



**Golden Tag Resources Ltd.  
Golden Minerals Co.**

**NI 43-101 Technical Report  
Updated Mineral Resource Estimate  
San Diego Project,  
Velardeña Mining District  
Durango State,  
Mexico**

Respectfully submitted to:  
Golden Tag Resources Ltd.

Effective Date:  
April 12<sup>th</sup>, 2013

Prepared By:  
Claude Duplessis, Eng.  
Kateri Marchand M.Sc. P.Geo  
Guy Desharnais, PhD, PGeo.  
Gilbert Rousseau, Eng.

**SGS Canada Inc.**

**Minerals Services**

10 boul. de la Seigneurie Est, Suite 203, Blainville, Québec Canada, J7C 3V5  
t (450) 433 1050 f (450) 433 1048 www.geostat.com www.sgs.com

Member of SGS Group (SGS SA)

## Table of Contents

Table of Contents .....	ii
List of Tables .....	iv
List of Figures.....	v
1- Summary .....	1
2- Introduction .....	5
3- Reliance on Other Experts .....	7
4- Property Description and Location.....	8
5- Accessibility, Climate, Local Resources, Infrastructure and Physiography.....	13
6- History.....	18
6.1 Prior Ownership.....	18
6.2 Past Exploration and Development Work.....	20
6.3 Historical and Prior NI 43-101 Mineral Resource Estimates .....	21
7- Geological Setting and Mineralization .....	24
7.1 Geological Setting .....	24
7.2 Local Geology.....	27
7.3 Property Geology .....	28
7.3.1 Structure .....	30
7.3.2 Alteration.....	33
7.4 Mineralization .....	34
7.4.1 Mineralization .....	37
7.4.2 Mineralized Vein Zones .....	38
8- Deposit Types.....	45
9- Exploration.....	47
9.1 Geophysical Survey.....	47
9.2 Underground Sampling.....	47
9.3 Surface Sampling .....	48
9.4 Petrography and Ore Microscopy Studies.....	48
9.5 Structural Studies.....	49
10- Drilling.....	50
10.1 Past Exploration Drilling.....	50
10.1.1 2006-2007 Exploration Program (Phase 1 & 2) .....	51
10.1.2 2007-2008 Exploration Program (Phase 3).....	51
10.1.3 2008-2009 Exploration Program (Phase 4) .....	52
10.2 2011 Drilling Program (Phase 5) .....	53
10.2.1 2011 Drilling Program Results.....	57
10.3 2012 Drilling Program (Phase 6) .....	62
10.3.1 2012 Drilling Program Results.....	65
11- Sample Preparation, Analyses and Security .....	71
11.1 Drill Core Sampling Protocol.....	71
11.2 Sample Preparation, Analyses and Security for the 2006 to 2008 programs .....	72
11.3 Sample preparation: 2011 and 2012 programs .....	74
11.4 Quality Assurance and Quality Control Procedure .....	75

11.4.1 Analytical Standards .....	75
11.4.2 Analytical Blanks.....	81
11.4.3 Field Duplicates .....	84
11.4.4 Pulp Duplicates .....	87
11.5 Independent Sampling.....	88
11.5 QA/QC Conclusion.....	92
11.6 Specific Gravity Measurements.....	92
12- Data Verification.....	94
12.1 Site visit.....	94
13- Mineral Processing and Metallurgical Testing.....	97
13.1 Recovery Methods .....	100
13.1.1 Milling.....	100
13.1.2 Grade and Recovery.....	100
13.1.3 Estimated Operating Cost.....	101
14- Mineral Resource Estimates.....	102
14.1 Data.....	102
14.2 Topography.....	102
14.3 Density.....	102
14.4 Current Mineral Resource Estimate.....	103
14.4.1 Overview .....	103
14.4.2 Veins .....	104
14.4.3 Variography.....	106
14.4.4 Capping.....	108
14.4.5 Veins Block Model .....	109
14.4.6 Veins Classification.....	110
14.5 Fernandez Zone .....	153
14.5.1 Fernandez Zone Block Models .....	153
14.5.2 Fernandez Zone Classification .....	155
14.6 Summary of Resource Estimate of 2013.....	164
14.6.1 Grade Sensitivity Analysis of the Fernandez Zone .....	167
14.7 Addition Exploration Potential.....	168
15- Adjacent Properties.....	169
15.1 Velardeña Mining District.....	169
15.2 La Noria.....	171
16- Other Relevant Data and Information .....	172
17- Interpretation and Conclusions .....	175
18- Recommendations .....	177
19- References .....	179
Certificate of Qualified Person for Kateri Marchand, P.Geo.....	181
Certificate of Qualified Person for Claude Duplessis, Eng .....	182
Certificate of Qualified Person for Guy Desharnais, Ph.D., P.Geo.....	183
Certificate of Qualified Person for Gilbert Rousseau, Eng .....	184

## List of Tables

Table 1: Summary of the Indicated Mineral Resource Estimate for the San Diego Project. Numbers in parentheses represent the number of mineralized structures covered by the resource totals. The detailed breakdown of these resources can be found in Table 40 to Table 42. ....	3
Table 2: List of abbreviations.....	6
Table 3: Mineral concession information for the San Diego property as provided by Golden Tag.....	9
Table 4: Summary of the Indicated Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 and 2 Programs; January 28 <sup>th</sup> , 2008).....	22
Table 5: Summary of the Inferred Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 and 2 Programs; January 28 <sup>th</sup> , 2008).....	22
Table 6: Summary of the Indicated Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 to Phase 4, January 20 <sup>th</sup> , 2009).....	23
Table 7: Summary of the Inferred Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 to Phase 4, January 20 <sup>th</sup> , 2009).....	23
Table 8: Underground Assay Results for the Porvenir Vein. ....	48
Table 9: San Diego Project Phase 5 Diamond Drill Hole Technical Data Summary Table.....	54
Table 10: Assay Summary Table for the Phase 5 program. ....	56
Table 11: San Diego Project – Golden Tag’s Exploration Expenditures for the 2011 Phase-5 Program as of December 31, 2011 .....	57
Table 12: Listing of significant Mineralized Intervals from Phase 5 program (includes Vein Zones followed by Fernandez Zone). The intervals represent core lengths and not the true thicknesses. ....	58
Table 13: San Diego Project Phase 6 – 2012 Diamond Drill Hole Technical Data Summary Table.....	63
Table 14: San Diego Project Exploration Expenditures for the 2012 drilling program (Phase 6), as of December 31, 2012 (unaudited).....	65
Table 15: Listing of significant Mineralized Intervals from Phase 6 program (includes Vein Zones followed by Fernandez Zone). The intervals represent core lengths and not the true thicknesses. ....	68
Table 16: Assay Methods of ALS Chemex used in the 2006-2007 programs with Detection Limits.....	72
Table 17: Assay Methods of ALS Chemex used in the 2007-2008 programs with Detection Limits.....	73
Table 18: Summary of the Standard Reference Material.....	73
Table 19: Ag values above 1 ppm in blank material for the 2011 and 2012 programs. Preceding samples included for comparison.....	83
Table 20: Head grades of 4 representative samples from the San Diego Project.....	97
Table 21: High-grade La Cruz #1 – Test 1.....	98
Table 22: High-grade La Cruz #1 - Test 2 .....	98
Table 23: High-grade Lorenzo #2A - Test 1.....	98
Table 24: High-grade Lorenzo #2A - Test 2.....	98
Table 25: Low-grade Lorenzo #3A - Test 1.....	99
Table 26: Low-grade Lorenzo #3A - Test 2.....	99
Table 27: High-grade Narrow Vein #3A - Test 1 .....	99
Table 28: High-grade Narrow Vein #3A - Test 2.....	99
Table 29: Calculated metallurgical results given the conceptual mill feed discussed in the text. ....	101
Table 30: Assumptions used for the resource estimation for sulphide and oxide mineralization at San Diego.....	103
Table 31: Cut-off grade scenarios including mill and smelter metal recoveries.....	104
Table 32: Orientation of each vein included in the 2012 resource. ....	105
Table 33: Block model estimation parameters for mineralized veins.....	110
Table 34: Classification parameters for mineralized veins. ....	110
Table 35: Parameters for the block model of the Endoskarn. ....	154
Table 36: Parameters for the search ellipsoid used in the first pass of the Fringe block model.....	154
Table 37: Parameters for the block model of the Fringe Zone.....	154
Table 38: Parameters for classification of the Endoskarn and the Fringe.....	155
Table 39: Consideration of five cut-off grades for the resource estimation of the San Diego Project. ....	164

Table 40: Summary and detailed resource tables for Fernandez and Oxide vein zones. Resources from the sulphide portions of veins are found on the next page. For the details of the AgEq and cut-off grade formulas please see Table 39 above.....	165
Table 41: Detailed resource tables from sulphide veins. For the details of the AgEq and cut-off grade formulas please see Table 39 above.....	166
Table 42: Sensitivity study for various cut-off grades for the Fernandez Zone. ....	167
Table 43: Velardeña Project Resource Estimate by CAM (June 29th, 2012).....	170
Table 44: Summary of average assay results for the waste piles and tailings material sampled in June, 2008, at the San Diego Project. ....	174
Table 45: Summary of resources for the San Diego Project.....	176
Table 46: Estimated cost of drilling for various zones. ....	177
Table 47: Estimated total cost for the next recommended phase.....	178

## List of Figures

Figure 1: Aerial map locating the San Diego Project (modified from Google Maps, 2013). ....	8
Figure 2: Surface plan of the San Diego mineral concessions with surface right limits of the San Diego and Vallecillos Ejidos (provided by Golden Tag).....	9
Figure 3: General location of the San Diego Project within Mexico.....	13
Figure 4: Oblique aerial view of the Velardeña region.....	14
Figure 5: View in 2008 of the exploration buildings, water reservoir, and core storage area (looking SE). ....	16
Figure 6: View looking SE of the exploration buildings, logging and core storage areas (photo taken in 2012).16	
Figure 7: Regional geology map of Durango State.....	24
Figure 8: Geological map of the Velardeña mining district and surrounding area.....	25
Figure 9: Composite stratigraphic sequence of the Velardeña area.....	26
Figure 10: Geological Map of the main intrusions across the Sierra San Lorenzo range. San Diego is located in the upper-right corner of the map.....	28
Figure 11: Geological map of the San Diego Property showing the main veins and structures observable at surface.....	29
Figure 12: Shaded satellite imagery of the San Lorenzo range showing the regional lineaments. ....	31
Figure 13: Stereographic projection of 330 sulphide vein measurements from the Fernandez Zone; orientations ranging from N200° to N115° and dips are from 60° to 90°.....	32
Figure 14: Photos of core carbonate replacement deposits. ....	35
Figure 15: Photo of the EndoSkarn Zone (Fernandez) comprising stockwork sulphide mineralization hosted in the Wall-rock Unit ; ddh SD-12-50 W2.....	36
Figure 16: Plan section (-250m depth) above the Fernandez zone showing the relationship between the veins.43	
Figure 17: Plan section (-650m depth) through the Fernandez zone showing the relationship between the veins, diorite, Endoskarn and Fringe.....	43
Figure 18: Distribution of the dated epithermal deposits within the Mexican Silver Belt ; Velardeña Santa Maria deposit dated at 30.2 Ma (modified from Camprubi et al., 2003a).....	45
Figure 19: Plan map showing drill hole locations.....	50
Figure 20: View of hydraulic drill from Layne de Mexico S.A. de C.V.....	54
Figure 21: Base station used for the DGPS system (Galindo Surveyors).....	55
Figure 22: Oriented Core boxes from hole SD-12-50A – Phase 6 Program. ....	64
Figure 23: Plan map showing drill results from the phase 6 drill campaign.....	66
Figure 24: Au and Ag measured versus certified grade for standard material of the 2011 program. Outliers are indicated with red circles. ....	76
Figure 25: Higher grade Ag measured versus certified grade for standard material of the 2011 program.....	76
Figure 26: Cu measured versus certified grade for standard material of the 2011 program. Outliers are indicated with red circles. ....	77
Figure 27: Pb and Zn measured versus certified grade for standard material of the 2011 program. Outliers are indicated with red circles. ....	77
Figure 28: Au measured versus certified grade for standard material of the 2012 program.....	78

