NI43-101 REPORT ON THE TOPIA MINE MINERAL RESOURCE ESTIMATES AS OF JULY 31ST, 2018

Location: Topia, Durango, Mexico

-Prepared for-

Great Panther Silver Limited
1330 – 200 Granville Street
Vancouver, B.C., Canada, V6C 1S4

Prepared By:

Robert F. Brown, P. Eng., Qualified Person

Effective Date: July 31, 2018
Report Date: February 28, 2019

DATE AND SIGNATURE PAGE

This report titled “NI43-101 Report on the Topia Mine Mineral Resource Estimates, as of July 31st, 2018” and dated February 28, 2019 was prepared and signed by the following author:

“Robert F. Brown”

Dated at Vancouver, B.C.

February 28, 2019

Robert F. Brown, P. Eng.

V.P. Exploration, Great Panther Silver Limited

CERTIFICATES OF QUALIFIED PERSONS

I, Robert F. Brown, 3977 Westridge Ave., West Vancouver, B.C., Canada, am the author of this report "NI43-101 Report on the Topia Mine Mineral Resource Estimates, as of July 31st, 2018" prepared for Great Panther Silver Limited., dated February 28, 2019, do hereby certify that;

1. I am a graduate of the Queen's University at Kingston, Ontario (1975) and hold a B. Sc. degree in Geology.
2. I am presently employed as VP Exploration for Great Panther Silver Limited.
3. I have been employed in my profession by various companies since graduation in 1975.
4. I am a registered Professional Engineer with Association of Professional Engineers and Geoscientists of B.C. since 1982.
5. I have read the definitions of "Qualified Person" set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101. My relevant experience includes practice as a geologist in the fields of exploration, resource definition and estimation, and mining on projects at various stages of development (green-fields through to established operation) within Mexico, Canada, and USA. I have worked primarily with gold and silver deposits hosted within various geological environments in both open pit and underground operating environments.
6. I have visited the Topia Mine on numerous occasions since 2004, most recently from June 11th to 16th, 2018.
7. I am the author responsible for all sections of this report.
8. To the best of my knowledge, information and belief, this technical report contains all the scientific and technical information that is required to be disclosed to make this technical report not misleading.
9. I am not independent of Great Panther Silver Limited as defined in Section 1.5 of NI 43-101 as I was appointed VP Exploration in April of 2004, retired at year end 2016, and presently am a Qualified Person and consultant for Great Panther Silver Limited.
10. I have read NI 43-101 and NI 43-101F1 and have prepared the technical report in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical report.

"Robert F. Brown"

Robert F. Brown, P. Eng., B.C.

DATED at Vancouver, British Columbia, this 28th day of February 2019

CONSENT OF QUALIFIED PERSON

Pursuant to Section 8.3 of National Instrument 43-101
Standards of Disclosure for Mineral Projects - ("NI 43-101")

To: British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission (Securities Division)
Manitoba Securities Commission
Ontario Securities Commission
New Brunswick Securities Commission
Nova Scotia Securities Commission
Newfoundland and Labrador, Securities Division, Department of Government Services and Lands
Registrar of Securities, Prince Edward Island

I, Robert F. Brown, P. Eng., consent to the public filing of the Technical Report, titled "NI43-101 Report on the Topia Mine Mineral Resource Estimates, and dated effective July 31, 2018 (the "Technical Report")" by Great Panther Silver Limited (the "Issuer"). I certify that I have read the written disclosure being filed and that it accurately represents the information in the Technical Report.

I also consent to the public filing by the Issuer of extracts from, or a summary of the Technical Report, in the news release issued by the Issuer on January 29, 2019. I certify that I have read said news release filed by the Issuer and that it fairly and accurately represents the information in the Technical Report.

Signed on February 28, 2019

Robert F. Brown, P. Eng.
Association of Professional Engineers and Geoscientists of British Columbia
Qualified Person (QP) for Great Panther Silver Limited

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GLOSSARY

UNITS OF MEASURE

Description	Abbreviation
Centimetre	cm
Grams per tonne	g/t
Hectare	ha
Kilotonnes	kt
Kilometre	km
Metres above sea level	masl
Metre	m
Millimetres	mm
Million tonnes	Mt
Million	M
Ounce	oz
Parts per million	ppm
Tonne	t
Tonnes per cubic metre	t/m^3
Tonnes per day	tpd

ABBREVIATIONS AND ACRONYMS

Description	Abbreviation
Atomic Absorption Spectography	AAS
Canadian Institute of Mining, Metallurgy and Petroleum	CIM
Gold Equivalent	Au eq
Gold	Au
Great Panther Silver Limited	GPR
Inverse Distance Cubed	ID3
Inverse Distance Squared	ID2
Instituto Nacional de Estadistica y Geografia	INEGI
Lead	Pb
MFW Geoscience Inc.	MFW
Minera Mexicana El Rosario, S.A. de C.V	MMR
Minera Villa Seca S.A. de C.V.	MVS
National Instrument NI 43-101	NI 43-101
Net Smelter Return	NSR
Qualified Person	QP
Quality Assurance/Quality Control	QA/QC
Silver Equivalent	Ag eq
Silver	Ag
Specific Gravity	SG
Standard Deviation	Std Dev
Zinc	Zn

1.0 SUMMARY

The purpose of this Technical Report is to support Great Panther Silver Limited's public disclosure related to the ongoing Topia mining and milling operations. This Technical Report conforms to National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). The author, a Qualified Person (QP) for Great Panther Silver Limited (GPR), prepared this Mineral Resource Estimate report on the Topia Mine in Durango State, Mexico.

The Company decided to commence production at the Topia Mine in 2005. The Company did not base this production decision on any feasibility study of mineral reserves demonstrating economic and technical viability of the mines. As a result, there may be increased uncertainty and risks of achieving any level of recovery of minerals from the mines at Topia or the costs of such recovery. As the Topia Mine does not have established reserves, the Company faces higher risks that anticipated rates of production and production costs will not be achieved, each of which risks could have a material adverse impact on the Company's ability to continue to generate anticipated revenues and cash flows to fund operations from the Topia Mine and ultimately the profitability of this operation.

GPR is engaged in the exploration, development, and exploitation of mineral properties, primarily for silver. It is a junior silver producing company with operating silver mines in Mexico. In addition to the Topia Property, GPR owns and operates the Guanajuato Mine Complex located in Guanajuato, Mexico, is advancing towards a decision to restart the Coricancha Mine in Peru with the initiation of a Bulk Sample Program following the completion of a positive Preliminary Economic Assessment in May 2018, and the Company has signed an agreement to acquire all of the issued ordinary shares of gold producer Beadell Resources.

The Topia Property encompasses several small underground silver-gold-lead-zinc mines and a processing plant with a capacity of 220 tonnes per day (tpd) located in and around the town of Topia, Mexico. The deposits in the Topia area have been mined intermittently since the 16th century. GPR purchased the property in 2005, refurbished and re-commissioned the mill, rehabilitated underground workings, and resumed operations. GPR has carried out exploration and continues to explore the property.

During 2017 the mill was operating seven days per week, excepting holidays and weekly maintenance, at an average annual rate of 200tpd treating ores from GPR's mines. Before 2017 ore from other independent operators was both purchased and custom milled. Two separate concentrates were produced, a silver-rich lead concentrate and a zinc concentrate. Plant metallurgical performance was steady in 2017 with metal recoveries of 91.7% for silver, 65.3% for gold, 93.1% for lead, and 94.2% for zinc.

The Topia Mine underground mining operation producing approximately 200tpd (calendar) from nine mines on 52 separate veins using conventional mining methods, including resuing.

Currently, the major assets and facilities associated with the Topia operation are:

- Silver-gold-lead-zinc deposits within the known vein systems.
- Multiple adits (mines) from surface accessing underground infrastructure including drifts, sub-levels, ramps, and raises.
- Access by roads to the mines, mill and tailings facility.
- Mine ventilation, dewatering, and compressed air facilities.
- Conventional and mechanized underground mining equipment.
- A nominal 220tpd flotation concentrator with surface bins, crushing facilities, grinding mills, flotation cells, and a concentrate dewatering circuit.
- Tails thickener and filter press plant, the tailings storage facility, mine workings and associated facilities, coarse ore bin, main ventilation fan, workshops, warehouses, administration buildings, and dry facilities.
- Facilities providing basic infrastructure to the mine, including electric power from the national power grid, heat, water supply from artesian springs, and sewage treatment.
- An on-site laboratory which processes ~60 samples / day for gold, silver, lead, zinc, copper, and iron.

Measured and Indicated Mineral Resources estimated to contain 475.9kt at 461g/t Ag, 1.35g/t Au, 3.87% Pb, and 4.06% Zn plus Inferred Mineral Resources estimated to contain 400.4kt at 434g/t Ag, 1.34g/t Au, 2.86% Pb, and 2.97% Zn. The Mineral Resource Estimate for the Topia Property is summarized below in Table 1.1.

Table 1.1: 2018 Topia Mine Mineral Resource Totals

Classification	Tonnage (kt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Total Measured	310.6	474	1.36	4.02	4.20
Total Indicated	165.3	436	1.34	3.57	3.79
Total M & I	475.9	461	1.35	3.87	4.06
Total Inferred	400.4	434	1.34	2.86	2.97

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Area-Specific vein bulk densities as follows: Argentina - 3.06t/m^3; 1522 - 3.26t/m^3; Durangueno - 3.12t/m^3; El Rosario - 3.00t/m^3; Hormiguera - 2.56t/m^3; La Prieta - 2.85t/m^3; Recompensa - 3.30t/m^3; Animas - 3.02t/m^3; San Miguel - 2.56t/m^3.*
3. *Measured, Indicated, and Inferred Mineral Resources are reported at a cut-off Net Smelter Return (NSR) in US$, include 1522 Mine $193/t, Argentina Mine $172/t, Durangueno Mine $144/t, Recompensa Mine $151/t, Hormiguera Mine $152/t, El Rosario Mine $173/t, La Prieta $235/t, and Animas $149/t, and San Miguel $248/t.*
4. *Totals may not agree due to rounding.*
5. *A minimum mining width of 0.30 metres was used.*
6. *Mineral Resources are estimated using metal prices of US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn; and metallurgical recoveries of 94% for Ag, 60% for Au, 94% for Pb, and 93% for Zn.*
7. *2018 Mineral Resource Ag Eq oz were calculated using 80:1 Ag:Au ratio, and ratios of 1:0.0636 and 1:0.0818 for the price/ounce of silver to price/pound of lead and zinc, respectively. The ratios are reflective of average metal prices for 2018.*

Table 1.2 below shows the veins which are covered by the current Mineral Resource Estimate. Differences from the previous resource estimation include the addition of the Animas Mine and two associated veins, as well as the Argentina West footwall vein. Geological re-interpretation added veins at 1522 and Recompensa Mines.

Table 1.2: Topia Mine Vein Names and Area Classification

Mine	Code	Vein Name	Code	Vein Name
San Miguel	101	San Jorge	102	SJSM Int
	103 Down	Cantarranas	105 Down	SJC Int
	106	San Miguel	108	San Jorge FW
Hormiguera	103 Up	Cantarranas	104	Cantarranas East
	105 Up	SJC Int	107	Cantarranas West Offset
Argentina	201	Argentina Central	202	Argentina East
	203	Argentina West FW	204	Santa Cruz
	205	Argentina West		
1522	301	Don Benito North	302	Don Benito South
	303	Don Benito West	304	Don Benito North FW
	305	Don Benito Intermediate	306	La Dura Splay North
	307	La Dura West Splay South	308	Don Benito West HW
El Rosario	401 Up	El Rosario		
Durangueno	501	San Gregorio	502	Oxi
	503	Oxidada	507	La Higuera
	508	San Pablo	509	San Gregorio North Loop
	510	La Higuera North	511	Link
	401 Down	El Rosario	402	El Rosario FW
La Prieta	601	La Prieta 1	602	La Prieta 2
	603	La Prieta 3	604	La Prieta 4
	605	La Prieta 5	606	La Prieta 6
	608	La Prieta 8	609	La Prieta 9
Recompensa	701	Recompensa Splay	702	Recompensa
	702E	Recompensa East	703	Recompensa HW
	703E	Recompensa HW East	704	Oliva
	704E	Oliva East	705	OR Link
	705E	OR Link East	706	Oliva FW East
Animas	801	Animas	802	Animas HW
	803	Animas HW Splay		

1.1 CONCLUSIONS

As a result of the completion of this Topia Mineral Resource Estimate, the following conclusions have been made:

- The sampling is appropriate for the deposit type and mineralization style. Reasonable and practical steps are taken to ensure security of the samples. Diamond drilling,

logging, and core handling are being carried out in a reasonable fashion, consistent with industry best practice.

- Database validation noted considerable inconsistency in attributes between sources, resulting in ~1,400 samples being left out of the database. Consequently, a master topographic and master sample database were created for both the mine and Exploration personnel.
- The most recent independent audit of the laboratory conducted in January 2013 (Johnson, 2013) reported acceptable practices. Considering laboratory modification in 2018, changes to personnel, irregular use of standard practices (lab cross-check analysis, and insertion of blanks, standards and duplicates) during the reporting period an independent laboratory audit is warranted.
- Assay QA/QC was inconsistent and used Topia laboratory pulp analysis checks by SGS-GTO between December 2014 and March 2017. The Topia laboratory then used various industry certified standards between May 2017 to July 2018. There was no insertion of blanks and duplicates into the underground sample batches. Subsequently changes have been made to bring the assay QA/QC procedures into line with industry norms.
- Reconciliation compares actual production from each mine with estimates from the block model (using a cookie cutter outline of material mined between the recent and past effective dates and cutting it out of the block model). In the four mines reconciled, all showed acceptable trends, notably that tonnage increased from the block model cut-outs to production (added dilution), and that corresponding grades variably decreased.
- Dilution is not used in the Mineral Resource Estimates, other than using a minimum mining width (or minimum wireframe width) of 0.3m, and duly diluting the grade of all samples <0.3m to 0.3m with zero grade waste. Reconciliation gives a crude estimate of dilution by comparing the mined tonnes against the estimated tonnes from the block model, and this helps, along with known geological conditions and mining methods, with constraining the wireframe volumes.
- For Measured plus Indicated, there is a 37% increase in tonnes, a 2% increase in contained silver, 42% increase in contained gold, 18% increase in contained lead and 33% increase in contained zinc as compared with the previous periods estimate. For Inferred, increases of 12% in tonnes, decreases of 18% in contained silver, 7% in contained lead, and 16% in contained zinc, as well as an increase of 15% in contained gold were reported. The increase in tonnes reflects improved smelter terms and lower mining costs in many mines improving the NSR value. Metal grades for silver, lead and zinc decreased reflecting tighter estimation criteria (capping, and search ellipse sizes). Gold grades were little changed between the two estimates. Contained metal reflect increases in tonnes for 2018, which more than make up for lower overall grades. The measured classification grew greatest due to development between 2014 and 2018 in all areas and improved classification confidence.
- Factors affecting the change in the resource are suggested to be related to:
  - Revision and application of different assay caps;
  - Changes to NSR calculation (including metal price changes) methodology which gave higher NSR values in the current Estimation than the previous Estimate;
  - Addition of zones, particularly Argentina footwall, and the 3 Animas zones;
  - Depletion of some areas due to mining.

- There is potential for the future addition of Mineral Resources at Topia through exploration and development. Continued surface and underground exploration by drilling potentially can extend and better define mineral resource estimation.
- Mining is by modified cut and fill (resuing) method.
- Milling, by conventional crushing, grinding, and floatation techniques, at a maximum rate of 220tpd, produces both a silver rich lead concentrate and a zinc concentrate.
- All necessary operating permits are in place, and Topia community liaison is ongoing.

1.2 RECOMMENDATIONS

Recommendations are that:

- Improvements in data entry and data storage are essential and ongoing. Ultimately it is recommended that the Company move data storage from present Excel sheets to Microsoft SQL database with an industry standard front-end loader. This will provide standardized data entry, validation measures, and security.
- Industry normal laboratory QA/QC protocols need to be set-up. These include the regular insertion of blanks, duplicates, and standards into the batches of underground samples, as well as monthly outside independent laboratory checks on pulps of Topia laboratory processed underground samples.
- Exploration and development should continue, and to continue to add to the mineral resource base. GPR plans to continue with on-site geological work at Topia in 2019, including budgeted drilling and associated costs of US$1,342,500. See Table 1.3 below for proposed exploration budget details.

Table 1.3: Topia Mine Exploration Budget 2019

Budget Item	Details	Amount (US$)
Geology	$15,000 / mo. @ 12 mo.	$180,000
Assays	700 @ $15 each	$10,500
Supervision		$30,000
Drilling (surface)	5,000m @ $200/m	$1,000,000
	Subtotal	**$1,220,500**
Contingency (10%)		$122,000
	Total	**$1,342,500**

It is the opinion of the Qualified Person and author of this report that all data used in the generation of the Mineral Resource models and the processes by which these data were collected and stored are acceptable and of industry standard.

It is recommended that GPR continues mining operations at the Topia Mine veins, and that it proceeds with exploration activities in current and other prospective areas to extend the mine life. The 2019 exploration budget of GPR of US$1,342,500 is enough to this end. As well a resumption of mine operations underground drilling in August 2018 will continue throughout 2019.

2.0 INTRODUCTION

Robert Brown, P. Eng., a Qualified Person (QP) and consultant (also the former V.P. Exploration until December 31st, 2016) for Great Panther Silver Limited (GPR or the Company), prepared the Mineral Resource Estimate and completed the Technical Report on the Topia Mine Property (the Property), near Topia, Durango, Mexico. This Technical Report conforms to National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) and, as GPR is a producing issuer in accordance with Toronto Stock Exchange (TSX) and British Columbia Securities Commission (BCSC) regulations, the current Mineral Resource Estimate for this deposit was completed by company personnel.

The Company decided to commence production at the Topia Mine in 2005. The Company did not base this production decision on any feasibility study of mineral reserves demonstrating economic and technical viability of the mines. As a result, there may be increased uncertainty and risks of achieving any level of recovery of minerals from the mines at Topia or the costs of such recovery. As the Topia Mine does not have established reserves, the Company faces higher risks that anticipated rates of production and production costs will not be achieved, each of which risks could have a material adverse impact on the Company's ability to continue to generate anticipated revenues and cash flows to fund operations from the Topia Mine and ultimately the profitability of this operation.

Robert F. Brown has visited the Topia Mine on a regular basis from early 2005, including a trip from June 11th to 16th, 2018. The property visit consisted of underground inspections of new development faces, active stopes, underground drill sites, underground core logs and core review, and a complete review of all assay level plans from all the active mines. This visit included visits to the Argentina, El Rosario, Recompensa, 1522, Animas, and Durangueno Mines with the mine geologist. Conversations are held regularly with the laboratory manager and mine manager regarding current issues. In writing this report, the author had access to GPR information in the form of technical reports, production records, financial reports, land tenure documents, drawings, assays, and drilling data.

Discussions were held with personnel from GPR:

- Jose Armendariz, Topia Mine General Manager
- Brian Peer, V.P. Operations, Mexico
- Samuel Mah, VP Corporate Development
- Claudio Santiago Canseco, Topia Exploration Geologist
- Jose Angel Medina, Topia Laboratory Manager
- Jose Salvador de la Tejera, GPR Exploration Manager – Mexico
- Ledion Bushi, Operations Analyst.

Other sources of information are listed at the end of this report in Section 27, References. Robert Brown, P. Eng. and Q.P., was responsible for all sections of this report.

Great Panther's current activities are focused on the mining of precious metals from its two wholly-owned mining operations in Mexico: the Guanajuato Mine Complex, which includes the San Ignacio satellite mine, and the Topia Mine in Durango. In December 2017, the Company acquired a 100% interest in the Coricancha Mine Complex in the central Andes of Peru. The Company is advancing towards a decision to restart the Coricancha Mine in Peru with the initiation of a Bulk Sample Program following the completion of a positive Preliminary Economic Assessment in May 2018. Lastly, the Company signed an agreement (Company news release September 23, 2018) to acquire all the issued ordinary shares of gold producer Beadell Resources, the 100% owner of the Tucano Gold Mine in Brazil.

Total 2017 metal production from GPR's operations was 1,982,685oz Ag, 22,501oz Au, 1,291t Pb, and 1,758t Zn (Company news release January 11, 2018). The Topia Mine is the subject of this report.

The Topia mine and mill complex comprises several small-scale operating mines along with a conventional flotation concentrator. Mining in the district dates to the early 16th century. GPR acquired the property in 2005 and owns a 100% interest through Minera Mexicana El Rosario, S.A. de C.V. (MMR). The principal metals of interest are gold, silver, lead and zinc. Mineralization occurs in narrow, near-vertical fissure veins, and comprises lead and zinc sulphides with accessory pyrite, in a gangue of predominantly quartz, carbonates, and barite. In 2017, Topia produced 595,720oz Ag, 999oz Au, 1,291t Pb and 1,758t Zn.

Ore is milled from several localities within GPR's holdings in the area, as well as on a toll basis for an independent local operator. At the time of the visit to the operations, the plant was running at a rate of 200tpd. Mining is conducted by conventional and mechanized cut and fill methods and includes resuing in narrow sections. Ore is often hand-sorted before shipment to the mill.

Currently, the major assets and facilities associated with the Topia operation are:

- Silver-gold-lead-zinc deposits within the known vein systems.
- Multiple adits (mines) from surface accessing underground infrastructure including drifts, sub-levels, ramps, and raises.
- Access by roads to the mines, mill and tailings facility.
- Mine ventilation, dewatering, and compressed air facilities.
- Conventional and mechanized underground mining equipment.
- A nominal 220tpd flotation concentrator with surface bins, crushing facilities, grinding mills, flotation cells, and a concentrate dewatering circuit.
- Tails thickener and filter press plant, the tailings storage facility, mine workings and associated facilities, coarse ore bin, main ventilation fan, workshops, warehouses, administration buildings, and dry facilities.
- Facilities providing basic infrastructure to the mine, including electric power from the national power grid, heat, water supply from artesian springs, and sewage treatment.

- An on-site laboratory which processes ~60 samples / day for gold, silver, lead, zinc, copper, and iron.

3.0 RELIANCE ON OTHER EXPERTS

Robert F. Brown, P. Eng., Q.P. and consultant for GPR, wrote this Mineral Resource Estimate report on the Topia Mine.

RB Abogados of Mexico City, Mexico, the Mexican legal representatives of GPR has researched (October 2018) property title and mineral rights for the Topia Property and confirms title in the name of Minera Mexicana El Rosario S.A. de C.V. (100% owned Mexican subsidiary of Great Panther Silver Limited). The author also confirms that bi-annual taxes and annual assessment filing are in order and have been paid.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Property is situated in and surrounding the town of Topia, Durango State, Mexico, approximately 235 km northwest of the City of Durango, and 100 km northeast of Culiacan, Sinaloa (Figure 4.1). The property comprises 53 contiguous concessions plus seven outlier concessions that cover approximately 6,710ha (Figure 4.2 and Figure 4.3). The Topia mill and office complex is located at approximately 25° 12' 54" N latitude and 106° 34' 20" W longitude.

GPR holds a 100% interest in the property through its wholly owned Mexican subsidiary, Minera Mexicana el Rosario, S.A. de C.V. (MMR). The concessions that comprise the GPR holdings at Topia are shown in Figure 4.2 and a list of the tenures is provided in Table 4.1. In February of 2005, GPR exercised its option to acquire a 100% interest in the Topia exploitation concessions. Upon signing of the formal purchase agreement on June 30, 2005, GPR made payments totalling approximately US$540,000 to the vendor and to two divisions of Peñoles, these latter payments being part of the assumed debt. A further payment of US$300,000 was made to the vendor in August of 2006 and regular payments were made to Peñoles with each shipment of concentrate to pay down the debt. The balance (approximately US$1 million) of the US$2.65 million purchase price was paid out of the proceeds of production. In addition to the claims, the option to purchase agreement included the mill, buildings, offices, houses, and workers' quarters as well as some underground mining equipment and surface vehicles. There is no underlying royalty on the property.

Environmental protection regulations in Mexico are described as similar to those in North America. Permits are required for new mine operations, specifically, to operate a concentration plant as well as for the hydraulic discharge of tailings and changes to grandfathered projects. There are four government departments that deal with and regulate such affairs.

All permits are in place for the operation of the Topia Mine including the environmental, tailings, and explosives permits.

Table 4.1: List of Topia Mine Mineral Claim Tenures

Title No.	Mineral Title Name	Size (ha)	Expiry Date
184675	UNIFICACION AMP EL SALTO	2.496	9 de noviembre de 2039
163048	LA ABUNDANCIA	40	15 de agosto de 2028
166904	EL SOCORRO	30	24 de julio de 2030
176292	TOPIA UNO	220.3144	25 de agosto de 2035
177243	LA ESPERANZA	182.3215	16 de marzo de 2036
178635	AMP LA ABUNDANCIA	95	10 de agosto de 2036
180781	LA CONCHA Y ANEXAS	13.9913	14 de julio de 2037
180782	EL CANGURO	64	14 de julio de 2037
180784	AMPLIACION OLIVA	22.7349	14 de julio de 2037
180785	DON RAFAEL	100.5081	14 de julio de 2037
180788	DON EDUARDO	28.0084	14 de julio de 2037

Title No.	Mineral Title Name	Size (ha)	Expiry Date
180789	AUSTRALIA	50	14 de julio de 2037
180790	EL DURANGUEÑO	50	14 de julio de 2037
180791	SAN ANDRES	10	14 de julio de 2037
180792	NVA. ARGENTINA Y CARRIZO	30	14 de julio de 2037
180793	AMP EL CARMEN	15.0711	14 de julio de 2037
180794	LA DURA Y ANEXAS	23.7507	14 de julio de 2037
180795	OCCIDENTAL ESTE	10	14 de julio de 2037
180796	SALTAN RANAS	14	14 de julio de 2037
180797	ZONA BUENA	2.9347	14 de julio de 2037
180798	AMP EL JARILLAL	32.08	14 de julio de 2037
180799	DON ENRIQUE	44.49	14 de julio de 2037
180800	EL JARILLAL	18.521	14 de julio de 2037
181012	UNION DEL PUEBLO	6	13 de agosto de 2037
181013	AMP LAS ANIMAS	4.8909	13 de agosto de 2037
181014	LA COLORADA	3.4894	13 de agosto de 2037
181015	EL VASCO	36.7721	13 de agosto de 2037
181016	LA JICARA	51.6279	13 de agosto de 2037
181017	ARGENTINA NORTE	14	13 de agosto de 2037
181018	AMP LA MARQUESA	30.6947	13 de agosto de 2037
181019	SOCAVON VICTORIAS	7.1343	13 de agosto de 2037
181020	CANTA RANAS	18.8668	13 de agosto de 2037
181162	PROSPERIDAD	21.918	8 de septiembre de 2037
181163	SANTA BIBIANA	5	8 de septiembre de 2037
181164	C.E. SCHAUFFLER PONIENTE	6	8 de septiembre de 2037
181165	JULIAN RIVERA	7.9629	8 de septiembre de 2037
181166	EL CARMEN	8.471	8 de septiembre de 2037
181167	ANIMAS	8	8 de septiembre de 2037
181168	VALENCIA Y OLIVA	11	8 de septiembre de 2037
181169	LA ARGENTINA	19.1912	8 de septiembre de 2037
185869	SANTO NIÑO	7.0224	13 de diciembre de 2039
188602	LA ABUNDANCIA SEIS	62.3293	27 de noviembre de 2040
222533	TOPIA II	4826.2686	20 de julio de 2054
222534	TOPIA II FRACC 1	0.6584	20 de julio de 2054
222535	TOPIA II FRACC 2	2	20 de julio de 2054
222536	TOPIA II FRACC 3	0.0897	20 de julio de 2054
222537	TOPIA II FRACC 4	6.5249	20 de julio de 2054
222538	TOPIA II FRACC 5	0.0126	20 de julio de 2054
222539	TOPIA II FRACC 6	0.042	20 de julio de 2054
222540	TOPIA II FRACC 7	3.7804	20 de julio de 2054
222541	TOPIA II FRACC 8	2.4102	20 de julio de 2054
222542	TOPIA II FRACC 9	0.2703	20 de julio de 2054
222543	TOPIA II FRACC 10	0.1723	20 de julio de 2054
222544	TOPIA II FRACC 11	0.9657	20 de julio de 2054
222545	TOPIA II FRACC 12	0.4743	20 de julio de 2054
222546	TOPIA II FRACC 13	0.4585	20 de julio de 2054
214597	ARCO IRIS	100.442	1 de octubre de 2051
232175	LA CUÑITA	216.8542	1 de julio de 2058
154137	LA PRIETA	94.0873	25 de enero de 2021

Title No.	Mineral Title Name	Size (ha)	Expiry Date
245157	LA MARQUESA	24.1228	8 de noviembre de 2066
	Total Size	**6,710.2272**	

