) and zinc (Zn) are concentrated along the gold-veins, but do not show a clear regional bias (Fig. 14).



Figure 14. Gold (Au; top left), silver (Ag; top right), lead (Pb; bottom left) and zinc (Zn; bottom right) all show mutual associations but no obvious regional variation which suggests that mineralisation is within the mid-level epithermal gold-silver-base metal association.

The shallow level indicators antimony (Sb), and to a lesser extent arsenic (As) are concentrated towards the northeast in the El Rodeo and San Andres veins (Fig. 15). This may reflect a lateral change in the fossil hydrothermal system, or subsequent tectonic block offsets or tilting of the entire system towards the northeast; this might preserve increasingly shallower parts of the system towards the northeast.



Figure 15. Arsenic (As; left) and antimony (Sb; right) show a slight enrichment towards the Northeast, particularly in the San Andres and El Rodeo veins which are interpreted as mineralising slightly higher in the epithermal system.

**Alteration** indicators show that potassium forms part of a proximal alteration halo adjacent to the gold-veins. Magnesium (Mg) suggests chlorite propylitic alteration of mafic rocks which appear to dominate in the East. This is consistent with geological mapping which shows an andesite host rock in the west and a more felsic (Mg-poor) quartz diorite bedrock in the east of the concession (Figs 15 & 16).



Figure 16. Potassium (K) alteration is associated with the gold-veins (left) and magnesium (Mg) enrichment in the East is interpreted as due to a more mafic andesite host relative to the more felsic quartz diorite bedrock in the East.

These trends suggest that that there is a slight trend from **deeper level epithermal mineralisation in the West (Santa Juana and Balsamo** prospects), towards the **shallowest level mineralisation in the parallel El Rodeo and San Andres veins** to the northeast. The alteration change is consistent with this, and may indicate that the source of the mineralising hydrothermal fluids is likely to have been further west within the heart of the Santa Lucia volcanic complex, perhaps beneath the Santa Lucia caldera less than 10 km to the West.

### Rock chip sampling

The gold-bearing veins were initially discovered by rock chip sampling. Outcrops are fairly sparse and many of the rock chip samples are cobble and boulder-sized float samples; of the 259 rock samples in the database 119 (46%) of them are identified as float. Assays returned 61 samples over 1 g/t gold including 12 samples with over 5 g/t gold, up to a best assay of 262.41 g/t gold and 53.7 g/t silver from the Santa Juana Prospect (Fig. 17).



Figure 17. Rock chip samples on the Rio Luna Concession.

# Trenching

First Point Minerals excavated and sampled 440 trenches (total length 7,001 m). Trenches were excavated by hand, typically to a depth of 1.5 m to reach weathered rock (Fig. 18). Sampling is understood to have been by chip channel according to geology. The average length of the gold mineralised samples is reasonable, ranging between 1.2 m for high grade (>5 g/t gold) and 1.6 m using a 0.1 g/t cut-off. However there are **some unusually long samples which returned high-grades** including:

- 3.05 m at 6.80 g/t gold in trench TC-24 (El Rodeo), gold probably contained in two quartz veins of 0.1 m and 0.4 m width.
- 4.9 m at 4.38 g/t gold in trench TC-10 (San Andrea), gold probably contained within quartz veinlets.
- 9.0 m at 3.98 g/t gold in trench SJ-27 (Santa Juana Prospect), gold probably contained within quartz vein stockwork.

Samples taken over such long intervals are not representative and usually only used to verify visually barren rocks. A shorter maximum sampling interval of no more than 2 m would have been recommendable, especially as quartz veining was logged in all three intervals.

The trenching quantified the width and grade of the gold mineralisation along a strike length of over 14 km at between 25 m and 100 m spacing. The results identify **nine prospects with significant trench intercepts of over 16 gm/t gold grade-width** (Fig. 19):

- six prospects spread along a 4 km strike length of the El Paraiso vein set,
- one on the El Rodeo vein and
- two prospects 1000 m apart on the San Andrea vein.



Figure 18. Trenches ready for sampling on sloping and flat land (from First Point Minerals presentation).

Extrapolating trench grades half way to the neighbouring trench, and for 25 m where there is no neighbour, indicates that the **significant (>16 gm/t: gold grade multiplied by width) gold intercepts** have a combined strike length of 650 m. Including moderate trench intercepts above 8 gm/t gold extends the mineralised strike length to 1285 m. Including lower grade and/or narrow intercepts above 4 gm/t gold extends this to 2770 m strike (Table 2). The nine significant trench intercept gold prospects, eight of which have been drill tested are discussed below.



Figure 19. Trenches showing gold grade-width with the trenches exceeding 16 gm/t gold labelled. The boxes show how the three vein sets have been divided into areas in the trench statistics in the above table. The area boundaries and divisions are subject to revision and only apply to this report.

