SUMMARY TECHNICAL REPORT

on the

GUIGUI PROJECT

Municipality of Aquiles Serdán

Chihuahua State, Mexico

For

Reyna Silver Corp.

And

Century Metals Inc.

Stephen R Maynard, M.S., C.P.G.
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10 April 2020

Date and Signature Page

CERTIFICATE OF QUALIFIED PERSON

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I, Stephen R. Maynard, C.P.G., am an independent Consulting Geologist.

This certificate applies to the technical report entitled "Summary Technical Report on the Guigui Project, Mexico, for Reyna Silver Corp. and Century Metals, Inc. (the "Technical Report"), dated 10 April 2020.

I am a Certified Professional Geologist registered with the American Association of Professional Geologists (AIPG) (C.P.G. #10496). I graduated in 1978 from Dartmouth College, Hanover, NH, USA with an AB degree, majoring in Earth Sciences; and in 1986 from the University of New Mexico, Albuquerque, NM, USA with a Master of Science degree in Geology.

I have practiced my profession for more than 35 years. In that time I have been directly involved in review of exploration, geological models, exploration data, sampling, sample preparation, quality assurance-quality control, databases, and mineral-resource estimates for a variety of mineral deposits, including copper-gold-silver deposits.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

I visited the Guigui Project from 3 to 51 December, 2019. I am responsible for all sections of the Technical Report.

I am independent of Reyna Silver Corp. and Century Metals, Inc. (the report issuers) and I am independent of MAG Silver Corp. (the property vendor) as independence is described in Section 1.5 of NI 43-101 and as per the Exchange Policy requirement (Appendix 3F). I have been involved with the Guigui Project only for the purpose of preparing the Technical Report.

I have read NI43-101 and this report has been prepared in compliance with that Instrument.

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

Stephen R Maynard, C.P.G.

Dated: 10 April 2020

CONSENT of QUALIFIED PERSON

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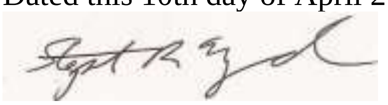
I, Stephen R. Maynard, consent to the public filing of the technical report titled "Summary Technical Report on the Guigui Project, Sonora State, Mexico" and dated 10 April 2020 (the "Technical Report") by Reyna Silver Corp. and Century Metals, Inc.

I also consent to any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Reyna Silver Corp. and Century Metals, Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I certify that I have read the Disclosure being filed by Reyna Silver Corp. and Century Metals, Inc., and that it fairly and accurately represents the information in the sections of the technical report for which I am responsible.

Dated this 10th day of April 2020



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Signature of Qualified Person

Stephen R. Maynard
Print name of Qualified Person

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1.0 SUMMARY

The Guigui project consists of 7 mining concessions covering 4,554 hectares in the southern part of the Santa Eulalia Mining District, about 23 km east of Chihuahua City. The project is accessible by all-weather roads from Chihuahua City and the nearby town of Santa Eulalia. The 7 mining claims that comprise the project are owned by MAG Silver and are under option to Reyna Silver. Reyna Silver has entered into a reverse takeover agreement with Century Metals, Inc.

The Santa Eulalia Mining District is the largest of a number of important Ag-Pb-Zn-Cu-Au Carbonate Replacement Deposits that occur along the intersection of the Laramide-aged Mexican Thrust Belt and the Tertiary volcanic plateau of the Sierra Madre Occidental (Megaw and others, 1988). Santa Eulalia and comparable districts form a spectrum ranging from stock contact skarns, through dike and sill contact skarns and massive sulfides, to massive sulfide chimneys and mantos (Megaw and others, 1988). The entire spectrum may be manifested on a district scale in highly elongated systems, or a significant portion of the spectrum may be displayed by single orebodies in highly telescoped systems (Ruiz and Barton, 1985l; Megaw and others, 1988). Santa Eulalia is a highly elongated system in which the distal (mantos to dike and sill contact skarns) parts of the spectrum have been encountered and exploited. The proximal, stock-related portions of the spectrum have never been found, and exploration for them is the basis of exploration at Guigui. Given the importance of the distal mineralization, it is not unreasonable to infer similarly important proximal mineralization.

The East and West Camps of the Santa Eulalia District contain continuous, zoned mineralization and alteration concentrated on the east and west flanks of a southerly-plunging anticline. Mineralization in both camps occurs in the same stratigraphic interval in close temporal and spatial relationship to distinctive felsite sills and dikes. Although the mineralization in the two camps does not overlap in space, both appear to have resulted from the evolution of persistent, pulsating, hydrothermal systems. West Camp mineralization is characterized by highly elongate (up to 4 km long) mantos and chimneys dominantly composed of massive Ag-Pb-Zn-Fe sulfides. These are clearly related in time and space to a series of felsite sills that thicken and coalesce to the southeast. Only in the deepest, most proximal southeastern part of the West Camp has any garnet skarn been encountered. In contrast, East Camp mineralization is dominated by tabular mineralized garnet-pyroxene skarn chimneys developed along the margins of a series of felsite dikes. The skarn chimneys combine to form a composite skarn orebody up to 1000 m high and 2000 m long flanked by peripheral massive sulfide pods and mantos. However, despite the sharp differences in mineralization style and gangue mineralogy, the sulfide mineralogy, temperatures of formation, fluid salinities, and sulfur isotopic characteristics of the two camps are virtually identical...indicating that these are different manifestations of the same hydrothermal system. The morphology of the ore-related felsites of both camps, coupled with mineralogical, metals content, metal ratios, sulfur isotope, and mineralization style, strongly indicates a common hydrothermal source. This source appears to lie between the two camps, immediately north of the Santo Domingo Caldera in the Guigui Claim area (Megaw, 1990).

Exploration efforts to test these concepts have included reconnaissance and detailed geologic and alteration mapping, geochemical sampling, and gravity, magnetics and Audio Magneto Tellurics (CSAMT and NSAMT) surveys. This initial work indicated that the inferred intrusive centre lies concealed under altered pre-mineral volcanic cover within the Guigui Claims. Host limestones crop out sparingly in this area and geophysics indicate that the volcanic cover is less than 200 m thick. Drilling has confirmed that volcanic cover is thin, so depths to consistent favourable host rocks are not prohibitive. The volcaniclastic rocks are pervasively argillically altered in the target area and are locally cut by structures with anomalous metals values, indicating an underlying hydrothermal center. The geophysical data for the area show strong conductive anomalies within limestone at 300-500 m depth and their geometry strongly resembles Megaw's (1990) district geologic model showing an intrusion surrounded by mineralized skarn. Field exposures of fluorite-cemented breccias coincide with linear anomalies revealed by airborne geophysical surveys. Notably, only one of the previous drill holes lies within the current target area; it cut fluorite-cemented breccia despite not reaching target depth. The other holes lie well outside the target area but help to define its limits.

These geologic and geophysical results were the basis for permitting a 6-12 hole drilling program in 1998. However, a combination of changing objectives for Coralillo's corporate partners and a poor exploration market in the late 1990s left these targets untested. These drill targets still merit drilling and the drilling permits remain valid. However, a significant area (>400 ha in the Guigui 2, 3 and 4 claims) was subsequently added to the property package. Although the area was covered by the 2007 airborne geophysics survey and the 2019 satellite hyperspectral imagery study, detailed geologic mapping and sampling of the area remain incomplete. No drilling has been done in these claims. It is recommended to advance this ground to the same level of knowledge as Guigui prior to drilling. This should include detailed geologic outcrop mapping with particular attention to the areas between Guigui and the known West Camp mining areas and the approximately 1 km long portion of the San Antonio Graben that lies within Guigui 2. This mapping should be accompanied by geochemical sampling of all mineralized and altered outcrops. Additional NSAMT and/or CSAMT lines should be run over targets identified by the above geologic mapping and consideration should be given to geophysically refining the previously identified targets within Guigui prior to drilling.

Following the above considerations, it is recommended that a first exploration phase of mapping, sampling, re-processing of previous geophysical data, and overall data compilation and reinterpretation be carried out in the Guigui 2, 3 and 4 claims and adjoining portions of Guigui. Additional geophysics should be run based on these results. This should take 6-8 months and cost an estimated $444,000.

Combining the existing targets within the original Guigui area with anticipated new targets within Guigui 2, 3 and 4 will justify a Phase I, 5,000 m drilling program at an estimated cost of $1,000,000. Drilling can commence at any time within Guigui, but minor permit expansion and refiling will be necessary for Guigui 2, 3, and 4. Roadwork and environmental remediation are included in the estimate. A Phase II drilling program of 5,000 m would follow contingent on the results of the Phase I drilling.

Consideration may be given to reducing drilling costs by collaring the drill holes with reverse circulation to the base of the volcanic capping (200-250 m), the capacity of the equipment (about 300 m), or any point where mineralization is encountered. Diamond core drilling should proceed from here to maximize geologic information. Down-hole geophysics should also be planned.

2.0 INTRODUCTION

This report provides an independent evaluation of the exploration potential of the Guigui project, which is comprised of seven mining concessions covering 4,554 hectares. It has been prepared under the terms set out in the NI 43-101 standard at the request of the directors of Reyna Silver Corp. (“Reyna”) and Century Metals, Inc. (“Century”).

The author completed information reviews and conducted a single visit to the Guigui property in Chihuahua, Mexico on 3-5 December 2019, accompanied by the geologist René Ramírez.

During the visit, the author conducted a reconnaissance of the property, including surface exposures, review of available data and files, and review of selected drill core.

The information herein is derived from a review of the documents listed in the References and from information provided by Reyna and Minera Cascabel S.A. de C.V. (“Minera Cascabel” – a prior owner of the property). A complete list of the reports available to the author is found in the References section of this report. Published literature has been reviewed and is also referenced. This information has been augmented by first-hand review and on-site observation and data collection conducted by the author. The Qualified Person takes responsibility for the content of this Technical Report and believes it is accurate and complete in all material aspects.

The report provides a summary of the exploration and mining history of the Guigui project. Recommendations are contained herein for an exploration program to define areas of silver mineralization on the project.

The opinions, conclusions, and recommendations presented in this report are conditional upon the accuracy and completeness of the information supplied by Reyna and Minera Cascabel. The author reserves the right, but will not be obliged, to revise this report if additional information becomes known to him subsequent to the date of this report.

A substantial body of scientific literature exists on the Santa Eulalia District. This includes unpublished company reports, theses, mining journal articles, guidebook articles, and scientific publications (see Megaw, 1990 for complete bibliography). Prescott (1916) is the earliest in-depth geologic treatment of the district. Prescott's observations at Santa Eulalia were combined with work at related districts elsewhere in Mexico (including Naica and Mapimí) and resulted in his landmark 1926 paper "The Underlying Principles of the Limestone Replacement Deposits of the Mexican Province". This paper describes the continuity of orebodies, their gradual diminishment, and their development from ascending and laterally migrating fluids. Fletcher's (1929) follow-up paper to Prescott (1926) proposed that these deposits are part of a spectrum ranging from proximal contact skarns to distal manto and chimney and vein deposits. Santa Eulalia was his major example for the most distal position. This idea was expanded by Megaw and others (1988) in a comparison of the mineralization style, controls, and geochemistry of 17 Santa Eulalia-like deposits in Mexico. The relationship of Santa Eulalia to 18 carbonate-hosted districts in Chihuahua was treated in Megaw and others (1996).

Hewitt's (1940, 1943, and 1951) doctoral study of the San Antonio Mine remains the only comprehensive study of the oxidized portions of the San Antonio skarns. He also documented the relationship between mineralization and the en-echelon San Antonio felsite dikes. He proposed a zonal model for the deposit and a paragenesis to explain the transition from silicate to sulfide to tin-oxide mineralization.

Hewitt followed his San Antonio publications with a detailed report on the West Camp (1968). This publication is a synthesis of all the detailed stratigraphic, structural, and mineralogical studies done in the district to 1964. This paper also includes exploration information and speculations about the relationships between the felsite intrusions and mineralization. De la Fuente's (1969) thesis on the district followed Hewitt's (1968) paper closely but included more detailed information on the Potosí Mine than Hewitt had access to.

Detailed studies of mineralogy, geochemistry, and metals zonation are widely represented in company reports and unpublished theses; only a few are published. These include: Lees (1969), Clanton (1975), Walter (1985), Bond (1987), Megaw (1988), Aguirre (1988), Megaw (1997), and Lueth and others (2001).

Megaw's (1990) doctoral study on the district had a strong exploration emphasis. It includes the first district-wide geologic mapping and detailed geologic, mineralization and alteration maps of the mineralized zone, plus voluminous geochemical and isotopic data regarding the genesis and zoning of the mineralized system. The Guigui exploration target is a direct outgrowth of this study.

Gibson (2016) prepared a NI 43-101 report for Cyprium Mining Corp on the Potosí Mine and Chinche project, which lie immediately north of the Guigui project.

3.0 RELIANCE ON OTHER EXPERTS

The author of this report has relied on Reyna's and Minera Cascabel's reporting on the standing of its mining concessions and environmental permits (R. Ramírez, personal communication, December 2019).

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Description

4.1.1 Mineral Concessions

The Guigui Project comprises seven mining claims covering 4,554 hectares between and south of the East and West Camps of the historic Santa Eulalia Mining District in central Chihuahua State (Figure 4.1) (Table 4.1). The Guigui claim was originally filed by Minera Cascabel S.A. de C.V. (“Minera Cascabel” or “Cascabel”) in 1992, with additional claims acquired subsequently. The Guigui claims were transferred to Cascabel’s affiliate, Minera Coralillo S.A. de C.V. (“Coralillo”), in 2000. MAG Silver Corp. (“MAG Silver”) acquired the project from Coralillo in 2005 and Reyna optioned the Guigui project from MAG Silver in 2019. Reyna has entered into an agreement with Century whereby Century will acquire all of the shares of Reyna.

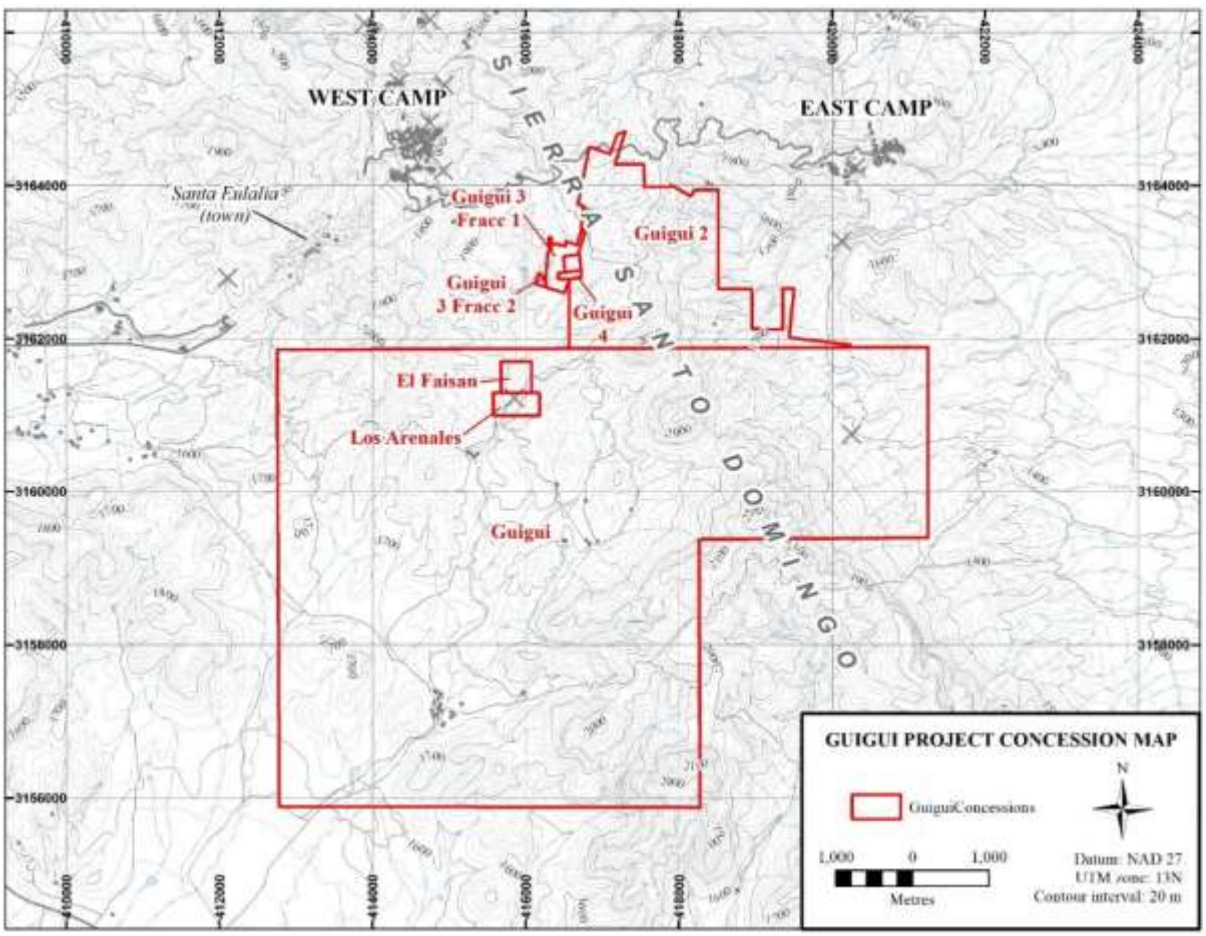

Figure 4.1. Guigui project concessions in relation to West and East Camps of the Santa Eulalia Mining District.

A complex array of claims belonging to Grupo Mexico (IMMSA) and Minerales Nacionales de Mexico (MINAMEX) adjoin the Guigui group to the north, east and west. An

Australian company, United Minerals, controls the El Chinche concession on the northwest border of the Guigui concession.

Table 4.1. Guigui project concessions.

Concession	Title	Issue Date	Expiry Date	Area (has)
GUIGUI	217493	16-Jul-02	15-Jul-52	4009.0329
EL FAISAN	214631	26-Oct-01	25-Oct-51	16
LOS ARENALES	214622	26-Oct-01	25-Oct-51	18
GUIGUI 2	219640	23-Mar-03	27-Mar-50	489.1336
GUIGUI 3 FRACTION 1	219648	28-Mar-03	27-Mar-50	17.015
GUIGUI 3 FRACTION 2	219649	28-Mar-03	27-Mar-50	1.5197
GUIGUI 4	219650	28-Mar-03	27-Mar-50	3
			TOTAL	**4,553.7012**

Reyna indicates that mining concession taxes due for 2019 have been paid and the concessions are in good standing (R. Ramírez, personal communication, December 2019). However, the author has confirmed neither the validity nor the standing of the concessions.

There are no known factors or risks that may affect access, title, or the right or ability to perform work on the property.

4.1.2 Surface-access agreements

Surface rights at the Guigui project are controlled by three private owners: Rancho Arenales, Rancho Vinata, and Rancho La Chinche. Reyna reports good relations with the ranch owners and expects to execute a formal surface-use and access agreement.

` 4.1.3 Environmental Liabilities

The project has no known environmental liabilities.

4.1.4 Environmental Permitting

The applicable regulation, *Norma 120-SEMARNAT-2011*, requires a report, *Informe Preventivo en Materia de Impacto Ambiental*, that includes descriptions of the ground surface, mining/exploration history, surface ownership, mineral tenure, and the proposed exploration program. Certified written permission from surface owners must accompany the report when tendered to the Secretariat of Environment and Natural Resources' (SEMARNAT) delegation in the Chihuahua City.

SEMARNAT issued a permit to use 12 drill pads on 10 August 2015 (Appendix II). The permit is valid for 8 years from the date of issuance. There is no known or anticipated obstacle to renewing or expanding the SEMARNAT authorization for the Guigui project.

4.1.5 Mining taxes

Mexican law requires that owners of mining concessions pay taxes semi-annually, in January and July of each year that a mining concession is valid. Taxes are calculated on a per-hectare basis; the per-hectare tax amount goes up with the age of the concession as shown in Table 4.2. The basic per-hectare tax is adjusted for inflation annually. Semi-annual taxes for the Guigui project are presented in Table 4.3. Failure to pay taxes will lead to revocation of a mining claim.

Table 4.2. Semi-annual Mexican mining tax rates, commencing in 2020. Base per-hectare rates are adjusted annually for inflation.

Years of concession's existence from issue of concession title	Per hectare tax rate 2020 MXN$
During years 1 and 2	$7.78
During years 3 and 4	$11.63
During years 5 and 6	$24.05
During years 7 and 8	$48.37
During years 9 and 10	$96.73
After 10th year	$170.23

Table 4.3. Calculated mining taxes in Mexican pesos for Guigui project concessions 2020 to 2026. Tax rates for 2020 are given in Table 4.2. Calculated tax for years 2020 to 2026 assume a yearly inflation adjustment of 2%.

	Semi-annual tax (MXN$)							Total semi-annual taxes (MNX$)	Total annual taxes (MXN$)
Concession	**Guigui**	**El Faisan**	**Los Arenales**	**Guigui 2**	**Guigui 3 Fracc. 1**	**Guigui 3 Fracc 2**	**Guigui 4**		
Hectares	**4,009.0329**	**16.0000**	**18.0000**	**489.1336**	**17.0150**	**1.5197**	**3.0000**		
2020	$682,458	$2,724	$3,064	$83,265	$2,896	$259	$511	$775,177	$1,550,353
2021	$696,107	$2,778	$3,125	$84,931	$2,954	$264	$521	$790,680	$1,581,360
2022	$710,029	$2,834	$3,188	$86,629	$3,013	$269	$531	$806,494	$1,612,987
2023	$724,230	$2,890	$3,252	$88,362	$3,074	$275	$542	$822,624	$1,645,247
2024	$738,714	$2,948	$3,317	$90,129	$3,135	$280	$553	$839,076	$1,678,152
2025	$753,488	$3,007	$3,383	$91,932	$3,198	$286	$564	$855,858	$1,711,715
2026	$768,558	$3,067	$3,451	$93,770	$3,262	$291	$575	$872,975	$1,745,949

4.1.6 Assessment-Work Obligations

The Mexican government requires annual filings of assessment work. Assessment work filings are due in May. Minimum amounts to be spent on a concession are determined on a per-hectare basis, in addition to a fixed amount per concession. The fixed amounts and the per-hectare amounts go up with the size of the concession, and with the age of the concession as illustrated in Table 4.4. A concession owner may apply past excess expenditures to a subsequent year's filings.

Table 4.4. Mexican assessment work minimum amounts for 2020. (Diario Oficial, 13 December 2019)

Concession surface area (hectares)	**Fixed Amount MXN$**	**Additional annual minimum expenditure per hectare MXN$**			
		1st Year	**2nd through 4th year**	**5th through 6th year**	**After the 7th year**
Up to 30	$ 348.48	$ 13.92	$ 55.74	$ 83.63	$ 84.96
30 to 100	$ 697.02	$ 37.83	$ 111.52	$ 167.29	$ 167.30
100 to 500	$ 1,394.04	$ 55.74	$ 167.29	$ 334.56	$ 334.56
500 to 1,000	$ 4,182.12	$ 51.58	$ 159.37	$ 334.56	$ 669.14
1,000 to 5,000	$ 8,364.27	$ 47.40	$ 153.34	$ 334.56	$ 1,338.28
5,000 to 50,000	$ 29,274.95	$ 43.22	$ 147.78	$ 334.56	$ 2,676.56
More than 50,000	$ 278,809.03	$ 3,903.00	$ 139.40	$ 334.56	$ 2,676.56

4.2 Property Location

The Guigui Property lies in the municipality of Aquiles Serdán, Chihuahua state in northern Mexico at latitude 28° 35' N, longitude 105° 50' W near the town of Santa Eulalia, about 23 km east of Chihuahua City, and approximately 360 km south of El Paso, Texas (Figures 4.1-4.2).

The Santa Eulalia District is divided into two portions called the West and East Camps, (Figures 4.1 and 4.3). The West Camp lies on the western flank of the range. Grupo Mexico's "Buena Tierra Mine" and MINAMEX's "Potosi Mine" were the principal producers from the West Camp until its closure in the early 1990s. The East Camp lies on the eastern fringe of the range and is dominated by Grupo Mexico's "San Antonio Mine". The San Antonio Mine was in active production until February 2020, when it was allowed to flood. The 2.5 km-wide intervening zone is known as the Middle Camp. The Middle Camp has numerous mineralized showings and small mines, but it has not been systematically explored. The Guigui Claims cover the entire area south of the East and West Camps and a significant portion of the southeastern Middle Camp.

4.3 Reyna Silver – MAG Silver – Guigui project agreement

Reyna purchased 100% of the Guigui project and the Batopilas project from MAG for US$8,500.00 plus 100 preferred shares that convert to 19.9% of the capital of Reyna upon it raising CAD$5,000,000 and obtaining a public listing. Coralillo retains a non-dilutable 2.5% NSR on the project. Appendix III of this report contains a copy of the agreement between MAG Silver and Reyna.

4.4 Century Metals – Reyna Silver agreement

Century and Reyna entered into a definitive Acquisition and Amalgamation agreement in which Century acquires all the issued and outstanding shares of Reyna. The Century-Reyna agreement is included in Appendix III of this report.

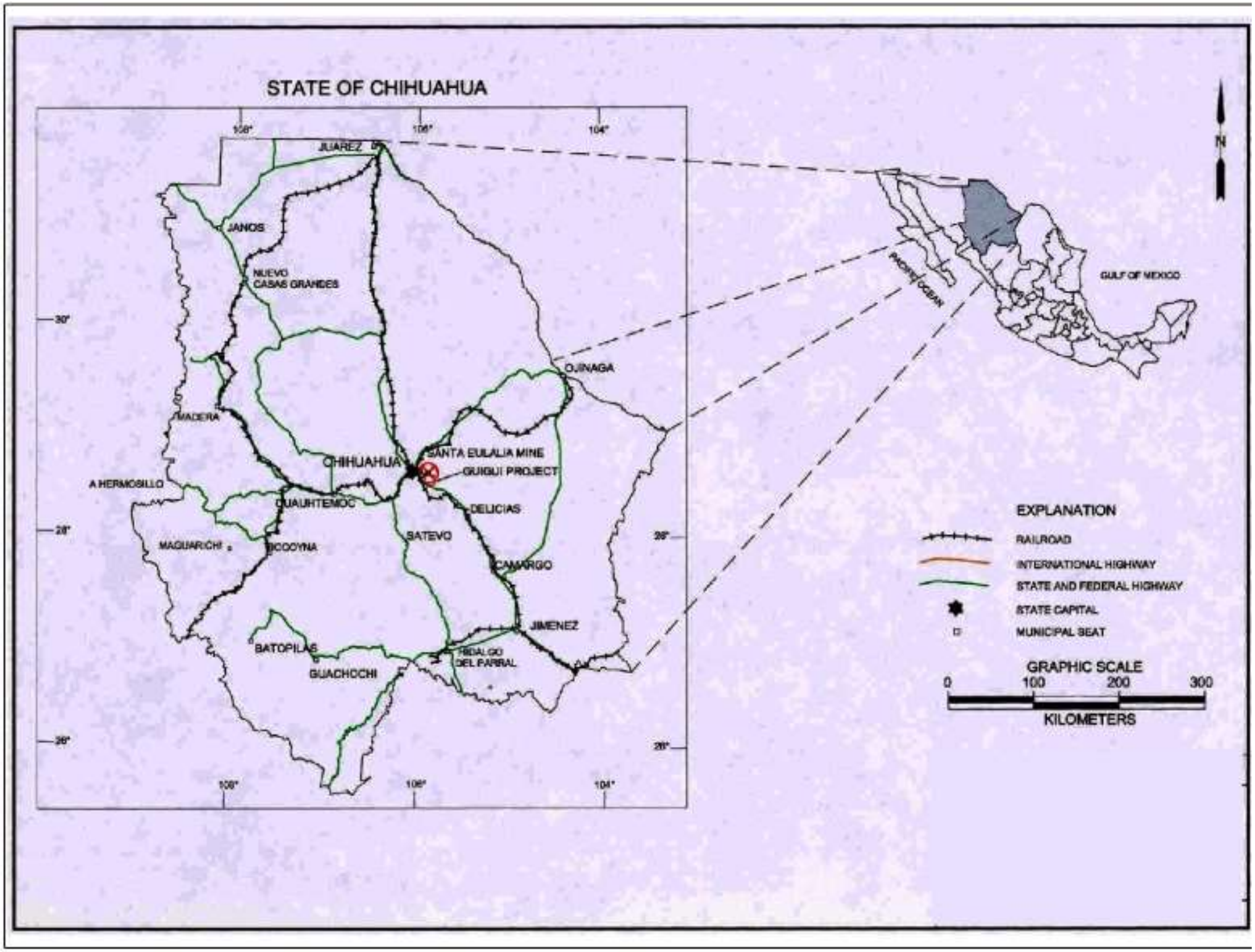

Figure 4.2. Map of the state of Chihuahua, showing location of the Guigui project.