Figure 4.1: Topia Mine Area Location Map

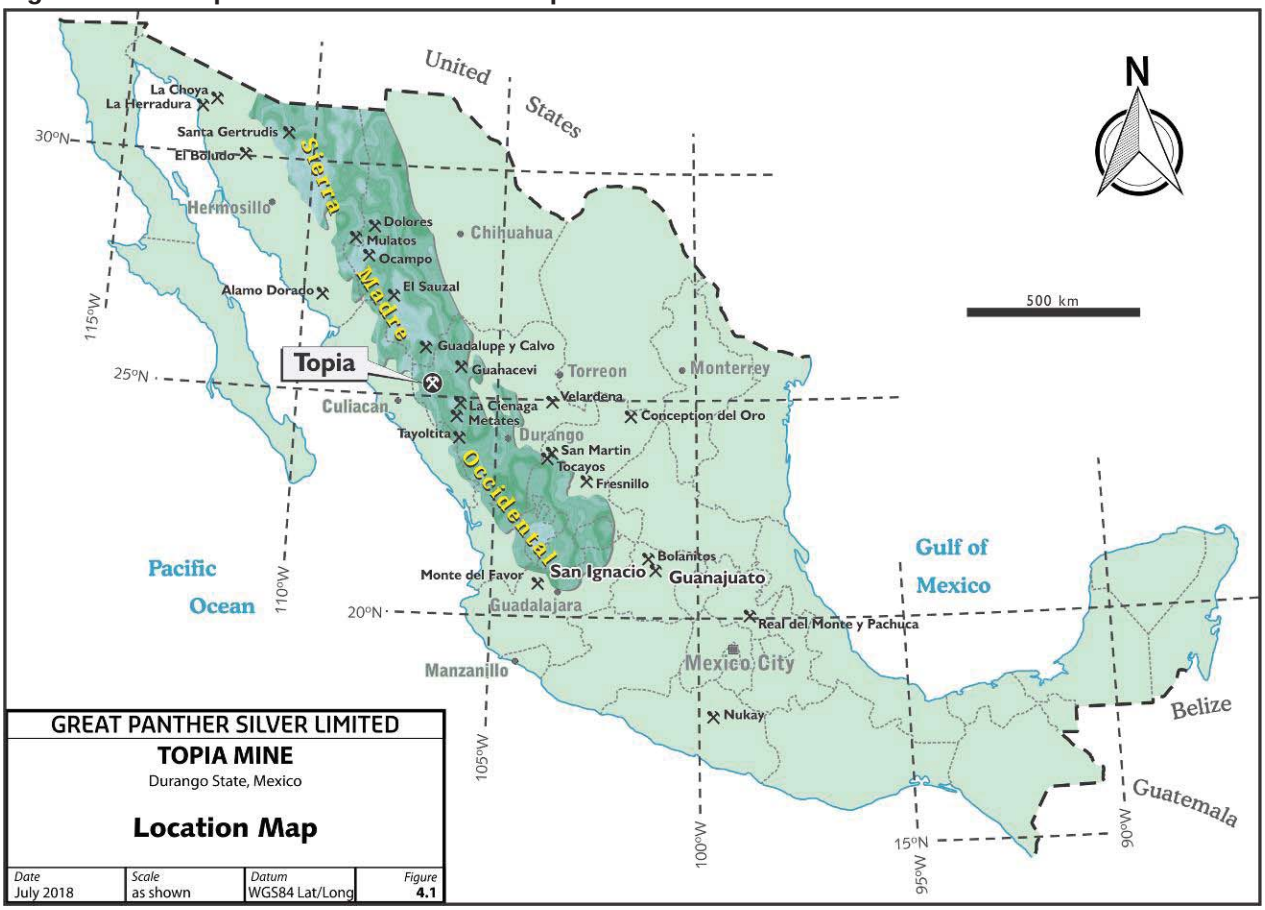


Figure 4.2: Topia Mine Concessions Mineral Claim Map

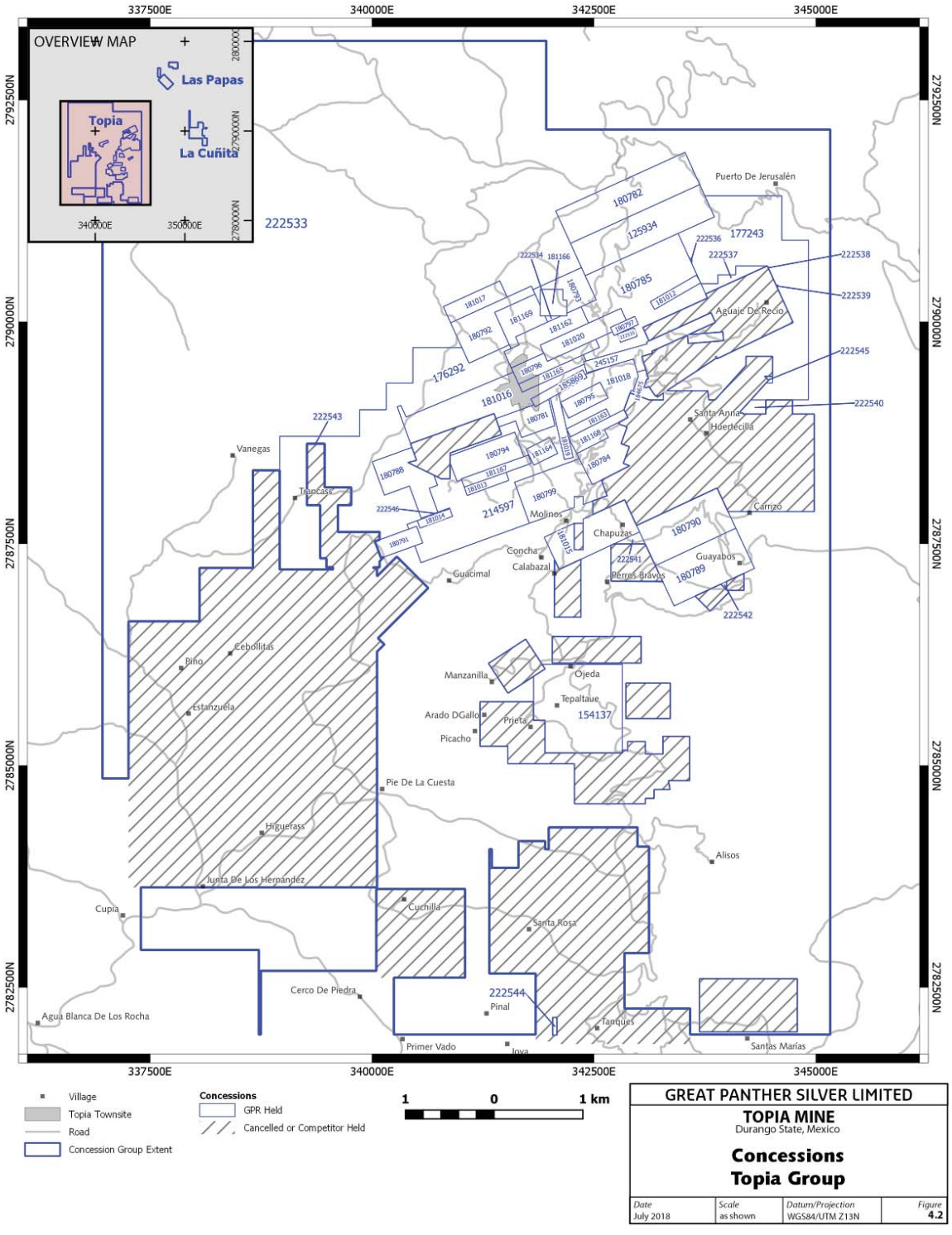
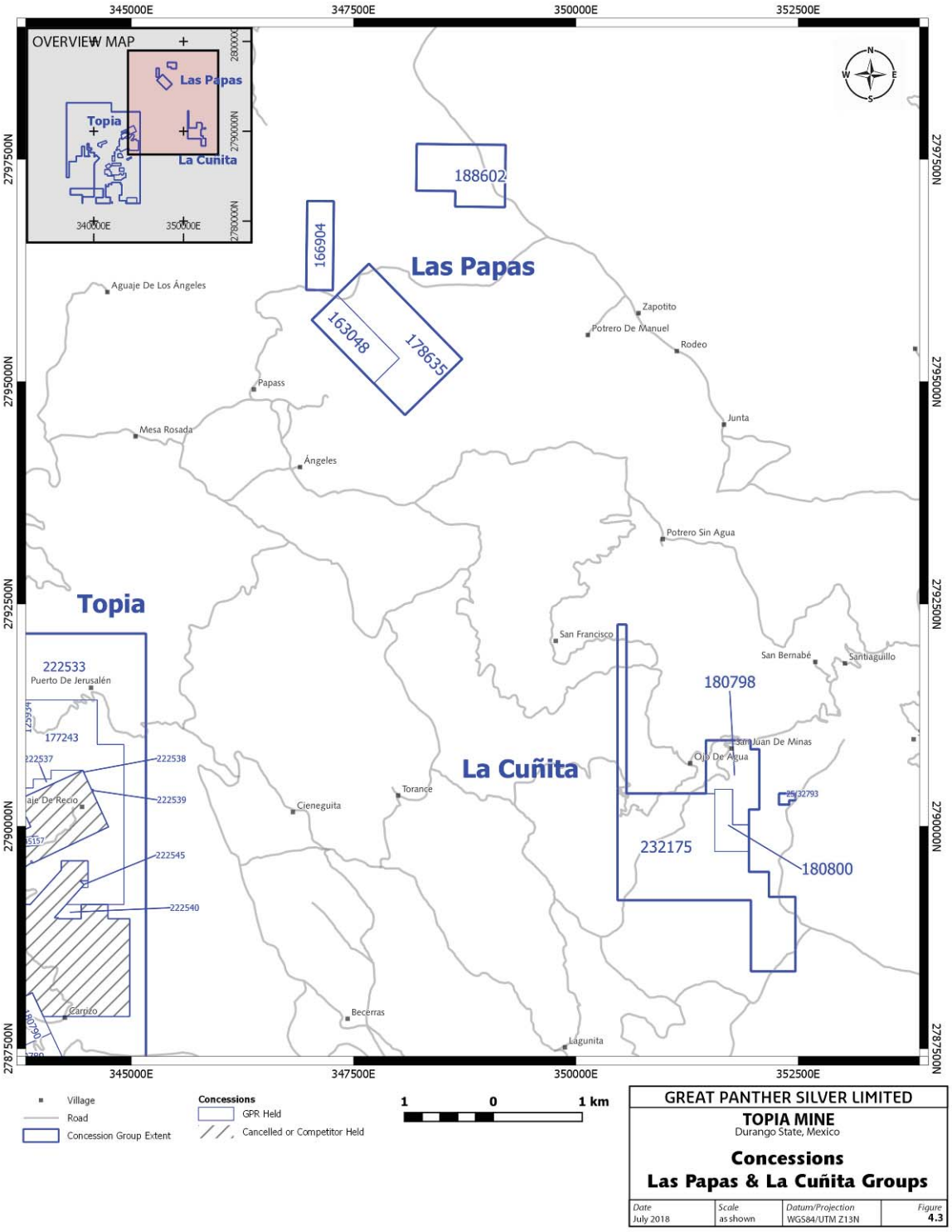


Figure 4.3: Topia Mine Outlier Concession Mineral Claim Map



5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

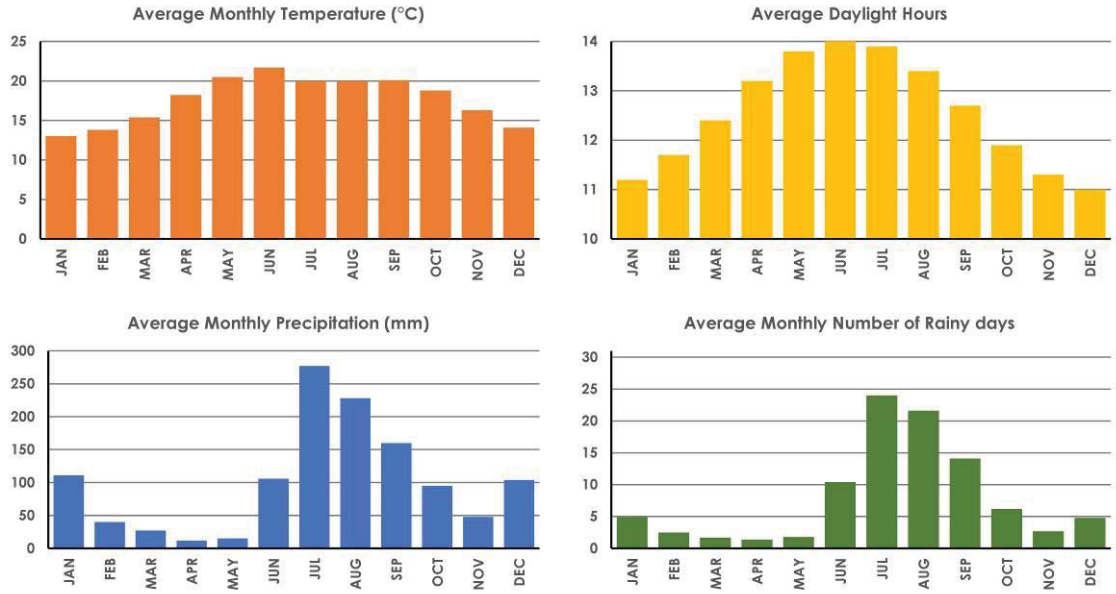
Topia is situated in the Sierra Madre Mountains in the State of Durango, Mexico. Ground access is provided via 350 km of paved and gravel road from the city of Durango (Figure 5.1). Travel is north from Durango via Highway 23 to Santiago Papasquiaro, and west to Topia via Highway 36. Total travel time is reported to be eight hours. Small aircraft flights from Culiacan and Durango service the town of Topia daily.

Figure 5.1: Detailed Location Map

5.2 CLIMATE

The climate is generally dry for most of the year, with a wet season from July to September, during which time rainfall averages 665mm (Figure 5.2). The annual mean temperature is 17.7°C, but winters can be cool with frosts and light snow, particularly at higher elevations. Exploration and mining work can be conducted year-round uninterrupted by weather.

Figure 5.2: Historical Topia TownshipClimate Data[1][2]



Notes:

1. *Source: www.weatherbase.com website*
2. *Data based on 22-51 years of record*

5.3 LOCAL RESOURCES

Topia is a relatively small town of approximately 3,500 people, although many have worked in the mines and there is a good local source of labour. The town is serviced by road, air service, power grid, and telephone (Figure 5.3). There are restaurants, hotels, and medical services but no bank or ATM's. GPR maintains a satellite telecommunication system for telephone and internet. Water is available from numerous springs, streams, and adits.

5.4 INFRASTRUCTURE

The surface and underground infrastructure at the Topia Mine (Figure 5.3) includes the following:

- Silver-gold-lead-zinc deposits within the known vein systems.
- Multiple adits (mines) from surface accessing underground infrastructure including drifts, sub-levels, ramps, and raises.
- Access by roads to the mines, mill and tailings facility.
- Mine ventilation, dewatering, and compressed air facilities.
- Conventional and mechanized underground mining equipment.
- A nominal 220tpd flotation concentrator with surface bins, crushing facilities, grinding mills, flotation cells, and a concentrate dewatering circuit.

- Tails thickener and filter press plant, the tailings storage facility, mine workings and associated facilities, coarse ore bin, main ventilation fan, workshops, warehouses, administration buildings, and dry facilities.
- Facilities providing basic infrastructure to the mine, including electric power from the national power grid, heat, water supply from artesian springs, and sewage treatment.
- An on-site laboratory which processes ~60 samples / day for gold, silver, lead, zinc, copper, and iron.

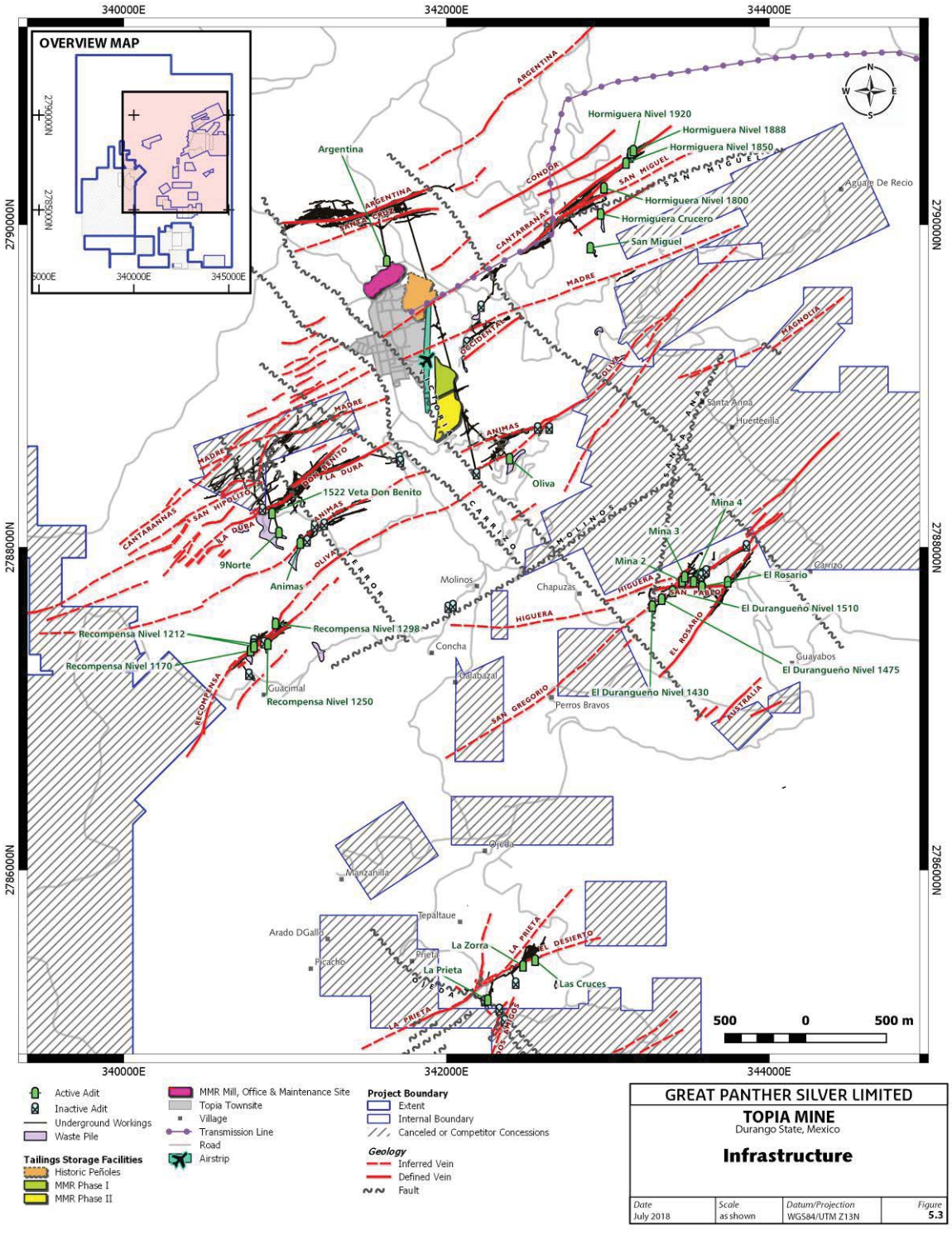
5.5 PHYSIOGRAPHY

The Topia area lies within the Sierra Madre Occidental, in a remote region of rugged terrain. Hillsides are quite steep with elevations ranging from 600masl up to over 2,000masl.

Vegetation consists of thickly inter-grown bush, comprising mesquite, prickly pear, napal, and agave, giving way to pine and oak forest at higher elevations.

Land use in the area is predominantly mining, forestry and agriculture.

Figure 5.3: Topia Mine Infrastructure



6.0 HISTORY

The following was taken from a technical report by Orequest, dated November 2003.

> *"Mining in the region pre-dates European colonization and was first reported in the Topia area in 1538. Orequest (2003) reports that the Spanish first visited the area in 1569, although the website http://www.e-local.gob.mx states that explorers had visited as early as 1532. The first mineral concessions were granted at Topia in the early 1600's. The village was twice destroyed by attacks from indigenous tribes; in 1616 by the Tepahuanos and again in 1776 by the Cocoyames.*
>
> *Production from Topia during the period spanning the latter portion of the 19th century until the Mexican Revolution in 1910 was reportedly between $10 million and $20 million (Loucks, 1988; quoted by Orequest, 2003). This is estimated to have been the equivalent of between 15 and 30 million oz silver plus gold, lead and zinc.*
>
> *Compania Minera Peñoles, S.A. (Peñoles) acquired the mines in the district in 1944 and completed the construction of a flotation plant in 1951. Peñoles operated at Topia from 1951 to 1990 when the operations were shut down due to low metal prices and labour difficulties. Mario Macias, then the mine manager for Peñoles, acquired the Topia property and formed Compania Minera de Canelas y Topia to carry on operations. Production for the period 1952 to 1999 totalled 17.6 million oz of silver and 18,500 oz of gold."*

In early 2005, prior to Great Panther's exercising its option to purchase the Topia Mine, the vendor was sporadically operating the plant at roughly 50tpd, processing ore grading 710 g/t silver, 5.5% lead, and 6.0% zinc from three levels of the 1522 area of the Property. During the second half of 2005, after purchasing the Property, GPR re-furbished and re-commissioned the mill and has gradually increased the throughput at the plant to the current 220tpd. Production from the Topia Mines in 2017 graded 396g/t Ag, 0.97g/t Au, 2.74% Pb, and 3.52% Zn from 53,207 tonnes mined. Many of the Topia mines have been rehabilitated, re-accessing the Argentina, La Dura, Don Benito, El Rosario, San Gregorio, San Miguel, San Jorge, La Prieta, Cantarranas, Animas, Oliva, Las Higueras, San Pablo, Oxi, Oxidada, and Recompensa veins. GPR re-sampled and analysed parts of various veins as part of a due diligence effort to confirm sampling and analysis previously carried out by Peñoles. This re-sampling, combined with the sampling carried out by Peñoles, forms a partial basis for the current Mineral Resource Estimate.

Since 2006, underground exploration and production channel samples have been collected by GPR from all stopes and development drifts. This work includes much new development along the Argentina, San Gregorio, El Rosario, Cantarranas, Don Benito, Las Higueras, San Pablo, Oxi, Oxidada, La Prieta, Animas, and Recompensa veins. Exploration diamond drilling programs have targeted the various vein structures. This exploration and development work form the foundation for the estimate presented in this report.

In mid 2018 the Topia Mine operated nine separate mines accessing 52 veins and vein splays. Total production by GPR from the Topia Mine (see Table 6.1) includes 609,439t ore milled for 6,498,827oz Ag, 7,977oz Au, 12,997t Pb, and 17,579t Zn.

Table 6.1: Topia Mine Production Figures

Year	Tonnes[1]	Silver ounces	Gold ounces	Lead Tonnes	Zinc Tonnes
2006[2]	22,445	208,004	406	627	742
2007	33,605	279,441	643	735	847
2008	35,318	366,199	812	876	1,074
2009	30,045	437,079	403	871	1,057
2010	38,281	515,101	597	1,092	1,358
2011	46,968	535,881	500	941	1,315
2012	56,098	555,710	573	962	1,477
2013	62,063	631,235	651	1,116	1,673
2014	67,387	667,635	555	1,154	1,675
2015	65,387	677,967	614	1,198	1,850
2016	55,836	574,031	612	1,034	1,496
2017	53,745	595,720	999	1,291	1,758
2018[3]	42,261	454,824	612	1,100	1,257
Total	609,439	6,498,827	7,977	12,997	17,579

Notes

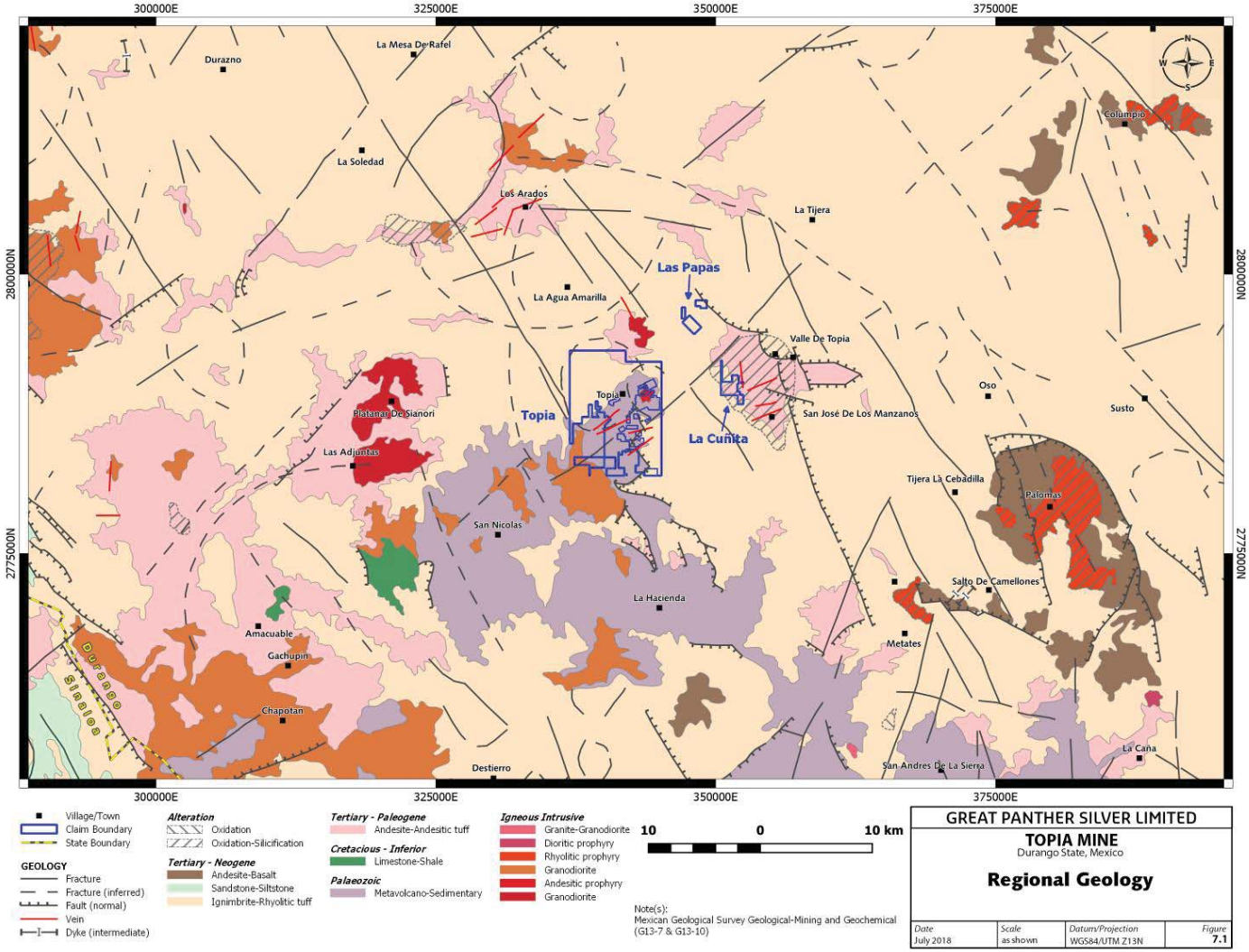
1. *Tonnes milled to GPR account, not including tolled ore*
2. *Production re-started by GPR in December 2005*
3. *2018 production January to July*

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The Topia district lies within the Sierra Madre Occidental (SMO), a north-northwest-trending belt of Cenozoic-age rocks extending from the US border southwards to approximately 21° N latitude (see Figure 7.1). The belt measures roughly 1,200km long by 200km to 300km wide. Rocks within the SMO comprise Eocene to Miocene age flows and tuffs of basaltic to rhyolitic composition with related intrusive bodies. The volcanism was associated with subduction of the Farallon Plate and resulted in accumulations of lava and tuffs in the order of one-kilometre thickness. Later Basin and Range extensional tectonism related to the opening of the Gulf of California has resulted in block faulting, uplift, and erosion. Strata within the belt occupy a broad antiform, longitudinally transected by regional scale faults.

Figure 7.1: Regional Geology Map



7.2 LOCAL AND PROPERTY GEOLOGY

The Topia area is underlain by a kilometre-thick package of Cretaceous and Tertiary andesite lavas and pyroclastic rocks which are, in turn, overlain by younger rhyolitic flows and pyroclastic rocks (see Figure 7.1). The andesitic rocks are described as dark purple-grey augite andesite tuffs, agglomerates and flows, striking southeast and dipping at 25° to the south west. This sequence has been divided into three members, which are, from oldest to youngest, the Santa Ana, El Carmen and Los Hornos (Figure 7.2). Unconformably overlying these rocks is a 600m thick carapace of flat-lying rhyolite flows and ignimbrites. These felsic rocks form high cliffs to the north of the town of Topia.

A granodiorite stock of Eocene age is exposed 5 km southwest of Topia. It is accompanied by a propylitic aureole extending outwards for 4km, however, it is not considered to be related to the mineralization in the region. A smaller quartz monzonite intrusive body, measuring 50m by 100m, is situated near the Animas vein. This body is hypothesized to be related to a larger, deeper intrusion that is responsible for the epithermal mineralization.

The volcanic sequence is transected by numerous faults, some of which host the mineralized veins in the district. There are two sets of faults: one which strikes 320° to 340° and dips northeast, the other striking 50° to 70° and dipping steeply southeast to vertically (Figure 7.1 and Figure 7.2). The northeast-trending faults are the principal host structures for precious and base metal mineralization. The north-northwest-striking faults are observed to disrupt the vein-bearing structures and are sometimes host to post-ore diabase and rhyolite dikes. These dikes are thought to be feeders to the overlying rhyolitic units.

The mineral deposits in the Topia camp are hosted in steeply-dipping east-northeast-striking fault zones (Figure 7.2). These fault zones are typically narrow, ranging in width from cm- to decimetre-scale. The widest faults are in the Argentina system, where they are observed to be up to three metres wide and accompanied by gouge and intense clay alteration. They are broadly curvi-planar in shape both along strike and down dip, but straight over short, stope-length distances.

Displacements across these structures are thought by mine geologists to be in the order of 50m to 100m, in a normal sense, with some rotational component. The faults branch and anastomose in a classic brittle fracture pattern commonly seen in narrow vein settings. Ore shoots pinch and swell along the trends, but the host structures themselves are observed to be very continuous. The main structures have been traced for as long as four kilometres.

The principal vein systems, from north to south, are the Argentina, Cantarranas / San Jorge / San Miguel, Madre, Don Benito / La Dura, El Ochenta, Animas, Recompensa / Oliva, Las Higueras, Oxi, Oxidada, San Gregorio, San Pablo, El Rosario and La Prieta (Figure 7.2, Figure 7.3, and Figure 7.4). GPR is currently or has recently carried out exploration and development work or is mining on most of these structures.

Figure 7.2: Property Geology Map

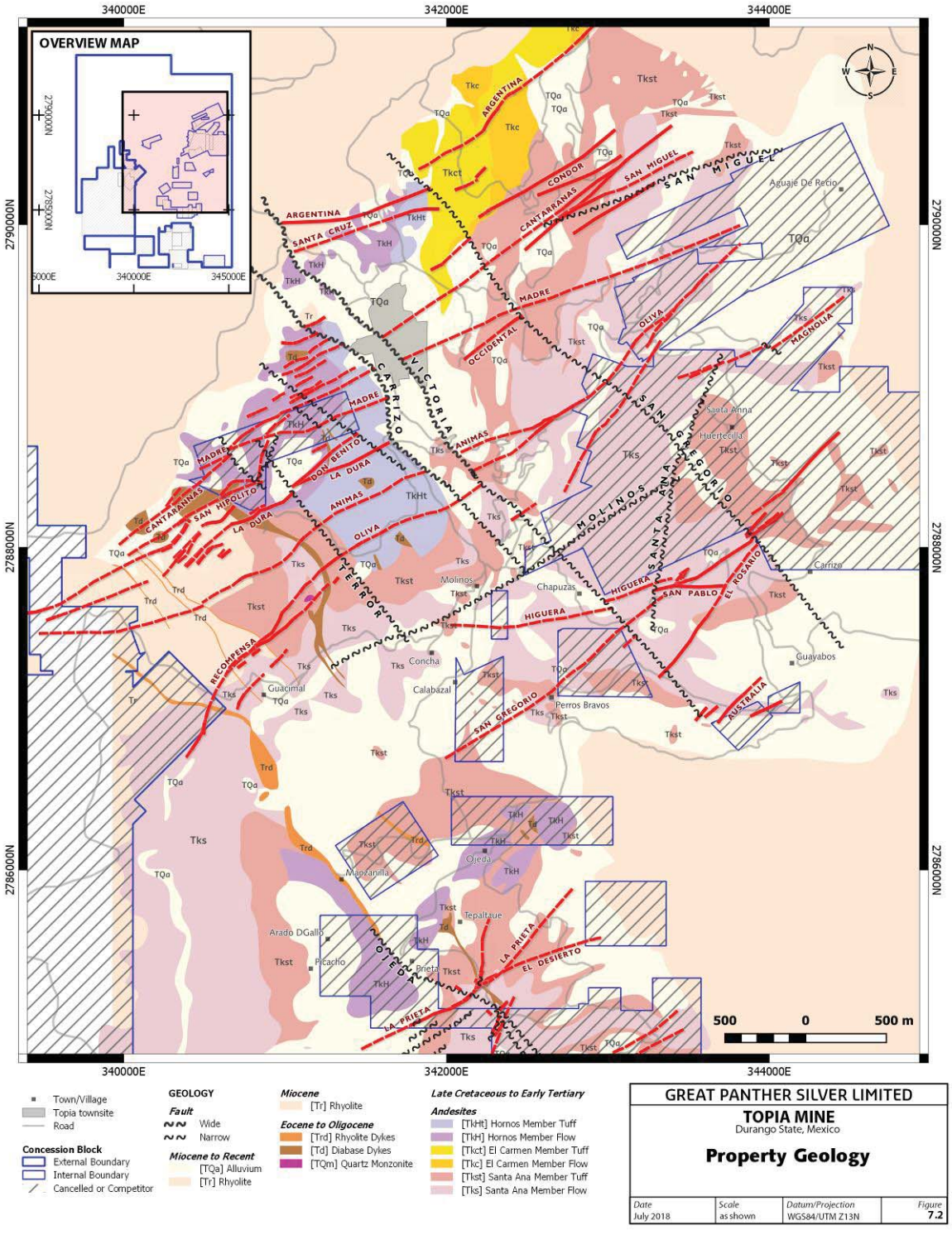


Figure 7.3: Detail Property Geology, 1522 Area

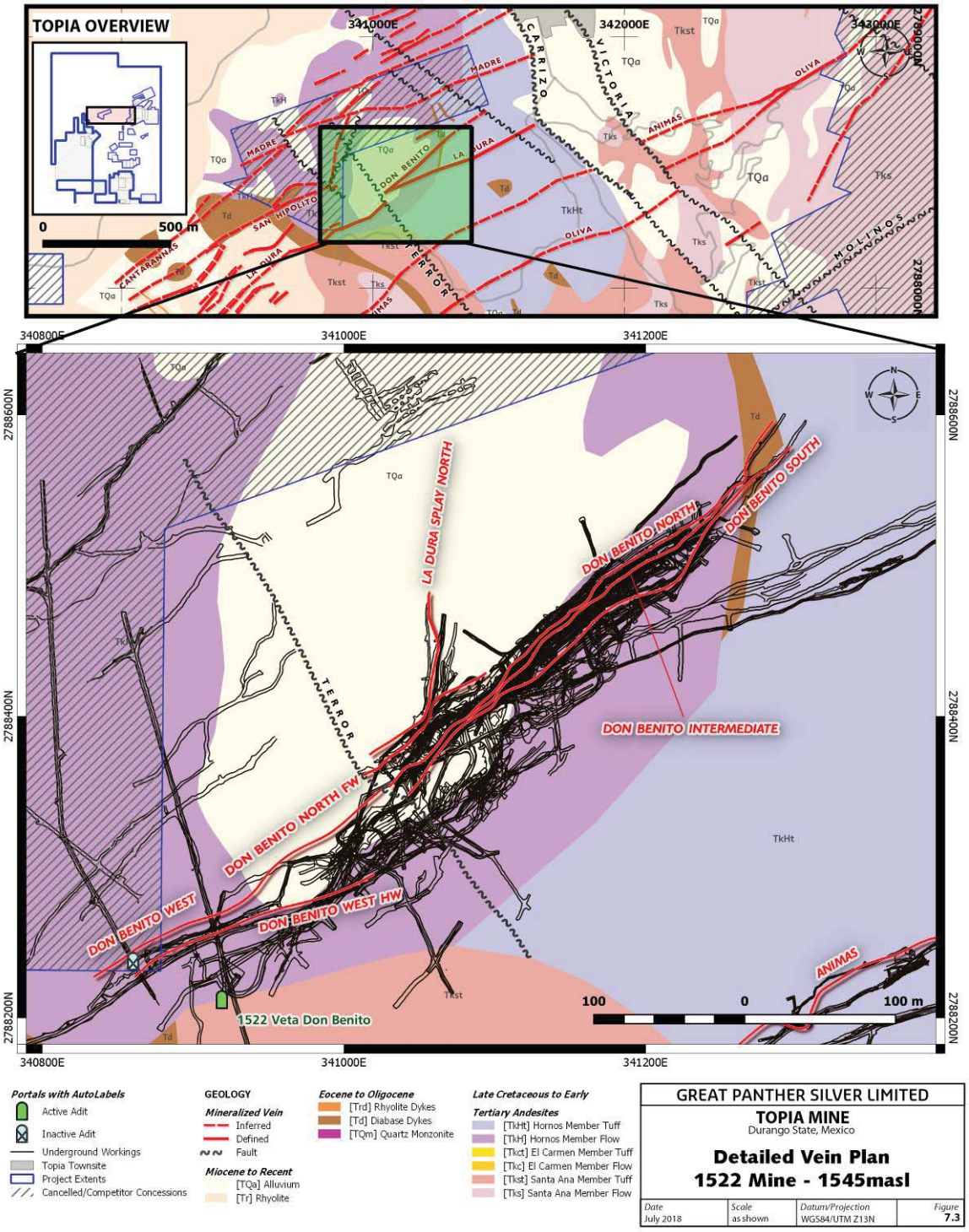
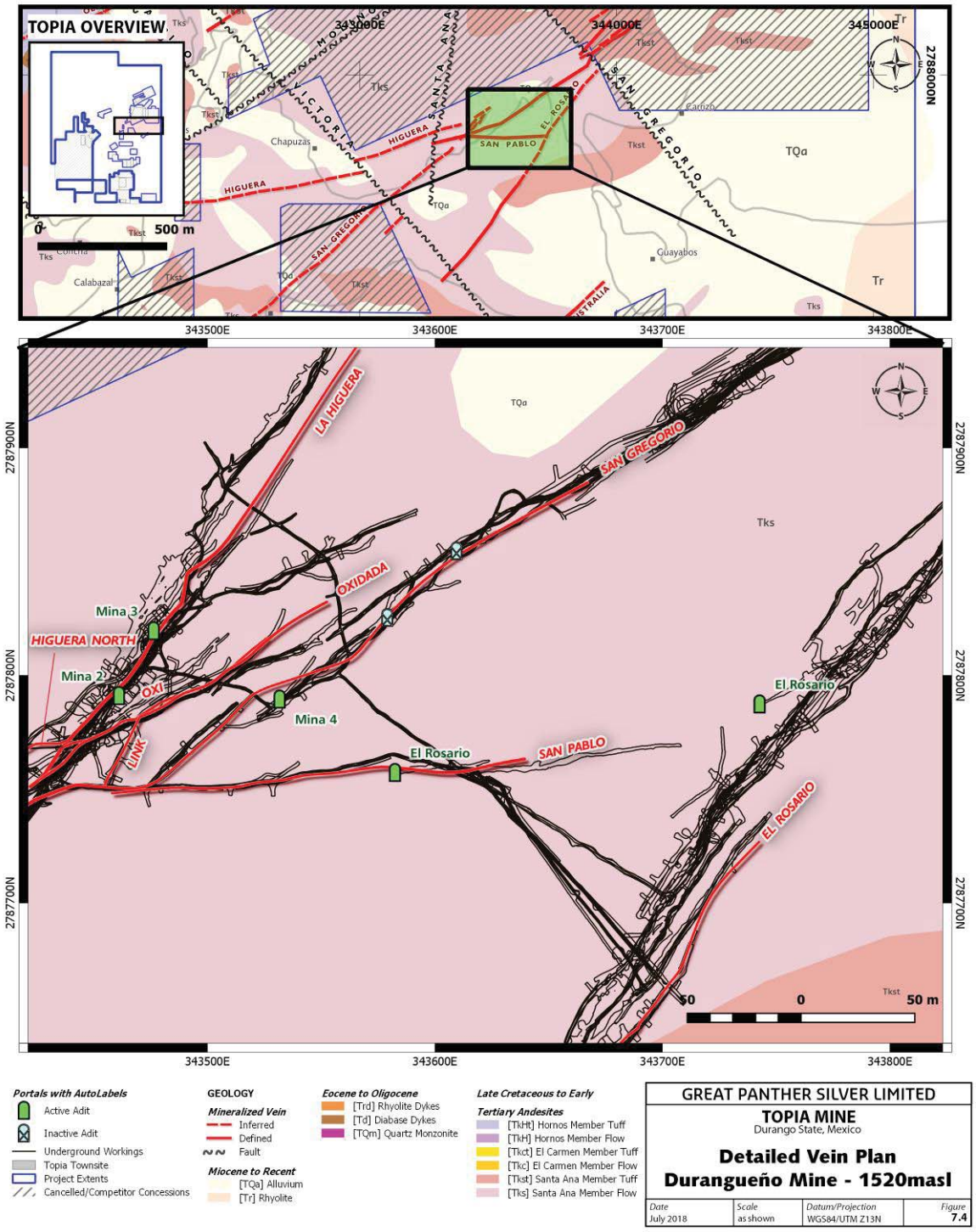