Vein Set	Prospect	Trench Number	Trench length average (m)	Trench length total (m)	Av. spacing	Best trench intercept	No./Strike length >16 gm/t (m)	No./Strike length >8 gm/t (m)	No./Strike length >4 gm/t (m)	Strike length total (m)
El Paraiso	Santa Juana North	26	19.68	511.80	60	9.0 m @ 4.0 g/t Au + 3.0 g/t Ag	1/50	1/50	1/50	1070
	Santa Juana South	18	15.50	279.05	10 0	2.0 m @ 8.26 g/t Au + 9.0 g/t Ag	1/50	1/50	4/180	1020
	Balsamo	136	15.32	2083.84	80	8.0 m @ 3.39 g/t Au + 4.6 g/t Ag	3/170	9/360	18/820	1740
	Balsamo East	42	16.17	678.95	50	2.0 m @ 16.4 g/t Au+ 6.0 g/t Ag	3/70	6/220	10/320	1100
	Santa Rita	28	12.53	350.85	65	9.0 m @ 3.51 g/t Au	2/80	3/130	4/160	1000
	Filadelfia	21	13.65	286.60	50	6.7 m @ 4.76 g/t Au	1/60	1/60	1/60	1060
	Total	271	15.47	4191.09			480	870	1590	6090
El Rodeo	El Rodeo	52	16.24	844.68	80	2.4 m @ 15.9 g/t Au	2/100	2/100	8/560	3400
	El Rodeo W.	12	11.25	134.95	50	3.0 m @ 2.05 g/t Au + 118 g/t Ag			3/120	350
	Total	64	15.31	979.63			100	100	680	3750
San Andres	San Andres	57	19.21	1095.10	65	2.6 m @ 57.7 g/t Au + 59.2 g/t Ag	1/35	5/280	8/415	2500
	San Andres W.	48	15.31	734.95	65	4.9 m @ 4.38 g/t Au	1/35	1/35	2/85	2100
	Total	105	17.43	1830.05			70	315	500	4600
Rio Luna	TOTAL	440	15.91	7000.77			650	1285	2770	14,440

Table 2. Trenching completed and strike length of gold mineralisation defined at different gold gradewidth cut-offs.

# DRILLING

A total of 58 drill holes (total length 6261.6 m) were drilled in two campaigns (2004 and 2006). Drilling was undertaken by Kluane Drilling using HQ (63.5 mm) core (Fig. 20). Core was measured, marked and boxed on site. There were no downhole surveys or core orientation; holes are assumed to be straight. Core was logged at a rented facility nearby and selected core was cut and half core samples sent to the laboratory for preparation and analysis. Most core was disposed of when First Point Minerals relinquished the concession, apart from the two highest grade mineralised sections from the Balsamo East Prospect; drill holes DD-RL-22 and DD-RL-23.



Figure 20. Drilling in 2004 with Kluane Drilling.

The drilling tested six prospects that had returned significant trench intercepts; Balsamo, Balsamo East, Santa Rita and Filadelfia on the main El Paraiso vein set, a segment of the El Rodeo vein set, and two parts of the San Andrea vein (Table 3; Fig. 21). The only significant trench intercepts that have not been drill tested are at the Santa Juana North and South. The drilling targets and results are discussed in the following section.

Vein set	Prospect	No. drill holes	No. sections	Best intercept	Strike tested (m)	metreage (m)	Max depth (m)
El Paraiso	Balsamo	11	6	9.15 m @ 6.24 g/t Au from 36.27 m	500	1133.22	175.00
	Balsamo						
	East	19	9	5.3 m @ 13.32 g/t Au+10.4 g/t Ag from 84.04 m	830	2443.11	268.75
	Santa Rita	10	6	1.30 m @ 19.00 g/t Au+14.0 g/t Ag from 35.29 m	600	807.18	120.05
	Filadelfia	2	1	3.85 m @ 1.01 g/t Au from 57.00 m	100	203.30	135.30
El Rodeo	El Rodeo	5	4	6.41 m @ 1.17 g/t Au+14.0 g/t Ag from 41.77 m	340	385.47	85.37
San							
Andres	San Andres	9	6	5.57 m @ 2.91 g/t Au+20.3 g/t Ag from 44.93 m	600	1124.15	172.30
	San An. W.	2	2	No significant results (<0.4 g/t Au)	200	165.20	85.00
TOTAL		58	34		3170	6261.63	

Table 3, summarising drilling by prospect. Note that all drill intercepts are stated by downhole width which is equal or more likely larger than the true width of the vein.



*Figure 21. Drill intercepts showing gold grade-width with the trenches exceeding 16 gm/t gold labelled.* 

# PROSPECTS

Eight prospects<sup>1</sup> have been recognised on three different vein sets.

### El Paraiso vein set

Five prospect areas are recognised on the 4 km long El Paraiso Vein set (Fig. 21); from northwest to southeast the Santa Juana, Balsamo, Balsamo East, Santa Rita and Filadelfia areas are described below.

<sup>&</sup>lt;sup>1</sup> Prospect defined here as a locality where gold mineralisation of over 1 g/t has demonstrated lateral continuity.



Santa Juana

Figure 22. Significant trench intercepts in the Santa Juana area. Validation and infill trenching to better define the surface gold expression is recommended with a view to drill testing the two higher grade zones.

**East-northeast striking veins:** Two parallel vein sets striking East-northeast, 400 m apart and both almost 1000 m long, occur at the northwest end of the main El Paraiso structure (Fig. 22; Table 4)). Both trenches are barren, but a few trenches have intercepted short segments of gold mineralisation on both vein. An extremely long intercept of 9.0 m at 3.98 g/t gold recorded as 'quartz stockwork veining' on the northern vein appears significant. However the fact that it was one extremely long channel sample at the end of the trench suggests that the geologist did not expect mineralisation and thought that they were collecting a sample of barren host rock. Such a long sample is not a representative for a mineralised zone and requires validation. A duplicate trench is recommended with shorter sample lengths. If the intercept can be repeated then the direction of mineralisation needs to be established

**Northwest striking vein:** A significant trench intercept of 2.0 m at 8.26 g/t gold occurs on a northwest strike extension to the Balsamo Prospect where is extends into the Santa Juana area. It is 200 m along strike from the neighbouring trench and has not been drill tested. It is located near to the intersection of two structures, the gold-bearing El Paraiso Structure and the cross-cutting Santa Juana south vein. Such an area of structural complexity has the potential to form dilatant zones for gold mineralisation. This is one of the highest grade trench intercepts at Rio Luna. Further infill trenching to understand the geology and geometry of the mineralisation is recommended with a view to drill testing.

