SNOWDEN

Waymar Resources Ltd: Anza VMS Project
Project No. **L00176**

Geological and Exploration Review
May 2010

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This report has been prepared by Snowden Mining Industry Consultants (‘Snowden’) on behalf of Waymar Resources Ltd.

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1 Summary

1.1 Introduction

This independent Technical Report describes Waymar Resources Limited's (Waymar) Anzá project located in the west of the Antioquia Department in the Republic of Colombia. Waymar is a mineral exploration company trading on the Toronto Stock Exchange Venture market (TSX-V:WYM). On 17th February 2010 Waymar signed an agreement with several vendors for an option to acquire a 100% legal and beneficial interest in the Anzá project.

The Anzá project area is centred on the Exman gypsum mine which commenced mining operations in 1991. The Exman mine is located some 6.5 km west of the small town of Anzá and 40 km west of the city of Medellin. Initial gypsum production was from two open pits, La Pastorera and Aragón however slope stability issues resulted in the mine converting to underground mining in 2005.

The presence of sulphide mineralisation was noted early in the open pit mining phase and this lead to the identification of the Exman deposits as possible volcanic massive sulphide (VMS) deposits. Early assays indicated the presence of encouraging base metal and gold grades. Waymar intends to explore the Anzá project for base metals and gold, initially focussing on the VMS potential.

1.2 Conclusions and recommendations

1.2.1 Deposit model

Snowden are confident that the La Pastorera and Aragón mines form part of a VMS system, although the full nature and overall characteristics of the deposit and its generic type are unclear at this stage.

The presence of gypsum is a regular feature of classic Kuroko VMS deposits but absent or extremely rare in other VMS types. Barite mineralization is also a conspicuous, though not unique, feature of Kuroko deposits. These geological features and the lead - zinc dominated character of the massive sulphide samples resulted in the Anzá deposits being classed as Kuroko type.

However other aspects of the La Pastorera / Aragón mineralisation contradict this assumption. The gross host succession is basaltic and the local pyroclastics are intermediate in composition, suggesting that the deposit formed in a geological environment more typical of the mafic VMS type. The characteristics of the gypsum suggests that it was deposited as part of a sedimentary sequence as sulphate sediment on the seafloor, possibly as anhydrite. In this scenario the gypsum may be an unrelated hostrock to the VMS system which deposited the base metal and gold mineralisation.

Structural features such as faulting and folding also have a significant role in complicating the overall geological model. The structural complexity is highlighted by the presence of both anticlinal and synclinal structures at La Pastorera.

VMS systems can develop in a complex manner with several vent locations developing over time. This process may result in a deposit with a complex internal morphology and age relationships. In the case of the La Pastorera/Aragón deposits the close spatial relationship between gypsum (normally from a distal location) and the pyritic siliceous material (which may represent a feeder stockwork) suggests that multiple vents may have formed over time with later vents occurring in distal portions of earlier vent systems. Waymar need to develop a local geological model for the deposition of the various stratigraphic units present at La Pastorera/Aragón. This can then be applied as an exploration model for the Anzá project as a whole.

1.2.2 Exploration potential

Snowden consider that the Anzá project has good exploration potential for both gold and base metals.

A total of 72 samples have been collected by various parties from the La Pastorera/Aragón mines and these returned encouraging base metal and gold assay results. These results are summarised in Table 1.1. Whilst these results provide evidence for the presence of both base metal and gold mineralisation they are insufficient for the estimation of a Mineral Resource in terms of the CIM code (CIM, 2005). Verification samples collected by Snowden during the Anzá site visit confirm the presence of base metal (notably zinc) and gold mineralisation (Table 1.2).

Three areas of exploration potential have been defined by Snowden, and these are shown in Figure 1.1. The La Pastorera/Aragón trend is shown in more detail in Figure 1.2. These areas are summarised below:

La Pastorera/Aragón VMS trend

This forms a northwest – southeast trending, 3.5 km long target area centred on the La Pastorera and Aragón mines, and following the trend of the Aragón fault. The exploration target includes the La Cueva breccia, the La Maluca tributary visited during the 2010 site visit, the Los Jesuitas stream and an additional La Maluca tributary with gypsum outcrop. Several Peñoles regional samples returned grades of >0.1 g/t Au and/or >0.05% Zn and warrant following up in the field, as do the higher grade samples collected from the La Cueva breccia.

A second area to the west, up the Niverengo river, contains copper and zinc stream sediment anomalies and pyrite, chalcopyrite, sphalerite, pyrrhotite, malachite and marcasite are noted in outcrop. The origin of these stream sediment anomalies and the observed mineralisation is uncertain and should be followed up by Waymar.

The northern diorite

This group of anomalies occur in the Puria, Pitanjá and Higuiná rivers and are marked by copper and zinc stream sediment anomalies. Pyrite, chalcopyrite, sphalerite, and pyrrhotite are noted in outcrop. This group of anomalies are interpreted to be related to disseminated or stockwork style mineralisation within a large diorite body to the north of the Exman mine. This diorite intrusion is part of a later intrusive suite and thus not related to the La Pastorera/Aragón VMS mineralisation.

Minas de Güintar

This target area covers the western group of stream sediment anomalies and forms a northwest to southeast trending zone in the headwaters of the Niverengo and Quiuná rivers. The area includes the Minas de Güintar mines, which exploit gold in quartz veins, however copper, zinc and lead anomalies are recorded from stream sediments. Pyrite, chalcopyrite, sphalerite, pyrrhotite, arsenopyrite, malachite, marcasite and visible gold are noted in outcrop. These anomalies may be related to a group of mineralised breccia and porphyry systems and the existing mines appear to be located on small (<0.5 km) diameter diorite and gabbro bodies. The mineralisation in this area may also be related to quartz veining associated with the north south trending Sepultura fault.

Table 1.1 Summary of sampling results from the Exman gypsum mine (Source; Niverengo, Kedahda, Peñoles and Waymar)

Sample No	Sampled By	Mine	Au (ppm)	Ag (ppm)	Cu (%)	Pb (%)	Zn (%)
1000	Exman	La Pastorera	261.00	29.60	2.250	21.800	24.150
1326	Exman	La Pastorera	0.55	5.60	0.010	0.030	0.040
1327	Exman	La Pastorera	0.50	8.70	0.020	0.010	0.020
1332	Exman	La Pastorera	0.33	0.30	0.010	0.010	0.060
1333	Exman	La Pastorera	33.87	18.50	1.640	22.500	29.000
1334	Exman	La Pastorera	9.87	21.50	1.230	3.800	20.500
MN-06	Shaw	La Pastorera	1.32	4.10	0.060	0.010	0.600
MN-07	Shaw	La Pastorera	6.71	16.80	1.860	2.850	26.940
B-1	Billiton	La Pastorera	2.90	23.20	0.730	0.410	18.400
B-2	Billiton	La Pastorera	1.80	19.80	1.200	0.030	15.100
71990	Peñoles	La Pastorera	17.23	7.00	0.290	0.560	0.950
71991	Peñoles	La Pastorera	1.79	16.00	0.610	0.690	8.100
12003259	Kedahda 2006	La Pastorera	0.18	0.69	0.008	0.003	0.055
12003260	Kedahda 2006	La Pastorera	0.19	0.77	0.017	0.005	0.504
12003261	Kedahda 2006	La Pastorera	1.17	1.02	0.013	0.012	0.298
12003262	Kedahda 2006	La Pastorera	3.63	3.12	0.205	0.007	1.390
12003263	Kedahda 2006	La Pastorera	0.11	0.17	0.007	0.001	0.025
12003264	Kedahda 2006	La Pastorera	0.04	0.08	0.007	0.000	0.013
12003265	Kedahda 2006	La Pastorera	39.40	2.84	0.109	0.002	1.020
12003266	Kedahda 2006	La Pastorera	0.16	0.44	0.002	0.001	0.027
12003267	Kedahda 2006	La Pastorera	0.06	0.55	0.001	0.001	0.028
12003268	Kedahda 2006	La Pastorera	0.20	0.81	0.002	0.002	0.033
12003269	Kedahda 2006	La Pastorera	0.09	0.59	0.003	0.011	0.030

Sample No	Sampled By	Mine	Au (ppm)	Ag (ppm)	Cu (%)	Pb (%)	Zn (%)
12003270	Kedahda 2006	La Pastorera	0.07	0.86	0.001	0.001	0.015
12003271	Kedahda 2006	La Pastorera	0.03	0.41	0.003	0.001	0.008
12003272	Kedahda 2006	La Pastorera	0.06	0.60	0.001	0.001	0.015
12003273	Kedahda 2006	La Pastorera	11.70	1.99	0.041	0.157	0.976
12003274	Kedahda 2006	La Pastorera	2.32	0.95	0.019	0.031	0.477
12003276	Kedahda 2006	La Pastorera	0.05	125.00	0.010	0.041	0.081
12003277	Kedahda 2006	La Pastorera	0.09	32.40	0.004	0.021	0.086
12003278	Kedahda 2006	La Pastorera	0.69	1.21	0.008	0.005	0.059
12003279	Kedahda 2006	La Pastorera	0.08	0.51	0.001	0.001	0.011
12003281	Kedahda 2006	La Pastorera	0.09	0.53	0.002	0.001	0.011
12003282	Kedahda 2006	La Pastorera	0.12	0.52	0.004	0.002	0.050
12003283	Kedahda 2006	La Pastorera	0.11	0.66	0.004	0.002	0.202
12003284	Kedahda 2006	La Pastorera	0.07	0.45	0.005	0.016	0.062
12003285	Kedahda 2006	La Pastorera	0.12	0.82	0.002	0.002	0.006
12003286	Kedahda 2006	La Pastorera	0.17	0.99	0.002	0.002	0.006
12003287	Kedahda 2006	La Pastorera	0.07	0.61	0.002	0.001	0.005
12003288	Kedahda 2006	La Pastorera	0.02	0.32	0.001	0.001	0.005
12003289	Kedahda 2006	La Pastorera	0.05	0.18	0.001	0.001	0.007
AN-009	Peñoles 2006	La Pastorera	1.04	<2.00	0.016	0.009	0.167
AN-010	Peñoles 2006	La Pastorera	0.163	>10.00	0.007	0.069	0.139
AN-011	Peñoles 2006	La Pastorera	2.74	3.00	0.022	0.133	0.551
AN-012	Peñoles 2006	La Pastorera	6.94	4.00	0.223	0.219	>1.000
AN-013	Peñoles 2006	La Pastorera	2.59	3.00	0.054	0.268	0.745
AN-014	Peñoles 2006	La Pastorera	0.116	<2.00	0.003	0.002	0.048
AN-015	Peñoles 2006	La Pastorera	0.416	<2.00	0.003	0.006	0.051

Sample No	Sampled By	Mine	Au (ppm)	Ag (ppm)	Cu (%)	Pb (%)	Zn (%)
AN-016	Peñoles 2006	La Pastorera	0.39	<2.00	0.006	0.003	0.275
AN-017	Peñoles 2006	La Pastorera	0.12	<2.00	0.006	0.003	0.017
AN-023	Peñoles 2006	La Pastorera	0.78	<2.00	0.049	0.061	0.713
AN-024	Peñoles 2006	La Pastorera	1.29	<2.00	0.053	0.013	0.449
AN-025	Peñoles 2006	La Pastorera	4.62	7.00	0.097	0.016	0.579
AN-026	Peñoles 2006	La Pastorera	0.10	<2.00	0.041	0.003	0.688
AN-027	Peñoles 2006	La Pastorera	0.13	<2.00	0.011	0.046	0.106
AN-028	Peñoles 2006	La Pastorera	0.06	<2.00	0.003	0.003	0.037
AN-029	Peñoles 2006	La Pastorera	0.08	<2.00	0.004	0.027	0.025
AN-030	Peñoles 2006	La Pastorera	0.09	<2.00	0.003	0.003	0.056
AN-031	Peñoles 2006	La Pastorera	0.24	<2.00	0.002	0.003	0.040
AN-032	Peñoles 2006	La Pastorera	0.44	<2.00	0.005	0.007	0.040
4601	Perez 2007	La Pastorera	1.12	4.00	0.023	0.006	0.583
4602	Perez 2007	La Pastorera	0.01	0.20	0.008	0.004	0.138
4603	Perez 2007	La Pastorera	1.87	1.30	0.096	0.009	2.870
4604	Perez 2007	La Pastorera	9.21	2.00	0.103	0.104	1.460
4605	Perez 2007	La Pastorera	0.17	88.60	0.008	0.089	0.218
4606	Perez 2007	La Pastorera	0.37	0.80	0.032	0.004	0.174
4607	Perez 2007	La Pastorera	2.78	6.50	1.130	0.062	19.800
4608	Perez 2007	La Pastorera	2.16	0.60	0.062	0.002	0.149
4609	Perez 2007	Aragón	139.12	11.10	0.971	0.002	2.870
4610	Perez 2007	Aragón	0.24	0.60	0.025	0.003	0.817
4611	Perez 2007	La Pastorera	0.21	5.00	0.011	0.025	0.226
4612	Perez 2007	La Pastorera	0.90	1.20	0.035	0.005	0.305

Table 1.2 Summary of Snowden verification sampling from the Anzá project collected during the 2010 site visit

Sample number	Location	Description	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
302-1	La Pastorera	Pyritic siliceous unit	3.80	0.42	<0.01	11.83	1.90
302-2	La Pastorera	Pyritic siliceous unit	5.34	0.49	<0.01	14.74	2.80
302-3	La Pastorera	Pyritic siliceous unit	0.27	0.04	<0.01	0.92	0.70
302-4	La Pastorera	Pyritic siliceous unit	1.82	0.05	0.01	0.41	0.60
302-5	La Pastorera	Pyritic siliceous unit	28.73	0.08	<0.01	1.14	10.70
302-6	La Pastorera	Pyritic siliceous unit	19.98	0.28	0.01	3.97	7.30
303-1	La Cueva	Weathered tuff/matrix	0.01	0.01	Tr	0.02	<0.50
305-1	Waste stockpile	Massive sulphide	0.21	2.46	0.01	16.26	27.20
305-2	Waste stockpile	Massive sulphide	0.71	9.12	0.01	7.65	53.60
305-3	Waste stockpile	Massive sulphide	0.32	0.66	0.01	4.39	12.20
305-4	Waste stockpile	Massive sulphide	7.43	0.54	<0.01	9.01	6.90
306-1	Maluca tributary	Weathered massive sulphide?	0.03	0.02	<0.01	0.14	<0.50
306-2	Maluca tributary	Weathered massive sulphide?	0.03	0.01	<0.01	0.05	<0.50

Figure 1.1 Stream sediment anomaly map for copper, showing the location of areas of bedrock mineralisation and exploration target areas defined by Snowden. Coordinates in Colombian Gauss-Kruger grid (Modified from Mejia, 1999)

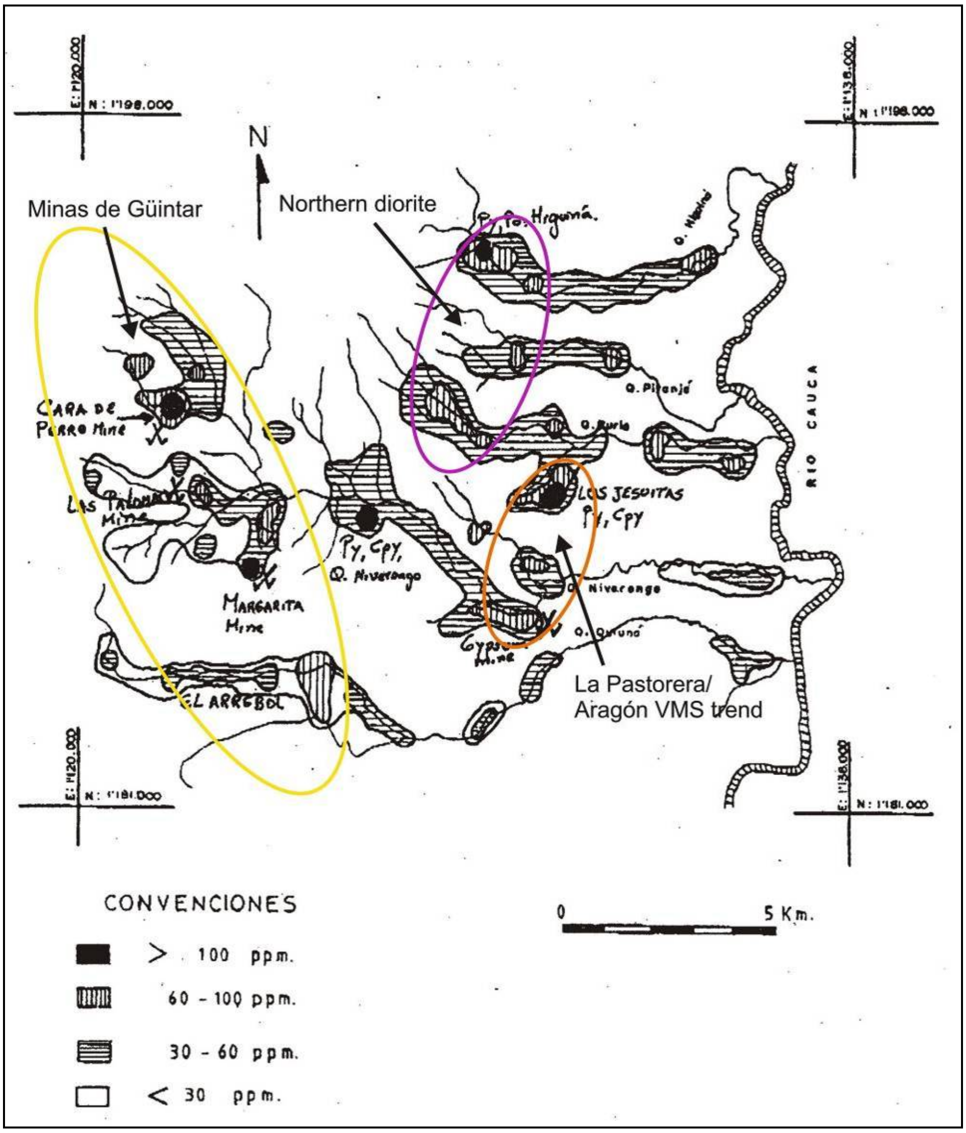
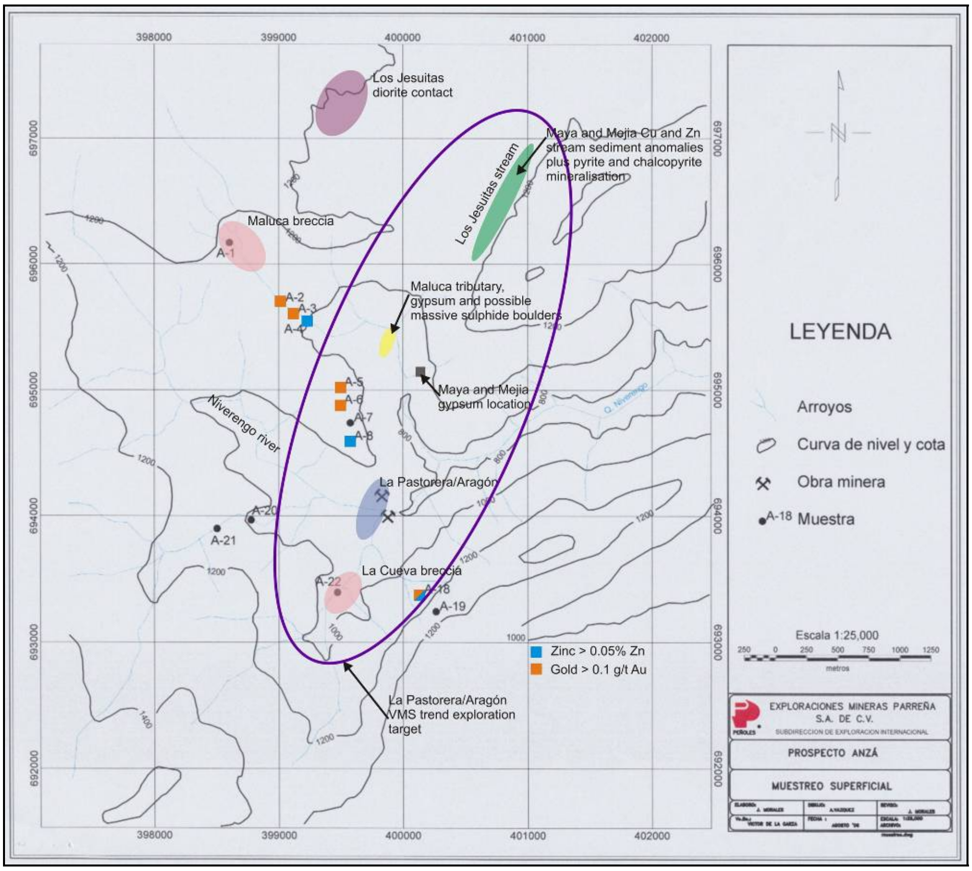


Figure 1.2 Map of the La Pastorera/Aragón VMS trend. Coordinates in UTM (WGS84, 18N) (Based on Peñoles, 2006(?) modified by Snowden)



1.2.3 Proposed exploration – La Pastorera / Aragón

Initial exploration should focus on developing a three dimensional geological model of the La Pastorera/Aragón VMS system. Once defined this model of the VMS mineralisation should be applied to the Anzá project as a whole. Initial exploration at the gypsum mines should encompass the following:

- Detailed geological mapping and re-sampling of the La Pastorera and Aragón mines with the intention of resolving the complex geological structure and understanding the relationship between the massive sulphide and the pyritic siliceous unit.
- Resurveying of the existing open pits and underground development is a prerequisite.
- All existing sampling and geological information should be digitised and a project database established.
- A follow-up drilling programme, aimed at confirming the geological interpretation and testing any potential extensions to the mineralisation should then be implemented. The existing underground development offers flexibility in selection of drilling locations particularly in areas where surface access on the fringes of the open pit may be difficult.

1.2.4 Proposed exploration – Regional

To date very limited regional exploration has been carried out. Regional exploration should include the following:

- The existing stream sediment and regional geological data should be compiled into a spatial database and the data processed using modern exploration software packages such as Target.
- All known mineral occurrences in the area should be visited in order to confirm their locations and to record the characteristics of their geology and mineralisation. The principal stream sediment anomalies should be followed up by a detailed stream sediment sampling programme as well as geological mapping.
- Once the presence of the stream sediment anomalies are confirmed they should be investigated further by geological mapping and expanding the sampling coverage with soil sampling.
- Snowden recommend that orientation surveys be carried out in the vicinity of La Pastorera pit in order to confirm the optimum sample size fraction to be used for the detection of gold and base metal mineralisation in stream sediment and soils sampling.
- Airborne geophysics incorporating, magnetics, electromagnetic, gravity and radiometrics should be undertaken. Snowden note that the steep topography at Anzá may preclude the use of fixed wing aircraft for airborne surveys.
- Follow-up ground geophysics surveys, including induced polarisation, should be undertaken on promising target areas.
- The acquisition of satellite imagery should be considered as a tool to assist in the structural and alteration mapping of the Anzá project and in regional exploration programmes.
- For all areas where more detailed exploration will be undertaken an accurate topographic survey should be undertaken.
- Review of the geochemical and geophysical survey data should lead to the identification of primary targets for follow up geological drilling. Trenching can be considered in areas where the topography is amenable for access.
- It is imperative that Waymar establish QA/QC protocols and sampling procedures that meet industry norms. Cognisance should be taken of potential short range grade variability issues.

1.2.5 Exploration budget

Waymar are in the process of defining their first year exploration budget for the Anzá project. Estimation of the first year exploration costs will be heavily influenced by the cost to complete an airborne geophysical survey which will be the main variable item. A geophysical contractor has been approached to provide a cost estimate for this work.

Snowden consider that a budget of between US$ 1.0 M and US$ 1.5 M will be required for the first year, which will include the airborne geophysical survey and concession fee payments.

2 Introduction

This Technical Report has been prepared by Snowden Mining Industry Consultants Limited (Snowden) for Waymar Resources Limited in compliance with the disclosure requirements of the Canadian National Instrument 43-101 (NI 43-101). The trigger for preparation of this Technical Report is the signing of an option agreement whereby Waymar can acquire up to 100% of the Anzá project from several vendors including Exman Ltda (Exman), and Continental Gold Limited (CGL) (Waymar 2010a, 2010b). The latter is a Colombia focussed mineral exploration company listed on the Toronto Stock Exchange (TSX:CNL)

The Anzá project comprises 18 concession contracts and concession applications in the Antioquia department of the Republic of Colombia. These concessions are centred on the Exman gypsum mine which is situated some 6.5 km west of the small town of Anzá and 40 km west of the city of Medellin.

Unless otherwise stated, information and data contained in this report or used in its preparation has been provided by Waymar, Exman and CGL.

The Qualified Persons for the preparation of the report are Mr C J Bargmann who visited Colombia between 6th and 11th April 2010 and Dr I M Platten who has not made a current site visit.

The responsibilities of each author are provided in Table 2.1

Table 2.1 Responsibilities of co-authors

Author	Responsible for sections
Mr C J Bargmann	1 – 23
Dr I M Platten	7 - 9

2.1 Background

Waymar is a mineral exploration company trading on the Toronto Stock Exchange Venture market (TSX-V:WYM). On 17th February 2010 Waymar concluded an option agreement with Exman Ltda, Continental Gold Ltd, Julian Betancur, Arelis de J. Mejia Q, Eucardo Mejia R and Robert P Shaw (the Vendors) to acquire a 100% legal and beneficial interest in the Anzá project.

2.2 Terms of reference

In March 2010, Snowden was requested by Waymar to conduct a site visit and prepare a NI 43-101 Technical Report on the Anzá project.

2.3 Sources of information

Snowden reviewed numerous reports on previous work in the Anzá project provided by Waymar, Exman and CGL. Several published references on the geology and mineral deposits of Colombia were reviewed by Snowden and additional information was also obtained from several Internet sources. In February 2007 Snowden visited the Anzá project on behalf of CGL and information from this site visit has been used in the preparation of this report.

Technical reports and other documents used in the preparation of this report are listed in Section 21 of this report.

2.4 Site visits

Mr C J Bargmann, CGeol, visited Colombia between 6th and 11th April 2010. One day was spent discussing the Anzá project with CGL staff in Medellin and two days were spent visiting the Anzá project area. The site visit to the Anzá project was made with Mr Mario Ramírez, mine manager of the Exman gypsum mine and Mrs Adriana González a freelance mining engineer. Whilst in the CGL offices in Medellin discussions were held with Mr Raúl Mejia a geologist who undertook an undergraduate stream sediment sampling project in the Anzá area in 1987.

Snowden previously visited the Anzá project in February 2007 as part of a technical review of CGL's projects. Details of this site visit are included in a report prepared for CGL (Snowden, 2007), which was not released into the public domain. The information from this site visit has been utilised in the compilation of this Technical Report. This visit was made by EurGeol Dr E J Sides who has since ceased to be an employee of Snowden.

3 Reliance on other experts

This Technical Report is intended to be used by Waymar and is subject to the terms and conditions of their contract with Snowden. This report is intended to be read as a whole, and sections or parts thereof should therefore not be read or relied upon out of context.

Unless otherwise stated Snowden has relied on Waymar, CGL and Exman personnel for details of the concession contracts defined in the Waymar option agreement, as well as details on Colombian legal, mining and environmental framework. Snowden has not attempted to verify the accuracy of the concession contracts against the concession maps that have been supplied nor has it undertaken a legal due diligence on the validity and status of the Anzá concessions. Some of the CGL concession licences at Anzá are held by associated companies and Snowden has not tried to confirm the ownership of these companies or their relationship to CGL.

4 Property description and location

4.1 General description

Colombia is located in the north-western portion of the South American continent, at the northern end of the Andean mountain chain. It has coastlines on both the Pacific and Caribbean. A general map of Colombia, downloaded from the National Mapping Agency of Colombia (IGAC) showing the main physical features, major cities and administrative departments is given in Figure 4-1. This map highlights the fact that, in Colombia, the Andean mountain chain is split into three separate ranges, referred to as the Occidental (western), Central and Oriental (eastern) Cordillera, respectively. This topographic variability reflects a varied underlying geology related to the position of the country at the boundary between several major tectonic plates.

Colombia is a republic which is divided administratively into thirty-two Departments and a Capital District. Departments are further divided into municipalities (Wikipedia, 2010). The capital Bogotá is the countries main entry point with regular air services to North, Central and South America, the Caribbean and Europe. International flights also operate from regional centres such as Medellín and Cali.

The road infrastructure varies in quality and internal air transportation is widely used. Some 2,000 km of railway lines are operational, principally the line between Bogotá and the Caribbean coast at Santa Marta. The railways are utilised for the export of commodities such as coal, petroleum products and coffee (US Department of Energy 2003).

Some 70% of Colombia's electricity is generated from hydroelectric power plants, predominantly in the mountainous north–western portion of the country. In 2000 installed hydroelectric generation capacity totalled 8,570 MW, whilst conventional thermal generation (coal, natural gas and oil) accounted for 4,650 MW. The dependence on hydroelectric generating capacity has lead to shortages in years of severe drought. As a result the government is attempting to increase the proportion of thermally generated electricity utilising the countries coal oil and natural gas resources (US Department of Energy 2003).

The association by many foreigners of Colombia with guerrilla movements and the drug trade gives a false picture of the security situation in the country. This association originates from the left wing insurgency campaigns carried out by several groups which were formed in the mid-1960s. Right wing paramilitary groups and the drug cartels complicated the issue and the security situation in the country was very poor in the 1990s. Since the election of President Álvaro Uribe Vélez in May 2002, and his subsequent re-election in May 2006, the security situation in the country has improved significantly. President Uribe will hand over the presidency to a new incumbent after the country holds presidential elections on 30th May 2010.

Figure 4.1 Physical map of Colombia showing general topography, major cities and administrative departments (IGAC, 2007)

4.2 Mining investment in Colombia

4.2.1 General

The Colombian mining and energy sector is headed by the Ministerio de Minas y Energía (MME). Mining legislation and concession administration is undertaken by the delegated mining authorities who include the Secretary of Mines in Antioquia and Institute Colombiano de Geologica y Mineria (Ingeominas). The National Mining Register (Registro Minero Nacional) is maintained by Ingeominas.

In Colombia ownership of all subsurface land and mineral resources is vested in the State. The right to explore for and exploit mineral resources is granted by the State in the form of licences, permits and concession contracts depending on the legislation in force at the time the right was granted.

The following section is based on discussions with the CGL staff responsible for the management the companies concession licences, including those in the Anzá project area.

4.2.2 Mineral tenure

Mineral property rights in Colombia are governed by the Colombian Mining Code which has been subject to various changes and amendments. The oldest version applicable is Law 20 of 1969, which was superseded by Decree 2655 of 1988. The 1988 decree was in turn amended by Law 685 of 2001 and again on 9th February 2010 when Law 1382 amended certain articles of the 2001 code. The terms and conditions applicable to existing concessions are not amended by subsequent legislation, so active concessions can operate under either the 1969, 1988, 2001 or 2010 mining codes.

The 2001 and 2010 mining code allows for a single concession contract covering the exploration, construction and exploitation phases. Concessions have a maximum duration of 30 years, and may be renewed on request for another 30 years under the 2001 mining code or up to 20 years under the 2010 mining code. The maximum concession size is 10,000 ha. Concessions can be specific to the named mineral so it is possible for overlapping concessions, e.g. a gold and a copper concession, to be held by different companies.

Until the promulgation of the 2010 mining code the issuing of concessions and their registration into the National Mining Register was traditionally a lengthy process. Once an application is submitted, the delegated mining authority undertakes a technical study to define the amount of free ground that is actually available. This free area report is then provided to the applicant who must then indicate his willingness to proceed. If the applicant wishes to proceed, concession documentation is drawn up by the delegated mining authority for signature. Prior to the promulgation of the 2010 code, the process of drafting and signing concession documentation frequently took a considerable length of time, often lasting for a number of years. During this period the applicant retained an exclusive right to the area of the concession, without having to pay concession fees, and non invasive prospecting, such as geological mapping and stream sediment sampling, could be undertaken.

The 2010 mining code closed this loophole and requires that the first years concession fees are paid within three days of the definition of the final awardable area by the delegated mining authority. Signing of the concession contract documentation must be completed within 180 days of the awardable area being defined. The 2010 mining code also provides an amnesty lasting until 9th May 2010 by which time the concession fees for all unsigned concession contracts under earlier mining codes must be paid, even if the process of signing and registering the contracts takes longer. Failure to do so will lead to the loss of the concession.

Under the 2001 mining code the exploration phase lasts for the first three years of the concession contract and this can be extended for a further two years, giving a total of five years for exploration. This period is modified under the 2010 mining code allowing an initial exploration period of five years, extendable three times for periods of two years each, resulting in a maximum of 11 years for exploration

In order to proceed to the construction phase, the concession holder must at least 30 days prior to the completion of the exploration phase, submit a building and works plan – *Plan de Trabajos y Obras* (PTO) - to the relevant mining authority for approval and concurrently submit an environmental impact study – *Estudio de Impacto Ambiental* (EIA) - to the relevant environmental authority.

The PTO is based upon the results obtained during the exploration phase and includes the delimitation of the area to be exploited, cartographic information of the area, details of the minerals to be exploited and their characteristics, the description and location of all facilities and mining infrastructure, site rehabilitation plans, details of the proposed mine plan and life of mine, a closure plan and an exploitation reclamation plan.

The EIA provides the technical support parameters to obtain an environmental license. Depending on the commodity being produced and the level of production, this study must be submitted to the Ministry of the Environment or to the relevant regional environmental authority. The environmental license grants the necessary environmental permits including, concessions and authorizations, to make use of and profit from renewable natural resources necessary to move the project forward, including resources such as water and timber. The construction phase cannot commence until the environmental license is obtained.