Figure 7.4: Detail Property Geology, Durangueno Area



7.3 MINERALIZATION

Mineralization within the veins consists mainly of massive galena, sphalerite, with lesser pyrite, arsenopyrite, and tetrahedrite in a gangue of quartz, barite, and calcite. The vein constituents often include minor adularia and sericite, and the wider fault zones contain significant proportions of clay as both gouge and alteration products. Ore minerals occur as cavity-filling masses, comprising millimetre-scaled crystals of galena and sphalerite. Some observations on metal zoning include, the lower parts of the mines are reported to contain slightly higher copper-gold content than at higher elevations; high silver grades are associated with higher proportions of base metals; the mines are located over an extreme range of elevations (1,000 – 1,800masl) on the Property and that each has vertical limits of mineralization from 100-200m with the deeper seated and more southern mines tending to have more arsenopyrite and the more western mines having more pyrite.

The veins range in thickness from a few centimetres to two metres. They are very continuous along strike, with the main veins extending more than 4km. The Madre vein has been mined for 3.5km and the Cantarranas vein for 2.4km. Many of the other veins have been mined intermittently over similar strike lengths. Vertically, the veins grade downward to barren coarse-grained quartz-rich filling and upwards to barren cherty quartz-calcite-barite vein filling. The main host rock is andesite of the Lower Volcanic Series, which is usually competent, making for generally good ground conditions within the mine. In wider sections, with greater clay content and/or zones of structural complexity, ground conditions are less favourable.

8.0 DEPOSIT TYPE

The mineral deposits at Topia are adularia-sericite-type, silver-rich, polymetallic epithermal veins. Silver-gold-lead-zinc mineralization is found in fissure-filling veins along sub-parallel faults cutting andesitic flows, breccias, and pyroclastic rocks. Deposits are usually characterized by multiple veins in areas measuring 10 to 15km^2 with individual veins generally less than 2m in thickness but up to 3-4km in length.

Epithermal systems, as the name suggests, form near surface, usually in association with hot springs, and at depths in the order of a few hundred metres. These deposits are commonly formed during the later stages of igneous events and are derived from hydrothermal activity generated from intrusive bodies. Typically, epithermal vein mineralization is initiated several million years after the end of the volcanism that produced the rocks that host the hydrothermal systems and a few million years after the intrusion of the closely associated plutonic rocks. Circulating thermal waters, rising up through fissures, eventually reach the “boiling level” where the hydrostatic pressure is low enough to allow boiling to occur. This can impart a limit to the vertical extent of the mineralization as the boiling and deposition of minerals is confined to a relatively narrow band of thermal and hydrostatic conditions. Mineralization at Topia is reported to occur within a zone spanning 100m to 200m in elevation, which is consistent with the epithermal model. MMR geologists have, in many instances, been able to define the lower limit of mineralization, and this has been applied as a primary constraint to the Mineral Resource Estimate.

The silver to gold ratio in these deposits is generally more than 300:1 and production from these deposit types averages about 400g/t silver.

9.0 EXPLORATION

Exploration work carried out at Topia by GPR (operating as MMR) has comprised diamond drilling, chip sampling, mapping and underground development. Prior to exercising their option in 2005, GPR conducted a surface diamond drill program consisting of 7,437m in 30 NQ-size (4.76 cm) holes. The program was carried out on five localities: Las Trancas (on the Cantarranas vein), Don Benito, Hormiguera, Argentina, and El Rosario (Figure 10.1). Additional details on the drilling programs are provided in Section 10 of this report.

MMR carried out refurbishment and sampling of underground drifts through 2005 and 2006. A total of 779 samples were taken from the Dos Amigos, La Dura, El Rosario, Cantarranas, and Madre veins. The sampling was successful in confirming earlier sampling work carried out by Peñoles prior to GPR acquiring the property.

In 2007, surface and underground drilling was conducted at Madre, Argentina, La Dura/Don Benito, Animas, Cantarranas, Oliva, and Recompensa. Total drilling was reportedly 7,422m of NQ core in 33 holes. Underground drift development was carried out on Argentina, La Dura/Don Benito, Animas, Cantarranas, Oliva, Recompensa, and San Gregorio.

Drilling and underground development continued throughout 2008, with the completion of 80m of drifting at San Gregorio and 55m at El Rosario. MMR also conducted development along the Argentina vein, ramping down from the 1 level to the 2 level, and driving along the vein for approximately 200m westward to the Victoria fault (western limit of mineralization). Drilling in 2008 totalled 3,586.9m of NQ and A core in 35 holes.

Drift, sub-level, and raise development was carried out at San Gregorio, El Rosario, and Don Benito in 2009. Diamond drilling was conducted from surface and underground at Don Benito, Hormiguera, San Gregorio, and Recompensa. Forty-eight (48) NQ and A core diamond holes totalling 3,825.9m were drilled.

For 2010, GPR drilled 8,992.1m from surface to test the extent of the known veins at Recompensa, Cantarranas, La Prieta, Madre, San Gregorio, and El Rosario.

The surface drill program for 2011 (1,759m) started late in the year and ended in mid-2012 (5,499.4m). The drilling was focused on expanding the El Rosario mineral resource to the west, filling in the various Durangueno Mine area veins (Higueras, Oxi, Oxidada, San Gregorio, and San Pablo), as well as some drilling at Recompensa and Argentina. No surface drilling took place in 2013 to 2016. In 2017 an 18 hole, 2,771m core drilling surface program focused on the deep potential on the Argentina vein to guide development, and on the southwest extension of the El Rosario vein 300-500m south west of present

development. As well, in 2017, 6 underground holes were drilled totalling 261.1m. One underground hole (36m) was completed at Topia before the July 31, 2018 effective date.

The underground drilling from 2006 to 2018 has always focused on short term production-oriented issues in all the mining areas at Topia. Typically, these include interpretation of fault offsets, gaining a better understanding of multiple splays from the primary veins, and a better understanding of grade / width of veins before exploitation.

Throughout GPR's ownership of the Topia Mine, exploration geologists have been investigating and rock sampling new and old occurrences, re-sampling in old tunnels accessing veins, and sampling veins on various 3rd party mineral title properties in the immediate vicinity of the Topia Mine mill.

10.0 DRILLING

As previously stated in Section 9.0 of this report, GPR has been diamond drilling at Topia since 2004. Table 10.1 summarizes the drilling completed up to the close of the database on July 31, 2018. Drill-hole target areas are shown in Figure 10.1.

Table 10.1: Summary of GPR Diamond Drilling at Topia Mine

Year	No. Surface Holes	Metres	No. Underground Holes	Metres	Total No. Holes	Total Metres
2004	30	7,437.3	0	-	**30**	**7,437.3**
2005	0	-	0	-	**0**	**-**
2006	4	649.0	10	637.3	**14**	**1,286.3**
2007	34	7,887.1	6	406.4	**40**	**8,293.5**
2008	7	2,234.5	28	1,352.4	**35**	**3,586.9**
2009	23	2,680.5	25	1,144.9	**48**	**3,825.4**
2010	58	8,813.1	52	2,472.9	**110**	**11,285.9**
2011	10	1,759.1	58	2,774.7	**68**	**4,533.7**
2012	40	5,499.4	70	2,725.4	**110**	**8,224.8**
2013	1	72.0	43	2,282.7	**44**	**2,354.7**
2014	0	-	36	1,862.1	**36**	**1,862.1**
2015	0	-	0	-	**0**	**-**
2016	0	-	0	-	**0**	**-**
2017	18	2,771.3	6	261.1	**24**	**3,032.4**
2018	0	-	1	36	**1**	**36**
Totals	**225**	**39,803.2**	**334**	**15,955.9**	**559**	**55,759.1**

Notes:

1. **Drilling to July 31, 2018*

Drill programs were planned and supervised by personnel employed by GPR, its subsidiaries and/or contractors. The surface drilling programs conducted from 2004 to 2009 were carried out under contract by BDW Drilling of Guadalajara, Mexico. The 2010 surface drilling was carried out by HD Drilling of San Luis de Potosi, Mexico. The 2011/12 program was carried out by Major Drilling of Hermosillo, Sonora. Underground drill programs were carried out by Topia mine drillers. Core logging and collar surveys were carried out by GPR personnel, as well. All surface holes are NQ-size, although some surface holes were collared as HQ (6.35cm dia.) and reduced to NQ. Underground drill holes are “A” core size, drilled with a portable diesel-powered hydraulic drilling rig call a “Sandy”. In each of 2013 and 2014, one underground HQ drainage hole was completed at the Argentina Mine by Servicios Drilling of Mexico. In 2013 and 2014 no surface drilling was completed at Topia Mine. The 2017 surface drilling using NQ core was carried out by G4 Drilling of Hermosillo, Mexico.

In 2014 underground drilling totalled 1,862.1m in 36 holes. There were six underground holes totalling 261.1m drilled in 2017, and no underground drilling completed in 2015, 2016. One underground hole

(36m) was completed before the July 31, 2018 effective date but is not present in the database. Underground drilling re-commenced, on a regular basis, in July 2018.

Drill-hole locations and collar orientations were established by the project geologists and surveyors. Down-hole surveys were initially conducted using a Tropari instrument but more recently, a Flexit has been used. The present standard is for down-hole surveys to be taken every 50m. It should be noted that for some of the earlier holes (2004), the spacing between surveys was significantly broader, and in some cases, only the collar and toe of the holes were surveyed.

The protocol for core handling and logging is as follows:

- Core is delivered to the core shack daily.
- Core boxes are laid out, labelled with from and to distances, and footage measurements are checked and converted to metres.
- Geotechnical logging of RQD and recovery is carried out.
- Core is logged for lithology and marked for sampling.
- Samples are split using a rock saw and the remaining core is stored for future reference.

Logs, sample intervals, and surveys were entered into a Microsoft SQL database using a proprietal logger. The database is managed and validated by GPR exploration staff at the Rayas office in Guanajuato, with the assistance of exploration personnel based in Vancouver.

The core logging and sampling is carried out within a fenced compound at the mill site. Access to the core is restricted to GPR employees or contractors. The core shack and sampling facility are adequately equipped and reasonably secure. Core recovery in those sections reviewed by the author appeared to be good, and the sampling looked to have been done correctly.

A drill-hole location plan map, current as at the end of July 2018 is presented as Figure 10.1.

Sections showing the steep southerly dip of the various veins are referenced on Figure 10.1 and shown as Figure 10.2 to Figure 10.11. Figure 10.2 shows underground development, surface and underground drilling on the San Miguel and San Jorge veins (in production in the San Miguel Mine). Figure 10.3 shows underground development, surface and underground drilling on the Cantarannas vein (in production in the Hormiguera Mine). Figure 10.4 shows the underground development, surface and underground drilling, on conjugate veins of Argentina vein being exploited in the Argentina Mine. Figure 10.5 shows underground development, surface and underground drilling at the conjugate Don Benito veins (in production in the 1522 Mine). Figure 10.6 shows underground development, surface and underground drilling along the El Rosario vein (both in production at the El Rosario Mine). Figure 10.7 shows underground development and underground drilling along the Las Higueras, Oxi, Oxidada, San Gregorio, and San Pablo veins (all in production at the Durangueno Mine). Figure 10.8 shows underground development and underground drilling along the conjugate La Prieta veins (all in production at the La

Prieta Mine). Figure 10.9 shows underground development and underground drilling along the Recompensa and Oliva veins, west side, (all in production at the Recompensa Mine). Figure 10.10 shows underground development and underground drilling along the Recompensa and Oliva veins, east side (all in production at the Recompensa Mine). Lastly, Figure 10.11 shows underground development and underground drilling along the Animas veins (all in production at the Animas Mine.

Figure 10.1: Topia Mine Drill-Hole Location Plan Map

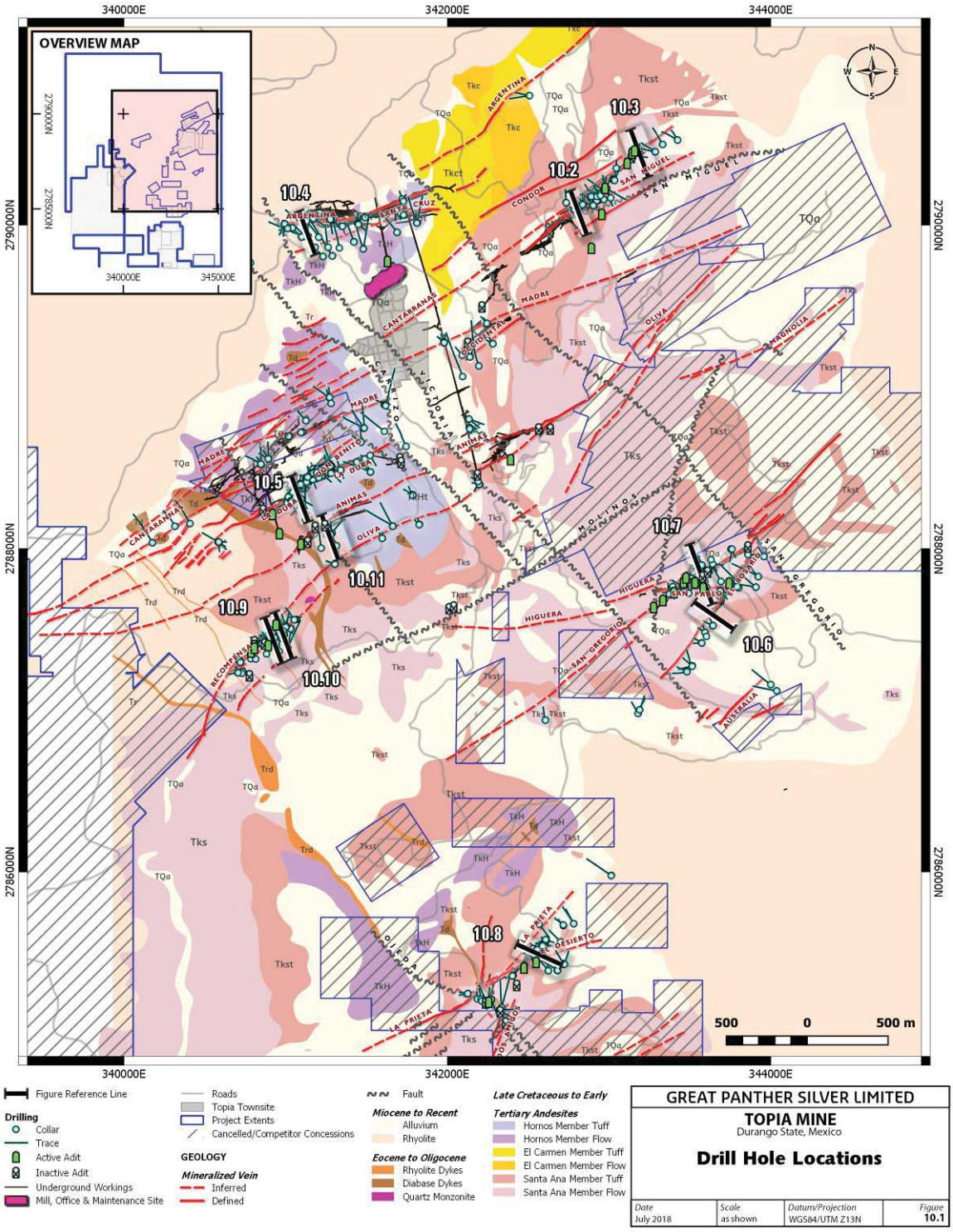


Figure 10.2: Cross-Section of the San Miguel veins, San Miguel Mine

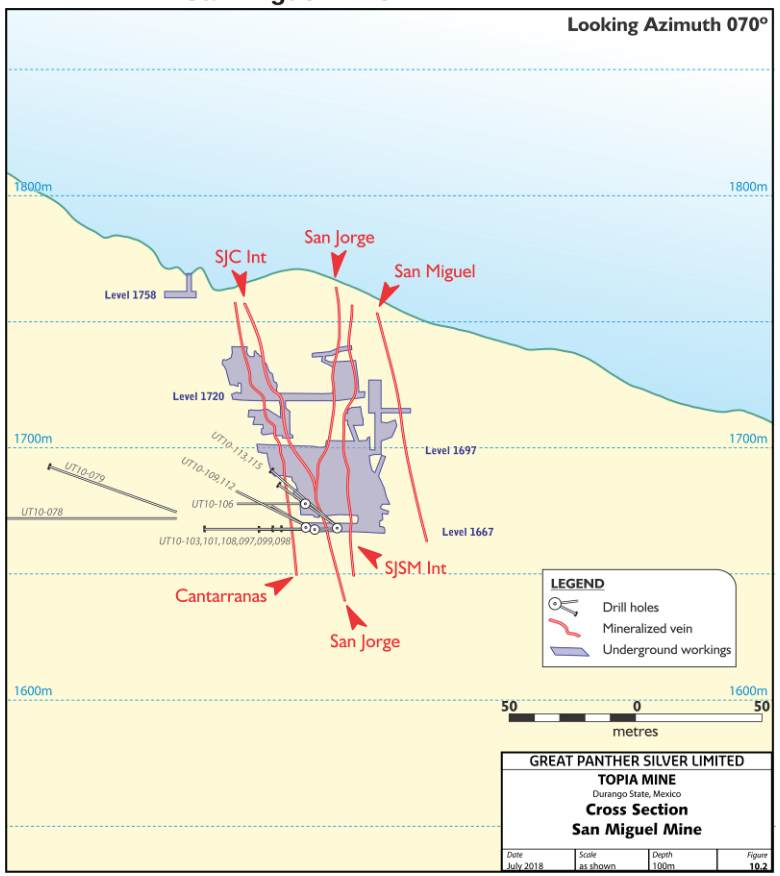


Figure 10.3: Cross-Section of the Cantarannas veins, Hormiguera Mine

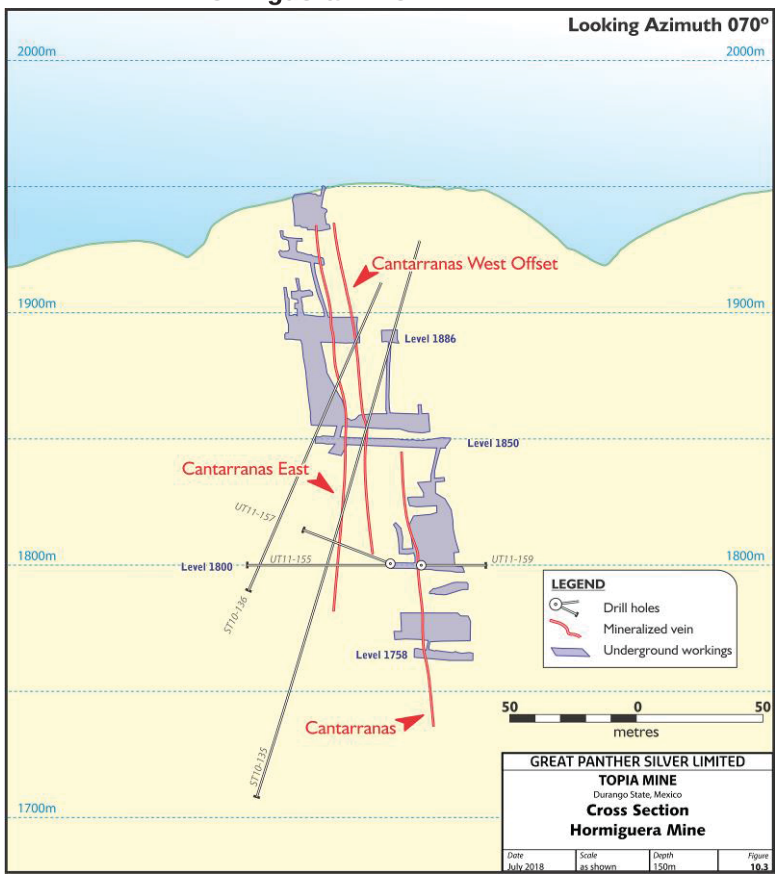


Figure 10.4: Cross Section of the Argentina veins, Argentina Mine

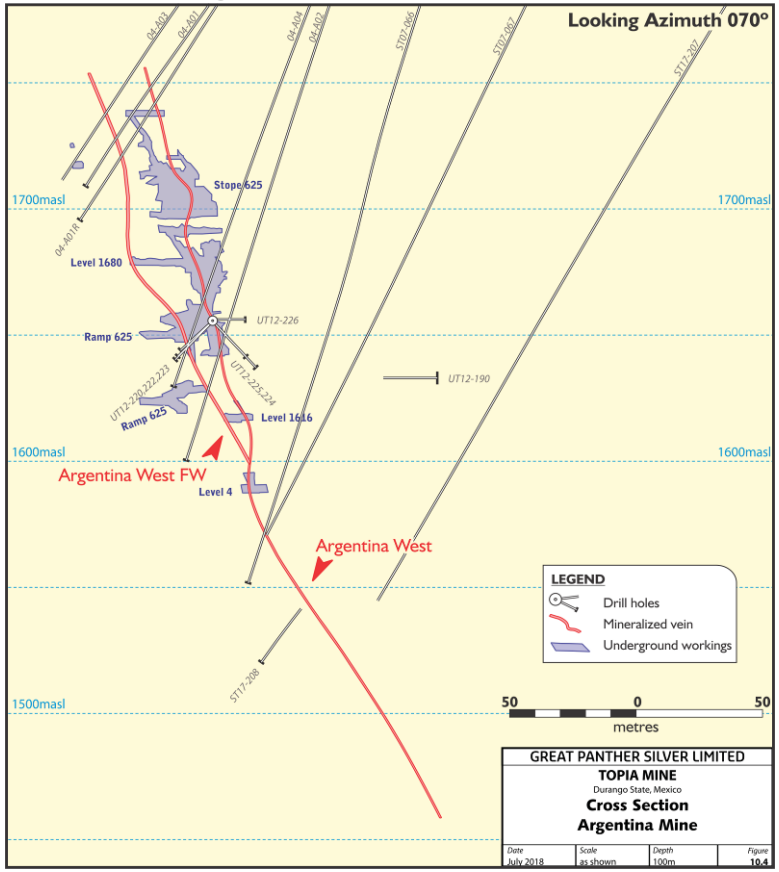


Figure 10.5: Cross Section of the Don Benito veins, 1522 Mine

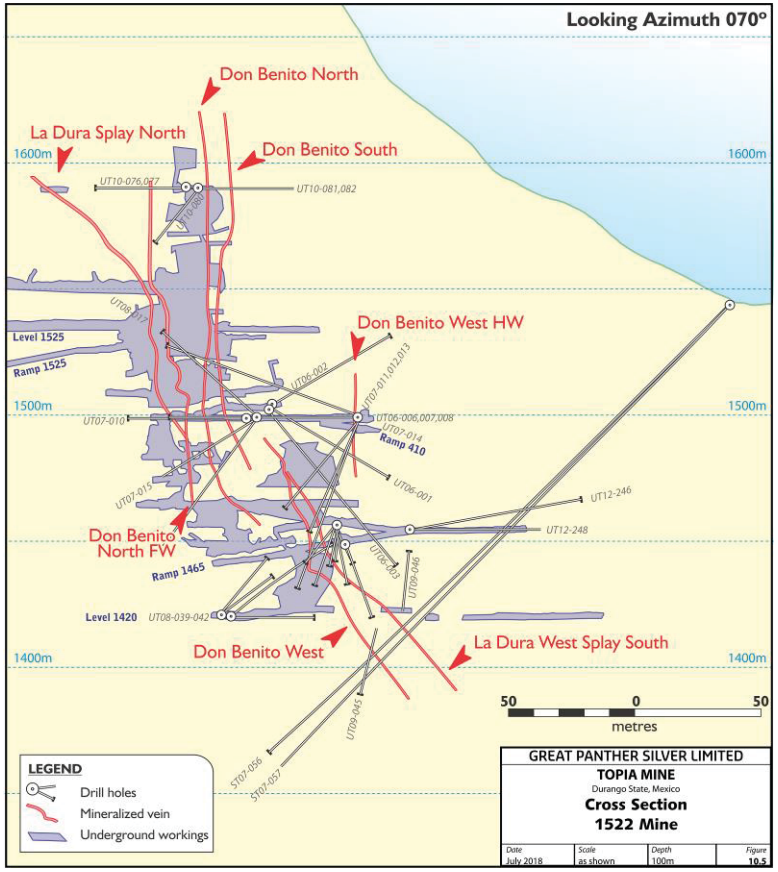


Figure 10.6: Cross Section of the El Rosario veins, El Rosario Mine

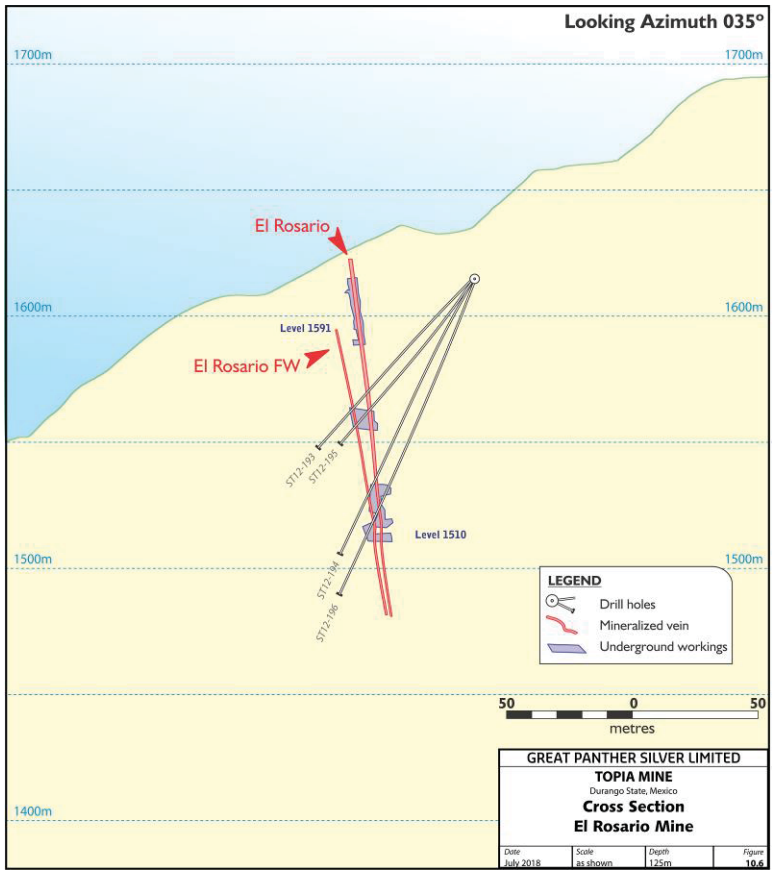


Figure 10.7: Cross Section of the Higuera, San Gregorio, Oxi, Oxidada, and San Pablo veins, Durangueno Mine