						Au grade-width
Rank	Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
4	Santa Juana North	SJ-27	9.00	3.98	3.0	35.9
15	Santa Juana South	SJ-32	2.00	8.26	9.0	16.5

Table 4. Santa Juana trench intercepts exceeding 8 gm/t gold grade-width.

### <u>Balsamo</u>



Figure 23. Significant trench (white label) and drill (pale blue label) intercepts in the Balsamo and Balsamo East prospects.



Figure 24. Significant drill intercepts in the Balsamo and Balsamo East prospects.

Trench sampling indicates that the mineralisation at the Balsamo Prospect extends for at least 800 m along a segment of the El Paraiso structure that strikes east-northeast (extended to over 1000 m onto the Santa Juana area is included; see above; Fig. 23; Table 5). Two, possibly three mineralised veins are recognised in a 200 – 250 m wide corridor. The northern vein has been drill tested along a 300 m strike length where two of the best trench intercepts occur with ten drill holes on four 100 m-spaced sections and one 50 m infill section. An additional hole has tested beneath a lower grade trench located some 300 m along strike to the west. Very wide intercepts of quartz vein material were recovered in the drilling which is interpreted as a wide breccia zones (Table 6; Fig. 24).

There remain untested structures hosting significant trench intercepts including 2.0 m at 16.4 g/t gold and 5.0 m at 4.2 g/t gold on parallel structures that warrant further exploration at Balsamo.

						Au grade-width
Rank	Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
5	Balsamo	TR-164	2.00	16.43	6.0	32.9
8	Balsamo	TR-35	5.20	5.96	5.1	31.0
12	Balsamo	TR-38	4.95	4.19	1.7	20.7
23	Balsamo	TR-114	1.70	6.75	4.5	11.5
24	Balsamo	TR-149	4.00	2.78	2.6	11.1
25	Balsamo	TR-96	7.50	1.47	2.7	11.0
28	Balsamo	TR-132	4.00	2.53	-	10.1
29	Balsamo	TR-142	8.30	1.21	1.2	10.0
32	Balsamo	TR-41	6.00	1.43	1.0	8.6

Table 5. Balsamo trench intercepts exceeding 8 gm/t gold grade-width.

							Au grade-width
Rank	Prospect	Drill hole ID	From (m)	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
3	Balsamo	DD-RL-03	36.27	9.15	6.24	-	57.1
11	Balsamo	DD-RL-28	17.99	1.51	4.90	7.0	7.4
19	Balsamo	DD-RL-28	9.15	6.09	0.89	3.2	5.4

Table 6. Balsamo drilling intercepts exceeding 4 gm/t gold grade-width.

#### Balsamo East

The Balsamo East prospect occupies a major flexure in the El Paraiso structure (Figs 20-21). Trenching has defined a 300-350 m long zone of significant gold intercepts at the flexure; these include trenches with 9.0 m at 2.04 g/t gold and 6.4 g/t silver, 18.9 m at 0.88 g/t gold, and 8.0 m at 3.39 g/t gold and 4.6 g/t silver (TR27; Table 7).

Sixteen drill holes have been drilled into the main flexure at 50 m spacing to a maximum depth of almost 200 m below surface. The best drill intercepts were returned from the centre of the flexure, at approximately 50 m and 80 m below a trench with 18.9 m at 0.88 g/t gold. Drilling deeper beneath this zone, and 50 m along strike in both directions, intercepted narrower lower grade mineralisation. The results suggest that high-grade is restricted to a small (10's metres) localised dilation at the 3dimensional flexure point where the structure changes strike and becomes overturned (Fig. 25).

An additional three wide spaced drill holes tested the strike extension for 500 m-long to the southeast of the vein flexure (Table 8. These drill holes returned progressively lower grade intercepts away from the flexure of:

1. 1 m at 3.06 g/t gold (100 m along strike),



Figure 25. Cross section looking northwest through the highest-grade drilling intercepts at the flexure of the El Paraiso on structure on the Balsamo East Prospect.

2. 0.5 m at 2.27 g/t gold and 2.8 g/t silver (300 m along strike), and

3. 0.25 m at 1.75 g/t gold and 22.6 g/t silver (500 m along strike).

					Au grade-width
Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
Balsamo East	TR-27	8.00	3.39	4.6	27.1
Balsamo East	TR-110	9.00	2.04	6.4	18.4
Balsamo East	TR-123	18.90	0.88	-	16.7
Balsamo East	TR-102	5.00	2.77	2.0	13.8
Balsamo East	TR-108	4.50	3.03	2.5	13.7
Balsamo East	TR-129	5.10	2.58	-	13.2
Balsamo East	TR-26	3.30	3.96	2.5	13.1

Table 7. Balsamo East trench intercepts exceeding 8 gm/t gold grade-width.