The construction phase lasts for three years, commencing on acceptance of the PTO, and may be extended for an additional year. During this phase, the holder has the right to prepare the mining area and install the services, equipment, and fixed machinery necessary to start and carry out the extraction, storage, transportation and beneficiation of minerals. The final site construction, facilities and mining equipment should conform to the specifications detailed in the approved PTO. Once the construction phase has been completed the exploitation phase lasts for the remaining duration of the concession contract.

Numerous concessions issued under the 1988 mining code are still active in Colombia and their conditions differ from the 2001 and 2010 codes. An exploration license - *Licencia de Exploracion* - is issued whose terms vary according to the size of the licence. For an area up to 100 hectares (ha), the initial exploration term is one year, with an extension possible for one additional year. Areas between 100 ha and 1,000 ha have an initial term of two years with an extension possible for one additional year. For licence applications greater than 1,000 ha the initial exploration term is five years, with no extension possible. A report of work performed during the term of the exploration license must be filed with the MME. Once the exploration term has expired, the holder must submit a Final Exploration Report and a Works and Investment Program - *Programa de Trabajos e Inversiones* (PTI) - to the relevant mining authority for approval. Exploitation licenses issued under the 1988 code have a term of 10 years which can be extended for a further 10 years if requested.

Colombian mining law specifically provides that the owner of a concession contract, exploration license or exploitation license is entitled to use so much of the surface as is necessary to carry out the activities under the given license or contract. The law grants exclusive temporary possession of mineral deposits and provides mandatory easements to ensure efficient exploration and exploitation of legal mining titles. Remuneration payable to the surface owner should be based on the reasonable and fair market value of the land and is not to include any value attributable to the development of the mineral wealth. Any payments should only be for the surface area that is affected by, used or occupied by the exploration or mining activity. Should areas not subject to the easement be deemed to have lost value this loss can be taken into account when fixing the remuneration payable to the land owners. If necessary it is possible for the concession holder to make a request to Ingeominas, or the relevant competent mining authority, for the expropriation of the lands necessary for the planned mining activities.

For the purposes of preparing this report, Snowden have adopted CGL's methodology in order to classify the Anzá concessions. Concessions are grouped into five groups based on their status under the 2001 mining code:

a) **Application submitted**: An application has been submitted but the delegated mining authority has not produced its technical study confirming the amount of free ground available.

b) **Free area report produced, contracts pending signing**: The delegated mining authority has completed their technical study and confirmed the free ground available. The applicant has indicated their willingness to proceed and the concession contracts are drafted but unsigned. Concession fees are due for payment once the contract is signed and registered in the National Mining Register. Under the 2010 mining code, concession fees are payable three days after the free area is defined and the contract should be signed within 180 days. The 2010 code also requires that payment for all pre-existing applications under earlier mining codes is made by 9th May 2010. Failure to do so will result in the loss of the concession.

c) **Exploration stage.** The concession contract or exploration licence is signed, registered and the concession fees are paid. Concessions in this category have been legally issued and registered in the National Mining Register. PTO and EIA applications must be made prior to expiry of the exploration phase in order to gain the necessary approvals to advance to the construction and exploitation phases.

d) **Construction stage**. Under the 2001 and 2010 mining codes, following the approval of the PTO and EIA, the construction phase can begin. Under the 1988 mining code exploration licences move directly to exploitation licences upon approval of the PTI and environmental licences. Concession fees remain payable during the construction phase.

e) **Exploitation stage**. Normally issued after the construction stage. Under the 2001 and 2010 mining codes tenure remains set at 30 years from the initial date of inclusion on the National Mining Register, prior to the commencement of the exploration stage. Under the 1988 mining code exploitation licences are valid initially for 10 years. The concession fee structure is now replaced by a royalty based system.

4.2.3 Agreements, royalties and other encumbrances

Under the terms of the 2010 mining code concession fees have been simplified from the concession area based system used in the 2001 mining code. A single annual payment of COP 17,166 ha (US$ 9.14 ha) is payable for the first five years of the concession contract. This increases to COP 21,458 (US$ 11.43 ha) for years six to seven and COP 25,749 ha (US$ 13.71 ha) for years eight to eleven if the exploration phase is extended[1].

Once the exploitation phase has commenced royalties based on gross production are payable in accordance with Article 16 Law 141/1994 which was modified by Law 756/2002. For base metals the royalty is 5% of gross production, whilst for gold and silver a nominal royalty of 4% is payable. Royalties are paid to the

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[1] COP = Colombian Peso. 1 US$ was worth approximately 1,900 COP during the Anzá site visit.

Royalties National Fund who then distributes the funds to provincial projects. Table 4.1 summarises mining royalties payable in Colombia.

Table 4.1 Summary of Colombian mining royalties (Source UPME, 2005)

Product	Royalty
Gold / Silver	4% based on 80% of LME average monthly gold price for the previous month. A 6% royalty applies to alluvial concessions.
Platinum	5%
Emeralds	4%
Coal	10% for operations producing > 3 Mt, 5%, for operations producing < 3 Mt.
Nickel	12% less 75% of costs
Others	limestone, gypsum, clay, and gravel 1%, Base metals 5%, Non-metallic minerals 3%, Salt 12%, Radioactive minerals 10%

4.3 Environmental and other permits

During the exploration phase all activities which exceeds prospecting, mapping and sampling, requires the submission and approval of an Environmental Management Plan - *Plan de Management Ambiental (*PMA). This principally covers drilling activities and should include details of the following;

- the work to be undertaken (the number of drill holes, location, direction, depth, etc);
- the proposed sources of drilling water, and details of any diversions to existing watercourses so that appropriate water usage permits can be issued;
- the location and number of settling ponds to prevent contamination of local waterways by drilling fluids; and
- the location of fuel and oil storage areas which should be located away from watercourses.

The preparation and filing of the PMA is normally the responsibility of the drilling contractor, and these are typically approved in 15 to 30 days, although this can take up to a maximum of 90 days. No bond payment is required for exploration PMA's, and no site reclamation is required. While PMA's do not require any authorization or environmental permits, work carried out in sensitive areas such as nature reserves and national parks are governed by additional rules and restrictions.

Additional permits are required during the exploration phase for fluid discharge, atmospheric emissions, forestry clearance, and land access.

In terms of the 2001 and 2010 mining codes an EIA is required to be submitted as part of the application for construction and exploitation status. The EIA must include details of the baseline study, an assessment of the overall environmental impact of the projects and plans for rehabilitation. Concession holders are encouraged to work with artisanal miners in order to address the environmental issues. There are no requirements in terms of the 1988 legislation for the submission of an EIA, although a rehabilitation plan is required.

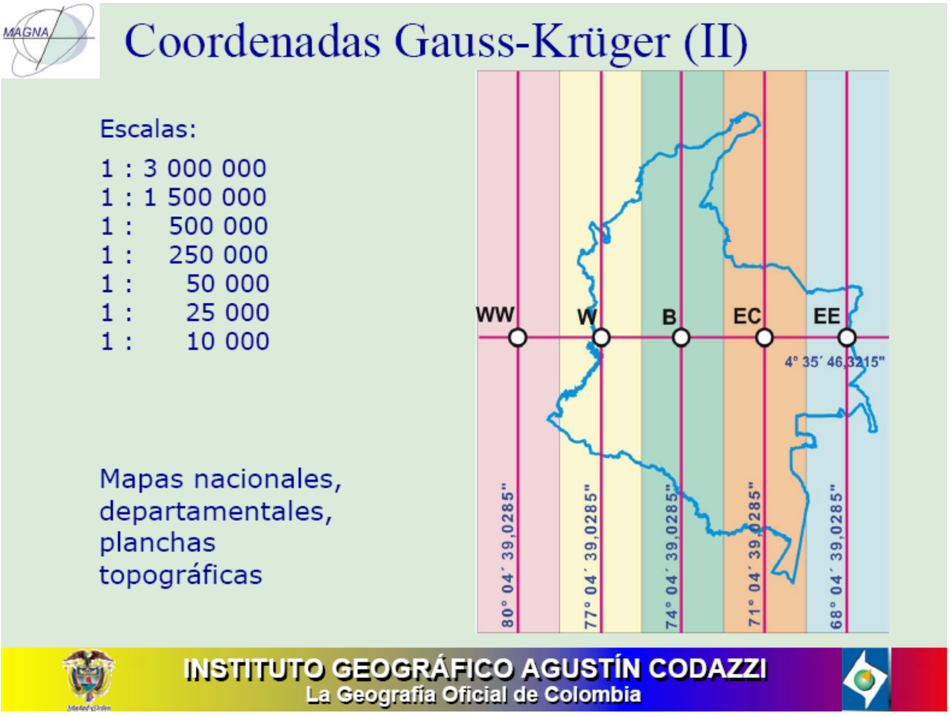
An additional impact of the 2010 mining code is the banning of exploration and mining activity from the Paramo ecosystems in Colombia. These are high altitude glacial valleys and plains featuring peat bogs intermingled with grassland, scrub and small patches of forest (Mining Weekly, 2010). In general the Paramo is found at elevations of > 3,000 m, although the exact elevation of these ecosystems is variable.

The 2001 and 2010 mining codes also require the concession holder to obtain an Environmental Mining Insurance Policy. During the exploration stage, the insured value under the policy must be 5% of the value of the planned annual exploration expenditures and during the construction phase the insured value under the policy must be 5% of the planned investment for assembly and construction under the PTO. During the exploitation phase the insured value under the policy must be 10% of the estimated annual production multiplied by the average price received for the product. For licenses or agreements subject to the 1988 mining code the licence holder has to obtain an insurance policy with an insured value of 10% of the estimated production for the first two years as established by the PTI.

4.4 Colombian coordinate system

The national coordinate system used in Colombia is based on a Gauss-Kruger system which is a Transverse Mercator type projection similar to the Universal Transverse Mercator (UTM) projection system. Given the significant east-west extent of the country, five separate Gauss-Kruger zones are used, namely: the Colombia East, Colombia East Central, Bogotá, Colombia West and Colombia West-West zones, as indicated in Figure 4-2. The Anzá project falls into the Colombia West zone.

Figure 4.2 Map showing the Gauss-Kruger zones used in the Colombian coordinate system (Source: IGAC, 2007)



Coordenadas Gauss-Krüger (II)

Escalas:
1 : 3 000 000
1 : 1 500 000
1 : 500 000
1 : 250 000
1 : 50 000
1 : 25 000
1 : 10 000

Mapas nacionales,
departamentales,
planchas
topográficas

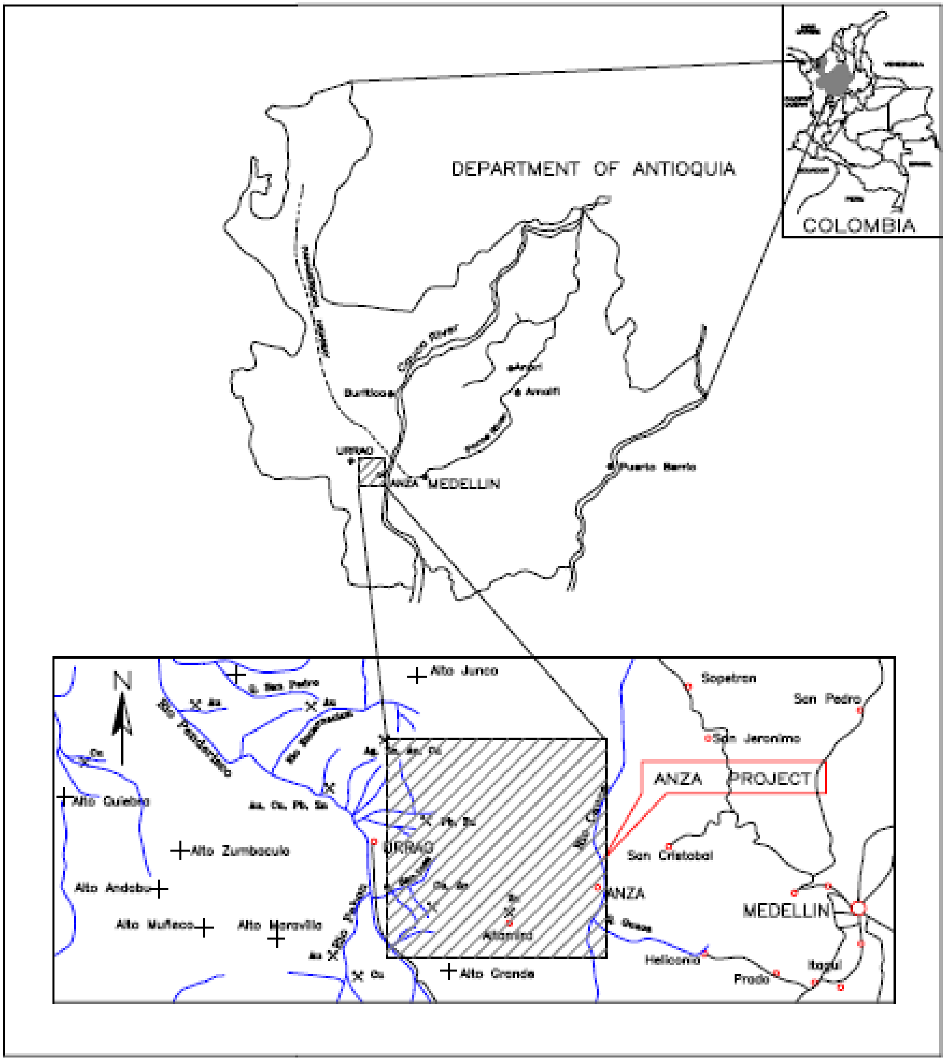
INSTITUTO GEOGRÁFICO AGUSTÍN CODAZZI
La Geografía Oficial de Colombia

The Colombian coordinate system is based on the Bogotá datum (adopted in 1941) and the International Ellipsoid of 1924. Each zone uses a false origin which is assigned co-ordinates of 1,000,000 m E and 1,000,000 m N. Further details are available from Sanchez Rodriguez (2005). Due to the use of different zones in mainland Colombia, specification of the zone used is required in order to uniquely identify locations.

4.5 Anzá project location

Waymar's Anzá project comprises 18 concession contracts and concession applications in the Antioquia department of the Republic of Colombia. These concessions are centred on the Exman gypsum mine which is situated some 6.5 km west of the small town of Anzá and 40 km west of the city of Medellin (Figure 4-3).

Figure 4.3 Map showing location of the Anzá project area (Source: Snowden, 2007)



4.6 Property details

4.6.1 Tenure

On 17th February Waymar entered into an agreement with the vendors under which Waymar is granted an option to acquire up to a 100% legal and beneficial interest in the Anzá project (Waymar, 2010a, 2010b). The vendors include Exman Ltda, Continental Gold Ltd, Julian Betancur, Arelis de J. Mejia Q, Eucardo Mejia R and Robert P Shaw. In order to exercise its option Waymar is required to make payments totalling US$ 3.8 M and issue 3,800,000 common shares to the vendors over a three year period. Waymar is also required to spend US$ 4.0 M over three years on the Anzá project of which US$ 0.5 M must be spent in the first year. The vendors retain a 2% net smelter return royalty, 50% of which may be purchased by Waymar for US$ 1.0 M. Exman is permitted to continue with its gypsum mining operations during the option period until such a point that that the gypsum mine interrupts exploration or the future development of the property. In this eventuality Waymar has the sole and exclusive right to purchase the gypsum mine at a price to be defined by an independent third party.

The concession contracts and concession applications included in the option agreement are subdivided into two groups;

The Niverengo Joint Venture. In December 2007 CGL, Exman and the other vendors pooled certain concession contracts in the vicinity of the Exman gypsum mine into a joint venture and established Compañía Exploradora Niverengo S.A. (Niverengo) as the operating company. The intention of the joint venture is to develop the metalliferous potential of the area. CGL holds a 25% interest in the joint venture through Niverengo. Snowden understand that the Exman gypsum mine currently operates independently of Niverengo.

The Niverengo joint venture covers nine concession contracts totalling 6,692 ha. These concessions are shown in Figure 4.4 and summarised in Table 4.2.

The CGL concessions. A further nine concessions and concession applications are held directly by CGL. In April 2010 these comprised two concession contracts, totalling 1,901 ha, five applications awaiting signature, totalling 16,692 ha, and two submitted applications awaiting the completion of the free area study, totalling 14,799 ha. These are shown in Figure 4.5 and summarised in Table 4.3.

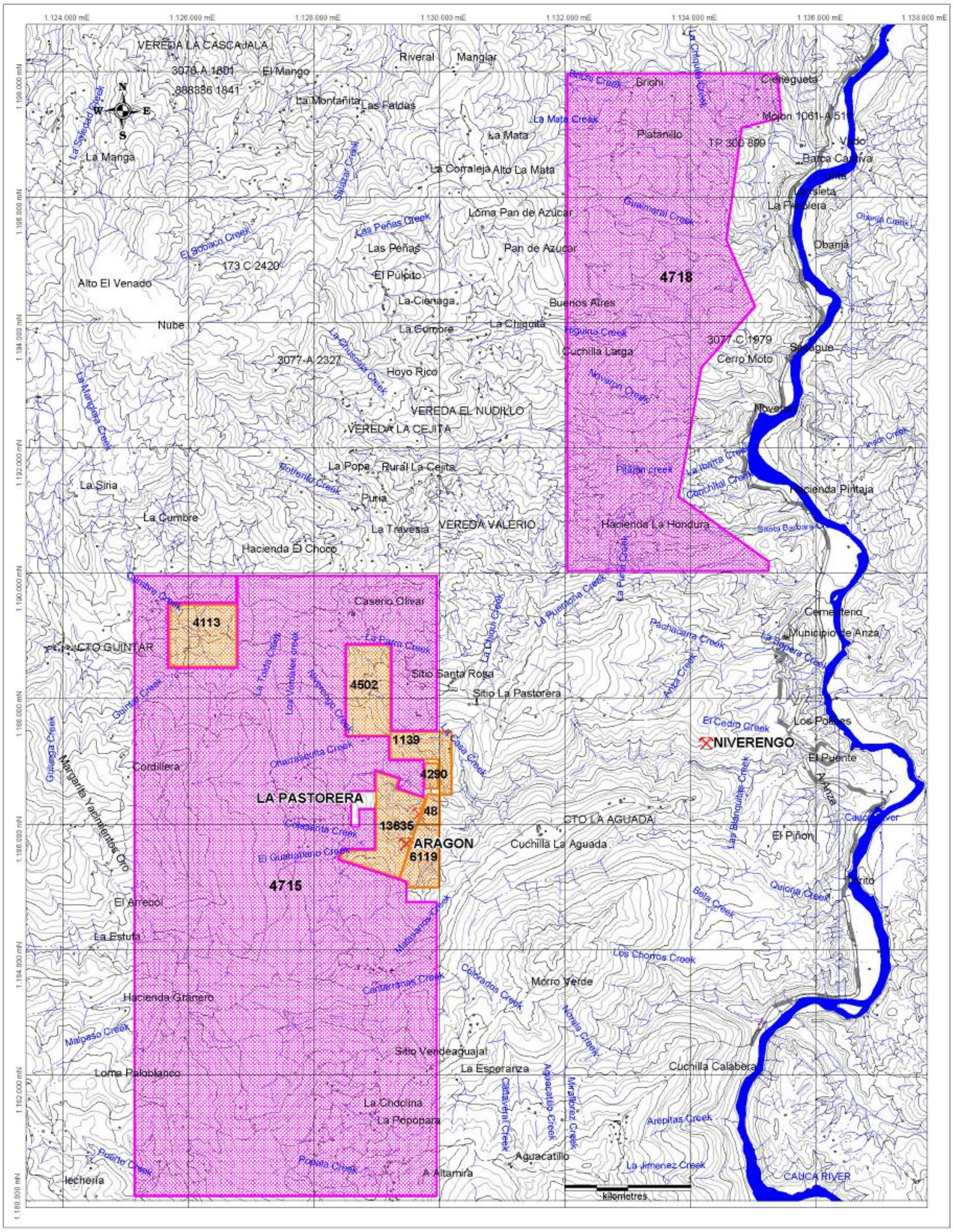
Table 4.2 Summary of the Niverengo joint venture concession contracts in the Anzá project area subject to the Waymar option agreement

Type of title	Number	Holder	Governing mining code	Size (ha)	Commodity	Granting date	Registration date
Exploitation	1139	Exman Ltda	Decree 2655 of 1988	52.9	Gypsum, copper, lead, zinc, silver, gold and barite	10/09/1999	09/08/2002
Exploration	4290	Exman Ltda	Decree 2655 of 1988	8.0	Gypsum, copper, lead, zinc, silver and gold	18/05/1998	24/05/2002
Concession contract	6119	Exman Ltda	Decree 2655 of 1988	49.5	Gypsum and other “concessionable” minerals	29/06/2004	29/06/2004
Exploration	4113	Brocardo Mejia	Decree 2655 of 1988	100.0	Limestone and other minerals	18/06/1998	18/06/1998
Exploration	4502	Arelis Mejia Quiceno	Decree 2655 of 1988	60.0	Limestone and other minerals	27/05/2002	27/05/2002
Concession contract	13635	Exman Ltda	Decree 2655 of 1988	99.9	Gold, silver, copper, zinc, lead and other minerals	12/04/2002	12/04/2002
Concession contract	48	Julian Betancur Montoya	Decree 2655 of 1988	12.4	Gold, silver, copper, zinc, lead and other minerals	10/09/2007	20/11/2007
Exploration	4718	CG de Colombia	Decree 2655 of 1988	2,013.4	Gold, silver, lead, zinc and others minerals	21/01/2003	22/06/2006
Exploration	4715	Isis Som	Decree 2655 of 1988	4,296.0	Gold, silver, copper, zinc and others minerals	21/01/2003	01/02/2008

Table 4.3 Summary of CGL concession contracts and applications in the Anzá project area subject to the Waymar option agreement

Type of title	Number	Holder	Governing mining code	Size (ha)	Commodity	Granting date	Registration date
Concession contract	7248	CG de Colombia	Law 685 of 2001	102.0	Gold and other minerals	09/12/2008	26/01/2009
Concession contract	HDH-08101X	Negocios Mineros S.A	Law 685 of 2001	1,798.6	Gold and other minerals	10/12/2008	Pending
Type of title	**Number**	**Applicant**	**Governing mining code**	**Size (ha)**	**Commodity**	**Free area approval date**	**Status**
Free area study completed	7535	Negocios Mineros S.A	Law 685 of 2001	1,993.6	Gold and other minerals	01/08/2007	Ready for mining authority signature
Free area study completed	6214	Apache Som	Law 685 of 2001	3,893.8	Gold and other minerals	11/06/2004	Ready for mining authority signature
Free area study completed	IGC-16331	Miguel Angel Suaza Castrillon	Law 685 of 2001	16.6	Gold and other minerals	06/10/2008	Ready for mining authority signature
Free area study completed	IF5-11361X	Cobre Som	Law 685 of 2001	3,506.6	Gold and other minerals	07/10/2008	Ready for mining authority signature
Free area study completed	ICQ-080035X	Escorpion Som	Law 685 of 2001	7,281.0	Gold and other minerals	26/03/2007	Ready for mining authority signature
Type of title	**Number**	**Applicant**	**Governing mining code**	**Size (ha)**	**Commodity**	**Application date**	**Status**
Awaiting free area study	IGD-08031	Chibcha Som	Law 685 of 2001	10,000.0	Gold and other minerals	13/07/2007	Pending
Awaiting free area study	KKD-08021	CG de Colombia	Law 685 of 2001	4,799.0	Gold, platinum and other minerals	13/11/2009	Pending

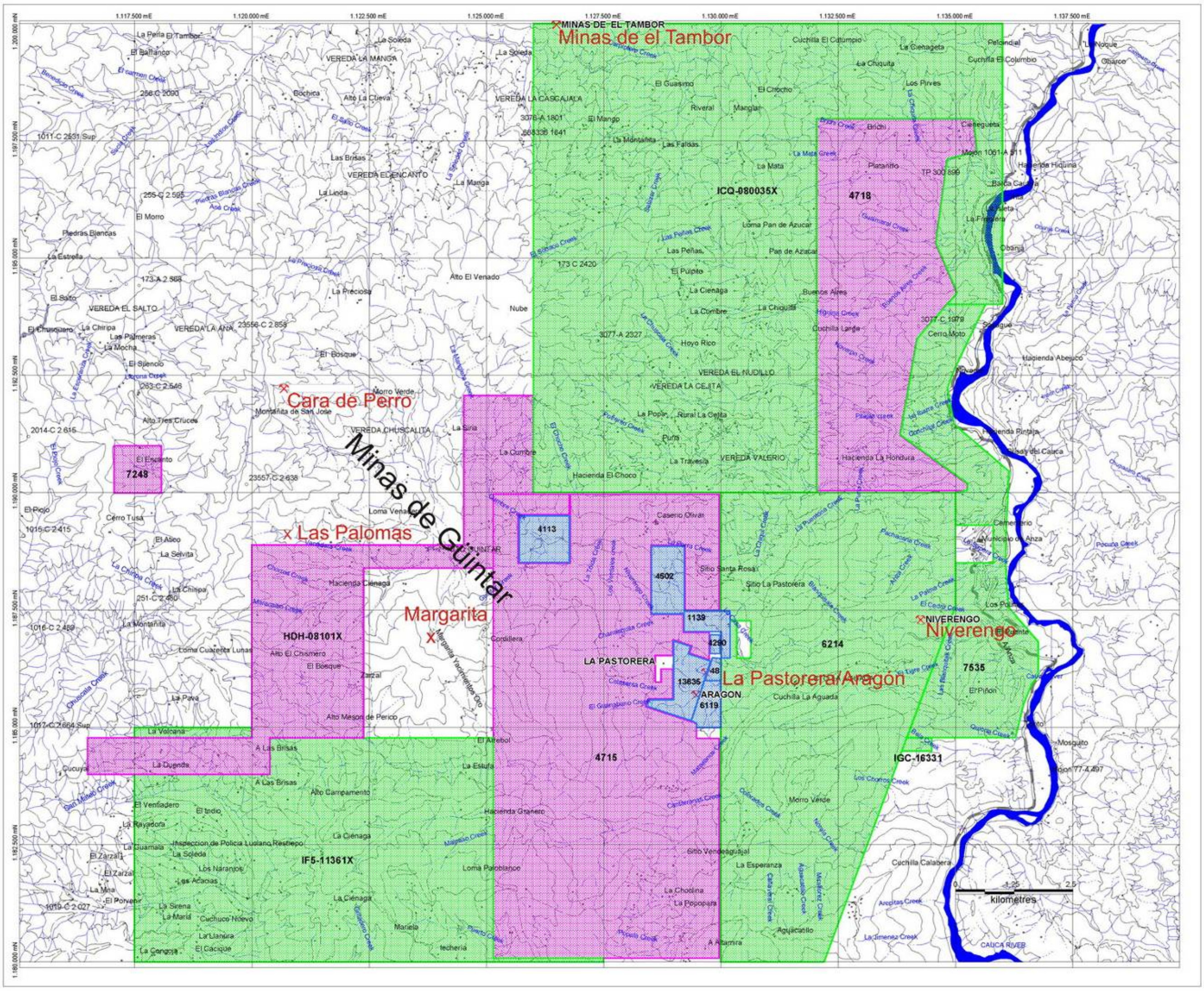
Figure 4.4 Concession contracts comprising the Niverengo joint venture, as of April 2010. Coordinates are Colombian Gauss-Kruger grid. Map provided by CGL during Snowden 2010 site visit



NIVERENGO PROJECT
LEGEND
▨ EXPLORATION
▨ OTHER PROPERTIES

LICENCIAS	TYPE__DE_TITLE	AREA	COMPAÑÍA	CODIGO_REGISTRO_MINERO
4718	EXPLORATION	2013.37	CG DE COLOMBIA LTD	HGLG-01
4715	EXPLORATION	4296	ISIS SOM	HDMH-01
LICENCIAS	**TYPE__DE_TITLE**	**AREA**	**COMPAÑÍA**	**CODIGO_REGISTRO_MINERO**
1139	EXPLOITATION	52.88	EXMAN LTDA	GFSD-02
6119	EXPLORATION	49.46	EXMAN LTDA	HELN-01
4290	EXPLORATION	8	EXMAN LTDA	HCIB-08
48	EXPLOITATION	12.4	JULIAN BETANCUR	GARD-01
13635	EXPLOITATION	99.99	EXMAN LTDA	FIAM-06
4502	EXPLORATION	60	ARELIS MEJIA QUICENO	HCLC40

Figure 4.5 Concession contract and concessions applications comprising the Anzá project, as of April 2010. The Niverengo joint venture and CGL's concessions subject to the Waymar option agreement are shown. Coordinates are Colombian Gauss-Kruger grid. Map provided by CGL during Snowden 2010 site visit, with additional annotation by Snowden



ANZA PROJECT
LEGEND
🟪 CONCESSION CONTRACT
🟩 FREE AREA TECHNICAL STUDY COMPLETED
🟦 OTHER PROPERTIES

4.6.2 Agreements, royalties and other encumbrances

Approved and registered concession contracts are liable for concession fees during the exploration and construction phases, whilst royalties are payable once exploitation has commenced. Based on concession fees being payable on all of the Anzá concessions, an annual fee of COP 688.1 M (US$ 366,400) is payable, based on a concession fee of COP 17,166 ha (US$ 9.14 ha). Snowden understand that production royalties from gypsum will be paid by Exman until such a point that Waymar purchase the gypsum mine. No royalties will be payable on base metals or gold until exploitation commences.

Details of Colombian concession fees and royalties are summarised in Section 4.2.3.

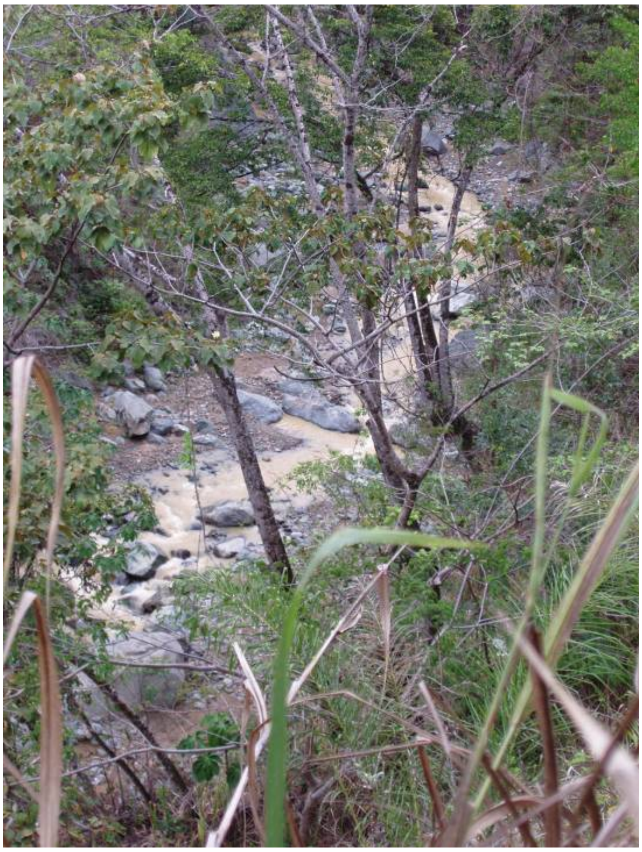
4.6.3 Environmental liabilities

Mining is taking place within the Anzá project and also in the surrounding areas. As a result environmental liabilities associated with mining activity may exist. Snowden understand that the Exman gypsum mine is compliant with all relevant environmental permits, however Snowden has not reviewed this documentation.

Small artisanal gold mines exist to the west of the Anzá project area and two of these are reportedly active at present. These mines fall within the drainage of the Niverengo river which bisects the Anzá project area. Pollution associated with this artisanal mining activity may affect the project area. During the site visit the Niverengo river was noted to be carrying suspended sediment, despite the dry prevailing weather conditions, which may be related to the artisanal mining upstream.

The paramo ecosystem in not present in the Anzá project area

Figure 4.6 The Niverengo river at the Exman gypsum mine during the Snowden 2010 site visit. Suspended sediment, causing the river water to appear muddy, may be derived from artisanal gold mining activity upstream (Source: Snowden site visit 2010)



5 Accessibility, climate, local resources, infrastructure and physiography

5.1 Accessibility

The Anzá project is accessed via the paved road from Medellín to the small town Anzá, which is located close to the Cauca River (Figures 4.3 and 4.4). The distance by road from Medellín to Anzá is approximately 90 km. A 17 km gravel road links the town of Anzá with the Exman gypsum mine. Several other gravel roads traverse the Anzá project area linking the scattered farming communities of the area.

5.2 Topography, climate and vegetation

The terrain is steeply incised with elevations ranging from 700 m to 2,000 m above sea level (Figure 5.1 and 5.2). The area is generally covered in mixed open natural grassland with patchy scrub and woodland. The drainages are densely vegetated, and outcrop is relatively poor. The Niverengo river drainage bisects the Anzá project area and flows through the Exman mine, separating the two mining sites. Agricultural activity in the vicinity focuses predominantly on subsistence farming, mango and palm nut cultivation and the rearing of livestock.

The climate is tropical with average minimum and maximum temperatures of 16°C and 27°C respectively. The average annual rainfall is approximately 1,500 mm, most of which falls in the rainy season from April to November.