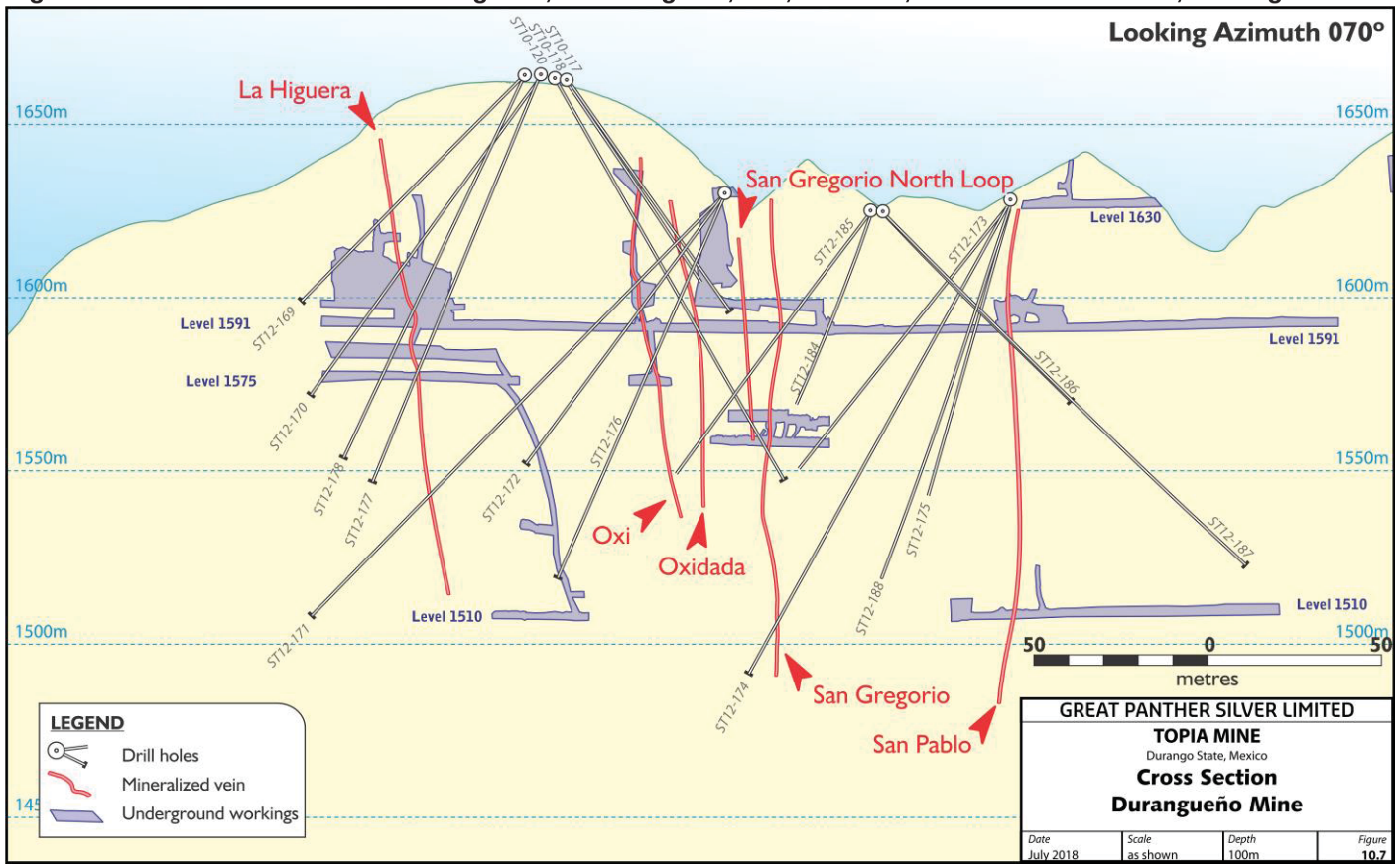


Figure 10.8: Cross Section of the La Prieta veins, La Prieta Mine

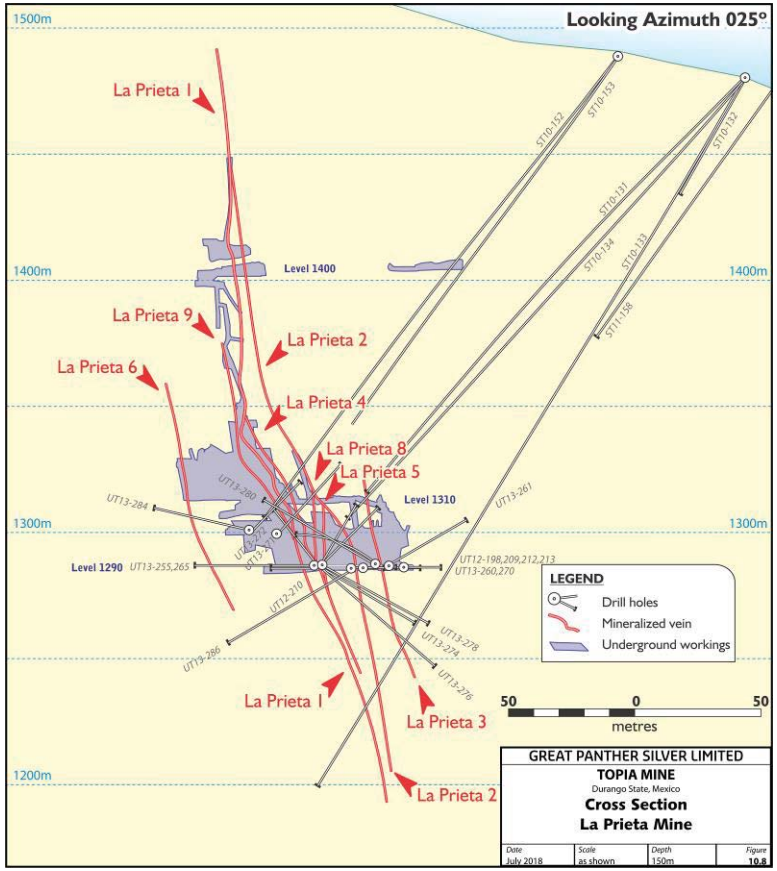


Figure 10.9: Cross Section of the Recompensa and Oliva veins (West side), Recompensa Mine

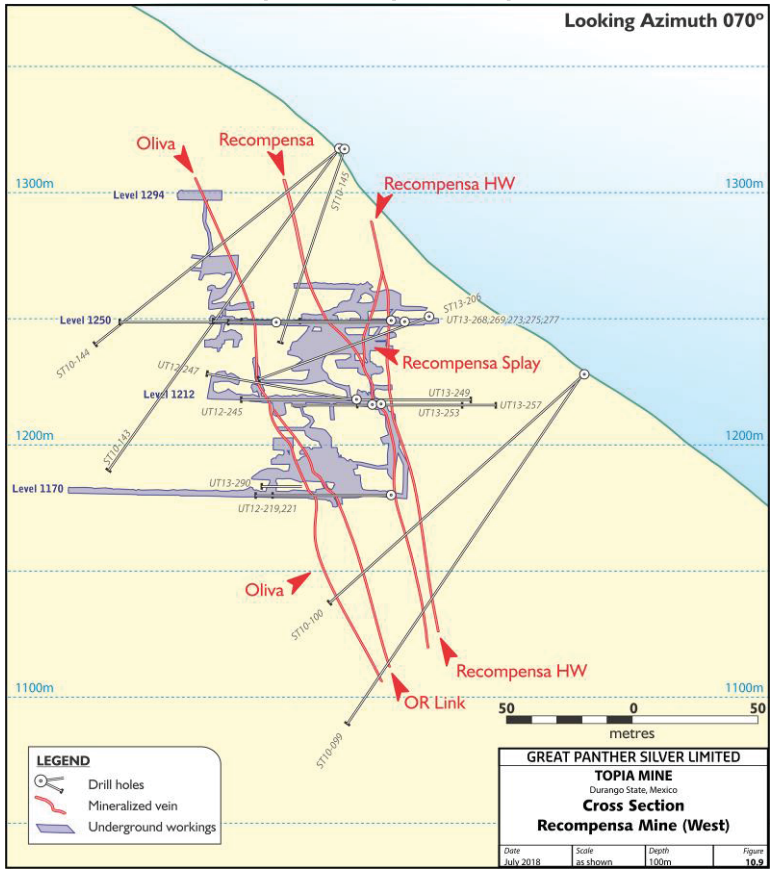


Figure 10.10: Cross Section of the Recompensa and Oliva veins (East side), Recompensa Mine

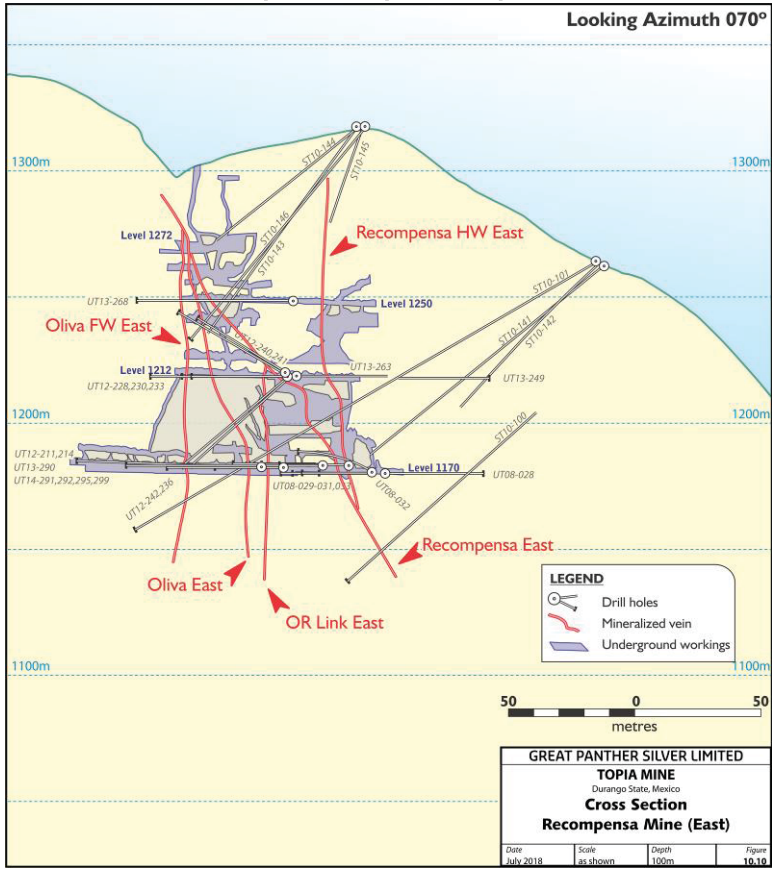
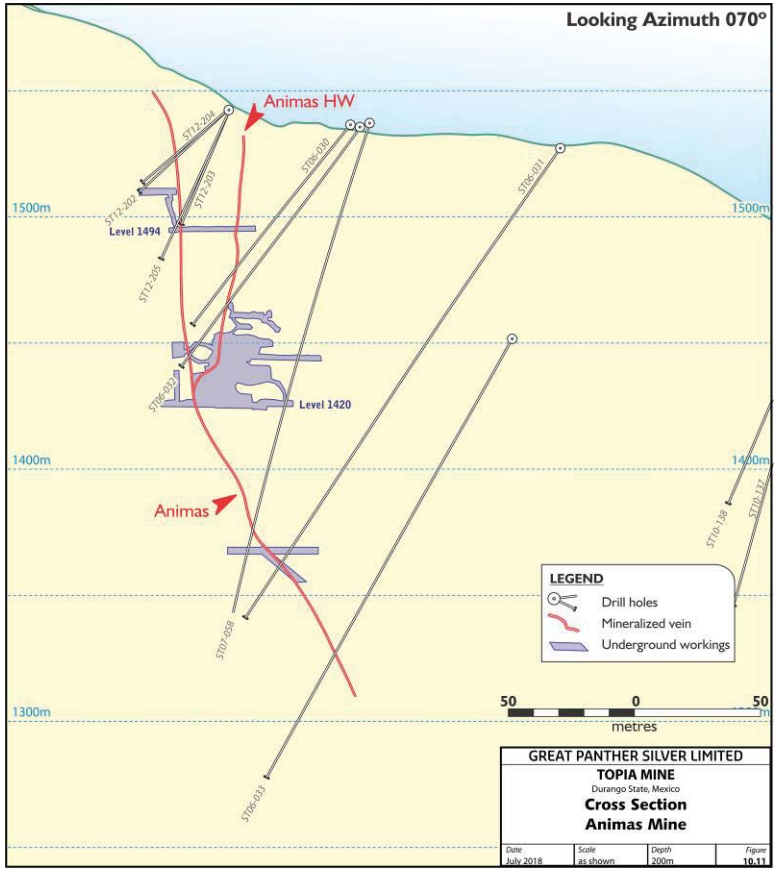


Figure 10.11: Cross Section of the Animas veins, Animas Mine



11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 SAMPLE PREPARATION

Sampling comprises both diamond drill and channel samples. Of these, the channels are most important for estimation of Mineral Resources due primarily to the total volume of samples and their spacing. The drill samples are too broadly spaced to provide anything but Inferred Mineral Resource Estimates for the veins. They are, however, very important in locating and projecting the veins, particularly in faulted areas. Drill-holes provide a reliable indication of the vein locations but drifting and raising on vein is required to fully evaluate the quantity and grade of the Mineral Resource Estimates.

The channel sampling was conducted either across the back or at waist height across the drift face using a hammer and moil. The protocol for sample lengths is that they are to be no longer than two metres, however, it should be noted that there were several samples in the database that were longer than that limit. It was also noted that there were several samples with recorded widths down to a centimetre. The sampling protocols should also include a minimum width constraint that reasonably reflects the minimum mining width. Sample spacing is in the order of 1.5 to 2.5 metres in the more densely sampled areas.

The veins tend to be very steeply dipping to vertical, and so these samples are reasonably close to representing the true width of the structure.

The channel samples were processed and assayed at the Topia Mine laboratory. Samples were dried, crushed in two stages, riffle split, and pulverized. A sample was taken from the pulp and weighed, while the rest was kept in storage. Samples were analyzed for gold, silver, lead, zinc, iron, and where necessary copper, by atomic absorption (AA).

Diamond drill core samples were marked by geologists on the core. Samples did not cross lithological limits and their lengths were constrained to within a minimum of 10 cm and a maximum of two metres. Mineralized structures and the material adjacent to them were always sampled. For sets of veins with less than five metres separation, the material between veins was sampled entirely. Samples were taken using a diamond saw to split the core. The samples were prepared at Topia laboratory.

The sawn split core samples were dried, crushed in two stages, riffle split, and puck pulverized. QA/QC samples were inserted in the sample stream, consisting of one blank sample of unmineralized rhyolite, one pulp duplicate, and two certified standard material (CRM) samples of different grades. The rhyolite blanks were inserted following a vein sample. All the samples were then shipped to the independent SGS-GTO laboratory at the Company's Guanajuato Mine for analysis.

At the SGS-GTO lab samples were analysed for gold and silver by FA with AA finish, with higher grade silver samples rerun using gravimetric finish. Base metals were assayed using AA.

Specific gravity data was collected by analyzing dried core samples, with a minimum weight of 500g, selected by a geologist. A set of three samples were measured: one from the vein, one from hanging wall, and one from footwall. GPR personnel took density measurements of the core specimens using a water immersion method. The density was derived from the ratio of the weight of the sample in air and the difference between the weights in air and submerged in water. Measurements were repeated for samples with calculated values outside expected ranges.

The total database encompasses three components: diamond drilling, production channel sampling, and the historical Peñoles (former operator) development channel sampling. All three data-sets were variably (Peñoles data in certain mines minimal) used in the modeling of the various veins and vein splays.

It is the author's opinion that the sampling at Topia is being conducted in an appropriate fashion using techniques that are commonly used in the industry. The samples are properly located and oriented and are representative of the mineralization.

11.2 ANALYSES

Assaying of the channel samples is carried out in the mine lab, which is operated by MMR. The lab is equipped to perform fire and wet assays for a variety of sample types and elements. Samples were crushed and pulverized to 92% passing 100 mesh. A nominal 25g to 30g sub-sample was digested in aqua regia and assayed by atomic absorption spectroscopy (AA) for gold, silver, lead, zinc, and iron (and from time to time copper). Mine underground sample assays are monitored by sending 28 pulps per month to SGS-GTO for re-assay, comparison, commenting, charting and review of the coefficient of correlation between the two laboratories. In January 2013, Dr. Wesley Johnson, independent laboratory specialist reviewed the Topia Mine facility, and any issues pertaining to performance, procedures, and the data-set were duly commented upon.

2018 lab improvements include an expansion to handle up to 60 samples per day (mill, underground channel, and concentrate samples), with a new sample drying oven, and improved ventilation.

Samples for diamond drill programs up to 2006 were assayed at BSI Inspectorate of Mexico (BSI). This was subsequently changed to ALS Chemex in North Vancouver, BC, and then again, in 2007, to GPR's lab in Guanajuato (operated independently by SGS (SGS-GTO)). The core is assayed for gold, silver, copper, lead, zinc, arsenic and antimony. At the SGS-GTO lab, samples were crushed and pulverized to 98% passing 200 mesh. A nominal 25g to 30g sub-sample was digested in aqua regia and assayed by AA for copper, lead, zinc, arsenic, and antimony. Gold and silver are assayed with fire assay and an AA finish, while over-limits (300g/t silver and 10g/t gold) are re-assayed with a gravimetric finish.

The SGS-GTO lab has a Laboratory Information Management System (LIMS) in place which tracks the sample results and provides the means to merge the assays with the geological database (Microsoft SQL).

11.3 SECURITY

All phases of the sampling, transport and assaying are carried out by authorized GPR personnel or contractors. The Topia lab and core handling facility are enclosed within the mill compound, which is constantly supervised and reasonably secure. The sample preparation, analysis, and security procedures at Topia are adequate and consistent with common industry standards.

12.0 DATA VERIFICATION

12.1 DATABASE VALIDATION

Underground sample data were provided as a set of mine-specific Excel files, whilst drill-hole data were used from Microsoft SQL Server© backup file from GPR's Rayas Exploration office server.

The sample database was initially fraught with errors, and it took the better part of three months of diligent work to cross check sample identity with location, analysis, widths, and descriptions for consistency.

Errors identified were largely observed as results in part to transposed, inverted, shifted, sequenced or skipped values; or copy-paste user-error in Excel. The most notable reoccurring patterns included inverted silver and gold values (due to varying data structure), overwritten zinc and or lead values with gold or lead (due to copy and paste errors), and merged samples.

It is estimated that approximately 1,400 sample records were not included in the master sample document as there were considerable inconsistency in attributes, including sample ID, movement and sample width, between sources. The majority of samples from the dataset used in November 2014 which were removed were due to previously undetected duplications. The undetected duplications were identified to occur in two general instances. Firstly, duplications appeared to among some historical samples when non-numerical identification number was truncated to numerical, this was most notable among the “TP-“ sample subset. Secondly, duplications occurred in the addition of a non-numerical modifier to the identification number, occurring when a sample was thought to be unique due but a duplicated ID. It is suspected the first instance was caused by past import/export processes with other software and adjustments to field types, while the second instance is likely a result of data-sharing/versioning process and/or the previously defined excel errors. In some instances, samples previously included in the November 2014 dataset were removed as the datasets provided from 2015-2018 illustrated conflict of information, neither which could be concretely confirmed. When the conflict in question was a matter of location adjustments, samples were compared to the master topographic workings for alignment and/or the QP of this report. The samples between 2015 and 2018 not included were predominately those which contained insufficient information, including no location information, and contradictory records. In 2016 and 2017, the sampling process briefly altered to using one to four-digit identifiers, rather than the standard seven-digits which did pose a greater difficulty in possible error identification.

During the process samples were cross checked using two attributes as a primary key, the sample identification number and assigned mine name in combination, as there are known duplications among the identification numbers. The variety of input methods for mine names did require a standardization of these attributes to utilize the field as such. As errors and/or edits were evident among all attributes at varying degrees, including the sample identification and assigned mine name, various assay, level and

coordinate attributes were also used at times to identify similar records across sources. This process cross checked for consistency and uniqueness across records but did not necessarily address accuracy of a sample; the exception is the assay values of a sample which were cross checked with digital lab records where possible.

Consequently, a master topographic (real 3D wireframes based on surveyor's data, and old 3D topography based on old maps and Penoles coordinate system) and a master sample database were created for both the mine and Exploration personnel and for use in this reports' mineral resource estimations. Improvements are being made to data-collection and data-entry and they are being duly monitored.

During this process it became clear that with the current breadth of sample data we now possess for Topia and the continual growth of the dataset we needed to migrate to a database system and move away from using multiple individual excel files managed, copied and shared. Aside from general user input error, the largest problem observed is working within Excel as a data management style which lacks means of user-input validation, security, ability to handle large datasets, but most of all centralized data storage.

Implementing a SQL database can provide standardized entry, validation measures and security we currently lack by using Excel as well as adds significantly greater reliability, integrity and value to our data.

In the author's opinion, the database is reasonably free of high-impact or systematic errors and appropriate for use in estimation of Mineral Resources.

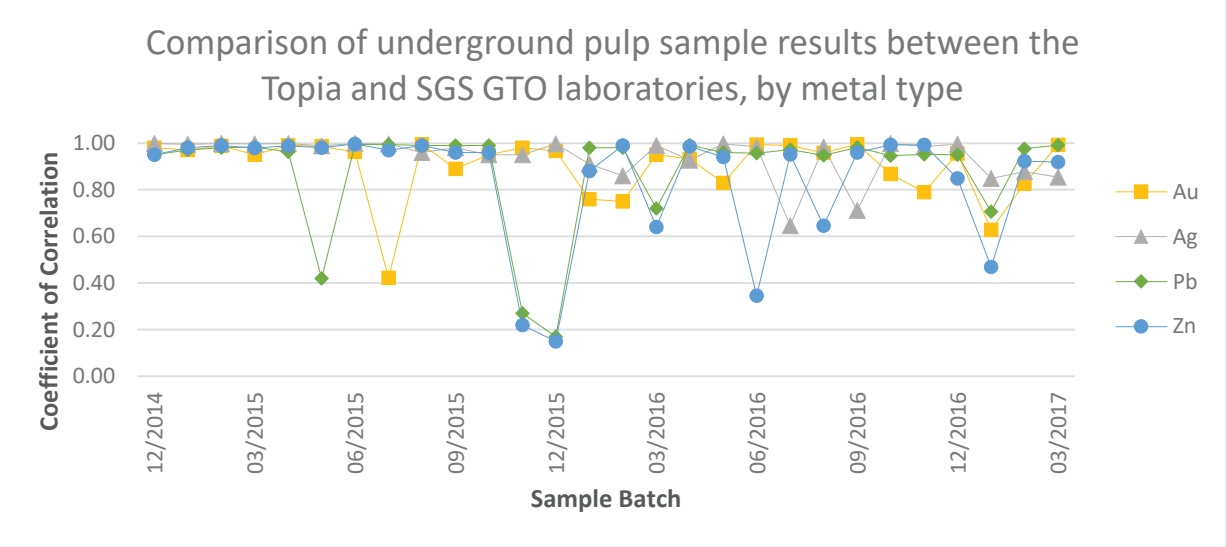
12.2 ASSAY QA/QC

Assay QA/QC during the period of December 2014 to July 2018 consisted of 1) Monthly check sampling of the Topia Lab results at the Company's Guanajuato Mine lab, independently run by SGS. 28 pulp samples (from the underground sampling) were sent each month to Guanajuato for the period of December 2014 to March 2017, 2) The Topia lab conducted internal QA/QC using various industry standards, from May 2017 to July 2018, and 3) the author compared underground sample assays pre November 2014 to post November 2014 both overall and from four specific mines to see if statistical bias's could be discerned. Much of the QA/QC issues at Topia lab stem from a "revolving-door" of both Topia Mine staff (including lab manager) and senior Company staff from mid 2016 to mid 2018 loosing both the initiative and oversight. This situation has been corrected.

Monthly check sampling of the Topia Lab results at the Company's Guanajuato Mine lab, independently run by SGS, shows generally good coefficient of correlations of silver, gold, lead and zinc assays through 2015 and 2016 (Figure 12.1). Drops in correlations below 0.9 in individual elements is generally due to

two or three samples with highly variable results, with no pattern of Topia or SGS analysis being systematically high or low. A total of 784 pulps were compared from December 2014 to March 2017. The months with poorer correlations are disconcerting and a through independent review of the Topia laboratory practices and procedure is warranted. The lab vs. lab check program was unfortunately terminated in March 2017 and only re-started in the second half of 2018.

Figure 12.1: Topia vs SGS-GTO lab Coefficient of Correlations Dec 2014 to March 2017



Note:

1. *Each month 28 pulp samples were sent from Topia to SGS_GTO for check analysis and review.*

Topia Mine lab QA/QC monitoring including the insertion of duplicates, standards and blanks into the sample stream was not completed, or at best only partially completed, and to the authors knowledge this information is available only from May 2017 to July 2018. There were no duplicates of underground sample data, as well no blank samples were inserted into the daily sample batches. Standards were inserted into the underground sample daily batches, including CDN-ME-7 (Ag, Pb, Zn), CDN-ME-1301 (Au, Ag), CDN-ME-1302 (Au, Ag), CDN-ME-1303 (Au, Ag, Pb, Zn), and CDN-ME-1306 (Au, Ag, Pb, Zn) (Figure 12.2 to 12.16). Except for several samples (two of which are obvious transcription errors) out of a total of 417 zinc standard analysis all samples fall with two standard deviations. There were 422 lead standard analysis with three (3) samples barely falling below two standard deviations. There were 198 gold standard analysis with seven (7) above and one (1) below two standard deviations. There were 618 silver standard analysis with 5 above and 7 below two standard deviations. For CDN-ME-1306 silver analysis was consistently slightly below the mean.

Analysis of the standards for all four elements (Ag, Au, Pb, and Zn) was not consistent. Typically, one standard was inserted into the sample batch each day. Considering that laboratory capacity until mid-2018 was only 25 samples per day, the insertion of one standard per day (4%) is slightly below industry

standard rate of 5%. Standardization of insertion of duplicates, blanks, and standards (one each per 17 samples) is being instituted at the Topia Mine lab.