Figure 29: Ag measured versus certified grade for standard material of the 2012 program.....	78
Figure 30: Cu measured versus certified grade for standard material of the 2012 program.....	79
Figure 31: Pb and Zn measured versus certified grade for standard material of the 2012 program.....	79
Figure 32: Cu standard material compared to the certified value +/- 3σ for the 2011 program.....	80
Figure 33: Cu standard material compared to the certified value +/- 3σ for the 2012 program.....	80
Figure 34: Ag analytical results for blank material of the 2011 program. The detection limit is 0.2 ppm. ....	81
Figure 35: Ag analytical results for blank material of the 2012 program. The detection limit is 0.2 ppm. ....	82
Figure 36: Field duplicates for the 2011 program. Outliers requiring further investigation are indicated in red.	85
Figure 37: Field duplicates for the 2012 program. Outliers requiring further investigation are indicated in red.	86
Figure 38: Pulp duplicates for the 2011 program. The blue box on the Au graph delineates the nugget effect.	87
Figure 39: Independent samples from SD-08-35 taken by Mr. Duplessis during the site visit. The samples were submitted to ALS Val d'Or and compared with the original 2008 analytical data that was prepared at ALS Guadalajara and analyzed at ALS Vancouver.....	89
Figure 40: Reject material submitted to ALS Durango compared with original 2011 analytical results (prepared at ALS prep labs of Hermosillo and Zacatecas and analysed at the ALS Vancouver lab) and original 2007 analytical results (prepared at ALS Guadalajara and analyzed at ALS Vancouver). ....	90
Figure 41: Pulp material submitted to ALS Durango compared with original 2011 analytical results, which were prepared at ALS prep labs of Hermosillo and Zacatecas and analysed at the ALS Vancouver lab. .	91
Figure 42: Specific gravity plot for sulphide vein zones displaying S.G. measurements versus the percentage of Pb + Zn + As.....	93
Figure 43: Specific gravity plot for the Fernandez Zone displaying S.G. measurements versus the percentage of Pb + Zn + As + Fe.....	93
Figure 44: Photos taken by SGS consultant Claude Duplessis during the site visit. A) Core and pulp storage facility inside warehouse. B) Witness core during site visit. C) Claude Duplessis entering an old drift of the La Cruz Vein historical workings D) Drill hole SD-11-42, casing with coordinates confirmed with GPS.....	95
Figure 45: Photos taken by SGS consultant Claude Duplessis during the site visit. A) Core splitting facility near the old Los Adelaidos/La Cruz shaft. B) Split drill core from drill hole SD-11-44. C) Chief Geologist Kateri Marchand confirming metallurgical sample list. D) Core storage yard adjacent to the splitting facilities.....	96
Figure 46: Variogram of Zn from structures trending Az 115°.....	106
Figure 47: Variogram of Ag from structures trending Az 115°.....	107
Figure 48: Capping study for Ag composites.....	108
Figure 49: Capping study for Au composites.....	109
Figure 50: Visual representation of indicated and inferred classifications.....	111
Figure 51: Map showing the distribution of all the mineralized zones. The dashed outline represents the property limit.....	112
Figure 52: Plan view and longitudinal section view of the Trovador vein, (B) looking N028°.....	113
Figure 53: Oxide and sulphide block models, and classification of the Trovador vein, looking N028°.....	114
Figure 54: Plan view, longitudinal section view, and old workings of the Montanez Hanging Wall vein, (B) and (C) looking N022°.....	115
Figure 55: Oxide and sulphide block models, and classification of the Montanez Hanging Wall vein, looking N022°.....	116
Figure 56: Plan view, longitudinal section view, and old workings of the Montanez Center vein, (B) and (C) looking N022°.....	117
Figure 57: Oxide and sulphide block models, and classification of the Montanez Center vein, looking N022°.....	118
Figure 58: Plan view, longitudinal section view, and old workings of the Montanez Foot Wall vein, (B) and (C) looking N022°.....	119
Figure 59: Oxide and sulphide block models, and classification of the Montanez Foot Wall vein, looking N022°.....	120
Figure 60: Plan view and longitudinal section view of La Cruz vein, (B) looking N026°.....	121
Figure 61: Oxide and sulphide block models, and classification of the La Cruz vein, looking N026°.....	122
Figure 62: Plan view and longitudinal section view of the Corredor vein, (B) looking N022°.....	123

Figure 63: Oxide and sulphide block models, and classification of the Corredor vein, looking N022°	124
Figure 64: Plan view and longitudinal section view of the E-W Fault Zone vein, (B) looking N000°	125
Figure 65: Sulphide and oxide block models, and classification of the E-W Fault Zone vein, looking N000°	126
Figure 66: Plan view and longitudinal section view of the W-Contact vein, (B) looking N334°	127
Figure 67: Sulphide block model and classification of the W-Contact vein, looking N334°	128
Figure 68: Plan view and longitudinal section view of the Rata vein, (B) looking N000°	129
Figure 69: Oxide and sulphide block models, and classification of the Rata vein, looking N000°	130
Figure 70: Plan view and longitudinal section view of the Rata-Sub vein, (B) looking N006°	131
Figure 71: Oxide and sulphide block models, and classification of the Rata-Sub vein, looking N006°	132
Figure 72: Plan view, longitudinal sections view, and old workings of the El Jal vein, (B) and (C) looking N302°	133
Figure 73: Oxide and sulphide block models, and classification of the El Jal vein, looking N302°	134
Figure 74: Plan view and longitudinal section view of the Mid-Zone vein, (B) looking N025°	135
Figure 75: Oxide and sulphide block models, and classification of the Mid-Zone vein, looking N025°	136
Figure 76: Plan view and longitudinal section view of the Canta-Splay vein, (B) looking N340°	137
Figure 77: Sulphide block model and classification of the Canta-Splay vein, looking N340°	138
Figure 78: Plan view and longitudinal section view of the Arroyo vein, (B) looking N302°	139
Figure 79: Oxide block model and classification of the Arroyo vein, looking N302°	140
Figure 80: Plan view and longitudinal section view of the MS Zone vein, (B) looking N028°	141
Figure 81: Sulphide block model and classification of the MS-Zone vein, looking N028°	142
Figure 82: Plan view and longitudinal section view of the Ag-Zone vein, (B) looking N023°	143
Figure 83: Sulphide block model and classification of the Ag-Zone vein, looking N023°	144
Figure 84: Plan view and longitudinal section view of the Lorenzo vein, (B) looking N039°	145
Figure 85: Sulphide block model and classification of the Lorenzo vein, looking N039°	146
Figure 86: Plan view and longitudinal section view of the Panda vein, (B) looking N027°	147
Figure 87: Sulphide block model and classification of the Panda vein, looking N027°	148
Figure 88: Plan view and cross-section view of the San Jose vein, (B) looking N126°	149
Figure 89: Sulphide block model and classification of the San Jose vein, plan view	150
Figure 90: Plan view and longitudinal section view of the South Skarn vein, (B) looking N039°	151
Figure 91: Sulphide block model and classification of the South Skarn vein, looking N039°	152
Figure 92: Plan view and 3D view of the Fringe and the N108° ellipsoid	154
Figure 93: Plan view of the Endoskarn unit	156
Figure 94: Plan view of the Fringe unit	156
Figure 95: Cross sectional view of the Fernandez Zone and the Endoskarn block model, looking N040°	157
Figure 96: Endoskarn classification, Fringe block model, and Fringe classification, looking N040°	158
Figure 97: Cross sectional view of the Fernandez Zone, Endoskarn block model, and Endoskarn classification, looking N290°	159
Figure 98: Fringe block model and classification, looking N290°	160
Figure 99: Sulphide block model and classification of the Fernandez Zone at 1,200 m elevation	161
Figure 100: Sulphide block model and classification of the Fernandez Zone at 1,100 m elevation	161
Figure 101: Sulphide block model and classification of the Fernandez Zone at 1,000 m elevation	162
Figure 102: Sulphide block model and classification of the Fernandez Zone at 900 m elevation	162
Figure 103: Sulphide block model and classification of the Fernandez Zone at 800 m elevation	162
Figure 104: Sulphide block model and classification of the Fernandez Zone at 700 m elevation	163
Figure 105: Sulphide block model and classification of the Fernandez Zone at 600 m elevation	163
Figure 106: Sulphide block model and classification of the Fernandez Zone at 500 m elevation	163
Figure 107: Clockwise: A) Technicians recording sample information. B) Measuring distances between samples at the La Cruz-Adelaidos pile. C) Waste material typically sampled from the La Cruz-Adelaidos pile. D) Technicians sampling the sides of the La Cruz-West pile	172
Figure 108: Modified Google image of the tailing pile showing the location of individual samples with their tag number and distances between samples - June 2008	173

## 1- Summary

SGS Canada Inc. – Geostat was commissioned in December 2011 by Golden Tag Resources Ltd. to prepare an updated mineral resource estimate of the San Diego Property. Claude Duplessis, Eng. Guy Desharnais Ph.D. P.Geo and Gilbert Rousseau Eng. of SGS Canada Inc. and Kateri Marchand M.Sc. P.Geo are the Qualified Persons for this update. This Technical Report constitutes an update of the NI 43-101 Technical Report: “Review and Audit of the Updated Mineral Resource Estimate for the San Diego Project” prepared by MICON International Ltd in January of 2009. This new study complies with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) standards and definitions referred to in National Instrument 43-101 (NI 43-101) with the current mineral resource effective April 12, 2013. The current Resource Estimate was completed to include the exploration work conducted in 2011 and 2012 that resulted in the discovery of a significant new contact skarn body: the Fernandez Zone. This report represents an update with the same effective date, and was reissued with corrections following request made by the British Columbia Securities Commission. The corrections do not materially change the resource estimations reported herein.

The San Diego property is located in the Velardeña mining district, within the municipality of Cuencame, in the northeast quadrant of the State of Durango, Mexico. The property is situated approximately 75 km southwest of the city of Torreon in the State of Coahuila and 160 km northeast of the city of Durango, capital of the State of Durango. The property is located 9 km northeast of the Velardeña and Chicago properties owned by joint-venture partner Golden Minerals Company Limited («Golden Minerals»).

The San Diego property consists of 4 contiguous mineral concessions for a total area of 91.65 ha. The 2012 annual concession tax for the San Diego property was of approximately CAN\$1,783. ECU Silver Mining Inc. (ECU) and Golden Tag entered into a joint venture agreement on November 2nd, 2005 whereby Golden Tag could earn 50% interest in the San Diego property by incurring a total of US \$1.5 million in exploration expenses in increments of US \$500,000 per year over three years. By the end of November 2007, Golden Tag had incurred total expenses of US\$ 1.629 million and earned-in a 50% interest in the project. On September 02, 2011, ECU and Golden Minerals announced the merger of their two companies. The newly formed company retained the Golden Minerals name and is headquartered in Golden, Colorado. Thereafter in March 2012, Golden Tag and Golden Minerals signed an amended option agreement giving the right to Golden Tag to increase its interest in the San Diego project from 50 to 60% by solely funding US\$3-million of additional exploration expenditures on or before March 28th, 2014. The modified agreement also granted operatorship to Golden Tag for the additional JV programs and beyond, as long as it completes the required financing in a timely manner. As of December 31, 2012, Golden Tag had incurred exploration expenditures of CAN\$1,86 million related to the Phase 6 Program bringing Golden Tag’s total expenditures at San Diego to US\$ 6.7 million since entering the JV agreement in 2005.