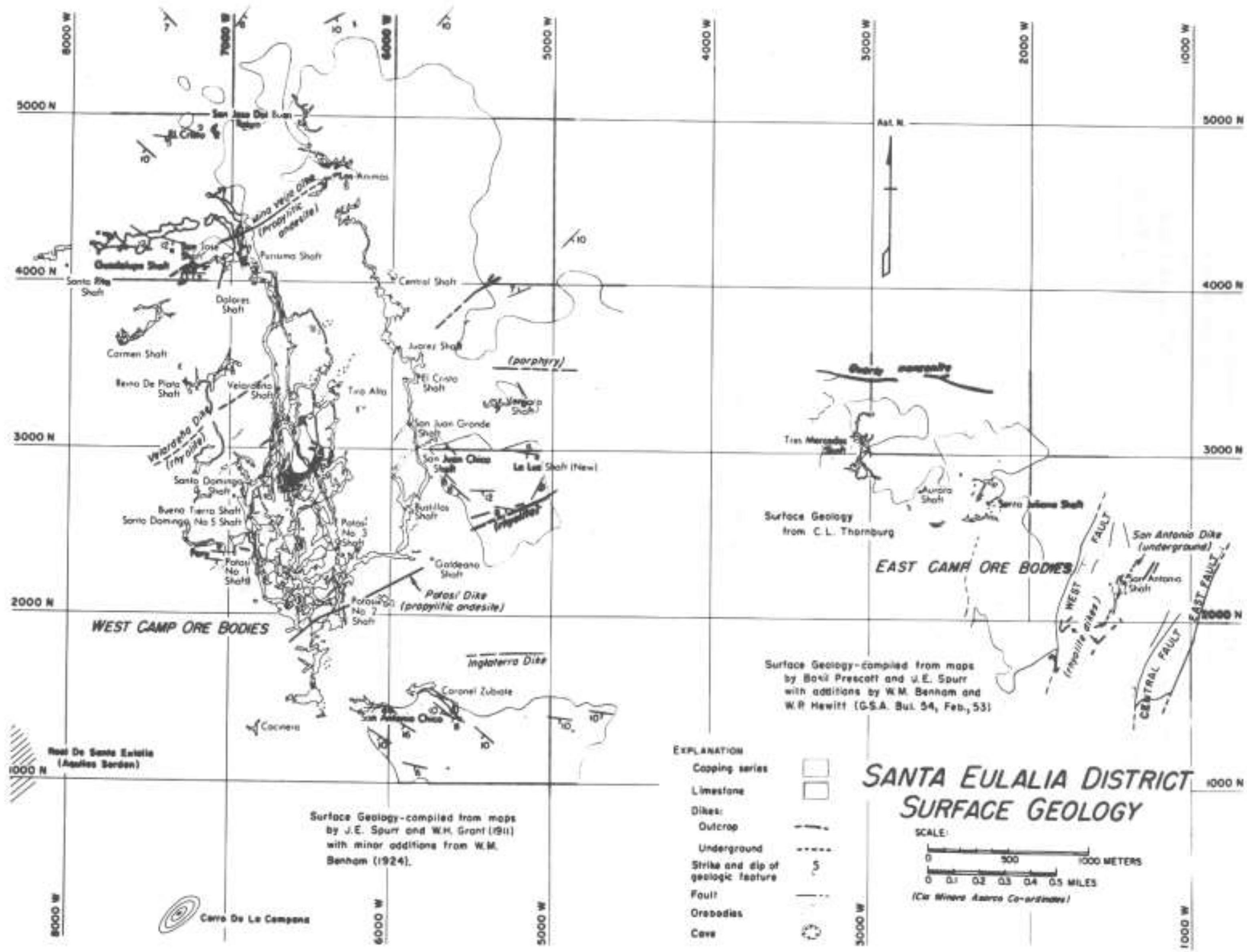

Figure 4.3. Santa Eulalia Mining District, showing West and East Camps. The Guigui project concessions lie to the south of both camps (Figure 4.1).

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRA-STRUCTURE, AND PHYSIOGRAPHY

The Santa Eulalia Mining District about 360 km south of El Paso, Texas and 23 km east of Chihuahua City (Figures 4.1 and 4.2). The district occupies the approximate center of the north-northwest elongate, fault-bounded Sierra Santa Eulalia (aka Sierra Santo Domingo) whose peaks rise up to 700 m above the surrounding plains. Maximum elevations exceed 2,200 m and the numerous deep canyons carved into the limestone and volcanic rocks of the range create a very rugged topography. The Guigui claims lie immediately south of the historic mining area in a volcaniclastic rock-covered area of rolling hills flanked by tall peaks. The cacti, greasewood and thorny plants typical of the Chihuahuan Desert comprise most of the sparse vegetation, except after summer rains when grasses and wildflowers flourish briefly. Temperatures average 25^{o} C and range from -5^{o} C to 40^{o} C. Precipitation averages less than 500 mm per year, with the bulk of it falling during the summer rainy season. Light dustings of snow happen every few years. Exploration and mining work can be conducted year-round. There is no surface water, but water is abundant at depth. Under Mexican mining law, water encountered in mine workings is attached to the mineral rights.

Mexican Highway 15, connecting Chihuahua City to Mexico City, runs along the west side of the range, within about 4 km of the western side of the Guigui Claim. A two-lane paved road cuts off Highway 15 and leads to the town of Santa Eulalia (a.k.a. Aquiles Serdán). Good quality paved and hard surfaced roads lead north and east from Santa Eulalia to the Buena Tierra, Potosí and San Antonio mines, or south into Guigui. Guigui is crossed by a series of well-maintained ranch roads. Population centers in the area include the town of Santa Eulalia, on the western flank of the range; Santo Domingo (a.k.a. Francisco Portillo), surrounding the installations of the Potosí and Buena Tierra Mines, and San Antonio, a miners’ community adjoining the San Antonio Mine. The remainder of the range is sparsely populated with isolated ranches.

Chihuahua City, the largest population centre in the region, lies immediately west of the Santa Eulalia district. Chihuahua City has a population of over 1,500,000. It is a major industrial and mining centre, and the capital of the state of Chihuahua. Professional, technical, and manual labour are readily available. The Chihuahua International Airport receives numerous daily flights from the USA and other Mexican cities. Driving time from Chihuahua International Airport to the entrance of the Guigui project is about 25 minutes.

Once acquired, surface rights will be sufficient for potential mine infrastructure, including processing facilities, dumps and tailings storage, and leach pads. Electrical power is readily available.

6.0 HISTORY

The Santa Eulalia district has been in continuous production for over 300 years (1703-2020) and ranks as one of Mexico's chief silver and base-metal producers. The city of Chihuahua was built by Spanish pioneers on the riches emanating from Santa Eulalia over the first 100 years of mining.

District production, as determined from all available official records, has been 51.5 million tonnes of ore yielding 510 Moz of silver, 4.223 MT of lead, 3.656 MT of zinc, 46,350 tonnes of copper, 4,000 tonnes of tin, 700 tonnes of vanadium, and one tonne of gold (de la Fuente, 1969; Wendt, 2002, updated to 2019; P Megaw, personal communication, 2020). This translates to an average grade of 310 g/t Ag (10 troy ounces), 8.2% Pb and 7.1% Zn. In the East Camp, tin grades locally reached 1.5% and copper averages 0.3%. Nearly all of the copper production came from the East Camp. About 30% of the district's total production came from the East Camp where approximately 10 million tonnes of ore reserves grading 112 g/t silver; 2.7% lead; and 8.1% zinc are presently known in the San Antonio Mine.

The Guigui area has seen sporadic small-scale prospecting over several hundred years but has seen no production except from 2 small fluorite mines: Los Arenales and La Ventura in the 1950s.

Minera Cascabel S.A. de C.V. (affiliate of Minera Coralillo) has undertaken systematic exploration with a series of partners on the property since 1988. Exploration records for all phases of this work are complete and in Reyna's possession.

District exploration has historically been dominated by direct heading and underground diamond drilling. Since 1970, Grupo Mexico has undertaken a series of surface-based exploration campaigns throughout their holdings in the district. Their exploration south of the San Antonio mine includes drilling within a few hundred metres of the Guigui boundary.

There appears to have been little exploration work done in the Guigui area prior to 1986, except for minor prospecting by unknown individuals.

Exploration concepts at Guigui arose from Peter Megaw's (1990) doctoral studies in the district. This work included regional study of the characteristics of localization of Santa Eulalia and related deposits (Titley and Megaw, 1985; Megaw and others, 1988), detailed underground and surface mapping, and zoning and geochemical studies (Megaw, 1990). Megaw's work resulted in a geologic model indicating that the probable intrusive centre related to district mineralization lay concealed under volcanic cover adjacent to the historic mining centres. If emplaced into limestone, this intrusion could be the centre of substantial additional stock contact mineralization of the style seen in deposits such as San Martin, Zacatecas (Rubin and Kyle, 1988). Ten years of subsequent exploration efforts focused on gaining geologic and geophysical data to locate this target (Table 6.1).

Work carried out between 1991 and 2015 includes:

1. Detailed geologic mapping of the Guigui claim, with emphasis on mapping volcanic stratigraphy, structures cutting the volcanics and alteration. Geochemical samples were taken of all structures and mineralized outcrops. This was accomplished via Landsat image analysis, 1:40,000 B&W air-photo analysis, and 1:10,000-scale geologic outcrop mapping.
2. Geophysical surveys to locate the intrusive centre and determine the thickness of the volcanic cover. The surveys included: gravimetrics, ground magnetics, CSAMT (Controlled Source Audio Magneto-Tellurics), and NSAMT (Natural Source Audio Magneto-Tellurics).
3. Definition of drilling targets based on geology, geochemistry and geophysics.
4. Airborne ZTEM/magnetics study and satellite hyperspectral study.
5. Detailed geologic mapping of the Guigui 2, 3 and 4 claims. This work defined zones of fluorite-cemented breccias, but work was suspended prior to completion.
6. Rock-chip sampling totaling 104 samples.
7. Fifteen diamond-drill holes totaling 9,514.6 m.

Table 6.1. Guigui project exploration history summary 1999-2015.

Year	Company/Operator	Activity
1980s	Grupo Mexico -MINAMEX	Peter Megaw doctoral study, district mapping and sampling
1991	BHP/Utah Int'l – MINAMEX exploration JV	Staking of Guigui concession by Minera Cascabel
.1991	BHP	Detailed geological mapping and sampling
1992	BHP	Ground gravity and magnetics survey on 250-m centers, U Texas, El Paso personnel
1993	BHP	Returned project to Minera Cascabel
1994	Teck	Detailed geological mapping and sampling in San Antonio graben. Drilled one vertical reverse-circulation hole in western part of Guigui concession.
1995	Teck	Returned project to Minera Cascabel
1995	Noranda	executed letter of intent, reprocessed gravity and mag data, designed and prepared AMT survey.
1996	Noranda	Returned project to Minera Cascabel
1996	Advanced Projects Ltd	Optioned project from Minera Cascabel
1997	Advanced Projects Ltd	CSAMT/NSAMT survey. Acquired Los Arenales concession, and El Faisan internal concessions.
1998	Advanced Projects Ltd	Drilling permits received.
2000	Advanced Projects Ltd	concessions transferred from Cascabel to Minera Coralillo.
2000	Cascabel	Cascabel wins Guigui 2 concession in lottery.
2001-2002	Cascabel	Acquired Guigui 3 and Guigui 4 concessions.
		Satellite hyperspectral study.
		Geological mapping identifying fluorite-cemented breccias.
2003	MAG Silver	67 surface rock samples
2003	MAG Silver	4 DDHs totaling 3,013.6 m
2004	MAG Silver	2 DDHs totaling 1,567.0 m
2005	MAG Silver	3 DDHs totaling 2,011.0 m
2006	MAG Silver	Aeroquest airborne ZTEM/magnetics survey, 692.6 line-km
2015	MAG Silver	6 DDHs totaling 9,514.6 m
2015	MAG Silver	37 surface rock samples

Minera Cascabel's (now Minera Coralillo) exploration of the district with BHP/Utah International, Teck Resources, Advanced Projects Limited, and MAG Silver was predicated on the exploration concepts for the district arising from Megaw's (1990) doctoral studies in the district. Megaw performed all the mapping and sampling, designed and directed the geophysics, and defined the drill targets described here. Megaw's model is based on the following observations:

1. Mineralization in the two camps appears to have resulted from the evolution of persistent, pulsating, hydrothermal systems, which he regards as signs of a large long-lived system (Megaw, 1998).
2. The East and West Camps contain continuous, zoned mineralization and alteration but comparison to related deposits in the region and elsewhere indicates that significant zones have not been encountered (Stock contact skarn in the case of the East Camp and both dike and stock contact skarns in the case of the West Camp).
3. Mineralization in both camps is closely associated in time and space to groups of apparently identical felsite intrusions.
4. The morphology of the ore-related felsites coupled with mineralogical, metals content, metal ratios, sulfur isotope, and mineralization style, strongly indicates hydrothermal sources south of the two camps.
5. These sources appear to lie between the two camps, in the Guigui Claim immediately north of the Santo Domingo Caldera in an area covered by volcanic rocks of the Capping Series.
6. If this source intrusion was emplaced into limestone, it could be the centre of stock contact mineralization of the style seen in deposits such as San Martin, Zacatecas.
7. If this proximal mineralization exists, it should be large given the size of the known parts of the system.

6.1 Geological Mapping

Cascabel's exploration work began with 1:10,000 outcrop geological mapping of the Guigui Claim, expanding on 1:50,000 reconnaissance mapping done previously (Megaw (1990). This was accomplished via Landsat image analysis, 1:40,000 B&W air-photo analysis, and 1:10,000 scale geologic mapping. Megaw (1990) included the areas of Guigui 2, 3 and 4 in his 1:10,000 detailed mapping of the mineralized zone, but the detail is not as complete as his outcrop mapping of the original Guigui Claim.

6.2 Geochemistry

A total of 104 rock-chip samples have been collected from outcrops and prospect dumps . Their descriptions and assay results are listed in Appendix II. Forty-three rock chip outcrop and selected prospect dump geochemical samples have been taken throughout Guigui [24] (Megaw, 1992) and the adjoining parts of the district [19] (Megaw, unpublished data). The Guigui samples were prepared and assayed by conventional AA and multi-element ICP geochemical techniques at American Assay Laboratories in Reno, Nevada USA (see below for protocols). Samples taken from outside of the Guigui project claims were taken during Megaw's (1990) dissertation mapping. These were prepared and assayed with conventional AA and Fire Assay at Grupo Mexico's on-site laboratory at the San Antonio Mine.

Rock-chip samples show weak to moderate anomalies in Ag, Pb, and Zn, with locally strong anomalies of Mn.

6.3 Geophysics

Four separate geophysical surveys have been run over the Guigui claim (including Faisán and Arenales) to locate the inferred source stock beneath the Capping Series volcanic cover that blankets the claim. The goals included determination of 1) depth to the stock, 2) the level of emplacement of the stock in the stratigraphic section, 3) the thickness of the Capping Series, and 4) direct or indirect location of mineralization and/or alteration. The surveys included gravity, ground magnetics, controlled source audio-magneto tellurics (CSAMT) and controlled source/natural source audio-magnetic tellurics (CSAMT/NSAMT) and airborne ZTEM and magnetics. The AMT survey lines were located on the basis of the gravity and magnetic surveys using interpretations based on two different processings of the data. Only the airborne surveys cover the Guigui 2, 3 and 4 claims.

6.3.1 Gravity

BHP/Utah International contracted Randy Keller of the University of Texas at El Paso (UTEP) to perform a combined gravity and ground magnetic survey of the Guigui claim in 1992. The work was executed by Dr Keller's graduate students, who covered the claim and extended a single line across the San Antonio graben to the east of the Guigui claim limits. A total of 493 gravity stations were read that followed an irregular pattern that caused significant problems in data processing, but nonetheless resulted in a usable gravity map of the claim. Data reduction and terrain corrections were performed in the Geophysics Laboratory at UTEP. The data show significant gravity variations dominated by a broad elongate gravity high running through the centre of the Guigui claim with flanking lows. The lows encompass several local highs. The San Antonio graben also shows up as a strong anomaly. The data were interpreted by UTEP as indicating the presence of an intrusive body in the centre of Guigui (the high) surrounded by limestone and variable thicknesses of volcanic rocks (Beasley, 1993).

Noranda geophysicists subsequently reprocessed and reinterpreted the UTEP gravity data (Noranda, 1996). Their maps show substantially similar overall gravity patterns, but with a significant eastward shift in the location of anomalies. Noranda's interpretations were quite different from the UTEP/BHP interpretations. They interpreted the elongate central high as reflecting limestone comprising the axis of the Santa Eulalia anticline, and the flanking lows as variable thicknesses of Capping Series rocks and/or possible intrusion centres. Subsequent drilling appears to confirm Noranda's interpretation.

6.3.2 Ground Magnetics

Keller's magnetic survey was done with a hip chain on N-S compass lines with magnetic readings taken every 250 meters. A total of 518 readings were taken. A single line was run across the San Antonio Graben to the east of the Guigui Claim limits. Despite the different sampling patterns, many magnetic stations coincide with gravity stations. The magnetic survey was performed competently in accord with instructions (Beasley, 1993). Noranda reprocessed the magnetic data at the same time they processed the gravity data. Because these data were collected on a more regular pattern, there is much less difference in the two versions of the magnetic processing than between the two processing of the gravity data.

The data show a number of local magnetic highs and lows as well as dipole anomalies. There are strong positive anomalies associated with the San Antonio Graben and the westernmost area of downfaulted Guadalupe Block caldera outflow facies volcanic rocks is a very well defined magnetic high. The central part of Guigui contains a number of magnetic highs and dipole anomalies. The most notable group of magnetic highs and dipole anomalies define a roughly circular string of anomalies about 1.5 km in diameter. These were interpreted as magnetic mineralization lying to the west of an intrusion (inferred from the gravity data) (Keller, 1992; Beasley, 1993) and as magnetic mineralization surrounding an intrusion centre (Noranda, 1996).

6.3.2 Audio Magneto Tellurics

6.3.2.1 – Zonge 2-line CSAMT survey

Teck Resources contracted Zonge Engineering of Tucson, Arizona to run two lines of CSAMT over a combination of features interpreted from the UTEP/BHP gravity and magnetic data processing (Zonge, 1993). The lines were oriented NNE-SSW and were run across the westernmost cluster of magnetic anomalies adjoining the gravity feature interpreted as a possible intrusion. Line 1 was 3,375 m long and ran from the west side of the Guadalupe Fault to the flanks of Cerro La Campana (Figure 6.1). Line 2 was located 500m farther east and ran 3300m from the Guadalupe Fault to a point 500 m of the Los Arenales Fluorite mine (Figure 6.2).

The lines showed a thin surface conductor, interpreted to be Capping Series volcanic rocks less than 200 m thick, overlying a broad nearly unbroken resistor, interpreted to be the underlying limestone (Zonge, 1993). The Guadalupe Fault shows up exceptionally well and shows that volcanic rocks to the west of this fault are at least 500m thick. A few vertical discontinuities occur along the lines, but only the northeastern-most end of Line 2 shows strong conductors associated with these discontinuities. There is no feature resembling a possible intrusion revealed by these lines.

The Zonge Engineering Final Report of August, 1993 contains full details of the layout, data collection and interpretation, and sections. All work appears to have been done to industry standards.

A single reverse-circulation drillhole was put down based on this study to test the thickness of the pre-mineral volcanic cover. The hole confirmed that it was less than 150m thick. The hole was not intended to seek mineralization, nor did it do so.

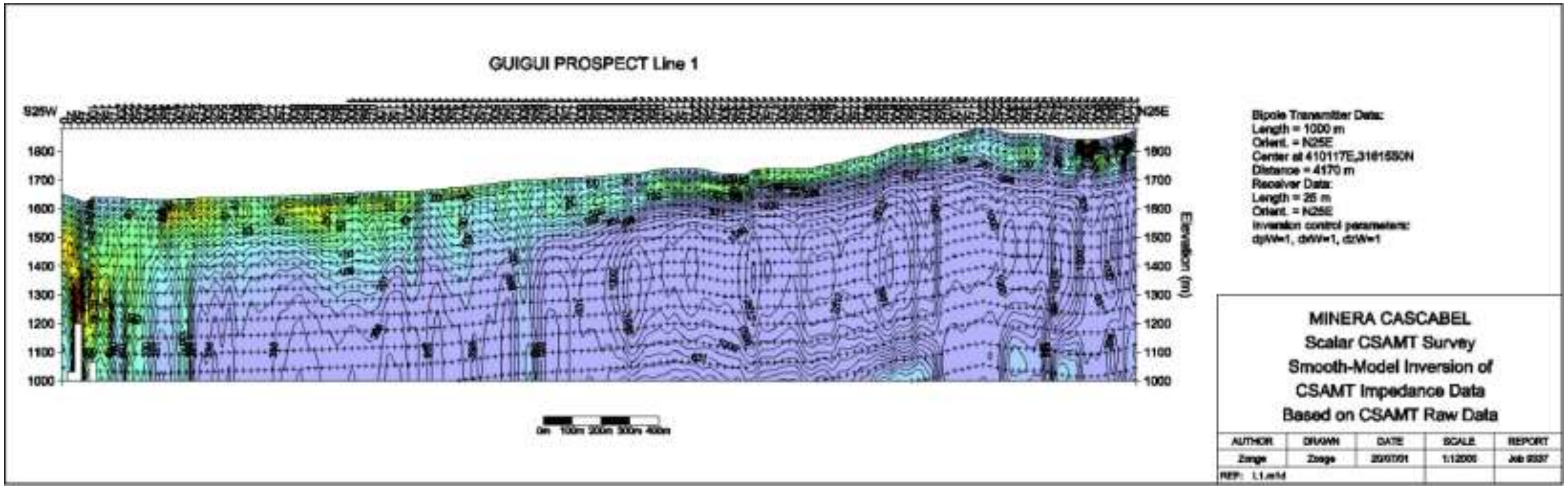

Figure 6.1. CSAMT pseudosection, line 1.

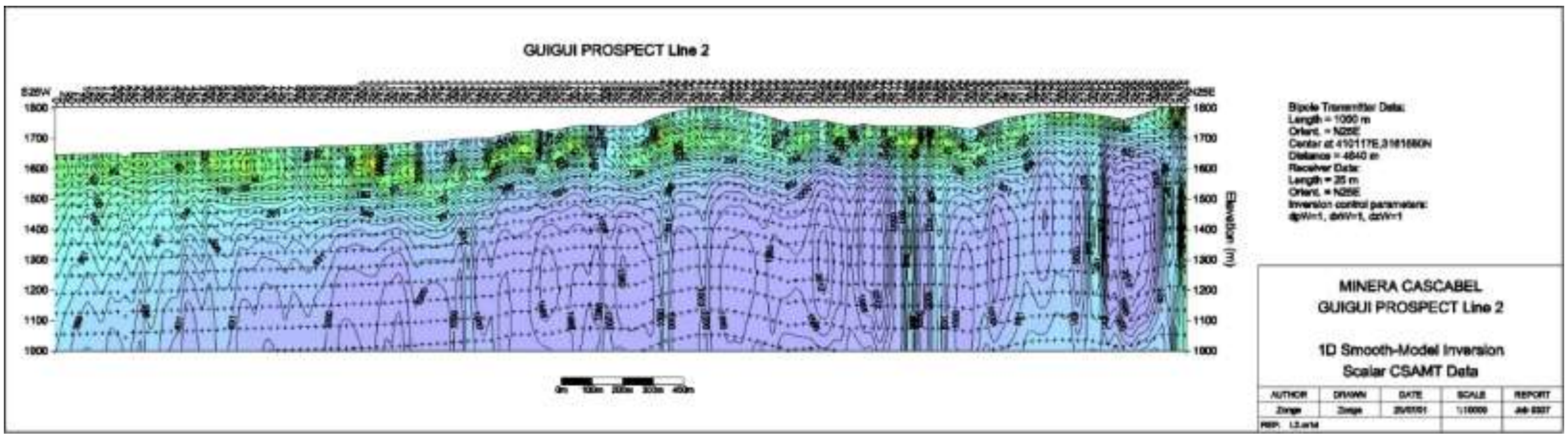

Figure 6.2. CSAMT pseudosection line 2.

6.3.2.2– Zonge Combined 4-Line CSAMT-NSAMT survey

Advanced Projects contracted Zonge Engineering to run combined CSAMT and NSAMT surveys over routes recommended by Noranda after their reprocessing of the UTEP/BHP gravity and magnetic data (Noranda, 1996). A total of 15,000 m was run on four lines (Figures 6.3-6.6). Results are summarized below. The study included incorporation and reprocessing of the CSAMT data obtained for Teck's Lines 1 and 2 farther to the west. The Zonge Engineering final revised report of February 17, 1998 contains full details of the layout, data collection and interpretation, and sections. All work appears to have been done to industry standards.

The results correlate well with surface mappable features and indicate several buried drill targets. Line details and major features are:

<u>Line A:</u> 2,750-m long, oriented NNE-SSW, nearly parallel to Teck Line 2, but 500 m farther east. Runs from centre of Guigui, across Los Arenales Fluorite Mine, and into the southern end of the Middle Camp (at the former northern limit of Guigui Claim group). Line shows thin (<200-m thick) surface conductor interpreted as the Capping Series volcanics and a series of vertical discontinuities with associated conductors. The Arenales Fault is one of these features and a moderate conductor roughly coincides with the Los Arenales fluorite mine.

<u>Line B:</u> 5,250-m long, oriented NE-SW, lies south and east of Line A. Runs from 400m east of the southern end of Line 2 across the centre of the gravity-inferred intrusion and 2 of the surrounding magnetic anomalies to the eastern flank of the San Antonio Graben. Line shows thin (<200-m thick) surface conductor interpreted as the Capping Series volcanics and a series of vertical discontinuities with associated conductors. One discontinuity roughly coincides with the second strongest conductor on Line D, but is not as conductive. In one place, highly resistive rocks reach almost to the surface on Line B…this lies 20 m from a surface exposure of limestone confirming the utility of using the AMT data to determine the thickness of the Capping Series. The strongest combined vertical discontinuities and conductors occur along the western flanks of the San Antonio Graben and have been interpreted as being faults parallel to this major feature. The Dinamita Graben (Megaw, 1990) is the surface expression of one of these parallel structures and is well marked with alteration and mineralization where limestone is exposed on the surface 2 km farther north along this trend.

<u>Line C:</u> 3,900-m long, oriented ENE-SSW, running from the northeastern end of Line B across the San Antonio Graben. Line shows a thin (<200-m thick, thickening to 350 m under large hill composed of Capping Series volcanics) surface conductor interpreted as the Capping Series volcanics. Shows several combined vertical discontinuities and conductors occur along the western flanks of the San Antonio Graben in the area where it crosses Line B (see above). The San Antonio Graben Faults proper do not appear, as their topographic expressions are cliffs over which the survey could not be run.

<u>Line D:</u> 3,200-m long, oriented NNW-SSE parallel to the main axis of West Camp mineralization and geologic vectors. The line was run across the centre of the gravity-inferred intrusion and 4 magnetic highs lying along the eastern flank of this feature, and is essentially parallel to the schematic long-section from the West Camp to the Santo Domingo Caldera as

shown in Megaw (1990). Line shows a thin (<200-m thick) surface conductor interpreted as the Capping Series volcanics, and shows vertical discontinuity at the caldera ring-fracture zone and in several other places to the north. The most prominent feature on the line is a strong cluster of conductors from 200-600 m beneath the surface that form a bell-shaped anomaly. An additional strong conductor lies on a vertical discontinuity 500 m farther north, just past where Line B crosses Line D. These combined features can be interpreted as a stock surrounded by conductive mineralization and bear remarkable resemblance to the schematic geologic longitudinal section in Figure 7.3 (Figure 6.7).

Zonge (1998) combined the results of the six AMT lines into a series of depth slices that show the location of vertical discontinuities and conductors to depth. These also indicate to which side of the line a conductive anomaly may lie; an important feature given the ability of strong off-line conductors to influence AMT results. Zonge (1998) recommended several of the AMT anomalies as principal drill targets. Chief among these are the features on Line D that resemble the conceptual target, and the anomalies associated with the western side of the San Antonio Graben (Lines B and C) that may reflect continuation of East Camp mineralization along the graben and related structures.

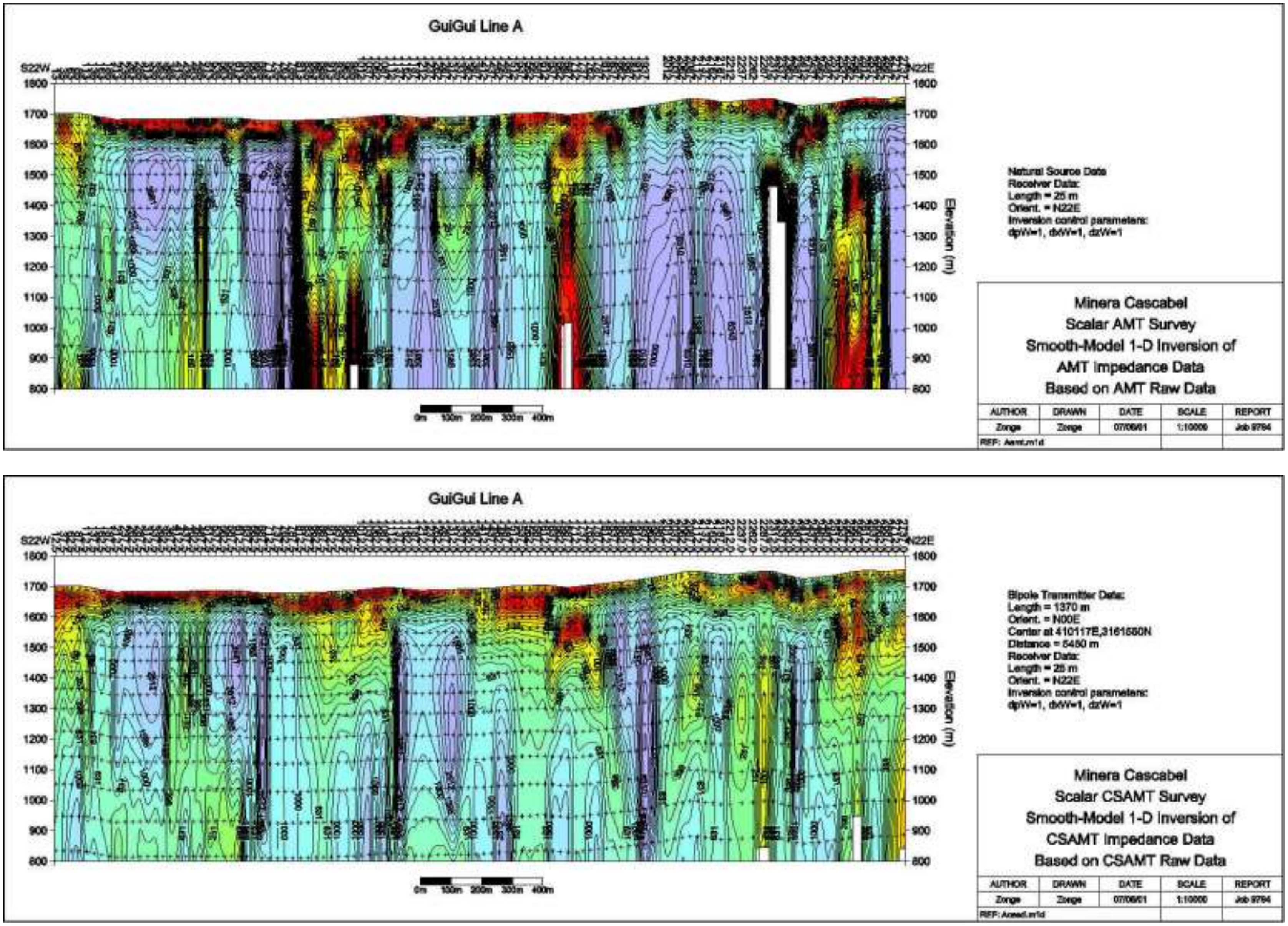

Figure 6.3. CSAMT Line A pseudosection.