Figure 12.2: Ag Assays of "CDN-ME-7" Standard

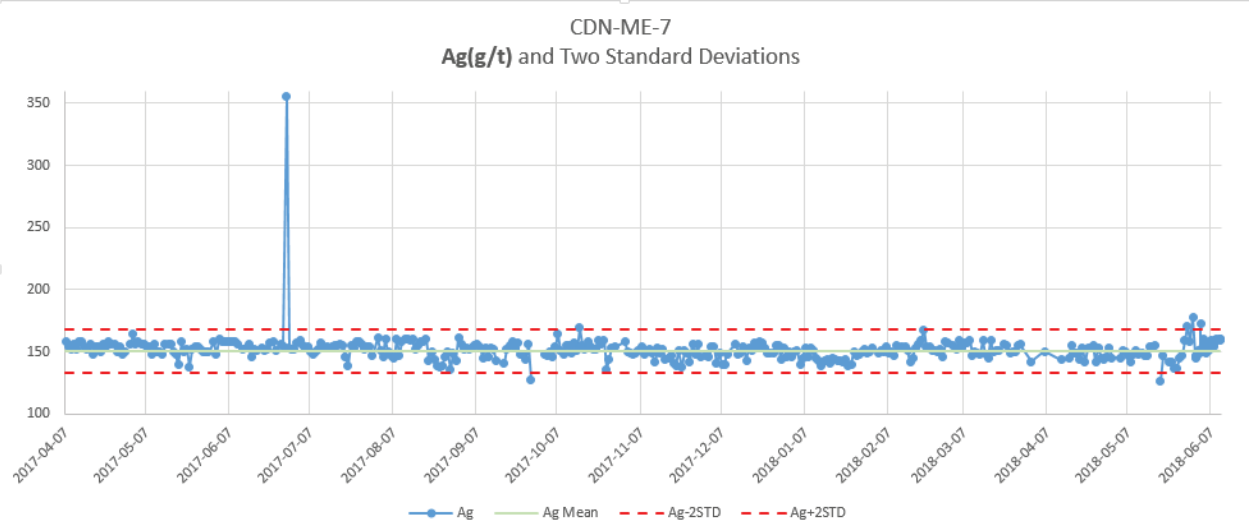


Figure 12.3: Pb Assays of "CDN-ME-7" Standard

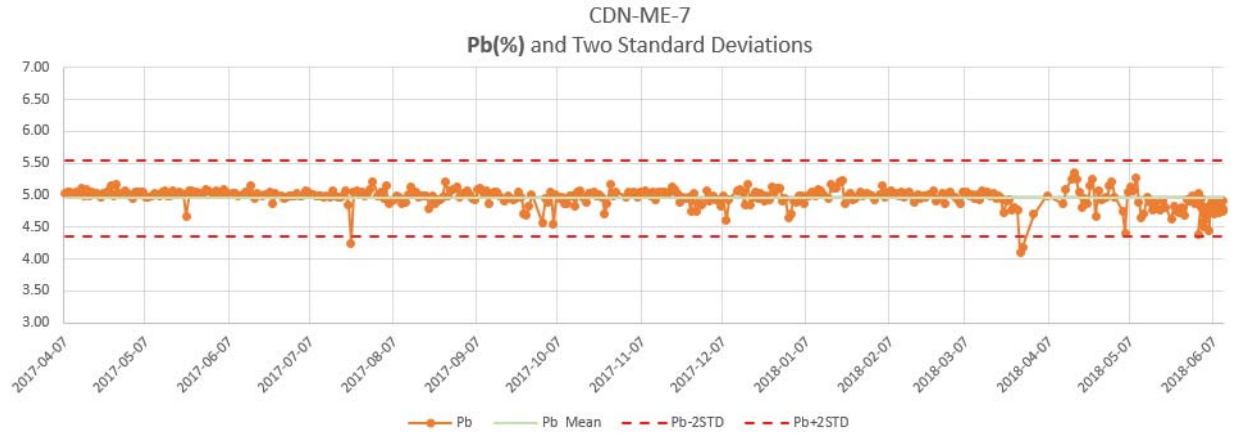


Figure 12.4: Zn Assays of "CDN-ME-7" Standard

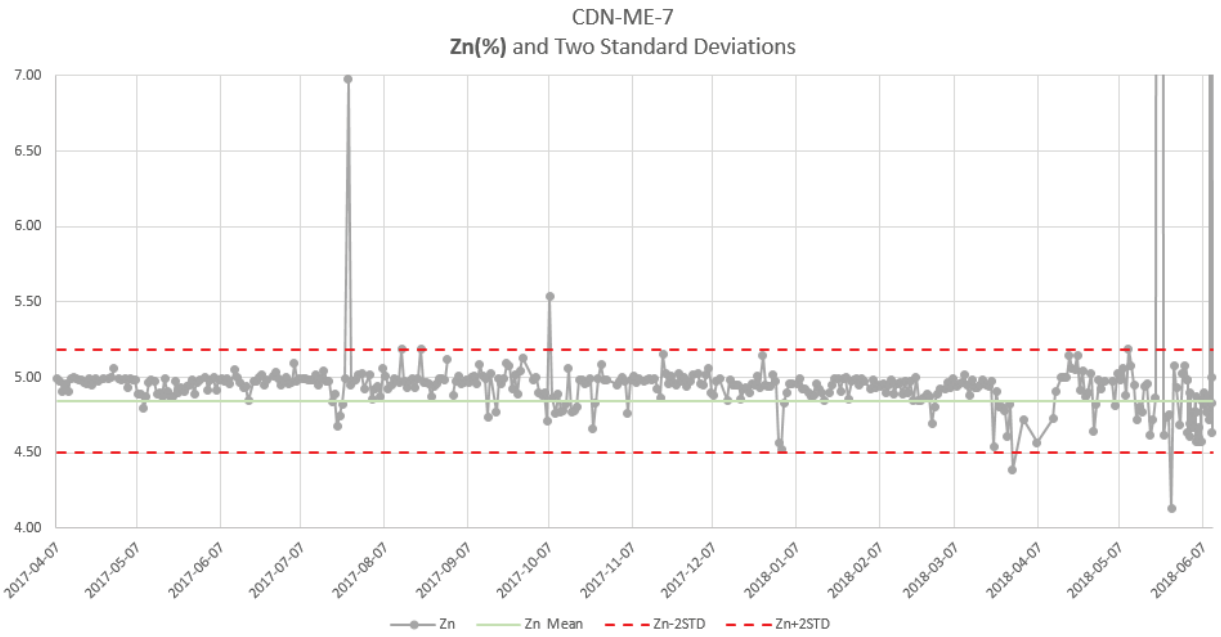


Figure 12.5: Au Assays "CDN-ME-1301" Standard

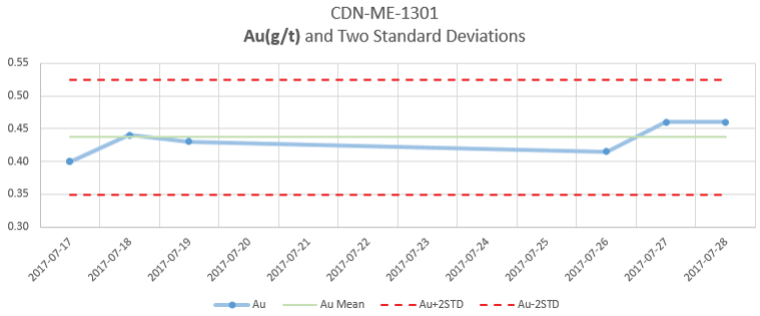


Figure 12.6: Ag Assays "CDN-ME-1301" Standard

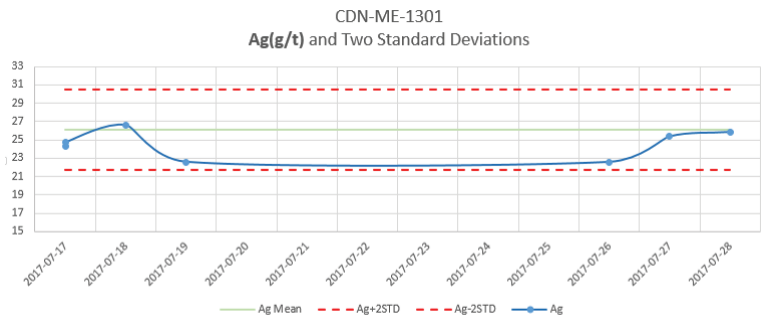


Figure 12.7: Au Assays "CDN-ME-1302" Standard

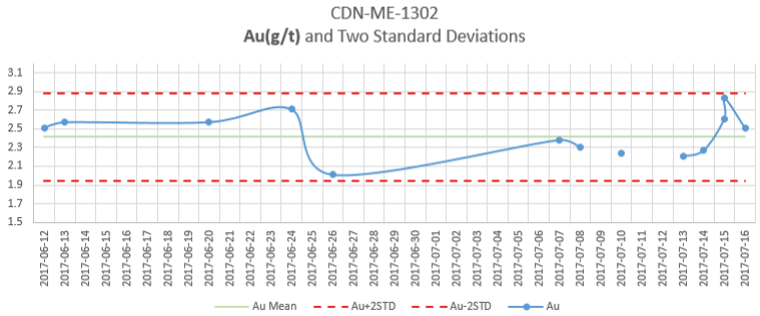


Figure 12.8: Ag Assays "CDN-ME-1302" Standard

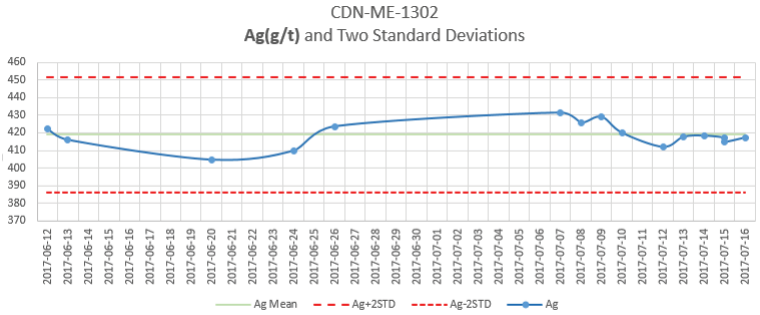


Figure 12.9: Au Assays "CDN-ME-1303" Standard

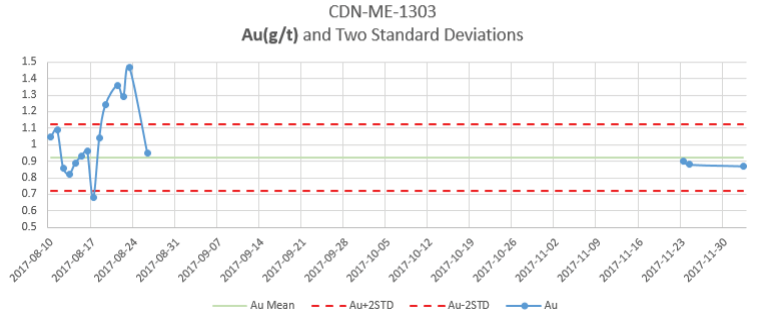


Figure 12.10: Ag Assays "CDN-ME-1303" Standard

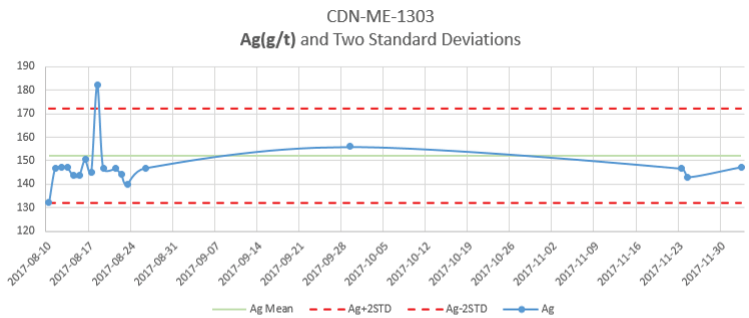


Figure 12.11: Pb Assays "CDN-ME-1303" Standard

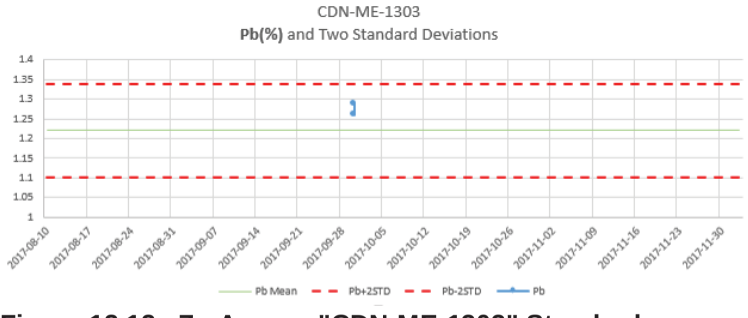


Figure 12.12: Zn Assays "CDN-ME-1303" Standard

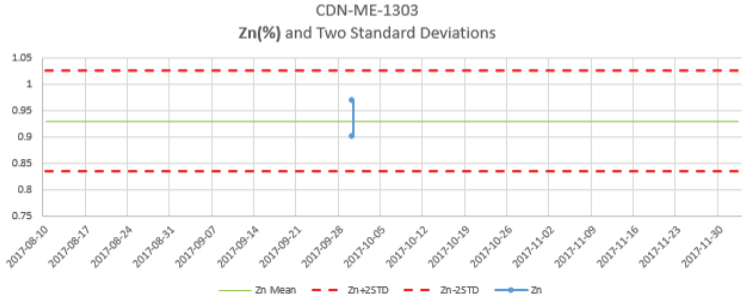


Figure 12.13: Au Assays "CDN-ME-1306" Standard

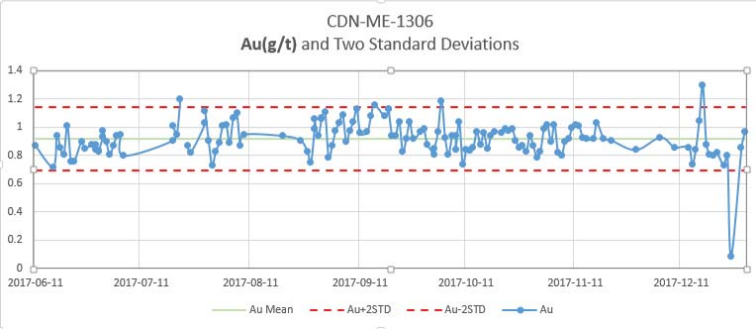


Figure 12.14: Ag Assays "CDN-ME-1306" Standard

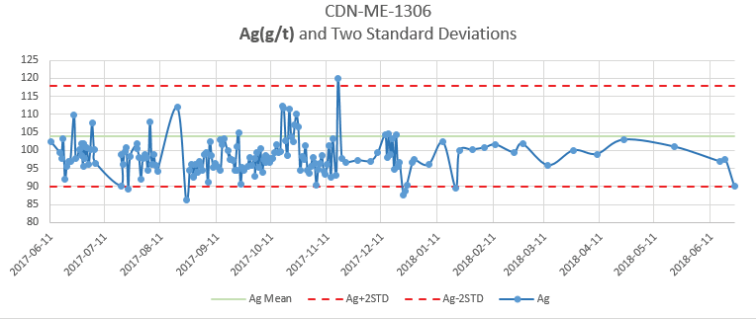


Figure 12.15: Pb Assays "CDN-ME-1306" Standard

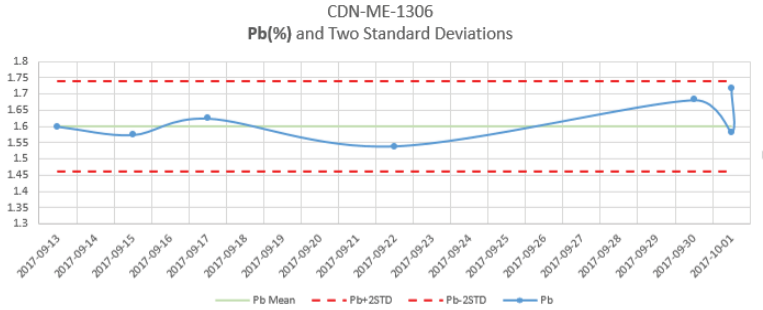
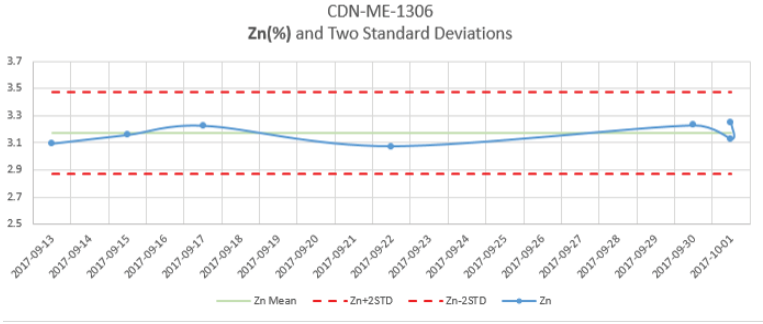


Figure 12.16: Zn Assays "CDN-ME-1306" Standard



A broader based review of sample data analysis used in the 2015 (Brown, 2015) resource estimate versus sample analysis post the 2015 report effective date, and used in this report, shows only modest difference when reviewing all the data, and when reviewing mine specific data (Figure 12.17 and 12.18). Considerable effort is being presently made to improve the sample data collection quality using a Microsoft Access database front end loader, and to check the Topia lab quality with monthly check analysis at SGS-GTO.

A coarse check of underground vein sample analysis was to compile and plot as histograms Topia assay lab data up to November 2014 (effective date of 2015 (Brown) Mineral Resource Estimate) versus data from December 2014 to mid-2018, from the complete data base (Figure 12.17), as well as specific mines, namely Argentina Mine, Durangueno Mine and Recompensa Mine (Figure 12.18) to review the distribution and geostatistics between the two time periods for Au, Ag, Pb, and Zn. The tables display ranges of values, with the whiskers representing high and low analysis, while the upper and lower limits of the boxes represent one standard deviation up and down from the median (horizontal line within the box). The black dot represents the mean grade.

Figure 12.17: Comparison ALL Topia analysis pre November 2014 to post November 2014, Capped and Un-Capped – Topia Mine

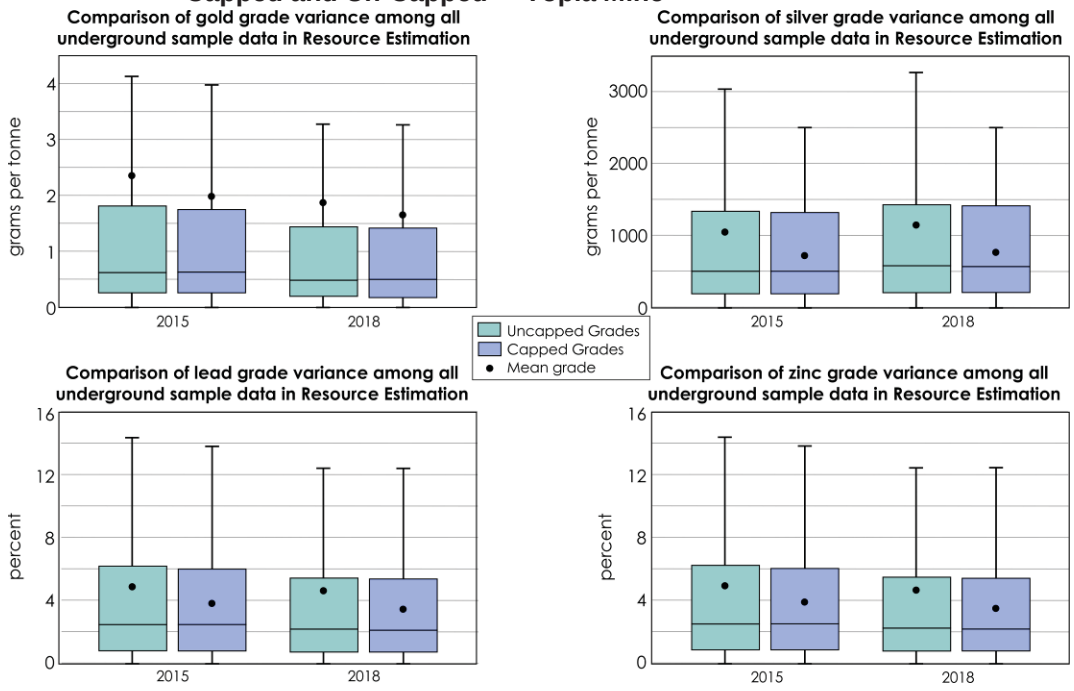
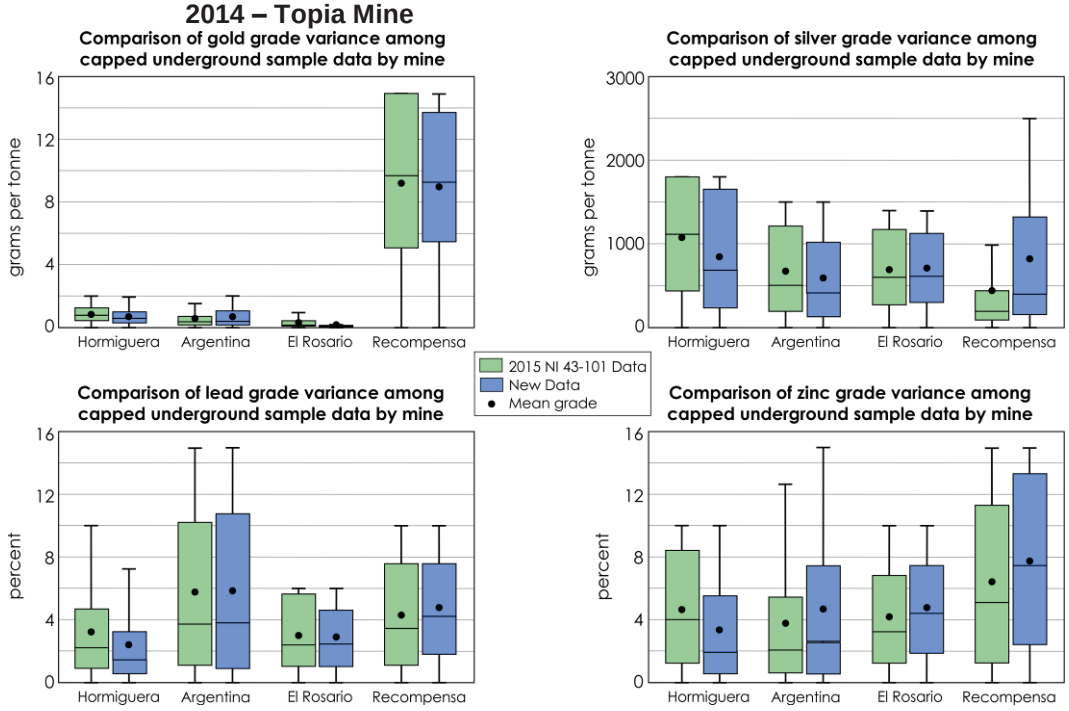


Figure 12.18: Comparison Mine Specific Topia analysis pre November 2014 to post November 2014 – Topia Mine



In the author's opinion, the lack of internal QA/QC (standards, blanks, duplicates) on underground samples from December-2014 to May 2017 is unacceptable by any measure and certainly below industry standard. Check analysis by SGS-GTO of Topia lab results from underground samples from December-2014 to March-2017 gave mostly reasonable correlations and credence to the analysis. A graphical comparison of pre-November 2014 vs post November-2014 analysis of underground samples for the complete data-set as well as for four Topia mine areas shows no discernable consistent bias in box plots. Lastly, changes are being made to Topia Lab procedures including the regular insertion of blanks, duplicates and standards into the daily sample batches consistent with industry standards.

Regarding the 2017 surface drilling program, the analysis of this data was completed at SGS-GTO, and the batches of core samples submitted for analysis had appropriate QA/QC with the insertion of standards, blanks, and duplicates.

The last independent audit of the Topia lab was carried out by Dr. Wesley Johnson of Quality Analysis Consultants in January 2013. The audit covered the pulp comparisons discussed above as well as field duplicate results and reference material (standard) analyses results. Dr. Johnson concluded that the pulp comparisons generally showed no cause for concern, nor did the reference sample results. The field duplicate data however appeared to show an unexpectedly close correlation which requires follow-up action. No further independent audits have been conducted at the Topia Mine lab. With the staff changes and lab modifications in 2018 at Topia a further independent lab audit is warranted in 2019.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Ores from the many mines in the Topia area are processed at the MMR facility located on the north side of town. Peñoles began operating the plant in 1952, and processed a total of 1.38 million tonnes, including some 64,000 tonnes of purchased ore, until they closed the mine in 1989. GPR re-furbished the plant during the second half of 2005 and re-commissioned it in December 2005. GPR, through MMR, have operated the Topia plant continuously since December 2005. The mill employs conventional crushing, grinding and flotation to produce lead and zinc sulphide concentrates. During 2017, the processing plant was being operated with a capacity of 220tpd (148 tonnes per calendar day). Ore is supplied to the plant from MMR mines. Until the end of 2016 the company both purchased ore from other mines in the district and did custom milling. The operation runs seven days a week, 24 hours per day, with Sunday day-shift reserved for maintenance.

The average head grade processed by the mill from all of 2017 was 376g/t Ag, 0.89g/t Au, 1.82% Pb, and 2.69% Zn from 53,745 tonnes of mill feed. The grade of lead concentrate was 6.795kg/t Ag, and 49.68% Pb while the grade of zinc concentrate was 0.507kg/t Ag and 49.17% Zn. Overall metal recoveries in 2017, determined from the metallurgical balance, were 91.7% for silver, 65.3% for gold, 93.1% for lead, and 94.2% for zinc in the two concentrates.

14.0 MINERAL RESOURCE ESTIMATES

An updated estimate of Mineral Resources has been completed for the Topia Project with an effective date of 31 July 2018. The terms "Mineral Resource," "Inferred Mineral Resource," "Indicated Mineral Resource," and "Measured Mineral Resource" have the meanings ascribed to those terms in the "CIM Definition Standards - For Mineral Resources and Mineral Reserves" adopted by the CIM Council. There are no Mineral Reserves disclosed in this report.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other factors that could materially affect the Mineral Resource Estimates detailed in this report.

The resources were estimated from 9 mine area-specific block models. A set of 52 wireframes representing the mineralized zones (veins) served to constrain both the block models and data subsequently used in Inverse Distance Cubed (ID^3) gold, silver, lead and zinc grade interpolations. Each block residing at least partly within one of 52 wireframes received a grade estimate. Table 14.1 provides a summary tabulation of the estimates.

Table 14.1: Topia Mine Mineral Resource Totals

Classification	Tonnage (kt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Total Measured	310.6	474	1.36	4.02	4.20
Total Indicated	165.3	436	1.34	3.57	3.79
Total M & I	475.9	461	1.35	3.87	4.06
Total Inferred	400.4	434	1.34	2.86	2.97

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Area-Specific vein bulk densities as follows: Argentina - 3.06t/m^3; 1522 - 3.26t/m^3; Durangueno - 3.12t/m^3; El Rosario - 3.00t/m^3; Hormiguera - 2.56t/m^3; La Prieta - 2.85t/m^3; Recompensa - 3.30t/m^3; Animas - 3.02t/m^3; San Miguel - 2.56t/m^3.*
3. *Measured, Indicated, and Inferred Mineral Resources are reported at a cut-off Net Smelter Return (NSR) in US$, include 1522 Mine $193/t, Argentina Mine $172/t, Durangueno Mine $144/t, Recompensa Mine $151/t, Hormiguera Mine $152/t, El Rosario Mine $173/t, La Prieta $235/t, and Animas $149/t, and San Miguel $248/t.*
4. *Totals may not agree due to rounding.*
5. *A minimum mining width of 0.30 metres was used.*
6. *Mineral Resources are estimated using metal prices of US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn; and metallurgical recoveries of 94% for Ag, 60% for Au, 94% for Pb, and 93% for Zn.*
7. *2018 Mineral Resource Ag Eq oz were calculated using 80:1 Ag:Au ratio, and ratios of 1:0.0636 and 1:0.0818 for the price/ounce of silver to price/pound of lead and zinc, respectively. The ratios are reflective of average metal prices for 2018.*

14.1 PREVIOUS ESTIMATES

In 2006, Wardrop Engineering Inc. (Wardrop) completed a Mineral Resource Estimate for the Topia Property on the Animas, Dura, Madre, and Argentina veins. Total Measured and Indicated Mineral Resources were 165,000t at 480g/t Ag, 0.867g/t Au, 4.87% Pb, and 4.5% Zn. Interpolation was completed via Ordinary Kriging (OK) and the estimate was reported at a minimum Gross Metal Value

(GMV) cut-off of $60/t. The GMV included a 33% dilution factor and utilised metal prices and recoveries that were relevant to 2007 (Wardrop, 2007).

An updated estimate was generated in 2009 by Wardrop for the Argentina veins only. The estimate included Measured and Indicated Mineral Resources of 117,000t at 651g/t Ag, 0.71g/t Au, 6.37% Pb, and 4.64% Zn, and Inferred Mineral Resources of 152,000t at 690g/t Ag, 0.97g/t Au, 5.36% Pb, and 3.67% Zn (Wardrop, 2009). The estimate was carried out using OK, with resources reported above a NSR cut-off of US$75/t. The estimate incorporated a provision for 33% dilution, plus typical plant performance, and concentrate transport, smelting, and refining costs relevant to 2009. The Mineral Resources for the veins outside Argentina were considered to have remained unchanged since 2007 and so were not updated as part of the estimate.

In 2010, RPA prepared a Mineral Resource Estimate which included several more veins than had been considered in previous estimates. A series of vein-specific 2D block models were generated, and accumulated metal (grade x width) was interpolated to the models via Inverse Distance Cubed (ID^3). Block grades were then determined by dividing the accumulated metal by the interpolated width. The estimate was reported above a NSR cut-off of US$130/t, derived from updated costs, metallurgical recoveries, and metal prices. The dilution allowance used was 50% (increased from previous years' estimates), and a minimum vein width of 0.30m was applied. Metal prices used for the 2011 estimate were US$1,200/oz Au, US$21.00/oz Ag, US$1.00/lb Pb, and US$1.10/lb Zn (RPA, 2011).

A Mineral Resource Estimate with an effective date of June 30, 2012 was prepared by RPA. A series of vein-specific 2D block models was generated, and accumulated metal (grade x width) was interpolated to the models via Inverse Distance Cubed (ID^3). Block grades were then determined by dividing the accumulated metal by the interpolated width. The estimate was reported above a NSR cut-off of US$170/t, derived from updated costs, metallurgical recoveries, and metal prices. The dilution allowance used was 50% (increased from previous years' estimates), and a minimum vein width of 0.30m was applied. Metal prices used for the 2012 estimate were US$1,680/oz Au, US$28.00/oz Ag, US$0.85/lb Pb, and US$0.85/lb Zn (RPA, 2011). The Measured and Indicated Mineral Resources were estimated to contain 156,000 tonnes grading 806g/t Ag, 1.47g/t Au, 6.48% Pb, and 4.29% Zn plus Inferred Mineral Resources estimated to contain 273,000 tonnes grading 837 g/t Ag, 0.8 g/t Au, 5.7% Pb, and 3.9% Zn.

In 2014, Brown and Sprigg (2014) completed a Mineral Resource Estimate at the Topia Mine with an effective date of November 30, 2013. Measured and Indicated Mineral Resources estimated to contain 198,000 kt at 844 g/t Ag, 1.71 g/t Au, 6.16% Pb, and 4.82% Zn plus Inferred Mineral Resources estimated to contain 209.5 kt at 863 g/t Ag, 1.68 g/t Au, 5.37% Pb, and 4.54% Zn. Mineral Resources are estimated using metal prices of US$1,260/oz Au, US$21.00/oz Ag, US$0.95/lb Pb, and US$0.95/lb Zn. A set of 31 wireframes constructed using Leapfrog© software, with a minimum 0.3m width, representing the mineralized zones (veins) served to constrain both the block models and data subsequently used in Inverse Distance Cubed (ID3) gold, silver, lead and zinc grade interpolations. The estimate was reported

above a NSR cut-off of US$180/t, derived from updated operational costs, metallurgical recoveries, and metal prices.

Lastly, in 2015, Brown (2015) completed a Mineral Resource Estimate at the Topia Mine with an effective date of November 30, 2014. Measured and Indicated Mineral Resources estimated to contain 346,200t at 624g/t Ag, 1.31g/t Au, 4.50% Pb, and 4.19% Zn plus Inferred Mineral Resources estimated to contain 357,400t at 592g/t Ag, 1.31g/t Au, 3.44% Pb, and 3.96% Zn. Mineral Resources are estimated using metal prices of US$1,200/oz Au, US$17.00/oz Ag, US$0.90/lb Pb, and US$0.95/lb Zn. A set of 40 wireframes, with a minimum 0.3m width, constructed using Leapfrog© software representing the mineralized zones (veins) served to constrain both the block models and data subsequently used in Inverse Distance Cubed (ID3) gold, silver, lead and zinc grade interpolations. NSR cut-offs in US$ include 1522 Mine $167/t, Argentina Mine $197/t, Durangueno Mine $153/t, Recompensa Mine $196/t, Hormiguera Mine $189/t, El Rosario Mine $173/t, and La Prieta $204/t.

The 2015 estimate is summarized in Table 14.2 and is compared to the current estimate in Table 14.3. For Measured plus Indicated, there is a 37% increase in tonnes, a 2% increase in contained silver, 42% increase in contained gold, 18% increase in contained lead and 33% increase in contained zinc as compared with the previous periods estimate. For Inferred, increases of 12% in tonnes, decreases of 27% in contained silver, 17% in contained lead, and 25% in contained zinc, as well as an increase of 2% in contained gold were reported. The increase in tonnes reflects improved smelter terms and lower mining costs in many mines improving the NSR value. Metal grades for silver, lead and zinc decreased reflecting tighter estimation criteria (capping, and search ellipse sizes). Gold grades were little changed between the two estimates. Contained metal reflect increases in tonnes for 2018, which more than make up for lower overall grades. The measured classification grew greatest due to development between 2014 and 2018 in all areas and improved classification confidence.

Table 14.2: Previous Topia Mine Mineral Resource Estimate, Brown 2015

Classification	Tonnage (kt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Total Measured	180.4	606	1.44	4.26	4.52
Total Indicated	166.0	644	1.17	4.75	3.82
Total M & I	346.2	624	1.31	4.50	4.19
Total Inferred	357.4	592	1.31	3.44	3.96

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Measured and Indicated Mineral Resources are reported at a cut-off Net Smelter Return (NSR) of US$180/t.*
3. *Area-Specific Bulk Densities as follows: Argentina - 3.06t/m3; Don Benito - 3.26t/m3; Durangueno - 3.12t/m3; El Rosario - 3.00t/m3; Hormiguera - 2.56t/m3; La Prieta - 2.85t/m3; Recompensa - 3.30t/m3.*
4. *NSR cut-offs in US$ include 1522 Mine $167/t, Argentina Mine $197/t, Durangueno Mine $153/t, Recompensa Mine $196/t, Hormiguera Mine $189/t, El Rosario Mine $173/t, and La Prieta $204/t.*
5. *Totals may not agree due to rounding.*
6. *A minimum mining width of 0.30 metres was used.*
7. *Mineral Resources are estimated using metal prices of: US$1,200/oz Au, US$17.00/oz Ag, US$0.90/lb Pb, and US$0.95/lb Zn.*

Table 14.3: 2018 Mineral Resource Estimate Changes from Previous (2015) Estimate

	Tonnage (Kt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (oz)	Au (oz)	Pb (lb)	Zn (lb)	Ag Eq (oz)
Total Measured										
2018	310.6	474	1.36	4.02	4.2	4,733,619	13,551	27,543,097	28,756,190	9,930,000
2015	180.4	606	1.44	4.26	4.52	3,516,075	8,324	16,951,013	17,991,562	6,010,000
Difference	**72%**	**-22%**	**-6%**	**-6%**	**-7%**	**35%**	**63%**	**62%**	**60%**	**65%**
Total Indicated										
2018	165.3	436	1.34	3.57	3.79	2,318,143	7,141	13,009,923	13,808,273	4,850,000
2015	166	644	1.17	4.75	3.82	3,432,902	6,237	17,362,501	13,963,106	5,570,000
Difference	**-0.4%**	**-32%**	**15%**	**-25%**	**-1%**	**-32%**	**14%**	**-25%**	**-1%**	**-13%**
Total Measured & Indicated										
2018	475.9	461	1.35	3.87	4.06	7,051,762	20,691	40,553,021	42,564,463	14,770,000
2015	346.2	624	1.31	4.5	4.19	6,945,487	14,581	34,345,806	31,979,762	11,580,000
Difference	**37%**	**-26%**	**3%**	**-14%**	**-3%**	**2%**	**42%**	**18%**	**33%**	**28%**
Total Inferred										
2018	400.4	434	1.34	2.86	2.97	5,590,682	17,258	25,266,368	26,226,811	10,730,000
2015	357.4	592	1.31	3.44	3.96	6,802,481	15,053	27,104,857	31,202,103	11,050,000
Difference	**12%**	**-27%**	**2%**	**-17%**	**-25%**	**-18%**	**15%**	**-7%**	**-16%**	**-3%**

Notes: *Notes for Tables 14.1 and 14.2 are applicable in Table 14.3.*

14.2 DATABASE

Underground sample data were provided as a set of mine-specific excel files, whilst drill-hole data were in the form of a Microsoft SQL database. These data were subsequently compiled and validated and accessed directly from the MICROMINE mining package which was used for block modelling and Mineral Resource reporting.

The validated SQL database (see Section 12-1 Database Validation for details) consisted of 559 drill holes and 28,107 underground channel samples. This dataset contained data current up to and including 31 July 2018.

Most holes in the dataset are angled towards the northwest at moderate to steep angles. Holes range in length from 3m to 422.5m. Underground samples with average width of 0.31m are comprised of individual samples with corresponding mid-point co-ordinates.

Drilling is spread out over an approximate area of 6,500m (north-south) by 4,000m (east-west). Average drill sample length is 0.49m.

14.3 ASSAYS

The validated assay database contains 7,125 sample intervals from drill holes and 42,380 intervals from underground development and mining. During the validation process, a total of 493 Ag, 2,050 Au, 1,137 Pb and 2,166 Zn underground sample results were found to either be missing or improperly recorded as non-numeric characters or negative numbers. These results were excluded from the final dataset used for grade interpolation. Assay results reported to be below laboratory detection limits were replaced with a value of half the detection limit.

A total of 611 drill intervals and 28,438 underground samples were contained at a proportion of >50% within the wireframes constructed for the veins.

Table 14.4 to Table 14.11 contain summary statistics for vein-coded underground and drill hole samples.