Figure 5.1 General view of the Anzá project area. The Exman gypsum mine is located behind the low ridge in the centre of the view, the Maluca stream valley is in the foreground (Source: Snowden site visit 2010)

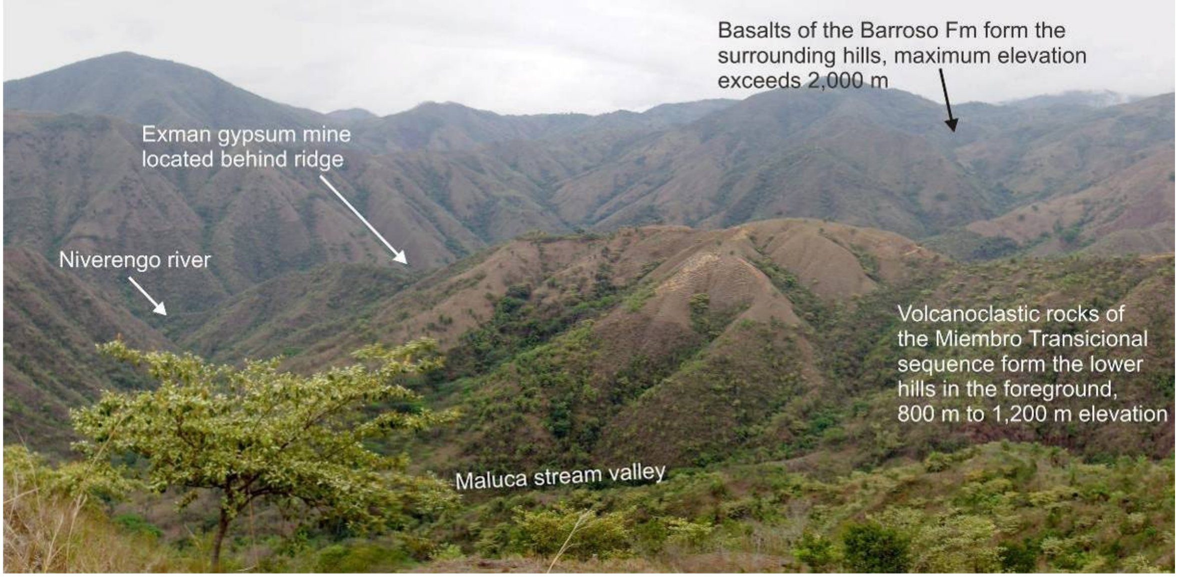


Figure 5.2 View of the La Pastorera open pit and the mine offices (Source: Snowden site visit 2010)

5.3 Infrastructure

The Anzá project area is reasonably well developed in terms of infrastructure and road access. The town of Anzá has a population of 1,600 people and a further 6,000 people live in the outlying rural communities. Agriculture is the main economic activity in the region. The Exman mine draws power from the regional electrical grid and mobile phone networks can be received in portions of the Anzá project area. The mine employs 33 people, drawn predominantly from the local community.

Initially the mining of gypsum was by open pit methods in two open pits – the Aragón and La Pastorera mines. These have now developed into underground mining operations due to slope stability problems in the open pits. The current underground operation produces between 1,000 t and 2,000 t of gypsum per month. The run of mine gypsum product is transported to a storage site on the main road close to the Cauca river for sale direct to clients in the cement and agricultural industries. No processing of the gypsum is carried out by Exman. Other mine infrastructure comprises a small office, an accommodation block, a vehicle workshop and the stockpile area (Figure 5.3 and 5.4).

Figure 5.3 General view of the Exman mine offices (Source: Snowden site visit 2010)

Figure 5.4 General view of the Exman mine workshops and stockpile area (Source: Snowden site visit 2010)

6 History

Gypsum occurrences were first noted in the Anzá area in 1972 and these were mined on an artisanal scale until the Exman gypsum mine was developed in 1991. Initial production from the Exman mine was entirely by open pit methods, from the Aragón and La Pastorera pits. Slope stability issues resulted in the mine moving to underground production (room and pillar) initially from La Pastorera where underground mining started in 2005 (Snowden, 2007). From 2008 underground mining on a smaller scale commenced from Aragón. The Exman gypsum mine is the only operating gypsum mine in Colombia.

A second gypsum deposit is located at Cangrejo, approximately 20 km to the south of the Exman mine. Exman report that this deposit was drilled but has never taken into production.

Maya and Mejia (1987) note the presence of three small hardrock gold workings known as Cara de Perro, Las Palanos and Margarita. These lie some 10 km to the west of the Exman mine and fall outside the existing Anzá concessions (Figure 4.5). These mines are collectively known as Minas de Güintar.

CGL record the presence of several other small mines in the vicinity of the Anzá project. The Niverengo mine is located some 5 km east of the Exman mine, close to the town of Anzá (Figure 4.5). Exman report that this was an old placer gold mine. The La Nucosca and Minas de el Tambor mines lie to the north of the Anzá project area whilst the Altamira mineral occurrence is noted to the south of the Exman mine (Snowden, 2007). No further details are available on the nature of the mineralisation at the La Nucosca, Minas de el Tambor or the Altamira deposits.

6.1 Historical mineral resource and reserve estimates

There are no records of previous resource and reserve estimates for any mineral deposits within the Anzá project area.

7 Geological setting

7.1 Regional Geology

South American geology is dominated by three principal tectonic plates, the Pacific (Nazca) plate in the west, the Caribbean plate to the north and the South American plate which forms the bulk of the continental landmass. The Northern Andean Block forms a distinct geological segment of the Andean Cordillera in Colombia and is subdivided into three mountain chains, the Occidental (western), Central and Oriental (eastern) Cordillera.

Colombia's geological history has been dominated by processes occurring along the accreting plate boundary between the Nazca and South American plates. Changes in the position of the subduction zone have resulted in the progressive accretion of the Cordilleran mountain chains onto the western margin of the Guiana Shield, forming the current complex geological framework. These plate tectonic processes are also strongly associated with ore forming processes and the formation of many of Colombia's mineral deposits (Cediel et al., 2003). The general geological setting of Colombia is illustrated in Figures 7.1 and 7.2.

Figure 7.1 Map showing the plate tectonic setting of Colombia (Source: Paris et al., (2000))

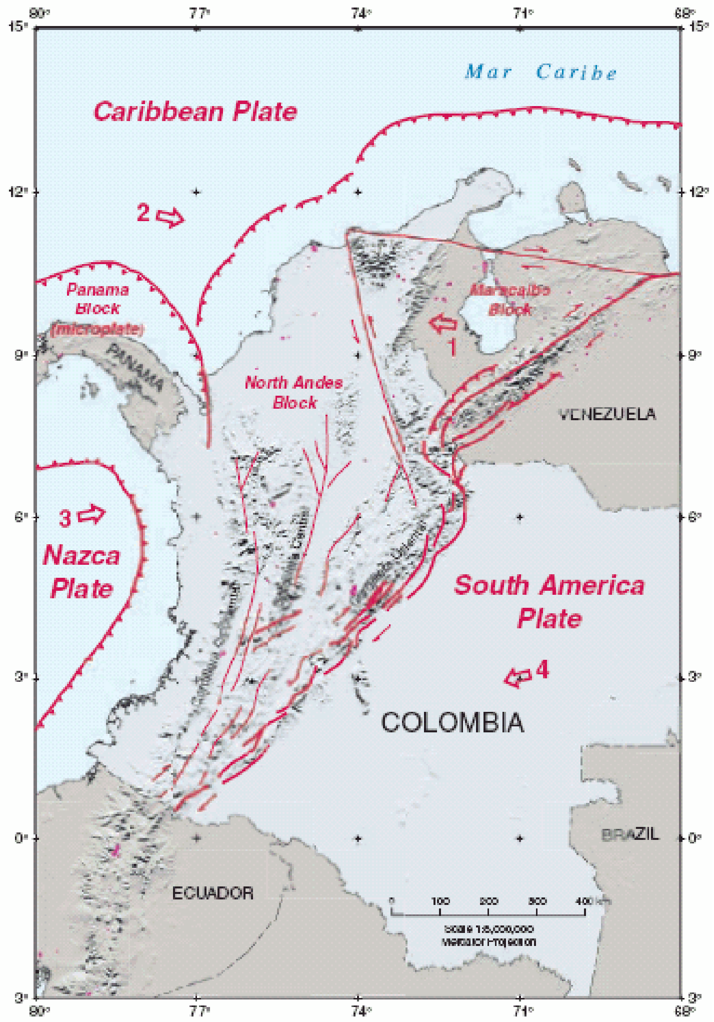
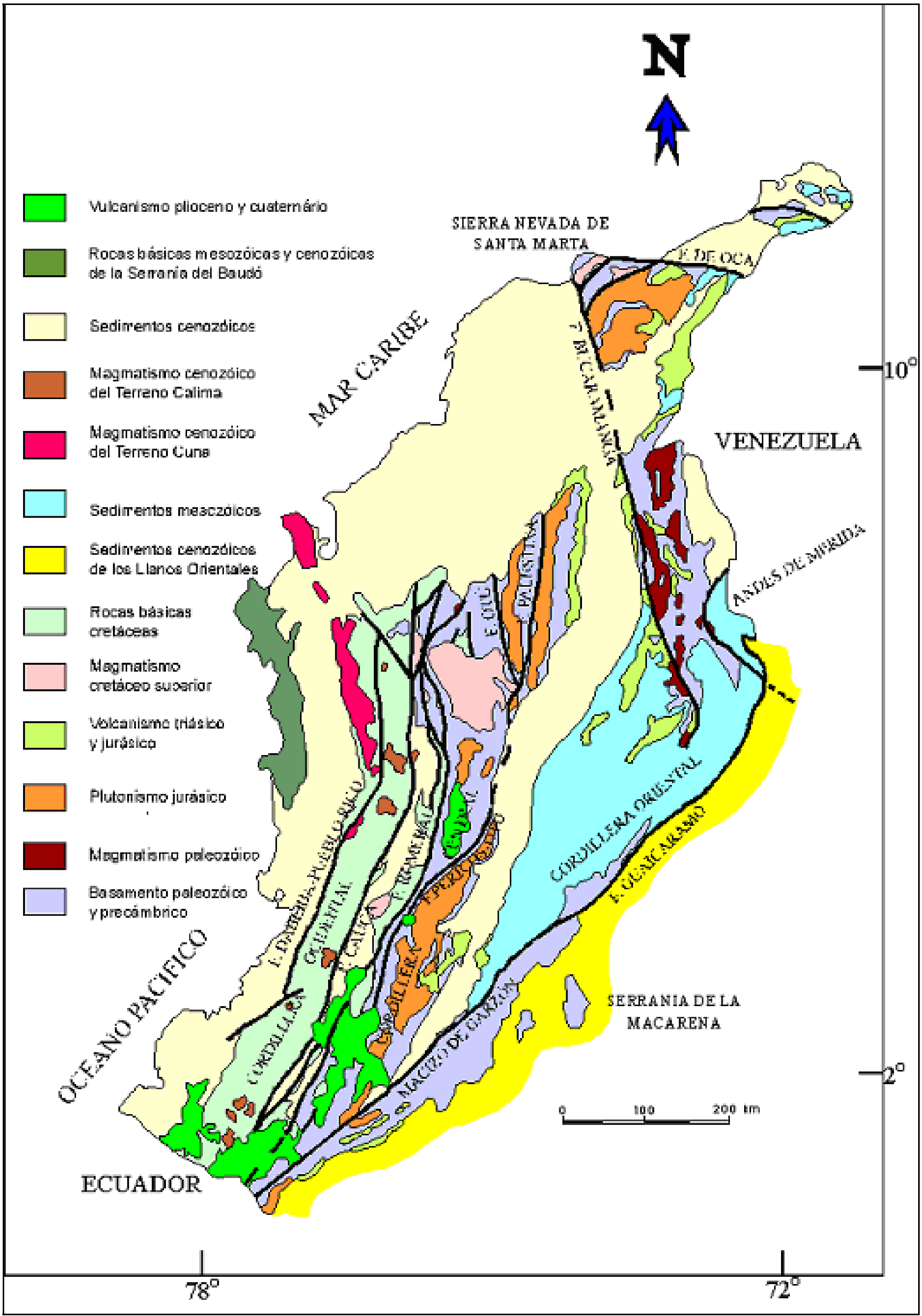


Figure 7.2 Simplified geological map of Colombia (Source: Rodríguez Álvarez, 2007)



The Anzá project lies within the Western Tectonic Realm of Colombia (Cediel, Shaw and Cáceres, 2003; Kennan and Pindell, 2009). This is composed of a series of oceanic terranes accreted against the western margin of the Guiana Shield during the late Mesozoic and Cainozoic (Figures 7.3 and 7.4). The Anzá prospect lies near the eastern margin the Cañas Gordas Terrane (CGT), a component of the Choco Arc, one of the components of the Western Tectonic Realm. The following geological overview is summarised from Cediel, Shaw and Cáceres (2003) with some data from Niverengo (2001), Kedahda (2006) and Snowden (2007).

The CGT is composed of volcanic rocks and sediments of middle to late Cretaceous age. The volcanic sequence forms the Barroso Formation and the sedimentary sequence the Penderisco Formation, with the Penderisco Formation occurring in the western part of the terrane and the Barroso Formation in the east.

The volcanic rocks of the Barroso Formation are of tholeiitic basalt and andesite composition. Basalt flows, pillow lavas, agglomerates and tuffaceous pyroclastics are present. Fine sedimentary and cherty units are locally intercalated in the volcanic sequence, with diabase, possibly as sills, also reported. The Barroso Formation is interpreted to have been deposited in a subaqueous environment as part of a calc-alkaline volcanic arc.

The Penderisco Formation is a turbidite sequence composed of thin to medium bedded greywackes, mudstones, shales, calcilutites and minor volcanic tuffs. These sediments are interpreted to overlie, and locally pass into, the volcanics of the Barroso Formation.

In the vicinity of the Exman mine the Barroso Formation contains a localised series of andesitic to dacitic pyroclastics, including agglomerates, tuffs and volcano-sedimentary breccias. Siliceous to cherty and calcareous fine grained clastic sedimentary rocks are also present. These intermediate pyroclastic rocks host all of the gypsum and metalliferous sulphide occurrences that have been discovered to date.

The CGT was intruded in the east by the Sabanalarga Batholith during the Cretaceous (99 Ma to 112 Ma). This elongate, composite calc-alkaline pluton containing tonalite, quartz diorite and granodiorite, may be closely related to volcanic arc development. The younger, 53 Ma, Mande-Acandi calc-alkaline plutonic arc is emplaced along the western margin of the CGT. These plutons are inferred to have been emplaced prior to accretion of the CGT onto the Guyana Shield. Small stocks dated at 6 Ma to 8 Ma occur along the eastern side of the CGT and are inferred to be related to subduction and subsequent accretion of the Baudo Terrane.

The CGT is bounded on the east by the arcuate Garrapatas – Dabeiba Fault system (Figures 7.3 and 7.4). This fault system records the oblique, dextral obduction of the CGT onto the previously accreted Pacific and Caribbean terrane assemblages. Accretion took place during early to middle Miocene. The western boundary with the Baudo Terrane is marked by the late Miocene Atrato fault system, which is seen in seismic sections below younger cover. The Anzá project is located on the eastern edge of the CGT, adjacent to the north trending Romeral fault zone, a component of the Garrapatas – Dabeiba Fault, which separates the allochthonous oceanic rocks of the Western Cordillera from the continental sub-plate of the Central Cordillera.

Figure 7.3 Simplified tectonic setting of the Anzá project area (Based on Cediel, Shaw and Cáceres, 2003)

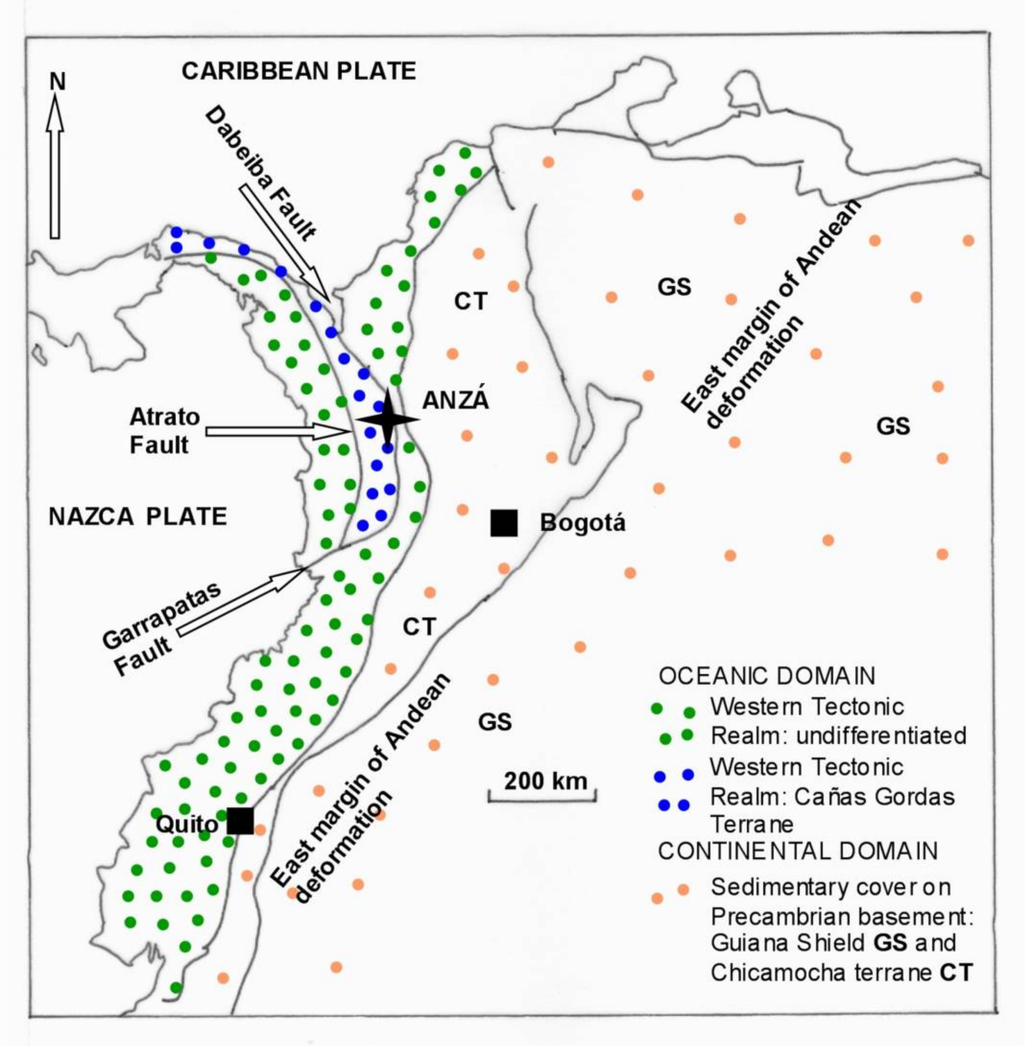
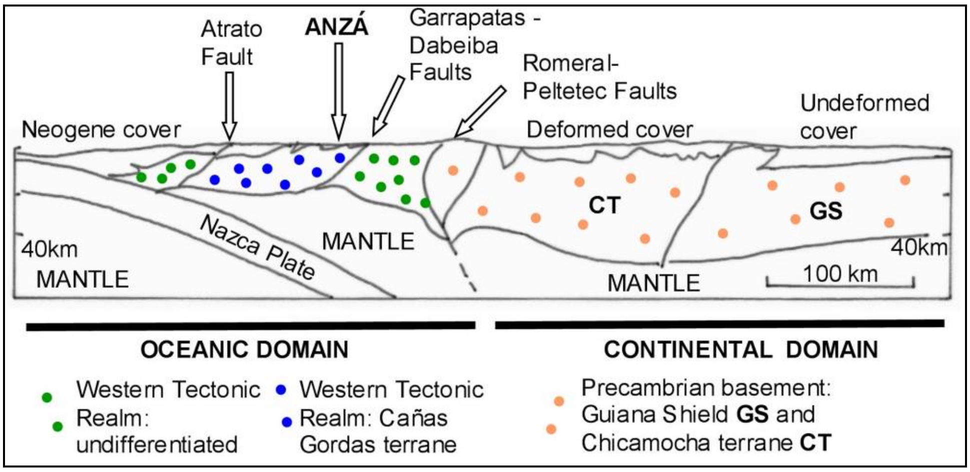


Figure 7.4 Crustal scale east – west section illustrating the setting of the Anzá project area. The section passes south of Anzá the location of which has been projected along strike (Based on Cediel, Shaw and Cáceres, 2003)



7.2 Colombia's mineral industry

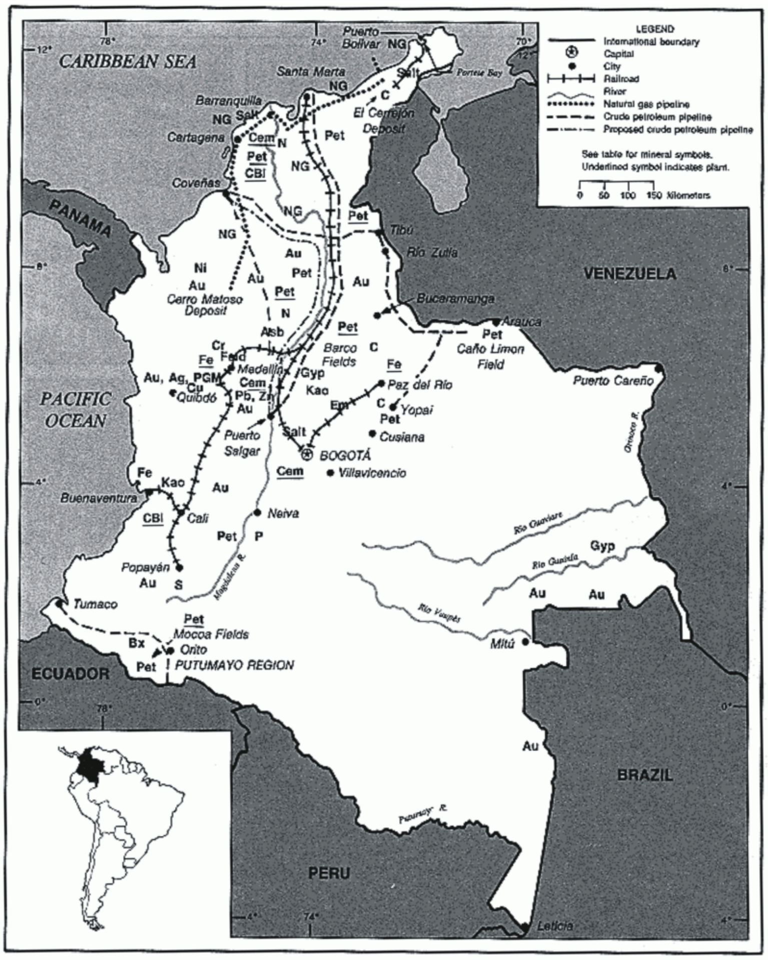
Colombia is a significant producer of petroleum and natural gas, coal, emeralds, gold and nickel. Colombia is the leading producer of coal in Latin America. In 2004 Colombia was also the world's second ranked producer of ferronickel after Japan, with production coming entirely from the Cerro Matoso mine. Colombia is the world's largest producer of emeralds, and it is also of note that platinum was first discovered in placer deposits in Colombia (USGS, 2007).

In pre-Colombian and Spanish colonial times Colombia is considered to have accounted for a large proportion of South American gold production. Much of this historic production, and about 60% of the country's current gold production, are estimated to originate from the Antioquia Department. In addition to a limited number of small to medium sized commercial mines there are currently a large number of artisanal workings for both placer and bedrock gold in Colombia.

Colombia is the fourth ranked gold producer in Latin America after Peru, Brazil and Chile. Colombian gold production peaked in 2003 at 46,515 kg and has subsequently declined to 35,785 kg in 2005 (USGS, 2007). With the exception of nickel Colombia has limited production of base metals. Colombia's only producing copper mine is the El Roble mine, a small VMS deposit located to the south of the Anzá project.

The distribution of the main mineral deposits in Colombia is illustrated in Figure 7.5.

Figure 7.5 Map of Colombia showing the location of the main mineral deposits (Source: USGS, 2007)



7.3 Local Geology

The description of the local geology is based on information from Alfonso and Cano (2000), Niverengo (2001), Kedahda (2006) and Snowden (2007). The Anzá project is located on the east side of the CGT, approximately 7 km west of the Romeral fault zone which is marked approximately by the course of the Cauca river (Figure 7.6). The project area lies within a north south trending, 10 km to 15 km wide, strip of Barroso Formation basalt and basaltic andesites. Lenticular outcrops of fine sediments (siltstones and mudstones) occur within the Barroso Formation. A major outcrop of Penderisco Formation occurs some 5 km to 7 km west of the project area. Cretaceous calc-alkaline intrusions (rock types mapped as 'undifferentiated' but include gabbro and diorite) and one Neogene intrusion occur but are a minor component of the local area. The break between the Barroso and Penderisco Formations is defined on a regional scale by the north-south trending Sepultura fault, which is a parallel structure to the Romerol fault. In the vicinity of the Anzá project the Sepultura fault is mapped within the Barroso Formation, suggesting a more complex fault morphology and structural history (Figure 7.6).

The host succession to the gypsum deposits and sulphide mineralisation at the La Pastorera and Aragón mines is a local occurrence of intermediate pyroclastics and sediments within the main outcrop of basaltic Barroso Formation material (Figure 7.7). This sequence it is termed the Miembro Transicional by Kedahda (2006). The relationships of this clastic sequence with the Penderisco Formation is uncertain. Alfonso and Cano (2000) distinguish an adjacent outcrop of mudstone, chert and siltstone as an outlier of the Penderisco Formation. Black carbonaceous mudstones were observed in contact with the gypsum at the La Pastorera mine and these may form part of the latter sedimentary unit.

The immediate host rocks of the La Pastorera gypsum deposits occurrence have been mapped in detail (Figures 7.8 and 7.9). Three locally mappable units at La Pastorera and form the lowest exposed units of the Miembro Transicional (Alfonso and Cano, 2000, Niverengo, 2001, and Kedahda, 2006);

- Thick sequence of fine tuffs with intercalations of massive to pillowed basalt and minor chert and calcareous mudstones.
- Crystal-lithic intermediate tuffs, which are locally pyritised above the gypsum and sulphide. Pyritic beds or replacement zones may reach 3 m thick.
- Agglomerates and crystal-lithic tuffs with minor intercalations of chert, calcareous mudstone and basalt. The gypsum and massive sulphides occur in this unit, with gypsum forming a major part of the unit.

Several faults dissect the La Pastorera – Aragón area, in particular the gypsum and associated sulphidic bodies are truncated by the Aragón fault (Figures 7.7 to 7.11). The Aragón fault (NNE-SSW), Saladero fault (N-S) and Pedrero fault (N-S) bound parts of the outcrop of the Miembro Transicional against normal Barroso Formation lithologies. All three faults are also shown cutting Cretaceous intrusions. The north south trending El Cuño and El Cruce faults mapped on Figure 7.10 do not result in map scale displacements of geological boundaries, however, it is evident from Figure 7.8 that these faults have displacements that are significant at the scale of the sulphide bodies. The Aragón fault is reported to truncate the north south trending El Cuño fault.

These faults are marked by a ±10 m zone of shearing, brecciation and fault gouge. Local cataclastic foliations are developed in these fault zones. No mineralisation of the fault planes is reported.

Figure 7.6 General geology map of the Anzá project area. Coordinates in Colombian Gauss-Kruger grid (Source: CGL, 2010, based on Ingeominas 1:100,000 scale geology maps)

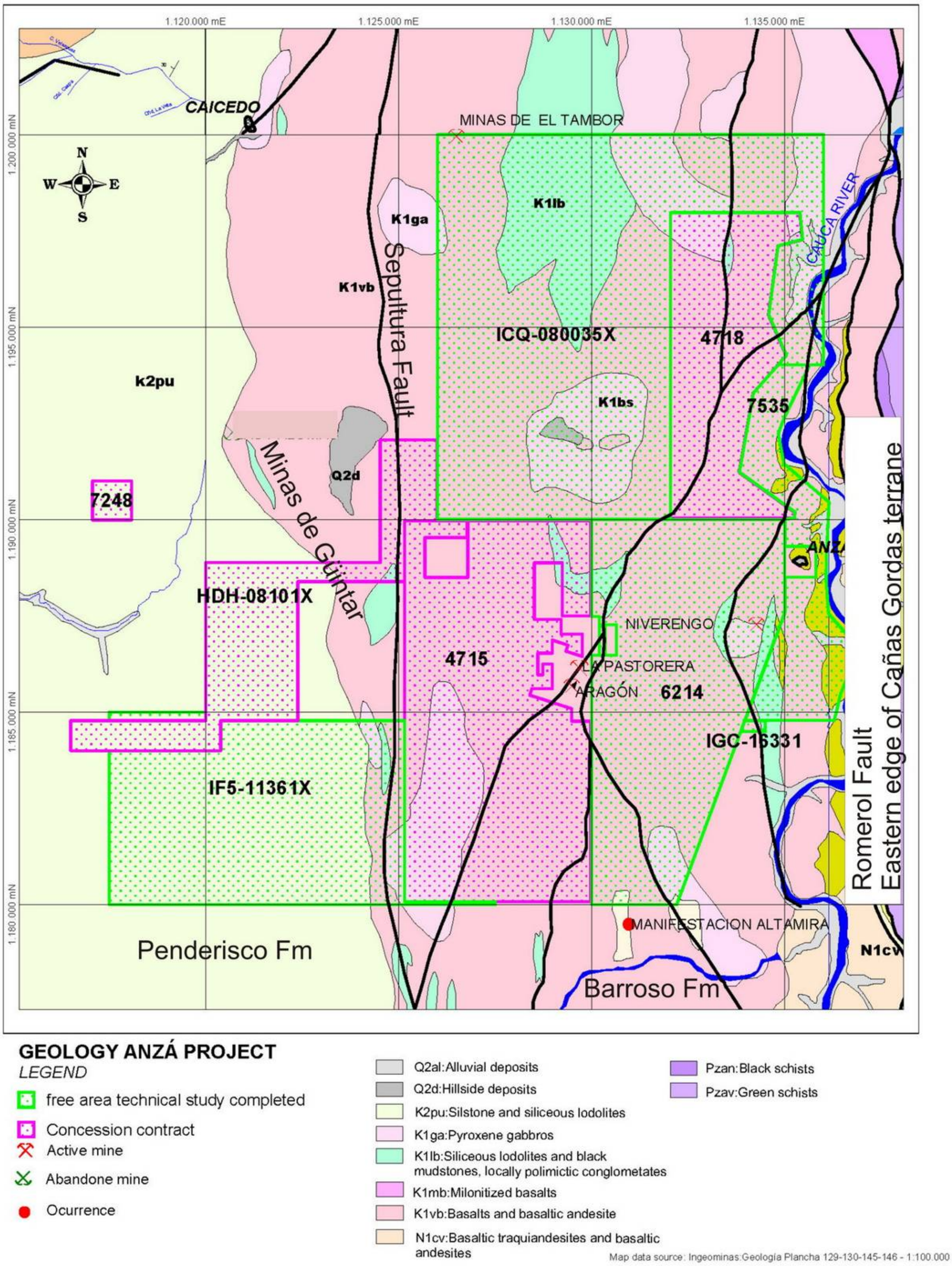


Figure 7.7 Geology and concession map of the La Pastorera and Aragón mine areas. Coordinates in Colombian Gauss-Kruger grid (Source: CGL, 2010, based on Niverengo 2001)

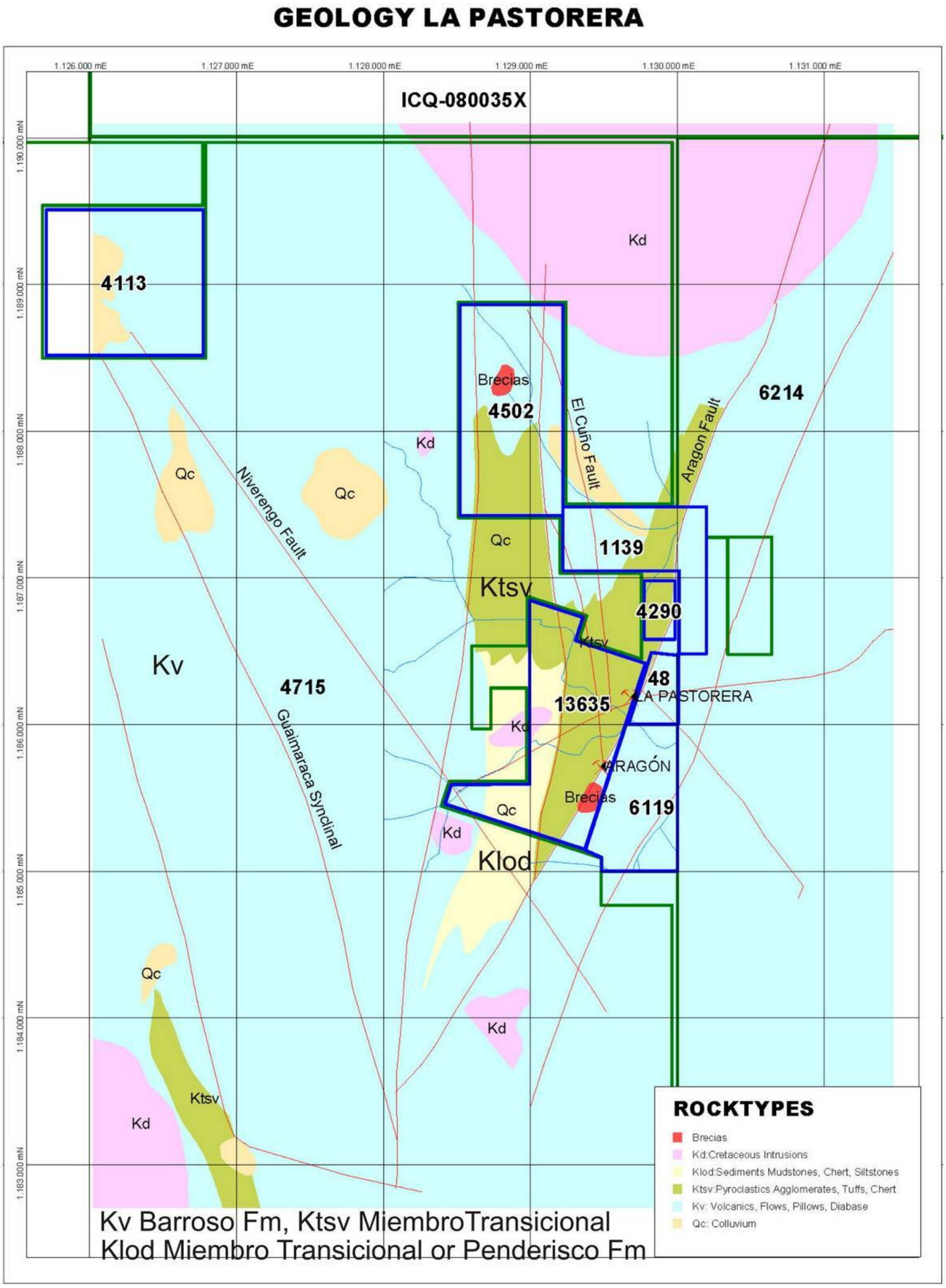


Figure 7.8 1:2000 scale geological map of the surroundings of La Pastorera pit. Coordinates in Colombian Gauss-Kruger grid (Source: Anon, 2006)