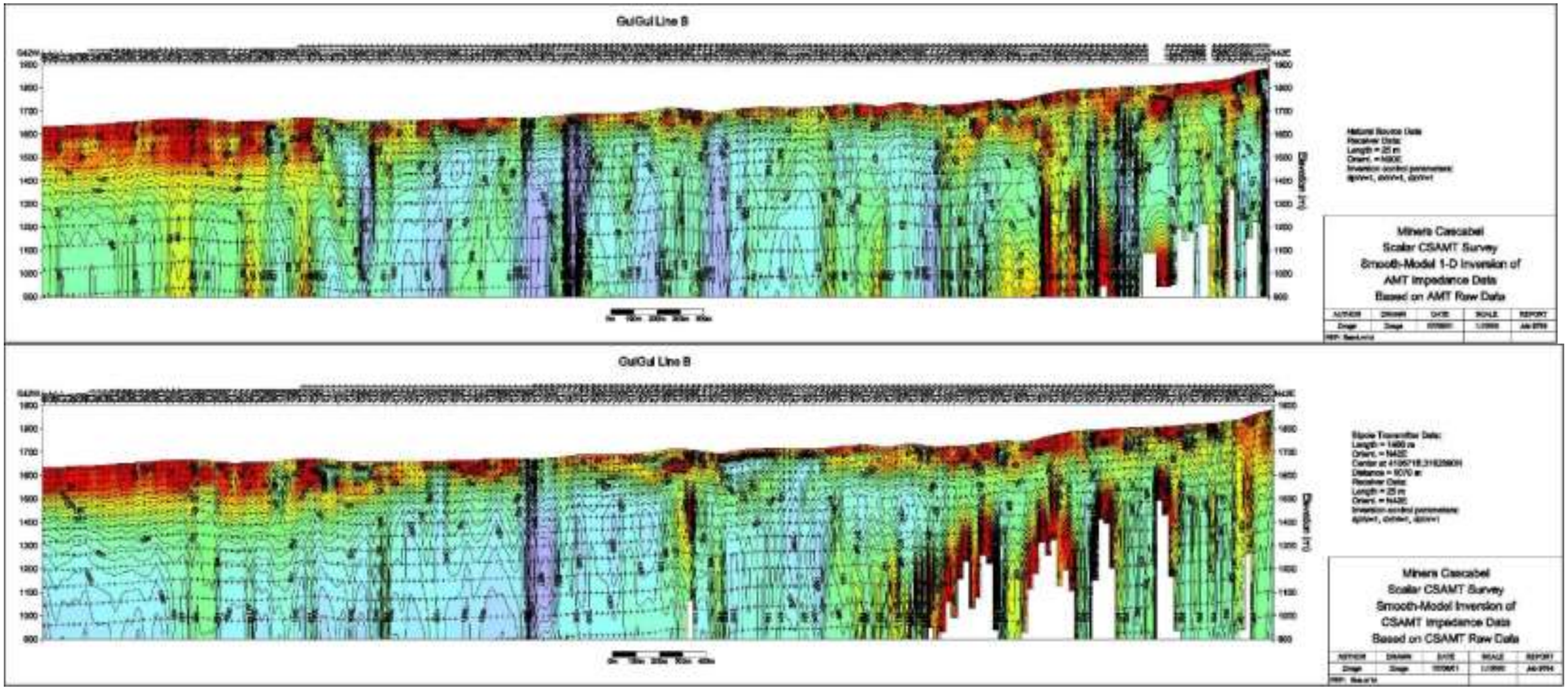

Figure 6.4. CSAMT Line B pseudosection.

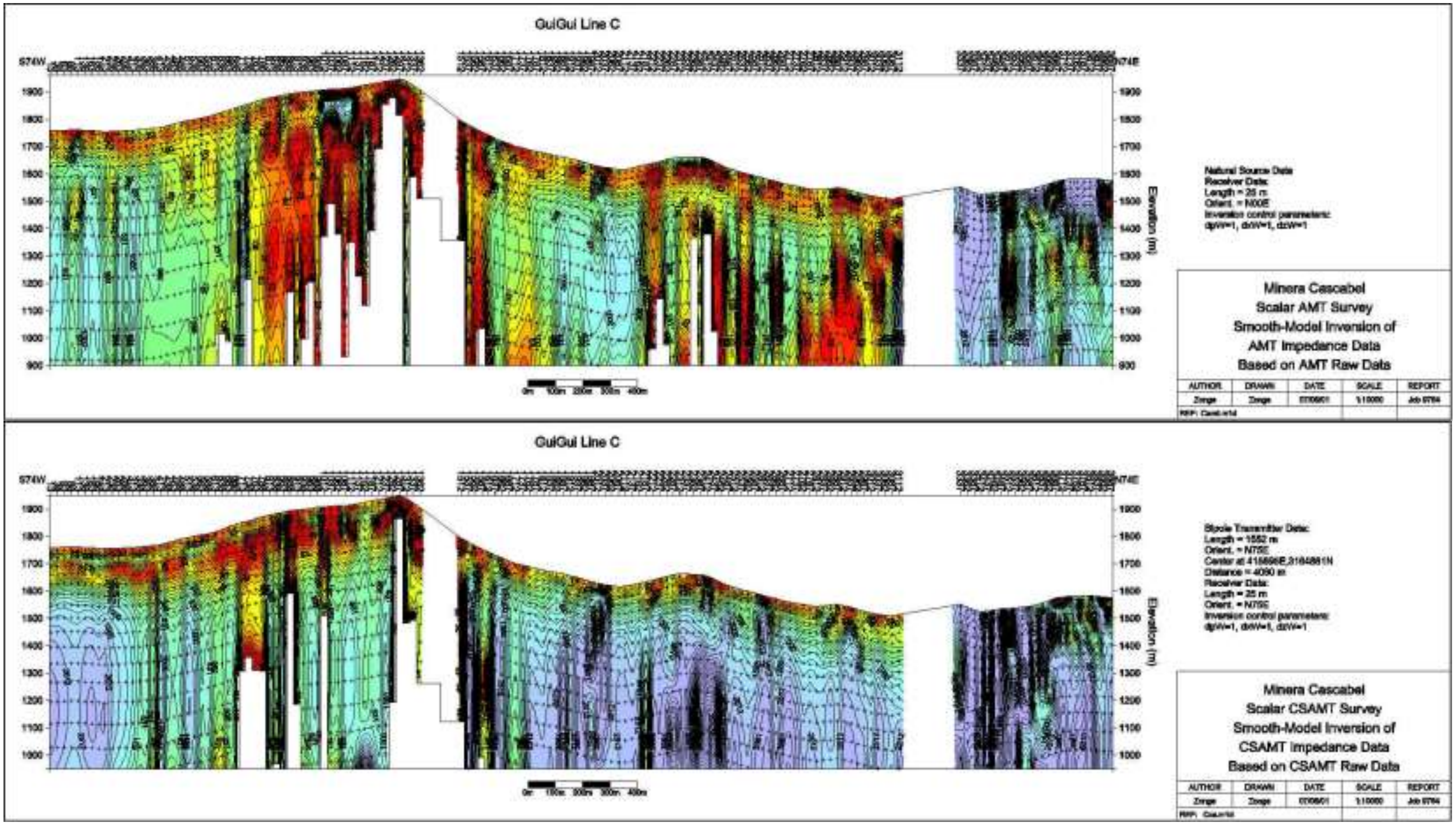

Figure 6.5. CSAMT Line C pseudosection.

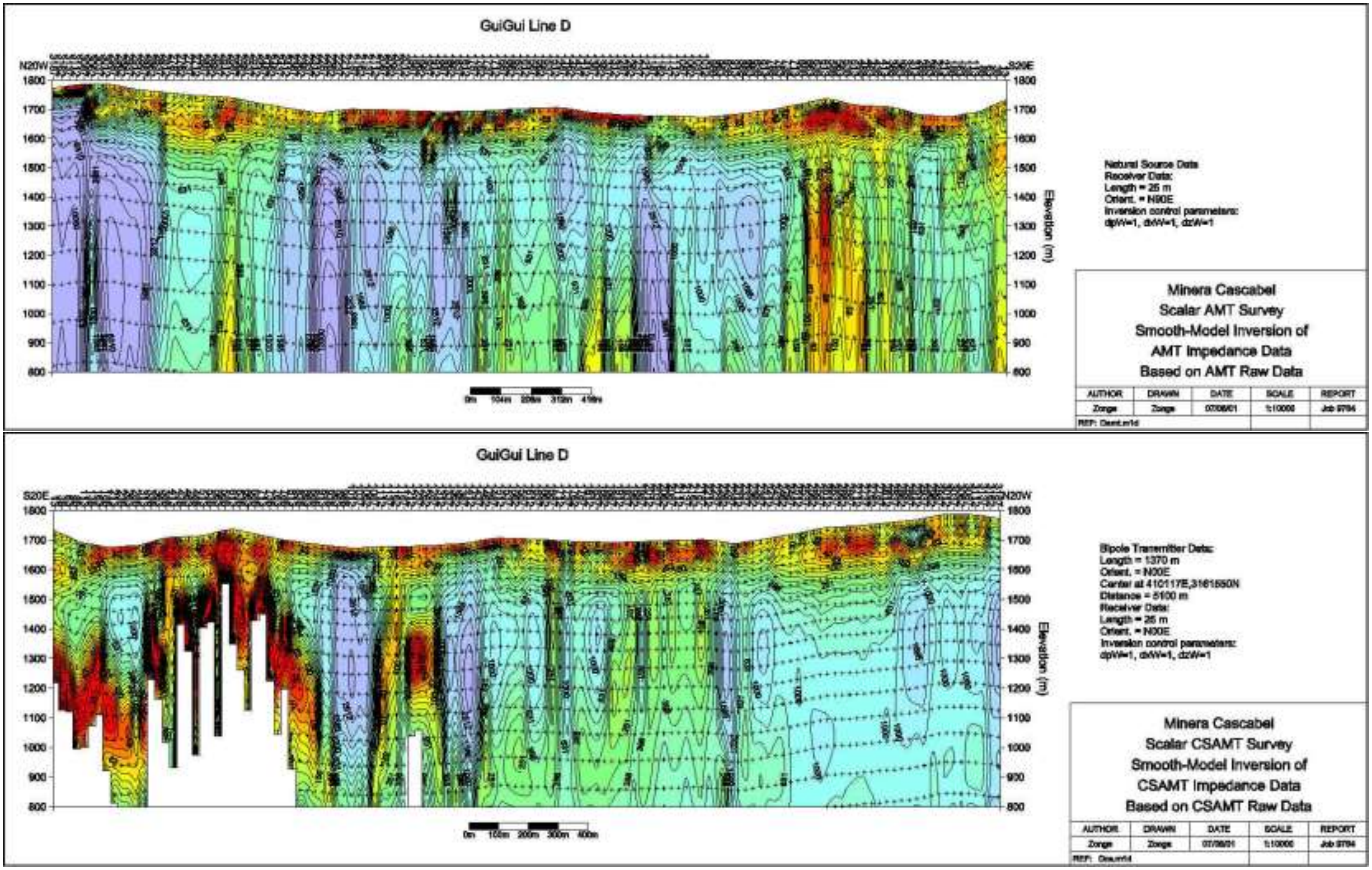

Figure 6.6. CSAMT Line D pseudosection. The upper and lower sections are portrayed in opposite orientations; the strong conductors in both are coincident.

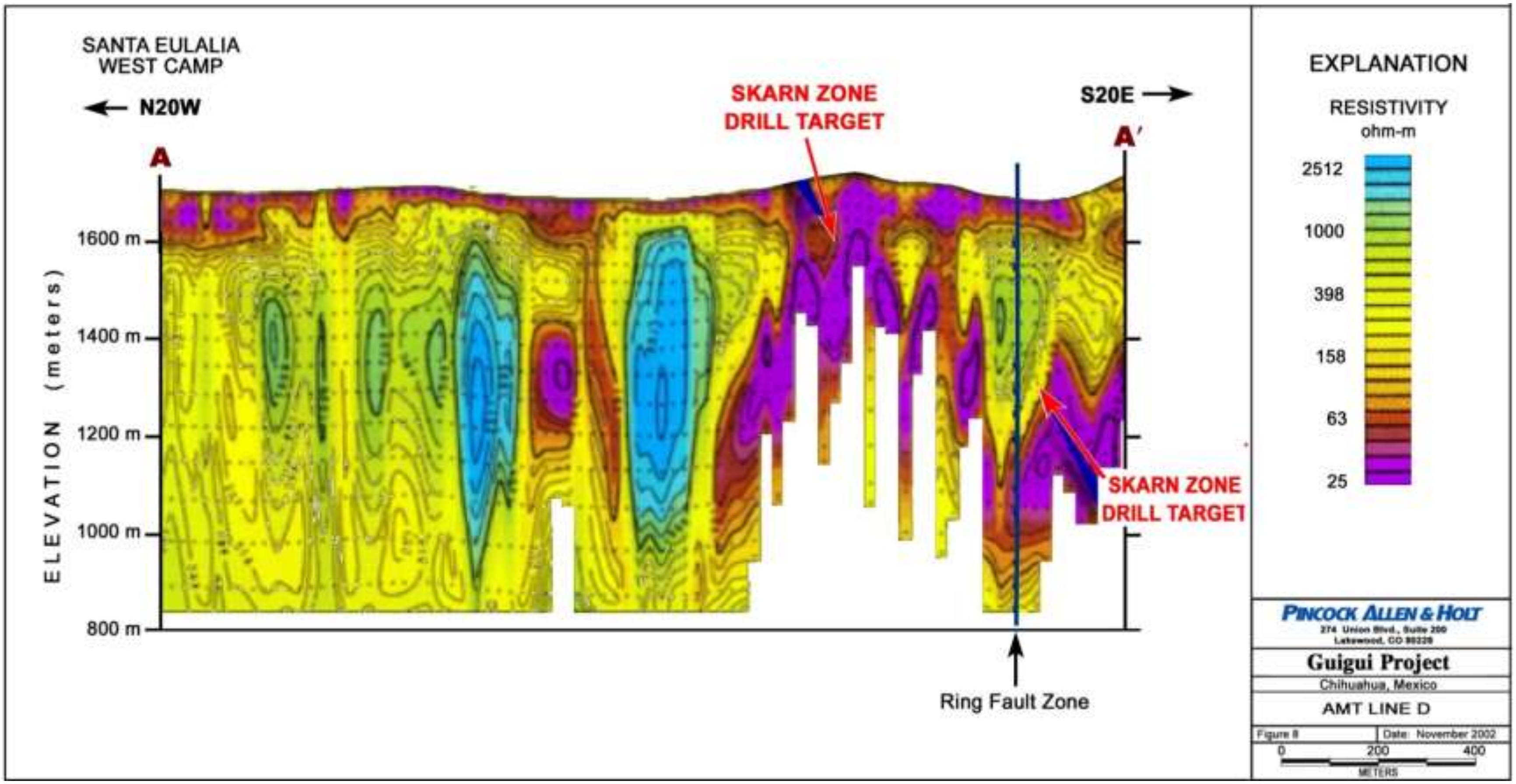

Figure 6.7. Comparison of schematic district longitudinal section (Figure 7.3) to CSAMT Line D (Note that Line D as shown above is portrayed in the opposite orientation to this figure). Scale on the two sections is different: Line D lies completely within Guigui and covers the area from the caldera ring-fracture zone to the northern limit of volcanic capping. Note: Schematic section was drawn 6 years before CSAMT survey was run.

6.3.4 Airborne Magnetic-Electromagnetic Survey

Aeroquest Limited carried out a 692.6 line-km helicopter-borne TEM electromagnetic and magnetic survey on the Guigui project in November 2006 for MAG Silver (Aeroquest, 2006). Flight lines were nominally 100 m apart and were oriented N45W, and the instrument's elevation above the ground surface was nominally 30 m. The covered area included Guigui, Guigui 2, Guigui 3 and Guigui 4 claims. The final products deliver by the contractor were:

- Reduced to pole magnetics with contours, flight path and EM anomaly picks (Figure 6.8)
- First vertical derivative of the magnetic field with contours, flight path and EM anomaly picks (Figure 6.9)
- Coloured tilt derivative magnetic field with contours, flight path and EM anomaly picks (Figure 6.10)
- Coloured early time Z-component channel (channel 1) and EM anomaly picks (Figure 6.11)
- Plan profiles of up to 10 Z-component EM channels and EM anomaly pick

The survey results were analyzed by in3D Geoscience Inc; their report is presented in Appendix VII. All work appears to have been done to industry standards.

The pronounced magnetic high on the east side of the survey was interpreted as a magnetically positive intrusion and the Guiguito claim (since dropped) was filed to cover the entire anomaly. Drilling (see below) in the area cut a magnetite-rich intrusive related to the 73 Ma-old diabase-sill family. As this intrusion is significantly pre-mineral in age the Guiguito claim was dropped.

This study reveals several pronounced linear anomalies with north-south and northeast-southwest orientations within the central part of the Guigui claim. These orientations correspond with the known north-south and northeast-southwest structural trends that control mineralization in the West Camp (see above). In several places showing pronounced cross-shaped anomalies where these linears cross, in the case of the one lying at the southern edge of Guigui 2, this corresponds with a major fluorite-cemented breccia pipe. None of the anomalies revealed by the airborne survey in Guigui have been drilled.

6.3 Hyperspectral Satellite Imagery

In 2006, Telluris Consulting produced a set of preliminary set of Landsat satellite images of the Santa Eulalia district (Figure 6.12). The imagery identifies broad alteration patterns indicative of extensive clay and related alteration styles.

In 2019, Reyna Silver contracted Photosat Inc. of Vancouver, B.C. to obtain and processes WorldView 3 hyperspectral satellite imagery with a 7-m pixel resolution. This study shows concentrations of individual alteration minerals, including alunite, buddingtonite, kaolinite, and sericite, as well as an apparent concentration over the fluorite-cemented breccia in Guigui 2 that overlies intersecting linear airborne geophysical anomalies (Figure 6.13). Since neither the airborne geophysics nor this hyperspectral imagery has been field checked yet, it is recommended that this be done very early in the detailed mapping phase.

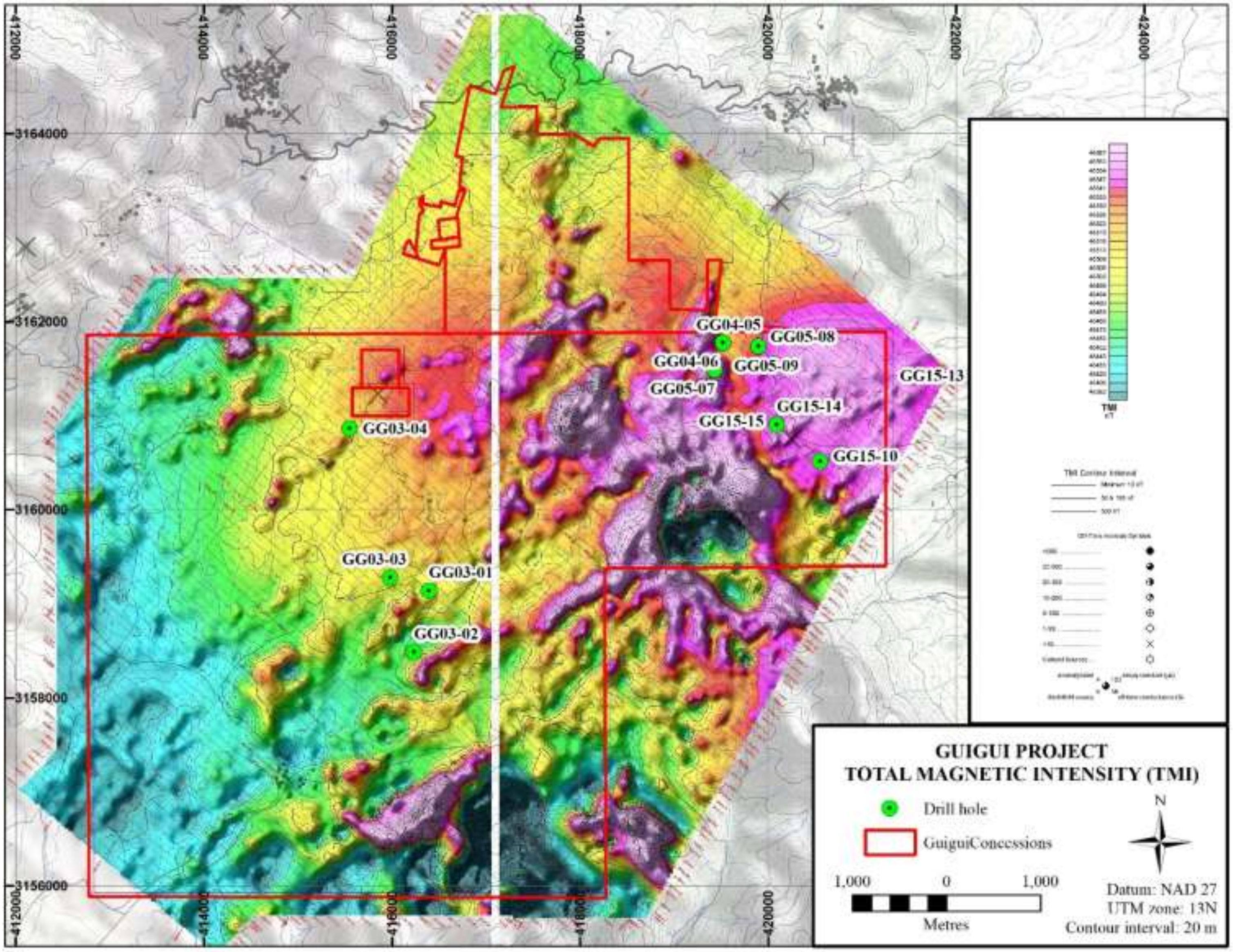

Figure 6.8. Total magnetic intensity, reduced to pole, Guigui project. The pronounced cross-shaped anomaly in southern part of Guigui 2 appears to underlie a large fluorite-cemented breccia pipe.

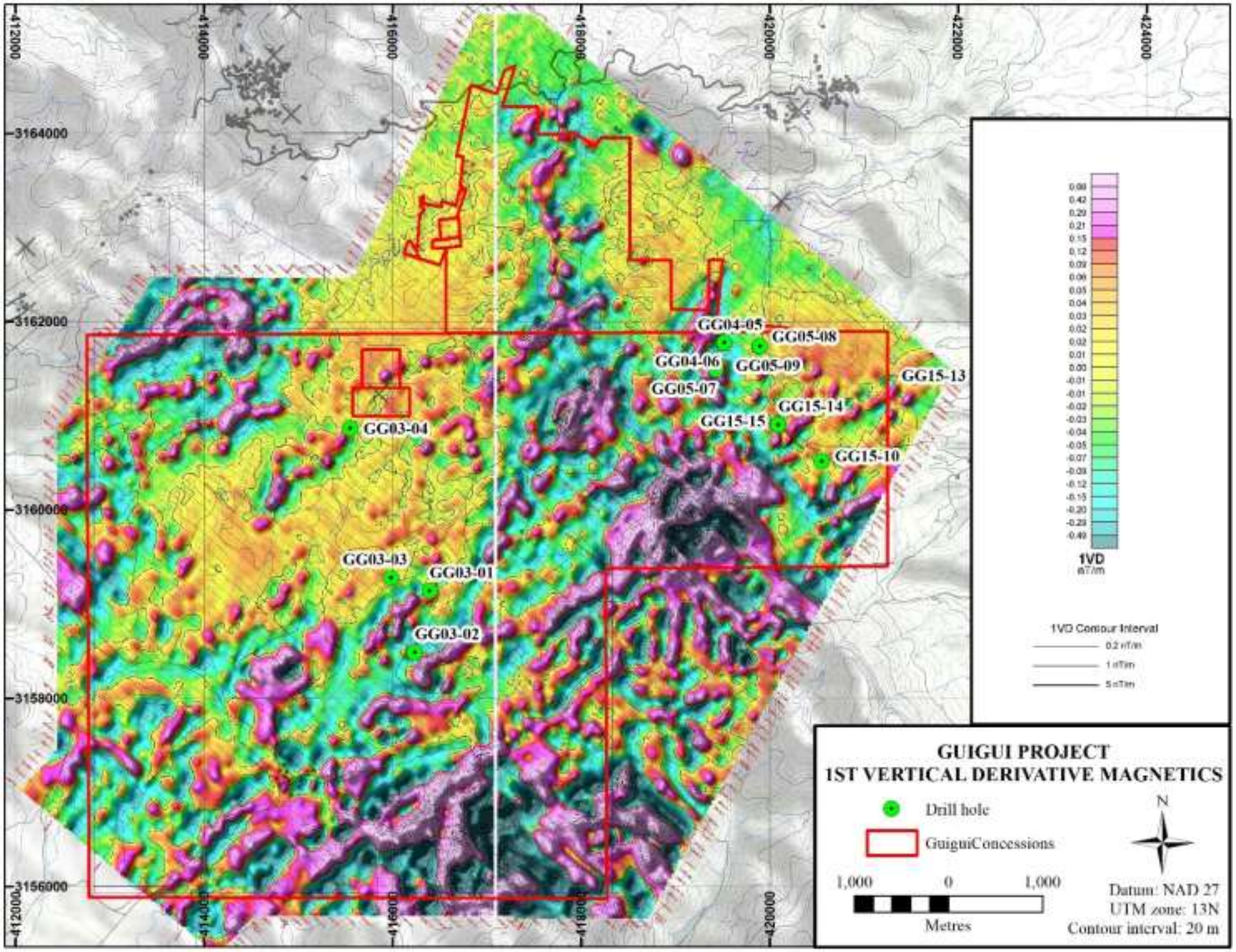

Figure 6.9. First vertical derivative magnetics, Guigui project. Again, note pronounced cross-shaped anomaly in southern Guigui 2. This appears to underlie a large fluorite cemented breccia pipe.

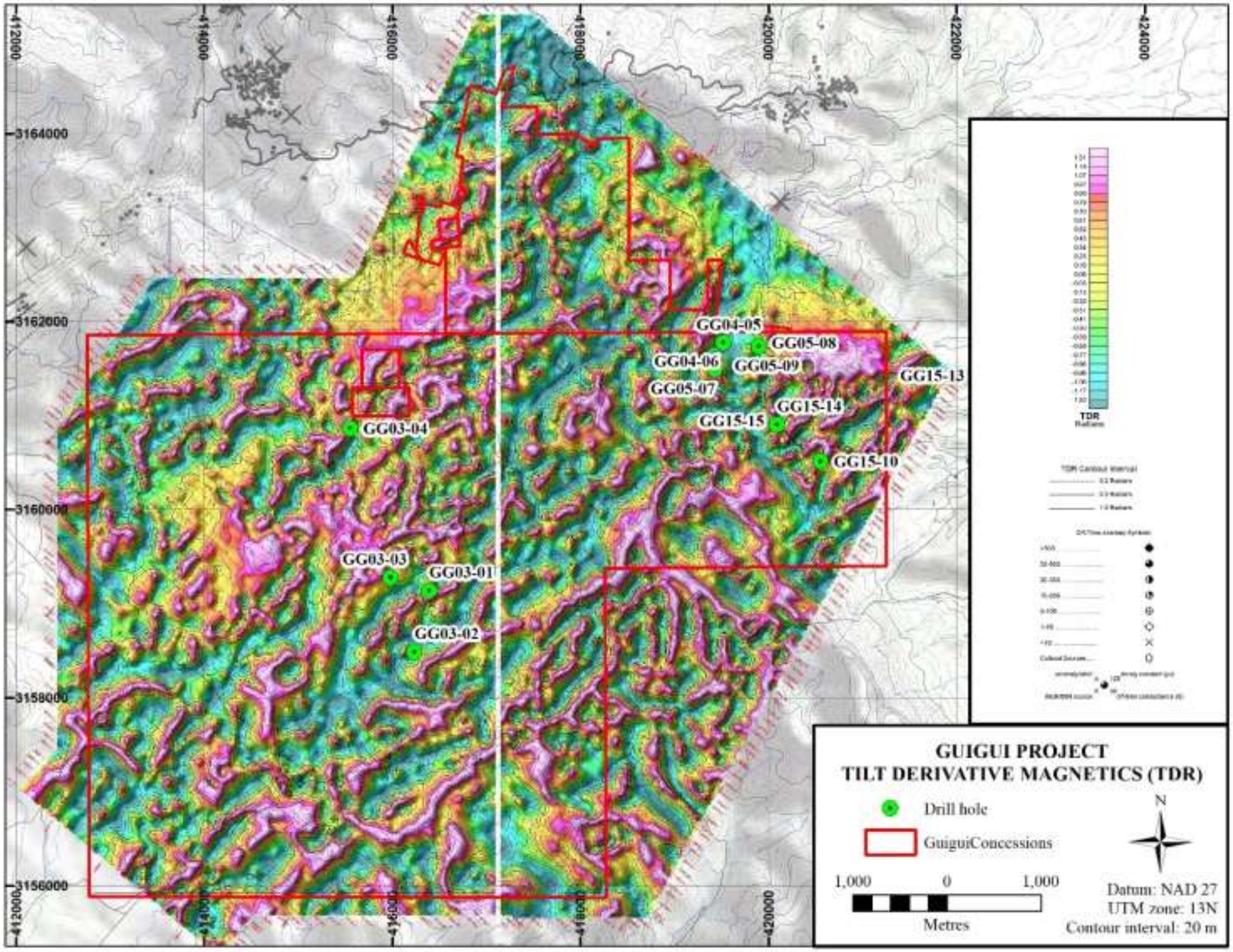

Figure 6.10. Tilt derivative magnetics, Guigui project. Again, note pronounced cross-shaped anomaly in southern Guigui 2.