Table 14.4: Underground and Drill Sample Assay Statistics, Hormiguera

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
San Jorge	101	No. Samples	1,025	1,016	1,015	1,004	2	2	2	2
		Min	0.5	0.002	0.001	0.001	2	0.002	0.005	0.039
		Max	10,750	9.89	47.96	44.92	21	0.18	0.079	0.133
		Mean	1,712	1.08	3.99	8.103	12	0.091	0.042	0.086
		CV	0.93	0.74	1.099	0.878	0.83	0.978	0.881	0.547
SJSM Int	102	No. Samples	252	251	243	248	-	-	-	-
		Min	0.5	0.14	0.01	0.005	-	-	-	-
		Max	12,174	5.07	46.74	29.32	-	-	-	-
		Mean	1,314	1.04	3.5	6.64	-	-	-	-
		CV	1.14	0.7	1.54	0.98	-	-	-	-
Cantarranas	103	No. Samples	3,276	3,252	3,258	3,249	36	36	36	36
		Min	4	0.01	0.005	0.001	1	0.03	0.002	0.002
		Max	22,847	16.68	36.08	70	8,050	4.4	5.13	17.7
		Mean	1,388	0.933	2.499	3.928	925	0.734	1.107	2.294
		CV	1.099	1.069	1.087	1.05	1.656	1.67	1.243	1.737
Cantarranas East	104	No. Samples	496	496	496	495	4	4	4	4
		Min	2	0.01	0.001	0.001	37	0.13	0.012	0.001
		Max	10,645	5.37	29.93	29.9	295	2.7	9.25	1.75
		Mean	492	0.581	1.267	1.114	150	1.13	2.363	0.578
		CV	1.776	1.026	2.196	1.993	0.736	0.924	1.683	1.198
SJC Int	105	No. Samples	300	299	299	299	6	6	6	6
		Min	8	0.02	0.005	0.005	18	0.138	0.019	0.035
		Max	11,576	5.88	16.42	56.64	287	0.815	0.34	0.6
		Mean	1,113	0.68	2.257	4.513	122	0.411	0.102	0.232
		CV	1.182	1.065	1.086	1.275	0.806	0.561	1.128	0.876
San Miguel	106	No. Samples	456	453	452	450	-	-	-	-
		Min	46	0.005	0.04	0.005	-	-	-	-
		Max	15,067	5.98	45.12	54.28	-	-	-	-
		Mean	3,170	0.723	8.29	12.866	-	-	-	-
		CV	0.775	1.01	0.843	0.87	-	-	-	-
Cantarranas W Offset	107	No. Samples	435	435	435	435	1	1	1	1
		Min	6	0.01	0.005	0.001	0.5	0.005	0.002	0.005
		Max	6,279	11.04	25.25	28.25	1	0.005	0.002	0.005

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
		Mean	554	0.401	1.883	2.598	0.5	0.005	0.002	0.005
		CV	1.403	1.874	1.33	1.342	0.001	0.001	0.001	0.001
San Jorge FW	108	No. Samples	84	84	84	84	-	-	-	-
		Min	180	0.08	0.42	0.28	-	-	-	-
		Max	10,708	5.7	55.64	38	-	-	-	-
		Mean	2,583	1.04	9.213	10.234	-	-	-	-
		CV	0.807	0.809	0.984	0.761	-	-	-	-

Table 14.5: Underground and Drill Sample Assay Statistics, Argentina

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
Argentina Central	201	No. Samples	412	386	394	397	6	6	6	6
		Min	20	0.06	0.06	0.005	69	0.114	1.58	0.237
		Max	20,240	10	67.4	39.84	2,550	4.25	30	9.64
		Mean	1,118	0.588	7.771	5.13	743	1.189	8.41	4.961
		CV	1.744	1.303	1.25	1.319	1.166	1.2	1.68	0.695
Argentina East	202	No. Samples	1620	1458	1618	1594	27	27	27	27
		Min	0.5	0.002	0.005	0.001	2	0.008	0.002	0.001
		Max	9,338	15	66.6	54.4	3,940	5.655	26	2.07
		Mean	585	1.172	8.259	6.25	363	0.566	3.152	0.425
		CV	1.452	1.267	1.227	1.274	2.093	1.986	1.79	1.468
Argentina West FW	203	No. Samples	144	139	143	128	3	3	3	3
		Min	10	0.02	0.11	0.005	194	0.11	1.1	0.331
		Max	10,374	7.4	52.72	38.82	722	0.181	4.99	6.76
		Mean	2,189	0.697	12.114	2.631	531	0.154	3.277	2.934
		CV	0.986	1.421	1	1.834	0.45	0.203	0.495	0.942
Santa Cruz	204	No. Samples	360	254	344	332	12	12	12	12
		Min	5	0.001	0.08	0.01	6	0.002	0.026	0.021
		Max	11,434	11	43	43.94	1,141	0.66	10.1	16.1
		Mean	807	0.811	5.703	3.58	389	0.243	4.259	4.499
		CV	1.764	1.453	1.364	1.612	0.931	0.81	0.774	1.056
Argentina West	205	No. Samples	1990	1920	1964	1873	24	24	24	24
		Min	2	0.002	0.001	0.001	0.5	0.014	0.002	0.01
		Max	25,663	21	662	39.46	4,400	1.28	17.7	8.56

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
		Mean	1,462	0.499	7.0945	4.079	814	0.255	4.571	2.28
		CV	1.547	1.659	2.214	1.44	1.179	1.254	1.006	1.134

Table 14.6: Underground and Drill Sample Assay Statistics, 1522

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
Don Benito North	301	No. Samples	1781	1781	1781	1781	48	48	48	48
		Min	0.1	0.005	0.01	0.01	3	0.01	0.001	0.004
		Max	7,882	214	688	1636	7,200	7.6	30	239.9
		Mean	507	2.09	8.07	8.08	485	1.286	3.747	2.539
		CV	1.22	2.59	2.3	4.87	2.309	1.115	1.975	1.654
Don Benito South	302	No. Samples	1088	1066	1069	1079	50	50	50	50
		Min	3	0.002	0.001	0.005	3	0.002	0.003	0.003
		Max	5,182	20.44	57.66	47.1	1,750	4.78	30	30
		Mean	496	2.368	7.802	7.799	306	1.211	4.784	4.205
		CV	1.092	0.925	1.134	1.084	1.178	0.938	1.651	1.561
Don Benito West	303	No. Samples	687	687	687	687	24	24	24	24
		Min	0.5	0.005	0.01	0.01	0.5	0.002	0.0021	0.025
		Max	3,555	55.36	38.24	37.22	1,400	10.3	12.2	11.9
		Mean	332	4.99	4.09	5.68	273	3.009	2.271	2.778
		CV	1.19	0.88	1.31	1.19	1.129	0.807	1.363	1.256
Don Benito North FW	304	No. Samples	487	480	484	481	15	15	15	15
		Min	0.5	0.002	0.01	0.001	1610	2.77	30	7.8
		Max	7,244	15.16	69.52	39.88	1,610	2.77	3	7.88
		Mean	822	2.395	7.679	9.409	183	1.35	4.023	1.686
		CV	1.283	0.859	1.265	0.836	2.132	0.719	1.824	1.335
Don Benito Intermediate	305	No. Samples	828	821	824	816	30	30	30	30
		Min	3	0.02	0.02	0.005	3	0.002	0.005	0.007
		Max	4,347	27.15	62.96	42.82	824	5.22	30	20.3
		Mean	606	2.374	10.068	7.844	245	1.526	4.011	3.433
		CV	0.908	0.886	1.081	0.956	1.022	0.846	1.846	1.384
La Dura Splay North	306	No. Samples	152	151	151	150	1	1	1	1
		Min	9	0.002	0.06	0.04	35	1.39	0.12	0.81
		Max	6,161	8.65	43.36	33.8	35	1.39	1.12	0.81
		Mean	1,257	2.422	8.538	8.267	35	1.39	1.12	0.81

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
		CV	1.053	0.717	1.072	0.944	0	0	0	0
La Dura West Splay South	307	No. Samples	117	116	115	116	12	12	12	12
		Min	8	0.15	0.03	0.03	11	0.002	0.0061	0.003
		Max	1,709	27.66	15.96	31.16	1,290	10.6	8.18	8.43
		Mean	263	5.357	2.682	4.407	348	3.635	1.841	1.902
		CV	0.951	0.72	1.106	1.198	1.259	0.866	1.356	1.372
Don Benito West HW	308	No. Samples	253	138	253	252	5	5	5	5
		Min	33	0.14	0.21	0.1	10	1.01	0.001	0.001
		Max	1,971	18.35	35.78	52.8	506	7.21	12	8.42
		Mean	500	4.385	11.374	11.431	180	2.694	4.676	3.302
		CV	0.667	0.679	0.723	0.67	1.007	0.859	0.96	0.867

Table 14.7: Underground and Drill Sample Assay Statistics, El Rosario

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
El Rosario	401	No. Samples	1775	1700	1761	1760	39	39	39	39
		Min	10	0.002	0.005	0.005	5	0.002	0.004	0.0017
		Max	13,040	6.12	33.05	38.56	2,000	2.72	7.52	17
		Mean	878	0.23	3.974	4.933	371	0.143	2.069	3.05
		CV	1.094	1.365	1.105	0.918	1.146	3.121	0.987	1.2
El Rosario FW	402	No. Samples	15	15	15	15	11	11	11	11
		Min	64	0.03	0.06	0.06	18	0.002	0.019	0.014
		Max	6,121	0.45	3.4	9.87	1,150	0.08	7.69	8.77
		Mean	715	0.142	0.819	2.855	371	0.035	1.554	2.31
		CV	2.066	0.7	1.049	1.008	0.98	0.782	1.516	1.241

Table 14.8: Underground and Drill Sample Assay Statistics, Durangeuno

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
San Gregorio	501	No. Samples	2045	2012	1997	2026	28	28	28	28
		Min	4	0.01	0.005	0.005	0.5	0.002	0.001	0.002
		Max	9,500	4.96	39.48	57.3	4,340	0.002	0.001	0.002
		Mean	1,084	0.451	4.068	10.086	462	0.24	0.926	4.641
		CV	1.134	0.923	1.275	0.824	7.907	1.194	2.268	1.49
Oxi	502	No. Samples	432	426	432	430	11	11	11	11
		Min	7	0.005	0.005	0.005	78	0.025	0.138	7.19
		Max	10,428	7.24	5.44	43.02	1,850	2.38	8.03	22.5
		Mean	1,840	0.347	8.335	15.987	787	0.398	2.885	11.677
		CV	1.048	1.675	1.225	0.551	0.778	1.63	0.781	0.455
Oxidada	503	No. Samples	293	292	288	293	6	6	6	6
		Min	10	0.03	0.02	0.21	3	0.002	0.004	0.012
		Max	6,330	2.54	52.86	41.22	985	0.44	1.49	9.92
		Mean	782	0.521	3.122	13.697	257	0.139	0.582	4.154
		CV	1.035	0.618	1.702	0.658	1.341	1.152	0.957	0.972
La Higuera	507	No. Samples	912	910	895	906	18	18	18	18
		Min	0.002	0.005	0.005	0.005	19	0.002	0.027	0.056
		Max	10,937	5.5	53.68	54.97	3,600	0.66	7.75	30
		Mean	824	0.282	3.624	10.246	654	0.173	1.641	5.957
		CV	1.524	1.234	1.747	0.95	1.32	0.949	1.301	1.182
San Pablo	508	No. Samples	133	132	132	132	7	7	7	7
		Min	12	0.002	0.06	0.005	15	0.002	0.022	0.098
		Max	5,940	1.6	20.37	32.04	3,460	0.38	13.8	13.5
		Mean	736	0.202	1.996	8.093	1,188	0.115	3.489	3.925
		CV	1.537	1.16	1.439	0.853	1.077	1.141	1.501	1.156
San Gregorio North Loop	509	No. Samples	101	101	101	101	2	2	2	2
		Min	50	0.02	0.2	1.49	139	0.227	0.32	12.7
		Max	5,652	1.18	28.94	35.96	963	0.5	4.86	13
		Mean	1,124	0.306	4.562	15.689	551	0.363	2.59	12.85
		CV	1.072	0.77	1.233	0.478	0.748	0.376	0.876	0.012
La Higuera North	510	No. Samples	300	300	293	298	5	5	5	5
		Min	10	0.01	0.005	0.02	42	0.04	0.259	0.442
		Max	6,695	2.48	48.92	34.48	1,270	0.68	5.14	9.03
		Mean	543	0.455	2.716	5.695	527	0.214	1.598	3.592
		CV	1.933	1.034	2.383	1.242	0.945	1.15	1.121	0.806

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
Link	511	No. Samples	30	30	30	30	-	-	-	-
		Min	68	0.04	0.16	0.005	-	-	-	-
		Max	5,720	1.26	31.68	33.46	-	-	-	-
		Mean	1,529	0.395	6.012	13.562	-	-	-	-
		CV	1.004	0.661	1.269	0.727	-	-	-	-

Table 14.9: Underground and Drill Sample Assay Statistics, La Prieta

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
La Prieta 1	601	No. Samples	676	676	675	674	18	18	18	18
		Min	7	0.02	0.005	0.005	2	0.007	0.001	0.001
		Max	9,801	90.15	30.38	54.64	2,400	5.84	8.45	16.5
		Mean	1,247	5.374	4.855	8.73	433	1.2	1.975	3.28
		CV	1.104	0.993	0.929	0.838	1.502	1.134	1.297	1.308
La Prieta 2	602	No. Samples	387	386	386	384	17	17	17	17
		Min	1.82	0.02	0.04	0.005	2	0.087	0.002	0.002
		Max	7,011	33.09	135	34.46	5,570	15.7	17.96	19
		Mean	769	4.341	5.396	8.08	525	3.301	1.856	4.169
		CV	1.331	1.006	1.574	0.963	2.475	1.392	1.376	1.513
La Prieta 3	603	No. Samples	52	52	52	52	8	8	8	8
		Min	28	0.49	0.1	0.14	7	0.775	0.063	0.013
		Max	3,885	14.14	22.36	34.98	1,006	25	5.12	10.3
		Mean	941	3.205	5.52	8.799	331	6.897	1.345	2.067
		CV	0.992	0.88	0.922	0.946	1.102	1.201	1.381	1.564
La Prieta 4	604	No. Samples	174	174	172	171	2	2	2	2
		Min	10	0.2	0.09	0.04	9	0.327	0.046	0.146
		Max	8,862	22.06	21.1	31.26	50	1.97	0.54	2.11
		Mean	1,614	5.755	3.778	8.033	30	1.149	0.293	1.128
		CV	0.983	0.656	1.032	0.982	0.695	0.715	0.842	0.871
La Prieta 5	605	No. Samples	57	57	56	54	3	3	3	3
		Min	30	0.1	0.11	0.07	21	0.26	0.071	0.298
		Max	3,697	13.24	13.76	32.3	2,970	5.63	4.13	5.38
		Mean	393	3.247	3.22	4.821	1,334	2.54	1.429	2.156
		CV	1.71	0.811	1.13	1.36	0.919	0.892	1.337	1.061
La Prieta 6	606	No. Samples	163	163	163	161	2	2	2	2

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
		Min	24	0.15	0.005	0.005	18	0.187	0.093	0.278
		Max	5,772	9.22	14.1	31.88	29	8.07	0.76	2.58
		Mean	598	2.372	1.976	3.288	24	4.128	0.427	1.429
		CV	1.236	0.796	1.157	1.397	0.234	0.955	0.782	0.805
La Prieta 8	608	No. Samples	29	29	29	29	-	-	-	-
		Min	120	0.37	0.44	1.92	-	-	-	-
		Max	3,368	17.98	13.76	22.7	-	-	-	-
		Mean	1,139	4.025	5.724	9.903	-	-	-	-
		CV	0.782	0.85	0.652	0.569	-	-	-	-
La Prieta 9	609	No. Samples	115	115	115	114	5	5	5	5
		Min	12	0.12	0.02	0.005	4	0.151	0.006	0.009
		Max	7,957	24.96	22.68	31	101	1.42	0.31	1.42
		Mean	1,275	4.605	4.989	7.67	45	0.69	0.131	0.532
		CV	1.169	0.983	1.008	1.07	0.934	0.688	1.021	1.046

Table 14.10: Underground and Drill Sample Assay Statistics, Recompensa

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
Recompensa Splay	701	No. Samples	23	23	23	23	1	1	1	1
		Min	34	0.36	0.13	0.15	128	8.6	0.08	0.08
		Max	2,917	17.54	11.86	18.12	128	8.6	0.08	0.08
		Mean	638	7.961	3.607	4.49	128	8.6	0.08	0.08
		CV	1.107	0.735	0.874	1.055	0	0	0	0
Recompensa	702	No. Samples	689	684	618	628	20	20	20	20
		Min	4	0.1	0.02	0.01	2	0.366	0.027	0.009
		Max	3,920	87.58	33.9	30.08	5,000	61.6	26	19.6
		Mean	344	12.714	5.33	6.166	514	10.091	3.051	3.529
		CV	1.472	0.809	1.099	1.06	2.312	1.926	1.922	1.314
Recompensa East	702E	No. Samples	229	230	229	230	18	18	18	18
		Min	8	0.083	0.06	0.005	10	0.3	0.01	0.079
		Max	10,016	56.32	17.94	37.96	590	26	12.6	13.2
		Mean	740	13.599	5.877	10.038	142	6.384	2.409	3.908
		CV	1.673	0.668	0.698	0.684	1.078	1.124	1.483	1.015
Recompensa HW	703	No. Samples	157	156	157	157	4	4	4	4
		Min	26	0.11	0.15	0.001	3	0.009	0.011	0.015

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
		Max	13,224	32.46	28.46	33.22	141	9.69	4.63	2.09
		Mean	2,597	10.367	8.022	12.622	43	3.147	1.279	0.573
		CV	0.95	0.577	0.754	0.635	1.319	1.215	1.518	1.531
Recompensa HW East	703E	No. Samples	168	166	164	166	5	5	5	5
		Min	4	0.1	0.01	0.09	15	2.86	0.115	0.23
		Max	2,323	35.14	48.3	36.32	208	24.9	2.05	7.51
		Mean	273	12.315	5.926	8.85	91	13.19	1.068	4.16
		CV	1.107	0.689	1.093	0.879	0.789	0.634	0.78	0.713
Oliva	704	No. Samples	522	528	520	513	12	12	12	12
		Min	0.5	0.005	0.005	0.005	2	0.007	0.005	0.01
		Max	4,946	26.04	47.08	36.64	1,141	40.1	5.83	7.18
		Mean	301	8.923	4.565	7.394	147	6.984	1.511	2.376
		CV	1.618	0.546	0.997	0.92	2.051	1.5	1.176	0.935
Oliva East	704E	No. Samples	300	300	300	300	18	18	18	18
		Min	8	0.02	0.19	0.005	0.5	0.02	0.01	0.036
		Max	13,173	36.74	29.2	48.82	2,354	26	11.1	27.9
		Mean	2,091	10.523	6.346	11.214	418	4.552	3.019	8.75
		CV	1.165	0.613	0.822	0.799	1.405	1.289	1.095	1.038
OR Link	705	No. Samples	75	75	75	75	11	11	11	11
		Min	7	0.05	0.07	0.05	3	0.018	0.007	0.016
		Max	1,323	20.46	31.68	28.63	1,845	9.5	8.93	12
		Mean	258	8.818	5.489	7.295	198	2.03	1.743	2.444
		CV	1.091	0.646	1.053	0.831	2.635	1.293	1.65	1.691
OR Link East	705E	No. Samples	147	147	146	147	8	8	8	8
		Min	10	0.1	0.04	0.005	0.5	0.035	0.008	0.027
		Max	1,972	30.7	13.84	27.92	552	8.34	11	15.5
		Mean	323	8.388	4.289	6.535	107	3.611	2.27	4.214
		CV	1.061	0.652	0.787	0.845	1.662	0.9	1.571	1.256
Oliva FW East	706	No. Samples	23	23	23	23	5	5	5	5
		Min	197	2.02	0.96	0.54	34	0.27	0.199	0.144
		Max	9,571	33.14	13.76	24.06	1,227	7.277	16.6	19.2
		Mean	2,317	13.013	5.451	9.727	351	4.036	5.232	5.841
		CV	1.062	0.66	0.611	0.679	1.281	0.73	1.219	1.19

Table 14.11: Underground and Drill Sample Assay Statistics, Animas

Vein	Code	Statistic	Underground Samples				Drill Samples			
			Ag (g/t)	Au (g/t)	Pb %	Zn %	Ag (g/t)	Au (g/t)	Pb %	Zn %
Animas	801	No. Samples	710	666	699	703	8	8	8	8
		Min	0.5	0.01	0.001	0.001	0.5	0.002	0.001	0.001
		Max	4,450	671	70.6	671	103	2.59	0.889	0.51
		Mean	424	4.013	3.452	6.228	20	0.631	0.15	0.096
		CV	1.396	6.475	1.406	4.144	1.665	1.317	1.946	1.755
Animas HW	802	No. Samples	529	514	523	522	4	4	4	4
		Min	2	0.01	0.005	0.05	64	1.19	0.186	0.026
		Max	5,500	201	54	45.04	315	2.43	4.87	9
		Mean	556	3.702	5.991	11.108	241	1.903	1.617	2.789
		CV	1.047	2.424	1.112	0.899	0.426	0.286	1.172	1.309
Animas HW Splay	803	No. Samples	53	53	53	53	-	-	-	-
		Min	40	0.15	0.35	0.82	-	-	-	-
		Max	2,195	9.44	25.22	22.16	-	-	-	-
		Mean	462	3.554	5.718	8.769	-	-	-	-
		CV	0.911	0.462	0.794	0.603	-	-	-	-

14.4 CORE RECOVERY AND RQD

Core Recovery characteristics were analysed for all drill core samples obtained from within each of the 52 mineralized zones. See Table 14.12 below.

Table 14.12: Recovery and RQD by Area

Area	No. of Measurements	Avg. RQD %	Avg. Rec.
Hormiguera	12	69%	98%
Argentina	19	32%	92%
1522	47	69%	98%
El Rosario	6	51%	99%
Durangueno	20	65%	100%
La Prieta	16	64%	99%
Recompensa	28	40%	96%
Animas	2	30%	67%
Total	**150**	**52%**	**94%**

A total of 15,024 diamond core Recovery and RQD measurements were returned from the drill-hole database. Of these, only 150 were found to be contained either partially or fully within the mineralized zones and as such only these have been presented in the table above. Both average Recovery and RQD were found overall to be excellent. There are only two samples in Animas which can't fully represent the area with 67% average recovery.

In the author's opinion, the overall drill core recovery is excellent and has no negative bearing on the Mineral Resource Estimates.

14.5 DENSITY

Specific gravity (SG) determinations for Topia drill core are carried out using the water submersion method. Samples with a minimum weight of 500g are selected and then air dried. These are subsequently weighed in air with the measurement recorded on a standard form. The samples are then suspended in a basket which is submersed in water and the suspended mass in water is recorded also. The raw information is entered into an excel spreadsheet and the SG calculated via the formula,

SG = Mass in Air (Dry) / (Mass in Air (Dry) – Mass Suspended in Water)

The number of SG determinations totalled 577 of which 511 were found to be within the ascribed limits of one of the 9 mineralized areas. These SG determinations were separated into one of the corresponding 9 mineralized areas and an average SG was calculated for each of these areas. See Table 14.3 below for average SGs used for resource estimation:

Table 14.13: Average Specific Gravity By Area

Area	Code	Average SG (t/m^3)
San Miguel	100	2.56
Hormiguera	100	2.56
Argentina	200	3.06
1522	300	3.26
El Rosario	400	3.00
Durangueno	500	3.12
La Prieta	600	2.85
Recompensa	700	3.30
Animas	800	3.02

It is the authors' opinion that the SG determination method used is industry-standard and the results are appropriate for use in resource estimation.

14.6 MINERALIZATION DOMAINS

A total of 52 wireframes representing each of the veins contained within the 9 areas were generated for use in resource modeling. Leapfrog© software was used for this purpose, as it enabled the successful generation of extremely thin veins, minimum width of 30cm) and maximum width of longest drill interval in each domain, without the issue of intra-vein-wall triangulation intersection commonly encountered when attempting to model the veins via the conventional 'sectional strings' method.

Each wireframe was assigned a unique numeric code that was used to tag the block model and assay intervals associated with each zone. Every assay located at >50% within one or more of the 52 wireframes received a corresponding code. Details on area and vein names, coding and vein orientation are presented in Table 14.14.

Table 14.14: Vein Classification & Orientation

Area	Vein Code	Vein Name	Dip (°)	Dip Direction (°)
Hormiguera	101	San Jorge	-78	145
	102	SJSM Int	-80	148
	103	Cantarranas	-80	145
	104	Cantarranas East	-84	148
	105	SJC Int	-67	145
	106	San Miguel	-75	152
	107	Cantarranas West Offset	-83	142
	108	San Jorge FW	-73	145
Argentina	201	Argentina Central	-58	168
	202	Argentina East	-77	161
	203	Argentina West FW	-65	152
	204	Santa Cruz	-82	172
	205	Argentina West	-66	153
1522	301	Don Benito North	-77	135

Area	Vein Code	Vein Name	Dip (°)	Dip Direction (°)
	302	Don Benito South	-78	138
	303	Don Benito West	-63	135
	304	Don Benito North FW	-78	142
	305	Don Benito Intermediate	-75	144
	306	La Dura Splay North	-70	110
	307	La Dura West Splay South	-60	135
	308	Don Benito West HW	-75	155
El Rosario	401	El Rosario	-80	127
	402	El Rosario FW	-80	120
Durangueno	501	San Gregorio	-85	145
	502	Oxi	-80	150
	503	Oxidada	-83	148
	507	La Higuera	-78	125
	508	San Pablo	-87	355
	509	San Gregorio North Loop	-90	145
	510	La Higuera North	-85	345
	511	Link	-85	302
La Prieta	601	La Prieta 1	-78	130
	602	La Prieta 2	-70	132
	603	La Prieta 3	-80	130
	604	La Prieta 4	-65	120
	605	La Prieta 5	-80	115
	606	La Prieta 6	-70	102
	608	La Prieta 8	-85	113
	609	La Prieta 9	-70	120
Recompensa	701	Recompensa Splay	-78	133
	702	Recompensa	-75	145
	702E	Recompensa East	-65	140
	703	Recompensa HW	-83	125
	703E	Recompensa HW East	-80	140
	704	Oliva	-65	135
	704E	Oliva East	-78	135
	705	OR Link	-65	140
	705E	OR Link East	-88	315
	706	Oliva FW East	-90	305
Animas	801	Animas	-70	145
	802	Animas HW	-75	149
	803	Animas HW Splay	-82	135

14.7 UNDERGROUND WORKINGS

Mine-specific sets of 3D underground workings are maintained by GPR personnel who collect and manage all survey data for the active mining areas. 3D underground workings current to July 31st, 2018 were used for the purpose of cutting total mined solids from each of the 3D veins. These total mined

solids were then used to code the model to allow for exclusion of mined material during final Mineral Resource inventory reporting.

Additionally, 3D underground workings for active mining areas were used to generate a set of 'reconciliation' solids for the period December 1, 2014 to July 31, 2018, which were then coded to the model. Subsequently, an iterative process of production figures vs. model reconciliation and grade cap / dilution factor adjustment was undertaken. More details on this process are given below in Section 14.8 - Assay Capping and Section 14.11 - Model Validation.

14.8 ASSAY CAPPING

As standard industry practice, higher-grade assay values are often capped (i.e. replaced with a threshold value) prior to compositing with the aim of reducing the influence of statistically anomalous data on resource estimations.

For the Topia Mine, a process of iterative cap application, model interpolation and reconciliation of resultant model with production records was used to determine the most appropriate area-specific grade caps. This process was repeated with various caps until an acceptable correlation between model and production grades were achieved (taking into account the provision for zero-grade dilution in order to reconcile tonnes).

Table 14.15 and Table 14.16 below shows vein-specific grade caps applied.

Table 14.15: Area Applied Capping for Underground Sample Assays

Area	Au (g/t)			Ag (g/t)			Pb (%)			Zn (%)		
	Cap	Mean		Cap	Mean		Cap	Mean		Cap	Mean	
		Before	After		Before	After		Before	After		Before	After
Hormiguera	2	0.87	0.77	1,800	1,441	965	10	3.18	2.78	10	5.15	4.00
Argentina	2	0.77	0.573	1,500	1,088	638	15	8.01	5.79	15	4.89	4.04
1522	5	2.71	2.16	1,600	534	478	15	8.29	6.11	15	7.98	6.27
El Rosario	1.5	0.23	0.21	1,400	877	692	6	3.95	2.90	10	4.92	4.37
Durangueno	0.7	0.40	0.32	1,400	1,039	664	6	4.22	2.47	10	10.76	6.61
La Prieta	7	4.66	3.74	1,500	1,071	718	8	4.58	3.61	8	7.79	4.79
Recompensa	15	11.34	9.16	2,500	762	548	10	5.50	4.44	15	8.23	6.80
Animas	10	3.86	2.93	1,500	479	425	13	4.59	3.93	13	8.37	5.83

Table 14.16: Area Applied Capping for Drillhole Sample Assays

Area	Au (g/t)			Ag (g/t)			Pb (%)			Zn (%)		
	Cap	Mean		Cap	Mean		Cap	Mean		Cap	Mean	
		Before	After		Before	After		Before	After		Before	After
Hormiguera	2	0.69	0.61	1,800	707	481	10	1.02	1.02	10	1.76	1.57
Argentina	2.5	0.44	0.38	1,500	556	448	15	4.53	3.85	15	2.21	2.19
1522	5	1.72	1.59	1,600	326	287	15	3.78	3.03	15	3.07	2.82
El Rosario	1.5	0.16	0.11	1,400	387	370	6	1.98	1.89	10	3.01	2.79
Durangueno	0.7	0.23	0.20	1,400	610	472	6	1.67	1.41	10	4.19	4.65
La Prieta	7	2.81	2.01	1,500	431	292	8	1.53	1.54	8	2.92	2.19
Recompensa	15	6.28	4.88	2,500	271	248	10	2.46	2.19	15	4.31	3.91
Animas	10	1.06	1.06	1,500	93	93	13	0.64	0.64	13	0.99	0.99

14.9 COMPOSITES

Assay intervals were tagged with unique codes for each vein. Any assay contained at >50% within a vein wireframe received a code. Only samples with a code were used in the relevant interpolation run.

Common industry practice is to composite samples to a standard specified length as a method of mitigating grade bias that may potentially result from variable primary sample lengths. At Topia, extremely narrow vein widths mean that rarely is more than one (1) sample taken across a vein and, as such, sample lengths are variable due to variability in vein width. As it is not possible to composite a single sample, compositing was not undertaken for underground samples.

All underground samples were capped, and diluted at 0 grade, to 0.3m (where sample width was less than 0.3m) prior to interpolation.

Drill-hole samples were capped and then composited to the width of the mineralized intersection. All drill-hole composites were then adjusted to the true width of the vein and diluted at 0 grade to 0.3m where adjusted composite length was less than 0.3m.

14.10 BLOCK MODEL AND GRADE ESTIMATION PROCEDURES

14.10.1 DIMENSIONS AND CODING

The block model was updated for 52 veins. The block dimensions for all models are 2.5m x 2.5m x 2.5m. Each block stored the percent of the wireframe occupying the block, the average distance of and number of holes/composites used in the estimate of grade for the block, the distance to the nearest hole, and the grade of the closest composite.

14.10.2 GEOSTATISTICS

Variogram analysis was undertaken for each element (Ag, Au, Pb and Zn) within the plane of selected veins in order to characterise the spatial grade variances.

The relative nugget percentages (of total sill) for each element were found to be highly variable across the various veins with ranges of 0.29-54% for Ag, 25-75% for Au, 37-70% for Pb and 33-81% for Zn. Overall, lowest nugget values were found to be associated with gold and the highest with zinc.

Long ranges of variograms were found to be between 6.6 - 80m for Ag, 7.4 - 73.6 for Au, 6.6 - 74.5m for Pb and 5.8 - 91.1m for Zn across all zones. Long ranges were usually found to be in the approximate along-strike direction relative to vein orientation, as has been observed during previous geostatistical investigations.

Anisotropy ratios were found to be greater than 2 for majority of veins for which geostatistical investigation was undertaken. Such ratios can be explained by much greater data abundance in the horizontal direction (and therefore direction of longest range) along underground workings facilitating the generation of clearer variograms in this direction. There is otherwise no apparent geological explanation for this observation, which has also been noted in previous geostatistical studies

Due to significant differences in ranges across all elements and veins, it was decided that the more consistent approach to interpolation parameter selection was to use the same search distances across all zones as opposed to vein and element-specific ranges that strictly adhere to variogram analysis results. A first pass of 10m and a second pass of 30m, and third pass of 60m were considered appropriate based on the results of the geostatistical investigation.

Table 14.17 below shows detailed variogram analysis results.

Table 14.17: Area Composite Statistics

Area	Variable	Nugget	First Structure			Second Structure		
			Sill1	Axi1	Axi2	Sill2	Axi1	Axi2
Hormiguera	Ag	0.54	0.18	10.3	61.2	0.57	16.2	57.2
	Au	0.75	0.04	11.2	27.8	0.18	8.9	30
	Pb	0.45	0.05	6.6	46.8	0.32	9.2	51.3
	Zn	0.53	0.08	10.4	45.9	0.8	10	60.2
Argentina	Ag	0.49	0.02	24.4	83.5	0.2	25.2	60
	Au	0.44	0.05	8.4	73.6	0.29	15.9	59.6
	Pb	0.40	0.09	8.8	74.5	0.38	5.4	59.9
	Zn	0.74	0.02	5.8	51.2	0.39	6.7	54.8
1522	Ag	0.48	0.1	6.6	48.3	0.33	7.6	36.7
	Au	0.45	0.07	7.4	49.6	0.26	5.2	33.3
	Pb	0.37	0.18	7.4	44.1	0.64	7.9	46.3
	Zn	0.76	0.02	8.2	22.3	0.43	6.8	20.3
El Rosario	Ag	0.43	0.14	7.6	20.3	0.67	3.2	19.9
	Au	0.53	0.07	9.4	43	0.15	6.9	20.4
	Pb	0.46	0.59	6.9	30.1	0.30	5.3	25.8
	Zn	0.54	0.34	6.5	26.4	0.27	6.9	18.4
Durangueno	Ag	0.50	0.09	14	39.2	0.28	80.5	29.1
	Au	0.67	0.02	17.9	41.5	0.16	13.3	42.6
	Pb	0.70	0.08	15	45.4	0.38	12.2	37.9
	Zn	0.81	0.01	12.4	50.9	0.24	9.6	47.3
La Prieta	Ag	0.43	0.62	15.4	31.1	0.05	10.5	31.4
	Au	0.33	0.38	15.6	29.9	0.29	10	38.8
	Pb	0.65	0.01	9.9	40.2	0.62	19.7	44.17
	Zn	0.50	0.36	39	91.1	0.39	9.1	58.8
Recompensa	Ag	0.29	0.51	7.5	20	0.32	11.1	18.2
	Au	0.25	0.13	8.1	29.8	0.54	6.3	28
	Pb	0.45	0.23	8.9	35.7	0.42	8.5	31.6
	Zn	0.33	0.03	17.3	61.5	0.76	14.3	50.8
Animas	Ag	-	-	-	-	-	-	-
	Au	-	-	-	-	-	-	-
	Pb	-	-	-	-	-	-	-
	Zn	-	-	-	-	-	-	-

14.10.3 GRADE INTERPOLATION

Grade interpolation for all 4 elements (Ag, Au, Pb and Zn) was executed as a succession of 3 passes, each of which was performed via the inverse distance cubed (ID^3) method. The first pass consisted of a 10m search ellipsoid utilising a minimum of 2 and a maximum of 6 composites per block estimated. The second pass was executed at 30m radius and a minimum of 2 and maximum of 6 composites and the last one at 60m with a minimum of 1 composite.

14.11 BLOCK MODEL VALIDATION

Validation of the interpolation techniques and resulting block model were completed via the following:

- Visual inspection of the block grades in comparison to surrounding data values;
- Comparison of block model grades with actual production; and
- Comparison of block and sample means.