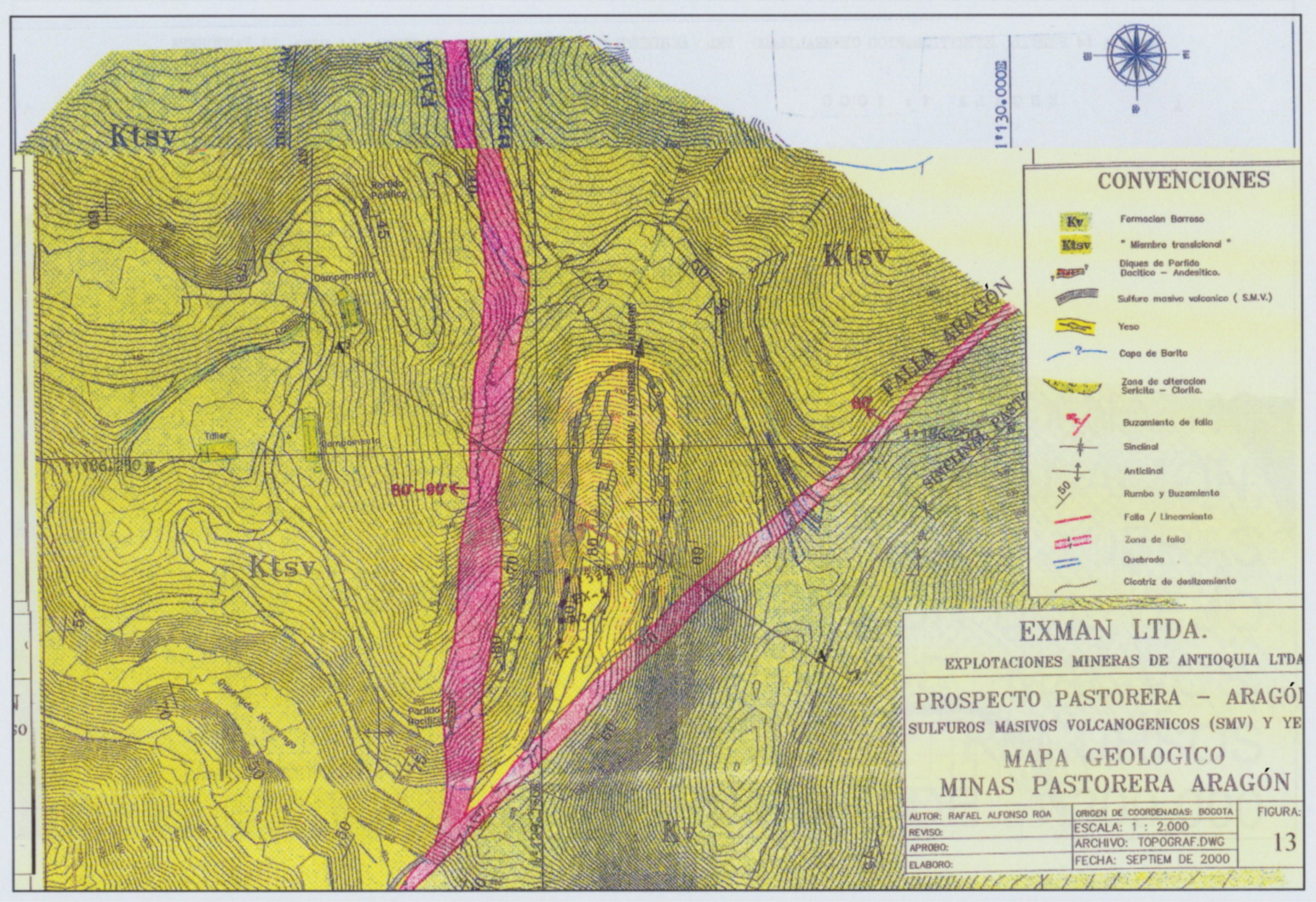
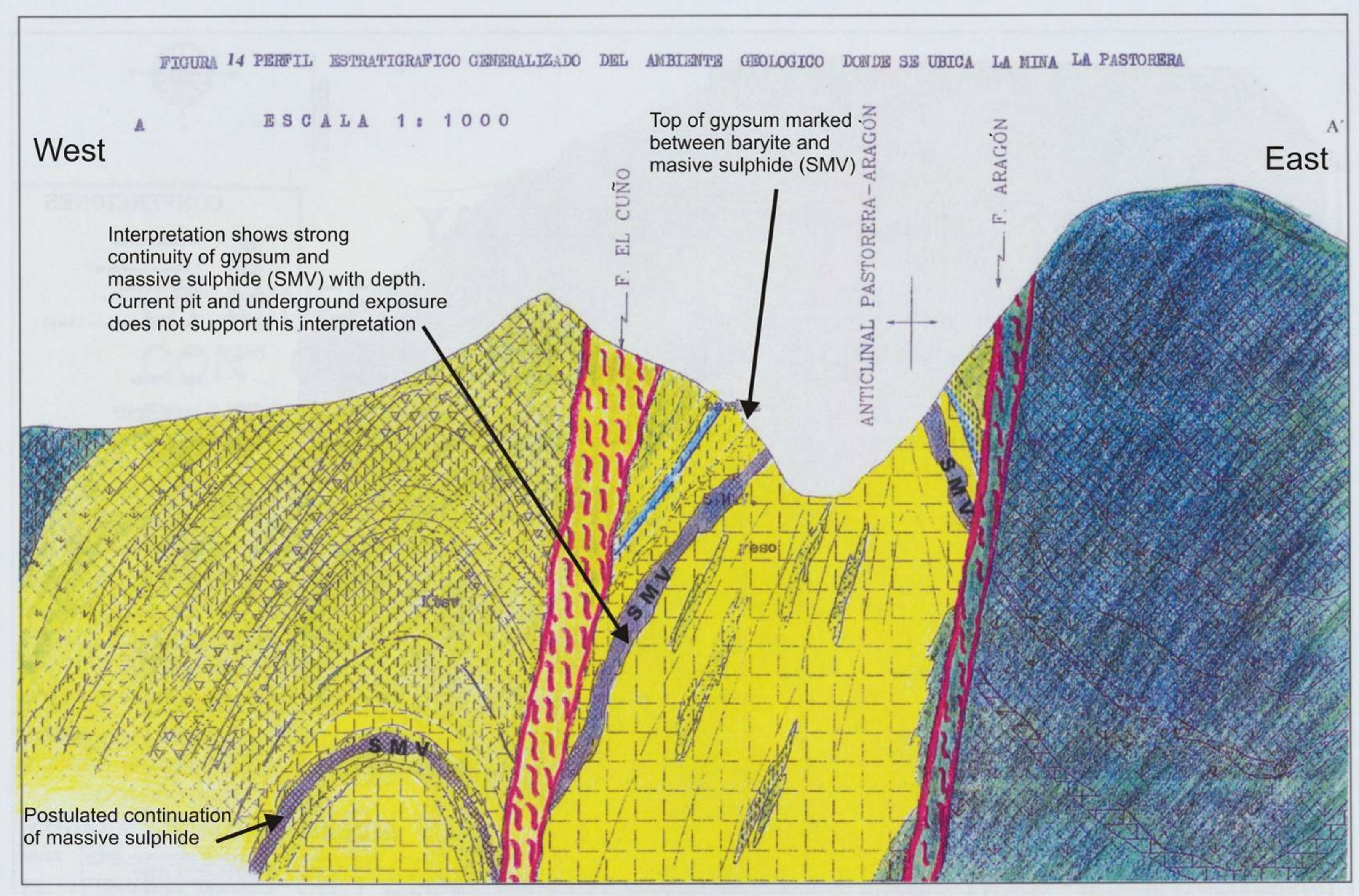


Figure 7.9 East – west cross section of the La Pastorera pit, annotation by Snowden (Source: Anon, 2006)

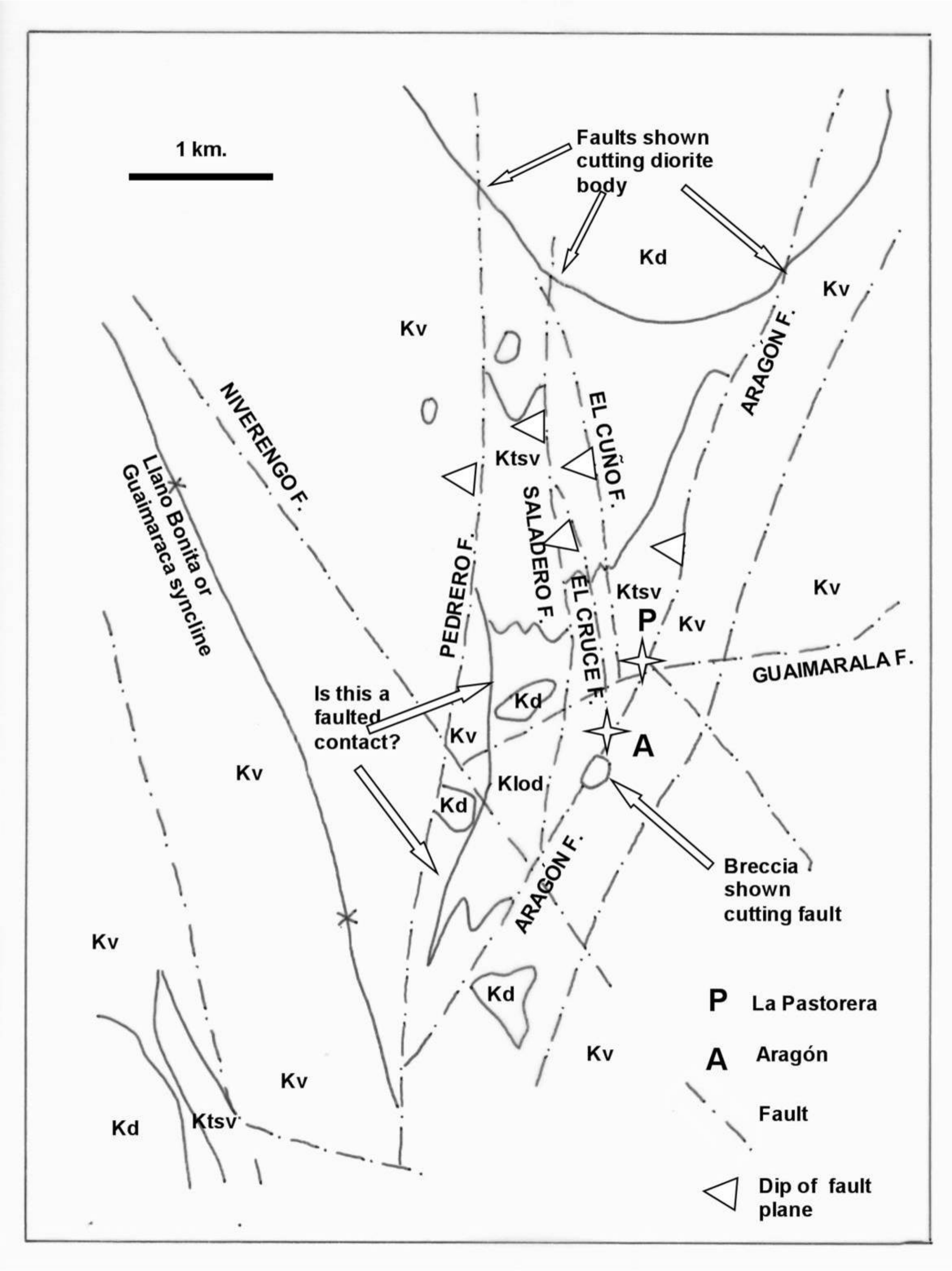


Top of gypsum marked between baryite and masive sulphide (SMV)

Interpretation shows strong continuity of gypsum and massive sulphide (SMV) with depth. Current pit and underground exposure does not support this interpretation

Postulated continuation of massive sulphide

Figure 7.10 Fault patterns around the La Pastorera and Aragón pits, extracted from Figure 7.7 with additional information from Alfonso and Cano (2000) and Kedahda (2006)



Other faults include the northwest to southeast trending Niverengo Fault and a parallel un-named fault striking through the La Pastorera area (Figures 7.7 and 7.10). These may be more recent tectonic features as the un-named fault appears to cut the Aragón Fault (Alfonso and Cano, 2000). The Guaimarala fault is a photogeological lineament. Neither fault produces any significant effect on geological outcrop pattern.

Geological mapping demonstrates the presence of folds with trends ranging through north - northeast to south - southwest, north - south and northeast - southwest in the host successions (Figures 7.8 to 7.11). Dips are steep at 45° to 80° and the folds are tight upright structures. Several folds appear to terminate at faults but fault drag may also contribute to the northeast – southwest segments of the Aragón syncline and Aragón - Pastorera anticline. The La Pastorera deposit is mapped as occurring within the core of a north – south trending anticline, which may be asymmetrical and isoclinal in nature.

No cleavages or foliations are reported to be associated with the folds. Metamorphism is not reported and the exact sequence and timing of the folding is uncertain. The general use of normal sedimentary terminology in rock description and the preservation of chlorite-sericite alteration, microcrystalline and chalcedonic quartz sequence suggests that metamorphism is absent or very low grade.

During the early stages of mining at La Pastorera distinct units of gypsum and massive sulphide were mapped (Figure 7.12). These were interpreted as forming within the antiformal structure illustrated in Figures 7.8 and 7.9. However the current geological exposure at La Pastorera suggests the geological structure is more complex than suggested above. Figure 7.13 shows the Snowden interpretation of the geology at the La Pastorera portals. The gypsum has apparently sharp contacts with the pyritic siliceous unit to the west and a black carbonaceous shale on the east. The overall structure is synformal rather than the antiformal interpretation described by Alfonso and Cano (2000), Niverengo (2001), and Kedahda (2006), although faulting on the eastern gypsum contact cannot be ruled out. Underground mapping of La Pastorera confirms the western limb of the pyritic siliceous unit dips to the east (Peñoles, 2006(?)). This synclinal interpretation suggests that the gypsum body will be folded out at depth. Exman verbally confirmed that the gypsum does indeed decrease in extent in the deeper levels of La Pastorera. The massive sulphide observed during the early mining may be present as the apparently westerly dipping rock unit within the upper levels of the current western pit wall in Figure 7.13. This relationship may indicate the presence of an unconformity or fault between the lower pyritic siliceous unit and the overlying outcrop of massive sulphide.

Figure 7.11 Dip and fold patterns at the La Pastorera pit, data extracted from Figure 7.8

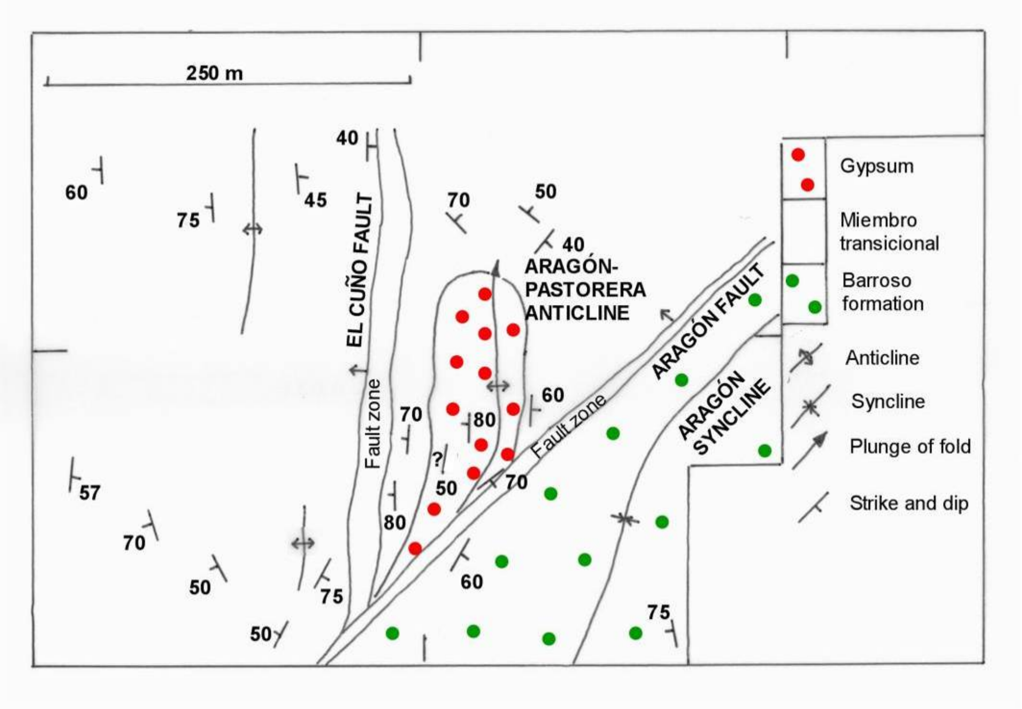
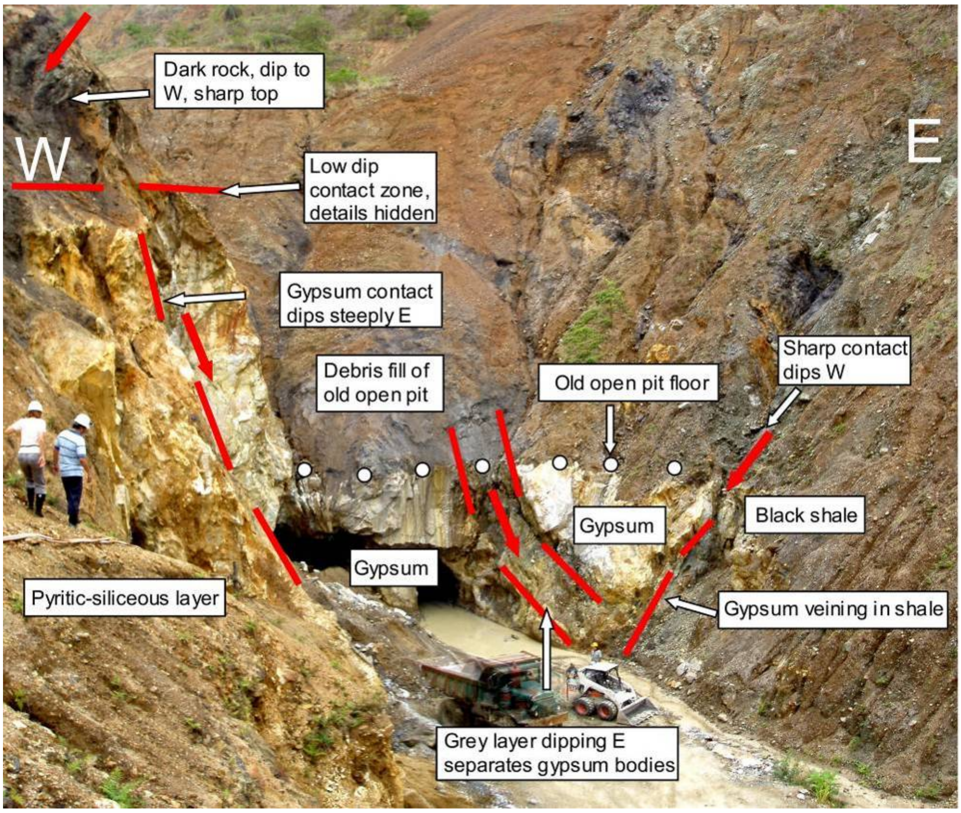


Figure 7.12 Photograph of gypsum, massive sulphide, chert and barite occurrence high on the west wall of the La Pastorera open pit at an early stage in mining operations. The gypsum (YESO), massive sulphide (SMV), tuffs (Tobas) and barite (Barita, B) form as subparallel units (Source: Alfonso and Cano 2000)

Figure 7.13 View looking north towards the La Pastorera mine portals showing apparent steep synformal boundaries to the gypsum. The dark, apparently westerly dipping material, at the top left of the field of view may be the massive sulphide in Figure 7.12 (Source: Snowden site visit, 2010)



8 Deposit types

The exploration focus for Waymar at Anzá is for base metal mineralisation with associated precious metals and their initial focus will be on identifying VMS style mineralisation. As a result this section of the technical report will provide a description of VMS deposits. Other styles of mineralisation may also be present at Anzá and these are briefly summarised below.

The small artisanal gold mines in the Güintar area indicates hardrock and placer gold potential. These gold mines lie in close proximity to the north-south trending Sepultura fault (Figure 7.6). These hardrock gold deposits are interpreted to be related structurally controlled mesothermal or epithermal quartz veins.

Discussions with Raúl Mejia during the Snowden 2010 site visit indicated the potential for gold and base metal mineralisation related to the large diorite body to the north of the Exman mines (Kd in Figure 7.7). Stream sediment anomalies and sulphides in rock samples were encountered in the diorite area during his 1987 thesis project. Mejia interprets this mineralisation to be stockwork or disseminated within the diorite body.

Hydrothermal breccia bodies have also been identified in the vicinity of the mine (Alfonso and Cano, 2000, Niverengo, 2001). Whilst hydrothermal breccias can form part of VMS systems this is not an exclusive association, and the breccia bodies at Anzá may be related to other geological and mineralisation settings.

8.1 Volcanic Massive Sulphides

Since the discovery of submarine hydrothermal vents and black smokers the understanding of the nature and formation of VMS mineralisation has advanced considerably (Pirajno 1992, Franklin 1993, Poulsen and Hannington 1996, Barrie and Hannington 1999, Franklin et al 2005, Robb 2005, Galley, Hannington and Jonasson 2007). VMS deposits are characterised by stratabound and stratified iron, copper, zinc and lead sulphides associated with submarine volcanic sequences. Stockwork systems carrying silica and sulphides commonly underlie part of the deposit and are surrounded by an hydrothermal alteration zone in the wall rocks. The associated volcanic materials may have oceanic or island arc signatures. Figure 8.1 illustrates the generic model for the formation of a seafloor massive sulphide deposit.

Early attempts at classification of VMS based on geological setting recognised three broad types: Cyprus (Cu-Zn), Besshi (Cu-Zn) and Kuroko (Cu-Zn-Pb). Recent classifications are based on geological setting and contain five or six divisions. These reflect the broad rock association around and below the deposit. Some versions emphasise the inferred plate tectonic setting of the deposit but Galley, Hannington and Jonasson (2007) base their classification on the petrological features of the host sequence. These are as follows:

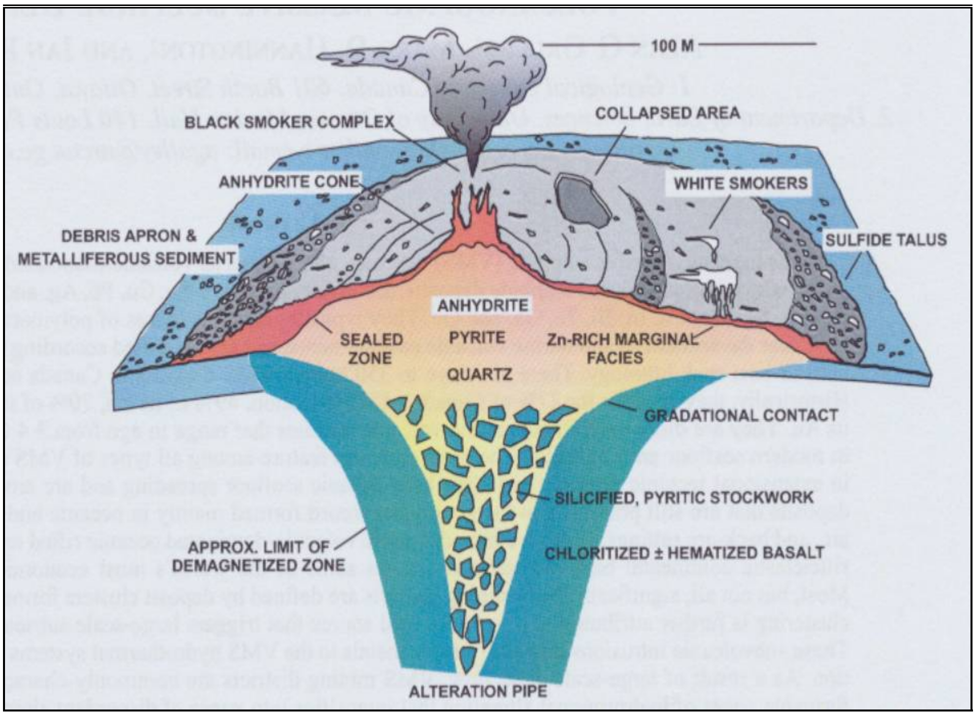
- Back-arc mafic association with footwall and cap rocks dominated by basaltic pillow lavas. Widely known as the Cyprus type. Cu-Zn metal group,
- Bimodal-mafic association marked by location on rhyolite dome complex forming a local facies in a dominantly basaltic pillow lava sequence. Cu-Zn metal group,
- Bimodal felsic association marked by predominantly felsic volcanic sequence with minor basaltic material. Cover rocks may be volcaniclastics or flows. Widely known as the Kuroko type from the Hokuroko basin in Japan. Zn-Pb-Cu metal group,

- Hybrid bimodal felsic association forms associated with felsic intrusions into predominantly felsic clastic sequences. Inferred transitional to subaerial epigenetic systems. Zn-Pb-Cu metal group,
- Felsic siliciclastic associations are in sediment dominated environments where sediment is felsic volcaniclastic and epiclastic in origin. Zn-Pb-Cu metal group, and
- Pelitic mafic association is sediment dominated with much argillite and igneous component forming basaltic sill complexes. Widely known as Besshi type. Zn-Cu metal group.

The gold distribution in ancient VMS deposits has been investigated by Hannington and Scott (1989), Large et al (1989), Poulsen and Hannington (1995) and Dubé et al (2007). Large et al (1989) recognise two settings, an Au-Zn association with Pb–Ag-Ba, in which gold and barites is concentrated in the stratigraphic hanging wall and, secondly, a Au-Cu association in the footwall and underlying stringer zones. Gold occurrence in modern vent deposits is discussed by, for example, Herzig, Petersen and Hannington (2002) and Petersen et al (2004).

The increasing complexity of VMS classification indicates that there is a continuum of hydrothermal settings, linked to subaqueous volcanic activity, where these deposits form. Active submarine hydrothermal vents and sulphide deposition have been recognised in mid ocean ridge, back arc, island arc, rift settings and seamount settings. Dubé et al (2007) recognise that some gold rich VMS deposits may represent epithermal systems reaching the surface in the submarine environment.

Figure 8.1 Generalised model of a seafloor sulphide deposit representing a modern VMS system (Source: Galley, Hannington and Jonasson 2007)



VMS deposit styles are also classified by the bulk sulphide composition. In this scenario classification is based on the relative proportions of Cu, Zn and Pb in the ore (Figure 8.2). Compositions show a continuous variation but a Cu-Zn dominated group are distinguished from a Cu–Zn-Pb group. The latter grade with increasing lead into the non-volcanic SEDEX lead zinc deposits.

There is currently no formal estimate of the bulk sulphide and gold composition of the La Pastorera deposit. Initial sampling of the massive samples reported by Niverengo (2001) give an average composition of 20% Zn, 15% Pb, 1% Cu, 5g/t Au and 10g/t Ag (N = 5). This would place the deposit in the Zn-Pb SEDEX group close to the Cu-Zn-Pb VMS group (Figure 8.3). More recent analytical data from Kedahda (2006), Peñoles (2006) and Perez (2007) is based on the sampling of the pyritic siliceous horizon predominantly from the underground gypsum workings. These samples give an average composition of 0.61% Zn, 0.026% Pb, 0.043% Cu, and 1.69 g/t Au (N = 60) and plot in the Zn dominated area of the VMS Cu - Zn field (Figure 8.3).

Based on the limited sampling data available from La Pastorera it is noticeable that the deposit is copper poor (Figure 8.3).

Figure 8.2 Triangular plot of Cu-Zn-Pb wt % for VMS deposits, used to discriminate Cu-Zn VMS from Cu-Zn-Pb VMS and SEDEX Pb-Zn deposits (Source: Galley, Hannington and Jonasson 2007)

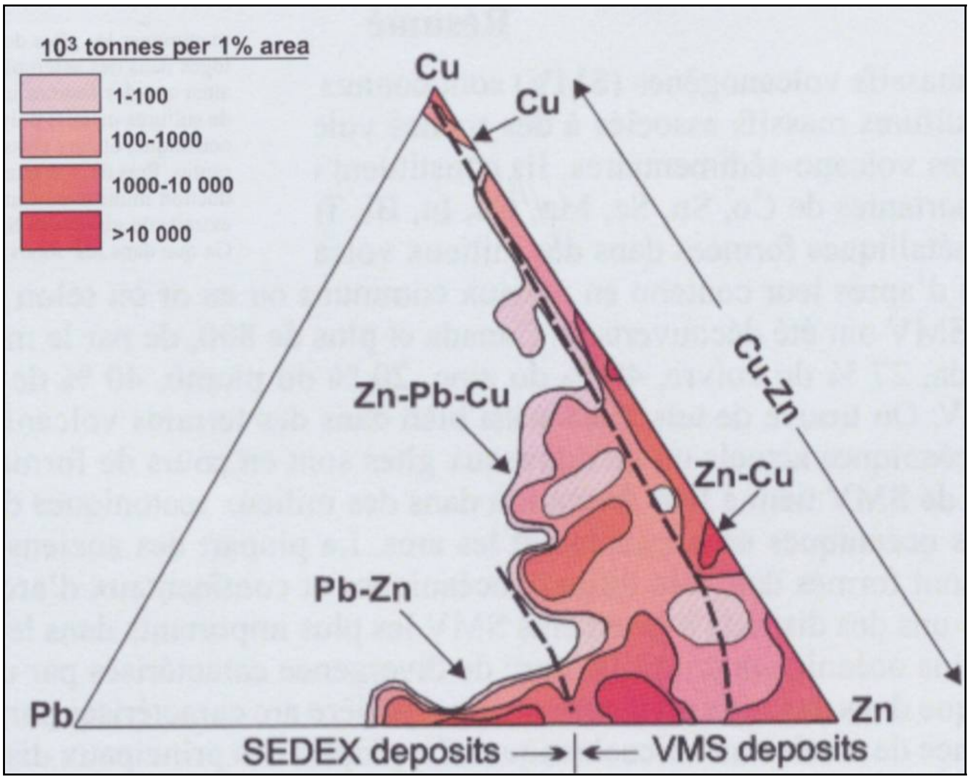
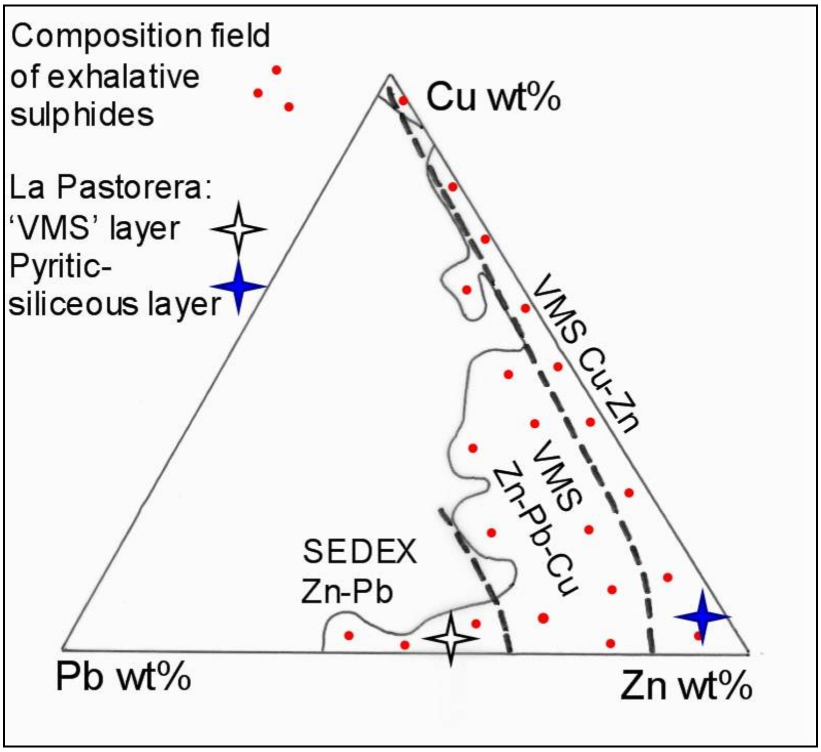


Figure 8.3 Triangular plot of Cu-Zn-Pb wt % for VMS deposits showing the La Pastorera VMS (N=5) and pyritic siliceous layer (N=60) based on analytical data from Niverengo (2001), Kedahda (2006), Peñoles (2006) and Perez (2007).



Some VMS deposits carry gold and silver with bulk grades typically between 0.1 g/t Au and 2.0 g/t Au, but grades can exceed >20.0 g/t Au (Poulsen and Hannington 1996). Gold rich VMS deposits are defined as having > 1.0 g/t Au for every 1 wt% of total base metal. The gold can occur in the main massive sulphide layer, in associated stockworks and in disseminations of massive sulphide. A triangular discrimination diagram based on total base metal, gold and silver in ppm has been used to separate essentially auriferous VMS from the commoner base metal VMS (Figure 8.4) (Poulsen and Hannington 1996 and references therein) .