						Au grade-width
Prospect	Drill hole ID	From (m)	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
Balsamo East	DD-RL-22	84.04	5.38	13.32	10.4	71.7
Balsamo East	DD-RL-21	49.17	12.55	4.93	7.1	61.8
Balsamo East	DD-RL-22	50.62	6.08	2.24	2.7	13.6
Balsamo East	DD-RL-48	116.17	0.83	10.95	-	9.1
Balsamo East	DD-RL-08	35.37	4.08	1.64	-	6.7
Balsamo East	DD-RL-32	109.85	0.30	21.16	6.0	6.4
Balsamo East	DD-RL-20	24.68	4.65	1.33	5.9	6.2
Balsamo East	DD-RL-22	70.80	9.17	0.66	1.2	6.1
Balsamo East	DD-RL-20	2.80	3.67	1.49	1	5.5
Balsamo East	DD-RL-23	79.44	2.39	2.10	30.0	5.0
Balsamo East	DD-RL-08	30.63	1.38	3.34	-	4.6
Balsamo East	DD-RL-24	105.50	2.03	2.22	17.7	4.5

Table 8. Balsamo East drilling intercepts exceeding 4 gm/t gold grade-width.

#### Santa Rita



Figure 26. Significant trench (white label) and drill (blue label) intercepts on the Santa Rita and Filadelfia prospects.

Trenching at Santa Rita returned significant gold intercepts from two veins, approximately 250 m apart (Fig. 26).

A trench on the **main (western) vein** intercepted **9.0 m at 3.5 g/t gold.** This high grade zone seems to be closed off at surface by trenches with low grades to the north, but could still be open to the south where a couple of trenches returned 3.05 m at 2.04 g/t gold and 2.9 m at 3.66 g/t gold along a 60 m strike length, with mineralisation still open for a further 150 m along strike (Table 9). Eight holes were drilled to test up to 75 m below the trenches on the main vein on 100 m-spaced sections. Drilling confirmed mineralisation below the best trench with a **drill intercept of 1.30 m at 19.0 g/t gold** from 35.29 m depth. The two drill holes that tested for an extension 100 m to the south did not return any significant assay results and so the strike of the mineralisation appears less than 200 m (Table 10). The high-grade drill intercept suggests that this would be worth infill and depth extension drilling at 50 m spacing aimed at defining a small oreshoot.

On the **eastern vein** a trench intercept of 2.9 m at 3.66 g/t gold appears isolated at surface and restricted by barren neighbouring trenches to a strike length of less than 80 m (Fig. 26; Table 9). Two drill holes targeted 50 m below the significant trench, and 50 m along strike to the north. The latter returned a narrow higher grad drill intercept of 0.2 m at 8.29 g/t gold suggesting a narrow, high-grade shoot that plunges steeply to the northwest (Table 10).

					Au grade-width
Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
Santa Rita	TR-00	5.90	7.85	127.9	46.3
Santa Rita	TR-03	9.00	3.51	0.2	31.6
Santa Rita	TR-01	2.90	3.66	0.5	10.6
Santa Rita	TC-147	2.00	4.47	-	8.9

 Table 9. Santa Rita trench intercepts exceeding 8 gm/t gold grade-width.

						Au grade-width
Prospect	Drill hole ID	From (m)	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
Santa Rita main vein	DD-RL-09	35.29	1.30	19.00	14.0	24.7
Santa Rita main vein	DD-RL-40	84.05	0.67	8.35	13.8	5.6
Santa Rita East vein	DD-RL-14	34.90	0.20	8.29	34.9	1.7

Table 10. Santa Rita drilling intercepts exceeding 4 gm/t gold grade-width (plus best intercept from East vein).

#### <u>Filadelfia</u>

One significant trench intercept of 6.70 m at 4.8 g/t gold is recognised here. It is restricted to a 130 m maximum strike length by low grade trenches either side (Fig. 26). Two drill holes testing one section at different depths intersected two southwest dipping sulphide-bearing quartz-carbonate veins. The highest grade gold mineralisation was intersected at depth suggesting that the optimum mineralisation level may be more than 100 m deep (Tables 11-12).

					Au grade-width
Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
Filadelfia	TC-146	6.70	4.76	-	31.9

Table 11. Filadelfia trench intercepts exceeding 8 gm/t gold grade-width.

						Au grade-width
Prospect	Drill hole ID	From (m)	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
Filadelfia North vn.	DD-RL-57	57.0	2.85	1.0	14	2.9
Filadelfia South vn.	DD-RL-58	66.2	0.38	11.8	60	4.5
North vein		128.34	1.13	2.3	2	2.6

Table 12. Filadelfia drilling intercepts (DDRL58 was drilled beneath DDRL57).

## El Rodeo vein set



Figure 27. Significant trench (white label) and drill (pale blue label) intercepts on the El Rodeo and San Andres prospects.

The El Rodeo vein set is a 2.5 km-long corridor of apparently discontinuous quartz veining. It varies between 150 m and 400 m wide and runs along a ridge approximately 1 km northeast of the main El Paraiso structure. The best trench intercepts were returned from two parallel vein segments approximately 100 m apart (Fig. 27; Table 13):

- On the southern vein two trenches some 240 m apart intercepted 3.05 m at 6.8 g/t gold and 2.36 m at 15.87 g/t gold were drill tested by three holes at 120 m drill spacing with one gold mineralised intercept of 6.41 m drill width at 1.17 g/t gold and 14.0 g/t silver.
- On the northern vein two drill holes at 50 m spacing tested beneath a trench intercept of 3.1 m at 2.41 g/t gold. A drill intercept was 2.32 m at 3.17 g/t gold confirmed gold mineralisation in this structure.