14.11.1 VISUAL INSPECTION

The block models for all 9 areas were reviewed in 3D. Model grades were compared locally with composite grades and were found to be acceptably similar.

14.11.2 COMPARISON WITH PRODUCTION RECORDS

Model results were reconciled with production records for the period December 1, 2014 to July 31, 2018 for four main mining areas. Only selected veins were able to be directly reconciled with production figures (Argentina, El Rosario, Recompensa, and Hormiguera) due to mixing of ores across multiple veins in most mines. In these cases, straightforward reconciliation was not possible, and mine production was reconciled against the sum of the mining in individual veins from that mine. This allows for only a broad-based reconciliation, assuming that the various veins in each mine have similar characteristics.

As discussed previously in Section 14-8, grade caps were adjusted incrementally until the resulting interpolated model reported the best possible match with production figures for the selected reconciliation areas. As such, the models for these areas by way of their construction, generally reconciled reasonably well with available production records (Table 14.18).

Table 14.18 compares the percent difference in tonnes produced and block model estimates, with the percent difference in grades from the block model to production after adjustments in capping for all elements in the block model. As such, this is the best-case scenario. The idea was to balance the percent difference increase in tonnes (likely caused by internal and external dilution) with the percent difference decrease in grades. In the four mine areas reconciled the block model tonnage to production tonnage was less by 14-56%, which is a good check on wireframe thickness and minimal overstating of the block model tonnes. Percentage decreases in Au, Ag, Pb, Zn grades from block model to production are for the most part down but highly variable mine to mine and element to element but are considered reasonable.

Table 14.18: Comparison of Tonnes and Grades in Production versus Block Model Estimates

		Argentina	Recompensa	Hormiguera	El Rosario
Tonnes	Production[1]	51,362	14,654	24,123	17,195
	Model[2]	44,098	9,186	16,070	7,495
	Difference	**14%**	**37%**	**33%**	**56%**
Ag (g/t)	Production[1]	386	324	332	399
	Model[2]	421	341	457	523
	Difference	**-9%**	**-5%**	**-38%**	**-31%**
Au (g/t)	Production[1]	0.35	2.86	0.21	0.14
	Model[2]	0.60	4.44	0.36	0.13
	Difference	**-72%**	**-55%**	**-70%**	**11%**
Pb (%)	Production[1]	3.09	2.58	1.02	2.16
	Model[2]	4.78	2.55	1.07	2.36
	Difference	**-54%**	**1%**	**-5%**	**-10%**
Zn (%)	Production[1]	2.50	3.15	1.44	2.76
	Model[2]	3.72	4.05	1.53	3.34
	Difference	**-49%**	**-29%**	**-6%**	**-21%**

Notes:

1. *Based from production records December 1, 2014 to July 31, 2018*
2. *Direct model estimates of material within the reconciliation areas December 1, 2014 to July 31, 2018*

14.11.3 COMPARISON OF BLOCK AND SAMPLE MEANS

Average block grade estimates were compared against average composite grades for each vein. Generally, model averages were modestly lower (13-17%) than composite averages across all 4 elements. This implies that the block model grade estimates are conservative regarding composite grades. There are instances of the opposite effect, but these tend to occur in small zones with limited sampling data available.

Table 14.19 below provides details of the comparison.

Table 14.19: Comparison of Block and Composite Grades

Area	Code	Vein	Ag (g/t)			Au (g/t)			Pb (%)			Zn (%)		
			Comp	Model	Diff	Comp	Model	Diff	Comp	Model	Diff	Comp	Model	Diff
Hormiguera	101	San Jorge	382	353	8%	0.33	0.30	9%	1.23	1.15	7%	2.13	1.71	20%
	102	SJSM Int	356	353	1%	0.34	0.32	6%	1.08	1.39	-29%	1.91	1.80	6%
	103	Cantarranas	423	360	15%	0.33	0.31	6%	0.99	0.82	17%	1.61	1.39	14%
	104	Cantarranas East	234	160	32%	0.31	0.29	6%	0.63	0.78	-24%	0.59	0.43	27%
	105	SJC Int	320	285	11%	0.23	0.22	4%	0.82	0.62	24%	1.49	1.27	15%
	106	San Miguel	374	316	16%	0.16	0.15	6%	1.63	1.46	10%	1.83	1.42	22%
	107	Cantarranas West Offset	192	176	8%	0.17	0.16	6%	0.64	0.59	8%	0.82	0.73	11%
	108	San Jorge FW	461	478	-4%	0.32	0.32	0%	2.13	2.23	-5%	2.45	2.42	1%
Argentina	201	Argentina Central	551	583	-6%	0.43	0.41	5%	4.69	4.59	2%	3.63	3.49	4%
	202	Argentina East	394	318	19%	0.66	0.49	25%	5.10	3.96	22%	4.11	3.04	26%
	203	Argentina West FW	786	582	26%	0.43	0.31	29%	6.25	4.62	26%	1.31	1.66	-27%
	204	Santa Cruz	394	306	22%	0.36	0.29	19%	3.39	2.74	19%	2.35	2.14	9%
	205	Argentina West	608	532	13%	0.33	0.32	3%	4.54	3.48	23%	2.89	2.48	14%
1522	301	Don Benito North	305	245	20%	1.18	0.96	19%	4.18	3.05	27%	4.16	3.02	27%
	302	Don Benito South	248	216	13%	1.09	1.02	6%	3.33	2.84	15%	3.47	2.85	18%
	303	Don Benito West	227	192	15%	2.33	1.93	17%	3.03	2.79	8%	3.52	2.66	24%
	304	Don Benito North FW	388	311	20%	1.39	1.24	11%	3.75	3.00	20%	5.28	4.26	19%
	305	Don Benito Intermediate	336	300	11%	1.24	1.19	4%	4.29	3.45	20%	2.72	3.37	-24%
	306	La Dura Splay North	389	266	32%	1.07	0.92	14%	2.99	2.19	27%	3.72	2.36	37%
	307	La Dura West Splay South	195	161	17%	2.59	2.46	5%	1.88	1.43	24%	2.74	1.98	28%
	308	Don Benito West HW	327	275	16%	2.52	2.46	2%	5.97	5.27	12%	6.58	6.52	1%
El Rosario	401	El Rosario	490	360	27%	0.14	0.10	29%	2.08	1.58	24%	3.18	2.60	18%
	402	El Rosario FW	249	209	16%	0.10	0.04	60%	0.73	0.75	-3%	1.57	1.28	18%
Durangueno	501	San Gregorio	465	309	34%	0.24	0.20	17%	1.70	1.08	36%	4.36	3.20	27%
	502	Oxi	449	310	31%	0.13	0.09	31%	1.75	1.22	30%	4.07	3.45	15%

Area	Code	Vein	Ag (g/t)			Au (g/t)			Pb (%)			Zn (%)		
			Comp	Model	Diff	Comp	Model	Diff	Comp	Model	Diff	Comp	Model	Diff
	503	Oxidada	334	172	49%	0.22	0.13	41%	1.16	0.60	48%	4.06	2.38	41%
	507	La Higuera	365	313	14%	0.17	0.14	18%	1.39	1.14	18%	4.47	3.27	27%
	508	San Pablo	190	174	8%	0.07	0.05	29%	0.57	0.47	18%	2.24	1.62	28%
	509	San Gregorio North Loop	461	544	-18%	0.17	0.20	-18%	1.85	2.23	-21%	5.46	5.35	2%
	510	La Higuera North	259	222	14%	0.28	0.21	25%	0.98	0.94	4%	3.06	2.66	13%
	511	Link	563	425	25%	0.23	0.22	4%	1.88	1.44	23%	4.86	3.89	20%
La Prieta	601	La Prieta 1	474	328	31%	2.38	1.56	34%	2.33	1.28	45%	3.18	2.04	36%
	602	La Prieta 2	288	170	41%	1.85	1.26	32%	2.01	1.08	46%	2.42	1.66	31%
	603	La Prieta 3	302	271	10%	1.35	1.67	-24%	1.53	1.32	14%	1.97	1.84	7%
	604	La Prieta 4	652	373	43%	3.31	1.97	40%	1.73	1.34	23%	3.21	1.73	46%
	605	La Prieta 5	204	238	-17%	1.66	1.76	-6%	1.71	1.79	-5%	2.05	2.07	-1%
	606	La Prieta 6	337	311	8%	1.53	1.72	-12%	1.31	1.39	-6%	1.80	2.19	-22%
	608	La Prieta 8	470	402	14%	2.00	1.89	6%	2.75	2.17	21%	3.47	2.96	15%
	609	La Prieta 9	390	285	27%	1.84	1.40	24%	2.02	1.55	23%	2.21	1.65	25%
Recompensa	701	Recompensa Splay	238	199	16%	3.31	3.39	-2%	1.58	1.36	14%	1.77	1.86	-5%
	702	Recompensa	222	165	26%	6.43	5.51	14%	2.57	1.73	33%	3.44	2.27	34%
	702E	Recompensa East	187	169	10%	3.14	2.81	11%	1.69	1.95	-15%	2.86	3.23	-13%
	703	Recompensa HW	648	430	34%	4.23	4.73	-12%	2.81	2.66	5%	4.66	4.22	9%
	703E	Recompensa HW East	112	108	4%	3.48	2.87	18%	1.78	1.18	34%	2.85	2.07	27%
	704	Oliva	139	152	-9%	3.56	3.03	15%	1.74	1.49	14%	2.81	2.49	11%
	704E	Oliva East	560	421	25%	4.00	3.26	19%	2.62	2.14	18%	4.31	3.02	30%
	705	OR Link	144	84	42%	4.57	2.47	46%	2.50	1.73	31%	3.66	2.34	36%
	705E	OR Link East	150	117	22%	3.79	2.49	34%	2.02	1.50	26%	3.14	2.21	30%
	706	Oliva FW East	519	334	36%	3.60	2.88	20%	2.33	2.70	-16%	3.79	3.63	4%
Animas	801	Animas	256	205	20%	1.86	1.68	10%	2.06	1.68	18%	3.12	2.49	20%
	802	Animas HW	236	234	1%	1.48	1.67	-13%	2.31	2.43	-5%	3.44	3.23	6%
	803	Animas HW Splay	168	186	-11%	1.23	1.24	-1%	2.31	2.19	5%	3.57	3.17	11%

14.11.4 RESOURCE CUT-OFF

Mineral Resources are reported herein above an NSR cut-off for different areas. The cut-off reflects total operational costs including mining, milling, and administration. NSR block grades were calculated using metal prices as follows: US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn. Provision within the NSR calculation was made for mine-specific mining costs, details of which are given in Table 14.20 below:

Table 14.20: Area-Specific Block Model Cut-Off in USD

Mine	Mining Costs	Milling & Admin Costs	Total Costs	NSR Cut-off
Mina 1522	119	74	**193**	193
Argentina	98	74	**172**	172
Animas 1420	75	74	**149**	149
Recompensa	77	74	**151**	151
El Rosario	74	74	**148**	148
La Prieta	161	74	**235**	235
Durangueno	70	74	**144**	144
Hormiguera	78	74	**152**	152
San Miguel	174	74	**248**	248

14.12 CLASSIFICATION

The Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards for Mineral Resources and Mineral Reserves (CIM definitions) were followed for the classification of the mineral resources.

It is reasonable to assume that the continuity of the veins has been demonstrated sufficiently to support the category of resources; therefore, groups of blocks generally falling within 10m of a composite were selected on long section for Measured and another 10m beyond these domains classified as Indicated. Blocks beyond the outlined regions were left as Inferred.

The classification scheme applied for Measured and Indicated for all areas of the Topia Mine Resource is described in Table 14.21 below.

Table 14.21: M & I Classification Strategy – Topia Mine

Class	Avg. Sample Distance Criteria
1	<= 10m
2	<= 20m

14.13 MINERAL RESOURCE TABULATIONS

Table 14.22 through Table 14.25 provide detailed summaries of the Topia Mineral Resource Estimates as at 31 July 2018.

Table 14.22: 2018 Measured Mineral Resources

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
San Miguel	San Jorge	101	3,124	660	0.50	2.32	3.18
	SJSM Int	102	963	661	0.54	2.57	3.59
	Cantarranas	103 Down	3,723	664	0.46	1.59	2.83
	SJC Int	105 Down	1,672	598	0.33	1.38	3.08
	San Miguel	106	837	610	0.25	2.91	3.16
	San Jorge FW	108	1,439	807	0.57	3.71	4.35
	San Miguel Measured Sub-Total		11,758	667	0.46	2.19	3.23
Hormiguera	Cantarranas	103 Up	5,174	543	0.45	1.23	1.98
	Cantarranas East	104	1,872	470	0.45	1.15	1.10
	SJC Int	105 Up	1,176	538	0.28	1.29	2.18
	Cantarranas West Offset	107	686	460	0.35	1.50	1.55
	Hormiguera Measured Sub-Total		8,909	521	0.42	1.24	1.79
Argentina	Argentina Central	201	14,666	590	0.46	4.98	3.74
	Argentina East	202	62,445	483	0.72	6.11	4.90
	Argentina West FW	203	11,485	665	0.36	5.43	1.64
	Santa Cruz	204	11,274	501	0.48	4.31	3.24
	Argentina West	205	17,718	650	0.36	4.22	3.06
	Argentina Measured Sub-Total		117,590	541	0.57	5.44	4.00
1522	Don Benito North	301	14,395	416	1.50	5.04	5.20
	Don Benito South	302	9,984	390	1.93	5.88	6.16
	Don Benito West	303	10,112	367	2.24	5.67	4.71
	Don Benito North FW	304	5,874	496	1.48	4.71	6.85
	Don Benito Intermediate	305	9,612	458	1.73	5.58	5.24
	La Dura Splay North	306	2,879	508	1.33	4.18	4.85
	La Dura West Splay South	307	684	298	2.95	2.37	3.59
	Don Benito West HW	308	5,334	324	2.86	6.12	7.96
	1522 Measured Sub-Total		58,874	413	1.87	5.37	5.66
El Rosario	El Rosario	401 Up	8,196	516	0.22	2.19	2.79
	El Rosario Measured Sub-Total		8,196	516	0.22	2.19	2.79
Durangueno	San Gregorio	501	13,974	421	0.24	1.51	4.55
	Oxi	502	3,320	400	0.12	1.44	4.08
	Oxidada	503	1,639	432	0.29	1.46	5.35
	La Higuera	507	7,621	517	0.14	1.90	4.79
	San Pablo	508	2,140	421	0.10	1.18	3.23

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
	San Gregorio North Loop	509	1,033	548	0.16	2.18	6.34
	La Higuera North	510	5,176	356	0.30	1.34	4.51
	Link	511	696	648	0.22	2.22	5.95
	El Rosario FW	402	267	551	0.10	1.08	2.81
	El Rosario	401 Down	12,841	511	0.08	1.86	3.29
	Durangueno Measured Sub-Total		48,706	458	0.18	1.65	4.24
La Prieta	La Prieta 1	601	3,429	575	2.91	2.52	3.51
	La Prieta 2	602	3,628	546	3.00	2.91	3.64
	La Prieta 3	603	435	578	2.37	3.56	3.61
	La Prieta 4	604	1,096	644	3.16	2.33	2.98
	La Prieta 5	605	101	430	2.01	3.60	3.73
	La Prieta 6	606	818	587	3.28	3.27	4.12
	La Prieta 8	608	226	531	2.85	3.18	4.08
	La Prieta 9	609	1,240	636	2.98	3.43	3.61
	La Prieta Measured Sub-Total		10,973	578	2.97	2.85	3.58
Recompensa	Recompensa Splay	701	629	246	4.04	1.56	2.14
	Recompensa	702	9,950	197	7.78	2.76	3.34
	Recompensa East	702e	2,598	280	4.23	2.57	3.92
	Recompensa HW	703	2,378	489	4.59	2.73	4.28
	Recompensa HW East	703e	1,034	194	4.63	2.27	3.74
	Oliva	704	2,660	253	4.87	2.50	4.03
	Oliva East	704e	3,075	560	4.17	3.00	4.81
	Or Link	705	1,987	139	5.10	3.36	4.51
	Or Link East	705e	975	157	3.57	2.09	3.10
	Oliva FW East	706	1,912	469	3.66	3.15	3.82
	Recompensa Measured Sub-Total		27,196	292	5.63	2.74	3.81
Animas	Animas	801	12,613	328	2.03	2.62	3.96
	Animas HW	802	5,023	341	2.46	3.45	4.38
	Animas HW Splay	803	725	229	1.47	2.77	3.84
	Animas Measured Sub-Total		18,361	328	2.13	2.85	4.07
	TOTAL MEASURED		**310,563**	**474**	**1.36**	**4.02**	**4.20**
	TOTAL MEASURED (ROUNDED)		**310,600**	**474**	**1.36**	**4.02**	**4.20**

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Area-Specific vein bulk densities as follows: Argentina - 3.06t/m^3; 1522 - 3.26t/m^3; Durangueno - 3.12t/m^3; El Rosario - 3.00t/m^3; Hormiguera - 2.56t/m^3; La Prieta - 2.85t/m^3; Recompensa - 3.30t/m^3; Animas - 3.02t/m^3; San Miguel - 2.56t/m^3.*
3. *Measured, Indicated, and Inferred Mineral Resources are reported at a cut-off Net Smelter Return (NSR) in US$, include 1522 Mine $193/t, Argentina Mine $172/t, Durangueno Mine $144/t, Recompensa Mine $151/t, Hormiguera Mine $152/t, El Rosario Mine $173/t, La Prieta $235/t, and Animas $149/t, and San Miguel $248/t.*
4. *Totals may not agree due to rounding.*
5. *A minimum mining width of 0.30 metres was used.*

6. *Mineral Resources are estimated using metal prices of US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn; and metallurgical recoveries of 94% for Ag, 60% for Au, 94% for Pb, and 93% for Zn.*
7. *2018 Mineral Resource Ag Eq oz were calculated using 80:1 Ag:Au ratio, and ratios of 1:0.0636 and 1:0.0818 for the price/ounce of silver to price/pound of lead and zinc, respectively. The ratios are reflective of average metal prices for 2018.*

Table 14.23: 2018 Indicated Mineral Resources

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
San Miguel	San Jorge	101	1,872	639	0.47	2.14	2.78
	SJSM Int	102	570	617	0.51	2.24	3.31
	Cantarranas	103 Down	1,212	607	0.34	1.33	2.14
	SJC Int	105 Down	746	554	0.30	1.16	3.02
	San Miguel	106	918	575	0.24	2.73	2.95
	San Jorge FW	108	463	835	0.61	4.14	4.41
		San Miguel Indicated Sub-Total	**5,781**	625	0.40	2.11	2.89
Hormiguera	Cantarranas	103 Up	1,052	624	0.56	1.32	2.65
	Cantarranas East	104	1,098	424	0.48	1.19	0.91
	SJC Int	105 Up	764	497	0.23	1.12	2.02
	Cantarranas West Offset	107	532	440	0.35	1.49	1.41
		Hormiguera Indicated Sub-Total	**3,446**	504	0.43	1.26	1.77
Argentina	Argentina Central	201	4,355	561	0.61	5.80	4.81
	Argentina East	202	34,277	455	0.67	5.40	4.30
	Argentina West FW	203	6,839	683	0.38	5.83	1.66
	Santa Cruz	204	10,615	495	0.45	4.27	3.01
	Argentina West	205	5,172	639	0.34	3.82	2.97
		Argentina Indicated Sub-Total	61,259	510	0.57	5.14	3.71
1522	Don Benito North	301	3,719	356	1.21	5.12	3.83
	Don Benito South	302	5,824	401	1.86	5.66	5.58
	Don Benito West	303	2,232	303	1.91	4.44	5.05
	Don Benito North FW	304	2,655	440	1.42	3.92	5.38
	Don Benito Intermediate	305	1,929	462	1.51	5.33	3.72
	La Dura Splay North	306	1,305	544	1.26	4.10	4.56
	La Dura West Splay South	307	594	292	2.71	1.77	3.70
	Don Benito West HW	308	1,994	326	2.62	6.04	7.32
		1522 Indicated Sub-Total	20,251	391	1.72	4.99	5.05
El Rosario	El Rosario	401 Up	5,170	499	0.26	2.19	2.85
		El Rosario Indicated Sub-Total	5,170	499	0.26	2.19	2.85
Durangueno	San Gregorio	501	4,320	318	0.23	0.99	4.85
	Oxi	502	1,153	355	0.09	1.30	3.21
	Oxidada	503	1,226	384	0.22	1.28	4.43
	La Higuera	507	6,035	499	0.12	1.65	4.40
	San Pablo	508	2,308	374	0.09	0.95	2.90

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
	San Gregorio North Loop	509	752	560	0.18	2.16	6.25
	La Higuera North	510	2,407	374	0.33	1.55	4.54
	Link	511	310	457	0.24	1.44	4.40
	El Rosario FW	402	405	388	0.09	0.81	2.21
	El Rosario	401 Down	9,590	427	0.08	1.85	3.42
	Durangueno Indicated Sub-Total		28,504	416	0.14	1.52	4.00
La Prieta	La Prieta 1	601	2,754	555	2.85	2.45	3.40
	La Prieta 2	602	2,405	437	3.10	2.63	3.30
	La Prieta 3	603	388	444	2.83	2.04	2.22
	La Prieta 4	604	678	557	2.51	2.19	2.57
	La Prieta 5	605	-	-	-	-	-
	La Prieta 6	606	783	537	2.67	2.82	3.51
	La Prieta 8	608	77	514	3.00	2.54	3.48
	La Prieta 9	609	603	633	2.32	3.13	2.98
	La Prieta Indicated Sub-Total		7,687	516	2.84	2.55	3.22
Recompensa	Recompensa Splay	701	272	211	5.09	1.21	1.98
	Recompensa	702	6,888	138	6.87	1.93	2.63
	Recompensa East	702e	1,691	206	3.96	2.52	3.11
	Recompensa HW	703	1,617	520	3.99	2.42	4.00
	Recompensa HW East	703e	397	251	4.37	2.47	4.38
	Oliva	704	1,752	246	4.26	2.39	3.56
	Oliva East	704e	1,796	410	3.52	2.59	4.56
	Or Link	705	1,492	136	4.56	3.34	4.48
	Or Link East	705e	527	126	3.40	2.13	2.71
	Oliva FW East	706	1,674	386	3.40	2.97	3.75
	Recompensa Indicated Sub-Total		18,106	242	5.06	2.36	3.36
Animas	Animas	801	11,981	321	1.93	2.52	3.93
	Animas HW	802	2,630	321	2.33	3.40	4.21
	Animas HW Splay	803	517	214	1.39	2.49	3.50
	Animas Indicated Sub-Total		15,128	317	1.98	2.68	3.97
	TOTAL INDICATED		**165,331**	**436**	**1.34**	**3.57**	**3.79**
	TOTAL INDICATED (ROUNDED)		**165,300**	**436**	**1.34**	**3.57**	**3.79**

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Area-Specific vein bulk densities as follows: Argentina - 3.06t/m^3; 1522 - 3.26t/m^3; Durangueno - 3.12t/m^3; El Rosario - 3.00t/m^3; Hormiguera - 2.56t/m^3; La Prieta - 2.85t/m^3; Recompensa - 3.30t/m^3; Animas - 3.02t/m^3; San Miguel - 2.56t/m^3.*
3. *Measured, Indicated, and Inferred Mineral Resources are reported at a cut-off Net Smelter Return (NSR) in US$, include 1522 Mine $193/t, Argentina Mine $172/t, Durangueno Mine $144/t, Recompensa Mine $151/t, Hormiguera Mine $152/t, El Rosario Mine $173/t, La Prieta $235/t, and Animas $149/t, and San Miguel $248/t.*
4. *Totals may not agree due to rounding.*
5. *A minimum mining width of 0.30 metres was used.*

6. *Mineral Resources are estimated using metal prices of US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn; and metallurgical recoveries of 94% for Ag, 60% for Au, 94% for Pb, and 93% for Zn.*
7. *2018 Mineral Resource Ag Eq oz were calculated using 80:1 Ag:Au ratio, and ratios of 1:0.0636 and 1:0.0818 for the price/ounce of silver to price/pound of lead and zinc, respectively. The ratios are reflective of average metal prices for 2018.*

Table 14.24: 2018 Measured plus Indicated Mineral Resources

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
San Miguel	San Jorge	101	4,996	652	0.49	2.26	3.03
	SJSM Int	102	1,533	644	0.53	2.45	3.48
	Cantarranas	103 Down	4,936	650	0.43	1.52	2.66
	SJC Int	105 Down	2,418	584	0.32	1.31	3.06
	San Miguel	106	1,755	592	0.24	2.82	3.05
	San Jorge FW	108	1,902	814	0.58	3.81	4.36
	San Miguel Measured & Indicated Sub-Total		17,539	653	0.44	2.16	3.11
Hormiguera	Cantarranas	103 Up	6,226	557	0.47	1.25	2.09
	Cantarranas East	104	2,970	453	0.46	1.17	1.03
	SJC Int	105 Up	1,940	522	0.26	1.22	2.12
	Cantarranas West Offset	107	1,219	452	0.35	1.50	1.49
	Hormiguera Measured & Indicated Sub-Total		12,354	516	0.42	1.25	1.78
Argentina	Argentina Central	201	19,022	584	0.49	5.17	3.98
	Argentina East	202	96,722	473	0.70	5.86	4.69
	Argentina West FW	203	18,324	672	0.37	5.58	1.65
	Santa Cruz	204	21,890	498	0.47	4.29	3.13
	Argentina West	205	22,891	648	0.35	4.13	3.04
	Argentina Measured & Indicated Sub-Total		178,848	530	0.57	5.34	3.90
1522	Don Benito North	301	18,114	404	1.44	5.05	4.92
	Don Benito South	302	15,808	394	1.90	5.80	5.94
	Don Benito West	303	12,344	355	2.18	5.45	4.77
	Don Benito North FW	304	8,529	478	1.46	4.46	6.39
	Don Benito Intermediate	305	11,541	459	1.70	5.54	4.99
	La Dura Splay North	306	4,184	519	1.31	4.15	4.76
	La Dura West Splay South	307	1,278	295	2.84	2.09	3.64
	Don Benito West HW	308	7,328	325	2.80	6.10	7.79
	1522 Measured & Indicated Sub-Total		79,125	407	1.83	5.27	5.51
El Rosario	El Rosario	401 Up	13,366	510	0.23	2.19	2.81
	El Rosario Measured & Indicated Sub-Total		13,366	510	0.23	2.19	2.81
Durangueno	San Gregorio	501	18,295	396	0.24	1.39	4.62
	Oxi	502	4,473	389	0.12	1.40	3.86
	Oxidada	503	2,864	411	0.26	1.38	4.95
	La Higuera	507	13,656	509	0.13	1.79	4.62
	San Pablo	508	4,448	397	0.09	1.06	3.06

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
	San Gregorio North Loop	509	1,785	553	0.17	2.17	6.30
	La Higuera North	510	7,583	362	0.31	1.41	4.52
	Link	511	1,005	589	0.23	1.98	5.47
	El Rosario FW	402	672	453	0.10	0.92	2.45
	El Rosario	401 Down	22,430	475	0.08	1.86	3.35
	Durangueno Measured & Indicated Sub-Total		77,210	443	0.16	1.60	4.15
La Prieta	La Prieta 1	601	6,183	566	2.88	2.49	3.46
	La Prieta 2	602	6,033	502	3.04	2.80	3.51
	La Prieta 3	603	823	515	2.59	2.84	2.96
	La Prieta 4	604	1,774	611	2.91	2.28	2.82
	La Prieta 5	605	101	430	2.01	3.60	3.73
	La Prieta 6	606	1,601	563	2.98	3.05	3.82
	La Prieta 8	608	303	527	2.89	3.02	3.93
	La Prieta 9	609	1,843	635	2.77	3.33	3.40
	La Prieta Measured & Indicated Sub-Total		18,661	552	2.92	2.73	3.43
Recompensa	Recompensa Splay	701	901	236	4.36	1.45	2.09
	Recompensa	702	16,837	173	7.41	2.42	3.05
	Recompensa East	702e	4,289	251	4.12	2.55	3.60
	Recompensa HW	703	3,995	502	4.35	2.60	4.17
	Recompensa HW East	703e	1,431	210	4.56	2.32	3.91
	Oliva	704	4,412	250	4.63	2.45	3.84
	Oliva East	704e	4,871	505	3.93	2.85	4.72
	Or Link	705	3,478	138	4.87	3.35	4.50
	Or Link East	705e	1,501	146	3.51	2.10	2.96
	Oliva FW East	706	3,586	431	3.54	3.07	3.79
	Recompensa Measured & Indicated Sub-Total		45,302	272	5.40	2.59	3.63
Animas	Animas	801	24,594	325	1.98	2.57	3.95
	Animas HW	802	7,653	334	2.42	3.43	4.32
	Animas HW Splay	803	1,242	222	1.44	2.65	3.70
	Animas Measured & Indicated Sub-Total		33,488	323	2.06	2.77	4.02
TOTAL MEASURED & INDICATED			**475,893**	**461**	**1.35**	**3.87**	**4.06**
TOTAL MEASURED & INDICATED (ROUNDED)			**475,900**	**461**	**1.35**	**3.87**	**4.06**

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Area-Specific vein bulk densities as follows: Argentina - 3.06t/m^3; 1522 - 3.26t/m^3; Durangueno - 3.12t/m^3; El Rosario - 3.00t/m^3; Hormiguera - 2.56t/m^3; La Prieta - 2.85t/m^3; Recompensa - 3.30t/m^3; Animas - 3.02t/m^3; San Miguel - 2.56t/m^3.*
3. *Measured, Indicated, and Inferred Mineral Resources are reported at a cut-off Net Smelter Return (NSR) in US$, include 1522 Mine $193/t, Argentina Mine $172/t, Durangueno Mine $144/t, Recompensa Mine $151/t, Hormiguera Mine $152/t, El Rosario Mine $173/t, La Prieta $235/t, and Animas $149/t, and San Miguel $248/t.*
4. *Totals may not agree due to rounding.*

5. *A minimum mining width of 0.30 metres was used.*
6. *Mineral Resources are estimated using metal prices of US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn; and metallurgical recoveries of 94% for Ag, 60% for Au, 94% for Pb, and 93% for Zn.*
7. *2018 Mineral Resource Ag Eq oz were calculated using 80:1 Ag:Au ratio, and ratios of 1:0.0636 and 1:0.0818 for the price/ounce of silver to price/pound of lead and zinc, respectively. The ratios are reflective of average metal prices for 2018.*

Table 14.25: 2018 Inferred Mineral Resources

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
San Miguel	San Jorge	101	3,261	653	0.46	2.24	2.87
	SJSM Int	102	581	597	0.53	2.16	3.11
	Cantarranas	103 Down	630	574	0.31	1.69	2.48
	SJC Int	105 Down	879	586	0.40	1.59	2.29
	San Miguel	106	1,492	566	0.22	2.79	2.85
	San Jorge FW	108	1,047	789	0.63	3.77	4.32
		San Miguel Inferred Sub-Total	7,891	637	0.42	2.43	2.98
Hormiguera	Cantarranas	103 Up	900	425	0.36	0.94	1.38
	Cantarranas East	104	2,572	321	0.35	3.54	0.79
	SJC Int	105 Up	1,224	370	0.24	0.53	1.81
	Cantarranas West Offset	107	1,930	477	0.55	1.32	1.89
		Hormiguera Inferred Sub-Total	6,627	390	0.39	1.98	1.38
Argentina	Argentina Central	201	6,879	620	0.41	4.11	3.55
	Argentina East	202	36,646	355	0.71	4.49	1.92
	Argentina West FW	203	24,704	626	0.32	4.98	1.70
	Santa Cruz	204	28,250	457	0.46	3.83	2.71
	Argentina West	205	24,781	597	0.42	3.01	1.95
		Argentina Inferred Sub-Total	121,260	498	0.50	4.11	2.15
1522	Don Benito North	301	5,822	369	1.15	4.89	4.58
	Don Benito South	302	6,032	413	1.32	4.83	4.07
	Don Benito West	303	3,443	307	1.77	3.73	6.14
	Don Benito North FW	304	4,762	496	1.43	3.91	5.16
	Don Benito Intermediate	305	1,965	365	1.13	5.00	3.78
	La Dura Splay North	306	1,488	439	1.07	3.12	3.23
	La Dura West Splay South	307	1,148	435	2.74	2.61	3.73
	Don Benito West HW	308	2,396	267	1.88	5.51	5.90
		1522 Inferred Sub-Total	27,056	391	1.44	4.43	4.71
El Rosario	El Rosario	401 Up	6,859	464	0.25	1.94	3.01
		El Rosario Inferred Sub-Total	6,859	464	0.25	1.94	3.01
Durangueno	San Gregorio	501	7,618	319	0.19	0.56	4.33
	Oxi	502	5,866	363	0.08	1.59	4.60
	Oxidada	503	996	251	0.18	0.88	4.76
	La Higuera	507	6,749	487	0.14	1.61	3.89
	San Pablo	508	3,523	468	0.12	0.58	2.68

Area	Zone	Domain	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
	San Gregorio North Loop	509	3,294	585	0.25	2.50	4.84
	La Higuera North	510	2,535	429	0.33	1.92	4.98
	Link	511	78	511	0.33	1.43	6.47
	El Rosario FW	402	12,708	418	0.03	1.65	2.55
	El Rosario	401 Down	52,364	377	0.05	2.38	3.23
	Durangueno Inferred Sub-Total		95,732	395	0.08	1.95	3.46
La Prieta	La Prieta 1	601	28,739	670	2.48	1.73	2.29
	La Prieta 2	602	9,119	404	3.07	2.58	3.09
	La Prieta 3	603	1,980	385	3.57	1.28	2.39
	La Prieta 4	604	465	541	2.74	1.61	1.72
	La Prieta 5	605	610	486	3.21	3.57	4.30
	La Prieta 6	606	1,685	508	2.24	2.13	3.15
	La Prieta 8	608	17	395	0.99	1.67	2.59
	La Prieta 9	609	560	519	2.45	2.75	2.89
	La Prieta Inferred Sub-Total		43,176	588	2.66	1.94	2.53
Recompensa	Recompensa Splay	701	385	245	4.26	1.53	2.64
	Recompensa	702	12,522	302	5.94	1.76	2.24
	Recompensa East	702e	5,674	256	3.15	2.86	3.94
	Recompensa HW	703	3,946	447	6.64	3.59	5.64
	Recompensa HW East	703e	1,307	242	4.47	1.66	2.85
	Oliva	704	6,175	282	2.33	1.91	3.04
	Oliva East	704e	10,151	489	3.83	2.26	2.58
	Or Link	705	2,135	145	4.35	2.90	4.16
	Or Link East	705e	1,162	162	2.83	1.86	2.69
	Oliva FW East	706	6,486	389	3.13	2.78	3.84
	Recompensa Inferred Sub-Total		49,942	343	4.25	2.33	3.19
Animas	Animas	801	37,313	272	2.27	2.10	3.34
	Animas HW	802	4,155	363	2.36	3.90	5.27
	Animas HW Splay	803	353	193	1.23	2.14	3.35
	Animas Inferred Sub-Total		41,821	280	2.27	2.28	3.53
	TOTAL INFERRED		**400,363**	**434**	**1.34**	**2.86**	**2.97**
	TOTAL INFERRED (ROUNDED)		**400,400**	**434**	**1.34**	**2.86**	**2.97**

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Area-Specific vein bulk densities as follows: Argentina - 3.06t/m^3; 1522 - 3.26t/m^3; Durangueno - 3.12t/m^3; El Rosario - 3.00t/m^3; Hormiguera - 2.56t/m^3; La Prieta - 2.85t/m^3; Recompensa - 3.30t/m^3; Animas - 3.02t/m^3; San Miguel - 2.56t/m^3.*
3. *Measured, Indicated, and Inferred Mineral Resources are reported at a cut-off Net Smelter Return (NSR) in US$, include 1522 Mine $193/t, Argentina Mine $172/t, Durangueno Mine $144/t, Recompensa Mine $151/t, Hormiguera Mine $152/t, El Rosario Mine $173/t, La Prieta $235/t, and Animas $149/t, and San Miguel $248/t.*
4. *Totals may not agree due to rounding.*
5. *A minimum mining width of 0.30 metres was used.*
6. *Mineral Resources are estimated using metal prices of US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn; and metallurgical recoveries of 94% for Ag, 60% for Au, 94% for Pb, and 93% for Zn.*

7. *2018 Mineral Resource Ag Eq oz were calculated using 80:1 Ag:Au ratio, and ratios of 1:0.0636 and 1:0.0818 for the price/ounce of silver to price/pound of lead and zinc, respectively. The ratios are reflective of average metal prices for 2018.*

15.0 MINERAL RESERVE ESTIMATES

No mineral reserve estimates were completed in this report, or in any preceding report.