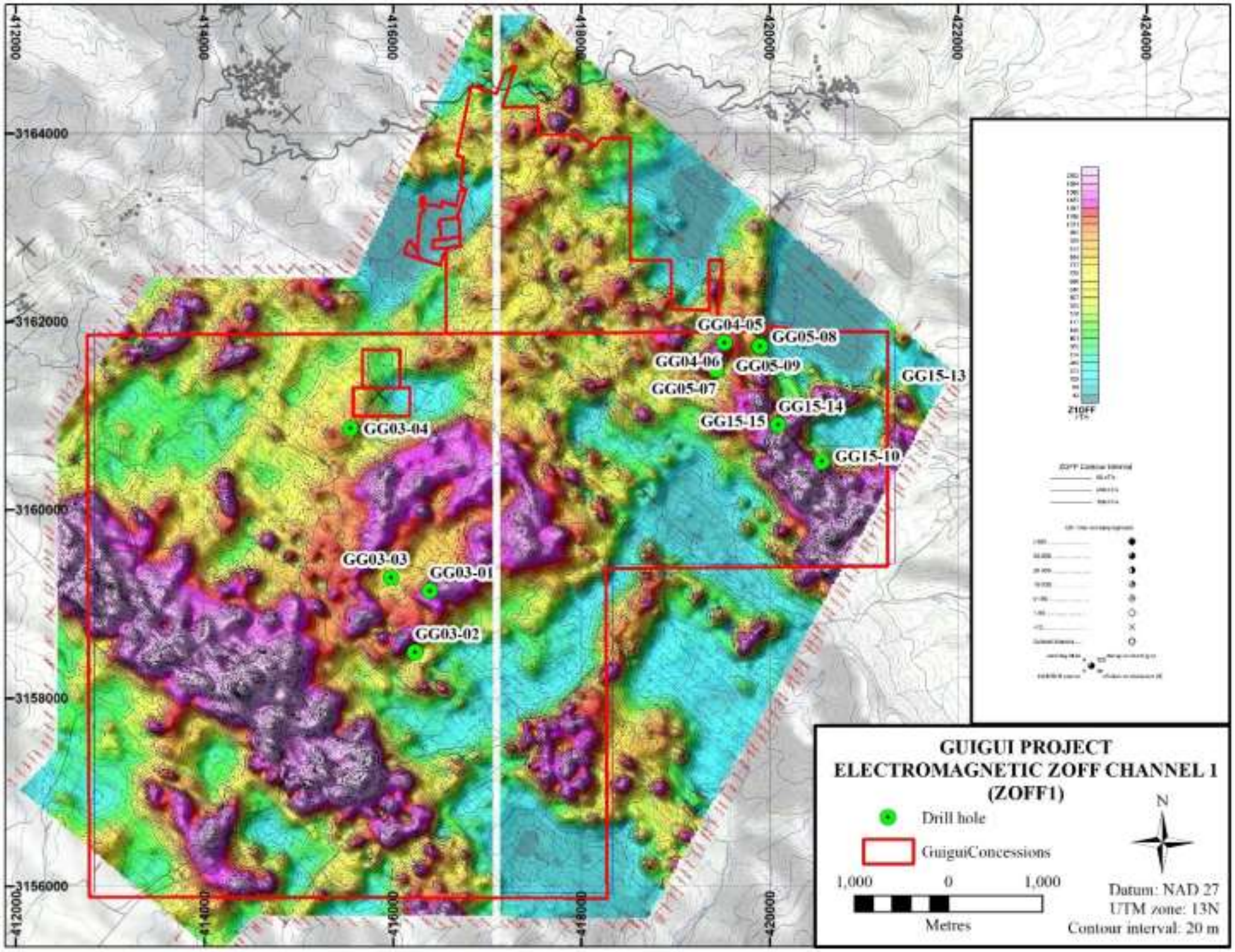

Figure 6.11. Electromagnetics, Guigui project. Note the pronounced positive electromagnetic high surrounded by drillholes GG03-01, GG03-03 and GG03-04. Guigui drillhole GG03-04 attempted to test the Los Arenales fluorite-cemented breccia pipe immediately to the northeast. The hole cut fluorite mineralization but did not reach target depth.

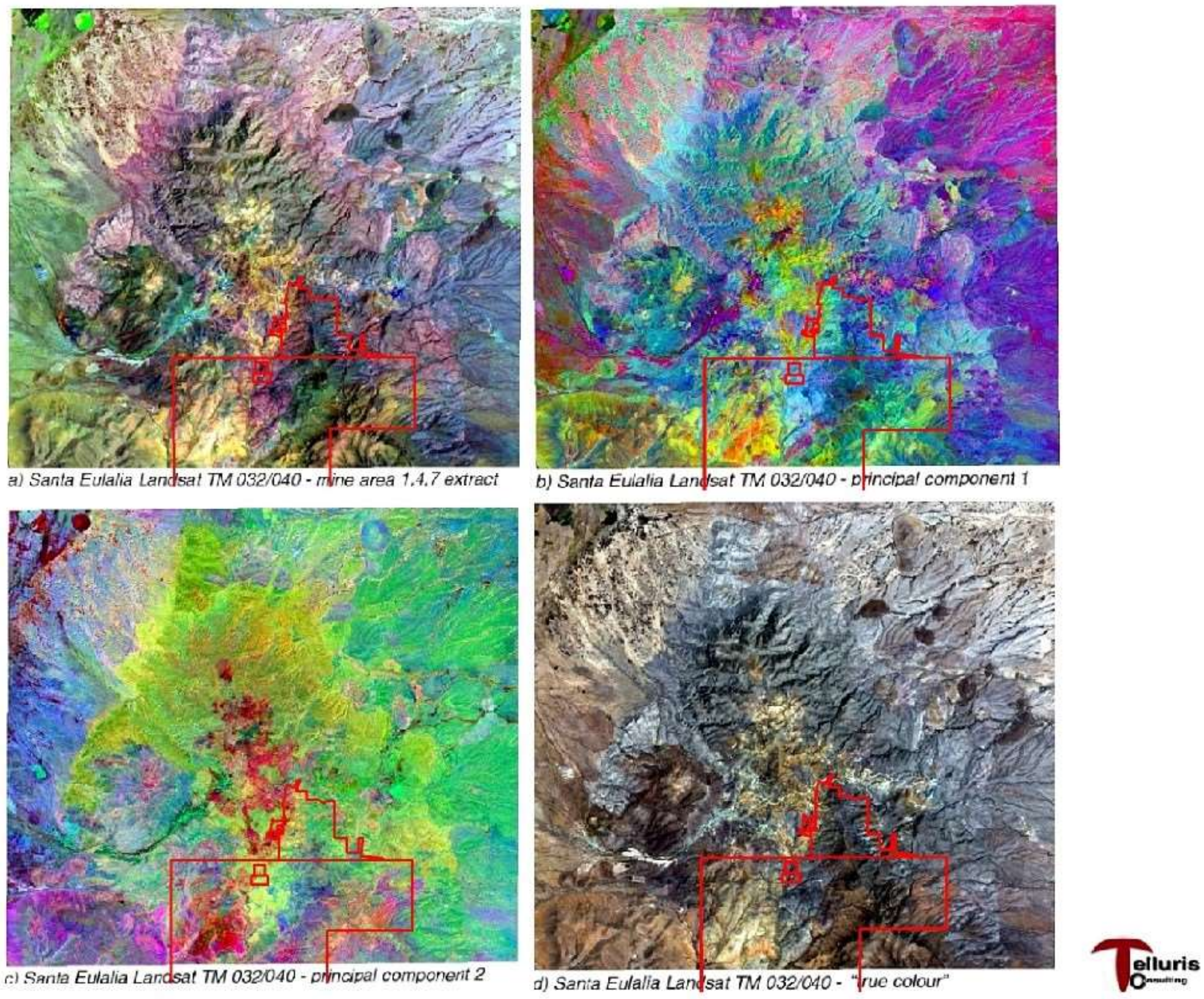

Figure 6.12. Landsat satellite imagery of Guigui project area, showing land position (red outline) (Telluris, 2006).

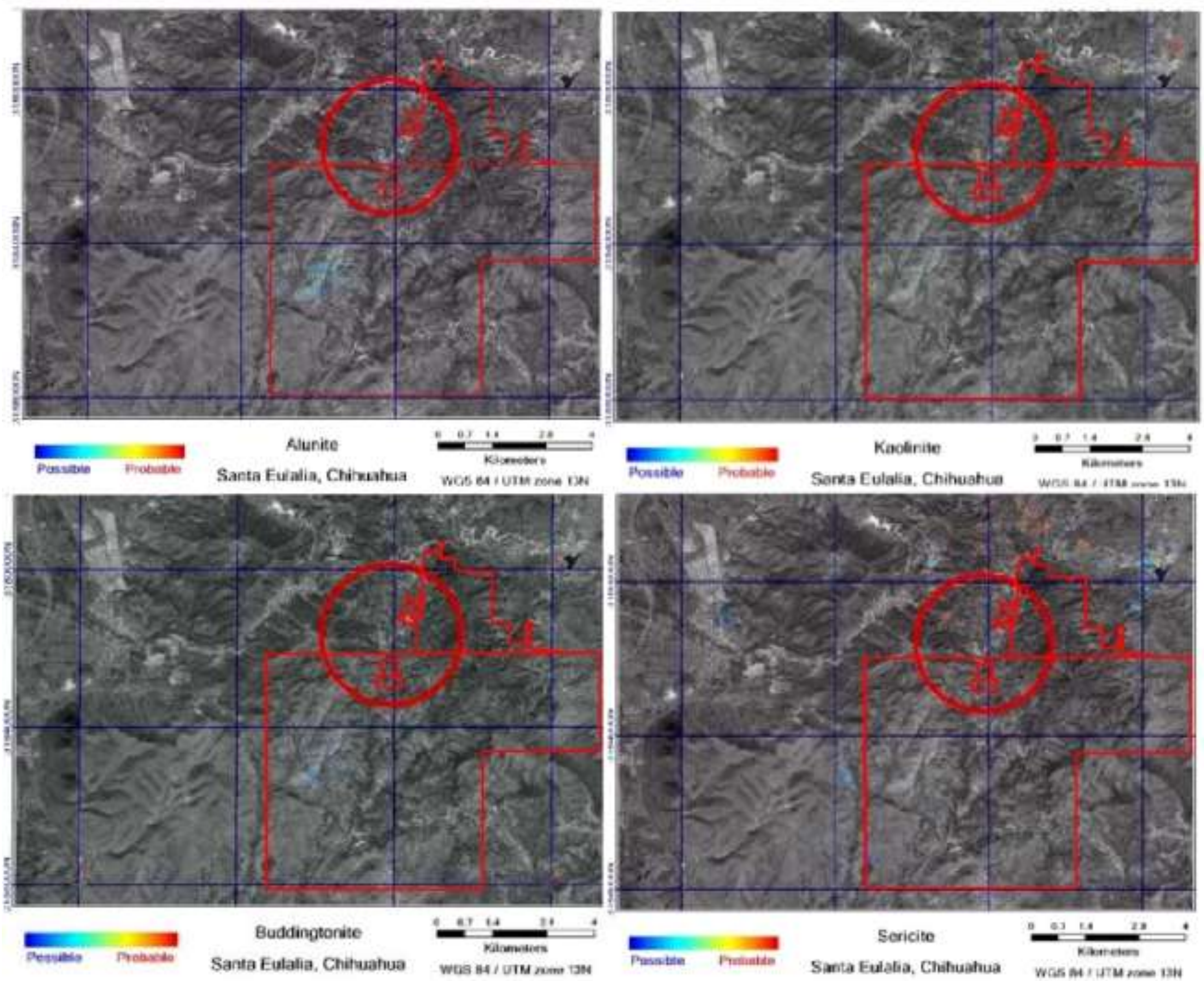

Figure 6.13. Satellite imagery of Guigui project area, showing land position (red outline) (PhotoSat, 2019).

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

Northern Mexico and the western US contain many Ag-Pb-Zn (Cu, Au) carbonate-replacement deposits (CRDs) in Phanerozoic sedimentary-volcanic sequences (Prescott, 1926; Titley and Megaw, 1985; Megaw and others, 1988) (Fig. 7.1). The CRDs of the western US and Mexico all lie in orogenic belts underlain by continental crust (Titley and Megaw, 1985; Megaw and others, 1988) and the biggest deposits appear to lie along inferred deep crustal structures (Megaw and others, 1996; Megaw, 1998). These structures have long-term multi-phase histories. At various times they have acted as controls on sedimentation and distribution of favourable carbonate host rocks, conduits for ore-related intrusions, and controls on development of ore-fluid conduits (Megaw and others, 1988; 1996).

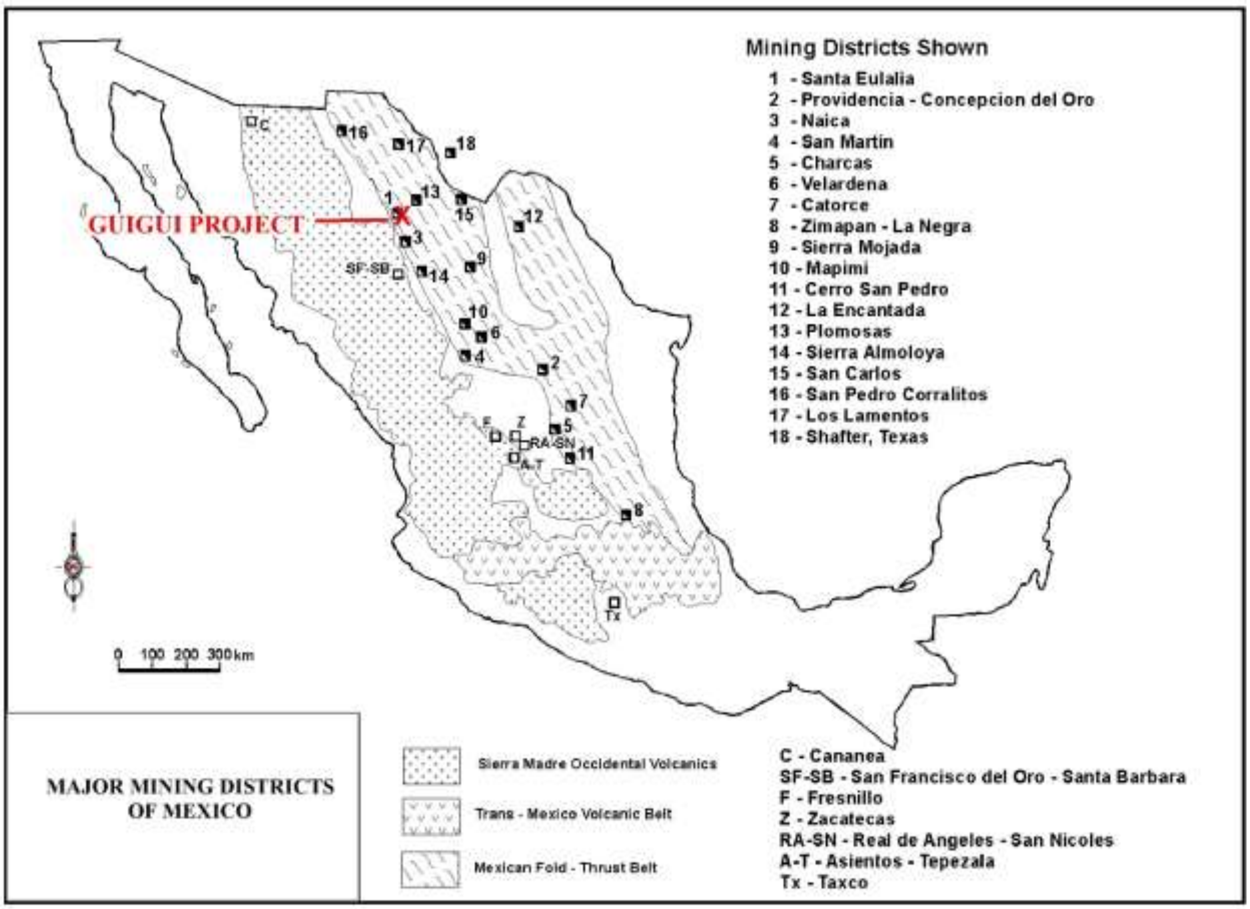

Figure 7.1. Location of Guigui Project and related ore deposits in the general Mexican geologic framework.

The Guigui Project and Santa Eulalia CRD District lie in central part of the Chihuahua Terrane. The Chihuahua Terrane is underlain by Precambrian continental crust (Campa and Coney, 1983; Sedlock et al., 1993), and overlapped by Lower Cretaceous sedimentary rocks and Tertiary volcanic rocks (Moran-Zenteno, 1994). Santa Eulalia lies on the western margin of the Chihuahua Trough, a northwest-trending extensional marine embayment (800 km x 150 km) formed as a result of the opening of the proto-Atlantic Ocean in Jurassic Time (Megaw and others, 1996). This elongate basin accumulated a basal sequence of red beds, evaporites, and shale overlain by a thick sequence of limestones during the mid-Cretaceous. These were subsequently deformed into NNW-trending folds and thrusts during development of the Chihuahua Tectonic Belt, the NNW-trending, northwesternmost segment of the Mexican Thrust Belt, during compression related to the late Cretaceous-early Tertiary Laramide Orogeny (Campa, 1985; Megaw and others, 1988; 1996). These folds were later dissected by extensional faulting during the mid to late Tertiary (Price and Henry, 1993). Mid-Tertiary intrusions punctuate the deformed sedimentary rocks and coeval volcanic rocks blanket the irregular topographic surface developed on the sedimentary rocks after deformation. Lastly, the region was affected by Late Tertiary extension that created the Mexican Basin and Range Province.

7.2 District Geology

The Sierra Santa Eulalia is a horst block bounded by steeply dipping normal faults on both the east and west sides of the range (Figures 7.2 a & b and 7.3 a & b). The body of the range is composed of lower Cretaceous limestone and underlying evaporites, which were folded into a broad doubly plunging anticline with a NNW-SSE-trending axis and gentle dips. Limestone crops out throughout the northern portion of the range but becomes covered by an increasingly continuous blanket of lower Tertiary volcanic and volcaniclastic rocks towards the south. Erosional windows of limestone are locally exposed through these volcanic rocks. The lower Tertiary section continues southward until it becomes buried under a thick package of mid-Tertiary ash-flow tuffs and basalts, erupted from the resurgent Santo Domingo Caldera, which occupies the southern half of the range. This southern portion of the sierra consists almost entirely of intracaldera volcanic rocks.

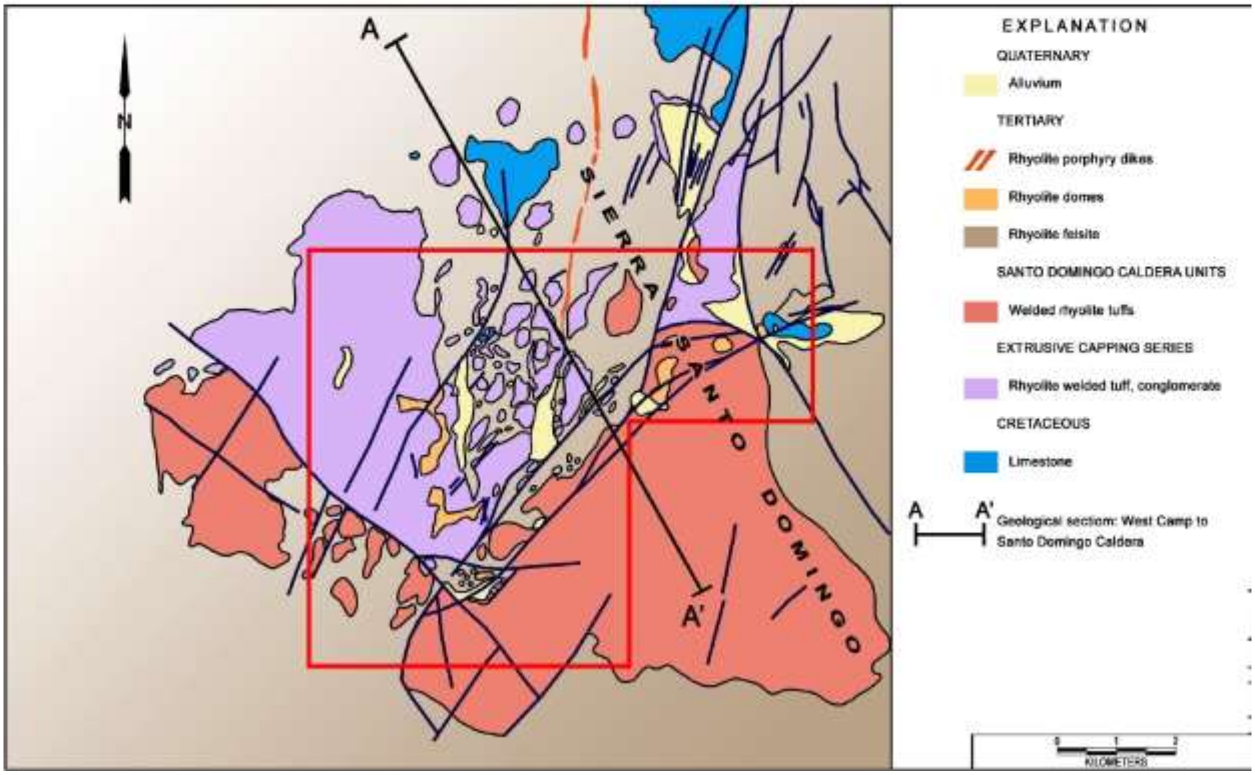

Figure 7.2. Simplified Guigui Project geological map. Note this does not show boundaries of Guigui 2, 3 and 4 concessions. Cross section A-A' appears in Figure 7.2a.

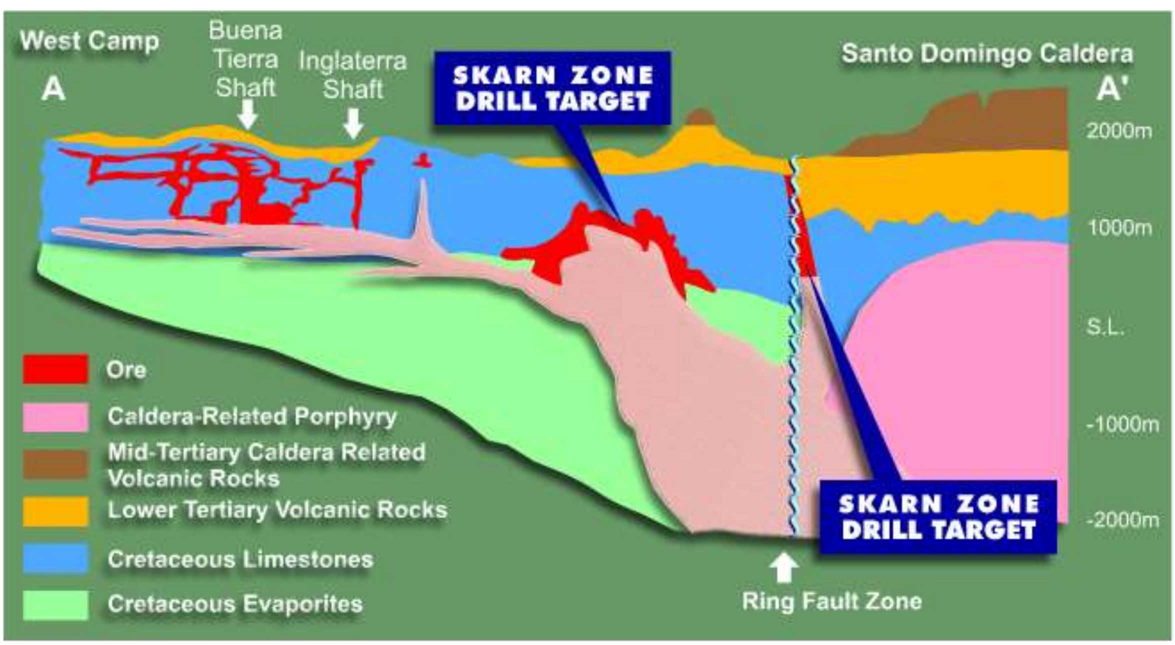

Figure 7.2b. Schematic longitudinal section from the West Camp through Guigui to the Santo Domingo caldera.

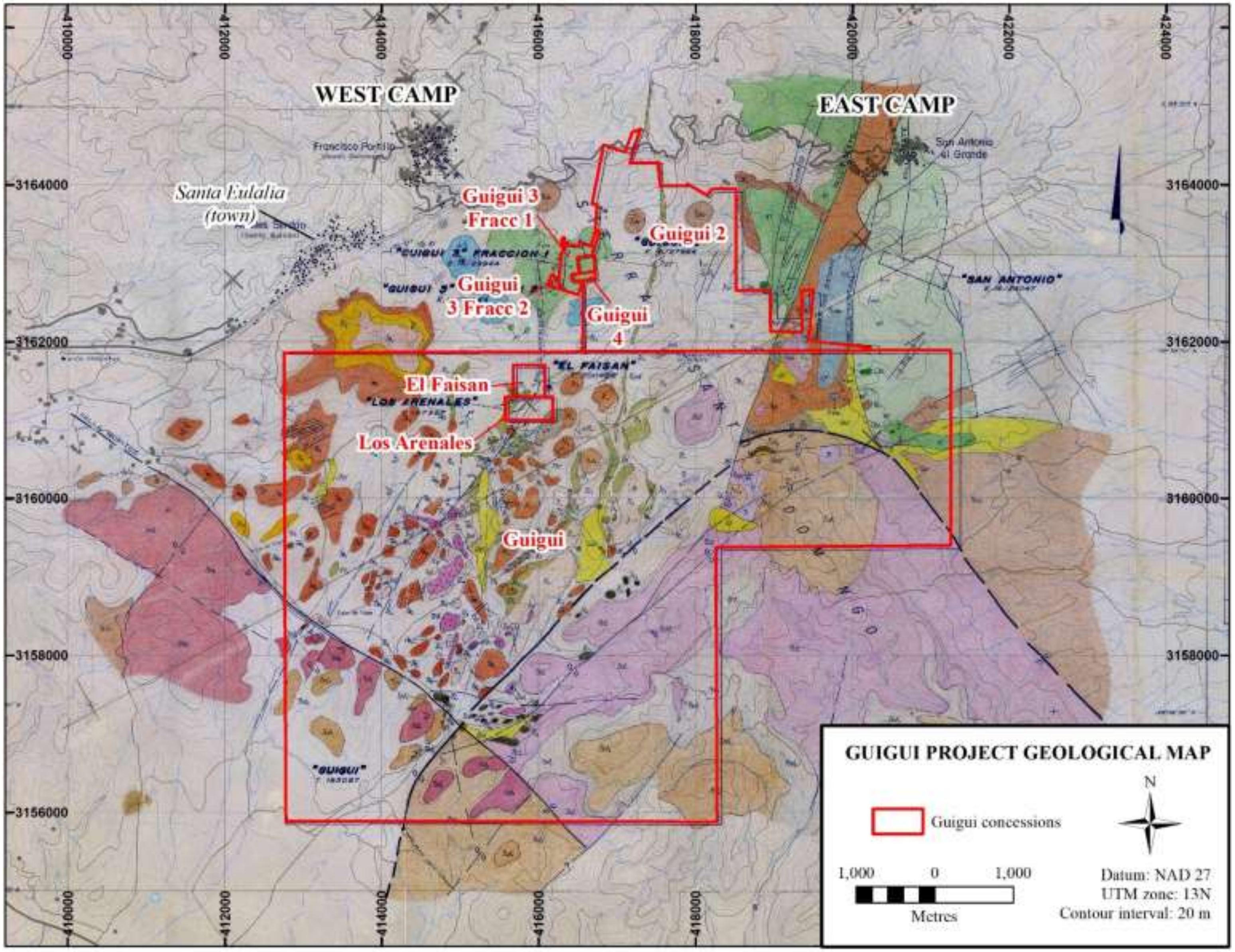

Figure 7.3a. Megaw's geological map of the Guigui project. See Figure 7.3b for explanation of units and symbols.

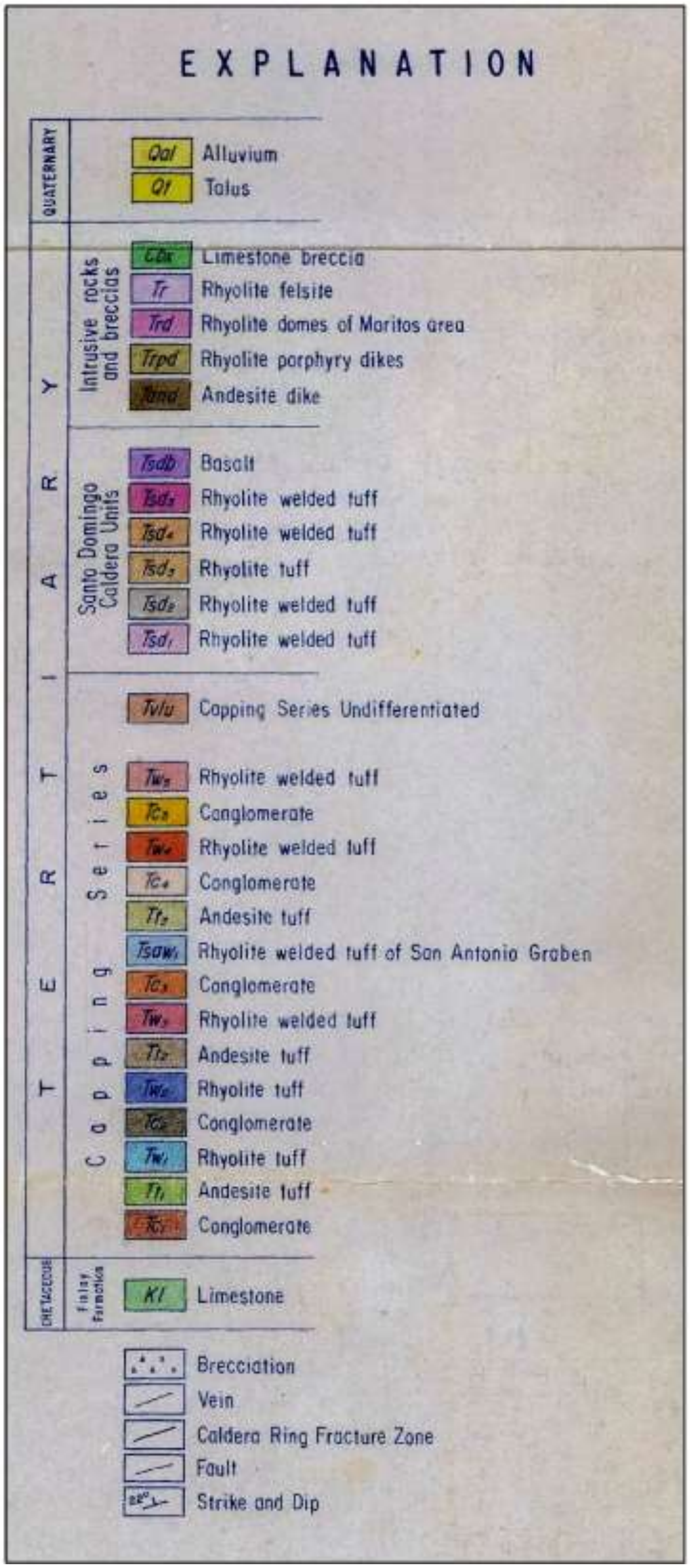

Figure 7.3b. Explanation of Megaw geological map, Guigui project.