Exploration and mining in the Velardeña district extend back to at least the late 1500’s or early 1600’s. The mines were first worked by the Spanish with the high-grade ore mined by hand and processed on small scale by direct smelting. Soldiers and royalist troops all but destroyed the mining production in Mexico during the peasant uprisings of 1810-1821. Records for the remainder of the nineteenth century are sporadic and it is only in the late 1800’s that mining made a comeback in the



district. The records for the late nineteenth century and the twentieth century are more complete with mining occurring continuously in the district for most of the time but again with sporadic production due to periods of low commodity prices which rendered the mines uneconomic at times.

The Velardeña district is located at the easternmost limit of the Sierra Madre Occidental, on the boundary between the Sierra Madre Oriental and the Mesa Central sub-provinces. Both of these terranes are underlain by Paleozoic and possibly Precambrian basement rocks. Most of Mexico's high-grade silver mines are located in the Mesa Central, near this contact.

The San Diego project area is underlain by Cretaceous limestone intruded by a differentiated Tertiary diorite stock with related dykes and sills. In this region of northern Mexico, mineralization typically consists of narrow but extensive high-grade polymetallic calcite-quartz veins bearing silver, lead and zinc with lesser gold and copper. Mineralization exhibits evidence of episodic hydrothermal events which generated finely banded textures. Sulphide mineralization consists predominantly of pyrite, sphalerite and galena with sulfosalts. Other sulphide minerals include pyrrhotite, arsenopyrite and chalcopyrite with the more occasional presence of stibnite. Mineralized veins and stringers cut all rock types and are encountered within limestone, intrusive and skarn host rocks.

The newly recognized Fernandez Zone is developed along the eastern edge of the central Diorite intrusion and covers a broad area of more than 325 m extending from the Montanez to the Trovador structures. It is a steeply plunging cigar-shaped structure whose top is around 450m from surface. Modeling of this zone outlined a large fringe of lower grade mineralization hosted for the most part in limestone units that surround a core of higher grade Endoskarn (mineralized Diorite) with stockwork-style mineralization. The Fringe Zone encompasses portions of the adjacent Montanez FW, Central and HW veins; the Mid-Zone Vein and the AG Zone, recognized as Resource areas in 2009; and parts of the new Lorenzo, South-Skarn and Panda Zones. The Fernandez zone represents a new style of mineralization, potentially amenable to large-sale, bulk mining or more selective approaches.

The current resource estimate for the San Diego Property is contained in Table 1. The parameters used to determine the cut-off grades are based on the economic criteria presented in Section 14.

The updated Resource Estimate represents a very significant increase in tonnage over the last Resource Estimate released in January 2009 with a most notable expansion of Indicated Resources that increased from 370,000 tonnes to 16.2 million tonnes (Mt) and Inferred Resources nearly doubling in size from 22 Mt to 41.8 Mt (Table 1) within the sulphide bodies. Silver ounces also increased compared to 2009 and are now 31.6 M oz Ag Indicated and 83.8 M oz Ag Inferred; whereas in 2009 Inferred silver ounces were at 76.5 M oz with only 3 M oz in the Indicated category within sulphide and oxide zones.

Table 1: Summary of the Indicated Mineral Resource Estimate for the San Diego Project. Numbers in parentheses represent the number of mineralized structures covered by the resource totals. The detailed breakdown of these resources can be found in Table 40 to Table 42.

SAN DIEGO RESOURCE ESTIMATE	CoG (g/t)	Indicated Resources							Inferred Resources						
		Tonnes (Mt)	Au (g/t)	Ag (g/t)	Pb %	Zn %	AgEq <sup>(2)</sup> (g/t)	Ag Oz (MOz)	Tonnes (Mt)	Au (g/t)	Ag (g/t)	Pb %	Zn %	AgEq <sup>(2)</sup> (g/t)	Ag Oz (MOz)
<b>Oxide Veins (10)</b>	<b>133</b>	<b>0.31</b>	<b>0.43</b>	<b>211</b>	<b>NA<sup>(3)</sup></b>	<b>NA<sup>(3)</sup></b>	<b>234</b>	<b>2.11</b>	<b>0.29</b>	<b>0.43</b>	<b>238</b>	<b>NA<sup>(3)</sup></b>	<b>NA<sup>(3)</sup></b>	<b>261</b>	<b>2.2</b>
<b>Sulphide Veins</b>		<b>Indicated Resources</b>							<b>Inferred Resources</b>						
Trovador	52	0.29	0.09	87	0.72	4.15	194	0.81	4.41	0.04	68	0.9	1.55	124	9.6
Montanez (3)	125	0.56	0.31	101	1.36	1.43	170	1.82	1.57	0.18	91	1.5	1.9	174	4.6
Vein Sulphide (10)	52-125	0.53	0.14	166	1.38	1.03	227	2.8	7.12	0.14	109	1.7	1.99	200	25
<b>Sub-Total Sulphide Veins</b>		<b>1.38</b>	<b>0.20</b>	<b>123</b>	<b>1.23</b>	<b>1.85</b>	<b>197</b>	<b>5.43</b>	<b>13.1</b>	<b>0.11</b>	<b>93</b>	<b>1.41</b>	<b>1.83</b>	<b>171</b>	<b>39.2</b>
<b>Fernandez Zone</b>		<b>Indicated Resources</b>							<b>Inferred Resources</b>						
EndoSkarn	52 <sup>(1)</sup>	9.3	0.06	55	0.59	1.33	100	16.5	9.6	0.04	57	0.6	1.3	101	17.4
Fringe	52	5.5	0.06	43	0.74	0.89	83	7.6	19.1	0.05	41	0.7	0.97	81	25.1
<b>Sub-Total Bulk Zones</b>		<b>14.8</b>	<b>0.06</b>	<b>51</b>	<b>0.65</b>	<b>1.17</b>	<b>94</b>	<b>24.1</b>	<b>28.7</b>	<b>0.05</b>	<b>46</b>	<b>0.7</b>	<b>1.08</b>	<b>88</b>	<b>42.4</b>
<b>TOTAL SULPHIDE ZONES</b>		<b>16.2</b>	<b>0.07</b>	<b>57</b>	<b>0.70</b>	<b>1.23</b>	<b>103</b>	<b>29.5</b>	<b>41.8</b>	<b>0.07</b>	<b>61</b>	<b>0.9</b>	<b>1.32</b>	<b>114</b>	<b>81.6</b>

(1) Block Caving/Mechanized Bulk Mining Cut-Off Grade of 52 g/t AgEq or NSR \$30/t (see Table 31 for more details).

(2) AgEq: Silver Equivalent ounces based on 3-yr trailing average commodity prices of US\$1,455/oz.Au; US\$28.10/oz.Ag; US\$1.0/lb Pb and US\$0.96/lb Zn applying estimated mill and smelter recoveries. Note that Zn and Pb are excluded from AgEq for oxide veins and Cu and Au are excluded from AgEq within sulphide bodies.

(3) Pb and Zn are excluded from oxide vein resources to lack of metallurgical tests illustrating their potential recoveries.

(4) Totals may not add up precisely due to rounding.

San Diego is host to a variety of Silver-rich and Pb-Zn bearing zones variably associated with a Diorite Intrusion which lies in the center of the property. The property was previously known for narrow, high-grade Ag-Pb-Zn Veins from surface to 400-500m depth. New drilling has shown that below 500m, veins often widen and occur with massive sulphides replacing carbonate, and/or in zones of skarn and stockwork systems. Highlights from the 2011 and 2012 drill campaigns include:

- Fernandez Zone: a very large skarn deposit with high tonnage and amenable to bulk mining methods. This zone remains open to West and down-plunge;
- Discovery of the West Contact Zone, a new skarn zone that could represent the edge of a second Fernandez-style zone;
- Significant downdip extensions to the historically important Trovador Vein;
- Ten new vein and mantos zones: including Lorenzo, EWFZ, Rata-Sub, MS, Panda and the South Skarn;
- Highlighting the excellent potential in all 23 zones for further growth in resources. This potential exists within the modeled geological solids and as lateral and depth extensions.

Future exploration drilling, within existing structures as well as lateral and depth extensions could provide additional tonnage of 20 to 50 million tonnes grading 100 to 150 g/t AgEq. This stated range of potential quantity and grade is conceptual in nature and there has been insufficient exploration to define a mineral resource. It is uncertain if further exploration will result in the targets being delineated as a mineral resource.

The 2011 and 2012 drill campaigns have defined a new style of mineralization which now represents an additional core value underlying the San Diego Property: the Fernandez Zone. The authors have recommended that a Preliminary Economic Assessment be undertaken to measure the economic impact of the Fernandez Zone along with the higher grade veins that can be easily accessed from surface. The application of a combination of mining methods with careful sequencing of the mine plan is expected to provide a significant positive cash-flow. To provide the best possible information for the Preliminary Economic Assessment, the authors have also recommended a small focused drill campaign and additional metallurgical testing.

## 2- Introduction

This report represents an update of the resources for the San Diego Property produced by with an effective date of April 12, 2013. Several sections were updated from previous reports, and in particular “Review and Audit of the Updated Mineral Resource Estimate for the San Diego Project”, by Micon (2009). The Micon report itself represented an update of previous reports: (1998, 2006 and 2008), Roscoe Postle and Associates Inc. (RPA, 2005), Broad Oak Associates (Broad Oak, 2006) and in various government and other publications listed in Section 27 “References”. The relevant sections of those reports are reproduced herein.

The present resource estimate includes results from six phases of surface diamond drill exploration totaling 32,967 meters of BQ, NQ and HQ size core and 22,619 assayed samples. This work was completed by ECU (now Golden Minerals) and Golden Tag on the San Diego property from 2006 to 2012. Execution of the exploration programs since the release of the last technical report are outlined in detail in Sections 9 and 10.

Claude Duplessis, Eng., is the qualified person responsible for Sections 3 to 6, 11 and 12 of this report and visited the San Diego property from January 17 to 18, 2012 to review the exploration methodology, sampling and quality control procedures, and took independent samples. Kateri Marchand, M.Sc., P.Geo. planned and supervised exploration operations and completed the interpretation of the geology and mineralized zones at San Diego. She also took part in the writing of the present report. Amanda Landriault, BSc., Hons., G.I.T, completed geological modeling and assisted in compilation of the technical report. Guy Desharnais Ph.D., P.Geo participated in the resource estimation and preparation of the technical report.

This technical report was prepared according to guidelines set forth in the “Form 43-101F1 Technical Report” of National Instrument 43-101 Standards and Disclosure for Mineral Projects. The certificates of the Qualified Persons responsible for this report are available at the back of this document.

All currency amounts and commodity prices are stated in US dollars or, where specifically mentioned, in Canadian dollars or Mexican pesos. Quantities are generally stated in metric (SI) units, the standard Canadian and international practice, including metric tonnes (t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, grams (g) and grams per metric tonne (g/t) for gold and silver grades (g/t Au, g/t Ag). Wherever applicable, any Imperial units of measure encountered have been converted to Système International d’Unités (SI) units for reporting consistency. Precious metal grades may be expressed in parts per million (ppm) or grams per metric tonnes (g/t) and their quantities may also be reported in troy ounces (oz), a common practice in the mining industry.

Table 2 provides a list of the various abbreviations used throughout this report.

Table 2: List of abbreviations.