The Company decided to commence production at the Topia Mine in 2005. The Company did not base this production decision on any feasibility study of mineral reserves demonstrating economic and technical viability of the mines. As a result, there may be increased uncertainty and risks of achieving any level of recovery of minerals from the mines at Topia or the costs of such recovery. As the Topia Mine does not have established reserves, the Company faces higher risks that anticipated rates of production and production costs will not be achieved, each of which risks could have a material adverse impact on the Company's ability to continue to generate anticipated revenues and cash flows to fund operations from the Topia Mine and ultimately the profitability of this operation.

16.0 MINING METHODS

Mine production at Topia, since the commencement of operations by GPR, is summarized in Table 16.1. Mining has been ongoing at Topia since the early 16th century and possible longer. GPR, through its wholly owned subsidiary, MMR, has been operating the Topia mill since December 2005. To mid 2018, GPR has produced approximately 609,000t of ore containing about 6.5 million ounces of silver and by product gold, lead, and zinc. MMR is conducting underground mining and development on a continuous basis and is providing feed for the mill at an average calendar rate of 200tpd (first six months of 2018). Mill capacity is 220tpd.

For the narrower veins at Topia, mining is conducted by modified cut and fill stoping (resuing) to selectively mine the ore and leave the waste for backfill. In a stope the ore is blasted and extracted first, then the wall rock is blasted as stope fill. Drilling is performed with jackleg drills and ore is hand mucked in the stope and dropped down timber crib muck passes which are carried upwards as the stoping advances. Ore is hand sorted at the face so that only the higher-grade ore is removed from the stope. Man-access and ventilation is provided in timber crib man-ways adjacent to the muck passes. The level interval for the stopes is typically 40m.

The use of ground support in the small tunnels and narrow stopes is infrequent as the small headings require little support.

From the muck passes the ore is pulled via manual chutes, loaded into small rail cars and hand trammed to a dump at the portal. At the surface ore dump the ore may again be hand sorted to remove waste material. Waste from the hand sorting or from excess development is generally dumped over the bank of the hillside at these smaller mines. Ore is then picked up by front end loader and loaded into highway-style 10t- to 20t-capacity dump trucks to be hauled to the mill.

Along the Argentina and Don Benito veins, Argentina and 1522 Mine's respectively, there are significant areas with vein widths of 0.5 to one metre. In these wider areas the mining is planned based on mechanized cut and fill mining with resuing to selectively mine the ore and leave the waste for backfill. Equipment used are small 2yd^3 LHD's for development and 1yd^3 and 0.5yd^3 LHD's for mucking in the stopes. Development access is provided via decline. Ground support consists of rock bolts and mesh as required. Rock bolts include a combination of cement-grouted rebar and split set which gives initial support from the split set bolt and then longer-term support from the cement grouted portion of the bolt.

Sublevels are 40m apart in the mechanized cut and fill. Waste is generated from material beside the vein, which is blasted separately from the ore and then left as fill, or from the waste development in the mine.

Lifts in the cut and fill stopes are taken with horizontal holes (breasting) as the use of uppers drilling (to increase productivity and production) generated a ragged back in the stope and led to problems with ground support.

Ore is hauled from the stopes by LHD and then loaded into a truck for haulage to the mill.

Most of the veins at Topia Mine are associated with slips at the vein – host rock contact. This is quite useful in mining as the vein and host rock easily separate. Less useful and dilutive, are vein parallel slips anywhere from centimeters to metres in the wall rock. No formal geotechnical or hydrological studies have been completed toward mine development and mining include 1) vein parallel slips, 2) host rock type and competence, 3) diabase dykes, and 4) cross faulting and fault swarms.

Host rock type plays a minor role in dilution as both shallow southeast dipping andesite tuffs and massive andesite porphyry flows are equally competent. The tuffs can be slightly blockier. Selvage alteration around the veins in the host rock typically consists of centimetres of weak chlorite alteration with little effect on ground competence and dilution. The exception is along the Argentina vein where selvage alteration typically comprises a metre of modest to intense cloritization and argillization. This leads to incompetent host rock.

Diabase dykes are massive units of highly competent rock which typically cross cut the veins at high angles and cause little to no dilution. Rarely (Hormiguera, 1522 Mines), narrow 1-2m thick diabase dykes invade the vein and can either occupy one wall or on rare occasion can split the vein in two.

Cross faulting typically occurs at high angles to the veins and in most instances displaces the veins laterally less than one metre. For the most part this is insignificant although it does introduce dilution while shifting across the fault. More important and certainly dilutive are major cross fault zones where the vein is shifted laterally 1-20m. Rarely are these cross faults single events and commonly they are fault swarms 1-20m across. These areas are more incompetent and often require the backs to be strapped, screened and bolted. Due to the vein being “shuffled” by the multiple faults in the swarm zones, mining is difficult, and often fault swarms are crossed and mining resumed on the other side. Swarm cross faults occur from 100-300m apart and are seen at the Argentina, 1522, Recompensa, and Hormiguera Mines.

Water ingress into the mines is minor, but important, as the milling operation depends on mine water, along with re-circulated water from the tailings pond. As such, a series of water traps (behind concrete barriers or lower levels of abandoned mines), water tanks, piping, and a pumping system have been set up to gather and store water for milling. This is necessary as there are typically 6-8 months (November to June) without rain in the Topia area.

At the time of the site visit, ore from development and stoping was being produced at the following mines: Argentina (Argentina West & Central vein), Recompensa (Recompensa, Intermediate, and Oliva veins),

1522 (Don Benito veins), Durangueno (San Gregorio, La Higuera, Oxi, Oxidada, El Rosario, and San Pablo veins), El Rosario (El Rosario vein), and La Prieta (La Prieta veins).

Milling, as described in Section 17 of this report, is conducted by conventional crushing, grinding and froth flotation.

In the author's opinion, there is significant potential for discovery of additional Mineral Resources through exploration and development along existing veins systems. In addition, there is potential for discovery of other veins in the district, as there are drill intercepts, with significant grades, that have not been correlated with known structures. Total production by GPR at Topia is summarized below in Table 16.1.

Table 16.1: Topia Mine Production Figures

Year	Tonnes[1]	Silver (oz)	Gold (oz)	Lead (Tonnes)	Zinc (Tonnes)
2006[2]	22,445	208,004	406	627	742
2007	33,605	279,441	643	735	847
2008	35,318	366,199	812	876	1,074
2009	30,045	437,079	403	871	1,057
2010	38,281	515,101	597	1,092	1,358
2011	46,968	535,881	500	941	1,315
2012	56,098	555,710	573	962	1,477
2013	62,063	631,235	651	1,116	1,673
2014	67,387	667,635	555	1,154	1,675
2015	65,387	677,967	614	1,198	1,850
2016	55,836	574,031	612	1,034	1,496
2017	53,745	595,720	999	1,291	1,758
2018[3]	42,261	454,824	612	1,100	1,257
Total	**609,439**	**6,498,827**	**7,977**	**12,997**	**17,579**

Notes:

1. *Tonnes milled to GPR account, not including tolled ore*
2. *Production re-started by GPR in December 2005*
3. *2018 production January to July*

17.0 RECOVERY METHODS

The process flow sheet for the Topia plant is illustrated in Figure 17.1. Coarse ore is placed in one of six bins, which provides a means for segregation of ore types for batch processing or blending. Ore is passed through a grizzly to a 15" x 24" jaw crusher and then over a 6' x 12' vibratory screen. Oversize (>3/4 in) from the screen is sent to a secondary cone crusher, and then conveyed to a 200t-capacity fine ore bin.

Segregation of sulphide particles is achieved by means of a grinding circuit comprising three ball mills and two 10"-dia. cyclones. Fine ore is fed to one of either a 6' x 14' or 5' x 10' ball mill. When the larger unit is in use, the product is passed through the cyclones, with the oversize fed back into the ball mill. If the smaller mill is used, the oversize from the cyclones goes to a 4' x 8' ball mill which operates in closed circuit with the cyclones. Final grind size is 65% passing 74µ.

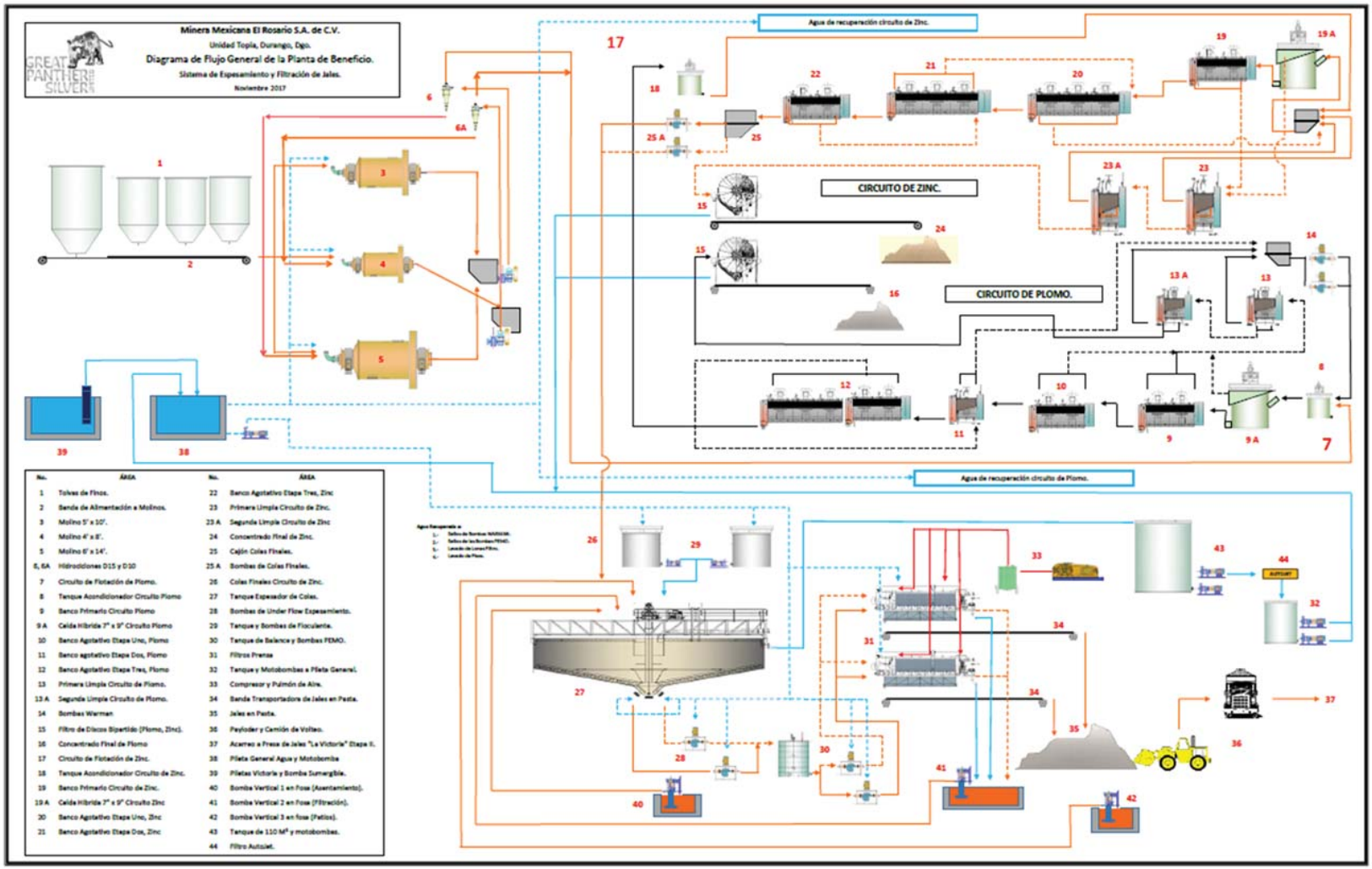
The ore stream passes to a lead flotation circuit comprising primary and secondary rougher and cleaner flotation cells, followed by a similarly configured zinc circuit. Concentrates are dried to 10% moisture content by means of disc filters and shipped via trucks to the port of Manzanillo for sale to a concentrate buyer.

During 2017 the Company installed tails thickener and filter press to enable dry stacking of tails. As well upgrades were completed to the crushing plant, flotation circuits, and ball mills.

Tails to mid 2017 were impounded behind a dam located 750m south of the mill. In mid-2017 dry stack tails were being produced, and by the end of 2017 the dry stack tails were impounded in a new tails site 1,250m south of the mill. Tails to mid 2017 were impounded behind a dam located 750m south of the mill. In mid-2017 dry stack tails were being produced, and by mid-2018 the dry stack tails were impounded on-top of the old dam and buttressing the south face. A new dry stack tails site 1,250m south of the mill is awaiting final permitting before use.

The performance of the mill demonstrates that the gold, silver, lead and zinc in the ores at Topia can be recovered with conventional processes.

Figure 17.1: Process Flow Sheet, Topia Mine Metallurgical Plant



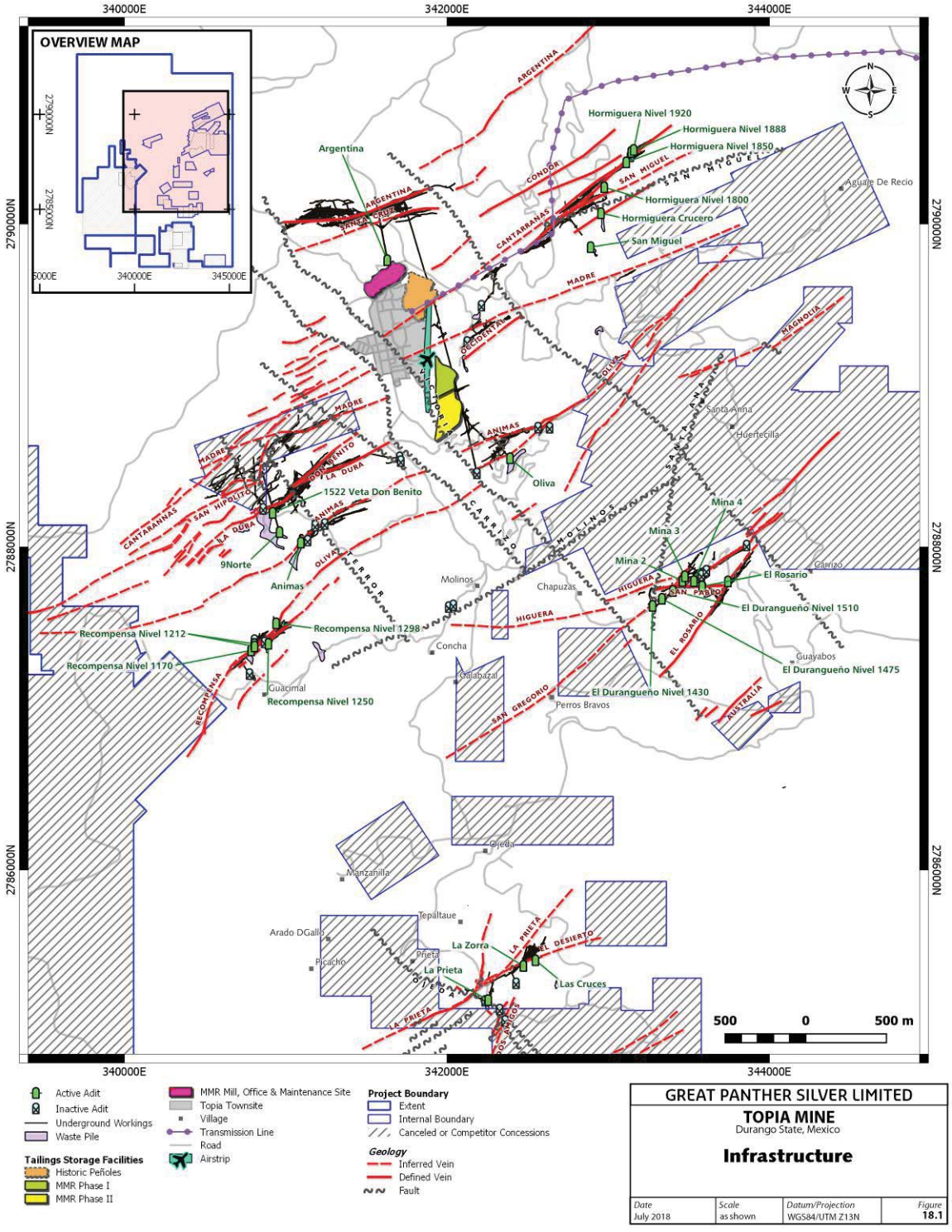
18.0 PROJECT INFRASTRUCTURE

The Topia Mine is 235km northwest of, and connected by gravel and paved road to, the logistical center of Durango, Durango State. The trip from Topia to Durango takes approximately 8 hours to drive by pickup truck. All minor supplies (fuel, food) can be purchased in Topia, but equipment parts and major repair must be secured through the Durango facilities of the Company. The access road is sufficient for 30 tonne articulated concentrate trucks. Topia has a runway sufficient for small single or twin-engine aircraft which is used regularly by Company personnel to access either cities of Durango or Culiacan (in Sinaloa state). Topia Mine infrastructure is shown on Figure 18.1.

The surface and underground infrastructure at the Property includes the following:

- Silver-gold-lead-zinc deposits within the known vein systems.
- Multiple adits (mines) from surface accessing underground infrastructure including drifts, sub-levels, ramps, and raises.
- Access by roads to the mines, mill and tailings facility.
- Mine ventilation, dewatering, and compressed air facilities.
- Conventional and mechanized underground mining equipment.
- A nominal 220tpd flotation concentrator with surface bins, crushing facilities, grinding mills, flotation cells, and a concentrate dewatering circuit.
- Tails thickener and filter press plant, the tailings storage facility, mine workings and associated facilities, coarse ore bin, main ventilation fan, workshops, warehouses, administration buildings, and dry facilities.
- Facilities providing basic infrastructure to the mine, including electric power from the national power grid, heat, water supply from artesian springs, and sewage treatment.
- An on-site laboratory which processes ~60 samples / day for gold, silver, lead, zinc, copper, and iron.

Figure 18.1: Topia Mine Infrastructure



19.0 MARKET STUDIES AND CONTRACTS

19.1 MARKET STUDIES

The principal commodities at the Topia Mine are lead and zinc concentrates containing gold and silver. These products are freely traded, at prices that are widely known, so that prospects for sale of any production are virtually assured. There are smelters in Mexico that can accept these concentrates, as well as other smelters around the world, and traders who purchase such concentrates.

19.2 CONTRACTS

The Topia Mine is an operating mine using both employees and contracted services under the direction of company employed management. Administration, management, and a good deal of the mining are carried out by GPR employees. There are several contracts in place for:

- The supply of labour and services in the El Rosario, Durangueno, Recompensa, Hormiguera, and San Miguel mines through two contractors.
- The supply of labour and services for maintenance, plant operations, and civil works through one contractor, and geological services through one contractor.
- Alfred Knight for representation at Manzanillo, for concentrate shipments.
- Sales of concentrates to traders (four contracts) and at times to smelters.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

Great Panther Silver Limited holds all necessary environmental and mine permits to conduct planned exploration, development, and mining operations at the Topia Mine.

In July 2006, Great Panther received its Single Environmental License LAU10/019-2006 (*Licencia Ambiental Unica*), which is a direct regulatory instrument for industrial facilities under federal jurisdiction in the prevention and control of pollution of the atmosphere and sets conditions for integral operation in accordance with current environmental legislation. This permit was issued by SEMARNAT (*Secretaria de Medio Ambiente y Recursos Naturales*), the Secretary of Environment and Natural Resources, and remains in effect.

Additionally, once a year and in compliance with SEMARNAT's legislation, Great Panther submits the Annual Operation Certificate *(Cedula de Operacion Anual),* which is the instrument of data collection and reporting on emissions and transfers of pollutants to air, water, and soil and management of hazardous materials.

The tailings storage facility is operated in accordance with federal laws and Topia Mine staff works closely with PROFEPA (*Procuraduria Federal de Proteccion al Ambiente*), the Federal office for environmental protection. Topia Mine personnel carry out regular monitoring and reclamation work on the site.

In addition, all exploration activities follow NOM-120-SEMARNAT-2011, which establishes the specifications of environmental protection for mining exploration activities.

20.1 SOCIAL OR COMMUNITY IMPACT

Great Panther's community relations personnel at the Topia Mine implement wide stakeholder engagement and social investment programs focused in three main areas: socio-economic development, public health and safety, and education. The Company also has temporary occupation agreements in place with one of the local ejidos. In Mexico, ejidos hold the communal land of certain communities, to be operated under a federally supported system of communal land tenure. Currently, temporary occupation agreements at the Topia Mine are renegotiated every five years.

The Company is the main employer in this small community of almost 3,500 people and currently generates 524 direct jobs for Mexican workers. Approximately 70% of its workforce is from the neighboring communities of Topia, La Ojeda and Molinos. In addition to the specific social development programs that are carried out collaboratively with the local community and government agencies at municipal and state level, there are funds that have been generated annually for the municipality through the Mexican mining tax introduced in 2014.

Great Panther, through its Sustainability and Social Investment policies, has committed to conduct its business activities responsibly and to continually improve standards of social performance striving to make positive impacts in the communities surrounding its operations.

20.2 RECLAMATION CLOSURE

The cost for closure, adjusted for inflation, is estimated to be approximately US$2.6 million. The Company has recorded approximately US$1.5 million (discounted) as its asset retirement obligation in its financial statements as at September 30, 2018.

21.0 CAPITAL AND OPERATING COSTS

Capital and operating budgets are prepared each year for the Topia Mine by mine staff and Vancouver personnel. These budgets are continuously reviewed against production to ensure profitability. For the 2018 (January-June) operating period the average cost of production was US$178 per tonne (Table 21.1), which included plant, administration and mining costs. Each mining center has unique costs which are also monitored, they are listed in Table 21.2.

Table 21.1: 2018 (January through June) Cost Report (US$) for Topia Mine

	Cost per tonne (US$)
Plant	$28
Administration	$46
Mining	$104
Total Unit Costs	$**178**

Table 21.2: 2018 (January through June) Individual Mine Costs (US$), Topia Mine

Mine	Mining Costs	Milling & Admin Costs	Total Costs	NSR Cut-off
Mina 1522	119	74	**193**	193
Argentina	98	74	**172**	172
Animas 1420	75	74	**149**	149
Recompensa	77	74	**151**	151
El Rosario	74	74	**148**	148
La Prieta	161	74	**235**	235
Durangueno	70	74	**144**	144
Hormiguera	78	74	**152**	152
San Miguel	174	74	**248**	248

The Topia Mine is operated with contractors under the supervision of GPR management personnel. The contractors and management personnel are engaged by service companies that provide their services to the underlying owner of the mineral properties. At the end of Q2 2018, there were 172 employees and 296 contractors at the site.

22.0 ECONOMIC ANALYSIS

This section has been excluded, as per securities regulations, as the Topia Mine is in operation and Great Panther Silver Limited is a producing issuer.

23.0 ADJACENT PROPERTIES

The Topia Mine property is within the Topia Mine District which encompasses Topia and San Bernabe, a NE to ENE trending multiple vein set.

Presently the only continually operating mill is on the GPR property although several other small mills (<50tpd) do some custom tolling. Various other mineral occurrences on claims in the district are mined intermittently.

24.0 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

An estimate of the Mineral Resources for the Topia property for an effective date of 31 July 2018 is summarized in Table 25.1.

Table 25.1: Topia Mine Mineral Resource Totals

Classification	Tonnes (kt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Total Measured	310.6	474	1.36	4.02	4.20
Total Indicated	165.3	436	1.34	3.57	3.79
Total M & I	475.9	461	1.35	3.87	4.06
Total Inferred	400.4	434	1.34	2.86	2.97

Notes:

1. *CIM Definitions were followed for Mineral Resources.*
2. *Area-Specific vein bulk densities as follows: Argentina - 3.06t/m^3; 1522 - 3.26t/m^3; Durangueno - 3.12t/m^3; El Rosario - 3.00t/m^3; Hormiguera - 2.56t/m^3; La Prieta - 2.85t/m^3; Recompensa - 3.30t/m^3; Animas - 3.02t/m^3; San Miguel - 2.56t/m^3.*
3. *Measured, Indicated, and Inferred Mineral Resources are reported at a cut-off Net Smelter Return (NSR) in US$, include 1522 Mine $193/t, Argentina Mine $172/t, Durangueno Mine $144/t, Recompensa Mine $151/t, Hormiguera Mine $152/t, El Rosario Mine $173/t, La Prieta $235/t, and Animas $149/t, and San Miguel $248/t.*
4. *Totals may not agree due to rounding.*
5. *A minimum mining width of 0.30 metres was used.*
6. *Mineral Resources are estimated using metal prices of US$1,225/oz Au, US$15.50/oz Ag, US$1.00/lb Pb, and US$1.15/lb Zn; and metallurgical recoveries of 94% for Ag, 60% for Au, 94% for Pb, and 93% for Zn.*
7. *2018 Mineral Resource Ag Eq oz were calculated using 80:1 Ag:Au ratio, and ratios of 1:0.0636 and 1:0.0818 for the price/ounce of silver to price/pound of lead and zinc, respectively. The ratios are reflective of average metal prices for 2018.*

It is concluded that:

- The sampling is appropriate for the deposit type and mineralization style. Reasonable and practical steps are taken to ensure security of the samples. Diamond drilling, logging, and core handling are being carried out in a reasonable fashion, consistent with industry best practice.
- Database validation noted considerable inconsistency in attributes between sources, resulting in ~1,400 samples being left out of the database. Consequently, a master topographic and master sample database were created for both the mine and Exploration personnel.
- The most recent independent audit of the laboratory conducted in January 2013 (Johnson, 2013) reported acceptable practices. Considering laboratory modification in 2018, changes to personnel, irregular use of standard practices (lab cross-check analysis, and insertion of blanks, standards and duplicates) during the reporting period an independent laboratory audit is warranted.
- Assay QA/QC was inconsistent and used Topia laboratory pulp analysis checks by SGS-GTO between December 2014 and March 2017. The Topia laboratory then used various industry certified standards between May 2017 to July 2018. There was no insertion of blanks and duplicates into the underground sample batches. Subsequently changes have been made to bring the assay QA/QC procedures into line with industry norms.
- Reconciliation compares actual production from each mine with estimates from the block model (using a cookie cutter outline of material mined between the recent and past effective dates and cutting it out of the block model). In the four mines reconciled, all

showed acceptable trends, notably that tonnage increased from the block model cut-outs to production (added dilution), and that corresponding grades variably decreased.

- Dilution is not used in the Mineral Resource Estimates, other than using a minimum mining width (or minimum wireframe width) of 0.3m, and duly diluting the grade of all samples <0.3m to 0.3m with zero grade waste. Reconciliation gives a crude estimate of dilution by comparing the mined tonnes against the estimated tonnes from the block model, and this helps, along with known geological conditions and mining methods, with constraining the wireframe volumes.
- For Measured plus Indicated, there is a 37% increase in tonnes, a 2% increase in contained silver, 42% increase in contained gold, 18% increase in contained lead and 33% increase in contained zinc as compared with the previous periods estimate. For Inferred, increases of 12% in tonnes, decreases of 18% in contained silver, 7% in contained lead, and 16% in contained zinc, as well as an increase of 15% in contained gold were reported. The increase in tonnes reflects improved smelter terms and lower mining costs in many mines improving the NSR value. Metal grades for silver, lead and zinc decreased reflecting tighter estimation criteria (capping, and search ellipse sizes). Gold grades were little changed between the two estimates. Contained metal reflect increases in tonnes for 2018, which more than make up for lower overall grades. The measured classification grew greatest due to development between 2014 and 2018 in all areas and improved classification confidence.
- Factors affecting the change in the resource are suggested to be related to:
  - Revision and application of different assay caps;
  - Changes to NSR calculation (including metal price changes) methodology which gave higher NSR values in the current Estimation than the previous Estimate;
  - Addition of zones, particularly Argentina footwall, and the 3 Animas zones;
  - Depletion of some areas due to mining.
- There is potential for the future addition of Mineral Resources at Topia through exploration and development. Continued surface and underground exploration by drilling potentially can extend and better define mineral resource estimation.
- Mining is by modified cut and fill (resuing) method.
- Milling, by conventional crushing, grinding, and floatation techniques, at a maximum rate of 220tpd, produces both a silver rich lead concentrate and a zinc concentrate.
- All necessary operating permits are in place, and Topia community liaison is ongoing.

26.0 RECOMMENDATIONS

Recommendations are that:

- Improvements in data entry and data storage are essential and ongoing. Ultimately it is recommended that the Company move data storage from present Excel sheets to Microsoft SQL database with an industry standard front-end loader. This will provide standardized data entry, validation measures, and security.
- Industry normal laboratory QA/QC protocols need to be set-up. These include the regular insertion of blanks, duplicates, and standards into the batches of underground samples, as well as monthly outside independent laboratory checks on pulps of Topia laboratory processed underground samples.
- Exploration and development should continue, and to continue to add to the mineral resource base. GPR plans to continue with on-site geological work at Topia in 2019, including budgeted drilling and associated costs of US$1,342,500. See Table 26.1 below for proposed budget details:

Table 26.1: Exploration Budget 2019 for Topia Mine

Budget Item	Details	Amount (US$)
Geology	$15,000 / mo. @ 12 mo.	$180,000
Assays	700 @ $15 each	$10,500
Supervision		$30,000
Drilling (surface)	5,000m @ $200/m	$1,000,000
	Subtotal	**$1,220,500**
Contingency (10%)		$122,000
	Total	**$1,342,500**

27.0 REFERENCES

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