7.2.1 Stratigraphy

The stratigraphy of the Santa Eulalia district is summarized in Table 7.1

Table 7.1. Stratigraphy of the Santa Eulalia Mining District and Guigui project area. (Modified from Hewitt, 1968 and Megaw, 1990)

Formation	**Local**	**Age**	**Thickness (m)**	**Lithotype**	**Mineralization**
		Recent	0-30	Alluvium	None
Santo Domingo Caldera Volcanics		32 Ma	0-600	Rhyolite welded tuffs, basalt flows	None
Capping Series		39-42 Ma	0-600	Fanglomerates, andesite and rhyolite tuffs	Veins, Sulfide replacements, Mn-oxides, fluorite
Finlay	Fossiliferous Limestone	L. Cretaceous	370	Micritic and fossilferous Limestone	Sulfide mantos
Lagrima	Blue Limestone	L. Cretaceous	510	Micritic Limestone	Sulfide, Skarn Chimneys & Mantos
Benigno	Blue Limestone	L. Cretaceous	105	Micritic Limestone	Sulfide, Skarn Chimneys & Mantos
Cuchillo	Evaporites	L. Cretaceous	285	Anhydrite, black shale	None
	Quartz Monzonite	37.8 Ma	>202	medium-grained intrusion	Minor dispersed sulfides

7.2.1.1 Cretaceous Sedimentary Rocks

The Cuchillo Formation is the oldest unit known in the Sierra Santa Eulalia and contains no known mineralization. Its full thickness is unknown because it is cut out by a quartz monzonite stock, but it is 1000m thick elsewhere in Chihuahua (Megaw, 1990). It consists of coarse-grained, clean anhydrite that grades upward into dark, organic-rich calcareous shale and black, carbonaceous, fetid limestone which contains up to 5% pyrite. The Cuchillo Formation grades rapidly, but conformably, into the dark non-fossiliferous limestones of the Benigno Formation.

The Benigno Formation conformably overlies the Cuchillo Fm. and grades upwards into the Lágrima Formation. Both the Benigno and Lágrima Formations are generally monotonous, clean limestone and have historically been referred to as part of the Aurora Formation (or Group) (Prescott, 1926) or the “Blue Limestone” (Hewitt, 1968). These units host the major skarn orebodies in the San Antonio area and the largest chimneys in the West Camp (Hewitt, 1968; Megaw, 1990). The Benigno Fm. is 105 m thick and the Lagrima Fm. is 510m thick.

The Finlay Formation conformably overlies the Lágrima Formation and is known as the "Fossiliferous Limestone" in the district (Spurr, 1911; Hewitt, 1968). The Finlay Fm. has three members with a combined thickness of 375m. The upper and lower members contain the majority of the elongate mantos in the West Camp, and the elongate manto, tin orebodies, and high-level skarns in the East Camp. Efforts to determine why these specific strata were more receptive to mineralization than the middle member of this formation have revealed no consistent physical or chemical differences (Megaw, 1990)

A pronounced unconformity showing more than 250 m of relief separates the Finlay Limestone from the overlying Tertiary rocks. Comparison with nearby complete Cretaceous sections suggests that this unconformity represents the removal of several thousand meters of post-Finlay Cretaceous sediments (Megaw, 1990).

7.2.1.2 Tertiary Deposits

The Tertiary rocks of the Sierra Santa Eulalia consist of a lower Tertiary tuff and volcaniclastic sediment-dominated package, termed the "Capping Series" (Prescott, 1916; and Hewitt, 1968), separated by a slight angular unconformity from a welded ash-flow tuff and basalt succession erupted from the mid-Tertiary Santo Domingo Caldera (Fig. 7.2) (Megaw, 1990). Despite the presence of minor mineralization, it was formerly held that the Capping Series was post-mineral and of no importance to ore genesis. However, it has been demonstrated that the Capping Series is pre-mineral and appears to have exerted important controls on mineralization (Megaw, 1990).

The Capping Series consists of a 500- to 900-m thick succession of conglomerates, tuffs, volcaniclastic sediments and welded ash-flows. The thickness of the lowermost members varies considerably, reflecting burial of the rugged underlying surface. The thickest sections occupy paleo-valleys and any of the three lowermost units may directly overlie limestone or be locally absent. The succeeding units become relatively continuous sheets above the level of the highest paleo-hills. Rhyolite cobbles from the basal conglomerate in the West Camp yielded U/Pb zircon dates of 42 Ma, and welded ash-flow tuffs higher in the section yielded dates of 39 and 37 Ma (Megaw and others, 1994).

The Capping Series is separated by a slight angular unconformity from a thick section of variably welded mid-Tertiary silicic ash-flow tuffs erupted from the Santo Domingo Caldera that lies at the south end of the Sierra Santa Eulalia (Megaw, 1990). The Santo Domingo Caldera is resurgent and consists of a 10-km diameter, 900-m thick section of intracaldera rhyolite ash-flow tuffs consisting of five major cooling units of moderately to densely-welded, lithic and crystal-rich ash flow tuffs. These range from pumice-crystal tuffs to lithic-rich, crystal-poor tuffs. The youngest ash-flow erupted from the caldera yielded a K/Ar date of 31.7 Ma (Megaw, 1990) The ring-fracture zone is well defined and deeply enough eroded to expose the Capping Series rocks that floor the caldera. Several autobrecciated rhyolite flow domes and dikes occur within, and just north of the ring-fracture zone. The outflow sheets are best exposed to the south and northwest of the resurgent dome. They are generally only moderately welded and range up to about 100 m in thickness. Vesicular basalt flows overlie the outflows along the western and southwestern margins of the caldera. No Santo Domingo Caldera-related volcanic rocks directly overlie mineralized areas. However, a possible genetic relationship between the caldera and mineralization is suggested by the 31.7-Ma date for the youngest ash flow and the 32-Ma date for late intramineral lamprophyre dikes (see below).

7.2.2 Intrusive Igneous Rocks

Eleven intrusive igneous rocks are found within the district. Crosscutting relationships indicate that two are pre-mineral, three are pre- or intra-mineral, and the remaining six are indeterminable.

Quartz Monzonite: Four deep diamond drill holes under the West Camp penetrated up to 65 m into a greenish, medium-grained, equigranular holocrystalline quartz monzonite (Hewitt, 1968). The rock yielded a potassium-argon plagioclase date of 37.8 Ma, which is probably a minimum age (Megaw, 1990). The only alteration that appears to have been caused by the quartz monzonite is a 10-cm thick zone of massive vesuvianite that replaced the enclosing anhydrite. There is no evidence for endoskarn development in any of the four holes. The quartz monzonite has recently yielded an age date of 38.7 Ma, using $^{40}Ar/^{39}Ar$ method (Casey, 2011).

Basic dikes and sills: Dikes and sills of greenish, fine to medium-grained, aphanitic to porphyritic basic intrusive rock are widely exposed in both the West and East Camp mines and in limited outcrops west of the San Antonio Graben. K/Ar dating of plagioclase from two members of this group from the West Camp yielded dates of 37.5 Ma (Clark and others, 1979). Although this date is very close to the 37.8 Ma date obtained from the quartz monzonite, the differences in whole rock analyses suggest that they are probably not co-magmatic. Recent age dating based on biotite, gives the ages of the Upper Diabase sills and Lower Diabase sills at 73.0 +- 1.3 Ma and 72.3 +- 1.5 Ma respectively. (Casey, 2011).

Felsite sills and dikes: A complex series of flatly inclined felsite dikes and sills underlie, and occur within, mineralization throughout the depths of the West Camp. Some of these felsites are mineralized whereas others cut across ore and earlier felsites. A group of similar mineralized felsite dikes occupies the core of the bilaterally symmetrically zoned East Camp skarns. No post-mineral felsites are known in the East Camp. Intrusive breccias associated with these felsites in both camps appear to have been emplaced during mineralization. The close temporal and spatial relationship of many of these felsites to mineralization throughout the district suggests a close link between them (Hewitt, 1968). All the felsites show highly contorted, fine-scale, flow-banding. K/Ar potassium-feldspar whole-rock dates from two West Camp felsites yielded dates of 26.6 Ma (Clark and others, 1979), but the felsites are cut by lamprophyre dikes that yield single mineral K/Ar dates of 32 Ma, indicating the felsite whole-rock age is reset. East and West Camp felsites have nearly identical chemical compositions and REES patterns, suggesting that the two suites are probably co-magmatic (Megaw, 1990). The felsites have subsequently been $^{40}Ar/^{39}Ar$-dated at 33.06 +- 0.11 Ma (Casey, 2011), which is probably a reliable date..

The West Camp felsites have been cut by numerous drill holes and mine workings, allowing an accurate picture of their morphology. They coalesce towards the southeast and form a single body underneath the Bustillos Trend (Hewitt, 1968). An additional felsite body occurs below the Zubiate Orebody in the southeastern West Camp, which is evidently separate from those in the main part of the West Camp (Fig. 7). The felsite dikes of the East Camp are a series of southwest to northeast *en echelon* bodies 4-10 m in width, which overlap by up to 40 m, and are referred to collectively as the "San Antonio Dike" (Hewitt, 1943). These dikes have an overall strike length of over 1.5 km and trend parallel to the strike of the San Antonio Graben (Fig. 6). The principal ore-related members of this group cut across the graben's West Fault at depth, follow it for several hundred meters, and then cut into the center of the graben. The terminations of all the felsite dikes exposed within the San Antonio Mine pitch north at 45-60 degrees. Coupled with the southwest to northeast *en echelon* overlap, this suggests emplacement from the south and west (Hewitt, 1943).

Lamprophyre dikes: The Potosi and Mina Vieja Dikes are N60E-trending lamprophyre dikes with steep westerly dips that crop out in the south and north parts of the West Camp, respectively. The lamprophyres cut across the diabase and felsite sills and the intrusive breccias and the lamprophyres are mineralized or altered where they abut orebodies (Hewitt, 1968; de la Fuente, 1969). K/Ar dating of hornblende and plagioclase from the Potosi Dike yielded a date of 32.2 +/- 0.4Ma (Megaw, 1990).

Other Intrusives: Several other felsites and related porphyritic intrusive rocks occur in the West and Middle Camps. Most are not known to be associated with mineralization but several display features that may be very important to unraveling the timing and genesis of the ore-related felsites (see Megaw, 1990).

7.2.3 Mineralization

7.2.3.1 Fluorite pipes

A number of fluorite-cemented breccia pipes have been located in the study area. Two of these were mined in the 1950s: one at Los Arenales (where a single drill hole [GG03-04] attempted to test it to depth) and at La Ventura at the southern end of San Antonio Graben. A similar fluorite-cemented breccia pipe, which has been prospected by not mined occurs at La Independencia just north of the northern end of the Guigui 2 Claim. The Ventura pipe is the best exposed example. It lies in the southern reaches of the San Antonio Graben where the Falla Central intersects the ring-fracture zone of the Santo Domingo Caldera. Here an irregular dike of rhyolite cuts the Limestone Package and is surrounded by a 40-metre diameter fluorite-cemented breccia pipe. The breccia consists of highly angular fragments of limestone replaced and cemented by clear yellow and purple fluorite. This exposure was mined to about 60 meters depth. Poor access prevents the determination of whether the breccia was formed by dissolution collapse or a magmatic hydrothermal process due to the rhyolite plug emplacement.

Three fluorite-cemented breccia pipes were identified during initial geologic mapping in the southern Middle Camp within the Guigui and Guigui 2 claims (Megaw, unpublished work for MAG Silver). These breccia pipes range from 100 to nearly 300 m in diameter and have subtle but distinct sub-circular topographic expressions. Where exposed in road cuts along the concentrate haul road between the two camps in the northern end of Guigui 2 the breccia is characterized by 1- to 5-m blocks of brecciated Capping Series volcaniclastic units cemented by sugary fine-grained brown and colorless fluorite. The largest of the three breccia pipes recognized in this area appears to correspond not only with a pronounced intersection of north-south and northeast-southwest airborne geophysical anomalies (see below) but with coincident alteration mineral anomalies detected by a 2019 WorldSat imagery survey (see below).

Based on Megaw's (1990) mapping, which identified numerous additional areas of fluorite alteration (see below) north of the Los Arenales fluorite mine and west of the areas mapped in detail for MAG Silver, it is likely that additional fluorite-cemented breccias will be found in the recommended detailed mapping west of the Guigui 2 claim. Notably, prominent geophysical linears also characterize these areas.

7.2.4 Alteration

Alteration including manganese-oxide mineralization, recrystallization, bleaching, silicification, jasperoid development, fluorite alteration, and calcite veining affects virtually all pre-mineral rock types in the district to some degree. Although most of the alteration types were originally identified by previous workers (Prescott, 1916; Hewitt, 1968) none was comprehensively mapped throughout the range before Megaw, 1990. His mapping showed that several types of alteration are widely developed and, combined with AMOM distribution, define zoned alteration halos that extend several kilometers around the West and East Camps. These halos do not overlap (Megaw, 1990), but both extend into Guigui.

7.2.4.1 Argentiferous Manganese-Oxide Mineralization (AMOM)

Mineralized areas of the East and West Camps are surrounded by non-overlapping, discontinuous halos of **A**rgentiferous **M**anganese-**O**xide **M**ineralization, referred to as "AMOM" (Megaw, 1990). Limestone-hosted AMOM locally has high silver grades (>50 ppm) and was long mined as smelter flux (Hewitt, 1968; Megaw, 1990). Widespread areas of low-silver AMOM lie beyond the mineable zones so AMOM can best be considered transitional between mineralization and alteration (Megaw, 1990).

The best developed AMOM occurs almost exclusively in the Finlay Limestone adjacent to, above, and/or below oxidized normal sulfide mantos and chimneys, silicate bodies, and skarns that lie within 400m of the surface (Hewitt, 1968; Megaw, 1990). However, minor amounts of AMOM have been found in the San Antonio Mine adjacent to unoxidized ores hosted by the Lagrima Formation and oxide ores in the basal limestone Capping Series conglomerate (Bond, 1987).

AMOM is also widely developed in the Capping Series throughout the West and East Camps: it principally overlies zones of major orebodies. Its development is more spatially restricted than that of limestone-hosted AMOM, and it dominantly occurs as narrow fillings and coatings on NE-trending fractures. It has been mined in several places where the fillings exceed 0.5m in width.

7.2.4.2 Fluorite Alteration

Fluorite replacement of limestone; open-space fillings of solution-rubble, and breccia voids; and impregnations volcanic rocks, occurs atop paleohills along the contact between limestone, or the basal limestone conglomerate, and overlying Capping Series rocks. Fluorite alteration is best developed along the southern and western portions of the San Antonio Graben, and around the northern and eastern edges of the Middle Camp. Discontinuous outcrops of fluorite alteration also occur between the southern Middle Camp and the abandoned fluorite prospects around Los Arenales within Guigui and at the Ventura Prospect. The Ventura prospect lies in the southeastern corner of Guigui and encompasses a breccia body consisting entirely of very angular limestone fragments replaced by, and cemented with, clear yellow and purple fluorite. This occurs along the contact between massive limestone and a rhyolite plug that was intruded along the intersection of the ring-fracture zone of the Santo Domingo Caldera, and the Central Fault of the San Antonio Graben.

7.2.4.3 Recrystallization

Fine to medium-grained recrystallization is the most common carbonate alteration type throughout the range. Substantial zones of discontinuous and variably developed recrystallized limestone lie adjacent to many orebodies, but there is no consistent halo of recrystallization or marmorization surrounding ore in any part of the district (Hewitt, 1968). The sparse limestone outcrops within Guigui are strongly recrystallized and infused with iron-oxides.

7.2.4.4 Silicification

Silicified limestone, consisting of complete cryptocrystalline quartz replacements with no addition of iron or other metals, is locally present adjacent to orebodies in the West and East Camps (Prescott, 1916; Hewitt, 1968; Bond, 1987). None of these areas is volumetrically important, nor can they be considered halos surrounding ore.

7.2.4.5 Jasperoid

Two types of jasperoid, consisting of interlocking mosaics of fine-grained quartz replacing limestone, occur in the district. One is tan to gray in color and is found only as isolated brecciated outcrops with no geochemical signature (Megaw, 1990). The other jasperoid is a bright red, iron-rich (8-16% Fe), ore metal-bearing variety that is generally highly brecciated. The red variety occurs within the mineralized zone, and also appears to define a discontinuous halo peripheral to mineralization. The physical and geochemical similarities of the red jasperoids suggests that all had the same origin (Megaw, 1990).

7.2.4.6 Calcite Veining

Barren calcite veining is prominent throughout the district. The veins range from 1 mm to 3 m in width, and cut ore, limestone, and the Capping Series. The largest are a series of 1-3 m wide veins that fill large open fractures in the limestone throughout the northern part of the Sierra

Santa Eulalia. These contain no significant amounts of ore metals but do contain trace manganese (Megaw, 1990). Many fluoresce orange-red under short-wave ultraviolet light.

7.2.4.7 “Argillic” Alteration

The Capping Series volcanic rocks are locally clay-altered, bleached and chloritized throughout the district, but this alteration appears to be most pervasive around the mineralized centers of the West and East Camps and in the central part of Guigui. The degree of alteration of a given Capping Series unit is strongly dependent on its composition, competence, thickness and position relative to the underlying volcanic units and limestone. Thus, the competent rhyolite welded ash-flow tuffs and pumiceous tuffs closest to the limestone contact and below the lowermost andesitic tuff bed are more pervasively altered than the units above it. This tuff appears to have been an effective barrier to all types of ascending altering and mineralizing fluids.

Within Guigui, the Tw3 welded tuff (Figures 7.2 and 7.3) and underlying units are moderately to pervasively argillically altered. This includes the volcaniclastic conglomerates, but it is largely the matrix of these that is altered rather than the limestone fragments. On a cut surface, the argillic alteration is obvious, but on a rubbly residual accumulation surface it is not. The central part of Guigui, where the majority of the AMT lines were run is the most pervasively altered and this alteration shows up strongly on hyperspectral satellite images (Figure 7.4).

Landsat imagery shows prominent areas of pervasive alteration that extends into the Guigui claims (Fig. 7.2.6). Higher resolution WorldSat hyperspectral imagery (2019) shows that individual alteration minerals can be systematically mapped. There does appear to be a correlation between several of the principal clay alteration minerals and the fluorite cemented breccia pipe in Guigui 2 that corresponds to the intersection of two linear airborne geophysical anomalies (FIGURE needed). This suggests that the distribution of alteration minerals should be included in the district compilation before detailed mapping starts.

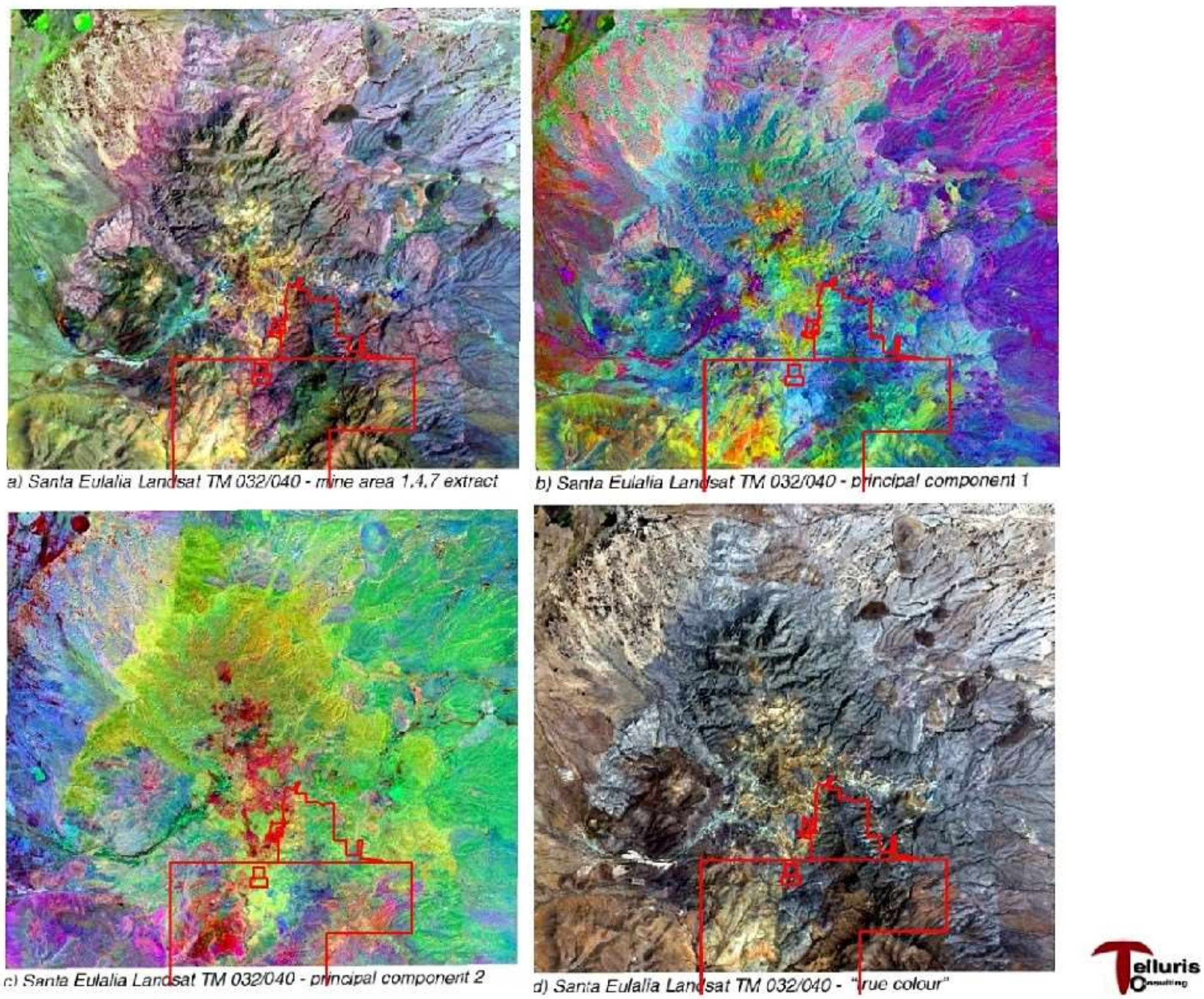

Figure 7.4. Landsat satellite imagery of Guigui project area, showing Guigui project concessions (red outline).

7.2.5 Structural Geology

The Sierra Santa Eulalia (Sierra Santo Domingo) is a single, roughly NNW-trending elongate horst block, bounded by post-mineral Basin and Range normal faults. The mountain range is composed of five principal structural elements:

1). Santa Eulalia anticline: The Cretaceous strata of the district are warped into a broad, doubly-plunging NNW-SSE-trending anticline or elongate dome. Dips to the east and west are generally less than 15 degrees. All of the district mineralization occurs in the southerly-plunging end of the dome.

2). Tilted and Warped Capping Series Rocks: The Capping Series is generally tilted 5 to 20 degrees to the southwest or west, but is locally horizontal or east-dipping along the west side of the San Antonio Graben. This tilting is generally discordant in both strike and dip to the folding of the Cretaceous rocks.

3). Santo Domingo Caldera: The curvilinear ring fracture zone faults of the Santo Domingo Caldera are well exposed along the northern, western and southern parts of the caldera.

4) Moritos Block: The principal area of Santo Domingo Caldera outflow facies lies along the western limits of Guigui. This area is a large normal fault block dropped down to the west along the Moritos Fault. Magnetic and AMT surveys indicate that this fault has at least 500 m of displacement.

5). East Camp Block: The eastern side of the Sierra Santa Eulalia Anticline is truncated by a number of interconnected N55W, N70-75W, and N20E-trending normal faults with tens to hundreds of meters of displacement. These include the faults of the San Antonio and Dinamita Grabens. Most of the offset occurred along the NW-trending faults and these cut the Santo Domingo Caldera ring-fracture zone faults.

8.0 DEPOSIT TYPES

8.1 Carbonate-Replacement Deposits (CRDs)

CRDs are Phanerozoic, high-temperature (>250° C) deposits that comprise major pod, lens, and pipe-shaped Pb-Zn-Ag-Cu-Au-sulfide orebodies that cut across their host carbonate rocks. They are dominantly composed of a simple assemblage of galena, sphalerite, chalcopyrite, arsenopyrite, pyrite, and/or pyrrhotite with subordinate carbonate, sulfate, fluorite, and quartz gangue. Calc-silicate or iron-calcic zinc or copper skarn deposits (Einaudi and others, 1981) may or may not be present in any given system. Sulfide and skarn contacts with carbonate host rocks are razor sharp. Evidence for replacement greatly outweighs evidence for open-space filling or syngenetic deposition (Titley & Megaw 1985).

CRDs are intrusion-centered systems, and sulfur, oxygen, carbon and lead isotope studies indicate a significant magmatic component to proximal CRD ore fluids. Sedimentary, basin-brine, and meteoric source signatures become increasingly dominant with increased distance from the intrusive source (Megaw and others, 1988; Megaw and others 1996; Meinert 1998). Mineralization is associated with polyphase intrusions that evolve from early intermediate phases towards late, highly evolved felsic intrusions and related extrusive phases; the intrusions most closely related to mineralization are usually the most evolved phases. These are not exposed in many districts but are often encountered when the system is explored to depth. Limestone, dolomite, and dolomitized limestones are the major hosts with minor deposits in other calcareous sedimentary rocks.

Regionally, CRDs dominantly occur within deformed miogeoclinal carbonate rocks in tectonostratigraphic terranes underlain by ancient continental rocks (Albers 1983; Campa and Coney 1983; Megaw and others, 1988; Titley, 1993), and they tend to occur in clusters that often correspond to major sedimentary depositional basins (Graybeal and others, 1986; Smith 1996; Titley 1996). Many CRDs are located along platform margins or basement highs and along structures cutting basins (Megaw 1988; Megaw and others, 1988; Titley & Megaw 1995; Smith 1996). CRDs generally occur in thick carbonate sequences, generally near the bottom of the section relative to the major ore-related intrusions (Prescott 1926; Titley 1993). Typically, mineralization occurs across a large portion of the local stratigraphic sequence, cutting a variety of facies, with exceptional development in certain beds or groups of beds. Deposits close to basement or intrusions tend to be Cu-Zn (Au) rich, whereas deposits high in the section tend to be Ag-Pb-Mn rich (Titley 1993). The deposits are commonly capped by volcanic rocks that are contemporaneous with the deposit-related intrusions. Resurgent calderas may be genetically related to some CRDs (Megaw and others, 1988; Megaw 1990).

The evolution of CRD-skarn systems in time and space, and the gradations seen in single orebodies or districts suggest that the various manifestations of the deposit type can be considered part of a spectrum (Einaudi and others, 1982; Megaw and others, 1988; Titley, 1993; Megaw and others, 1996) ranging from:

A. Stock contact skarns: formed against either barren or productive stocks.
B. Dike and sill contact skarns

C. Dike and sill contact massive sulfide deposits
D. Massive sulfide chimneys
E. Massive sulfide mantos
F. Epithermal veins (in some cases)

This conceptual framework allows examination of the mineralization, alteration, intrusion types, host rock, and other characteristics of a given deposit and determination of where it lies within the spectrum (Megaw, 1998). The framework can also help filter out similar systems that occur in the same region, but which are not CRDs. This can be a powerful tool to guide exploration for additional mineralization in a given system, as it highlights constraints on the likelihood of additional mineralization and determination of the probable direction of fluid movement. Transitions of orebody morphology and mineralogy, and alteration zoning can be used to determine if mantos have been traced into chimneys, or sulfides to skarn. Examination of the composition, geometry, and controls on intrusion emplacement is essential to determining district zoning and level of exposure. Perhaps most importantly, understanding of the host rock tectono-stratigraphy can allow rapid determination of the potential for more mineralization in the host section at depth or laterally in the known favorable beds, or in previously unconsidered host units.

The major Mexican companies, Peñoles and Grupo Mexico (formerly IMMSA and ASARCO Mexicana), and a few North American companies are applying this model in their current explorations for Carbonate Replacement Deposits in this regional geological environment, and some significant discoveries are being made.

8.2 Santa Eulalia Deposit Types

The Santa Eulalia District is the largest known CRD in Mexico. Elongate manto and chimney bodies up to 4 kilometres long and up to 1,200 m tall, localized by a complex interplay of lithology, structures, and intrusive bodies dominate the West Camp (Hewitt, 1968; Megaw, 1990). These bodies were composed almost exclusively of massive sulfide ores, but small amounts of mineralized calc-silicate skarn were encountered in the deepest, southeastern-most portions of the Potosí Mine (Megaw, 1990). In contrast, the East Camp is characterized by tabular, calc-silicate dominated, zinc sulfide-rich chimneys that are zoned across the dike from a calc-silicate skarn to massive sulfide ores. Smaller lead-rich massive sulfide manto bodies cut off this chimney at several levels, and several unusual tin-bearing, carrot-shaped chimneys occur near the top of the system.

The East and West Camps contain continuous zoned mineralization and alteration closely associated in time and space to groups of apparently identical felsite intrusions. Although the mineralization in the two camps does not overlap in space, both appear to have resulted from the evolution of persistent pulsating hydrothermal systems. The morphology of the felsites, coupled with mineralogical, metals content, metal ratios, sulfur isotope, and mineralization style, strongly indicates a common hydrothermal source for the two camps. This source appears to lie between the two camps, immediately north of the Santo Domingo caldera (Megaw, 1990).

9.0 EXPLORATION

Century Metals has conducted no exploration on the Guigui project.

10.0 DRILLING

In 1994, Teck Minerals drill a single reverse-circulation hole in the western part of the Guigui concession with the intention of determining the thickness of the volcanic cover. The hole cut approximately 150 metres of volcanic rocks before cutting the contact with the underlying carbonate rocks, and stopped at approximately 250 metres deep. Teck did not assay samples from this hole.

MAG Silver drilled 15 core holes totaling 9,514.60 m in three campaigns: October 2003 – February 2004, June – July 2005, and October – November 2015 (Table 10.1 and Figures 10.1 – 10.4). Major Drilling served as the drill contractor on each of the programs, using a LY-44 rig in years 2003-2005, and Major 50 machine in 2015. All core was HQ diameter (63.5 mm or 2.5 inches).

The 2003 drilling campaign, in the Central Guigui area, included four drill holes totaling 3,013.63 meters, that targeted geophysical anomalies and fluorite-alteration zones. No subsequent drilling has been done in this area, which is now recognized as the principal target area for the source of the West Camp.

Drilling in 2004 and 2005, in the northeastern corner of the Guigui claim was done in the San Antonio graben area, totaling 3,238.14 meters in two holes. These holes targeted the footwall of the west fault of the San Antonio graben, near Grupo México's San Antonio Mine. Later in 2005, three subsequent holes totaling 2,010.99 m were drilled further south in the San Antonio graben.