Name	Abbreviation	Name	Abbreviation
Above Sea Level Elevation	a.s.l.	Micon International Limited	Micon
BLM Minera Mexicana S.A. de C.V.	BLM Minera	Million tonnes	Mt
Broad Oak Associates	Broad Oak	Million ounces	M oz
Canadian Institute of Mining, Metallurgy and Petroleum	CIM	Million years	Ma
Canadian National Instrument 43-101	NI 43-101	Million metric tonnes per year	Mt/y
Centimetre(s)	cm	Milligram(s)	mg
Degree	°	Millimetre(s)	mm
Degree Celsius	°C	Minera Labri S.A. de C.V.)	Minera Labri
Digital elevation model	DEM	Minera William S.A de C.V.	Minera William
Dirección General de Minas	DGM	North American Datum	NAD
Dollar(s), Canadian and US	\$, CDN\$ and US\$	Net profits interest	NPI
ECU Silver Mining Inc.	ECU	Net smelter return	NSR
Golden Tag Resources Ltd.	Golden Tag	Not available/applicable	n.a.
Golden Minerals Company Ltd.	Golden Minerals	Ounces	oz
Grams per metric tonne	g/t	Ounces per year	oz/y
Greater than	>	Paqueteria y Mensajería en Movimineto.	Paqueteria
Grupo Peñoles	Peñoles	Parts per billion	ppb
Hectare(s)	Ha	Parts per million	ppm
Industrial Minera de Mexico S.A.	IMMSA	Percent(age)	%
Joint Venture	JV	Quality Assurance/Quality Control	QA/QC
Kilogram(s)	Kg	Roscoe Postle and Associates Inc.	RPA
Kilometre(s)	Km	Specific gravity	SG
Less than	<	Système International d'Unités	SI
Litre(s)	L	Tonne (metric)	T
Metre(s)	M	Tonnes (metric) per day	t/d
Mexican Peso	\$, MXN\$	Universal Transverse Mercator	UTM
		William Resources Inc.	William Resources
		Year	Y

### 3- Reliance on Other Experts

SGS is not qualified to comment on issues related to legal agreements, royalties, permitting, and environmental matters. SGS relies on the documents provided by Golden Tag and did not verify the possibility of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties, but trust that Golden Tag has conducted the proper legal due diligence. Any statements and opinions expressed in this document are given in confidence that such statements and opinions are not false or misleading at the date of this Report.

For the purpose of this Resource Estimate, Golden Tag provided to SGS a report prepared by the Mexico-based law firm Sanchez-Mejorada, Velasco y Ribe, and dated October 29, 2012 confirming Minera William S.A. de C.V., a wholly-owned subsidiary of Golden Minerals, and Golden Tag to be the registered holders of the four mining concession making part of the San Diego project. Furthermore, based on the information appearing in the files of the General Mining Bureau (“GMB”) and the Public Registry of Mining (“PRM”) this report confirms the San Diego concessions to be as of May 20, 2011, in good standing in regards to the payment of taxes and work requirements. However, due to a backlog at the PRM with processing the recent 2012 information, tax payments for 2012 have not been yet recorded for the project. Nonetheless, Golden Tag provided to SGS copies of the bank payment receipts received from Golden Minerals testifying that all due taxes for 2012 have been paid.

SGS acknowledges the assistance and full cooperation of Golden Tag’s management and personnel; their contribution to this report is greatly appreciated and duly noted. All required and requested information was provided in a timely manner and constructive communication was frequent.

Many of the descriptive sections for this report were taken from and/or modified from technical report “NI 43-101 Technical Report, Review and Audit of the Updated Mineral Resource Estimate for the San Diego Project, Velardeña Mining District, Durango State, Mexico” dated January 20<sup>th</sup>, 2009, which was compiled from reports prepared by various reputable companies, their contracted consultants, or government sources; SGS has no reason to doubt the validity of this information.

## 4- Property Description and Location

The San Diego property has an area of 91.65 ha and is approximately centered at UTM 638800mE, 2777100mN in datum WGS84. It is located in the Velardeña mining district, within the municipality of Cuencamé, in the northeast quadrant of the State of Durango, Mexico. The property is situated approximately 75 km southwest of the city of Torreón in the State of Coahuila and 160 km northeast of the city of Durango, capital of the State of Durango (Figure 1).

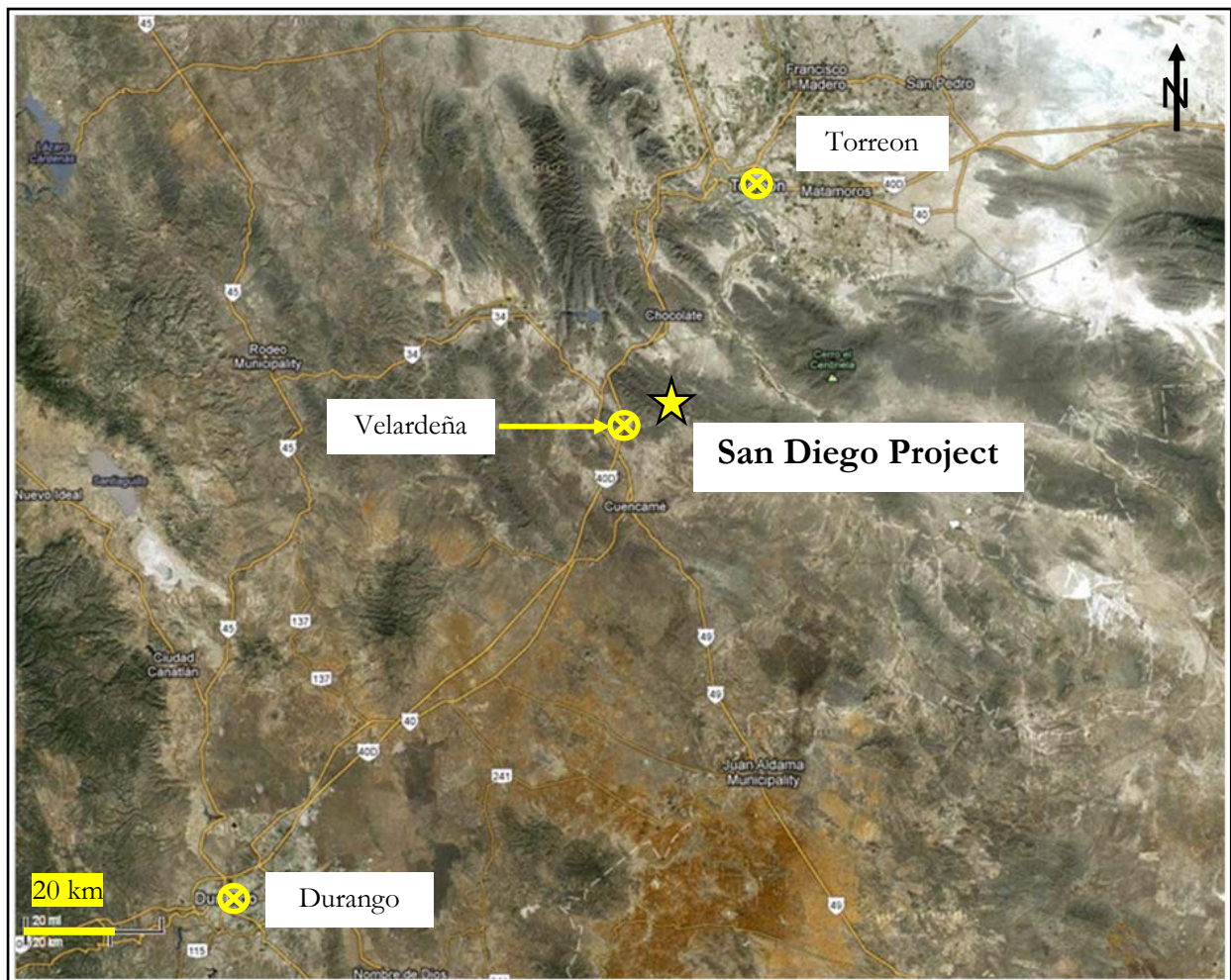


Figure 1: Aerial map locating the San Diego Project (modified from Google Maps, 2013).

Golden Minerals hold the mineral rights of the property through their 100% owned Mexican subsidiary Minera William S.A. de C.V. (Minera William). The property consists of four adjoining mineral concessions, all of which are in good standing (Table 3, Figure 2). The annual property tax for 2012 was CAN\$1,783.24.

Table 3: Mineral concession information for the San Diego property as provided by Golden Tag

Concession Name	Concession Type	Concession Number	Date Granted	Expiration Date	Concession Area (ha)
San José	Exploitation	166,662	July 11, 1980	July 10, 2030	26.00
Ampliacion San José	Exploitation	166,989	August 5, 1980	August 4, 2030	15.00
Dino Catarino	Exploitation	177,272	March 17,1986	March 16, 2036	3.00
Unificacion El Refugio	Exploitation	186,040	Dec. 14, 1989	Dec. 13, 2039	47.65
Total:					91.65

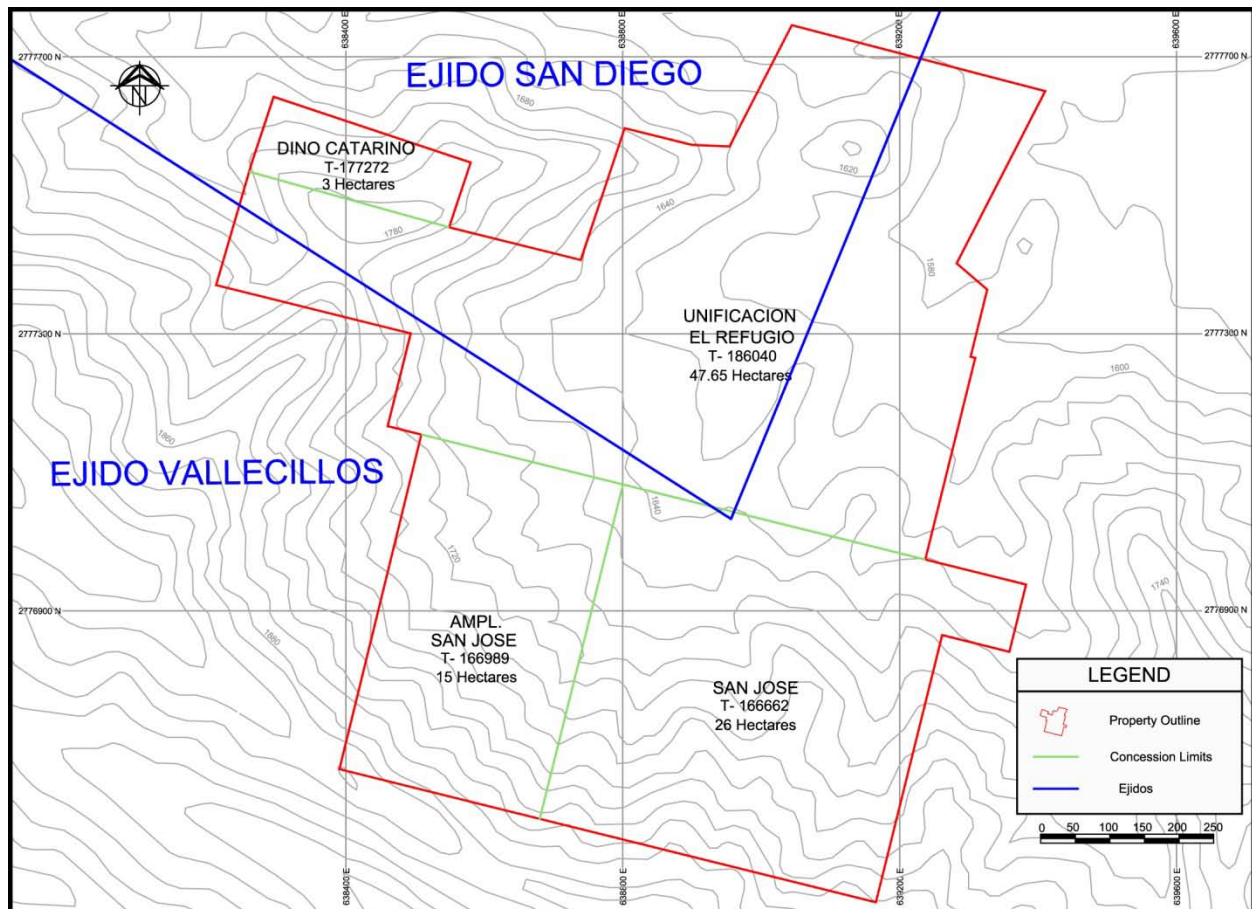


Figure 2: Surface plan of the San Diego mineral concessions with surface right limits of the San Diego and Vallecillos Ejidos (provided by Golden Tag).