The average composition of the massive sulphide layer reported by Niverengo (2001) lie in the base metal group. The data from the pyritic-siliceous layer from Kedahda (2006) and Perez (2007) give a total base metal average of 8.39%, 19.8g/t Au and 71.84 g/t Ag (N = 41) and plots in the auriferous field (Figure 8.5). The data from Peñoles 2006 is not considered as most silver values are below the 2 ppm detection limit.

Figure 8.4 Triangular plot of total Cu-Zn-Pb wt %, Au g/t and Ag g/t used to discriminate auriferous and base metal rich VMS deposits (Source: Galley, Hannington and Jonasson 2007)

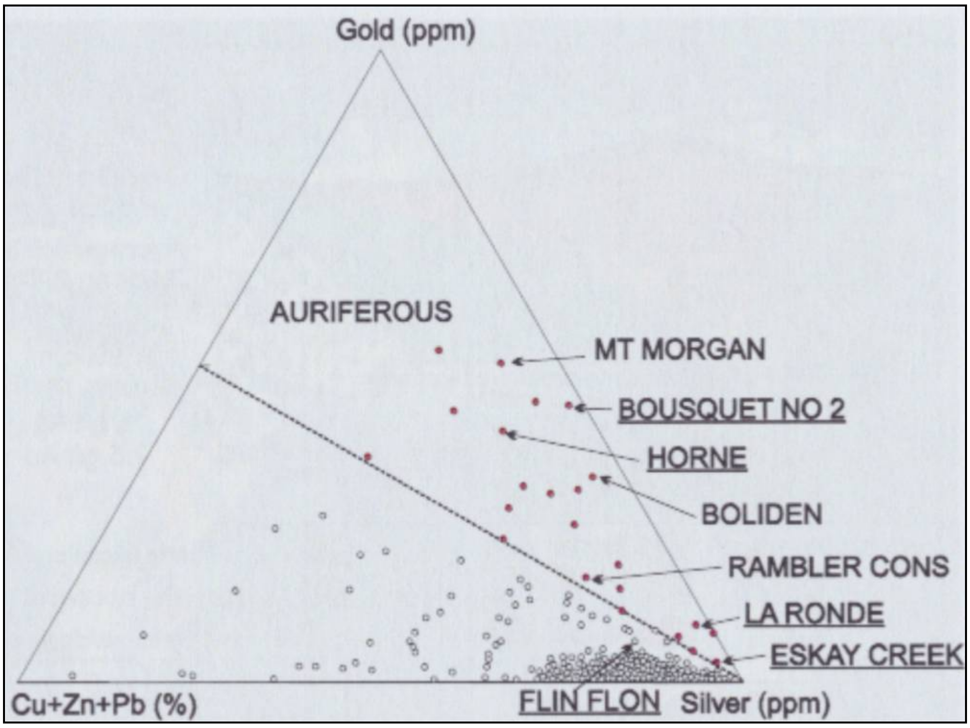
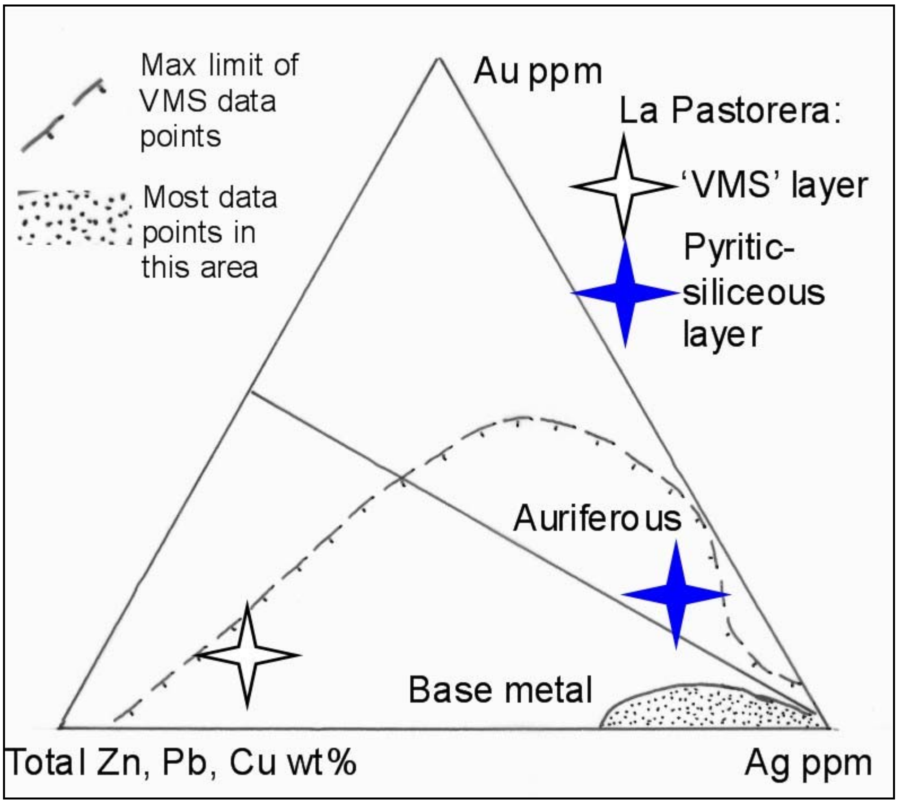


Figure 8.5 Triangular plot of total Cu-Zn-Pb wt%, Au ppm, Ag ppm showing the La Pastorera VMS (N=5) and pyritic siliceous layer (N=41) based on analytical data from Niverengo (2001), Kedahda (2006), and Perez (2007). Fields based on Poulsen and Hannington (1996)



8.2 VMS deposits in Colombia

Several other VMS deposits are reported from the accreted terranes in Colombia and neighbouring Ecuador. These include El Alacran, El Roble, Guadalupe (Azufral), La Equis Sabanablanca (El Dovio) and Santa Anita in Colombia and La Plata and Macuchi in Ecuador. Ortiz (1990) also describes the Microgrande deposit as a VMS in Colombia. Of these El Roble, La Equis, Sabanablanca (El Dovio), Santa Anita and Micrograndе, along with La Pastorera/Aragón, occur in the CGT (Figure 8.6) (Frutos, Fontboté and Amstutz 1990, Lehne, 1990, Ortiz 1990 and Alfonso and Cano, 2000). The USGS Mineral Resources Program subdivides these into three groups (USGS, 2010);

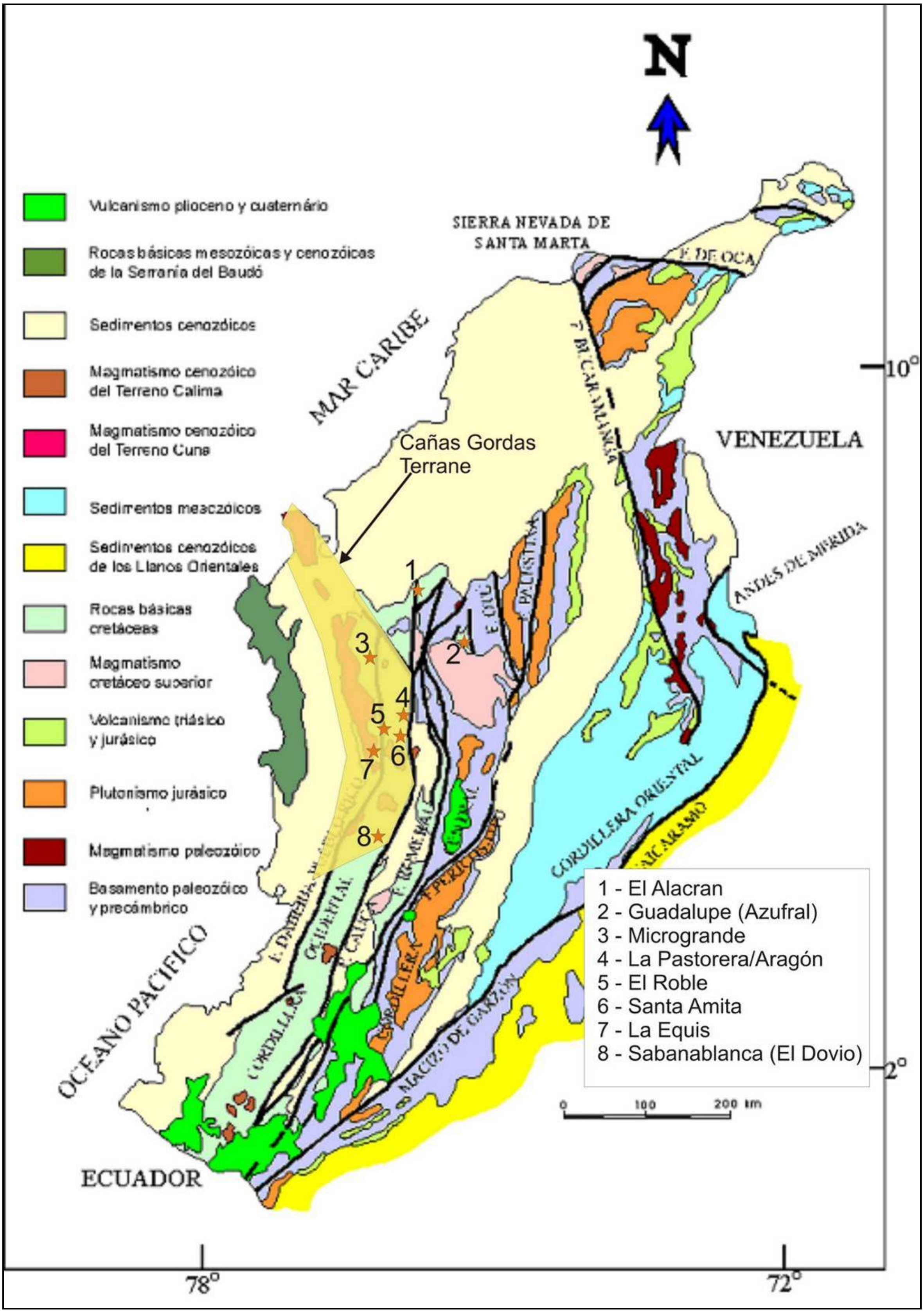
- Mafic VMS -Guadalupe (Azufral), El Roble, Santa Anita and Sabanablanca (El Dovio)
- Felsic VMS - El Alacran and La Equis, and
- Bimodal mafic VMS - La Plata and Macuchi.

The La Pastorera/Aragón deposits occur in a local intermediate pyroclastic sequence in a basalt dominated submarine succession and this association would suggest that these are also of the mafic type, although the association with gypsum is more typical of the bimodal felsic (Kuroko) type.

The El Roble is currently operated by a Colombian company and the Sabanablanca (El Dovio) deposit is being explored by Colombian Mines Corporation (CMC). El Roble was discovered in 1972 and was subsequently explored by Kennecott Minerals Ltd between 1981 and 1983. Kennecott defined Proven and Probable ore reserves of 1.1 Mt at 4.9% Cu and 3.7 g/t Au. In 1987 El Roble was brought into production in 1987 by a Japanese – Colombian consortium (ERESA SA). CMC report that the El Roble has produced some 1 Mt at 4.41% Cu, 3.11 g/t Au and 9.81 g/t Ag since mining commenced (CMC website, 2010).

Exploration of the Sabanablanca (El Dovio) deposit during the 1990's returned grades averaging 4.12 g/t Au, 24.1 g/t Ag, 2.14% Cu and 2.00% Zn, over widths ranging from 3 m to 15 m. No resource tonnages are provided (CMC website, 2010).

Figure 8.6 Location of VMS style deposits in Colombia (deposit locations are approximate) (modified from Rodríguez Álvarez, 2007, with data from Cediel, Shaw and Cáceres, 2003, Ortiz 1990 and Alfonso and Cano, 2000)



9 Mineralisation

The La Pastorera and Aragón deposits are described as being composed dominantly of gypsum associated with layers and inclusions of massive sulphides, pyritic siliceous and barite units. The bulk of the available data relates to the La Pastorera deposit and the salient features are shown in Figures 7.8, 7.9, 9.1, and 9.2. The following section describes the individual rock units

Figure 9.1 Interpretative cross section of La Pastorera deposit (Source: Niverengo, 200, modified by Snowden).

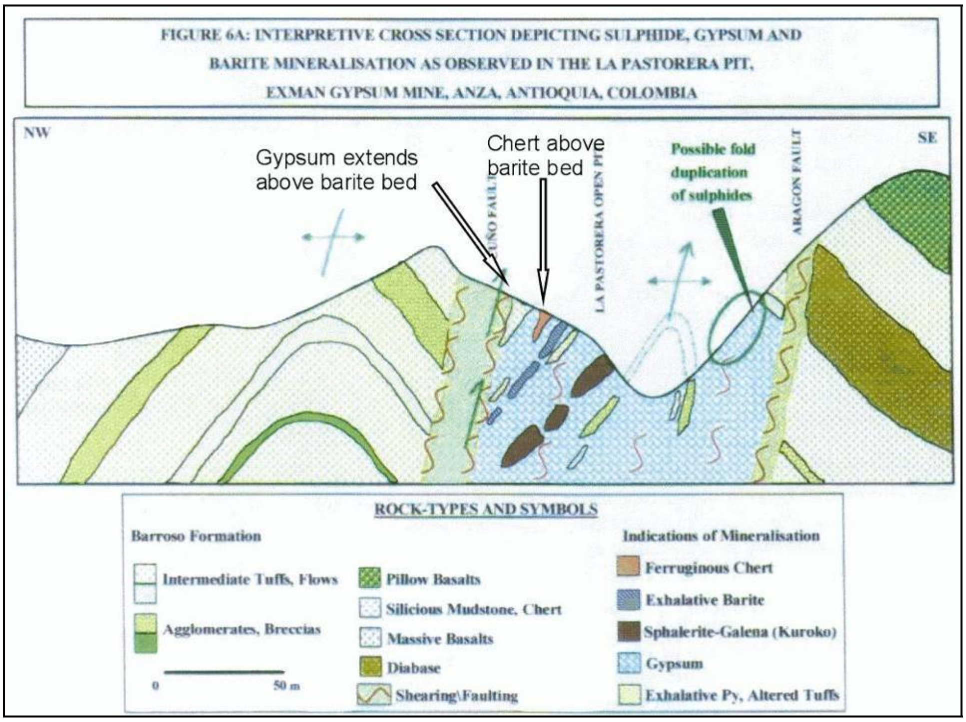
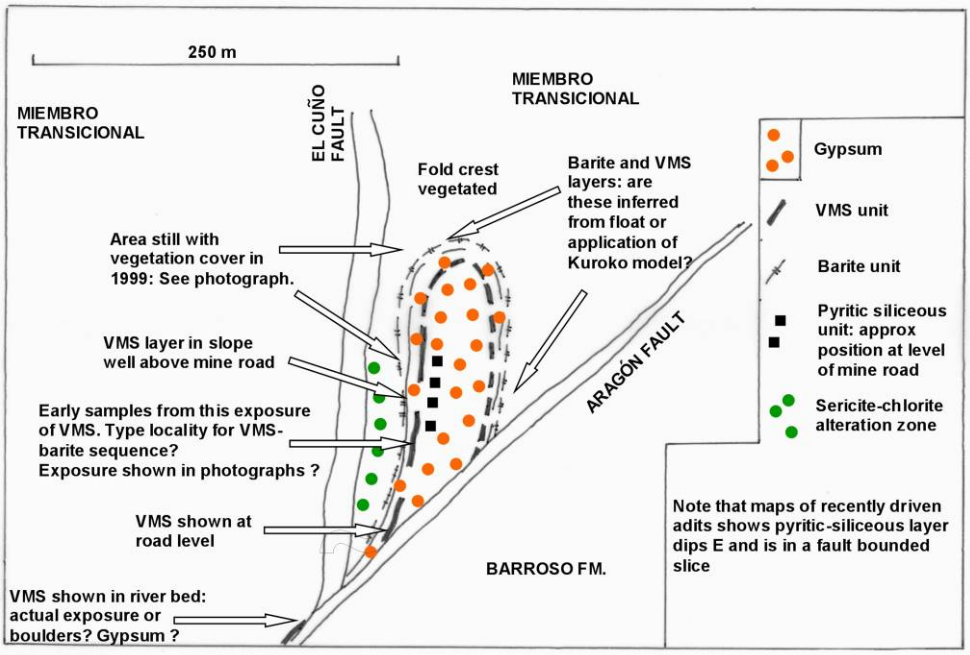


Figure 9.2 Annotation, based on Figure 7.8, showing the gypsum and related mineralisation at La Pastorera.



9.1 Gypsum

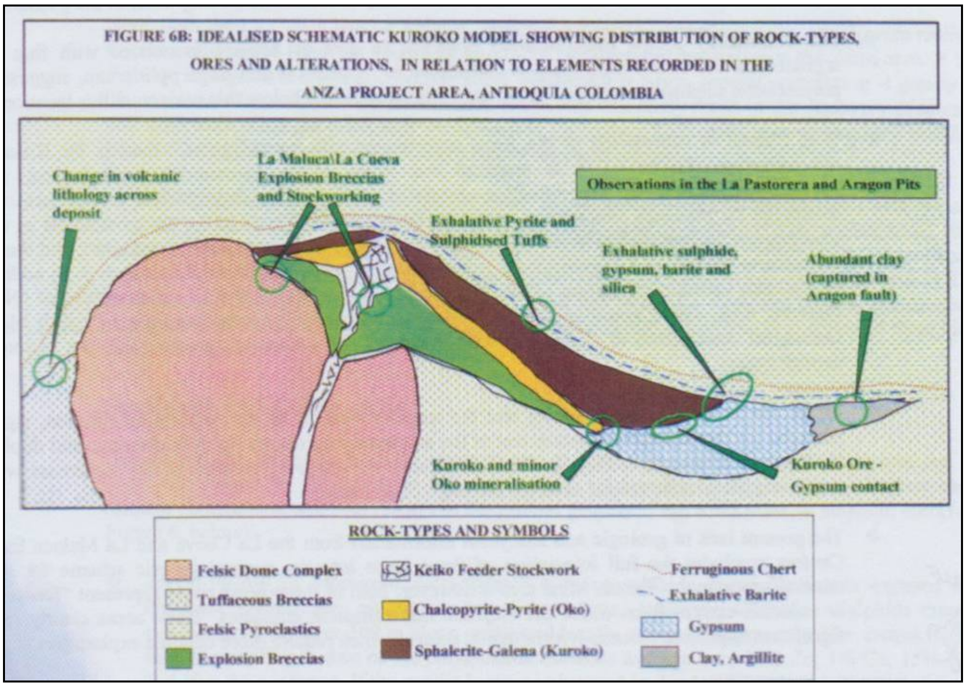
9.1.1 Characteristics of anhydrite and gypsum in VMS deposits

Substantial accumulations of anhydrite and gypsum are a distinctive feature of the Kuroko deposits in Japan (Lambert and Sato 1976, Farrell and Holland 1983, Shikazono, Holland and Quirke 1983) (Figure 9.3). Anhydrite is considered to be the primary mineral with gypsum resulting from later hydration. Anhydrite and/or gypsum are virtually unknown in other ancient VMS systems. Anhydrite is however a common transient component of modern hydrothermal chimney systems in a variety of settings (e.g. Ames, Franklin and Harrington, 1993; Hannington et al, 1999). Anhydrite typically occurs as four types (Shikazono, Holland and Quirke 1983).

- Type 1, nodular anhydrite,
- Type 2, anhydrite associated with sulphide minerals,
- Type 3, anhydrite within the main sulphide ore and
- Type 4, vein anhydrite.

Type 1 forms the bulk of the main anhydrite bodies. Nodule samples are reported to contain clay minerals and chlorite but no detrital grains are reported.

Figure 9.3 Kuroko model for the Anzá VMS deposits proposed by Niverengo (2001)



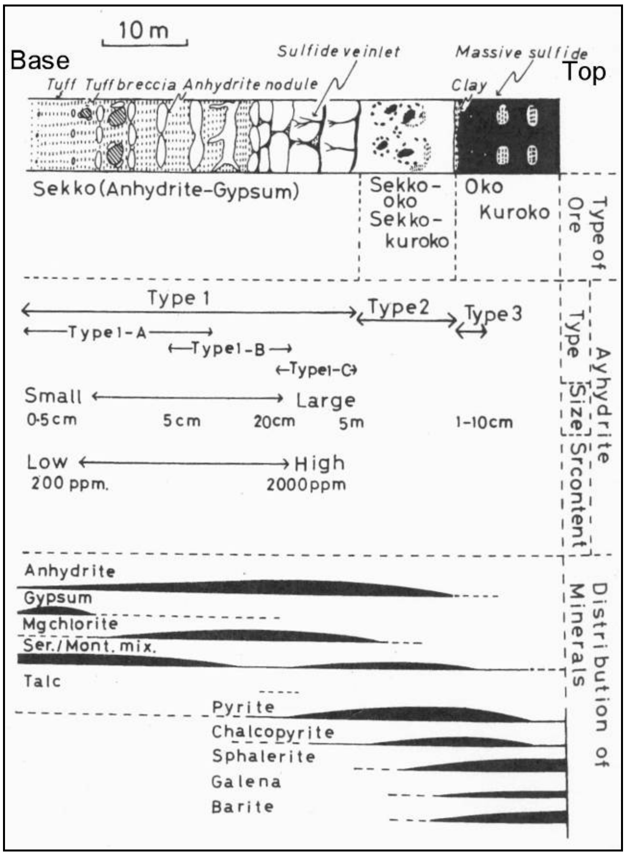
Anhydrite bodies occur below the massive sulphide component and may extend beyond the limits of the massive sulphide. They are offset relative to any hydrothermal feeder system (e.g. mineralised stockworks or breccias). The base is gradational and the top against sulphides relatively sharp. Figure 9.4 illustrates a schematic column through at typical anhydrite body. Type 1 anhydrite forms the lower, usually main, part of the body. It occurs as nodules in pyroclastic sediments, nodules increase in size upwards (mm to m scale). Anhydrite content increases upwards and nodules eventually coalesce to form massive, relatively pure anhydrite at the top of the Type 1 body. Nodules form layers parallel to the bedding in the host pyroclastic sediment. Sediment is altered to clays and chlorite between the nodules. Type 2 anhydrite overlies Type 1 and is distinguished by disseminations of sphalerite, galena, chalcopyrite and pyrite. Sulphide filled veinlets may also be present.

There are rare reports of laminated or bedded anhydrite. Farrel and Holland (1983) report anhydrite laminated with tuff or mudstone near the hanging wall. Finely bedded sphalerite layers are also reported interbedded with anhydrite near the hanging wall of the Fukazawa deposit, Japan (Farrel and Holland 1983). The sample descriptions in Shikazono, Holland and Quirke (1983) also report examples of laminated anhydrite and laminated anhydrite nodules.

Gypsum replacement of anhydrite is generally restricted (Farrel and Holland 1983; Shikazono, Holland and Quirke 1983). At some individual ore bodies it is extensive with alabaster (some with residual anhydrite), satin spar and selenite being recognised (Kuroda, 1983).

The general view of the origin of the anhydrite in Kuroko deposits is that is replacive or fills pore space in host sediments, forming in volcanic rocks below the sea floor (Farrel and Holland 1983; Kuroda 1983; Kusakabe and Chiba 1983; Shikazono, Holland and Quirke 1983). A location below the sea floor would protect it from the dissolution in seawater that destroys anhydrite in chimney debris on the tops of exhalite mounds.

Figure 9.4 Schematic section of typical Kuroko showing relation of gypsum and anhydrite to the base of the sulphide ores (Source: Shikizono, Holland and Quirk 1983)



9.1.2 The Anzá gypsum

Gypsum forms as one of the principal minerals in the Anzá deposits and has been described by Flórez Molina and Parra Sánchez (1999). It is regarded as the lowest currently exposed unit of the Miembro Transicional unit with a minimum inferred stratigraphic thickness of 250 m shown in cross section (Figure 7.9), although as noted in Section 7.2 Snowden believe this structural interpretation may be incorrect.

Based on the existing interpretations the top contact of the gypsum at La Pastorera is shown in a variety of settings. Figure 7.12 indicates the upper contact of the gypsum to be adjacent to the massive sulphide layer (Alfonso and Cano, 2000), whilst the deeper levels of the open pit and current underground working suggest an upper contact with the pyritic siliceous material (Figure 7.13). Alfonso and Cano, (2000) interpret the gypsum top contact to lie between the massive sulphide layer and the overlying chert and barite layers (Figures 7.8 and 7.9) whilst Niverengo, (2001) shows the gypsum extending above the chert and barite (Figure 9.1). At Aragón the top contact of the gypsum appears as a sharp planar junction with tuffs and diabases (Alfonso and Cano, 2000). In these interpretations the nature of the base of the gypsum is unknown at either Aragón or La Pastorera.

The gypsum is generally layered with thin to massive units (Figures 9.5 and 9.6). Layering is marked by colour and textural changes, with some layering marked by dark shale-like bands (Figure 9.5) and local zones of dark mudstone clasts suspended in gypsum (Figure 9.7). Layering appears to be conformable with the overlying sequences. Bulk sulphate contents range from 56 wt % to < 15 wt % (Flórez Molina and Parra Sánchez 1999). Three types of gypsum are mined, namely (Snowden, 2007):

- white to pale grey gypsum with a sulphate content of between 42% and 56%;
- grey gypsum with a sulphate content of between 38% and 42%; and
- dark grey to black friable material with less than 15% sulphate which is discarded as waste.

The gypsum colour varies between grey, yellow and white. The texture is saccharoidal, with a medium grain size. Mylonitic textures with augen are also reported. The gypsum is accompanied by anhydrite, calcite, magnesian chlorite and a little quartz. Figures 7.8 and 7.9 indicate the presence of lenticular bodies of tuff within the gypsum. These are mineralised with pyrite and chalcopyrite and have a beaded form (Flórez Molina and Parra Sánchez 1999), and may include the pyritic silicified layer now well exposed in the underground gypsum workings.

As shown in Figure 7.13 the deeper levels of the open pit appear to show a synformal structure with the gypsum in contact with a black carbonaceous shale, to the east of the mine portals. A gypsum/black mudstone contact was also observed underground on the western side in the underground workings on the 913 m level. Figure 9.8 shows detail of the eastern contact of the gypsum with the black shale. The contact appears to show a normal relationship with minor disturbance to the more ductile mudstones, although faulting cannot be ruled out.

Figure 9.5 Thin bedded gypsum with interbeds of black shale, underground at La Pastorera (Source: Snowden site visit, 2007)

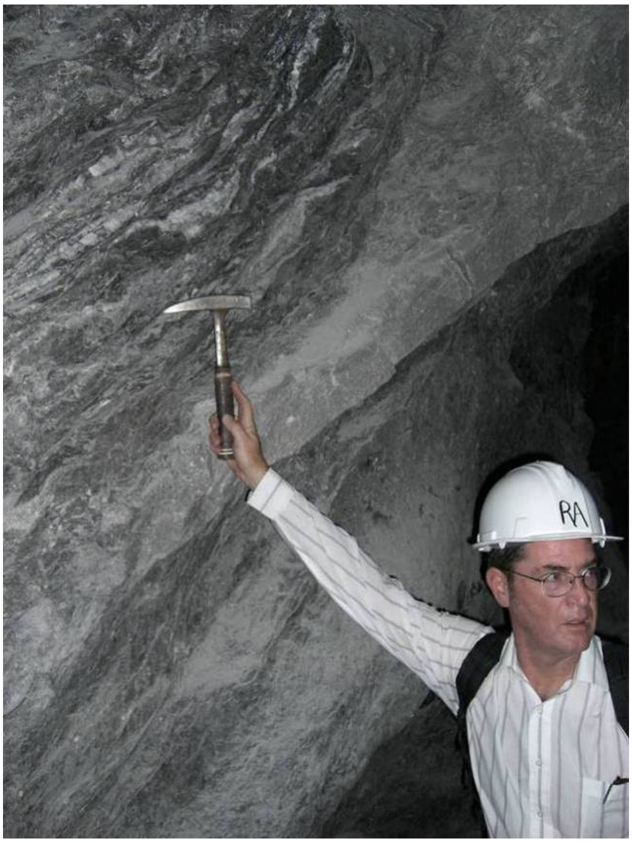
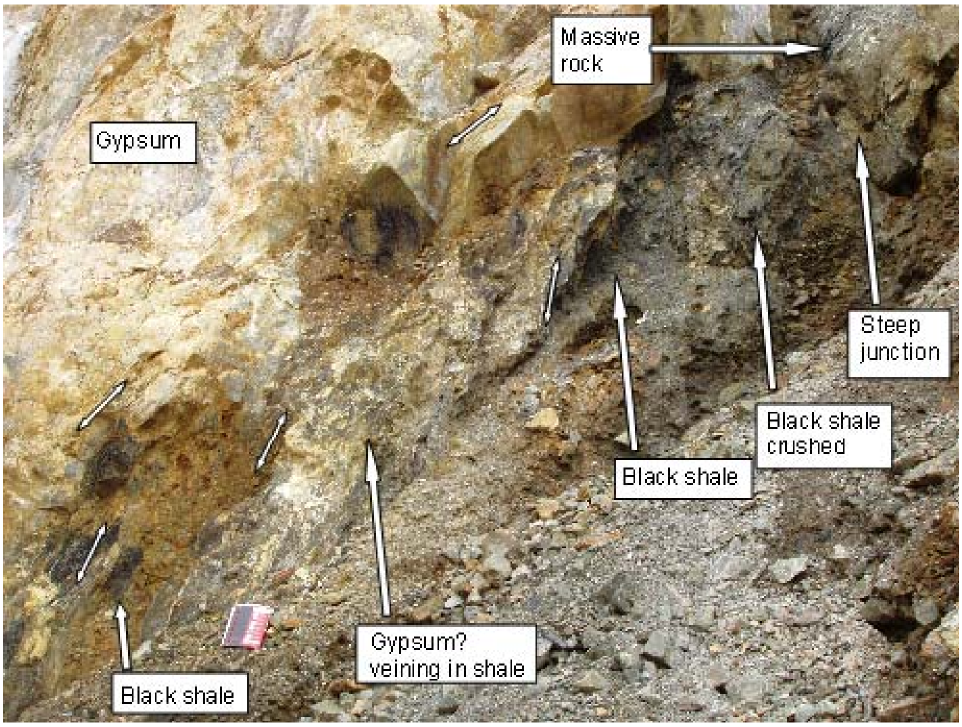


Figure 9.6 Massive gypsum underground at La Pastorera (Source: Snowden site visit, 2007)

Figure 9.7 Black mudstone fragments in gypsum from the Aragón mine (Source: Snowden site visit, 2007)

Figure 9.8 Detail of the eastern contact of the gypsum in the pit wall at La Pastorera. The gypsum and black carbonaceous shales show an apparently normal westerly dipping contact (Source: Snowden site visit, 2010)



The Anzá gypsum deposit carries only minor amounts of anhydrite whilst, as noted above, Kuroko deposits are anhydrite dominated. The gypsum at Anzá shows granular textures, which may indicate recrystalisation, but it is not known if there was an anhydrite precursor. One possible indicator of the hydration of precursor anhydrite, and consequent volume increase, may be the black mudstone breccias shown in Figure 9.7. Hydration of anhydrite is possible during host sediment diagenesis or recent weathering. At present the original mineral – anhydrite or gypsum – at Anzá is unknown.

Photographs of gypsum underground show black shale layers (Figure 9.5) and a colour banding is also described. This suggests that gypsum (or anhydrite precursor) was deposited as part of a sedimentary sequence as sulphate sediment on the seafloor. Alternating gypsum-black shale deposition indicates a relatively long-lived geological episode of sulphate deposition.

9.2 The massive sulphide unit

The initial interpretation of the massive sulphide layer by Niverengo (2001) and Alfonso and Cano, (2000), placed this within the gypsum body but close to its top contact. The upper portions are sulphide dominated with the base being described as a silicified tuff. Dip is reported as being 20°W to 50°W. The unit was up to 12 m thick, averaging 4 m to 5 m. Surface exposure is shown as discontinuous in Figures 7.8 and 7.12 with lens like outcrops of 40 m and 55 m shown over a total exposure length of some 200 m. The massive sulphide unit is reported to show boudinage and pinch and swell structures in the south of the La Pastorera pit, close to the Aragón Fault. To the north it becomes more continuous and stratiform with gypsum and sulphide layers increasing in thickness.

Sulphide minerals are predominantly iron rich sphalerite and galena with minor pyrite, chalcopyrite and bornite. These occur in a fine siliceous or gypsiferous matrix. In some cases layers of chalcedonic quartz separate sulphide layers. Sulphide textures range from fine to coarse grained and the mineralisation may be massive, banded or brecciated. Banded ores show separate galena and sphalerite layers (Figure 9.9).

Figure 9.10 shows sample of massive sulphide collected during the Snowden 2010 site visit from a metre size block on the waste stockpile. The sample is approx 15 cm in longest dimension and shows two distinct domains: base metal sulphide and fine silica. Based on visual examination by Snowden, the base metal domain is exclusively of sulphide, comprising: a fine (1 mm) grained galena dominated area and a coarser (4 mm to 8 mm) area with dark sphalerite, galena and minor chalcopyrite. The sulphides show equigranular grains with anhedral form. No fine scale layering is observed and the boundary between the two sulphide assemblages is a rapid gradation.