Drilling resumed in 2015 with six holes totaling 2,923.01 m in the Guigui and Guiguito claims targeting silica alteration, fluorite-matrix breccia, and coarse white calcite vein outcrops, as well as airborne magnetic/ZTEM anomalies.

Three of the holes (GG15-12, -13, and -14) were drilled in the subsequently dropped Guiguito concession which lies to the east of the Guigui concession. All 3 holes encountered magnetite-rich basic intrusions believed to be related to those encountered in the mines and dated at 73 Ma. Other than showing their collar locations on Figures 10.1 and 10.3, their detailed data are not included in this report.

Summary lithologic logs are presented in Table 10.2. Selected drill-sample assay results for Ag, Au, Cu, Pb, and Zn appear in Table 10.3. Assay certificates for drill samples from holes GU-15-10, -11, and -15 are shown in Appendix IX.

Geotechnical logs (recovery percentage and rock quality) were not reviewed by the author of this report. However, visual inspection of select core intervals showed that recovery was generally greater than 100%.

Table 10.1. Guigui project drilling summary. UTM coordinates are in WGS 84, UTM zone 13N. All holes were done by diamond drilling, HQ diameter.

Hole	Az	Inclin	TD (m)	UTM_N	UTM_E	Elev. (m)	Start	Finish	Area
GG03-01	240	-50	726.00	3159308	416398	1705	20-Oct-03	3-Nov-03	West-central Guigui concession
GG03-02	335	-60	936.50	3158657	416239	1685	4-Nov-03	22-Nov-03	
GG03-03	337	-65	614.80	3159448	415986	1680	23-Nov-03	4-Dec-03	
GG03-04	65	-50	736.30	3161036	415555	1720	5-Dec-03	14-Dec-03	
GG04-05	283	-60	812.75	3161942	419526	1602	22-Jan-04	8-Feb-04	San Antonio graben
GG04-06	273	-72	754.25	3161943	419526	1602	9-Feb-04	21-Feb-04	
GG05-07	310	-65	684.50	3161660	419437	1625	13-Jun-05	29-Jun-05	
GG05-08	273	-55	986.65	3161902	419898	1530	1-Jul-05	30-Jul-05	
GG05-09	100	-65	339.85	3161905	419903	1530	2-Aug-05	13-Aug-05	
GG15-10	345	-70	835.15	3160684	420559	1519	2-Oct-15	18-Oct-15	
GG15-14	90	-70	289.55	3161073	420098	1531	8-Nov-15	13-Nov-15	San Antonio graben
GG15-15	0	-90	435.85	3161073	420097	1531	14-Nov-15	22-Nov-15	

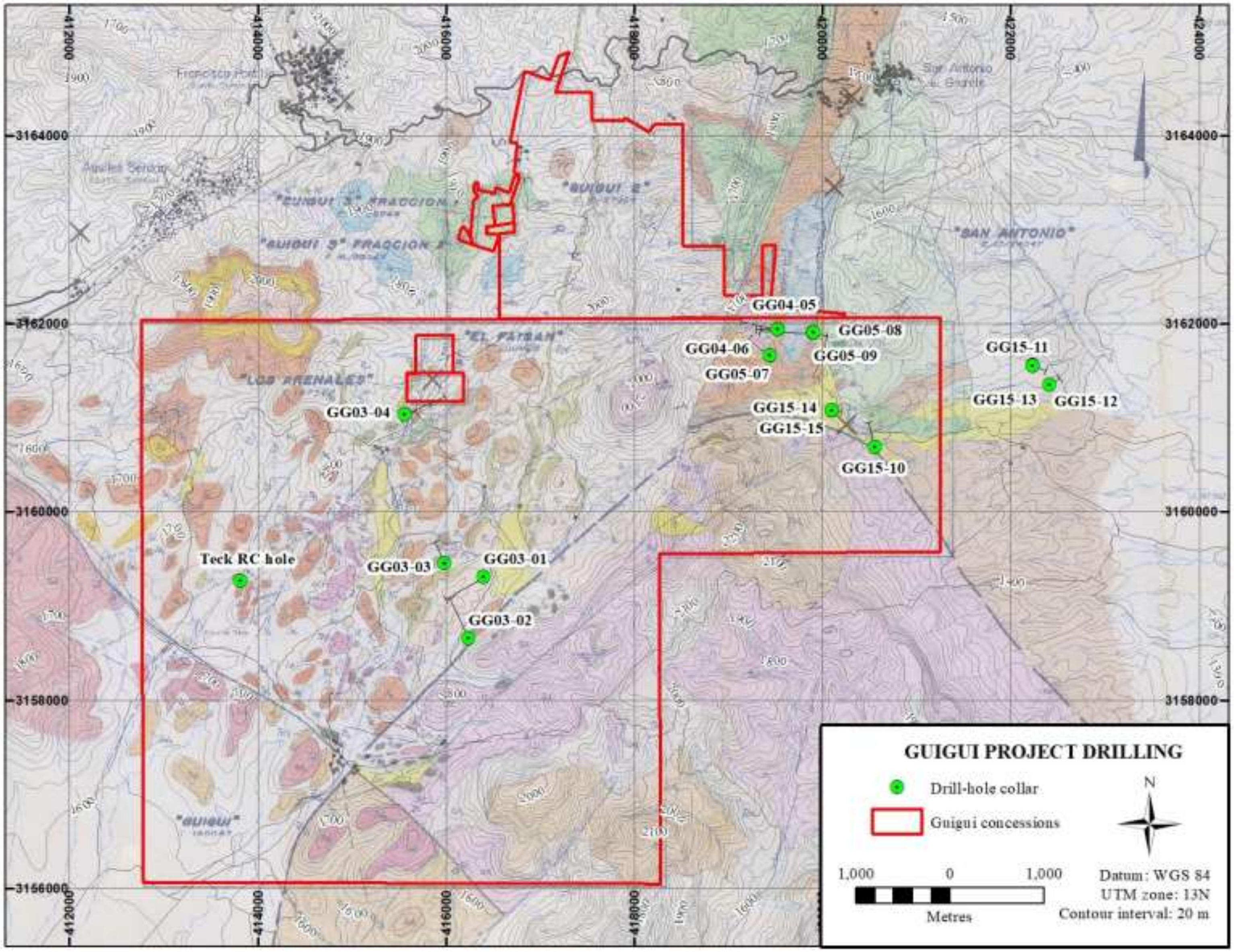

Figure 10.1. Guigui project drilling. Position of Teck vertical reverse-circulation hole is approximate. See Figure 7.3b for explanation of geological units and symbols.

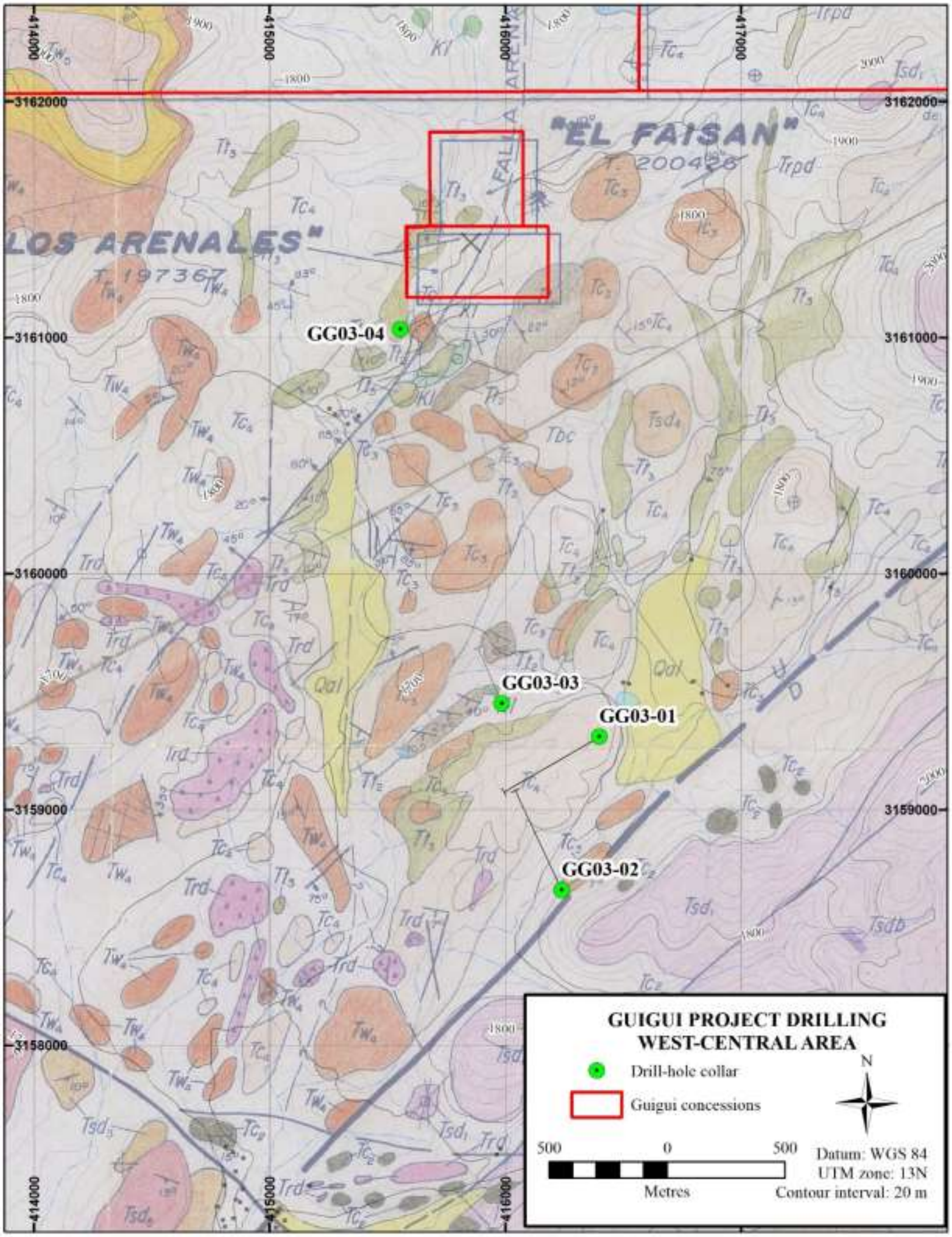

Figure 10.2. Drilling in the west-central part of the Guigui project. See Figure 7.3b for explanation of geological units and symbols.

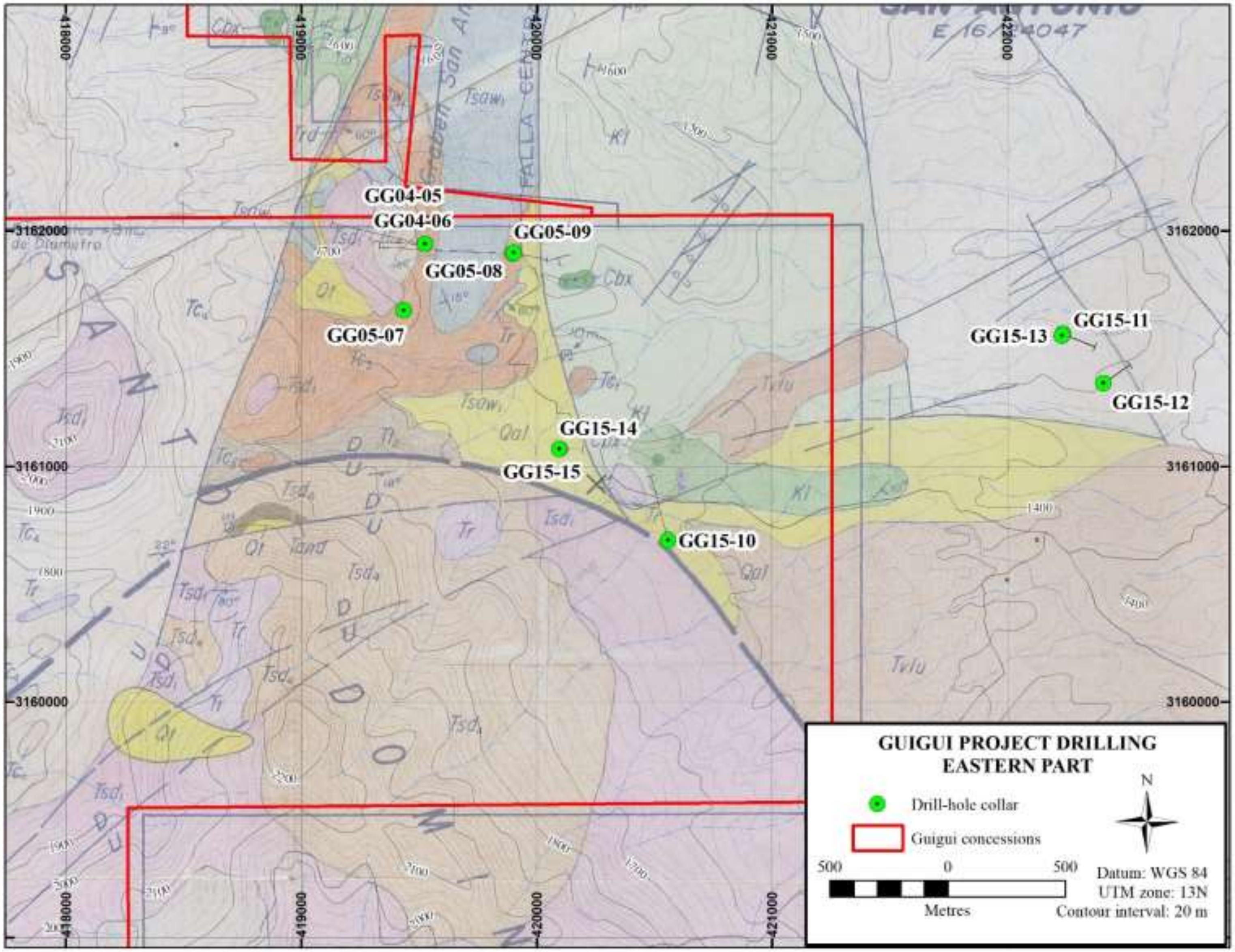

Figure 10.3. Drilling in the eastern part of the Guigui project. See Figure 10.4 for close-up of drilling in the San Antonio graben. See Figure 7.3b for explanation of geological units and symbols.

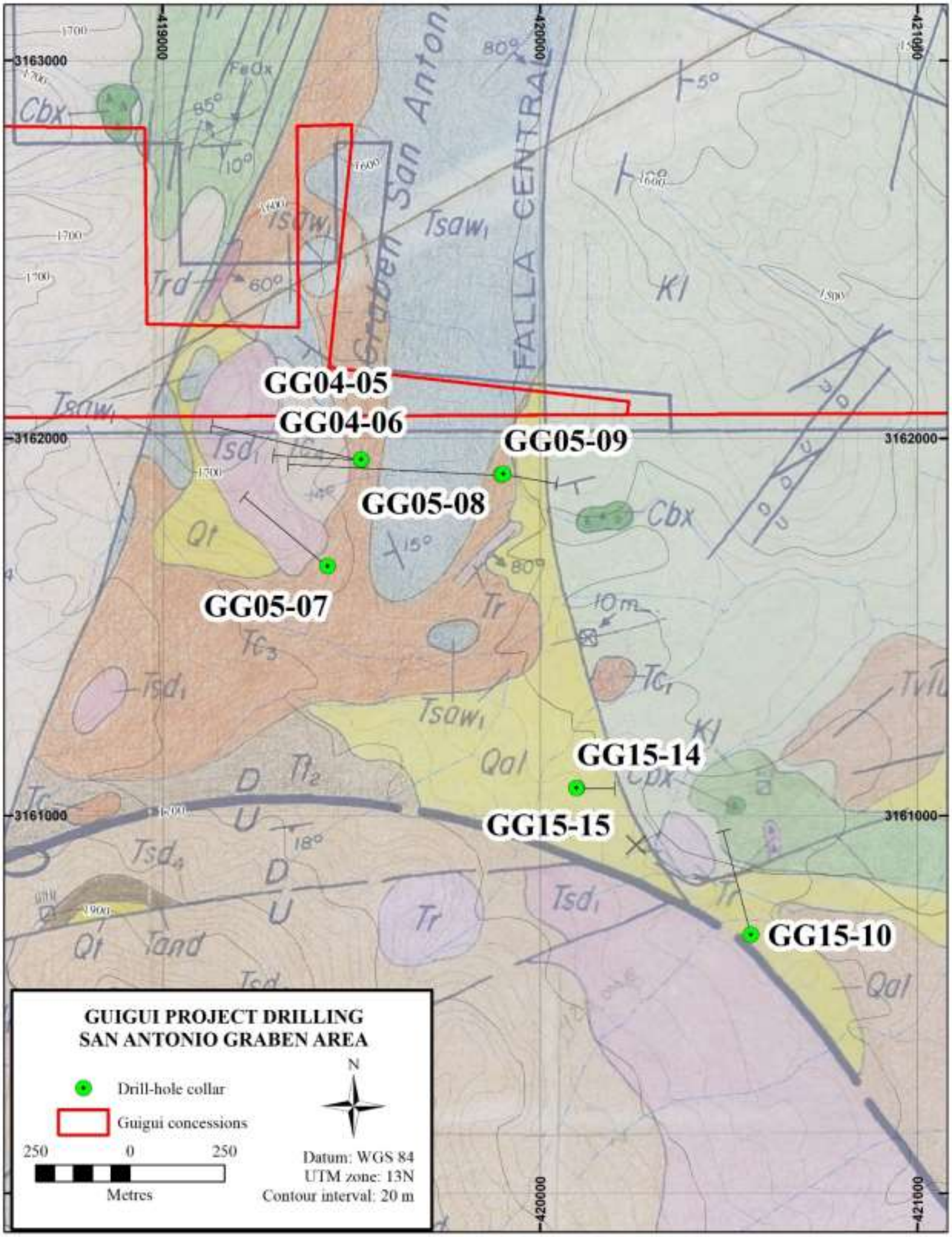

Figure 10.4. Drilling in the San Antonio graben area. See Figure 7.3b for explanation of geological units and symbols.

Table 10.2. Guigui project drilling lithology logs.

Hole-ID	FROM (M)	TO (M)	INTERVAL (M)	LITHOLOGY
GG03-01	8.00	11.05	3.05	Andesitic lithic tuff
GG03-01	11.05	14.60	3.55	Calcareous conglomerate
GG03-01	14.60	106.00	91.40	Andesitic tuff
GG03-01	106.00	107.30	1.30	Calcareous conglomerate
GG03-01	107.30	117.91	10.61	Andesitic lithic tuff
GG03-01	117.91	143.75	25.84	Calcareous conglomerate
GG03-01	143.75	144.95	1.20	Andesitic lithic tuff
GG03-01	144.95	145.70	0.75	Calcareous conglomerate
GG03-01	145.70	726.00	580.30	Limestone
GG03-02	4.50	39.75	35.25	Andesite
GG03-02	39.75	50.55	10.80	Calcareous conglomerate
GG03-02	50.55	61.30	10.75	Andesitic lithic tuff
GG03-02	61.30	73.20	11.90	Calcareous conglomerate
GG03-02	73.20	74.65	1.45	Andesitic tuff
GG03-02	74.65	77.75	3.10	Calcareous conglomerate
GG03-02	77.75	85.80	8.05	Andesitic lithic tuff
GG03-02	85.80	97.90	12.10	Calcareous conglomerate
GG03-02	97.90	99.45	1.55	Andesitic lithic tuff
GG03-02	99.45	872.75	773.30	Limestone
GG03-02	872.75	936.50	63.75	Diabasic dike
GG03-03	14.00	26.80	12.80	Calcareous conglomerate
GG03-03	26.80	614.80	588.00	Limestone
GG03-04	7.40	57.80	50.40	Andesitic lithic tuff
GG03-04	57.80	58.15	0.35	Diabasic dike
GG03-04	58.15	66.00	7.85	Andesitic lithic tuff
GG03-04	66.00	68.60	2.60	Calcareous conglomerate
GG03-04	68.60	77.30	8.70	Andesitic lithic tuff
GG03-04	77.30	90.70	13.40	Calcareous conglomerate
GG03-04	90.70	99.35	8.65	Andesitic lithic tuff
GG03-04	99.35	112.65	13.30	Calcareous conglomerate
GG03-04	112.65	115.35	2.70	Andesitic lithic tuff
GG03-04	115.35	117.80	2.45	Calcareous conglomerate
GG03-04	117.80	120.15	2.35	Andesitic lithic tuff
GG03-04	120.15	122.15	2.00	Calcareous conglomerate
GG03-04	122.15	123.85	1.70	Andesitic lithic tuff
GG03-04	123.85	126.80	2.95	Calcareous conglomerate
GG03-04	126.80	130.05	3.25	Andesitic lithic tuff
GG03-04	130.05	136.00	5.95	Calcareous conglomerate
GG03-04	136.00	252.87	116.87	Andesitic lithic tuff
GG03-04	252.87	736.30	483.43	Limestone
GG04-05	4.55	223.50	218.95	Andesitic lithic tuff
GG04-05	223.50	230.10	6.60	Diabasic dike
GG04-05	230.10	245.35	15.25	Andesitic lithic tuff
GG04-05	245.35	255.20	9.85	Felsitic dike
GG04-05	255.20	684.55	429.35	Limestone

Table 10.2. Guigui project drilling lithology logs (cont.).

Hole-ID	FROM (M)	TO (M)	INTERVAL (M)	LITHOLOGY
GG04-05	684.55	760.00	75.45	Diabasic dike
GG04-05	760.00	761.40	1.40	Limestone
GG04-05	761.40	769.30	7.90	Diabasic dike
GG04-05	769.30	812.75	43.45	Limestone
GG04-06	3.65	6.30	2.65	Andesitic lithic tuff
GG05-07	3.66	28.70	25.04	Andesitic lithic tuff
GG05-07	28.70	52.00	23.30	Calcareous conglomerate
GG05-07	52.00	279.00	227.00	Andesitic lithic tuff
GG05-07	279.00	684.89	405.89	Limestone
GG05-08	14.33	75.60	61.27	Andesitic lithic tuff
GG05-08	75.60	687.40	611.80	Limestone
GG05-08	687.40	690.40	3.00	Felsitic dike
GG05-08	690.40	700.40	10.00	Limestone
GG05-08	700.40	746.75	46.35	Diabasic dike
GG05-08	746.75	749.40	2.65	Limestone
GG05-08	749.40	758.30	8.90	Diabasic dike
GG05-08	758.30	836.10	77.80	Limestone
GG05-08	836.10	848.40	12.30	Felsitic dike
GG05-08	848.40	867.55	19.15	Limestone
GG05-08	867.55	871.30	3.75	Diabasic dike
GG05-08	871.30	874.00	2.70	Limestone
GG05-08	874.00	887.75	13.75	Diabasic dike
GG05-08	887.75	889.75	2.00	Limestone
GG05-08	889.75	900.00	10.25	Diabasic dike
GG05-08	900.00	903.10	3.10	Limestone
GG05-08	903.10	908.50	5.40	Diabasic dike
GG05-08	908.50	986.65	78.15	Limestone
GG05-09	12.00	72.70	60.70	Andesitic lithic tuff
GG05-09	72.70	178.50	105.80	Limestone
GG05-09	178.50	179.65	1.15	Felsitic dike
GG05-09	179.65	339.85	160.20	Limestone
GG15-10	0.00	11.70	11.70	Agglomerate
GG15-10	11.70	286.39	274.69	Limestone
GG15-10	286.39	286.55	0.16	Vein
GG15-10	286.55	287.37	0.82	Cave_Cavity
GG15-10	287.37	290.14	2.77	Limestone
GG15-10	290.14	290.61	0.47	Cave_Cavity
GG15-10	290.61	290.88	0.27	Cave Fill
GG15-10	290.88	292.36	1.48	Limestone
GG15-10	292.36	292.61	0.25	Cave Fill
GG15-10	292.61	304.80	12.19	Limestone
GG15-10	304.80	307.85	3.05	Cave Fill
GG15-10	307.85	310.20	2.35	Cave_Cavity
GG15-10	310.20	324.37	14.17	Limestone
GG15-10	324.37	324.62	0.25	Vein

Table 10.2. Guigui project drilling lithology logs (cont.).

Hole-ID	FROM (M)	TO (M)	INTERVAL (M)	LITHOLOGY
GG15-10	324.62	324.92	0.30	Limestone
GG15-10	324.92	325.15	0.23	Limestone
GG15-10	325.15	330.67	5.52	Limestone
GG15-10	330.67	330.87	0.20	Vein
GG15-10	330.87	332.23	1.36	Limestone
GG15-10	332.23	334.41	2.18	Cave_Cavity
GG15-10	334.41	335.28	0.87	Limestone
GG15-10	335.28	337.03	1.75	Cave Fill
GG15-10	337.03	337.26	0.23	Limestone
GG15-10	337.26	337.49	0.23	Breccia
GG15-10	337.49	351.00	13.51	Limestone
GG15-10	351.00	354.39	3.39	Cave Fill
GG15-10	354.39	360.15	5.76	Limestone
GG15-10	360.15	362.34	2.19	Cave Fill
GG15-10	362.34	364.28	1.94	Limestone
GG15-10	364.28	366.66	2.38	Cave Fill
GG15-10	366.66	370.53	3.87	Limestone
GG15-10	370.53	372.74	2.21	Limestone
GG15-10	372.74	374.40	1.66	Cave Fill
GG15-10	374.40	374.90	0.50	Limestone
GG15-10	374.90	376.72	1.82	Cave Fill
GG15-10	376.72	379.28	2.56	Breccia
GG15-10	379.28	381.87	2.59	Limestone
GG15-10	381.87	389.32	7.45	Cave Fill
GG15-10	389.32	390.71	1.39	Cave Fill
GG15-10	390.71	391.22	0.51	Cave Fill
GG15-10	391.22	392.85	1.63	Cave Fill
GG15-10	392.85	393.43	0.58	Limestone
GG15-10	393.43	395.38	1.95	Cave Fill
GG15-10	395.38	401.82	6.44	Limestone
GG15-10	401.82	403.21	1.39	Limestone
GG15-10	403.21	403.70	0.49	Cave Fill
GG15-10	403.70	405.40	1.70	Cave Fill
GG15-10	405.40	406.54	1.14	Limestone
GG15-10	406.54	406.96	0.42	Cave Fill
GG15-10	406.96	410.69	3.73	Limestone
GG15-10	410.69	411.08	0.39	Cave Fill
GG15-10	411.08	415.78	4.70	Limestone
GG15-10	415.78	416.76	0.98	Cave Fill
GG15-10	416.76	417.84	1.08	Limestone
GG15-10	417.84	424.37	6.53	Breccia
GG15-10	424.37	424.76	0.39	Cave Fill
GG15-10	424.76	429.48	4.72	Breccia
GG15-10	429.48	436.13	6.65	Limestone
GG15-10	436.13	438.91	2.78	Cave Fill

Table 10.2. Guigui project drilling lithology logs (cont.).

Hole-ID	FROM (M)	TO (M)	INTERVAL (M)	LITHOLOGY
GG15-10	438.91	440.48	1.57	Breccia
GG15-10	440.48	440.94	0.46	Cave Fill
GG15-10	440.94	443.34	2.40	Limestone
GG15-10	443.34	443.89	0.55	Cave Fill
GG15-10	443.89	532.11	88.22	Limestone
GG15-10	532.11	534.00	1.89	Monzonite
GG15-10	534.00	560.43	26.43	Monzonite
GG15-10	560.43	567.39	6.96	Limestone
GG15-10	567.39	570.90	3.51	Monzonite
GG15-10	570.90	580.00	9.10	Limestone
GG15-10	580.00	597.00	17.00	Limestone
GG15-10	597.00	605.50	8.50	Limestone
GG15-10	605.50	611.50	6.00	Marble
GG15-10	611.50	621.90	10.40	Limestone
GG15-10	621.90	623.30	1.40	Limestone
GG15-10	623.30	633.05	9.75	Marble
GG15-10	633.05	636.06	3.01	Marble
GG15-10	636.06	732.87	96.81	Diabase
GG15-10	732.57	732.87	0.30	Diabase
GG15-10	732.87	733.50	0.63	Marble
GG15-10	733.50	734.57	1.07	Limestone
GG15-10	734.57	737.45	2.88	Marble
GG15-10	737.45	738.12	0.67	Limestone
GG15-10	738.12	743.69	5.57	Diabase
GG15-10	743.69	744.48	0.79	Limestone
GG15-10	744.48	745.55	1.07	Marble
GG15-10	745.55	752.00	6.45	Limestone
GG15-10	752.00	756.00	4.00	Marble
GG15-10	756.00	762.80	6.80	Limestone
GG15-10	762.80	763.40	0.60	Marble
GG15-10	763.40	765.25	1.85	Marble
GG15-10	765.25	776.10	10.85	Limestone
GG15-10	776.10	777.50	1.40	Marble
GG15-10	777.50	835.15	57.65	Limestone
GG15-14	0.00	15.32	15.32	Alluvium
GG15-14	15.32	24.13	8.81	Rhyolitic Tuff
GG15-14	24.13	40.47	16.34	Limestone
GG15-14	40.47	45.35	4.88	Breccia
GG15-14	45.35	87.20	41.85	Limestone
GG15-14	87.20	111.19	23.99	Cave fill
GG15-14	111.19	135.86	24.67	Limestone
GG15-14	135.86	289.56	153.70	Limestone
GG15-15	0.00	18.29	18.29	Alluvium
GG15-15	18.29	22.56	4.27	Rhyolitic Tuff
GG15-15	22.56	119.10	96.54	Limestone

Table 10.2. Guigui project drilling lithology logs (cont.).

Hole-ID	FROM (M)	TO (M)	INTERVAL (M)	LITHOLOGY
GG15-15	119.10	120.57	1.47	Breccia
GG15-15	120.57	334.44	213.87	Limestone
GG15-15	334.44	347.22	12.78	Breccia
GG15-15	347.22	357.42	10.20	Marble
GG15-15	357.42	384.50	27.08	Limestone
GG15-15	384.50	435.86	51.36	KL Lagrima

Table 10.3. Select drill sample assays for Ag, Au, Cu, Pb, and Zn. Lab certificates with complete assay results appear in Appendix IX. Interval thicknesses are drilled thickness; true thicknesses are unknown.