None of the drill intercepts are considered significant (Table 14), but it is noted that the two best intercepts occur at lower altitudes of 400 to 460 mamsl. Most of the lower grade trenches occur where the vein runs along the top of the ridge at up to 500 mamsl. Low sulphidation epithermal mineralisation is often restricted vertically to a depth reange of only a few hundred metres and exploration could test the hypothesis that the top of the ridge was above the optimum level for gold deposition and that better grade mineralisation could be discovered by drilling to intercept the veins at the 400 mamsl levels or deeper.

					Au grade-width
Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
El Rodeo	TC-19	2.36	15.87	-	37.5
El Rodeo	TC-24	3.05	6.80	-	20.8

Table 13. Trench intercepts exceeding 8 gm/t gold grade-width.

							Au grade-width
	Prospect	Drill hole ID	From (m)	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
N vn	El Rodeo	DD-RL-15	41.77	6.41	1.17	14.0	7.5
S vn	El Rodeo	DD-RL-18	37.28	0.36	2.44		0.9
Svn1	El Rodeo	DD-RL-19	35.77	0.30	1.77		0.5
Svn2			38.05	0.42	1.26		0.5

Table 14. El Rodeo significant drilling intercepts.

#### San Andres vein set

This occurs about 900 m northeast of the El Rodeo vein set. It and appears to be one relatively continuous vein. It strikes for at least 2.4 km in an easterly to east-southeasterly direction; it dips steeply to the south. Splays and anastomosing parallel veins are mapped in the hanging wall (south) side (Fig. 27).

The main prospect at San Andres is a segment over 200 m strike length. It runs along the edge of a creek which returned four evenly spaced trench intercepts of over 8 gm/t gold with a best of 2.6 m at 57.7 g/t gold and 59 g/t silver (Table 15). Nine drill holes on 100 m-spaced sections were drilled to test a 500 m strike length, testing to a maximum depth of 130 m below surface. Positive drill intercepts were returned along the entire strike length with a best of 5.57 m at 2.91 g/t gold and 20.3 g/t silver at approximately 40 m below the high-grade trench (Table 16). Up to three closely spaced parallel mineralised veins were cut in drilling; both narrow high-grade and wider moderate grade zones were present.

					Au grade-width
Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
San Andres	TC-82	2.60	57.73	59.2	150.1
San Andres	TC-82	5.90	2.70	57.9	16.0
San Andres	TC-115	8.20	1.68	51.5	13.8
San Andres	TC-81-A	4.00	2.97	301.0	11.9
San Andres	TC-116	6.30	1.61	63.5	10.2
San Andres	TC-99	1.00	8.38	25.0	8.4

Table 15. San Andres trench intercepts exceeding 8 gm/t gold grade-width.

							Au grade-width
	Prospect	Drill hole ID	From (m)	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
VN1	San Andres	DD-RL-35	35.17	0.77	2.61	27.5	2.0
VN2			44.93	5.57	2.91	20.3	16.2
VN1	San Andres	DD-RL-36	16.90	0.53	0.81	177.0	0.4
VN2			47.85	5.28	2.86	46.0	15.1
VN1	San Andres	DD-RL-39	18.45	0.75	3.26	164.0	2.45
VN2			56.15	0.60	17.50	307.0	10.5
VN3			67.77	0.27	5.27	812.0	1.4
VN1	San Andres	DD-RL-52	66.85	0.35	8.7	20.0	3.0
VN2			121.5	4.85	1.0	5.0	4.9
VN1	San Andres	DD-RL-53	86.15	1.05	1.2	17.0	1.3
VN1	San Andres	DD-RL-54	85.00	8.05	0.85	21.6	6.8
VN1	San Andres	DD-RL-55	136.17	3.14	0.8	8.0	2.7
VN1	San Andres	DD-RL-56	130.05	2.35	0.7	4.0	1.6

Table 16. San Andres significant drilling intercepts.

#### San Andres East

Two moderately significant trench intercepts were returned from the easternmost extent of trench sampling on the San Andres East structure. These two trenches were about 100 m apart and gave 5.9 m at 1.22 g/t gold and 6.5 g/t silver, and 1.0 m at 8.38 g/t gold and 25 g/t silver; these occur at 740 m

and 840 m along strike of the main prospect (Fig. 27; Table 17). Such high grade trench intercepts, open along strike, merit more infill and strike extension trenching, with a view to drill testing.

					Au grade-width
Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
San Andres East	TC-99	1.00	8.38	25.0	8.4
San Andres East	TC-97	5.90	1.22	6.5	21.5

Table 17. San Andres East significant trench intercepts.

#### San Andres West

A significant trench with 4.9 m at 4.38 g/t gold occurs at the west end of the San Andres vein set. It was tested by two drill holes 50 m apart. Both intercepted quartz breccia zones with trace-level gold (<0.3 g/t) (Fig. 27; Table 18).

					Au grade-width
Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
San Andres West	TC-10	4.90	4.38	-	21.5

Table 18. San Andres West significant trench intercepts.

## SAMPLE PREPARATION, ANALYSIS AND SECURITY

Sample preparation techniques and analysis of the small number of soil and rock chip samples collected and analysed by WMC in the 1990's are not known.