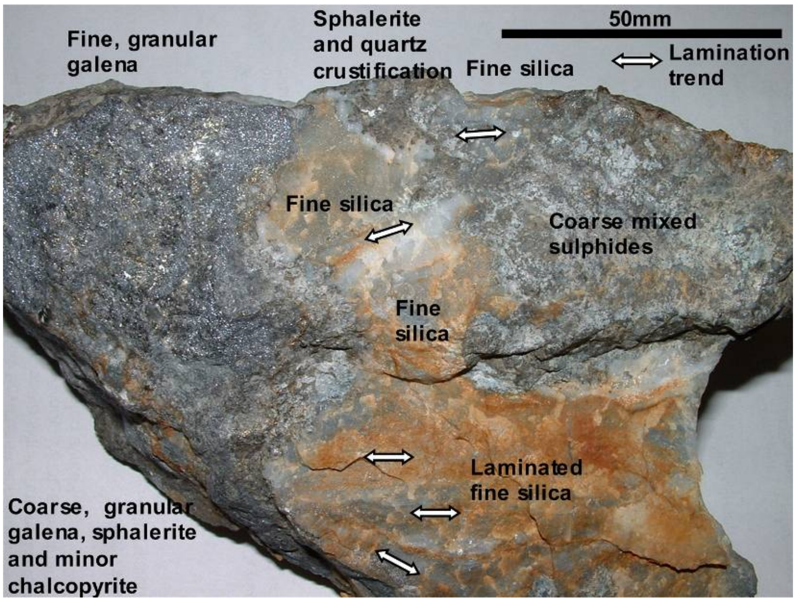
The fine silica domain is composed of fine silica of a grain size too fine to be resolved visually. The silica shows laminated and uniform areas. Laminations at millimetre scale are seen in the lower part of the specimen (Figure 9.10). Occasional fine laminae occur in the rest of the fine silica and these abut against the host sulphide domain.

The boundary between the two domains is irregular. In one section the contact is smoothly curved (left side in Figure 9.10). Elsewhere the fine silica appears to bury galena cubes growing on the contact in the centre of the specimen whilst at the top of the field of view, the fine silica buries crustified sphalerite and quartz in the sulphide rich domain. Although the fine silica domain is discontinuous there is no evidence to suggest that it is a fragment of a more continuous laminated silica unit.

The form of the laminae and local sulphide crystals on the contact surface point to the fine silica forming an infill of voids within sulphide dominated material. The sample is too small relative to the scale of the two domains to fully interpret these relationships. The silica filled space may represent: modified fractures in a larger sulphide body, pore space in sulphide breccia or solution voids formed after dissolution of soluble clasts (anhydrite/gypsum) in a mixed breccia. The local lining of this space with galena, sphalerite and quartz suggests that hydrothermal solutions were present at one stage.

Figure 9.9 Photographs of polished sections of massive sulphide material from La Pastorera (Source: Alfonso and Cano, 2000)

Figure 9.10 Massive sulphide hand specimen collected by Snowden from the waste stockpile at the Exman gypsum mine.



The sulphide domain shows similar mineralogy to the polished sections described by Alfonso and Cano (2000) (Figure 9.9). The sulphide texture is however different, being granular rather than coarse crustified or brecciated. This suggests that various sulphide textures may occur in the whole VMS system. Careful description of the structure and texture of sulphide rich blocks and/or exposure is required to deduce conditions of formation and significance in the VMS context.

Based on the observations from the two Snowden site visits the bulk of massive sulphide material occurs in the upper portions of the La Pastorera open pit with the pyritic siliceous unit stratigraphically below, outcropping in the deeper levels of the open pit and in the underground workings. The bulk of the massive sulphide material currently accessible for inspection is found on the waste stockpile (Figure 9.11). This vertical zonation between the units at La Pastorera is consistent with generic VMS models. The massive sulphide may have either a gradational or an unconformable relationship with the pyritic siliceous unit, the latter being suggested in Figure 7.13. Photographs in Alfonso and Cano, (2000) suggest the dip of the massive sulphide unit is south-westerly implying that outcrop will be present in the current western pit wall at the southern end of the La Pastorera pit.

It is a concern that the massive sulphide material appears to form as relatively small (<50 m scale) pods and lenses at La Pastorera, which may have implications in terms of tonnage potential. This may be a primary feature related to the nature of the La Pastorera/Aragón VMS system, or a function of contemporaneous or post mineralisation tectonic activity. This may not be typical of other massive sulphide bodies that may be identified by Waymar as part of their planned exploration. It should also be born in mind that the La Pastorera massive sulphide mineralisation was discovered as a result of gypsum mining and not through a specific VMS exploration programme. Despite the apparently small size of the massive sulphide body, the grades encountered are very encouraging.

Figure 9.11 Large boulder of massive sulphide on the waste stockpile at the Exman gypsum mine. The sample contains both siliceous and massive sulphide material, sulphide rich zones are weathered to brown iron oxides. Snowden samples 305-1, 305-2 and 305-3 were collected from this boulder (Source: Snowden site visit, 2010)

9.3 Pyritic siliceous unit

The pyritic silicified unit is mapped within the underground gypsum workings at La Pastorera and are traceable in the western wall of the open pit and the access road (Figures 7.13, 9.2, 9.12 and 9.13) (Kedahda 2006, Peñoles, 2006). This layer predominantly occurs on the western side of the gypsum body although it is present to the north east in the underground workings (Figure 9.11). The dip of the western limb is clearly to the east, with gross dips within the underground section of approximately 50°E, with dips being steeper in the open pit walls (Figure 7.13).

The western limb of the siliceous unit varies in thickness between 7 m and 22 m. Kedahda (2006) provide a brief description. Contacts with gypsum appear to be sharp but the layer may show brecciation. Pre-cursor lithologies are reported as lapilli tuffs with minor fine sediments, possibly black mudstones. Replacement mineralogy is medium grained quartz, gypsum and pyrite, with epidote, chlorite and biotite also present. Some areas contain sphalerite whilst galena and bornite has also been identified. Assay results confirm the presence of gold, zinc and minor silver mineralisation.

The relationship of this siliceous unit with the overlying, westerly dipping, massive sulphide and the tuff-chert-barite sequence is uncertain. Kedahda (2006) considers that the pyritic silicified unit is a second body of mineralization and show it stratigraphically below the massive sulphide horizon. There may also be a distinction between this unit and the siliceous material associated with the massive sulphide layer.

9.4 Barite, chert, and pyritic tuffs

These units are located above the massive sulphide and gypsum units in the upper levels of the La Pastorera open pit and form part of the Miembro Transicional (Alfonso and Cano, 2000, Niverengo, 2001). The tuffs form a unit capping the gypsum / massive sulphide sequence and host thin barite and chert layers. The tuffs are pyritic and locally carry massive pyrite layers up to 3 m thick. Pyritic mineralisation is also reported from the Aragón pit, consisting mainly of finely crystalline to granular exhalative pyrite horizons as well as pyrite disseminations within the volcano-sedimentary rocks in the mine area (Snowden, 2007).

The barite layer is described as being 20 cm to 50 cm thick and traceable for over 200 m. It is described as being mottled, grey coloured and massive. Figure 7.12 shows the trace of the barite layer above the massive sulphide unit. The barite layer appears to be overlain by, and possibly inter finger with, the thicker tuff unit. Figure 7.8 shows the barite layer extending as an inferred outcrop around the anticline at La Pastorera.

A chert layer is shown immediately below the barites layer in Figure 7.12. Another chert layer is reported in the tuffs above the barites layer. However it is worth noting that most parts of the host volcanic sequence is reported to contain chert.

Snowden note that the black carbonaceous shale unit observed in the deeper levels of the La Pastorera pit is not identified in this sequence of hanging wall rocks. This implies that the black shales form on the footwall to the gypsum and pyritic silicified unit, although the nature of the contact may be unconformable or faulted.

9.5 Sericite-chlorite-pyrite alteration

A segment of the western side of the La Pastorera open pit shows tuffs altered to pyllosilicates with locally abundant pyrite (Figures 9.2 and 9.14). Niverengo (2001) suggest that pyrite emplacement was a separate event and more extensive event than the massive sulphide event. This alteration lies adjacent to the El Cuño Fault which structurally affects the hanging wall tuffaceous unit. Kedahda (2006) suggests that this alteration may represent the root zone of the La Pastorera/Aragón VMS system. If the observed stratigraphic sequence is correct this alteration is emplaced in tuffs above the barites and massive sulphides making this interpretation unlikely.

9.6 Explosive centres: Breccias.

Two breccia occurrences are reported in the vicinity of the Exman gypsum mines, La Cueva and La Maluca (Figures 7.7 and 7.10) (Niverengo 2001). Both are mapped as approximately 200 m along the largest dimension but exposure in both areas is poor. The La Maluca breccia is located approximately 2 km northwest of La Pastorera mine and emplaced in basalt dominated Barroso Formation. The La Cueva breccia located approximately 500m south of the Aragón mine (Figure 9.15). Again this is predominantly emplaced in the basalt dominated Barroso Formation but its location is adjacent to the Aragón fault

The La Cueva breccia is described as having a matrix of calcite and chalcedonic silica with clasts including opaline silica and sulphidised volcanic material including basalt, andesite and dacite porphyry. Opaline silica and pyrite are present in stockworks. The La Maluca breccia has a siliceous matrix with pyrite and some carbonate minerals. Clasts include bleached and silicified tuff and agglomerate and polymetallic sulphide and laminated pyrite. Stockworks with clay-silica-sulphide veining occur. Niverengo (2001) interpret both breccias as being related to the La Pastorera/Aragón VMS system, concluding that they may be feeder systems. Snowden observe that breccias are an element in several styles of mineralisation, including VMS deposits, and note that these breccias may be unrelated to the La Pastorera/Aragón mineralisation.

Figure 9.12 Plans of the underground gypsum workings at La Pastorera, showing Kedahda and Peñoles sampling locations. Coordinates in UTM (WGS84, 18N) Yellow = pyritic silicified horizon Pink = gypsum. Upper level 913 m, lower level 906 m. (Provided by CGL, original source Peñoles, 2006(?), modified and annotated by Snowden)

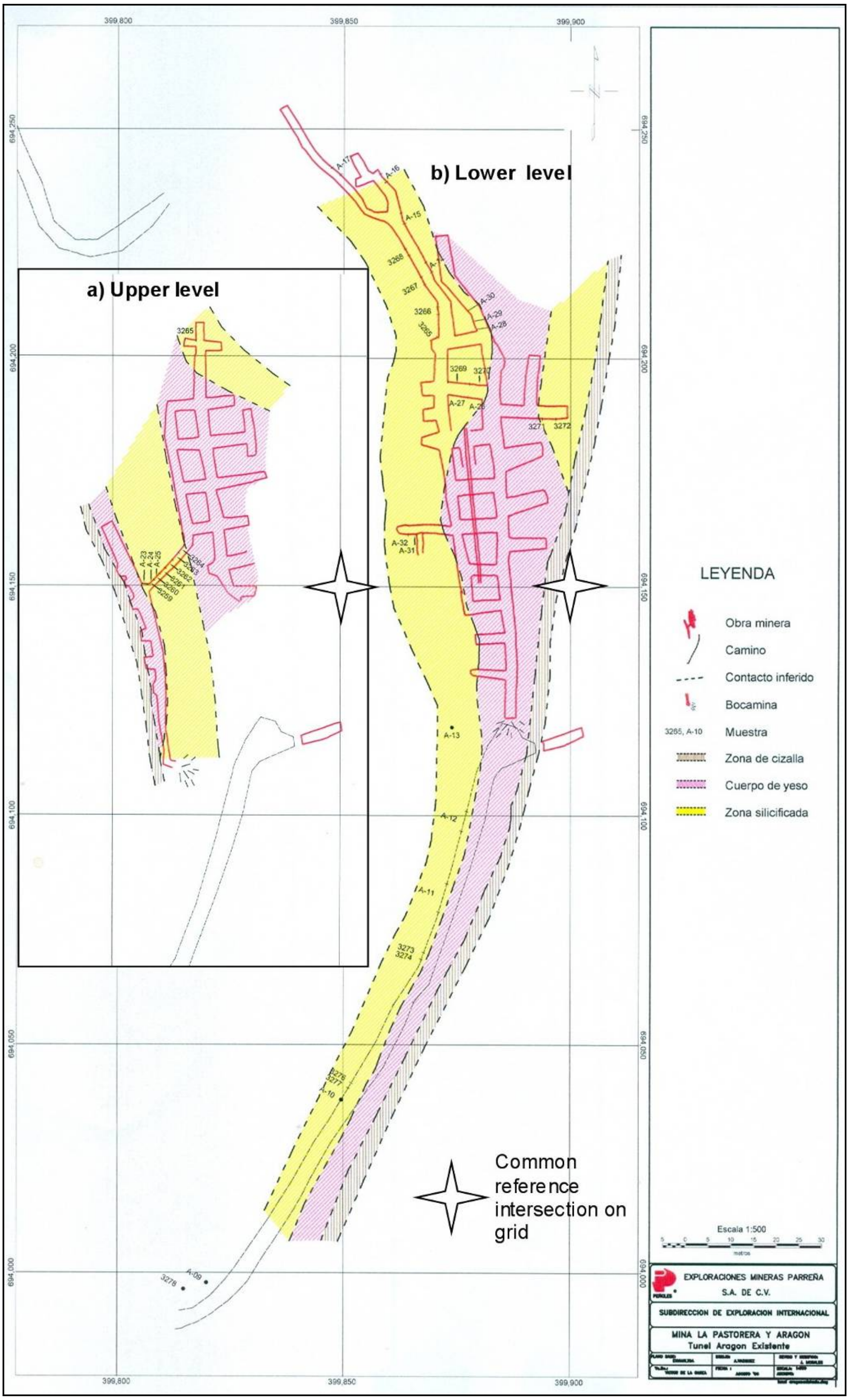


Figure 9.13 Steep layering within pyritic silicified layer in outcrop on the western wall of the La Pastorera pit. The darker brown lenses may represent areas of massive sulphide (Source: Snowden site visit, 2007)

Figure 9.14 Photograph of the La Pastorera pit showing the location of the sericite-chlorite-pyrite alteration zone and the massive sulphide (Source: Alfonso and Cano, 2000)

Figure 9.15 Photograph showing the Aragón open pit and the location of the La Cueva breccia (Source: Alfonso and Cano, 2000)

9.7 Snowden comments on deposit type and mineralisation

The mineralised massive sulphide and pyritic siliceous units at La Pastorera/Aragón appear to be intimately associated with gypsum accumulations. This association is a regular feature of the classic Kuroko deposits but absent or extremely rare in other VMS types. Barite mineralization, as a capping layer that was deposited after the main sulphide event, is also a conspicuous, though not unique, feature of Kuroko deposits. These geological features and the lead - zinc dominated character of the massive sulphide samples led Niverengo (2001) and others to interpret the Anzá deposits as Kuroko type.

Other aspects of the La Pastorera/Aragón mineralisation contradict this assumption. The gross host succession is basaltic and the local pyroclastics are intermediate in composition, suggesting that the deposit formed in a geological environment more typical of the mafic VMS type. The gypsum observed underground at La Pastorera shows black shale layers and colour banding is also described. This suggests that gypsum (or anhydrite precursor) was deposited as part of a sedimentary sequence as sulphate sediment on the seafloor. Alternating gypsum-black shale deposition indicates a relatively long-lived geological episode of sulphate deposition. The lack of extensive veining in the host gypsum may indicate that the mineralisation should be viewed as stratabound replacement of a permeable sediment layer during exhalite activity.

Effectively the La Pastorera/Aragón deposit has the metals and some aspects of the deposit sequence of a Kuroko style system but occurs in a basic-intermediate volcanic setting. This suggests that although it is entirely reasonable to view it as a volcanic related sea floor deposit with an exhalite component, a specific Kuroko model should be used with great care. A local model developed from first principles would provide the best approach to exploration.

10 Exploration

10.1 Exploration History

10.1.1 The La Pastorera and Aragón gypsum deposits

The presence of gypsum occurrences in the Anzá area was first noted in 1972 and these deposits were subsequently mined on an artisanal scale until the Exman open pit mine was established in 1991. The presence of sulphide mineralisation in close proximity to the gypsum bodies was noted in 1998 although the mine workers reportedly discarded "contaminated gypsum" onto mine dumps for several years prior to 1998 (Snowden, 2007). Initial sampling results for the massive sulphide unit, quoted by Niverengo (2001), include grades of up to 29.0% Zn, 2.25% Cu, 22.5% Pb and 216.0 g/t Au. No sample locations for these samples are available, but they are believed to have been collected from the massive sulphide unit in the upper levels of the La Pastorera open pit.

In recent years underground sampling was carried out by various parties in order to assess the base metal and gold potential. AngloGold Ashanti's Colombian subsidiary, Kedahda, and Peñoles collected 29 and 19 samples respectively in 2006. The Kedahda returned samples of up to 1.39% Zn and 39.4 g/t Au, whilst Peñoles returned results of up to >1.0% Zn (above the analytical detection limit) and 6.94 g/t Au. Copper and lead grades were both low. Both of these sets of results are significantly lower than the earlier results for the massive sulphide unit quoted by Niverengo (2001). Snowden interpret this difference to reflect the samples being collected from the pyritic siliceous unit rather than the massive sulphide.

Waymar provided additional sampling results from 12 samples collected by Perez in 2007. Ten of these samples were from La Pastorera and two from Aragón. The La Pastorera samples returned grades of up to 19.8% Zn, 1.13% Cu and 9.21 g/t Au. One of the Aragón samples returned grades of 2.87% Zn, 0.97% Cu and 139.12 g/t Au. The exact location of the Perez samples is uncertain as no location map was supplied and the quoted coordinates are displaced from the existing mine workings and pit walls. The displaced coordinates are likely to be the result of sample sites being positioned by use of a hand held GPS unit. The range of results from the Perez samples suggests that a mixture of massive sulphide and pyritic siliceous unit were sampled.

Table 10.1 provides a summary of the available sample results from the La Pastorera and Aragón mines. Sample locations of the Kedahda and Peñoles samples are shown on the maps in Appendix A. No details are available on the sampling methodology used or any QA/QC procedures in place for these samples.

Table 10.1 Summary of sampling results from the Exman gypsum mine (Source; Niverengo, Kedahda, Peñoles and Waymar)

Sample No	Sampled By	Mine	Au (ppm)	Ag (ppm)	Cu (%)	Pb (%)	Zn (%)
1000	Exman	La Pastorera	261.00	29.60	2.250	21.800	24.150
1326	Exman	La Pastorera	0.55	5.60	0.010	0.030	0.040
1327	Exman	La Pastorera	0.50	8.70	0.020	0.010	0.020
1332	Exman	La Pastorera	0.33	0.30	0.010	0.010	0.060
1333	Exman	La Pastorera	33.87	18.50	1.640	22.500	29.000
1334	Exman	La Pastorera	9.87	21.50	1.230	3.800	20.500
MN-06	Shaw	La Pastorera	1.32	4.10	0.060	0.010	0.600
MN-07	Shaw	La Pastorera	6.71	16.80	1.860	2.850	26.940
B-1	Billiton	La Pastorera	2.90	23.20	0.730	0.410	18.400
B-2	Billiton	La Pastorera	1.80	19.80	1.200	0.030	15.100
71990	Peñoles	La Pastorera	17.23	7.00	0.290	0.560	0.950
71991	Peñoles	La Pastorera	1.79	16.00	0.610	0.690	8.100
12003259	Kedahda 2006	La Pastorera	0.18	0.69	0.008	0.003	0.055
12003260	Kedahda 2006	La Pastorera	0.19	0.77	0.017	0.005	0.504
12003261	Kedahda 2006	La Pastorera	1.17	1.02	0.013	0.012	0.298
12003262	Kedahda 2006	La Pastorera	3.63	3.12	0.205	0.007	1.390
12003263	Kedahda 2006	La Pastorera	0.11	0.17	0.007	0.001	0.025
12003264	Kedahda 2006	La Pastorera	0.04	0.08	0.007	0.000	0.013
12003265	Kedahda 2006	La Pastorera	39.40	2.84	0.109	0.002	1.020
12003266	Kedahda 2006	La Pastorera	0.16	0.44	0.002	0.001	0.027
12003267	Kedahda 2006	La Pastorera	0.06	0.55	0.001	0.001	0.028
12003268	Kedahda 2006	La Pastorera	0.20	0.81	0.002	0.002	0.033
12003269	Kedahda 2006	La Pastorera	0.09	0.59	0.003	0.011	0.030

Sample No	Sampled By	Mine	Au (ppm)	Ag (ppm)	Cu (%)	Pb (%)	Zn (%)
12003270	Kedahda 2006	La Pastorera	0.07	0.86	0.001	0.001	0.015
12003271	Kedahda 2006	La Pastorera	0.03	0.41	0.003	0.001	0.008
12003272	Kedahda 2006	La Pastorera	0.06	0.60	0.001	0.001	0.015
12003273	Kedahda 2006	La Pastorera	11.70	1.99	0.041	0.157	0.976
12003274	Kedahda 2006	La Pastorera	2.32	0.95	0.019	0.031	0.477
12003276	Kedahda 2006	La Pastorera	0.05	125.00	0.010	0.041	0.081
12003277	Kedahda 2006	La Pastorera	0.09	32.40	0.004	0.021	0.086
12003278	Kedahda 2006	La Pastorera	0.69	1.21	0.008	0.005	0.059
12003279	Kedahda 2006	La Pastorera	0.08	0.51	0.001	0.001	0.011
12003281	Kedahda 2006	La Pastorera	0.09	0.53	0.002	0.001	0.011
12003282	Kedahda 2006	La Pastorera	0.12	0.52	0.004	0.002	0.050
12003283	Kedahda 2006	La Pastorera	0.11	0.66	0.004	0.002	0.202
12003284	Kedahda 2006	La Pastorera	0.07	0.45	0.005	0.016	0.062
12003285	Kedahda 2006	La Pastorera	0.12	0.82	0.002	0.002	0.006
12003286	Kedahda 2006	La Pastorera	0.17	0.99	0.002	0.002	0.006
12003287	Kedahda 2006	La Pastorera	0.07	0.61	0.002	0.001	0.005
12003288	Kedahda 2006	La Pastorera	0.02	0.32	0.001	0.001	0.005
12003289	Kedahda 2006	La Pastorera	0.05	0.18	0.001	0.001	0.007
AN-009	Peñoles 2006	La Pastorera	1.04	<2.00	0.016	0.009	0.167
AN-010	Peñoles 2006	La Pastorera	0.16	>10.00	0.007	0.069	0.139
AN-011	Peñoles 2006	La Pastorera	2.74	3.00	0.022	0.133	0.551
AN-012	Peñoles 2006	La Pastorera	6.94	4.00	0.223	0.219	>1.000
AN-013	Peñoles 2006	La Pastorera	2.59	3.00	0.054	0.268	0.745
AN-014	Peñoles 2006	La Pastorera	0.12	<2.00	0.003	0.002	0.048
AN-015	Peñoles 2006	La Pastorera	0.42	<2.00	0.003	0.006	0.051

Sample No	Sampled By	Mine	Au (ppm)	Ag (ppm)	Cu (%)	Pb (%)	Zn (%)
AN-016	Peñoles 2006	La Pastorera	0.39	<2.00	0.006	0.003	0.275
AN-017	Peñoles 2006	La Pastorera	0.12	<2.00	0.006	0.003	0.017
AN-023	Peñoles 2006	La Pastorera	0.78	<2.00	0.049	0.061	0.713
AN-024	Peñoles 2006	La Pastorera	1.29	<2.00	0.053	0.013	0.449
AN-025	Peñoles 2006	La Pastorera	4.62	7.00	0.097	0.016	0.579
AN-026	Peñoles 2006	La Pastorera	0.10	<2.00	0.041	0.003	0.688
AN-027	Peñoles 2006	La Pastorera	0.13	<2.00	0.011	0.046	0.106
AN-028	Peñoles 2006	La Pastorera	0.06	<2.00	0.003	0.003	0.037
AN-029	Peñoles 2006	La Pastorera	0.08	<2.00	0.004	0.027	0.025
AN-030	Peñoles 2006	La Pastorera	0.09	<2.00	0.003	0.003	0.056
AN-031	Peñoles 2006	La Pastorera	0.24	<2.00	0.002	0.003	0.040
AN-032	Peñoles 2006	La Pastorera	0.44	<2.00	0.005	0.007	0.040
4601	Perez 2007	La Pastorera	1.12	4.00	0.023	0.006	0.583
4602	Perez 2007	La Pastorera	0.01	0.20	0.008	0.004	0.138
4603	Perez 2007	La Pastorera	1.87	1.30	0.096	0.009	2.870
4604	Perez 2007	La Pastorera	9.21	2.00	0.103	0.104	1.460
4605	Perez 2007	La Pastorera	0.17	88.60	0.008	0.089	0.218
4606	Perez 2007	La Pastorera	0.37	0.80	0.032	0.004	0.174
4607	Perez 2007	La Pastorera	2.78	6.50	1.130	0.062	19.800
4608	Perez 2007	La Pastorera	2.16	0.60	0.062	0.002	0.149
4609	Perez 2007	Aragón	139.12	11.10	0.971	0.002	2.870
4610	Perez 2007	Aragón	0.24	0.60	0.025	0.003	0.817
4611	Perez 2007	La Pastorera	0.21	5.00	0.011	0.025	0.226
4612	Perez 2007	La Pastorera	0.90	1.20	0.035	0.005	0.305

10.1.2 Stream sediment sampling

Stream sediment sampling was carried out in the Anzá project area as part of an undergraduate student research project (Maya and Mejia, 1987). An area of 230 km² was surveyed and a total of 259 samples were collected. Geological mapping was also undertaken. The stream sediment samples were analysed for copper, lead and zinc and the results plotted in a series of maps (Figures 10.1 to 10.3) A series of distinct copper-zinc anomalies, with both metals >60 ppm, are apparent, one of which is coincident with the trend of the Aragón fault. This trend is well marked as the north northeast to south southwest trending zinc anomaly on the east side of Figure 10.2. Whilst the sampling density is low, Snowden consider the results to be encouraging in terms of exploration potential for the Anzá project. Further comment on the interpretation of these results is provided in Section 10.2.2

Figure 10.1 Stream sediment Cu anomalies for the Anzá project area, from the Maya and Mejia thesis. Coordinates in Colombian Gauss-Kruger grid (Source: Maya and Mejia 1987)

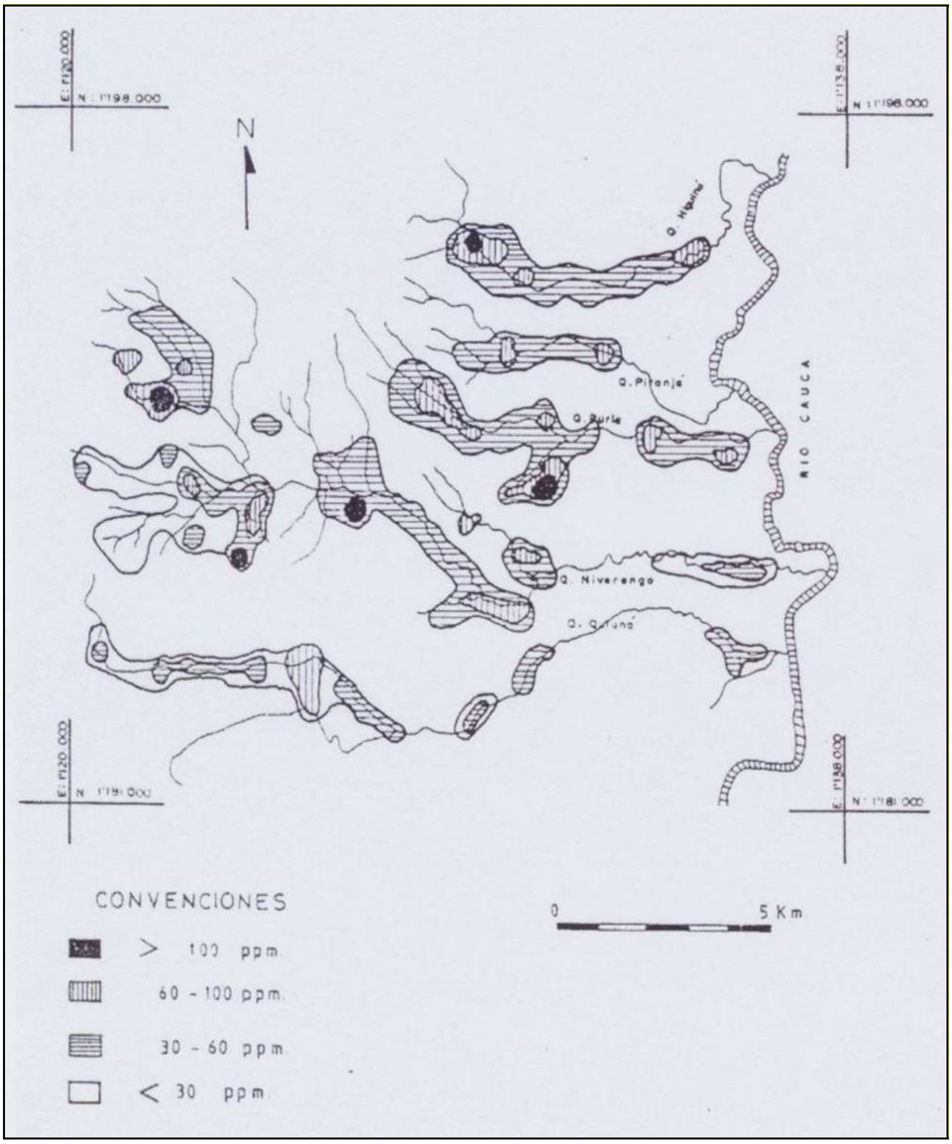


Figure 10.2 Stream sediment Zn anomalies for the Anzá project area, from the Maya and Mejia thesis. Coordinates in Colombian Gauss-Kruger grid (Source: Maya and Mejia 1987)

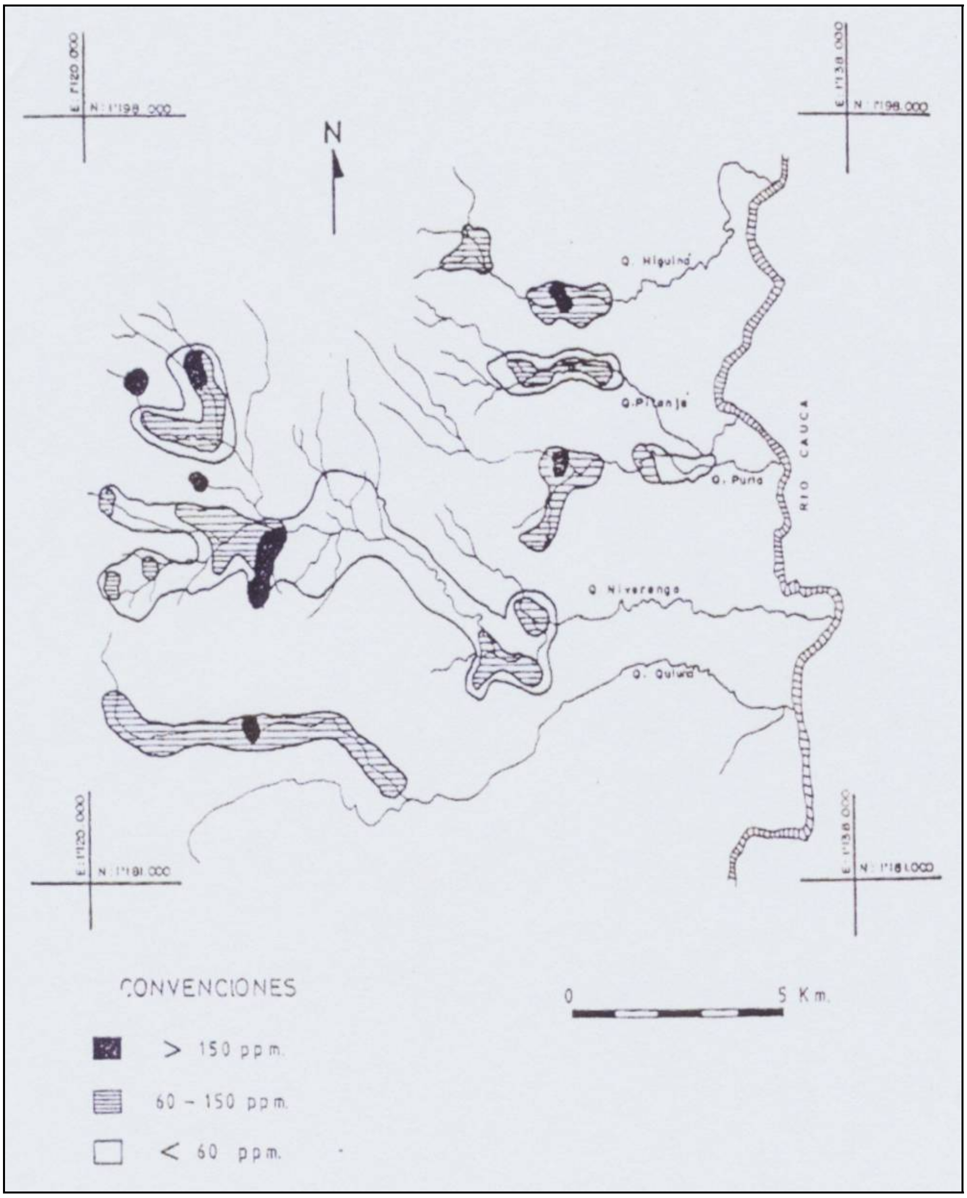
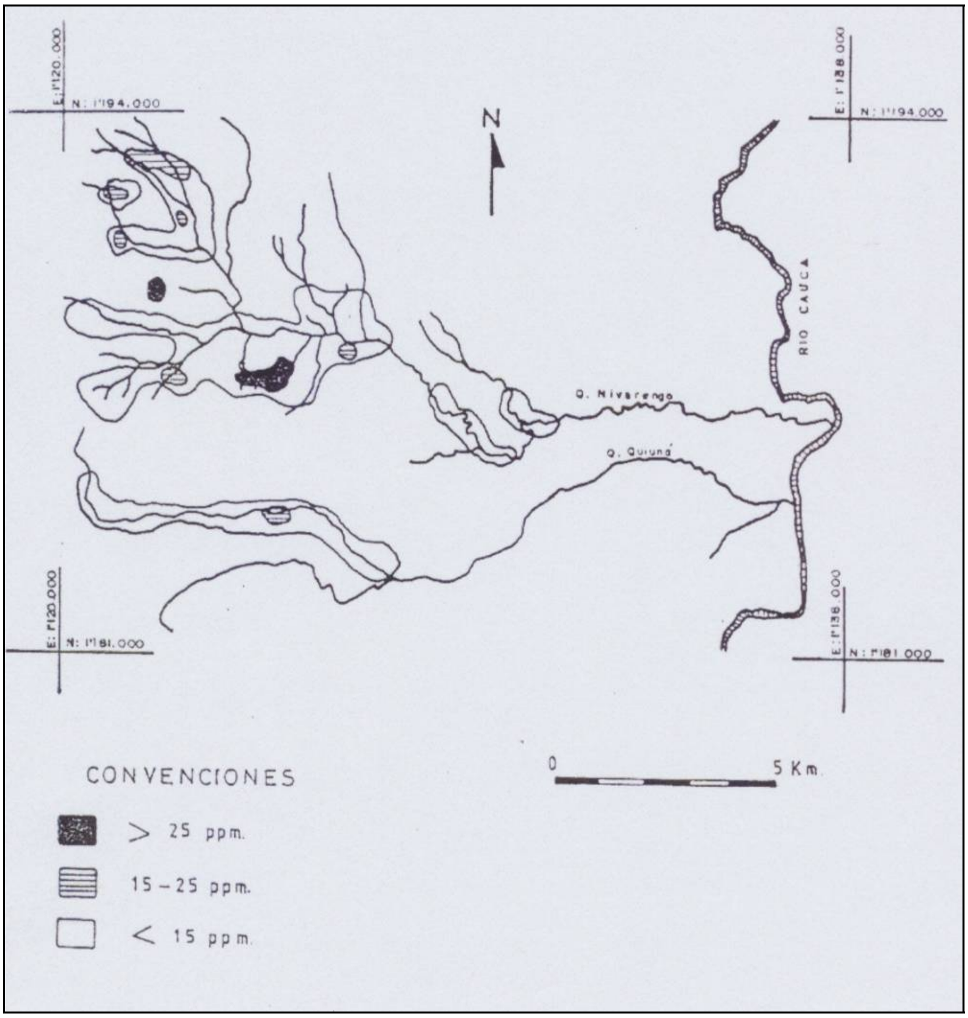


Figure 10.3 Stream sediment Pb anomalies for the Anzá project area, from the Maya and Mejia thesis. Coordinates in Colombian Gauss-Kruger grid (Source: Maya and Mejia 1987)



10.1.3 Regional exploration

Peñoles and Perez also collected 13 and 16 regional reconnaissance samples respectively in the vicinity of the Exman gypsum mine. Maximum values of 362 ppm Cu, 477 ppm Pb, 1,230 ppm Zn, and 278 ppb Au were returned. Table 10.2 provides a summary of these sample results and Figure 10.4 shows the location of the Peñoles samples. The Perez samples are not shown as these may be subject to the same GPS location errors as detailed above. No details are available on the sampling methodology used or of any QA/QC procedures in place for these samples.