The following information was adapted from MICON’s 2009 technical report:

“Mineral concessions can only be held by Mexican nationals or Mexican incorporated companies, but there are no restrictions on foreign ownership of such companies. To stake a concession, a principal monument must be erected, painted with the applicable information, photographed and applied for at the assigned Public Registry of Mining for that district. Once accepted an official surveyor must be contracted to provide a survey to locate the concession, following which the official survey is reviewed and accepted by the assigned State Public Registry of Mining. The



application for the mineral concession is then sent to Mexico City where it is further reviewed and where a title to the mineral concession is granted.

All concessions must have their boundaries orientated astronomically north-south and east-west and the lengths of the sides must be one hundred metres or multiples thereof, except where these conditions cannot be satisfied because they border on other mineral concessions. The locations of the concessions are determined on the basis of a fixed point on the land, called the starting point, which is either linked to the perimeter of the concession or located thereupon. Prior to granting a concession the company must present a topographic survey to the Dirección General de Minas (DGM) within 60 days of staking. Once this is completed the DGM will usually grant the concession. The exploitation concessions which comprise the San Diego project are surveyed but do not have their boundaries orientated astronomically north-south and east-west because the concessions predate the introduction of this legislation.

Prior to December 21, 2005, exploration concessions were granted for a period of 6 years in Mexico and at the end of the 6 years they could be converted to exploitation concessions. However, as of December 21, 2005 (by means of an amendment made on April 28, 2005 to the Mexican mining law) there is only one type of mining concession. Therefore, as of the date of the amendment (April, 2005), there is no distinction between exploration and exploitation concessions on all new titles granted. All concessions are now granted for a 50 year period provided the concessions are kept in good standing. For the concessions to remain in good standing a bi-annual fee must be paid to the Mexican government. In addition, registered holders of mining concessions that total over 1,000 ha in size are required to file in May of each year a Work Report detailing the work accomplished on the concessions between January and December of the preceding year.

In order to begin an exploration program on a concession where no substantial mining has been conducted, concession holders have to comply with the Mexican Official Norm: NOM-120-SEMARNAT-1997 which specifies, among other things, that mining exploration activities to be carried out must be conducted in accordance with the environmental standards set forth in the aforementioned Norm; otherwise, concession holders are required to file a preventive report or an environmental impact study prior to commencing the exploration program. However, an environmental impact study may not be necessary if the concession holder files an application with the environmental authorities confirming the holder's commitment to observe and comply with NOM-120-SEMARNAT-1997. If the exploration requires the removal of vegetation, a permit to change the land use will also be required and may involve the obligation to re-vegetate the affected areas.

The surface rights are owned by either private persons or Ejidos (rural co-operative communities). Typically, a verbal authorization with no consideration is granted for prospecting and sample gathering and a simple letter agreement or contract will be used for drilling, trenching, basic road building and similar more advanced exploration activities. A small monetary consideration and/or the obligation to fix a road or fence, build a water retention dam, repair the local town church or school, etc. is usually required to perform any extensive work programs and the landholders must also be compensated should the land be required for development. The San Diego project is part of the San Diego and the Vallecillos Ejidos who each own portions of the surface rights on the project area (Figure 2). To date, only a simple contract agreement has been signed between ECU and the local Ejidos which owns the surface rights. The common understanding between the parties at this stage where only exploration work is being performed, is to pay a fixed monthly rent (in pesos) to

the small community of San Diego de Arriba as well as to provide assistance on an informal basis to each of the two concerned Ejidos for items such as water supply and occasional employment. When and if exploitation is initiated, the parties will draft a formal surface use contract similar to the one ECU has with the Velardeña Ejido, which will be registered at the Registro Agrario Nacional, Delegación in Durango.

On December 24, 1997, ECU Gold Mining Inc. (the predecessor company of ECU) acquired 93.48% of the capital stock (the remaining 6.52% was later transferred to ECU) of BLM Minera Mexicana, S.A. de C. V. (BLM Minera), the registered holder of the mineral concessions associated with the Velardeña, San Diego and Chicago properties. ECU also acquired, as part of the same transaction, all of the capital stock of Minera William, an exploration and mining contracting company. BLM Minera and Minera William were purchased from William Resources Inc. (William Resources) with the issuance of 6,000,000 shares of ECU, as well as a 30% net profits interest (NPI) royalty. In September 2007, following a series of transactions - for which more ample details are given in the 2009 Technical Report - ECU obtained complete (100%) ownership and title to the Velardeña, San Diego and Chicago concessions and is no longer required to make royalty payments.

In late 2004, ECU purchased an interest in a 250 tpd flotation mill located in the town of Velardeña to treat all the sulphide production from the property. Since then the Company increased its ownership interest in the holding company, Minera Labri S.A. de C.V., (Minera Labri) to 100%.

On November 2, 2005, ECU and Golden Tag entered in a joint venture agreement whereby Golden Tag would earn a 50% interest in the San Diego property by incurring a total of US\$ 1.5 million in exploration expenses in increments of US\$ 500,000 per year over three years. As of the end of November, 2007, Golden Tag had incurred total expenses of US\$ 1.629 million and therefore met the obligations under the joint venture agreement. Golden Tag having completed its initial obligations, the partners subsequently joint ventured exploration work on the property and paid for their proportionate share of expenditures.

On September 02, 2011, ECU Silver and Golden Minerals Company of Golden, Colorado announced the effective merger of their two companies. Following this transaction, Minera William, BLM and Minera Labri became wholly-owned subsidiaries of Golden Minerals.

In March 2012, Golden Tag and Golden Minerals signed an amended option agreement giving the right to Golden Tag to increase its interest in the San Diego project from 50 to 60% by solely financing US\$3-million of additional exploration expenditures on or before March 2014. The modified agreement also granted operatorship to Golden Tag for the additional JV programs and beyond, as long as it completes the required financing in a timely manner. As of December 31, 2012, Golden Tag had incurred exploration expenditures of CAN\$1,860 related to the Phase 6 Program bringing Golden Tag's total investment at San Diego to US\$ 6.7 million since initiating exploration in 2006.

With the merger in 2011 of ECU and Golden Mineral, the new entity created currently owns in Mexico mineral concessions exceeding a 1,000 ha in size. As such, Golden Minerals has the obligation to file once a year a work report covering the activities completed on their concessions. Golden Tag received confirmation from Golden Minerals that this report had been filed with the Mexican mining authorities for 2011. In addition, Golden Mineral would also be required to meet annual work commitments as established by article 69, within the last paragraph of the Ley Mineral

published in the Diario Oficial of February 15, 1999 by the Secretaria de Economía (formerly the Secretaria de Comercio y Fomento Industrial).”

In 2008, Golden Tag proceeded with the creation of a fully owned Mexican subsidiary registered under the name of *Golden Tag S.A. de C.V.* and having its offices in Mexico City.

Golden Minerals and Golden Tag have all necessary permits to conduct exploration activities at San Diego, which include the environmental permits from the Secretaria del Medio Ambiente y Recursos Naturales (SEMARNAP).

According to Golden Minerals and Golden Tag, there are no environmental obligations or responsibilities associated with the property, other than adherence to the regulations of the SEMARNAP concerning exploration activities.

SGS is unaware of any outstanding environmental liabilities affiliated with the San Diego project, and is unable to comment on any previous remediation.

## 5- Accessibility, Climate, Local Resources, Infrastructure and Physiography

The San Diego project is part of the municipality of Cuencame, in the State of Durango and located 75 km southwest of the city of Torreón and 160 km northeast of the city of Durango (Figure 3).



Figure 3: General location of the San Diego Project within Mexico.

The project can be easily accessed year-round and within 15 km from two main Highways: Federal Road #40, a two-lane road, and the Durango-Torreón Highway # 40-49, a four-lane toll highway. Coming in from the north, the property is reached via a reliable gravel road taken from the small locality of Rojo Gomez. The property can also be reached coming in from the south-west following a gravel road going across the Sierra San Lorenzo hills that goes to the El Cobre mine and continues to the village of Velardeña, 25 km away. Figure 4 displays topographic relief and relative location to nearby properties and facilities.

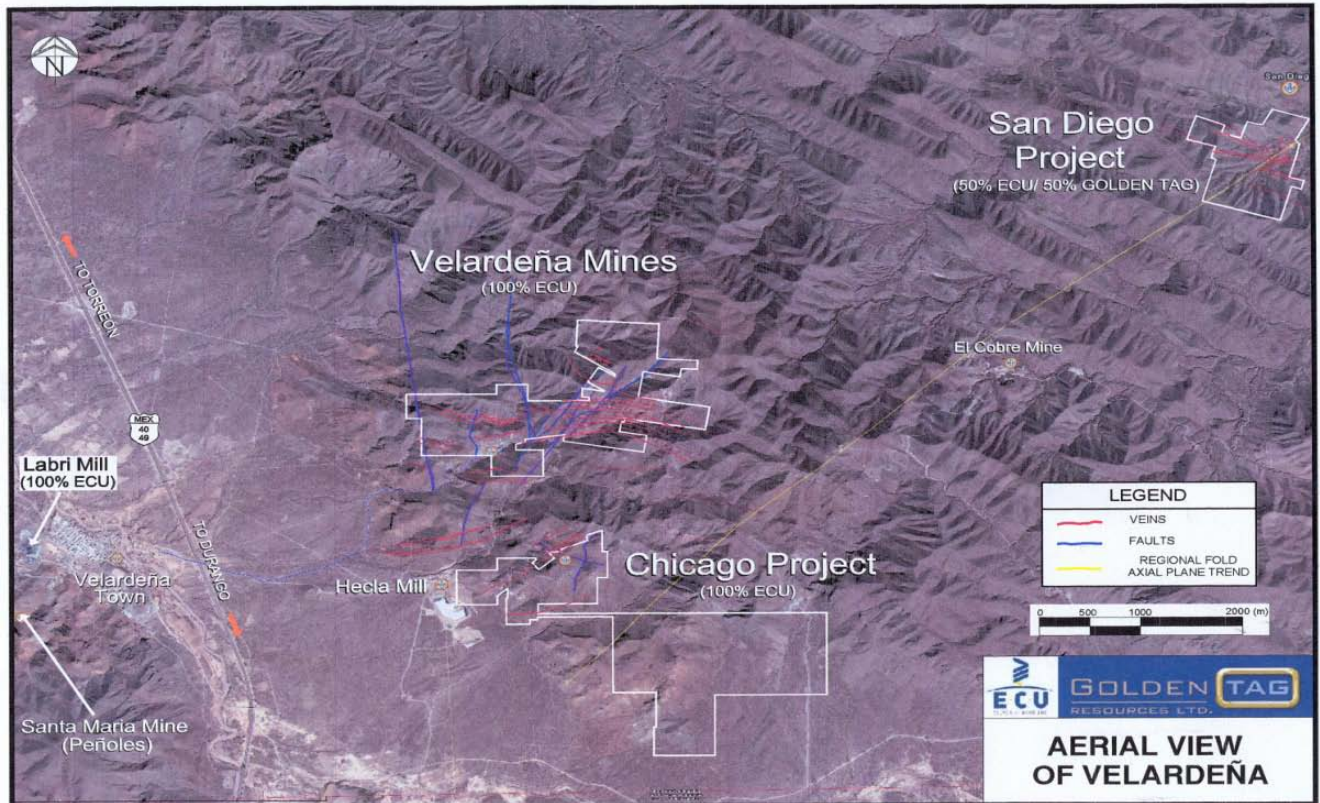


Figure 4: Oblique aerial view of the Velardeña region.

The closest localities are the small communities of Rojo Gomez, Paloma and Velardeña all closely located along Highway #40 and within a 20 to 60 minute drive from the project site. Experienced labour force and supplies can be found in those localities, as well as the nearby major centres of Torreón, Monterrey and Durango City.