Hole	Sample	From (m)	To (m)	Interval (m)	Ag ppm	Au ppm	Cu ppm	Pb ppm	Zn ppm
GG03-02	32356	111.45	111.90	0.45	1.8	0.005	4	53	240
GG03-04	32454	252.87	253.47	0.60	0	0.116	5	21	63
GG04-05	32514	244.00	244.40	0.40	109	0.560	1290	56500	43000
GG04-05	32522	254.70	254.90	0.20	0.6	-0.005	12	570	161
GG04-05	32524	256.05	256.45	0.40	5.7	-0.005	13	142	112
GG04-05	32533	302.47	303.85	1.38	2.2	-0.005	5	113	118
GG04-05	32538	362.80	364.00	1.20	12.5	-0.005	8	1290	2720
GG04-05	32539	364.00	366.35	2.35	1.7	-0.005	3	209	880
GG04-05	32540	366.35	367.50	1.15	1.1	-0.005	1	99	820
GG04-05	32541	367.50	369.20	1.70	0.6	-0.005	2	64	251
GG04-05	32542	369.20	370.50	1.30	2.9	-0.005	6	198	840
GG04-05	32544	371.10	371.95	0.85	0.3	-0.005	1	53	226
GG04-05	32545	371.95	373.30	1.35	1.1	-0.005	3	199	1020
GG04-05	32549	378.05	379.60	1.55	1.3	-0.005	4	115	102
GG04-05	32550	379.60	379.95	0.35	1.6	-0.005	6	243	161
GG04-05	32551	379.95	380.80	0.85	4.8	-0.005	129	169	425
GG04-05	32552	380.80	382.00	1.20	1.9	0.010	11	213	750
GG04-05	32553	382.00	382.85	0.85	0.5	0.062	1	64	171
GG04-05	32555	384.15	385.20	1.05	0.8	-0.005	-1	28	200
GG04-05	32558	387.15	387.95	0.80	0.2	-0.005	67	41	114
GG04-05	32560	389.05	389.95	0.90	0.1	-0.005	108	38	120
GG04-05	32561	389.95	390.80	0.85	-0.1	-0.005	95	25	97
GG04-05	32572	400.55	401.35	0.80	1	-0.005	55	190	183
GG04-05	32574	402.80	403.60	0.80	0.9	-0.005	19	175	82
GG04-05	32575	403.60	404.90	1.30	2.4	-0.005	28	221	188
GG04-05	32578	407.00	407.90	0.90	3.6	-0.005	25	314	47
GG04-05	32579	407.90	408.25	0.35	156	-0.005	117	2040	20000
GG04-05	32580	408.25	409.05	0.80	5.1	-0.005	29	510	510
GG04-05	32581	409.05	409.55	0.50	34.3	-0.005	45	2610	1710
GG04-05	32582	409.55	410.60	1.05	4.8	0.009	27	460	2650
GG04-05	32583	410.60	411.70	1.10	3.5	0.005	17	221	2970
GG04-05	32584	411.70	412.60	0.90	3.5	-0.005	21	94	3130
GG04-05	32585	412.60	413.40	0.80	10.6	0.005	21	650	1620
GG04-05	32586	413.40	414.85	1.45	7.9	0.011	15	570	1590
GG04-05	32587	414.85	415.80	0.95	113	-0.005	83	9000	20000
GG04-05	32588	415.80	416.50	0.70	15	-0.005	23	1740	5900
GG04-05	32589	416.50	417.45	0.95	11.8	0.008	28	480	5400
GG04-05	32590	417.45	418.20	0.75	7.6	0.005	15	750	1940
GG04-05	32591	418.20	419.55	1.35	2.3	-0.005	12	88	480
GG04-05	32592	419.55	420.80	1.25	2.2	-0.005	6	105	860
GG04-05	32597	425.20	426.35	1.15	3.1	0.016	3	212	2240
GG04-05	32598	426.35	427.80	1.45	27.1	0.014	18	8100	5800
GG04-05	32601	428.95	430.40	1.45	0.8	0.010	1	202	128
GG04-05	32605	449.70	450.85	1.15	1.1	0.020	3	65	620

Table 10.3. Select drill sample assays for Ag, Au, Cu, Pb, and Zn (cont.).

Hole	Sample	From (m)	To (m)	Interval (m)	Ag ppm	Au ppm	Cu ppm	Pb ppm	Zn ppm
GG04-05	32606	450.85	451.50	0.65	0.8	0.006	3	49	393
GG04-05	32607	451.50	452.85	1.35	0.9	0.006	2	129	185
GG04-05	32610	468.60	469.05	0.45	0.4	0.008	-1	318	36
GG04-05	32612	469.55	470.60	1.05	2.5	0.010	10	123	1510
GG04-05	32613	470.60	471.35	0.75	1	0.006	2	37	292
GG04-05	32614	471.35	472.40	1.05	0.2	-0.005	-1	60	273
GG04-05	32615	478.55	478.90	0.35	2	0.007	2	1000	283
GG04-05	32616	478.90	479.60	0.70	1.7	0.006	1	810	204
GG04-05	32617	479.60	480.60	1.00	0.8	0.014	3	520	710
GG04-05	32618	480.60	481.30	0.70	37.2	0.032	107	4220	10700
GG04-05	32619	481.30	481.90	0.60	11.6	0.029	89	1890	16800
GG04-05	32620	481.90	482.50	0.60	7.7	0.027	35	1900	9200
GG04-05	32621	482.50	483.15	0.65	5.6	-0.005	15	900	1160
GG04-05	32622	483.15	484.05	0.90	0.7	-0.005	3	45	940
GG04-05	32623	484.05	484.80	0.75	0.7	-0.005	1	19	219
GG04-05	32630	514.00	515.65	1.65	0.9	-0.005	2	186	990
GG04-05	32632	532.60	534.05	1.45	8.5	-0.005	23	1260	2060
GG04-05	32633	534.05	534.90	0.85	18.9	0.015	37	3920	3230
GG04-05	32634	534.90	535.90	1.00	7.9	-0.005	23	1210	1900
GG04-05	32635	535.90	537.00	1.10	6.8	-0.005	16	570	1230
GG04-05	32636	537.00	537.90	0.90	5.1	-0.005	17	950	1370
GG04-05	32637	537.90	538.80	0.90	8.6	-0.005	25	1100	1780
GG04-05	32638	538.80	539.90	1.10	1.3	-0.005	3	980	650
GG04-05	32639	539.90	541.20	1.30	6.5	-0.005	15	490	1140
GG04-05	32640	541.20	542.10	0.90	16	-0.005	15	490	1510
GG04-05	32641	542.10	543.15	1.05	3.5	-0.005	7	480	890
GG04-05	32642	543.15	544.25	1.10	6.2	-0.005	25	740	1050
GG04-05	32643	544.25	545.35	1.10	2.9	-0.005	15	480	930
GG04-05	32644	545.35	546.55	1.20	2.1	-0.005	15	460	970
GG04-05	32645	583.40	584.35	0.95	0.9	-0.005	10	15	296
GG04-05	32646	598.85	599.15	0.30	2.6	-0.005	6	470	3760
GG04-05	32647	599.15	600.05	0.90	13	0.052	5	2310	1760
GG04-05	32648	600.05	600.50	0.45	4.3	0.014	38	1010	2070
GG04-05	32649	600.50	601.20	0.70	1.6	0.014	50	295	940
GG04-05	32650	606.80	607.40	0.60	0.6	0.008	5	32	430
GG04-05	32651	607.40	607.90	0.50	0.4	0.009	4	13	268
GG04-05	32652	607.90	608.60	0.70	5.2	0.008	37	39	20000
GG04-05	32653	608.60	609.35	0.75	11.3	0.023	67	121	20000
GG04-05	32654	609.35	609.75	0.40	1.5	0.011	15	17	4500
GG04-05	32655	609.75	610.30	0.55	0.6	0.007	9	16	520
GG04-05	32656	610.30	610.90	0.60	0.5	0.010	1	20	800
GG04-05	32658	616.25	618.00	1.75	2	0.013	10	127	1220
GG04-05	32659	618.00	618.45	0.45	1.8	0.024	13	51	283
GG04-05	32670	675.55	676.15	0.60	27.6	-0.005	3	219	237
GG04-05	32671	676.15	676.75	0.60	8.4	0.007	3	65	3490

Table 10.3. Select drill sample assays for Ag, Au, Cu, Pb, and Zn (cont.).

Hole	Sample	From (m)	To (m)	Interval (m)	Ag ppm	Au ppm	Cu ppm	Pb ppm	Zn ppm
GG04-05	32673	678.15	678.95	0.80	24.9	-0.005	7	880	2300
GG04-05	32692	759.00	759.50	0.50	23.9	0.030	44	168	153
GG04-05	32695	761.40	762.75	1.35	30.4	0.034	46	228	291
GG04-05	32698	769.80	770.10	0.30	200	0.558	63	194	2670
GG04-05	33212	784.90	785.20	0.30	0.4	-0.005	26	9	409
GG04-05	33216	788.60	789.15	0.55	12.5	0.010	16	3830	2690
GG04-05	33223	798.50	800.00	1.50	1.4	-0.005	2	345	13
GG04-05	33227	803.40	803.70	0.30	0.5	-0.005	3	13	206
GG04-06	33233	344.45	345.30	0.85	0.4	-0.005	3	215	99
GG04-06	33234	365.10	366.05	0.95	1.1	-0.005	2	200	236
GG04-06	33237	433.85	434.75	0.90	23.1	-0.005	1	208	387
GG04-06	33238	434.75	435.45	0.70	2.3	-0.005	7	185	1490
GG04-06	33239	435.45	436.45	1.00	1.5	-0.005	5	88	1010
GG04-06	33242	437.95	438.95	1.00	2.1	-0.005	-1	219	95
GG04-06	33246	441.70	442.25	0.55	18.7	-0.005	2	269	234
GG04-06	33247	442.25	443.45	1.20	6.8	-0.005	13	387	3040
GG04-06	33248	443.45	444.50	1.05	2.2	-0.005	5	213	620
GG04-06	33249	444.50	445.00	0.50	5.1	-0.005	11	540	2210
GG04-06	33250	445.00	445.60	0.60	19.7	-0.005	20	378	6400
GG04-06	33251	445.60	446.00	0.40	21.2	-0.005	27	2260	13100
GG04-06	33252	446.00	446.30	0.30	34.6	-0.005	63	5700	23400
GG04-06	33253	446.30	447.40	1.10	5.2	-0.005	15	430	3120
GG04-06	33254	447.40	447.95	0.55	2.7	-0.005	10	152	1760
GG04-06	33255	447.95	448.95	1.00	5.1	-0.005	7	690	1160
GG04-06	33256	448.95	449.45	0.50	0.9	-0.005	1	124	176
GG04-06	33260	451.35	451.75	0.40	1.1	-0.005	-1	104	115
GG04-06	33266	454.95	455.95	1.00	6.7	-0.005	30	2760	4500
GG04-06	33267	455.95	456.50	0.55	2	-0.005	7	353	460
GG04-06	33268	456.50	458.50	2.00	1.5	-0.005	4	182	392
GG04-06	33269	458.50	459.65	1.15	1.2	-0.005	2	84	193
GG04-06	33270	459.65	460.40	0.75	0.7	-0.005	-1	49	178
GG04-06	33271	460.40	461.45	1.05	0.9	-0.005	2	108	300
GG04-06	33272	461.45	462.45	1.00	0.6	-0.005	-1	89	165
GG04-06	33273	462.45	463.55	1.10	3.1	-0.005	6	430	520
GG04-06	33274	463.55	464.70	1.15	4.4	-0.005	12	670	1660
GG04-06	33275	464.70	465.15	0.45	2.1	-0.005	6	389	490
GG04-06	33276	465.15	465.85	0.70	2.1	-0.005	7	423	280
GG04-06	33277	465.85	466.85	1.00	1.5	-0.005	8	287	269
GG04-06	33278	466.85	467.75	0.90	1.4	-0.005	7	273	211
GG04-06	33279	467.75	468.25	0.50	1.1	-0.005	4	221	221
GG04-06	33280	468.25	469.40	1.15	0.7	-0.005	4	353	187
GG04-06	33281	469.40	470.85	1.45	0.9	-0.005	2	89	112
GG04-06	33282	474.90	475.40	0.50	1.6	-0.005	-1	710	157
GG04-06	33283	475.40	476.00	0.60	0.8	-0.005	-1	297	185
GG04-06	33285	485.05	485.60	0.55	0.4	-0.005	-1	106	306

Table 10.3. Select drill sample assays for Ag, Au, Cu, Pb, and Zn (cont.).

Hole	Sample	From (m)	To (m)	Interval (m)	Ag ppm	Au ppm	Cu ppm	Pb ppm	Zn ppm
GG04-06	33286	485.60	486.20	0.60	2.1	-0.005	4	630	1370
GG04-06	33287	486.20	486.75	0.55	1.1	-0.005	1	203	480
GG04-06	33288	486.75	487.35	0.60	0.5	-0.005	1	40	162
GG04-06	33289	487.35	487.90	0.55	0.6	-0.005	1	46	246
GG04-06	33290	487.90	488.90	1.00	1.3	-0.005	1	88	348
GG04-06	33291	488.90	490.35	1.45	1.3	-0.005	2	212	112
GG04-06	33292	490.35	491.50	1.15	0.8	-0.005	1	104	128
GG04-06	33293	491.50	492.40	0.90	0.8	0.008	3	221	135
GG04-06	33297	495.20	495.80	0.60	0.8	-0.005	4	103	256
GG04-06	33299	498.90	500.05	1.15	48	-0.005	8	190	281
GG04-06	33300	500.05	500.80	0.75	34	-0.005	8	172	133
GG04-06	33301	500.80	501.95	1.15	43	-0.005	9	232	610
GG04-06	33302	501.95	503.40	1.45	138	-0.005	21	600	980
GG04-06	33303	503.40	504.70	1.30	231.9	0.025	57	980	2190
GG04-06	33304	504.70	505.70	1.00	191.9	0.026	46	980	2080
GG04-06	33305	505.70	507.05	1.35	58	0.030	16	289	520
GG04-06	33306	507.05	508.80	1.75	109	0.007	12	398	399
GG04-06	33307	508.80	510.25	1.45	85	-0.005	13	355	560
GG04-06	33308	510.25	510.95	0.70	49	-0.005	15	218	381
GG04-06	33309	510.95	511.90	0.95	20.1	0.014	10	136	480
GG04-06	33312	531.75	532.00	0.25	1.1	0.009	2	100	144
GG05-07	46510	294.74	295.30	0.56	17.6	-0.005	9	170	220
GG05-07	46511	303.00	306.00	3.00	11.7	-0.005	12	218	266
GG05-07	46512	338.40	339.80	1.40	242	-0.005	140	1380	3670
GG05-07	46515	369.20	369.60	0.40	3.4	0.008	9	464	164
GG05-07	46516	383.65	385.10	1.45	49.3	-0.005	21	1315	2700
GG05-07	46517	385.10	387.00	1.90	7.3	-0.005	<1	177	129
GG05-07	46519	421.90	422.50	0.60	11.1	-0.005	<1	115	311
GG05-07	46520	422.50	423.25	0.75	2.5	-0.005	4	335	778
GG05-07	46521	423.25	425.10	1.85	7.2	-0.005	13	650	605
GG05-07	46522	425.10	426.85	1.75	5.5	-0.005	32	896	805
GG05-07	46529	443.70	444.74	1.04	<0.2	-0.005	2	29	195
GG05-08	46541	73.75	75.60	1.85	6.4	0.007	8	45	349
GG05-08	46562	470.70	473.00	2.30	13.8	-0.005	10	547	2730
GG05-08	46568	517.25	519.35	2.10	0.8	-0.005	1	70	159
GG05-08	46569	519.35	520.20	0.85	1.5	-0.005	5	127	507
GG05-08	46572	689.00	690.40	1.40	0.6	-0.005	9	27	175
GG05-08	46583	731.30	733.60	2.30	17	0.043	36	508	1250
GG05-08	46588	836.10	837.00	0.90	6.1	-0.005	11	121	351
GG05-08	46589	837.00	839.20	2.20	5.2	-0.005	2	128	453
GG05-08	46590	839.20	840.33	1.13	9.4	-0.005	2	151	403
GG05-08	46591	840.33	842.50	2.17	2.8	0.005	3	93	195
GG05-08	46595	897.00	900.00	3.00	12.3	0.050	28	212	86
GG05-08	46596	901.29	903.10	1.81	7.6	0.036	20	227	317
GG05-08	46597	905.20	906.75	1.55	20.6	0.057	35	112	70

Table 10.3. Select drill sample assays for Ag, Au, Cu, Pb, and Zn (cont.).

Hole	Sample	From (m)	To (m)	Interval (m)	Ag ppm	Au ppm	Cu ppm	Pb ppm	Zn ppm
GG05-08	46598	906.75	908.50	1.75	10.7	0.023	23	84	201
GG05-08	46599	908.50	909.60	1.10	29.9	0.097	32	63	307
GG05-09	46601	72.70	73.30	0.60	36.8	0.015	13	86	66
GG05-09	46609	198.70	200.80	2.10	0.8	0.006	3	143	118
GG05-09	46612	204.05	205.73	1.68	0.4	0.018	2	42	194
GG05-09	46613	205.73	206.90	1.17	2.9	0.014	4	30	226
GG05-09	46614	206.90	208.78	1.88	0.6	0.012	2	20	184
GG05-09	46615	208.78	210.00	1.22	0.9	0.033	2	43	248
GG05-09	46616	210.00	210.90	0.90	1	0.017	3	158	247
GG05-09	46617	210.90	211.90	1.00	1.7	0.041	9	1005	549
GG05-09	46620	215.05	216.45	1.40	1.1	0.005	2	340	276
GG05-09	46621	216.45	216.80	0.35	7	0.007	8	441	2190
GG05-09	46622	216.80	218.10	1.30	2	-0.005	2	52	248
GG05-09	46623	218.10	220.10	2.00	4.1	0.008	1	197	293
GG15-10	800029	335.28	337.03	1.75	0.09	-0.005	6.9	191.5	216
GG15-10	800038	360.15	362.34	2.19	0.04	-0.005	2.7	125.5	138
GG15-10	800044	366.11	366.39	0.28	0.01	-0.005	3	172	58
GG15-10	800050	372.74	373.30	0.56	0.01	-0.005	1.7	153	51
GG15-10	800051	373.30	374.40	1.10	0.01	-0.005	3.3	163.5	81
GG15-10	800053	374.90	375.84	0.94	0.01	-0.005	2.5	161.5	54
GG15-10	800054	375.84	376.72	0.88	0.03	-0.005	4.3	150.5	122
GG15-10	800055	376.72	377.47	0.75	0.14	-0.005	9.1	175.5	234
GG15-10	800056	377.47	377.95	0.48	0.17	-0.005	4.4	103.5	135
GG15-10	800059	378.95	379.28	0.33	0.13	-0.005	2.6	101.5	103
GG15-10	800065	389.32	390.71	1.39	0.02	-0.005	5.7	103	171
GG15-10	800066	390.71	391.22	0.51	0.05	-0.005	7	147.5	175
GG15-10	800067	391.22	392.85	1.63	0.03	-0.005	2.1	150	96
GG15-10	800069	393.43	393.93	0.50	0.07	-0.005	5.2	131.5	135
GG15-10	800071	394.25	395.38	1.13	0.09	-0.005	3.6	131.5	170
GG15-10	800075	399.42	400.72	1.30	0.28	-0.005	2.2	127	132
GG15-10	800076	400.72	401.26	0.54	0.26	-0.005	2.6	167.5	168
GG15-10	800079	403.21	403.70	0.49	0.48	-0.005	2.7	181	158
GG15-10	800080	403.70	404.78	1.08	0.33	-0.005	2.7	104.5	93
GG15-10	800083	406.58	406.96	0.38	0.08	-0.005	4.5	231	192
GG15-10	800086	409.61	410.69	1.08	0.09	-0.005	1.7	131	111
GG15-10	800092	416.76	417.08	0.32	0.27	-0.005	3.2	171	172
GG15-10	800094	417.84	418.25	0.41	0.26	-0.005	3.3	196.5	177
GG15-10	800096	418.46	419.34	0.88	0.36	-0.005	3.3	216	208
GG15-10	800097	419.34	420.39	1.05	0.51	-0.005	2.9	171.5	156
GG15-10	800098	420.39	421.14	0.75	0.29	-0.005	2.1	187	145
GG15-10	800099	421.14	421.44	0.30	0.34	-0.005	2.6	165	175
GG15-10	800100	421.44	421.74	0.30	0.36	-0.005	2.2	117	129
GG15-10	800101	421.74	422.43	0.69	0.27	-0.005	2.6	109	94
GG15-10	800102	422.43	423.73	1.30	0.31	-0.005	3.3	252	212
GG15-10	800103	423.73	424.37	0.64	0.21	-0.005	4.9	184.5	154

Table 10.3. Select drill sample assays for Ag, Au, Cu, Pb, and Zn (cont.).

Hole	Sample	From (m)	To (m)	Interval (m)	Ag ppm	Au ppm	Cu ppm	Pb ppm	Zn ppm
GG15-10	800104	424.37	424.76	0.39	0.1	-0.005	2.8	237	232
GG15-10	800105	424.76	425.41	0.65	0.31	-0.005	4.1	295	266
GG15-10	800106	425.41	427.20	1.79	0.32	-0.005	4	249	244
GG15-10	800107	427.20	428.52	1.32	0.3	-0.005	2.3	122.5	175
GG15-10	800109	428.85	429.48	0.63	0.18	-0.005	3.8	63.8	193
GG15-10	800143	560.43	560.83	0.40	0.1	-0.005	8.8	82	354
GG15-10	800153	570.90	571.71	0.81	0.24	0.005	6	276	241
GG15-10	800163	628.25	628.77	0.52	0.04	-0.005	5.2	46.7	284
GG15-10	800164	631.28	631.87	0.59	0.03	-0.005	4.8	183	919
GG15-10	800173	640.31	641.22	0.91	0.04	-0.005	81.8	2	140
GG15-10	800178	650.47	651.12	0.65	0.01	-0.005	38	2	161
GG15-10	800190	727.15	728.15	1.00	0.6	-0.005	39.7	29.1	220
GG15-12	800555	116.24	117.02	0.78	0.09	-0.005	34.2	5	232
GG15-12	800589	263.36	263.66	0.30	0.55	-0.005	31.7	164.5	1840
GG15-13	800681	185.23	185.56	0.33	0.02	-0.005	32.9	4	297
GG15-13	800684	186.89	187.78	0.89	0.05	-0.005	32.8	5.1	173
GG15-13	800688	189.05	190.38	1.33	0.02	-0.005	37.8	13.6	193
GG15-13	800689	190.38	191.26	0.88	0.02	-0.005	36.7	5	242
GG15-13	800693	193.35	193.90	0.55	0.66	-0.005	37.9	51	181
GG15-13	800715	314.80	315.86	1.06	0.02	-0.005	44.1	15.6	301
GG15-13	800716	315.86	316.78	0.92	0.06	-0.005	51.8	71.8	815
GG15-14	800816	41.91	42.52	0.61	21.2	-0.005	10.2	145.5	176
GG15-14	800820	44.21	44.55	0.34	14.5	0.167	8.4	24.9	176
GG15-14	800886	101.70	102.10	0.40	0.1	-0.005	20.1	189	339
GG15-14	800890	104.47	104.76	0.29	0.05	-0.005	3.3	77.3	198
GG15-14	800891	104.76	105.40	0.64	0.81	-0.005	4.2	84.9	137
GG15-14	800893	106.15	106.60	0.45	0.05	-0.005	3.2	61.3	145
GG15-14	800895	107.78	108.93	1.15	0.12	-0.005	6.2	90.8	132
GG15-14	800917	124.97	125.52	0.55	0.14	-0.005	5.8	86	296
GG15-14	800921	128.89	129.28	0.39	0.13	-0.005	3.3	99.3	177
GG15-14	800923	130.15	130.40	0.25	0.29	-0.005	4	148	254
GG15-15	800952	21.54	21.98	0.44	1.37	0.039	8.4	46.6	226
GG15-15	801119	344.05	344.96	0.91	0.15	-0.005	1.7	51.3	213
GG15-15	801122	346.41	347.22	0.81	0.16	-0.005	4.1	66.1	161
GG15-15	801128	350.92	351.42	0.50	0.07	-0.005	3.4	34.4	216
GG15-15	801130	351.77	352.04	0.27	0.07	-0.005	2.5	58.1	345
GG15-15	801143	364.27	365.76	1.49	0.01	-0.005	2	39.1	237
GG15-15	801144	365.76	366.66	0.90	0.01	-0.005	2.3	29.7	192
GG15-15	801146	367.59	367.84	0.25	0.08	-0.005	3.5	51.6	259

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Megaw doctoral study sampling

Forty-three rock chip and dump samples of altered and mineralized materials were taken throughout the Guigui and adjoining areas during Peter Megaw's doctoral mapping study (Megaw, 1990), and subsequent reconnaissance and detailed mapping phases. Field samples were located on 1:10,000 topographic maps, bagged and tagged for shipping. Doctoral study samples were delivered to the Grupo Mexico on-site assay laboratory for Atomic Absorption (AA) analysis. Subsequent samples were stored under lock and key in Minera Cascabel's Chihuahua field office and periodically shipped to Tucson, Arizona, USA for assay by American Analytical Laboratories. No standards or blank samples were included in sample shipments. Complete sample descriptions, locations and assay results for Guigui samples are presented in Megaw (1992). The assay work was done to industry standards (P Megaw, personal communication, December 2019).

Samples were hand delivered to American Assay Laboratory's Tucson preparation facility. American prepped the samples by crushing, homogenizing, splitting, grinding and final splitting for analytical pulps. Pulps were flown to Reno, Nevada for Atomic Absorption analysis for Au, Ag, Pb, Zn, Cu, As, Sb, and Mn. Peter Megaw is independent of American Analytical Laboratories and Grupo Mexico.

Bulk rejects and assay pulps were discarded in 1998.

11.2 Minera Cascabel – Coralillo sampling program 2003-2005

Minera Cascabel personnel report that surface and drilling samples were stored under lock and key in Minera Cascabel's Chihuahua field office where they were bagged and tagged for shipping. Samples were then shipped to Rocky Mountain Analytical in Tucson, AZ, USA.

Rocky Mountain Analytical assayed samples from drill holes GU03-01 through GU05-06. Samples were analyzed for silver, gold, and base metals, and for other elements on a selected basis. No records of inclusion of blanks or standards in sample shipments were found in the data package. Minera Cascabel is independent of Rocky Mountain Analytical.

11.3 MAG Silver drilling and sampling 2015

Cascabel personnel prepared drill samples at their Cascabel facility before delivering them to the ALS-Chemex Laboratories drop facility in Chihuahua, from which they delivered samples to Hermosillo for assay preparation. Mag Silver is independent of ALS-Chemex Laboratories. The resulting pulps were then flown to Vancouver for analysis. Multi-element analyses were done by the 4-acid ICP method (MSME-61). Certificates of assays of drill samples for holes GU-15-10, -14, and -15 are presented in Appendix IX of this report.

Cascabel submitted samples in 1 or 2 batches per drill hole, with 1 or 2 standard pulps in each batch for quality control of the analytical procedure. The data package contained no records of review of analyses of the standards, but the author of this report is of the opinion that data is reliable for the purposes of this report.

12.0 DATA VERIFICATION

As stated in section 11, the surface sample and drill sample were assayed by reputable analytical laboratories with internal quality assurance/quality control protocols. Although Reyna's records contain no analysis of assay results of quality-control samples (blanks or standard pulps), there is no reason to believe there is any significant problem with the existing assays.

The author of this report visually verified the silver and base-metal mineralization in holes GU-03-05, GU-04-06, Gu-05-07, and GU-15-11.

23.0 ADJACENT PROPERTIES

Santa Eulalia is the largest of a number of similar carbonate-replacement deposits (CRDs) that define a belt running from Hidalgo to near the Chihuahua-U.S.A. border (Megaw, 1988; Megaw and others, 1988). Chihuahua is very well endowed with CRDs (Megaw and others, 1996) and mining of these has been nearly continuous since the mid-16th century. The largest CRDs of the Chihuahua region, currently active or active during the 20th century, are presented in Table 23.1.

Table 23.1. Largest carbonate-replacement deposits in Chihuahua region, 1900 – present.

Deposit Name	Historical Production (Tonnes/Grade)	Operator
Santa Eulalia	*50,000,000 - 310 g/t Ag, 7.1% Zn, 8.2% Pb*	Grupo Mexico
Naica	36,000,000 - 213 g/t Ag, 5.6% Zn, 5.9% Pb, 0.4% Cu	Peñoles
Bismark	16,700,000 - 55 g/t Ag, 6.4% Zn, 0.6% Pb, 0.5% Cu	Peñoles
*Sierra Mojada**	14,000,000 - 384 g/t Ag, 9.6% Zn, 7.9% Pb, 1.0% Cu	Silver Bull Resources
Plomosas	3,000,000 - 55 g/t Ag, 16% Zn, 8.0% Pb	Consolidated Zinc
La Encantada*	18,000,000 - 250 g/t Ag, 7.0% Zn, 5.0% Pb	First Majestic Silver
Shafter, Texas*	4,000,000 - 500 g/t Ag, 3.0% Zn, 1.5% Pb	Aurcana
San Pedro Corralitos	1,000,000 - 219 g/t Ag, 7.0% Zn, 7.0% Pb, 1.5% Cu	Minera Namiquipa
*Rio Tinto**	225,000 - 350 g/t Ag, 10% Zn, 10 % Pb, 2.2% Cu	Minera Rio Tinto
Cinco de Mayo	12,450,000 - 132 g/t Ag, 6.47% Zn, 2.86% Pb, 0.24 g/t Au	MAG Silver

*Dominantly produced oxide ores from which zinc was not recovered. Deposits in **bold** are in active production as of this writing. The deposits in *italics* are undergoing active exploration. The remainder are currently inactive. Production is quoted to provide context; there is no guarantee that the Guigui project will yield production in the range of these mines.

Guigui is adjoined on the northwest and northeast by major producing mines and numerous prospects of the West and East Camps. The Potosí and Zubiate Mine complexes of MINAMEX are the closest on the northwestern side. The Zubiate was last worked prior to 1950, the Potosí closed in 1991. MINAMEX has done no work on these properties since the Sand

River-Spokane Resources Joint Venture abandoned their option in 1998. The San Antonio and Dinamita Mines are the closest on the northeastern side. The Dinamita area was explored briefly by Grupo Mexico in the mid-1980s. The San Antonio Mine has been the most important producer in the district since the early 1980s and remains in production today with principal mining activity trending to the south.

At the time of the author’s visit to the project in December 2019, Grupo Mexico was conducting an exploratory drilling campaign around the San Antonio mine and along the San Antonio graben to the southwest, near its boundary with the Guigui concession. The La Chinche concession, which abuts the Guigui concession on the western part of its northern boundary, is controlled by the Australian company United Minerals. United was conducting mapping and sampling in late 2019.