Kedahda are reported to have carried out stream sediment and reconnaissance geological mapping in the Anzá area. No other information is available on this work, which may have formed part of a regional exploration programme (Snowden, 2007).

Figure 10.4 Plan showing the location of the Peñoles regional exploration samples. Coordinates in UTM (WGS84, 18N) (Provided by CGL, original source Peñoles, 2006(?))

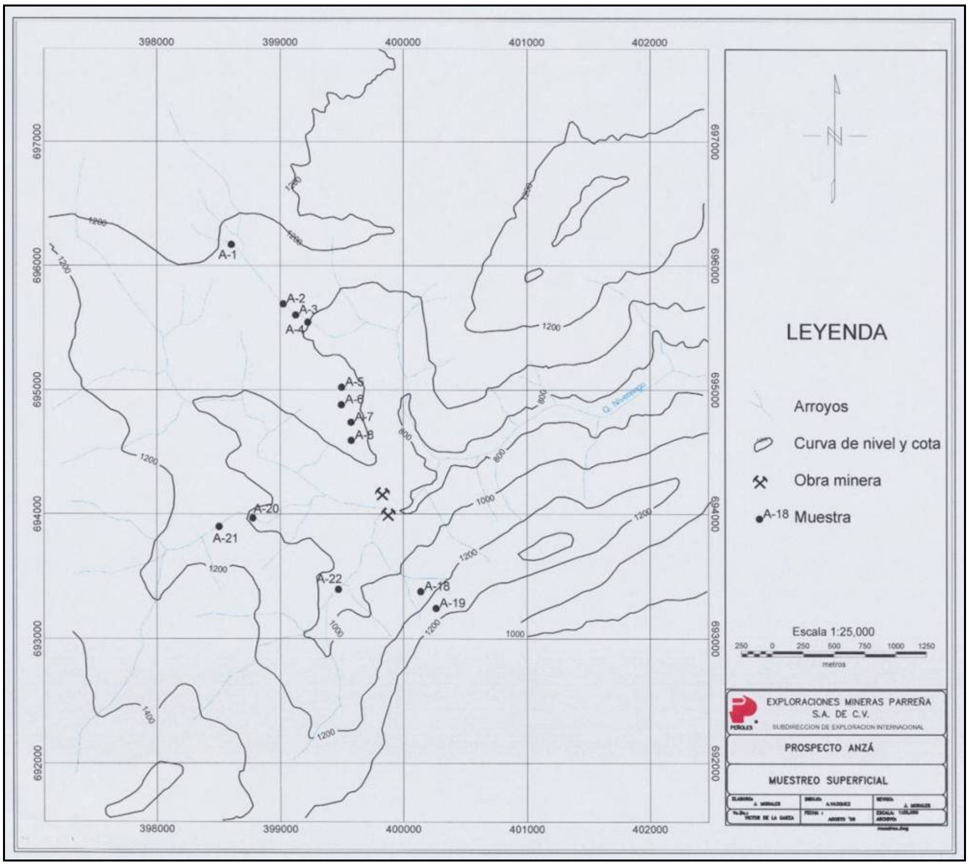


Table 10.2 Summary of regional exploration sampling from the Anzá project (Source; Peñoles and Waymar)

Sample No	Sampled By	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
AN-001	Peñoles 2006	27.0	<2	14.0	30.0	103.0
AN-002	Peñoles 2006	140.0	3.0	32.2	11.0	83.2
AN-003	Peñoles 2006	117.0	<2	120.0	80.0	405.0
AN-004	Peñoles 2006	75.0	<2	136.0	477.0	1230.0
AN-005	Peñoles 2006	112.0	<2	61.4	83.0	374.0
AN-006	Peñoles 2006	213.0	<2	155.0	176.0	310.0
AN-007	Peñoles 2006	44.0	<2	52.5	29.0	104.0
AN-008	Peñoles 2006	31.0	<2	362.0	13.0	650.0
AN-018	Peñoles 2006	108.0	>10	67.9	82.0	1040.0
AN-019	Peñoles 2006	48.0	<2	21.2	8.0	219.0
AN-020	Peñoles 2006	28.0	<2	79.6	7.0	70.7
AN-021	Peñoles 2006	47.0	<2	39.7	6.0	58.1
AN-022	Peñoles 2006	45.0	<2	46.8	10.0	491.0
4613	Perez 2007	-5.0	-0.2	17.1	5.0	72.4
4614	Perez 2007	-5.0	-0.2	15.0	3.0	50.5
4615	Perez 2007	21.0	0.7	16.2	45.0	427.8
4616	Perez 2007	8.0	1.3	57.6	22.0	128.1
4617	Perez 2007	12.0	6.8	38.9	36.0	703.1
4618	Perez 2007	-5.0	-0.2	91.0	-2.0	69.4
4619	Perez 2007	-5.0	0.3	17.4	3.0	99.1
4620	Perez 2007	6.0	-0.2	33.1	2.0	86.9
4621	Perez 2007	278.0	0.5	80.8	61.0	262.2
4622	Perez 2007	6.0	-0.2	26.3	2.0	48.1

Sample No	Sampled By	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
4623	Perez 2007	19.0	0.3	18.2	3.0	43.0
4624	Perez 2007	18.0	0.2	36.4	-2.0	72.6
4625	Perez 2007	8.0	-0.2	27.9	2.0	26.4
4626	Perez 2007	27.0	-0.2	26.7	2.0	42.2
4627	Perez 2007	12.0	0.6	15.5	3.0	34.6
4628	Perez 2007	36.0	0.6	25.0	4.0	38.9

10.2 Snowden site visit observations

As Snowden observations and comments on the geology of the La Pastorera and Aragón mines have been detailed elsewhere in this report, this section will provide more detail on other sites which are of exploration interest

10.2.1 Site visit observations – La Maluca stream

Massive sulphide float boulders are reported in the La Maluca stream to north of La Pastorera (Niverengo 2001). This stream also shows copper, zinc and lead stream sediment anomalies (Figures 10. to 10.3). During the 2010 site visited Snowden visited a southern tributary of the La Maluca stream (UTM 18N X = 400159, Y = 695125). The tributary contains several cobbles and boulders of heavily iron stained material including one very large 2 m x 1 m example (Figure 10.5). Snowden believe that this boulder may represent weathered massive sulphide. Based on its size it is likely to be close to its original outcrop. In close proximity to this boulder was a possible outcrop of gypsum in the river bed (Figure 10.6). The gypsum occurred in river bed and as an area of very soft partly decomposed gypsum in the river bank. As gypsum is high prone to weathering, this location in the Maluca tributary is likely to be very close to the original outcrop. In addition numerous large boulders and cobbles of laminated silica were observed which are very similar in appearance to those seen on the La Pastorera waste dumps (Figure 10.7).

During the 2007 site visit Snowden traversed the main La Maluca stream and failed to identify any massive sulphide boulders (Snowden, 2007). Exposures of basalt showing argillic alteration and 0.3m to 2.0 m thick siliceous and pyritic horizon were seen.

The location of the boulders observed in the Maluca tributary is approximately 1.1 km to the north (bearing 014°) of the La Pastorera mine. At this stage it is uncertain if this forms an extension of the La Pastorera mineralisation or forms an independent occurrence.

10.2.2 Site visit observations – La Cueva and La Maluca breccias

During the 2010 site visit Snowden visited the sites of both breccia bodies. Outcrop in both areas is poor and no examples of typical breccias were found.

At La Cueva outcrop of weathered and tuffaceous material with iron oxide staining was observed which could represent matrix material from a breccia body (UTM 18N X = 399488, Y = 694100). The nearby river gulley contained numerous boulders of basaltic material. The presence of the tuffaceous outcrop at La Cueva is encouraging from the regional exploration perspective although it is stressed that at present there is no confirmation of a genetic link between the breccia and the VMS mineralisation at La Pastorera/Aragón.

10.2.3 Site visit observations – Los Jesuitas

Snowden also attempted to visit the Los Jesuitas tributary of the Puria river, located to the north of the La Maluca stream. Maya and Mejia (1987) and Mejia (1999) defined a distinct copper and zinc stream sediment anomalies in this stream. Unfortunately, confusion arising from the large area and number of locations known locally as “Los Jesuitas”, resulted in the wrong site being visited.

The area Snowden visited was on the northern diorite body to the west of the Los Jesuitas tributary. (UTM 18N X = 399500, Y = 697250). Outcrop of weathered diorite and heavily weathered volcanics(?) was noted, without any signs of mineralisation.

Figure 10.5 Weathered boulder of possible massive sulphide boulder in the Maluca tributary (Source: Snowden site visit 2010)

Figure 10.6 Possible gypsum outcrop in the floor of the Maluca tributary. The large boulder behind the figure is composed of laminated silica (Source: Snowden site visit 2010)

Figure 10.7 Laminated silica boulder from the Maluca tributary (Source: Snowden site visit 2010)

10.3 Exploration potential

Snowden consider that the Anzá project has good exploration potential for both gold and base metals. Three areas of exploration potential have been defined by Snowden based largely on the results of the 1987 stream sediment sampling, observations by Alfonso and Cano (2000), and discussions with Raúl Mejia during the 2010 site visit. These areas are defined in Figure 10.8 and discussed below.

La Pastorera/Aragón VMS trend. This forms a northwest – southeast trending, 3.5 km long target area centred on the La Pastorera and Aragón mines, and following the trend of the Aragón fault and is shown in more detail in Figure 10.9. The exploration target includes the La Cueva breccia, the La Maluca tributary visited during the 2010 site visit, and the Los Jesuitas stream. The latter area was identified during the 1987 stream sediment programme with copper and zinc anomalies and the identification of pyrite and chalcopyrite in rock outcrops (Mejia, 1999) (Figure 10.8). An additional outcrop of gypsum was noted by Maya and Mejia (1987) in an eastern tributary of the La Maluca stream. Several of the Peñoles regional samples returned grades of >0.1 g/t Au and/or >0.05% Zn and warrant following up in the field.

Further west, up the Niverengo river, a second area with copper and zinc anomalies is noted (Figure 10.8). Pyrite, chalcopyrite, sphalerite, pyrrhotite, malachite and marcasite are noted in outcrop by Maya and Mejia (1987). The origin of these stream sediment anomalies and the observed mineralisation is uncertain and should be followed up by Waymar.

The bulk of this area is covered by the existing Anzá concessions

The northern diorite. This group of anomalies occur in the Puria, Pitanjá and Higuiná rivers and are marked by copper and zinc stream sediment anomalies (Figure 10.8). Pyrite, chalcopyrite, sphalerite, and pyrrhotite are noted in outcrop by Maya and Mejia (1987). This group of anomalies are interpreted to be related to mineralisation within the large diorite body immediately north of the Maluca drainage (Figure 7.7). This diorite intrusion is part of a later intrusive suite and thus not related to the La Pastorera/Aragón VMS mineralisation. Discussion with Raúl Mejia suggested that this mineralisation may be disseminated or stockwork in style.

The bulk of this area is covered by the existing Anzá concessions

Minas de Güintar. This target area covers the western group of stream sediment anomalies and forms a northwest to southeast trending zone in the headwaters of the Niverengo and Quiuná rivers (Figure 10.8). The area includes the Minas de Güintar mines, which reportedly exploit gold in quartz veins, however copper, zinc and lead anomalies are recorded from the 1987 stream sediments. Pyrite, chalcopyrite, sphalerite, pyrrhotite, arsenopyrite, malachite, marcasite and visible gold are noted in outcrop by Maya and Mejia (1987). Alfonso and Cano (2000) relate these anomalies to a group of mineralised breccia and porphyry systems and the existing mines appear to be located on small (<0.5 km) diameter diorite and gabbro bodies. The mineralisation in this area may also be related to quartz veining associated with the north south trending Sepultura fault.

The Anzá concessions cover a limited amount of this area, and these are predominantly in the south along the Quiuná river.

Figure 10.8 Stream sediment anomaly map for copper, also showing the location of areas of bedrock mineralisation and exploration target areas defined by Snowden. Coordinates in Colombian Gauss-Kruger grid (Modified from Mejia, 1999)

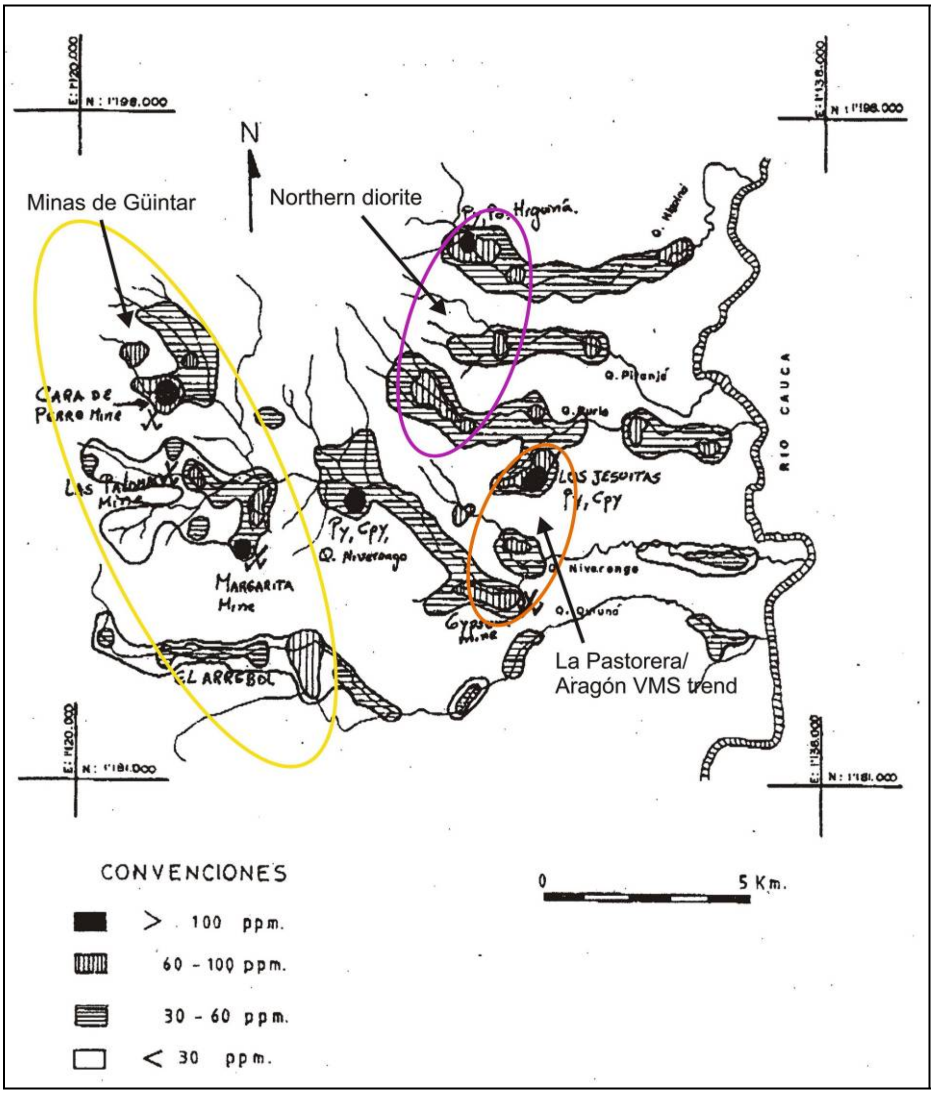
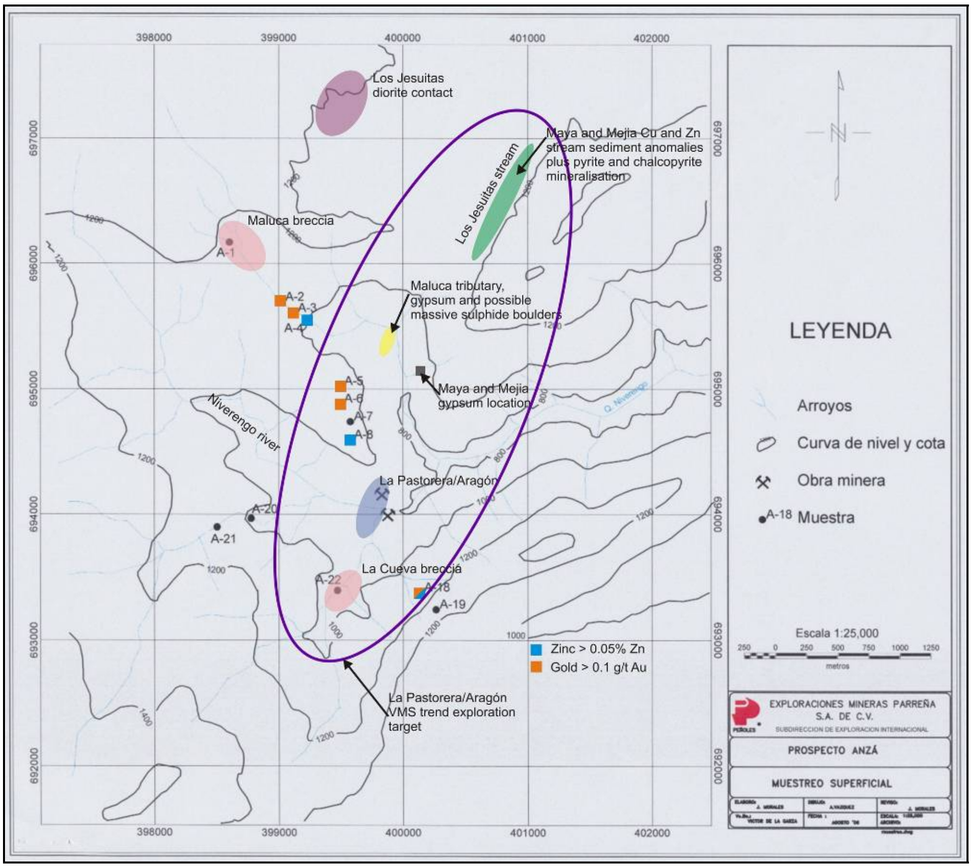


Figure 10.9 Composite map showing the La Pastorera/Aragón VMS trend, locations visited by Snowden during the 2010 site visit, anomalous areas identified by Maya and Mejia and regional sampling by Peñoles. Coordinates in UTM (WGS84, 18N) (Based on Peñoles, 2006(?) modified by Snowden)



10.4 Proposed exploration – La Pastorera / Aragón

The assay results detailed in Table 10.1 confirm the presence of significant gold and base metal grades at La Pastorera and Aragón. However as discussed in Sections 7 to 9 the geology of the VMS system at La Pastorera and Aragón appears to be complex. Two distinct units, the massive sulphide and the pyritic siliceous unit, are mineralised but with distinctly different distributions of gold and base metals. The massive sulphide unit is base metal and gold rich whilst the mineralisation in the pyritic siliceous unit is gold and zinc dominated.

Initial exploration should focus on developing a three dimensional geological model of the La Pastorera/Aragón VMS system. In particular this should involve detailed geological mapping and re-sampling of the La Pastorera and Aragón mines with the intention of resolving the complex geological structure and understanding the relationship between the massive sulphide and the pyritic siliceous unit. In order to achieve this, resurveying of the existing open pits and underground development is a prerequisite. All existing sampling and geological information should be digitised and a project database established.

A follow up drilling programme, aimed at confirming the geological interpretation and testing any potential extensions to the mineralisation should then be implemented. The existing underground development offers flexibility in selection of drilling locations particularly in areas where surface access on the fringes of the open pit may be difficult.

10.5 Proposed exploration – Regional

To date very limited regional exploration has been carried out. Based on the stream sediment sampling undertaken by Maya and Mejia in 1987, three exploration targets have been defined (Figure 10.8).

The existing stream sediment and regional geological data should be compiled into a spatial database and the data processed using modern exploration software packages such as Target. All known mineral occurrences in the area should be visited in order to confirm their locations and to record the characteristics of their geology and mineralisation. The principal stream sediment anomalies should be followed up by a detailed stream sediment sampling programme as well as geological mapping.

Once the presence of the stream sediment anomalies are confirmed they should be investigated further by geological mapping and expanding the sampling coverage with soil sampling. Snowden recommend that orientation surveys be carried out in the vicinity of La Pastorera pit in order to confirm the optimum sample size fraction to be used for the detection of gold and base metal mineralisation in stream sediment and soils sampling.

No geophysical surveying has been undertaken in the Anzá project area. Airborne and ground geophysics (particularly magnetics) can be very effective at locating VMS deposits and are an important tool in regional geological and structural mapping (Ford et al, 2008). Snowden recommend the use of geophysics at Anzá, initially as an airborne survey incorporating, magnetics, electromagnetic, gravity and radiometrics. Follow-up ground geophysics surveys, including induced polarisation, should be undertaken on promising target areas. Snowden note that the steep topography at Anzá may preclude the use of fixed wing aircraft for airborne surveys.

The acquisition of satellite imagery should be considered as a tool to assist in the structural and alteration mapping of the Anzá project and in regional exploration programmes.

For first pass exploration planning digital elevation data can be sourced from the National Aeronautics and Space Administration (NASA). NASA acquired global topographic data as part of the Shuttle Radar Topography Mission (SRTM) using radar interferometry. Further information is available at http://www2.jpl.nasa.gov/srtm/. For all areas where more detailed exploration will be undertaken, such as the La Pastorera and Aragón mines, SRTM data should be replaced by an accurate topographic survey.

Review of the geochemical and geophysical survey date should lead to the identification of primary targets for follow up geological drilling. Trenching can be considered in areas where the topography is amenable for access.

It is imperative that Waymar establish QA/QC protocols and sampling procedures that meet industry norms for all sampling that is undertaken.

11 Drilling

No drilling for VMS mineralisation has been undertaken at the Anzá project. Snowden understand that one drillhole for gypsum was completed at the Exman mine.

12 Sampling method and approach

Waymar have yet to commence exploration at the Anzá project. No details are available on their proposed sampling procedures. Snowden recommend that sampling protocols meeting industry norms be put in place before the commencement of any form of exploration sampling.

13 Sample preparation, analyses and security

Waymar have yet to commence exploration at the Anzá project. No details are available on their proposed sample preparation and QA/QC protocols. Snowden recommend that sample preparation and QA/QC protocols meeting industry norms be put in place before the commencement of any form of exploration sampling.

14 Data verification

14.1 Data verification by Snowden during 2010 site visit

Data verification during the Snowden 2010 site visit comprised the confirmation of the location of the Exman mine and its facilities, and the collection of verification samples in order to confirm the tenor of the base metal and gold mineralisation.

14.1.1 The La Pastorera and Aragón mines

Snowden visited the Exman gypsum mine and various other locations in the vicinity including, the La Cueva and La Maluca breccias and the Maluca stream. Snowden can confirm that these locations are correctly described by Exman, CGL and in the various reports used in the compilation of this report. Snowden used a Garmin 12XL GPS unit during the site visit in order to confirm the position of the locations visited.

Snowden have accepted the accuracy of the digital plans of the La Pastorera mine provided by CGL (Figure 9.11). The underground development at La Pastorera viewed during the 2010 site visit is consistent with the underground development detailed on these plans. It should be noted that additional development, including additional levels, has taken place since these plans were produced. Resurveying of the La Pastorera and Aragón mines is recommended to facilitate the remapping of both mines.

Snowden has not attempted to verify the Anzá concessions boundaries detailed on the project maps supplied by CGL. Separate legal due diligence is being undertaken by Waymar which will confirm the legal tenure and status of the concession contracts.

14.1.2 Snowden verification sampling

Snowden collected 13 verification samples during the 2010 site visit. These comprised six samples from the 913 m level on the La Pastorera mine, one from the La Cueva breccia area, four from the waste stockpile, and two from the Maluca tributary.

The La Pastorera samples were collected as continuous chip samples along 1 m channels (Figure 14.1). An example of one of the channel samples is provided in Figure 14.2. These samples were intended to repeat the channel samples collected by Kedahda in 2006, although Snowden elected to collect 1 m samples rather than repeating the 2 m samples collected by Kedahda.

Four samples of massive sulphide material were collected from the waste stockpile (Figure 9.11). The La Cueva sample was collected from an outcrop of weathered tuffaceous material which may represent the matrix material to the breccia body (Figure 14.3). The two samples from the Maluca tributary were collected from a small weathered boulder with abundant iron oxide staining which may represent weathered massive sulphide (Figure 14.4).

The six La Pastorera underground channel samples were collected in plastic sample bags by Exman personnel under the supervision of Snowden. These were then labelled, double bagged and sealed on site by Snowden using coloured cable ties to seal the bag containing the sample. The remaining samples were collected in situ and by Snowden, and sealed in the same manner as described above

The samples were transported to the CGL offices in Medellín under Snowden supervision on 9th April 2010. Here they were packed into three boxes and shipped to the Snowden UK office on 12th April 2010.

Figure 14.1 Photograph of Snowden verification channel sample sites at the La Pastorera mine. Samples 302-1 to 302-6. (Source: Snowden site visit, 2010)

Figure 14.2 Photograph of Snowden verification channel sample 302-2 from the La Pastorera mine (Source: Snowden site visit, 2010)

Figure 14.3 Photograph of tuffaceous material in the La Cueva breccia outcrop area. Orange brown areas are weathered iron oxides and may represent oxidised sulphide mineralisation. Snowden sample number 303-1. (Source: Snowden site visit, 2010)

Figure 14.4 Photograph of an oxidised boulder in the Maluca tributary which may represent weathered massive sulphide material. Orange brown areas are weathered iron oxides and may represent oxidised sulphide mineralisation. Snowden sample number 306-1 and 306-2 (Source: Snowden site visit, 2010)

The samples arrived at the Snowden offices in the UK on 16th April 2010 and Snowden inserted its own certified reference material standards into the sample batch. The samples were then couriered to the OMAC laboratory in Ireland for sample preparation and assay on 19th April 2010.

At OMAC sample preparation consisted of drying, crushing to -2 mm, and the splitting of a 2 kg sub-sample. This 2 kg sub-sample was pulverised to P80 -75 µm. For each pulverised sample the following assays were undertaken,

- One 45 element ICP–MS analysis (multi acid digest) for base metals,
- One 30g FA/AA gold analysis,
- If high grade base metals were encountered in the ICP-MS assays, and additional ICPORE analysis was undertaken.

The OMAC assay certificates for these samples are provided in Appendix B.

14.1.3 Snowden verification sampling results

The Snowden verification sampling results are presented in Table 14.1. Significant gold and zinc grades are returned from the pyritic siliceous unit at La Pastorera, with gold, copper and zinc present in the massive sulphide material from the stockpiles. These samples confirm the presence of mineralisation in these units. The samples from the La Cueva breccia and the La Maluca stream returned low results, although it should be born in mind that the latter samples were of weathered material.

It is apparent from the Snowden results that higher copper values are present in the massive sulphide compared to the pyritic siliceous units. This is consistent with the existing sampling results. Assay results for lead were poor, although it should be noted that the presence of galena in the stockpile specimen described by Snowden (Figure 9.10) clearly shows that lead is present in some of the massive sulphide material.

Table 14.2 compares the Snowden samples from La Pastorera with the equivalent samples from Kedahda. Both sets of samples indicate the presence of gold and zinc mineralisation but the Kedahda samples are noticeably lower grade than the Snowden samples. The reasons for this may relate to difficulties in locating the exact positions of the sample channels used by Kedahda, the differing sampling lengths or sampling the methodology (Kedahda may have collected larger or smaller sample volumes per metre than Snowden). Allowing for these differences, the results suggest distinct grade variations can occur over relatively small distances in the pyritic siliceous unit giving a local nugget effect. This is a feature that can develop in feeder environments of VMS systems. Waymar need take cognisance of this in developing their exploration sampling procedures and QA/QC protocols.

Tables 14.3 summarise the results of the samples collected from the La Cueva and La Maluca breccias. Whilst these results are low, it is noticeable that the base metal results from La Cueva are higher than those from La Maluca. From an exploration point of view the three zinc assays of >400 ppm Zn and two silver assays of >1 ppm Ag at La Cueva warrant following up in the field.

Table 14.1 Summary of Snowden verification sampling from the Anzá project collected during the 2010 site visit

Sample number	Location	Description	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
302-1	La Pastorera	Pyritic siliceous unit	3.80	0.42	<0.01	11.83	1.90
302-2	La Pastorera	Pyritic siliceous unit	5.34	0.49	<0.01	14.74	2.80
302-3	La Pastorera	Pyritic siliceous unit	0.27	0.04	<0.01	0.92	0.70
302-4	La Pastorera	Pyritic siliceous unit	1.82	0.05	0.01	0.41	0.60
302-5	La Pastorera	Pyritic siliceous unit	28.73	0.08	<0.01	1.14	10.70
302-6	La Pastorera	Pyritic siliceous unit	19.98	0.28	0.01	3.97	7.30
303-1	La Cueva	Weathered tuff/matrix	0.01	0.01	Tr	0.02	<0.50
305-1	Waste stockpile	Massive sulphide	0.21	2.46	0.01	16.26	27.20
305-2	Waste stockpile	Massive sulphide	0.71	9.12	0.01	7.65	53.60
305-3	Waste stockpile	Massive sulphide	0.32	0.66	0.01	4.39	12.20
305-4	Waste stockpile	Massive sulphide	7.43	0.54	<0.01	9.01	6.90
306-1	Maluca tributary	Weathered massive sulphide?	0.03	0.02	<0.01	0.14	<0.50
306-2	Maluca tributary	Weathered massive sulphide?	0.03	0.01	<0.01	0.05	<0.50

Table 14.2 Comparison between Kedahda 2006 and Snowden 2010 channel sampling from the pyritic siliceous unit at the La Pastorera mine

Kedahda 2006						Snowden 2010					
Sample number	**Au (ppm)**	**Ag (ppm)**	**Cu (%)**	**Pb (%)**	**Zn (%)**	**Sample number**	**Au (ppm)**	**Ag (ppm)**	**Cu (%)**	**Pb (%)**	**Zn (%)**
12003260	0.19	0.77	0.02	0.01	0.50	302-1	3.80	1.90	0.42	<0.01	11.83
						302-2	5.34	2.80	0.49	<0.01	14.74
12003261	1.17	1.02	0.01	0.01	0.30	302-3	0.27	0.70	0.04	<0.01	0.92
						302-4	1.82	0.60	0.05	0.01	0.41
12003262	3.63	3.12	0.21	0.01	1.39	302-5	28.73	10.70	0.08	<0.01	1.14
						302-6	19.98	7.30	0.28	0.01	3.97

Table 14.3 Summary of samples collected from the La Cueva and La Maluca breccias

Sample No	Breccia body	Sampled By	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
AN-022	La Cueva	Peñoles 2006	0.05	<2.0	47	10	491
4613	La Cueva	Perez 2007	<0.01	<0.2	17	5	72
4614	La Cueva	Perez 2007	<0.01	<0.2	15	3	51
4615	La Cueva	Perez 2007	0.02	0.7	16	45	428
4616	La Cueva	Perez 2007	0.01	1.3	58	22	128
4617	La Cueva	Perez 2007	0.01	6.8	39	36	703
303-1	La Cueva	Snowden 2010	0.01	<0.5	82	<3	172
AN-001	La Maluca	Peñoles 2006	0.03	<2.0	14	30	103
4623	La Maluca	Perez 2007	0.02	0.3	18	3	43
4624	La Maluca	Perez 2007	0.02	0.2	36	<2	73
4625	La Maluca	Perez 2007	0.01	<0.2	28	2	26
4626	La Maluca	Perez 2007	0.03	<0.2	27	2	42
4627	La Maluca	Perez 2007	0.01	0.6	16	3	35
4628	La Maluca	Perez 2007	0.04	0.6	25	4	39

15 Adjacent properties

The nature of the Colombian licensing system is conducive to fragmented ground holdings and this is the case with the Anzá project (Figure 4.5). Some adjacent concessions contain the Minas de Güintar artisanal gold mines. It is uncertain if the concessions in the Minas de Güintar area are held by the artisanal miners or by other mining companies. The ownership of the Cangrejo gypsum deposit, 20 km to the south of the Anzá project is unknown.