The Francisco Sarabia international airport of Torreón offers daily flights to the major national centres and to some U.S. cities, including Dallas, Houston and Los Angeles. Torreón is a major industrial city, which is home to the Peñoles smelter and a major coal-fired electricity plant and is also one of the largest dairy production centres in Mexico. Domestic and international flights to U.S. cities are also available from Durango City.

Topography at the San Diego property is characterized by the San Lorenzo hills bordering its southern limit giving the site a characteristic horse-shoe shape. Property elevations change rapidly going from the San Lorenzo hills in the south-west corner to the valley floor in the north-east corner. The elevation of the most southern vein, the Trovador Vein, is at 1,750 m.a.s.l, whereas the Porvenir Vein in the north sits at 1,600 m.a.s.l.

The following was adapted from the 2009 technical report:

From a physiographical point of view, the zone is mature with a mixed topography. Streams within the area drain either to internal drainage systems or tributaries of the Nazas and Aguanaval rivers, which are connected to the Laguna de Mayrán. All of the streams are intermittent and only run during the rainy season. A series of water dams were built by the government over the years to control water flow from the two rivers for irrigation and water management purposes. The Francisco Zarco dam, located 25 km to the west, is the closest to the San Diego project.

The geomorphology shows characteristics typical of a cycle of arid to semi-arid. More specifically, it has an abundance of valleys and flat areas variably filled with the erosional material from adjacent lands. The drainage system is generally dendritic and many streams have poorly defined beds which disappear when they reach the valley floor due to infiltration into loosely consolidated alluvial sediments. Several of these streams are controlled by fractures and faults resulting from the Laramide Orogeny and the Basin-and-Range deformation episodes.

Wildlife is typical of semi-arid areas with a sparse population of small mammals such as mice, rabbits, squirrels, coyotes and a declining deer population from over hunting and predation from cougars. Numerous cows, donkeys and horses belonging to the local Ejidos residents are left to roam free to feed on the vegetation. Birds are abundant and include vultures, hawks, road-runners, swallows, cardinals and various songbirds and sparrows. The Sierra portion of the Durango state is also well-known for its rattle snakes, scorpions and venomous spiders, including tarantulas and black widows, all of which have been seen on the property.

Exploration work at San Diego can be conducted on a year-round basis. Coldest temperatures occur during the winter months from December-January-February with temperatures ranging from 0° to 22° C. The rest of the year, average temperatures range from 18 to 36° C. Rainfalls average 243.7 millimetres per year (mm/y) and predominant winds are northeast-southwest, with speeds of 2.1 to 6.0 m/s.

Some of the old infrastructures from previous production eras remain in place. However, the majority of them are adobe-style constructions which were used in the past for housing and storage that are currently in a state of disrepair. The best preserved building is the former processing plant which was constructed of bricks and stones.

In September 2006, a small adobe house was reconditioned to be used as an office and warehouse to support the first exploration campaign. Thereafter in January 2008, a portion of the largest adobe construction was refurbished to store pulps and rejects from the core samples sent to the assay laboratories. The remaining restorations of that building were completed in 2012 to house the split core boxes from the Phase 5 and Phase 6 programs with a section converted into living quarters for the guards watching over the site on a 24-hour, 7/7 schedule. Core logging and splitting activities are done in an open space covered with a corrugated tin roof beside the Los Adelaidos shaft. All drill core since drilling was first initiated in 2006 has been kept and is being stored at the site. Figure 5 and Figure 6 are views from 2008 and 2012 of the site facilities showing the core logging and splitting area with the white adobe building in the back and a concrete water reservoir located on a small plateau above; rows of core boxes piled on wooden pallets and covered with black plastic tarp are also visible.



Figure 5: View in 2008 of the exploration buildings, water reservoir, and core storage area (looking SE).

On the property, water is found at the bottom of some of the old mine shafts, mainly those of La Cruz and Montanez. Water was also obtained during Phase 4 from a 30 m deep well located 1 km north-east from the project which was drilled to supply water to the historical plant installations on the San Diego property. Diamond drilling has also revealed the presence of further water aquifers on the property. If needed, water can also be obtained by trucking it from the Francisco Zarco dam and from the Peñoles mill installations in Velardeña.



Figure 6: View looking SE of the exploration buildings, logging and core storage areas (photo taken in 2012).

For the moment, electrical power at the site is provided by generators. The San Diego property was once supplied with electric power by a line connected to the national grid. All of the electrical posts remain standing and would only need to be rewired to be functional. Cellular phone and internet coverage are not available at the site but could be obtained with the installation of a satellite system.

If exploration is successful in identifying an economic mineral deposit, and depending on the size of the resulting operation, the extracted material could be processed at Golden Minerals' nearby processing facilities in Velardeña. Golden Minerals currently owns a 340 tonne per day (t/d) flotation mill situated just outside of the village. This mill has a fully operational lead and zinc flotation circuit and in 2006 a pyrite-arsenopyrite circuit was added to recover more gold and silver from the sulphide ore. These installations were further expanded with the purchase by ECU in 2008 of an adjacent 80 t/d flotation mill used for large scale metallurgical testing or for processing specific ores different from the main feed. In 2009, ECU also completed the purchase of a nearby 600 t/d Merrill Crowe oxide plant from Hecla Mining Co. Golden Minerals is currently operating the Velardeña sulphide and oxide plants at a combined capacity of approximately 600 t/d. By 2014, Golden Minerals intends to further expand its operations to 1,150 t/d throughput and has recently commenced preliminary design and engineering.



## 6- History

### 6.1 Prior Ownership

The following is adapted from accounts by Gilmer et al. (1988), Hamilton (2003) and Micon (2009):

Spanish began mining in the Velardeña district in the sixteenth century with high-grade oxide ore mined by hand and processed on a small scale by direct smelting (Santillan, 1936). Mining of the limited oxide ores remained erratic until 1888 when the Velardeña Mining and Smelting Company was formed and a smelter was built (Gilmer et al. 1988). The records for the late nineteenth century and the twentieth century are more complete with mining occurring continuously in the district for most of the time but again with sporadic production due to periods of low commodity prices which rendered the mines uneconomic at times.

In 1888, the Velardeña Mining and Smelting Company was formed, a smelter was installed, and larger scale production began. At this time many of the smaller operations were consolidated within the larger group. According to Pinet (1999), a report written in 1913 recorded that in four years commencing in 1888, the Velardeña district in Durango produced 120,000 kg of silver, 19,000 t of lead, and 519 kg of gold.

In 1902, the American Smelting and Refining Company (“ASARCO”) gained control of the operations and installed a new smelter. At its peak, the Velardeña district processed over 2,500 tons per day (Levitch, 1973) principally from the Santa Maria and Reina del Cobre mines and also from the Terneras and Santa Juana mines. The San Mateo vein supported a small-scale operation by an independent company at about the same time. Several other smaller mining companies were also active in the area at that time (Saïda Mining Co., America Mexico Mining and Development Co., and Mexico Texas Co.).

ASARCO and independent operators worked the mines continuously until 1926 when low metal prices and an unstable political environment contributed to the closure of the operations. In addition, the softer oxide ore was becoming more scarce with depth, and the harder sulphide ore made mining more difficult. After the mine closures, the smelter was dismantled and moved to San Luis Potosi (Pinet, 1999). Old reports indicate that early in the twentieth century, the average grade of the Terneras mineralization was 3.5 g/t gold, 835 g/t silver and 3.85% lead. Production statistics for the years 1920 to 1924 show that the Terneras mine produced 138,331 t with an average grade of 4.0 g/t gold, 419.7 g/t silver, 2.1 % lead, 0.3 % copper and 2.5 % zinc. In 1924, the Terneras shaft was sunk to the 14th level, and a crosscut was driven to intersect the Santa Juana vein. Also, in 1924, it was reported that production from the Santa Juana vein totalled 37,000 t (in excess of 100 t/d), with an average grade of 5.9 g/t gold and 573 g/t silver. Lesser production was also reported from the Santa Isabel chimney zone (562 t grading 0.6 g/t gold and 401 g/t silver) and from the Industrial Minera de Mexico S.A. (IMMSA) controlled, El Pilar zone (863 t grading 2.3 g/t gold and 162 g/t silver) (Pinet, 1999, and references therein).

After 1926, the mines in the district were worked on a small scale by local miners until the advent in 1961 of nationalization by the Mexican Government, which precluded foreign ownership of the

majority of shares in mining ventures. A renewed period of exploration began in 1968, involving ASARCO Mexicana (now Industrial Minera de Mexico S.A. or IMMSA), Servicios Industriales Peñoles S.A. de C.V., Minera Ramid S.A., and Astumex S.A. That same year, exploration and development work recommenced in the Santa Maria and Reina del Cobre mines and approximately 300,000 t/y were processed by IMMSA in their plant up until 2002.

In 1969, IMMSA abandoned several mineral concession blocks in the area, including those underlying the Terneras and the San Diego mines. These were acquired by a consortium of individuals headed by Alejandro Gaitan of Torreón, Coahuila. During the 1970's through the late 1980's several mines in the district were exploited by gambusinos (artisanal miners) for direct shipping of the gold/silver ores. Operations by the Gaitan Group on the project area consisted of the removal of material from the old waste dumps and several thousand tonnes of fill left in the stopes from earlier mining. The Velardeña material was processed in a mill about 100 km distance from the mines whereas the San Diego material was treated on site at a lead-zinc flotation plant built for that purpose. In 1990, Mr. Gaitan purchased a 50-t/d flotation mill located approximately 13 km from Velardeña where vein material from several structures of the Santa Juana mine was processed. The mill was operated intermittently at a low throughput due to a lack of mill-feed. The average grade reported for the ore material is of 396 g/t silver, 5.9 % lead, 7.6 % zinc, and a mean grade of 4 g/t gold. By early 1992, the mines and mill were idled.

In 1994, William Resources acquired the concessions owned by the Gaitan consortium via their Mexican affiliate BLM Minera. During that year, they carried out a feasibility study at the Velardeña Mine and commenced pre-production development and mine construction in July 1995 (Duke et al. 1995). From 1995 to 1997, William Resources carried out a surface mapping and sampling program on the various concessions, as well as an underground sampling program, principally on the Santa Juana vein system. William Resources also drove the Terneras adit, providing access to the 6th level of the Terneras mine, which in turn allowed access to the 12th level of the Santa Juana Mine via a pre-existing crosscut. The Santa Juana winze was deepened 42 m to the 15.5 level, and a ramp was driven from that level to the 17th level.”

Early in 1996, Williams Resources purchased a 600 t/d cyanidation plant and located it 3.5 km from the Velardeña mine site. In May of that year Williams Resources commenced treatment of dump material, which was mixed with minor quantities of development material from the Santa Juana mine. William Resources ceased operation in mid-1997 and in December, 1997, ECU Gold (the predecessor company of ECU Silver) purchased 93.48% of BLM Minera and 100% of Minera William from William Resources.

In September 2011, ECU and Golden Minerals proceeded with the announced merger of their two companies with the newly formed entity retaining the Golden Minerals name. As a result, Minera William, BLM Minera and Minera Labri became wholly-owned subsidiaries of Golden Minerals.

On November 2, 2005, ECU and Golden Tag entered in a joint venture agreement whereby Golden Tag would earn a 50% interest in the San Diego property by incurring a total of US\$ 1.5 million in exploration expenses in increments of US\$ 500,000 per year over three years. As of November 2007, Golden Tag had incurred total expenses of US\$ 1.629 million and met its obligations under the joint venture agreement to earn its 50% interest into the San Diego Property. Subsequent to the earn-in period, Golden Tag and ECU have joint ventured exploration and development of the property and were paying for their proportionate share of expenditures.

In March 2012, Golden Tag and Golden Minerals signed an amended option agreement giving the right to Golden Tag to increase its interest in the San Diego project from 50 to 60% by solely financing US\$3-million of additional exploration expenditures on or before March 28<sup>th</sup>, 2014. Golden Tag became operator of the project with the signing of the agreement.