23.1 West Camp

West Camp mineralization occurs in a roughly elliptical zone approximately 4 km long from north to south, and 2 km wide, east to west. The fringes of the camp are marked by numerous thoroughly oxidized near-surface orebodies; the deeper ores are sulfides. The majority of West Camp orebodies are elongate tubular or tabular manto and chimney bodies localized by a complex interplay of lithology, structures, and intrusive bodies. These occur along near-vertical, laterally continuous, but vertically discontinuous linear zones referred to as "trends". The trends are variably marked along their courses by discrete faults, obscure fractures, or apparently non-structure-specific elongate orebodies (Prescott, 1916; Hewitt, 1968). The N10W-N10E (referred to as N-S for simplicity) trends are the most important and host the majority of the camp's orebodies. Two N60E-oriented trends also host significant orebodies (Prescott, 1916; Hewitt, 1968). Notably, structures defining these trends are readily observed in the limestones but can generally only be traced into the Capping Series volcanics for short distances.

The overwhelming bulk of West Camp mineralization consists of massive galena, sphalerite, pyrrhotite and/or pyrite with lesser arsenopyrite and chalcopyrite in a minor (<5%) carbonate and fluorite gangue. Grainsize ranges from 1 mm to 5 cm and varies widely on local and orebody-wide scales. Large-scale, coarse banding, consisting of nearly mono-mineralic sulfide layers that apparently cut across other sulfide layers, is common in mantos but is much less common in the chimneys (Hewitt, 1968). Fine-scale mineralogical banding is common in both mantos and chimneys. Although this banding is locally parallel to the walls of the orebody, especially in mantos, on a stope-wide scale the banding in both mantos and chimneys is highly complex and bears no relation to the enclosing wallrocks (Hewitt, 1968).

A small body of calc-silicate skarn occurs in the base of the Matona Chimney, one of a group of intrusion breccia-hosted orebodies in the deepest, southeasternmost part of the West Camp. The Matona skarn is composed of tremolite, actinolite, diopside, and garnet, with a gangue of manganoan-calcite, and fluorite. Gold grades in the Matona skarn and nearby orebodies reach 2-5 g/T, the only significant gold values outside the distal jasperoid halo (Megaw, 1990).

Overall, West Camp orebodies form an interconnected network of mineralization that shows systematic changes of morphology, mineralogy, structural controls, and stratigraphic localization, upward and outward from the felsite sills that occur throughout the depths of the camp. From the deep southern parts of the Potosi Mine to the northernmost fringes of the camp the overall orebody-structure sequence is: mineralization hosted in deep breccia bodies; sill contact mantos; fissure-related mantos; tabular and tubular chimneys; and elongate mantos. The connectedness of mineralization throughout the West Camp indicates that the ore-fluids migrated along a remarkably well-integrated percolation network that extended from the deepest southeastern to the shallowest northwestern parts of the camp (Hewitt, 1968; Megaw, 1990).

23.2 East Camp

East Camp mineralization occurs in a N-S elongate zone roughly 1.5 km wide and 4 km long centered on the San Antonio Graben. This is a NNE-trending feature with more than 250 m of displacement affecting both the Cretaceous carbonates and Tertiary volcanic rocks. The graben was repeatedly intruded before and during mineralization by a series of felsic dikes geochemically indistinguishable from those associated with ore in the West Camp. Mineralization is dominantly in the form of a tabular, calc-silicate dominated, zinc-rich chimney that is zoned across the dike from a skarn assemblage to massive sulfide ores. Smaller lead-rich massive sulfide manto bodies cut off this chimney at several levels, and several unusual tin-bearing carrot-shaped chimneys occur near the top of the system.

The skarn is zoned from proximal epidote-chlorite endoskarn affecting the felsite, to garnet-hedenbergite skarn, to an outermost hedenbergite-dominant exoskarn (Hewitt, 1943; Megaw, 1990). The former presence of felsite is inferred for areas where this epidote-chlorite assemblage is found but no felsite remains. These skarns may have a sharp outer contact with limestone or grade into pods of normal sulfide ores. Pods of nearly pure sulfides are also common within the skarn and garnet locally replaces sphalerite along fractures in these pods. The contact between both skarn and normal sulfides with the enclosing limestone is either razor-sharp with some minor extensions along fractures or bedding planes, or it is marked by a narrow bleached and recrystallized selvage less than 5 cm wide.

The skarn ores typically show banding parallel to the felsite dike margins in the epidote-chlorite skarn. However, banding in the garnet-pyroxene skarn tends to be parallel to the enclosing limestone contact. Large blocks of unmineralized limestone occur within the skarn, and locally have concentrically banded sulfides and silicates surrounding them (Bond, 1987). Large areas of contorted banding are also common.

The East Camp shows metal zonation with respect to the West Fault of the San Antonio Graben and the San Antonio Dike. Comparable variations occur, at different scales, both horizontally and vertically (Bond, 1987). Within the skarn-sulfide ores there is a downward increase in Cu, Zn, In, Bi, Co, F, As and Mo and an upward increase in Pb, Ba, S, Sb, W, Cd, Hg, V, and Ni (Bond, 1987). The small orebodies along the southern San Antonio Graben apparently contained more copper and gold than the remainder of the East Camp.

23.3 District-Scale Mineralization Paragenesis and Zoning

Both camps show transitions from continuous skarn and normal sulfide mineralization to concentric alteration halos over vertical distances of over 1 km and horizontal distances of up to 5 km. These transitions can be combined with the metals and metals ratio data to define the following overall zonation patterns for the two camps: (from depth, upward and outward).

West Camp

Zn-Pb-Ag (Cu, As) [Au]
Pb-Ag> Zn-Fe-Mn
Ag-Pb-Fe-Zn [Au]
Ag-Mn
Mn
Silicification
Fluorite + quartz

East Camp

Zn-Cu (Au, In, As, Bi)
Zn-Pb-Ag (Cu, and very minor Sn)
Ag-Pb (Mn)
Sn-V (Pb, Ag)
Mn
Silicification
Fluorite + quartz (some fluorite may be proximal

These are typical metals zonation patterns for many base metal deposits, especially skarns (Einaudi and others, 1981) and high-temperature, carbonate-hosted Pb-Zn-Ag-Cu deposits (Titley and Megaw, 1985; Megaw and others, 1988). The peripheral manganese halo (see below) is comparable to that noted for Irish-type and other Ag-Pb-Zn. The consistency of the pattern suggests that it reflects primary metals dispersion from a single large, pulsating hydrothermal system (Megaw, 1990).

24.0 OTHER RELEVANT DATA AND INFORMATION

Not applicable

25.0 INTERPRETATION AND CONCLUSIONS

Four centuries of mining and exploration have not revealed the heat source of mineralization in the Santa Eulalia district (Figure 25.1), and geophysical studies and drilling show that the prospective carbonate host rocks are known to underlie the volcanic rocks on the Guigui project (Figures 7.2a&b and 7.3a&b). The intrusive stock heat source may be related to the Santo Domingo caldera that lies in the southern part of the Guigui project area.

The Guigui project area contains considerable potential for more carbonate-replacement deposits similar to those exploited in the West and East Camps of the Santa Eulalia district, as well as near-source skarn mineralization.

Exploration potential in the carbonates underlying the volcanic cover is considered best in the principal areas shown in Figure 25.2.

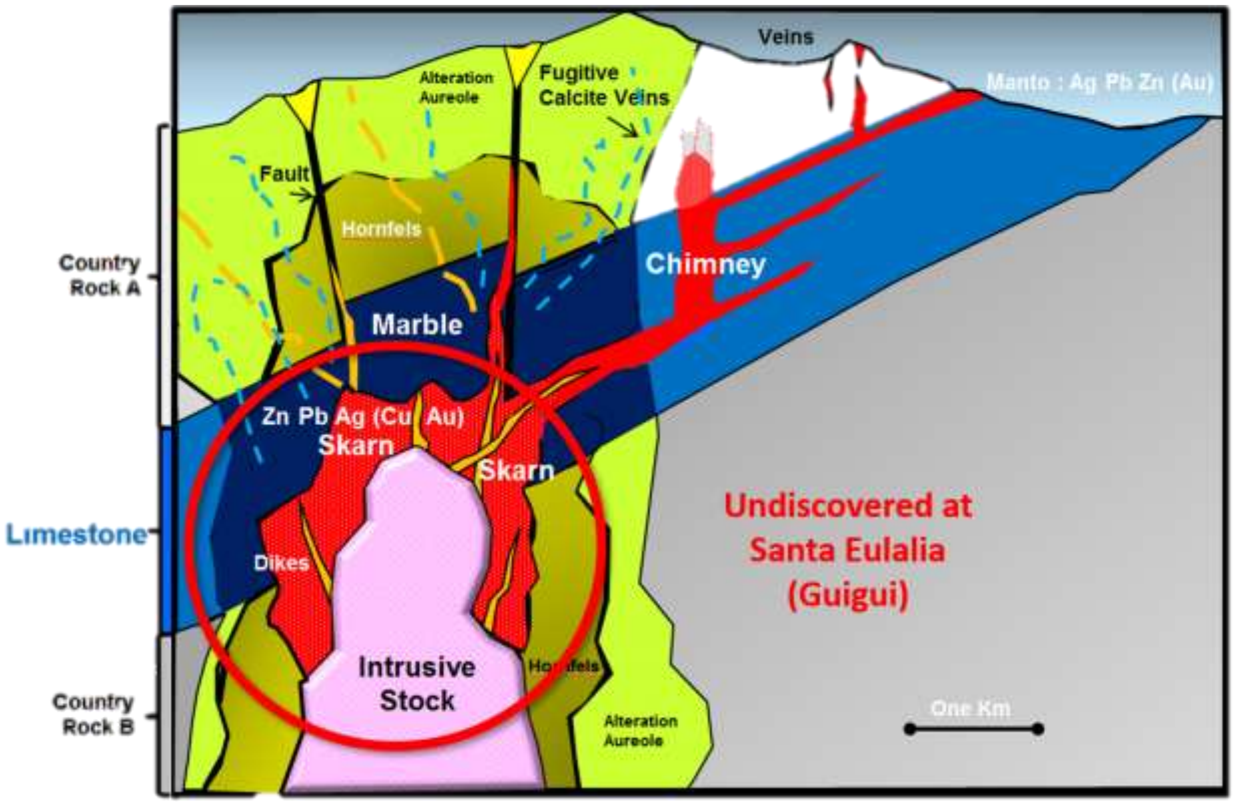

Figure 25.1. Schematic model of carbonate-replacement mineralization at Guigui, showing the relationship of intrusive stock heat source and favorable carbonate host rocks. In this image, Country Rock A stands for the volcanic cover overlying the carbonate rocks at Guigui (after Megaw, 1998), .

25.1 Eastern Target Area – San Antonio Graben

The eastern target area lies along the southern extension of the San Antonio graben, which has been traced into the Guigui concession ground. Previous drilling by MAG Silver cut anomalous silver and base-metal mineralization along the projection, and Grupo Mexico's mine at San Antonio extracts ore from lenses along the graben boundary (Figure 25.3). Further drilling along the San Antonio trend is warranted.

25.2 North-Central Target Area

The southern limit of exposure of carbonate rocks and the adjoining area of relatively thin volcanic cover lie in the north-central part of the Guigui project, including the El Faisán, Los Arenales, Guigui 2, and Guigui 3 concessions. While detailed mapping in this area has not been executed, the trend of mineralization defined by Potosí, Terra, and Inglaterra mines in the West Camp suggests a heat source and potential for skarn mineralization in this area of the Guigui project (Figure 25.4).

25.3 Western Target Area

Argillically altered volcanic rocks and windows of fluorite-cemented breccia in limestone in arroyo bottoms suggest the presence of an intrusive body at depth under the western portion of the Guigui concession.

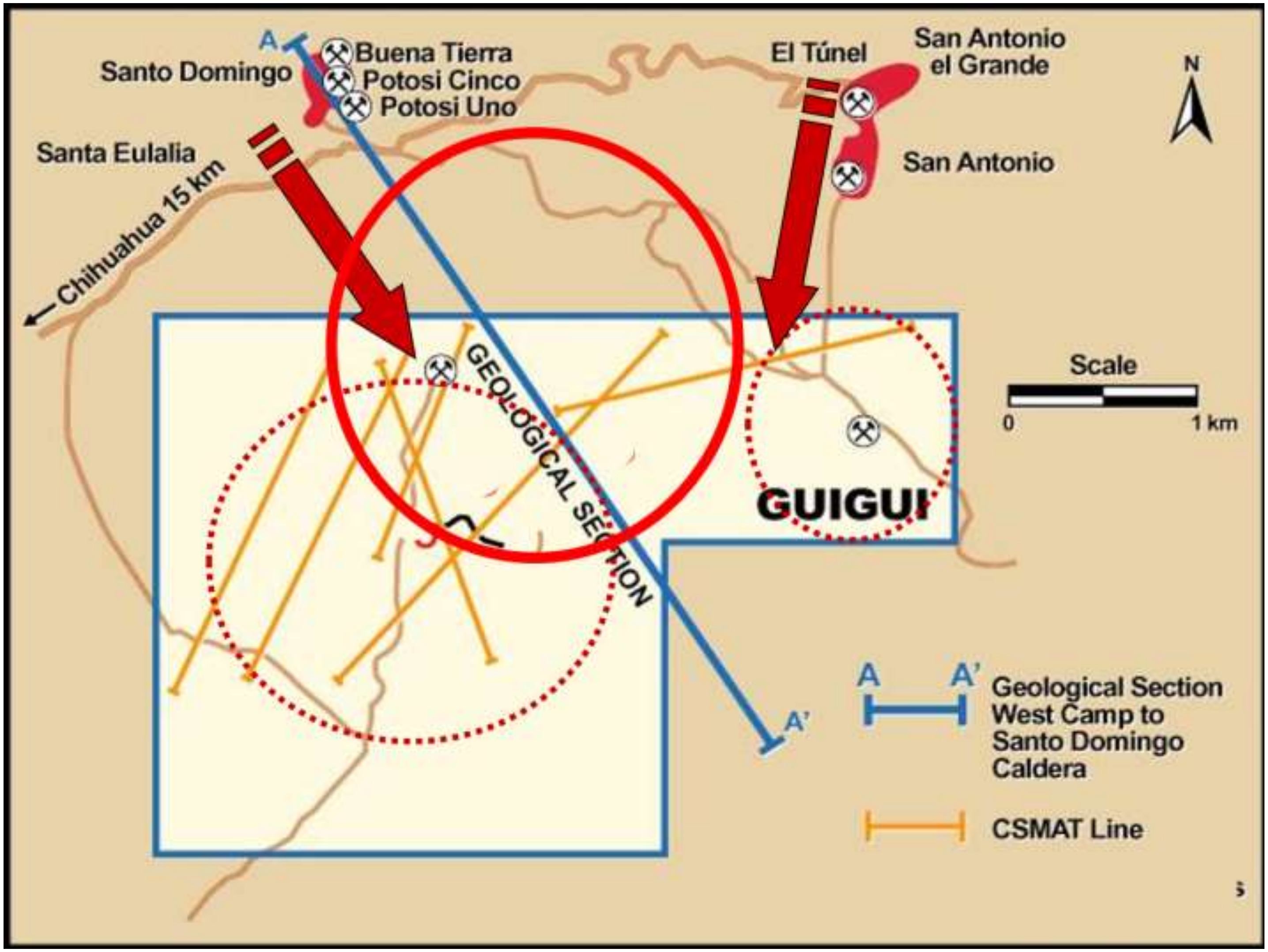

Figure 25.2. Guigui concession showing principal target areas for exploration. Targets are based on geological, geochemical, isotopic, geophysical vectoring, and as-yet-undrilled target concepts. The eastern target area, outlined in dotted circle, comprises southern extensions of the San Antonio graben, part of the East Camp of the Santa Eulalia district. The central area in solid circle is the area immediately southeast of the limit of limestone exposure, along a trend line that links some of the principal mines of the West Camp with the center of the Santo Domingo caldera. The western circled area is mostly under clay-altered volcanic cover with a few windows of exposure of altered carbonate in arroyo bottoms, south of the West Camp.

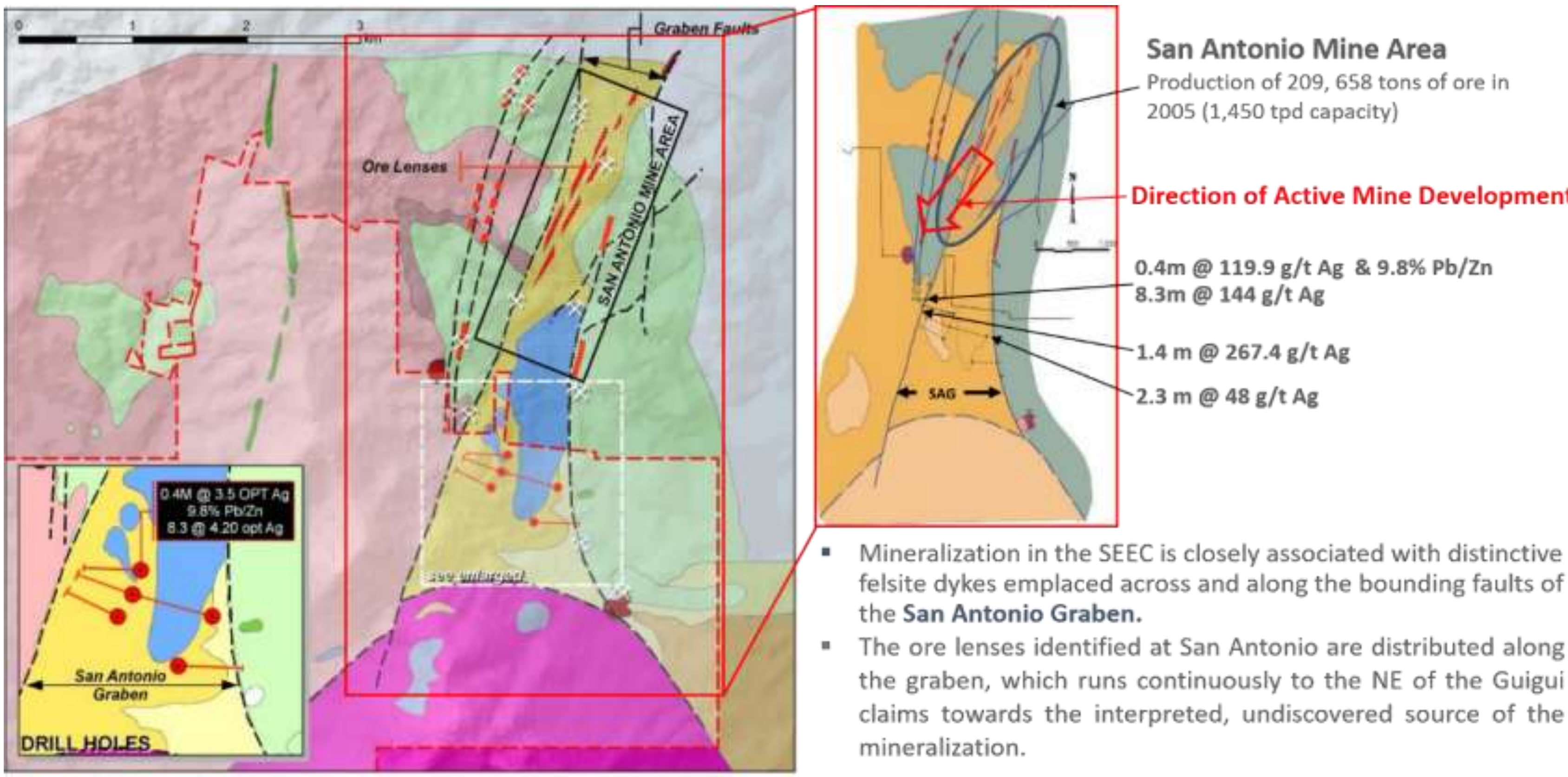

Figure 25.3. San Antonio graben extension target area, eastern part of the Guigui project area.

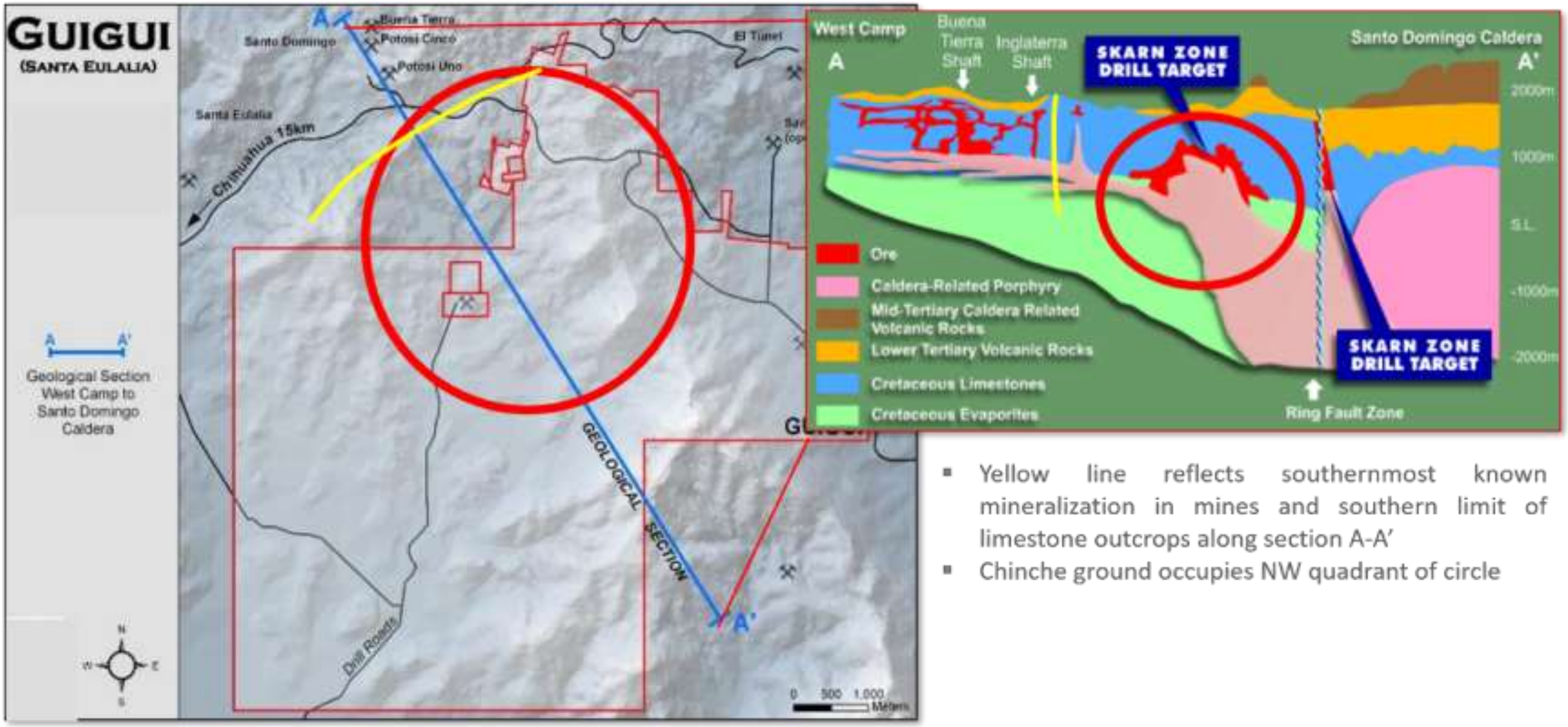

Figure 25.4. North-central limestone-limit target area. The geological section line A-A' indicates a potential vector from more distal mineralization in the West Camp to proximal mineralization underlying volcanic cover in the Guigui concession.

26.0 RECOMMENDATIONS

A Phase I exploration program consisting of a 5,000-metre drilling program is recommended. Selection and prioritization of specific drill sites within the drill-target areas outlined in Figure 26.1 and listed in Table 26.1 should be based on detailed geological mapping in the north-central part of the project area, adjacent to the La Chinche concession ground, integrated with previous mapping, sampling and drilling, hyperspectral satellite imagery, and re-processed geophysical data. The budget for the Phase I program is presented in Tables 26.2 and 26.3.

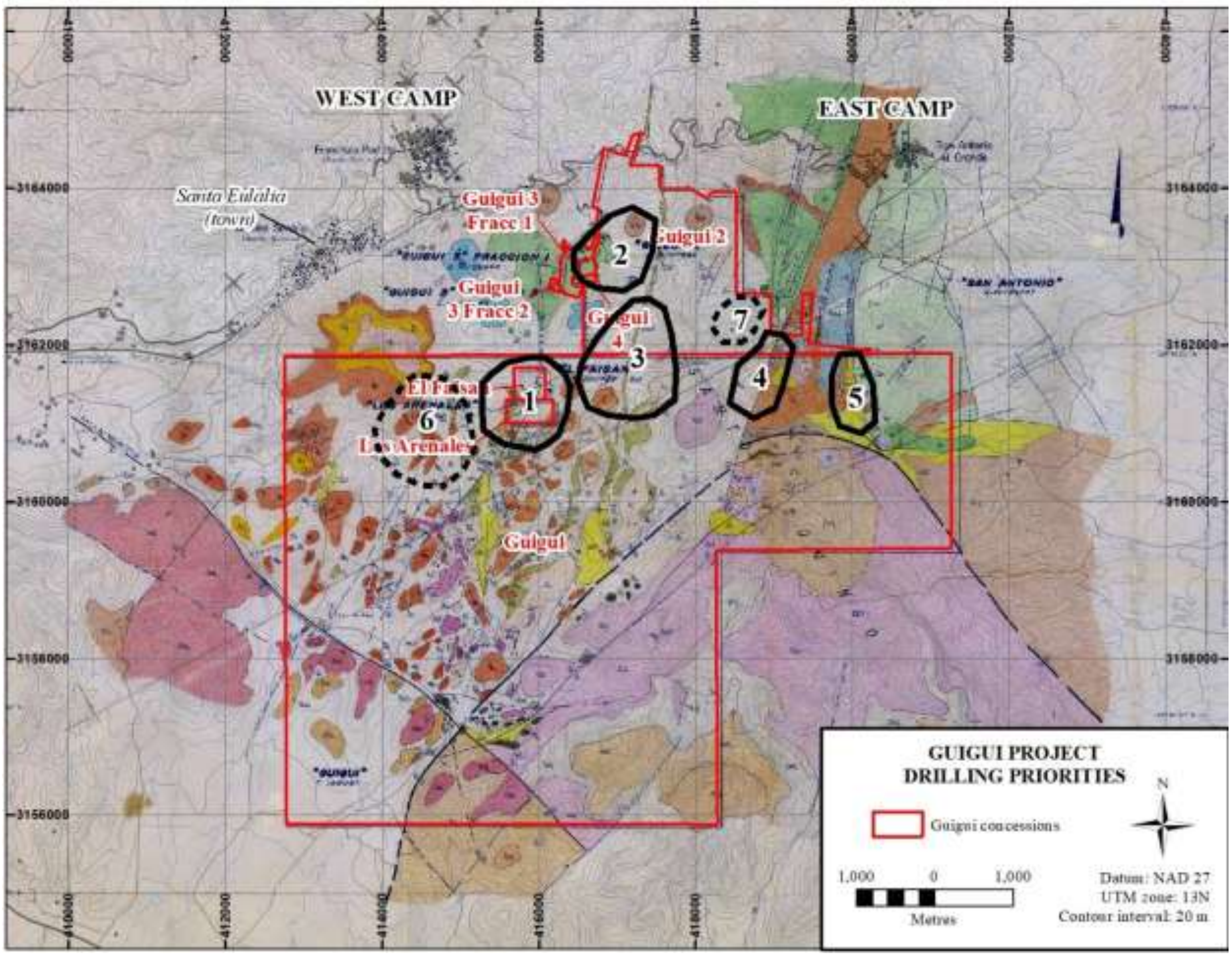

Figure 26.1. Priority drilling areas, Guigui Project. See Table 26.1 for description of areas.

Table 26.1. Guigui project prioritized drilling areas. Specific drill sites and priorities should be determined on the basis of recommended detailed geological mapping and geophysics, and their integration with re-analyzed and compiled existing data information.

Area	Target area description
1	Major area of fluorite breccia pipes, immediately south of major alteration anomaly.
2	Fluorite breccia pipes, manganese-oxide alteration.
3	Linear geophysical anomalies and alteration.
4	San Antonio graben west fault. Drilling should follow previously drilled mineralization to depth.
5	San Antonio graben east fault. Drilling should follow previously drilled mineralization to depth.
6	Further drilling if area 1 results are favorable (Phase II).
7	Further drilling if area 4 results are favorable (Phase II).

The implementation and interpretation of further NSAMT work is recommended to reduce overall exploration costs and reduce risk by providing more definition of conductive geological structures. This method appears to have outlined structures with associated conductors quite well. Additional lines, especially in areas of indicated targets, might significantly improve target concepts inexpensively. The author also recommends compiling all surface and drilling geochemical data into a unified database such as GeoInfo Tools or AcQuire for easy and secure storage and importation into GIS programs and mining software.

Once mapping, new NSAMT work, and compilation are complete and analyzed, drill targets can be identified and drill pads and access roads permitted, both with surface owners and regulatory authorities, for a 5,000-m minimum drill program.

Table 26.2. Estimated cost of proposed Phase I exploration program at Guigui.

CONCEPT / ACTIVITY	COST (USD$)
Compilation of historical mapping and sampling with recent geophysical and satellite imagery	$25,000
Completion of detailed mapping and field check of results of compilation (See detail in Table 26.3).	$149,000
Re-processing of geophysical data	$50,000
Selection and prioritization of drill targets, and community relations with surface owners	$20,000
Additional geophysical studies	$150,000
Permitting and surface-access agreements	$50,000
5,000-metre diamond-drill program	$1,000,000
TOTAL	**$1,444,000**

Table 26.3. Detail of detailed mapping and field check costs, Phase I exploration program.

CONCEPT / ACTIVITY	COST (USD$)
30 days Peter Megaw consulting @ $1,500/day	$45,000
60 days Rene Ramirez and helper @ $1,000/day	$60,000
90 days of field support (fuel, food, lodging, etc.) @ $100/day	$9,000
300 surface samples @ $50/sample	$15,000
Airfare and other travel expenses for Megaw (4 round trips)	$5,000
Contingency	$15,000
TOTAL	**$149,000**

Given encouraging results, a Phase II drill program consisting of at least 5,000 m should follow, contingent on results of Phase I and other exploration work.

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