Exman believe that AngloGold Ashanti and BHP Billiton may have current licence applications in the Anzá area.

16 Mineral processing and metallurgical testing

No mineral processing or metallurgical testwork has been undertaken on samples from Anzá.

17 Mineral resource estimates

There are no existing resource estimates for any deposits within the Anzá project area.

18 Other relevant data and information

Snowden is not aware of any other relevant information that must be detailed in the Technical Report that would change the conclusions or interpretations.

19 Interpretation and conclusions

19.1 Deposit type

Snowden are confident that the pyritic siliceous and massive sulphide units present at the La Pastorera and Aragón mines represent part of a VMS system, although the full nature and overall characteristics of the deposit and its generic type are unclear at this stage.

The presence of gypsum is a regular feature of classic Kuroko VMS deposits but absent or extremely rare in other VMS types. Barite mineralization is also a conspicuous, though not unique, feature of Kuroko deposits. These geological features and the lead - zinc dominated character of the massive sulphide samples led Niverengo (2001) and others to interpret the Anzá deposits as Kuroko type.

However other aspects of the La Pastorera / Aragón mineralisation contradict this assumption. The gross host succession is basaltic and the local pyroclastics are intermediate in composition, suggesting that the deposit formed in a geological environment more typical of the mafic VMS type. The characteristics of the gypsum suggests that it was deposited as part of a sedimentary sequence as sulphate sediment on the seafloor, possibly as anhydrite. In this scenario the gypsum may be an unrelated hostrock to the VMS system which deposited the base metal and gold mineralisation.

Structural features such as faulting and folding also have a significant role in complicating the overall geological model. The structural complexity is highlighted by the presence of both anticlinal and synclinal structures at La Pastorera.

VMS systems can develop in a complex manner with several vent locations developing over time. This process may result in a deposit with a complex internal morphology and age relationships. In the case of the La Pastorera/Aragón deposits the close spatial relationship between gypsum (normally from a distal location) and the pyritic siliceous material (which may represent a feeder stockwork) suggests that multiple vents may have formed over time, with later vents occurring in distal portions of earlier vent systems. Waymar need to develop from first principles a local geological model for the deposition of the various stratigraphic units present at La Pastorera/Aragón. This can then be applied as an exploration model for the Anzá project as a whole.

19.2 Exploration potential

Snowden consider that the Anzá project has good exploration potential for both gold and base metals. Three areas of exploration potential have been defined by Snowden based largely on the results of the 1987 stream sediment sampling, observations by Alfonso and Cano (2000), and discussions with Raúl Mejia during the 2010 site visit. These areas are shown in Figure 10.8 and 10.9 and are summarised below;

La Pastorera/Aragón VMS trend.

This forms a northwest – southeast trending, 3.5 km long target area centred on the La Pastorera and Aragón mines, and following the trend of the Aragón fault. The exploration target includes the La Cueva breccia, the La Maluca tributary visited during the 2010 site visit, the Los Jesuitas stream and an additional La Maluca tributary with gypsum outcrop. Several of the Peñoles regional samples returned grades of >0.1 g/t Au and/or >0.05% Zn and warrant following up in the field, as do the higher grade samples collected from the La Cueva breccia.

A second area to the west, up the Niverengo river, contains copper and zinc stream sediment anomalies and pyrite, chalcopyrite, sphalerite, pyrrhotite, malachite and marcasite are noted in outcrop. The origin of these stream sediment anomalies and the observed mineralisation is uncertain and should be followed up by Waymar.

The bulk of this area is covered by the existing Anzá concessions

The northern diorite

This group of anomalies occur in the Puria, Pitanjá and Higuiná rivers and are marked by copper and zinc stream sediment anomalies. Pyrite, chalcopyrite, sphalerite, and pyrrhotite are noted in outcrop. This group of anomalies are interpreted to be related to disseminated or stockwork style mineralisation within a large diorite body to the north of the Exman mine. This diorite intrusion is part of a later intrusive suite and thus not related to the La Pastorera/Aragón VMS mineralisation.

The bulk of this area is covered by the existing Anzá concessions

Minas de Güintar

This target area covers the western group of stream sediment anomalies and forms a northwest to southeast trending zone in the headwaters of the Niverengo and Quiuná rivers. The area includes the Minas de Güintar mines, which exploit gold in quartz veins, however copper, zinc and lead anomalies are recorded from the 1987 stream sediments. Pyrite, chalcopyrite, sphalerite, pyrrhotite, arsenopyrite, malachite, marcasite and visible gold are noted in outcrop. These anomalies may be related to a group of mineralised breccia and porphyry systems and the existing mines appear to be located on small (<0.5 km) diameter diorite and gabbro bodies. The mineralisation in this area may also be related to quartz veining associated with the north south trending Sepultura fault.

The Anzá concessions cover a limited amount of this area, and these are predominantly in the south along the Quiuná river.

20 Recommendations

20.1 Proposed exploration – La Pastorera/Aragón

Initial exploration should focus on developing a three dimensional geological model of the La Pastorera/Aragón VMS system. Once defined this model of the VMS mineralisation should be applied to the Anzá project as a whole. Initial exploration at the gypsum mines should encompass the following:

- Detailed geological mapping and re-sampling of the La Pastorera and Aragón mines with the intention of resolving the complex geological structure and understanding the relationship between the massive sulphide and the pyritic siliceous unit.
- Resurveying of the existing open pits and underground development is a prerequisite.
- All existing sampling and geological information should be digitised and a project database established.
- A follow up drilling programme, aimed at confirming the geological interpretation and testing any potential extensions to the mineralisation should then be implemented. The existing underground development offers flexibility in selection of drilling locations particularly in areas where surface access on the fringes of the open pit may be difficult.

20.2 Proposed exploration – Regional

To date very limited regional exploration has been carried out. Regional exploration should include the following:

- The existing stream sediment and regional geological data should be compiled into a spatial database and the data processed using modern exploration software packages such as Target.
- All known mineral occurrences in the area should be visited in order to confirm their locations and to record the characteristics of their geology and mineralisation. The principal stream sediment anomalies should be followed up by a detailed stream sediment sampling programme as well as geological mapping.
- Once the presence of the stream sediment anomalies are confirmed they should be investigated further by geological mapping and expanding the sampling coverage with soil sampling.
- Snowden recommend that orientation surveys be carried out in the vicinity of La Pastorera pit in order to confirm the optimum sample size fraction to be used for the detection of gold and base metal mineralisation in stream sediment and soils sampling.
- Airborne geophysics incorporating, magnetics, electromagnetic, gravity and radiometrics should be undertaken. Snowden note that the steep topography at Anzá may preclude the use of fixed wing aircraft for airborne surveys.
- Follow-up ground geophysics surveys, including induced polarisation, should be undertaken on promising target areas.
- The acquisition of satellite imagery should be considered as a tool to assist in the structural and alteration mapping of the Anzá project and in regional exploration programmes.

- For all areas where more detailed exploration will be undertaken an accurate topographic survey should be undertaken.
- Review of the geochemical and geophysical survey data should lead to the identification of primary targets for follow up geological drilling. Trenching can be considered in areas where the topography is amenable for access.
- It is imperative that Waymar establish QA/QC protocols and sampling procedures that meet industry norms. Cognisance should be taken of potential short range grade variability issues as noted in Section 14.1.3.

20.3 Exploration budget

Waymar are in the process of defining their first year exploration budget for the Anzá project. Estimation of the first year exploration costs will be heavily influenced by the cost to complete an airborne geophysical survey which will be the main variable item. A geophysical contractor has been approached to provide a cost estimate for this work.

Snowden consider that a budget of between US$ 1.0 M and US$ 1.5 M will be required for the first year, which will include the airborne geophysical survey and concession fee payments.

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22 Date and signatures

Waymar Resources Ltd: Anzá VMS Project, Geological and Exploration Review

May 2010

Christopher John Bargmann 14th May 2010

Ian Malcolm Platten 14th May 2010

23 Certificates

CERTIFICATE of QUALIFIED PERSON

(a) I, Mr Christopher John Bargmann FGS (CGeol), MAusIMM, Pr.Sci.Nat. of Snowden Mining Industry Consultants Ltd, Abbey House, Wellington Way, Weybridge, Surrey, United Kingdom, do hereby certify that:

(b) I am the co-author of the technical report titled Anzá VMS project, Geological and Exploration Review, NI 43-101 Technical Report (the 'Technical Report') prepared for Waymar Resources Limited.

(c) I graduated with the degree of Bachelor of Science (BSc Honours) in Geology from Leicester University, United Kingdom in 1983. In addition, I have obtained a Master of Science (MSc) degree in Mineral Resources from Cardiff University, University of Wales, Cardiff, United Kingdom in 2000.

I am a Chartered Geologist and Fellow of the Geological Society of London, and also a Member of the Australasian Institute of Mining and Metallurgy.

I have worked as a geologist for a total of 25 years since my graduation from university. I have experience of working with shear zone and structurally hosted gold deposits, Witwatersrand gold/uranium deposits and porphyry copper/gold deposits.

I have read the definition of "qualified person" set out in National Instrument 43-101 ("the Instrument") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of the Instrument. I have been involved in Exploration, Mining and Resource Evaluation consulting practices and mining companies for 22 years.

(d) I have made a current visit to Waymar Resources' Anzá project between 6th and 12th April 2010.

(e) I am responsible for the preparation of the sections of the Technical Report as defined in Table 2.1.

(f)I am independent of the issuer as defined in section 1.4 of the Instrument.

(g)I have not had prior involvement with the property that is the subject of the Technical Report.

(h)I have read the Instrument and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form

(i)As of the date of this certificate, to the best of my knowledge, information and belief, the Technical report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Weybridge, United Kingdom this 14th day of May 2010

Christopher John Bargmann FGS (CGeol) MAusIMM, Pr.Sci.Nat

CERTIFICATE of QUALIFIED PERSON

(a) I, Dr Ian Malcolm Platten FGS (CGeol), of Snowden Mining Industry Consultants Ltd, Abbey House, Wellington Way, Weybridge, Surrey, United Kingdom, do hereby certify that:

(b) I am the co-author of the technical report titled Anzá VMS project, Geological and Exploration Review, NI 43-101 Technical Report (the 'Technical Report') prepared for Waymar Resources Limited.

(c) I graduated with a degree in Bachelor of Science (BSc Honours) in Geology from University of London, United Kingdom, in 1961. In addition I have obtained a Doctor of Philosophy (PhD) from University of London, United Kingdom in 1966.

I am a Chartered Geologist and Fellow of the Geological Society of London,.

I have worked as a geologist for a total of 48 years since my graduation from university. I have experience in regional and detailed mapping of igneous complexes and in the structural and textural investigation of narrow vein systems.

I have read the definition of "qualified person" set out in National Instrument 43-101 ("the Instrument") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of the Instrument. I have been involved in the practice of geology for 48 years, including resource estimation for at least 12 years.

(d) I have not made a current visit to the Waymar Resources' Anzá project.

(e) I am responsible for the preparation of the sections of the Technical Report as defined in Table 2.1.

(f)I am independent of the issuer as defined in section 1.4 of the Instrument.

(g)I have I have not had prior involvement with the property that is the subject of the Technical Report.

(h)I have read the Instrument and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form

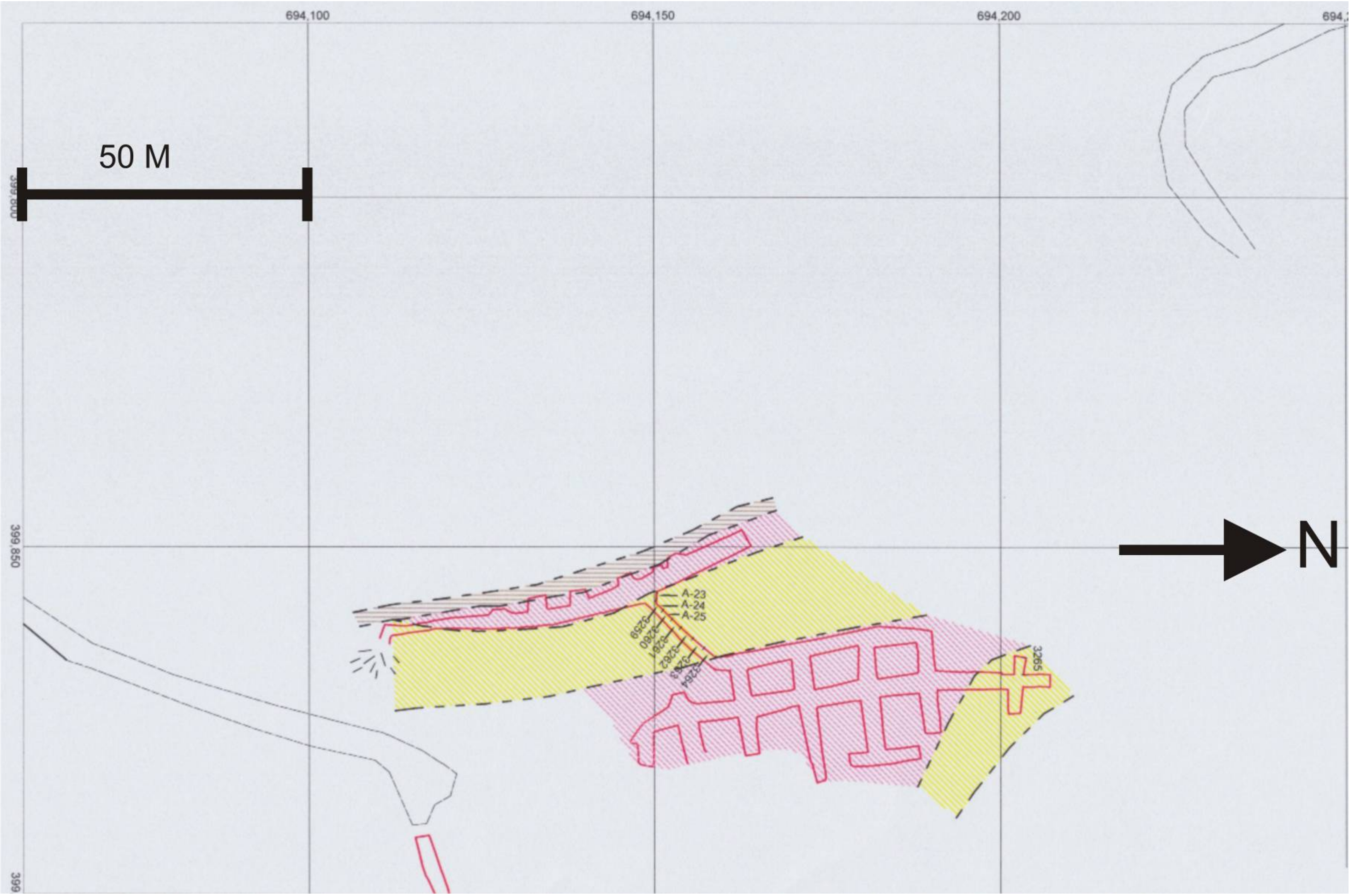
(i) As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Weybridge, United Kingdom this 14th day of May 2010

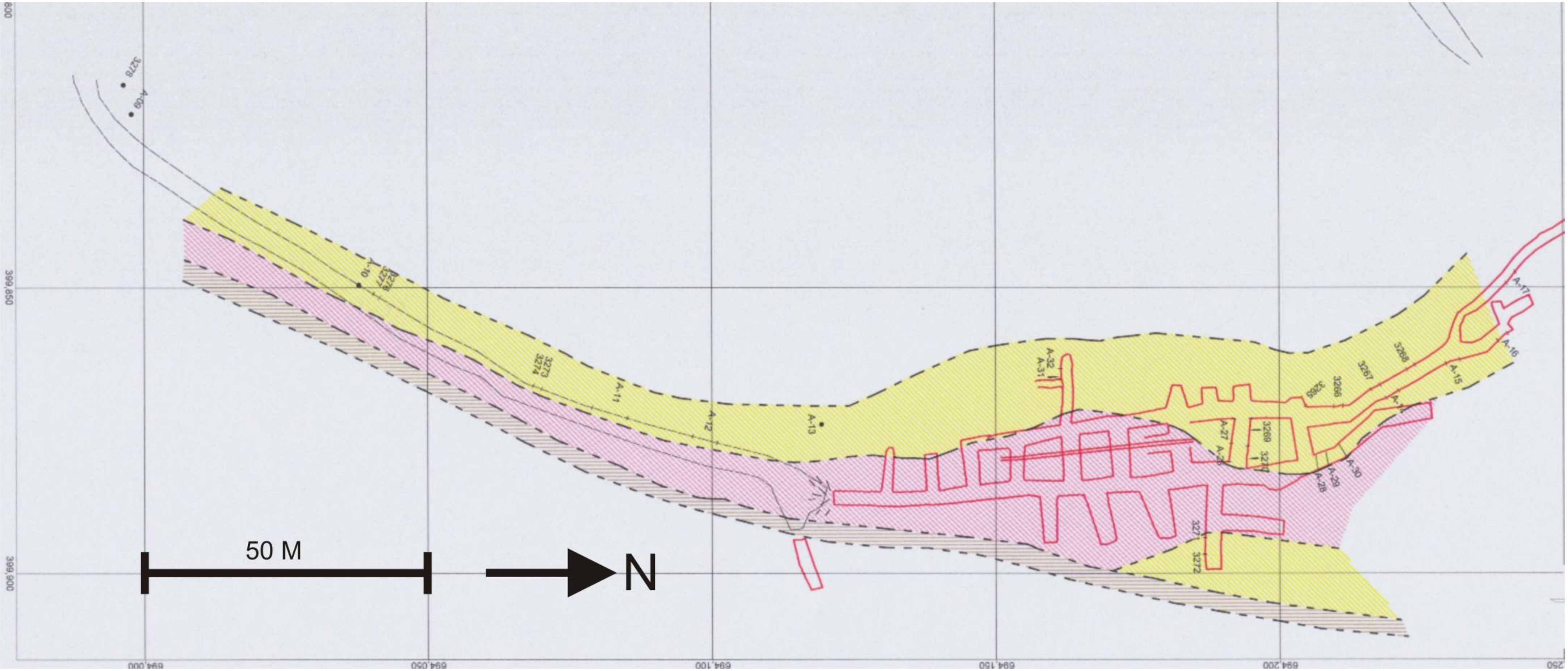
Ian Malcolm Platten FGS (CGeol)

A Kedahda and Peñoles sampling locations at the La Pastorera Mine

Mine elevation 913 m, UTM coordinates, 50 m grid squares



Mine elevation 906 m, UTM coordinates, 50 m grid squares



B OMAC assay certificates for Snowden verification sampling.

CERTIFICATE OF ANALYSIS

CLIENT: Snowden

ADDRESS: Abbey House,
Wellington Way,
Weybridge,
Surrey KT13 OTT,
United Kingdom

INVOICE: Same

P.O. NO.: None

ATTN: Chris Bargmann

CLIENT REF.: L 0176-1

LAB. BATCH NO. 10040058

NO. SAMPLES: 16

SAMPLE TYPE: Rock

SAMPLES RECEIVED: 22/04/10
ANALYSIS INSTRUCTIONS RECEIVED: 22/04/10
DATE OF REPORT: 05/05/10
STATUS OF REPORT: FINAL
ANALYSIS COMPLETE: 05/05/10

PREPARATION CODE: P5, 1

ANALYSIS CODE: Au4

Disclaimer: The results contained in this Certificate of Analysis relate only to the items tested / analysed

Notes/Comments:

Approved Signatories

[ ] Pedro Alvarez, General Ma
[ ] Andrey Tairov, Technical M
[ ] Svetlana Tairova, Senior S
[ ] Pat Gilchreest, Senior Che

LAB NO.	SAMPLE NO.	Au4 30gm Fire Assay Auppm	Repeat Au4 30gm Fire Assay Auppm
1	302-1	3.80	3.58
2	302-2	5.34	
3	302-3	0.27	
4	302-4	1.82	
5	302-5	28.73	
6	302-6	19.98	
7	303-1	0.01	
8	305-1	0.21	
9	305-2	0.71	
10	305-3	0.32	
11	305-4	7.43	7.16
12	306-1	0.03	
13	306-2	0.03	
14	SNO 1	1.26	
15	SNO 2	1.89	
16	SNO 3	3.22	
Standards			
Standard G306-3		8.64	
Blank		-0.01	
Recommended Value Standard G306-3		8.66	

CERTIFICATE OF ANALYSIS

CLIENT:	Snowden
ADDRESS:	Abbey House, Wellington Way, Weybridge, Surrey KT13 OTT, United Kingdom
INVOICE:	Same
P.O. NO.:	None
ATTN:	Chris Bargmann
CLIENT REF.:	L 0176-1
LAB. BATCH NO.:	10040058
NO. SAMPLES:	16
SAMPLE TYPE:	Rock

SAMPLES RECEIVED:	22/04/10
ANALYSIS INSTRUCTIONS RECEIVED:	22/04/10
DATE OF REPORT:	05/05/10
STATUS OF REPORT:	FINAL
ANALYSIS COMPLETE:	05/05/10
PREPARATION CODE:	P5, 1
ANALYSIS CODE:	MA/ES

Disclaimer: The results contained in this Certificate of Analysis relate only to the items tested / analysed

Notes/Comments:

Zn,Cu*: Values significantly exceeding upper calibration limit are being reported for informational purposes only

Approved Signatories

[ ] Pedro Alvarez, General Manager
[ ] Andrey Tairov, Technical Manager
[ ] Svetlana Tairova, Senior Spectroscopist
[ ] Pat Gilchreest, Senior Chemist

LAB NO.	SAMPLE NO.	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	*Cu	Fe	Ga	Ge	Hg	K	La	Li	Mg	Mn
		ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm
1	302-1	1.9	2.00	24	68	<1	<5	2.04	514	4	4	492	4450	2.57	19	<2	<1	0.35	<2	5	1.72	282
Rep1		2.0	2.01	25	63	<1	<5	2.17	519	4	4	507	4368	2.74	20	<2	2	0.36	<2	6	1.80	303
2	302-2	2.8	1.89	25	53	<1	9	1.05	764	<2	4	558	5302	2.77	24	<2	1	0.35	<2	5	1.55	277
3	302-3	0.7	4.32	98	254	<1	<5	0.28	31	<2	11	370	404	4.32	12	<2	<1	1.08	<2	8	3.07	435
4	302-4	0.6	3.89	77	657	<1	<5	0.77	12	<2	8	464	496	2.40	9	<2	<1	0.94	<2	8	2.76	363
5	302-5	10.7	4.03	64	774	<1	<5	0.43	56	2	9	383	816	2.00	8	3	<1	0.91	<2	10	3.47	393
6	302-6	7.3	3.33	57	233	<1	<5	0.62	173	2	12	537	2936	2.57	12	3	<1	0.70	<2	10	2.65	294
7	303-1	<.5	8.61	41	158	<1	<5	0.14	<1	2	42	385	82	7.19	14	<2	<1	0.04	4	38	0.19	1621
8	305-1	27.2	0.63	8	84	<1	<5	0.34	825	<2	<1	722	25948	4.56	19	<2	<1	<.01	<2	3	1.32	141
9	305-2	53.6	0.65	16	102	<1	<5	0.23	262	<2	1	579	91609	11.46	8	<2	<1	<.01	<2	3	1.47	150
10	305-3	12.2	1.40	10	468	<1	<5	0.43	191	<2	<1	593	6830	2.33	10	<2	<1	0.01	<2	7	3.16	220
11	305-4	6.9	1.34	32	125	<1	<5	0.38	345	<2	2	410	5722	2.48	17	<2	<1	0.01	<2	7	2.92	238
Rep11		6.7	1.35	34	119	<1	<5	0.38	339	<2	1	462	5727	2.42	17	2	<1	0.01	<2	7	2.84	231
12	306-1	<.5	7.16	125	65	<1	<5	4.86	1	15	33	111	202	4.41	14	3	<1	<.01	9	40	12.57	981
13	306-2	<.5	6.84	209	39	<1	<5	4.37	<1	9	5	84	71	6.18	17	<2	<1	<.01	6	43	13.42	1115
14	SNO 1	6.0	6.60	104	143	<1	<5	2.51	9	16	48	209	1555	8.58	21	3	<1	2.38	10	9	1.89	1174
15	SNO 2	2.0	1.87	108	17	<1	<5	15.89	<1	111	119	20	6280	3.42	<5	2	<1	0.20	69	<2	3.34	1275
16	SNO 3	5.6	6.22	1428	741	3	22	3.82	5	40	84	262	5940	7.39	30	4	<1	1.45	23	14	1.11	609
Standards																						
In-house Standard ICP-4		28.0	2.81	1273	163	19	29	15.30	18	180	32	611	1923	5.32	25	18	48	0.58	120	276	2.72	2073
Standard SY-4		<.5	10.53	<5	368	3	<5	5.80	<1	111	1	11	7	4.50	35	3	<1	1.48	57	38	0.33	868
Blank		<.5	<.01	<5	<2	<1	<5	<.01	<1	<2	<1	<2	<2	<.01	<5	<2	<1	<.01	<2	<2	<.01	<5
Upper Calibration Limit		500.0	12.50	20000	5000	500	500	12.50	500	500	2500	5000	20000	12.50	500	500	500	12.50	500	5000	12.50	50000
Assigned Value In-house Standard ICP-4		28.0	2.82	1245	250-600	22	30	15.50	18	175	33	550	1920	5.34	25	25		0.58	125	305	2.68	2275
Recommended Value Standard SY-4			10.95		340	2		5.75		122		12	7	4.34	35			1.38	58	37	0.33	836

LAB NO.	SAMPLE NO.	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	*Zn	Zr
		%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1	302-1	9.64	<5	5	<10	<5	114	<2	<5	<5	539	<5	<5	24	<5	1	126659	6
Rep1		10.20	<5	5	<10	<5	122	<2	<5	<5	564	<5	<5	25	<5	2	130657	7
2	302-2	10.32	<5	4	<10	<5	52	<2	<5	<5	463	<5	<5	28	<5	1	167050	6
3	302-3	4.76	6	11	<10	<5	22	<2	<5	<5	1284	<5	<5	83	<5	3	9775	19
4	302-4	2.63	7	8	<10	<5	34	<2	<5	<5	952	<5	<5	26	<5	3	4132	14
5	302-5	2.23	8	9	<10	<5	32	<2	<5	<5	1053	<5	<5	33	<5	3	11271	15
6	302-6	4.20	6	8	<10	<5	31	<2	<5	<5	896	<5	<5	17	<5	3	42900	17
7	303-1	0.02	8	41	<10	<5	15	<2	<5	<5	3684	<5	<5	251	<5	10	172	30
8	305-1	9.75	<5	<1	29	<5	14	<2	<5	<5	40	<5	<5	13	<5	<1	173819	<1
9	305-2	10.47	8	2	14	<5	10	<2	<5	<5	57	<5	<5	12	<5	<1	77900	2
10	305-3	3.80	<5	<1	<10	<5	21	<2	<5	<5	25	<5	5	37	<5	<1	47779	<1
11	305-4	6.67	<5	2	<10	<5	13	<2	<5	<5	249	<5	6	29	<5	2	99728	8
Rep11		6.57	<5	2	<10	<5	13	<2	<5	<5	249	<5	<5	28	<5	2	98917	8
12	306-1	5.80	<5	26	<10	<5	27	<2	<5	<5	2089	<5	6	136	<5	24	1445	34
13	306-2	4.47	<5	20	<10	<5	30	<2	<5	<5	2912	<5	<5	204	<5	12	452	42
14	SNO 1	2.18	11	15	<10	<5	103	<2	<5	<5	4762	10	<5	120	11	16	5745	79
15	SNO 2	2.36	<5	19	<10	18	104	<2	<5	<5	442	<5	<5	20	202	16	48	49
16	SNO 3	1.47	79	14	<10	8	114	<2	<5	16	2892	<5	<5	182	15	15	888	87
Standards																		
In-house Standard ICP-4		5.78	814	22	16	26	286	54	17	9	5443	22	60	236	160	31	6346	44
Standard SY-4		0.02	<5	<1	<10	9	1203	<2	<5	<5	1750	<5	<5	8	<5	116	115	58
Blank		<.01	<5	<1	<10	<5	<2	<2	<5	<5	<10	<5	<5	<2	<5	<1	6	<1
Upper Calibration Limit		12.50	500	500	500	500	5000	500	500	500	10000	500	500	500	250	500	20000	5000
Assigned Value In-house Standard ICP-4		5.64	835	23	15	27	300	120-300	14	17	5610	20	80	230	180	34	6350	60-80
Recommended Value Standard SY-4				1.1		7	1191	0.9		1.4	1721		0.8	8		119	93	

CERTIFICATE OF ANALYSIS

CLIENT:	Snowden
ADDRESS:	Abbey House, Wellington Way, Weybridge, Surrey KT13 OTT, United Kingdom
INVOICE:	Same
P.O. NO.:	None
ATTN:	Chris Bargmann
CLIENT REF.:	L 0176-1
LAB. BATCH NO.:	10040058
NO. SAMPLES:	9
SAMPLE TYPE:	Rock

SAMPLES RECEIVED:	22/04/10
ANALYSIS INSTRUCTIONS RECEIVED:	22/04/10
DATE OF REPORT:	10/05/10
STATUS OF REPORT:	FINAL
ANALYSIS COMPLETE:	10/05/10
PREPARATION CODE:	P5, 1
ANALYSIS CODE:	ICPORE

Disclaimer: The results contained in this Certificate of Analysis relate only to the items tested / analysed

Approved Signatories

- [ ] Pedro Alvarez, General Manager
- [ ] Andrey Tairov, Technical Manager
- [ ] Svetlana Tairova, Senior Spectroscopist
- [ ] Pat Gilchreest, Senior Chemist

LAB NO.	SAMPLE NO.	Ag	As	Bi	Ca	Cd	Co	Cu	Fe	Hg	Mg	Mn	Mo	Ni	P	Pb	S	Sb	Tl	Zn
		ppm	%	%	%	%	%	%	%	ppm	%	%	%	%	%	%	%	%	%	%
1	302-1	<5	<.005	<.005	2.11	0.054	<.001	0.420	2.71	<15	1.58	0.031	<.001	<.001	<.01	<.01	9.63	<.005	<.005	11.83
2	302-2	<5	<.005	<.005	0.99	0.078	<.001	0.494	2.67	<15	1.36	0.027	<.001	0.001	<.01	<.01	10.10	<.005	<.005	14.74
3	302-3	<5	0.011	<.005	0.25	0.003	0.001	0.037	4.38	<15	2.76	0.047	<.001	<.001	<.01	<.01	4.56	<.005	<.005	0.92
5	302-5	6	0.007	<.005	0.41	0.006	<.001	0.080	2.11	<15	3.29	0.044	<.001	<.001	0.02	<.01	2.23	<.005	<.005	1.14
6	302-6	7	0.006	<.005	0.54	0.018	<.001	0.279	2.55	<15	2.38	0.031	<.001	<.001	<.01	<.01	4.07	<.005	<.005	3.97
8	305-1	28	<.005	<.005	0.34	0.088	<.001	2.462	4.79	<15	1.20	0.015	0.003	0.003	0.02	<.01	12.37	<.005	<.005	16.26
9	305-2	55	<.005	<.005	0.22	0.029	<.001	9.129	11.81	<15	1.38	0.016	0.002	0.002	0.02	<.01	16.44	<.005	<.005	7.65
10	305-3	12	<.005	<.005	0.42	0.021	<.001	0.657	2.46	<15	3.09	0.025	0.007	0.003	0.02	<.01	3.81	<.005	<.005	4.39
11	305-4	8	<.005	<.005	0.33	0.035	<.001	0.544	2.34	<15	2.50	0.023	0.002	0.001	0.03	<.01	6.31	<.005	<.005	9.01
Standards																				
Standard GBM305-11		959	0.056	0.011	0.12	0.008	0.049	12.250	28.17	<15	0.20	0.064	<.001	0.002	<.01	12.84	33.52	0.097	<.005	4.00
In-house Standard LSN-20		<5	0.238	<.005	3.86	0.009	0.027	0.006	23.87	<15	0.83	0.023	0.002	0.079	0.03	1.51	37.18	<.005	0.040	20.58
Standard CZN-4		51	0.036	<.005	0.03	0.260	0.009	0.403	8.81	<15	0.04	0.010	<.001	0.001	<.01	0.19	32.89	<.005	<.005	55.79
Blank		<5	<.005	<.005	<.01	<.001	<.001	<.005	<.01	<15	<.01	<.005	<.001	<.001	<.01	<.01	<.05	<.005	<.005	<.01
Assigned Value In-house Standard LSN-20					3.77						0.91					1.58				20.33
Recommended Value Standard GBM305-11								12.593								12.42				3.93
Recommended Value Standard CZN-4		51	0.036		0.04	0.260	0.009	0.403	9.09	5	0.04					0.19	33.07			55.24