Stream sediment, soil, rock chip, trench and selected drill samples collected by First Point Minerals were analysed for a multi-element suite using aqua regia dissolution and ICP-MS analysis at the accredited ACME laboratory in Vancouver, Canada. The standard assay for drill samples was gold-only at a non-accredited CAS Laboratory in Honduras; 20% of the samples, comprising most of the mineralised zones, were also assayed for multi-element at ACME laboratory. Condor analysed three rock chip samples at Inspectorate's accredited laboratory in Reno, Nevada, USA (Table 19).

Company (date)	Stream	Soil	Rock	Trench	Drill	Description
	sed.		chip		core	
WMC (1995-1996)			8			30 element suite including Au at 5 ppb detection limit.
		105				Trace (ppb) Au, As, Mo, Cu, Pb, Zn
Arengi/WMC (2000)			20			XRAL Lab: Au to 0.01 g/t and Ag to 0.1 g/t.
First Point Minerals	87	2690	247	2170		ACME Canada: 36 element trace level aqua regia ICP-
(2004-2006)						MS finish (inc. Au 0.5 ppb, Ag 0.1 ppm)
					1178	All samples CAS Honduras: Au by fire assay AA finish +
						grav finish if >3 g/t.
						20% selected ACME Canada: 36 element trace level
						aqua regia ICP-MS finish
Condor (2010)			3			Inspectorate USA: Au by fire assay AAS finish + Ag by
						aqua regia trace level AA finish

Table 19. Summarising the assaying methods used in the database.

# DATA VERIFICATION

## Drilling QAQC

First Point Minerals included 65 standards (approximately 1 for every 20 samples) in their drilling programme and also validated the assay results from the non-accredited CAS Laboratory with the accredited ACME laboratory. The expected value and range of the standards has not been sighted by the Author and so cannot be assessed. Comparison of the CAS gold assay results with results from ACME Laboratory appear to validate the CAS assays (Fig. 28).



Figure 28 Left: Comparison of original CAS gold assay (X axis) against validation assay by ACME (y axis) of 15 selected samples from drillholes DD-RL-03 and DD-RL-08. Values in ppb.

# Data validation by Condor Gold PLC

Condor verified the presence of mineralisation on the Rio Luna Project and the location of some of the First Point Minerals drill holes.

Three grab rock chip samples were collected, one from the Balsamo prospect and two from Filadelfia. The Balsamo Prospect sample gave 1.217 g/t gold and 5 g/t silver. The higher value sample from the Filadelfia Prospect gave 5.49 g/t gold and 22.5 g/t silver (Fig. 29).



Figure 29. Condor validation rock chip samples from Balsamo (left; CA128: 1.217 g/t Au + 5.0 g/t Ag) and Filadelfia (right; CA1290: 5.49 g/t Au + 22.5 g/t Ag) confirmed the presence of gold mineralisation at two prospects.

**Verification surveying** of fifteen **drill hole collars** from the 2004–2006 drilling campaigns returned differences of up to 8.6 m on Eastings, 10.7 m on Northings and 25 m in elevation (Fig. 30). The lateral variation varied about the DGPS coordinate such that an average of the variations is less than 2m, but the elevation was on average 15m lower than First Point Mineral's survey elevation suggesting the difference between a local geoid mean sea level and WGS84 Ellipsoid derived elevation.



Figure 30. Map showing drillhole collar locations reported by First Point Minerals using GPS (black) and surveyed by Condor using DGPS (blue). Photographs of drillhole collar DDRL42 at the Santa Rita Prospect being surveyed by DGPS.

# MINERAL RESOURCE ESTIMATES

SRK Consulting estimated a maiden Inferred Mineral Resource of 695,000 tonnes at 3.5 g/t for 80,000 oz of gold on three veins, including a total of 280,000 tonnes at 56 g/t for 500,000 oz silver estimated in compliance with the definition standards of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") and reported to NI43-101 format (Table 20; Fig. 1). In total this is a gold equivalent Mineral Resource of 87,000 oz gold equivalent at 3.9g/t gold equivalent (using a gold:silver ratio of 1:60). This was announced on the 28<sup>th</sup> November 2011. The Resource is restricted to the five prospects that contained sufficient drilling and trenching to demonstrate along strike and down-dip continuity; Balsamo, Balsamo East and the Santa Rita prospects on the El Paraiso Vein Set, the El Rodeo Vein and the San Andres Vein. The full mineral estimation technical report is available from the Condor Gold PLC website.

5	SRK Mineral Resource Statement, Rio Luna Deposit, 28 <sup>th</sup> November 2011											
Category	Vein Name	Tonnes (kt)	Gold Grade (g/t)	Containe d Gold (oz)	Tonnes (kt)	Silver Grade (g/t)	Containe d Silver (oz)					
Inferred	El Paraiso	395	4.01	52,000								
Inferred	El Rodeo	20	2.66	2,000								
Inferred	San Andreas	280	2.88	26,000	26	56	500,000					
Inferred	Subtotal	695	3.50	80,000	26	56	500,000					

Table 20. Mineral Resources are reported at a cut-off grade of 1.5 g/t. Cut-off grades are based on a price of US\$1200 per ounce of gold and gold recoveries of 90 percent for resources, without considering revenues from other metals. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate.

## ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

At time of writing a permit to undertake non-ground disturbing exploration work on the Rio Luna Concession was in effect.

## ADJACENT PROPERTIES

The Rio Luna concession covers all the known gold mineralisation on the Santa Lucia Massif (extinct volcanic complex) and there are no adjacent concessions. The nearest significant known gold mineralisation occurs at the La Libertad mine 50 km to the southeast, La Reina and La Leonesa historic gold mines 45 km to the north-northwest, and the historic La India mine development project 80 km to the west-northwest. All of these are classified as low sulphidation epithermal gold deposits.