## 6.2 Past Exploration and Development Work

The Velardeña mining district and the San Diego project area are riddled with mine openings and old workings, some of them reaching deep underground and others limited to the near surface environment. The latter represent the earliest efforts at extraction whereas the former is indicative of later, better organized and engineered mining. Associated with these openings and workings is a number of ruins, which represent the mine buildings and residences of the inhabitants of the mining district during those days.

The vast bulk of the waste material extracted over the years from underground operations is scattered over the hillsides in waste dumps of variable size and height. Historically, each individual vein (Cantarranas, El Jal etc.) had separate owners and, in the case of some of the larger veins or deposits, had several owners along the strike length which resulted in a surfeit of adits and shafts and very inefficient operations.

The mines within the Velardeña mining district have been developed primarily by using open stope/shrinkage and cut and fill underground mining methods. The ground conditions, which vary from good to poor, and the deposit geometries tend to favour both mining methods with development waste used for backfill. There are no known records of the historical production from previous owners at the San Diego property.

On the San Diego property, historical workings are reported on 6 different veins with the most extensive development work having taken place on the La Cruz/Rata and Trovador Veins. The La Cruz/Rata old workings reach a maximum depth of 180 m and enclose five mining levels. Along the western portion of the Vein, the La Cruz shaft was sunk vertically from surface down to 80 m, whereupon it becomes inclined. The Los Adelaidos shaft was sunk vertically to a depth of 115 m on the eastern portion of the vein. Two shafts are also found on the Trovador Vein; the western shaft is about 165 m deep whereas the eastern shaft connects the 360 m long Viboras adit to a second level located 75 m below. The Trovador workings extend out 500 m along the vein strike length, and 220 m down at depth.

The Cantarranas, El Jal, and Montanez Veins are the other structures with historical workings. However, at all 3 locations mining development remained limited to the near-surface oxide environment with workings reaching a maximum depth of 25 m. All mine workings were digitized and incorporated in the 3D model to ensure that blocks within mined out areas were excluded from the resources.

In late 1999, BLM Minera conducted a geological mapping and sampling program on the San Diego property. A total of 277 individual samples were collected from old underground workings and ground surface exposures of 6 vein structures: La Cruz, Rata, Montanez, El Jal, Cantarranas and

Trovador. The samples were analyzed for gold, silver, lead and zinc with a few from the El Jal vein assayed for gold and silver only. Density tests consisting of the immersion method were conducted on selected samples of the vein and wall-rock material. Surface plans and long sections showing sample locations were generated in 1999-2000 and ECU, in 2004, completed a resource estimate on 5 of the 6 veins (La Cruz, Rata, Montanez, Cantarranas and El Jal). The Trovador vein was not included in the estimate as it was felt that, being the most extensively worked area, it offered less potential for new discoveries or extensions.

The 1999 underground chip sampling was carried out on the backs of old workings as well as on existing pillars. The sampling was done using a similar approach to the one used by ECU at its Velardeña mines. ECU's sampling procedures are as follows:

- The vein is sampled by chiselling out a sample over the width of the vein.
- Only vein material is sampled. No wall rock is collected for assaying.
- Sampling is carried out perpendicular to the vein contacts (where possible) and the true width of the vein is recorded.
- Sample spacing at the San Diego project was not systematic and varied from 3 m to in excess of 30 m spacing.
- The location of all samples was measured and tied to the surveyed local mine grid. The strike and dip of the vein were also recorded.
- A similar approach was followed for the collection of surface samples.

Where possible these samples were used in the estimation of resources.

### **6.3 Historical and Prior NI 43-101 Mineral Resource Estimates**

Historically, the resource estimates for the San Diego project were done internally by William Resources and ECU. More recent resource estimates were prepared by Roscoe Postle Associates Inc. (RPA) in 2005, Broad Oak Associates (Broad Oak) in 2006, and MICON International Ltd (MICON) in 2008, and 2009. These reports were posted on the System for Electronic Document Analysis and Retrieval (SEDAR), the official site that provides access to most public securities documents and information filed by public companies and investment funds with the Canadian Securities Administrators (CSA). The RPA, Broad Oak and MICON resource estimates discussed in this section were prepared in compliance with the current CIM standards and definitions for estimating resources as required by NI 43-101 regulations.

In 1999, BLM Minera conducted a geological mapping and sampling program on the San Diego property and later put together surface plans and longitudinal sections showing the sample locations. In 2004, based on the information gathered from the 1999 program ECU completed a non-compliant 43-101 resource estimate on 5 of the main veins (La Cruz, La Rata, Montanez, Cantarranas and El Jal). Subsequently, the 1999 underground mapping and sampling data was included in the estimates completed by RPA in 2005, Broad Oak in 2006, and MICON in 2008 and 2009 as well as in the current estimate.

In 2005, Roscoe Postle Associates Inc. audited ECU's 2004 Mineral Resource and, using their own study parameters, made the modifications they deemed necessary for the estimate to conform to NI-43-101 requirements. The RPA Resource Estimate includes both the sulphide and oxide

mineralization. The report was originally filed on SEDAR on July 26, 2005 and a revised version was filed on November 30, 2005.

The following year, in 2006, Broad Oak was commissioned by ECU to complete another resource estimate also based on their non-compliant 2004 Estimate. For this Report, Broad Oak audited the resources keeping ECU's parameters and making only minor adjustments to the study such as the removal of low grade, isolated resource blocks so that the reported resources complied with NI-43-10 requirements. The Broad Oak report was filed on SEDAR on October 10, 2006. The Broad Oak resource estimate includes both the sulphide and oxide mineralization.

Following the signing of their JV agreement, ECU and Golden Tag completed from August, 2006 to May, 2007 the Phase 1 and Phase 2 drill programs totalling 6,590 m. Drilling results from the two campaigns, along with the underground sampling done in 1999, were used to prepare a new resource estimate for the San Diego project. Micon was contracted by ECU and Golden Tag to provide direction for, and conduct a review of, the new resource estimate on the San Diego project. The resource estimate was completed by Ms. Kateri Marchand, an independent geological consultant engaged by ECU and Golden Tag, and was reviewed by Micon to insure conformity with the current CIM standards and definitions for estimating resources as required by NI 43-101 regulations. The new estimate represented a 225 % increase over the last resource estimate for San Diego completed in October 2006 by Broad Oak and Associates.

The Micon report was filed on SEDAR on January 28, 2008 by respective JV partners, Golden Tag and ECU. The Micon resource estimate includes both the sulphide and oxide mineralization and is summarized in Table 4 and Table 5. It must be noted that the parameters used to attribute the silver equivalent value are not the same as those used in the current resource estimate.

Table 4: Summary of the Indicated Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 and 2 Programs; January 28<sup>th</sup>, 2008).

Mineralization Type	Tonnes (t)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	Gold (oz)	Silver (oz)	Lead (lbs)	Zinc (lbs)	Silver+Silver Equivalent (oz*)
Oxide	180,100	0.51	255	1.38	1.30	3,000	1,474,000	5,475,000	5,149,000	1,921,000
Sulphide	190,800	0.17	235	2.20	1.35	1,000	1,442,000	9,238,000	5,689,000	2,059,000
Total	370,900	0.339	245	1.80	1.33	4,000	2,916,000	14,713,000	10,838,000	3,980,000

*Note\* Gold and Copper were not included in the silver + silver equivalent estimation.*

Table 5: Summary of the Inferred Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 and 2 Programs; January 28<sup>th</sup>, 2008).

Mineralization Type	Tonnes (t)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	Gold (oz)	Silver (oz)	Lead (lbs)	Zinc (lbs)	Silver+Silver Equivalent (oz*)
Oxide	322,000	0.34	303	1.11	0.99	3,000	3,141,000	7,895,000	7,024,000	3,767,000
Sulphide	4,654,000	0.15	158	1.26	1.28	23,000	23,652,000	129,545,000	130,947,000	34,637,000
Total	4,976,000	0.163	167	1.25	1.26	26,000	26,793,000	137,440,000	137,971,000	38,404,000

*Note\* Gold and Copper were included in the silver + silver equivalent estimation*

In the fall of 2008, ECU and Golden Tag retained once again the services of Micon to produce an independent Technical Report for the San Diego project. To that effect, Micon provided direction for, and conducted a review of, the December, 2008 updated resource estimate completed on the property by ECU with assistance from Ms Kateri Marchand, JV project manager for San Diego. The updated estimate included results from two follow-up drilling programs carried out from 2007-2008 (Phase 3), and 2007-2008 (Phase 4) which together totalled 10,443 m of surface drilling. More specifically, the Phase 3 drill program entailed the completion of 15 holes representing 6,654 m of drilling. The Phase 4 exploration program went from September to December 2008 with a total of 3,788 m of drilling completed during the program. However, at the time the 2008 Resource Estimate was completed, the Phase 4 program remained in progress and only those results from diamond drill holes SD-07-21A, SD-08-34 and partial results from SD-08-35 were taken into account for the Estimate. Those 3 holes represented 2,487 m of drilling out of the 3,788 m total executed during Phase 4.

The Micon report was filed on SEDAR on January 20, 2009 by respective JV partners, Golden Tag and ECU. The Micon resource estimate includes both the sulphide and oxide mineralization and is summarized in Table 6 and Table 7.

Table 6: Summary of the Indicated Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 to Phase 4, January 20th, 2009).

Mineralization Type	Tonnes (t)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	Gold (oz)	Silver (oz)	Lead (lbs)	Zinc (lbs)	Silver+Silver Equivalent (oz*)
Oxide	180,080	0.513	255	1.38	1.30	2,972	1,474,265	5,474,828	5,148,797	1,707,582
Sulphide	190,772	0.174	235	2.20	1.35	1,066	1,441,442	9,237,569	5,688,939	2,539,131
Total	370,852	0.339	245	1.80	1.33	4,038	2,915,706	14,712,398	10,837,736	3,188,884

*Note\* Copper was not included in the "silver + silver equivalent estimation"*

Table 7: Summary of the Inferred Mineral Resource Estimate for the San Diego Project by Micon (Phase 1 to Phase 4, January 20th, 2009).

Mineralization Type	Tonnes (t)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	Gold (oz)	Silver (oz)	Lead (lbs)	Zinc (lbs)	Silver+Silver Equivalent (oz*)
Oxide	167,451	0.314	318	1.21	0.44	1,689	1,711,707	4,464,042	1,623,919	1,844,333
Sulphide	21,464,852	0.132	108	1.84	2.21	91,261	74,758,411	871,988,161	1,045,101,028	212,461,745
Total	21,632,303	0.134	110	1.84	2.21	92,951	76,470,118	876,452,203	1,046,724,947	214,306,078

*Note\* Only Copper was not included in the "silver + silver equivalent estimation"*

The 2009 Micon resource estimate has been superseded by the present 2013 estimate conducted by SGS effective as of April 12th, 2013, which one is discussed in detail in Section 14.

## 7- Geological Setting and Mineralization

### 7.1 Geological Setting

The Velardeña district is located at the easternmost limit of the Sierra Madre Occidental, near the boundary with the Sierra Madre Oriental (Mesa Central sub-province). Both of these terranes are underlain by Paleozoic and possibly Precambrian basement rocks. Most of Mexico's high-grade silver mines are located along this major boundary (Figure 7 and Figure 8).