# OTHER RELEVANT DATA AND INFORMATION

#### Survey

In November 2013 the base station used by First Point Minerals was tied into the National Grid System by running a DGPS survey for a continuous 19 hour period on two receivers, one at a government survey point on the summit of Cerro Kiliguas at 655179E 1392572N WGS84 16N, and the other at the Rio Luna survey base station (BM Rio Luna) at 650122.239E 1388418.008N 488.293mamsl (Fig. 31).



Figure 31. Government trig point on Cerro Kiliguas (tall hill in background) that was set up c.1980 on the summit.

# INTERPRETATION AND CONCLUSIONS

The Rio Luna Concession covers an entire mid-level low/intermediate sulphidation (depending on classification system) fracture-fill vein gold system. It is located in an established gold mining region within 50 km of the La Libertad gold mine, and 80 km of the La India development project. The gold mineralisation was relatively unknown until Canadian explorer First Point Minerals invested almost \$2 million in exploration between 2003 and 2006. There are some geological indications that suggest that the region may also be prospective to porphyry-style mineralisation.

The exploration to date has been thorough and well documented, and ranges from stream sediment sampling to exploration drilling on selected targets. An inferred resource of 695,000 tonnes at 3.5 g/t for 80,000 oz of gold, including 280,000 tonnes at 56 g/t for 500,000 oz silver has been estimated on five of the drilled prospects. The exploration has created a pipeline of exploration opportunities:

- 1. Stream sediment sampling covers the entire concession area.
- Soil sampling covers 7 km<sup>2</sup> identified as anomalous in gold by the stream sediment survey. Approximately 2 km<sup>2</sup> with gold-enriched stream sediment occurs in the northwest of the concession; this merits further exploration. There is also a reasonable probability that widespaced soil sampling over the remaining 34 km<sup>2</sup> of the concession would discover additional mineralisation.
- 3. Within the soil survey area approximately 18 km of quartz veining has been mapped out by soil anomalies, outcrop, quartz float, and in some places by following the vein with trenching.
- 4. Trenching has tested approximately 14 km of the veining at 25-100 m spacing. A further 4 km of veins remains to be tested by trenching.

- 5. Within the 14 km of veins tested, trenching has defined about 2,770 m strike length with over 4 gm/t gold grade-width, including 1,285 m with over 8 gm/t (of which 650 m has significant grade-width of over 16 gm/t gold).
- 6. Seven of the better trench intercepts have been tested by drilling covering approximately 3,170 m strike mostly at 100 m spacing, the majority intersecting the vein at 50 m to 100 m below surface. However, the strike length tested is misleading as the drilling extended along strike to test beneath low-grade trenches. There are several significant trench intercepts that have not yet been drill tested, including:
  - a. 9.0 m at 3.9 g/t Au at Santa Juana North.
  - b. 2.0 m at 8.3 g/t Au at Santa Juana South.
  - c. 2.0 m at 16.4 g/t Au at Balsamo (parallel structure).
  - d. 5.0 m at 4.2 g/t Au at Balsamo.
  - e. 4.9 m at 4.4 g/t Au at San Andrea eastern end.

**Risks:** The data collected by previous explorer First Point Minerals is generally good quality and well documented. However, a couple of issues have been identified that should be considered when interpreting the assay results. At least some trench intercepts must be treated as indicative and should not be included in a mineral resource estimate because:

- 1. Sample lengths are too long to be considered representative samples, including three chip channel samples of between 3 m, which include some of the highest grade trench intercepts (i.e. trenches TC-10, TC-24 and TC-27).
- 2. High-grade assays over 10 g/t gold derived by aqua regia dissolution and AA analysis may be under-reporting the gold value if dissolution was not complete. Re-running the assay using fire assay with gravimetric finish is industry standard for high grades.

### RECOMMENDATIONS

The following recommendations are made to validate existing data and advance exploration.

**Database and validation:** Validate high-grade trench samples with special attention to the three trenches that returned high-grades from channel samples exceeding 3 m in length. Samples could be taken using a circular saw and a maximum sample width of 1 m to achieve more representative samples and a better understanding of the gold distribution.

The database obtained by Condor from the Department of Mines is not complete, and it is recommended that the full data are acquired from First Point Minerals. Notable omissions include:

- 1. Core photos for the 25 holes (DD-RL-34 to 58) drilled in the 2006 campaign, including all the drilling at the San Andres and Filadelfia prospects.
- 2. Assay results for five drill holes on the San Andres Prospect (DD-RL-50 (partial), 52, 55, 56, 58). These were never presented to the Department of Mines. Gold intercepts were reported on the First Point Minerals website, indicating that they were assayed.

**Further exploration:** Wide spaced soil sampling over the entire concession area, perhaps of an unbiased 200 m x 200 m square or diamond-grid pattern may identify new areas of mineralisation, identify any potential hidden deep-seated mineralisation, and help map the geology.

Infill and extension trenching and drill testing of significant trench intercepts. At least five targets are identified (see Conclusion No. 6 above).

Further studies should be undertaken to assess the prospectivity of the concession (and surrounding area) for porphyry-style mineralisation.

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# APPENDIX A - TRENCH AND DRILL INTERCEPTS

The best trench and drill intercepts are presented in the following tables ranked from highest to lowest gold grade multiplied by width.

							Au grade-width
Rank	Prospect	Drill hole ID	From (m)	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
1	Balsamo East	DD-RL-22	84.04	5.38	13.32	10.4	71.7
2	Balsamo East	DD-RL-21	49.17	12.55	4.93	7.1	61.8
3	Balsamo	DD-RL-03	36.27	9.15	6.24	-	57.1
4	Santa Rita	DD-RL-09	35.29	1.30	19.00	14.0	24.7
5	San Andres	DD-RL-35	44.93	5.57	2.91	20.3	16.2
6	San Andres	DD-RL-36	47.85	5.28	2.86	46.0	15.1
7	Balsamo East	DD-RL-22	50.62	6.08	2.24	2.7	13.6
8	San Andres	DD-RL-39	56.15	0.60	17.50	307.0	10.5
9	Balsamo East	DD-RL-48	116.17	0.83	10.95	-	9.1
10	El Rodeo	DD-RL-15	41.77	6.41	1.17	14.0	7.5
11	Balsamo	DD-RL-28	17.99	1.51	4.90	7.0	7.4
12	San Andres	DD-RL-54	85.00	8.05	0.85	21.6	6.8
13	Balsamo East	DD-RL-08	35.37	4.08	1.64	-	6.7
14	Balsamo East	DD-RL-32	109.85	0.30	21.16	6.0	6.4
15	Balsamo East	DD-RL-20	24.68	4.65	1.33	5.9	6.2
16	Balsamo East	DD-RL-22	70.80	9.17	0.66	1.2	6.1
17	Santa Rita	DD-RL-40	84.05	0.67	8.35	13.8	5.6
18	Balsamo East	DD-RL-20	2.80	3.67	1.49	-	5.5
19	Balsamo	DD-RL-28	9.15	6.09	0.89	3.2	5.4
20	Balsamo East	DD-RL-23	79.44	2.39	2.10	30.0	5.0
21	Balsamo East	DD-RL-08	30.63	1.38	3.34	-	4.6
22	Balsamo East	DD-RL-24	105.50	2.03	2.22	17.7	4.5

Drilling intercepts exceeding 4 gm/t gold grade-width.

						Au grade-width
Rank	Prospect	Trench ID	Width (m)	Au (g/t)	Ag (g/t)	(gm/t)
1	San Andres	TC-82	2.60	57.73	59.2	150.1
2	Santa Rita	TR-00	5.90	7.85	127.9	46.3
3	El Rodeo	TC-19	2.36	15.87	-	37.5
4	Santa Juana North	SJ-27	9.00	3.98	3.0	35.9
5	Balsamo	TR-164	2.00	16.43	6.0	32.9
6	Filadelfia	TC-146	6.70	4.76	-	31.9
7	Santa Rita	TR-03	9.00	3.51	0.2	31.6
8	Balsamo	TR-35	5.20	5.96	5.1	31.0
9	Balsamo East	TR-27	8.00	3.39	4.6	27.1
10	San Andres West	TC-10	4.90	4.38	-	21.5
11	El Rodeo	TC-24	3.05	6.80	-	20.8
12	Balsamo	TR-38	4.95	4.19	1.7	20.7
13	Balsamo East	TR-110	9.00	2.04	6.4	18.4
14	Balsamo East	TR-123	18.90	0.88	-	16.7
15	Santa Juana South	SJ-32	2.00	8.26	9.0	16.5
16	San Andres	TC-82	5.90	2.70	57.9	16.0
17	Balsamo East	TR-102	5.00	2.77	2.0	13.8
18	San Andres	TC-115	8.20	1.68	51.5	13.8
19	Balsamo East	TR-108	4.50	3.03	2.5	13.7
20	Balsamo East	TR-129	5.10	2.58	-	13.2
21	Balsamo East	TR-26	3.30	3.96	2.5	13.1
22	San Andres	TC-81-A	4.00	2.97	301.0	11.9
23	Balsamo	TR-114	1.70	6.75	4.5	11.5
24	Balsamo	TR-149	4.00	2.78	2.6	11.1
25	Balsamo	TR-96	7.50	1.47	2.7	11.0
26	Santa Rita	TR-01	2.90	3.66	0.5	10.6
27	San Andres	TC-116	6.30	1.61	63.5	10.2

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28	Balsamo	TR-132	4.00	2.53	-	10.1
29	Balsamo	TR-142	8.30	1.21	1.2	10.0
30	Balsamo East	TR-28A	6.10	1.50	1.3	9.1
31	Santa Rita	TC-147	2.00	4.47	-	8.9
32	Balsamo	TR-41	6.00	1.43	1.0	8.6
33	San Andres	TC-99	1.00	8.38	25.0	8.4

Trench intercepts exceeding 8 gm/t gold grade-width.

# STATEMENT OF QUALIFICATIONS

This exploration report entitled Gold mineralisation and exploration on the Río Luna Concession, Boaco, Nicaragua, effective as of the 31<sup>st</sup> March 2020 was commissioned by Condor Gold PLC and has been prepared by Dr Luc English, a Chartered Geologist and Fellow of the Geological Society of London with over twenty years of experience in the exploration and definition of precious and base metal resources. Luc English has sufficient experience in the relevant style of mineralisation and type of deposit under consideration, and to the type of activity which he is undertaking to qualify as a Competent Person as defined in the JORC and a Qualified Person as defined in the CIM reporting codes.

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Luc English, PhD, CGeol, EurGeol

31<sup>st</sup> March 2020 Date Signed