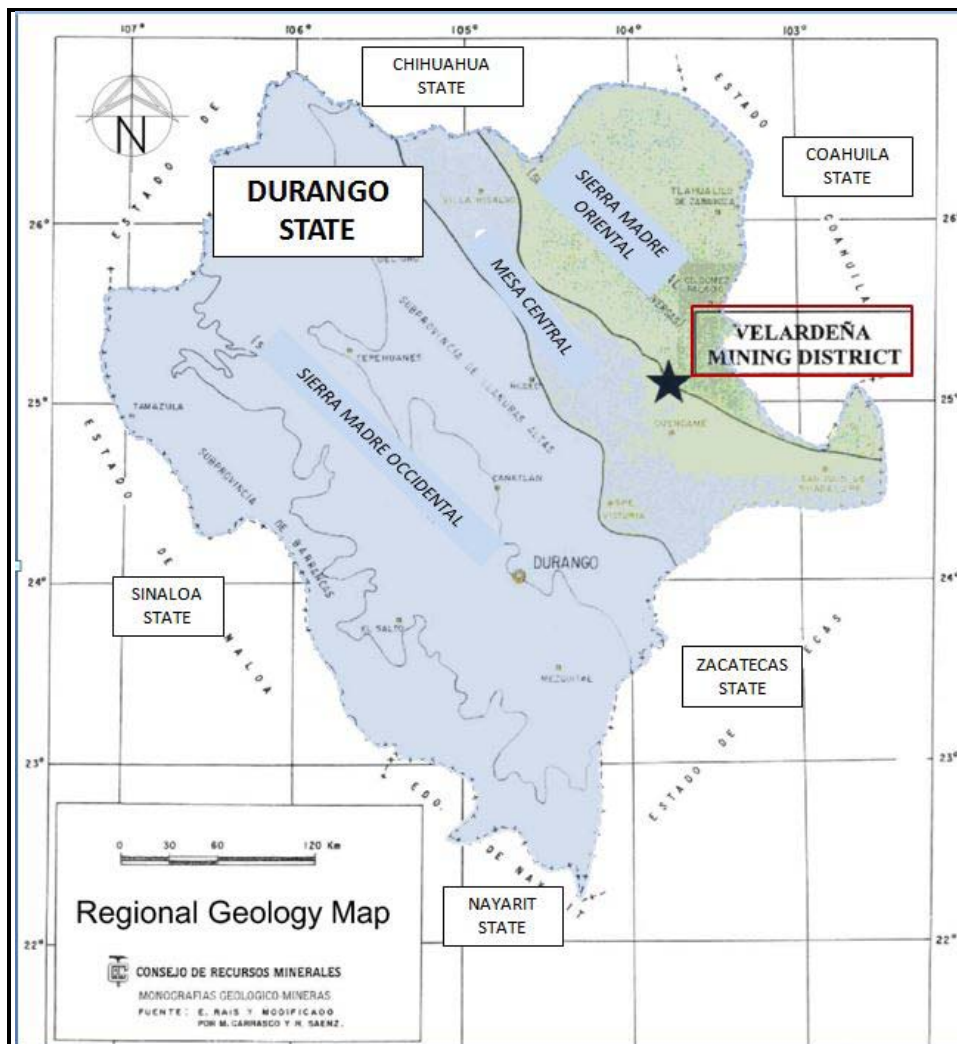


Figure 7: Regional geology map of Durango State.

The regional geology is characterized by a thick Cretaceous age sequence of limestone with minor calcareous clastic sediments, intruded by Tertiary plutons of acidic to intermediate composition. During the Cretaceous to Eocene Laramide Orogeny, sediments were subject to an initial stage of compression which resulted in formation of large amplitude, upright NE-vergent folds which become

increasingly asymmetric, to overturned to the northeast. Distinctive, wide limestone ridges formed during this episode dominate the Velardeña topography. Fold axes are generally ESE trending in the San Diego area but become gradually NNW oriented in the northern part of the region whereas to the south, fold axis are progressively deflected to the east forming a broad open flexure. The younger Tertiary stocks have intruded the Cretaceous limestone over a distance of approximately 15 km along a northeast to southwest trend: the Velardeña mine trend. These late intrusions further contributed to the shaping of the typical basin and range tectonic setting of the area. The intrusive bodies range from a more mafic dioritic composition in the northeast (San Diego), to a more felsic quartz latite composition in the southwest (Santa Maria). Local developments of exoskarn, endoskarn, hornfels and marble with sulphide mineralization associated to the intrusive rocks are features of several of the current and former mining operations of the Velardeña district.

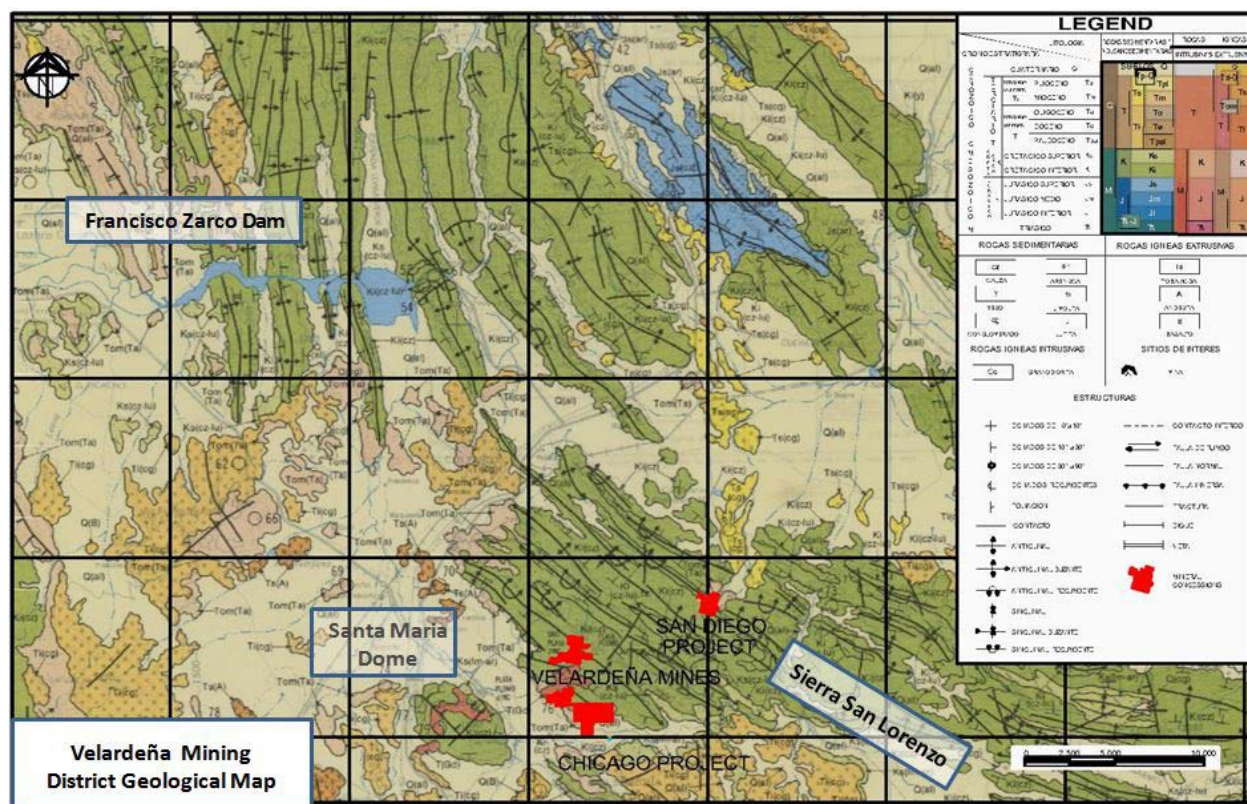


Figure 8: Geological map of the Velardeña mining district and surrounding area.

The Sierra de Santa Maria is an igneous dome with a core of quartz latite porphyry dated at 33.1 + 1.4 m.y. (Gilmer, 1988). This dome intruded the Lower Cretaceous limestone beds of the Aurora, and Cuesta del Cura Formations, and overlying Upper Cretaceous calcareous shale and limestone of the Indura and Caracol Formations (Figure 9). The northeastern side of the dome is itself intruded by series of felsic dikes (locally called rhyolite) and most of the economic sulphide mineralization at the Santa Maria Mine came from zones adjacent to the Santa Maria dike, the largest of the felsic dikes cross-cutting the intrusion. The dome itself occupies the northeast third of a large circular feature which remaining portions consist of andesites and limestones units, and the whole feature is interpreted to represent a volcanic center (Levich, 1973). The Santa Maria dome is located on the



southwestern edge of the Cuencame Valley, a 3 to 4 km wide valley filed with Quaternary sediments that separates the Sierra Santa Maria from the Sierra San Lorenzo (Pinet, 2009).

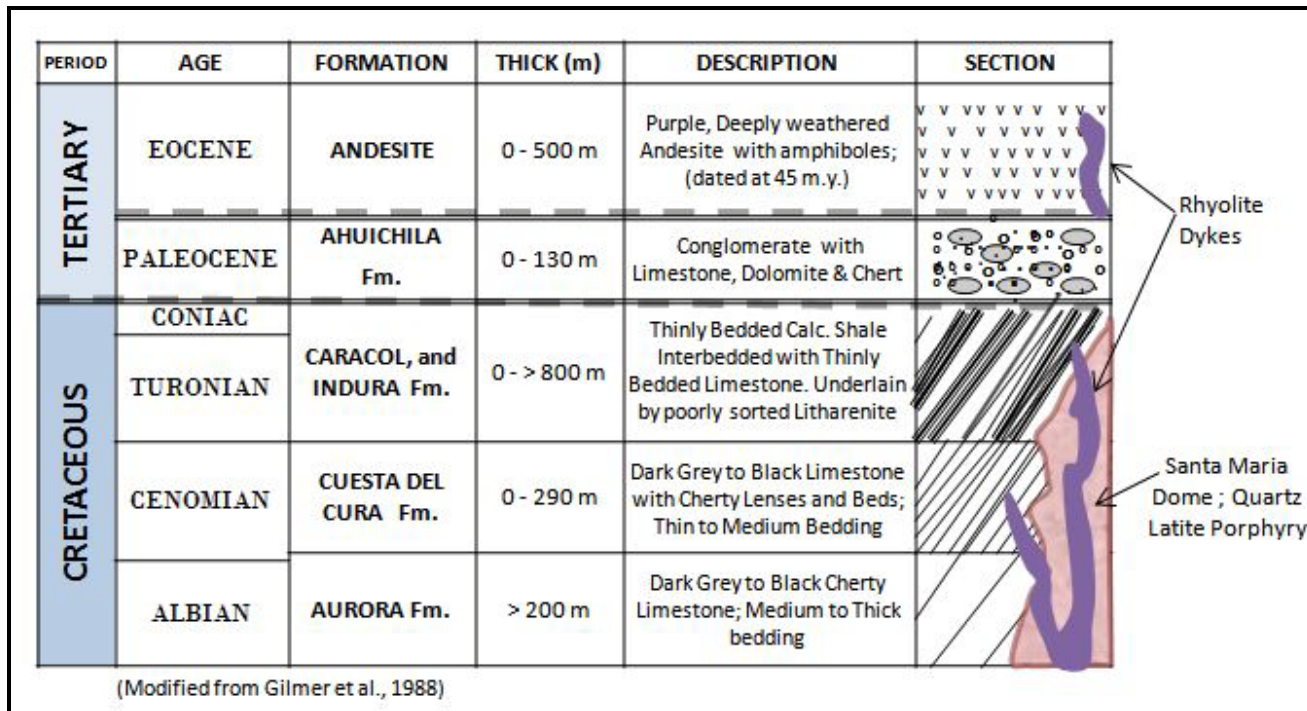


Figure 9: Composite stratigraphic sequence of the Velardeña area.

An important northwest-southeast fault system has developed parallel to the regional stratigraphic trend, and in several locations, acted as the main control to mineralization. These faults originate from extensional tectonism related to the Basin and Range episode and have developed into deep, basement-penetrating boundary faults which served as magma conduits and pathways to sulphide-bearing fluids (Gilmer, 1988). Post Laramide N020° to N030° oriented fault and fracture system played an important role as this system off-sets the northwest trending mineralized vein zones. This is well demonstrated at Golden Minerals’ Terneras mine where the NE trending Tres Aguilas fault off-sets the northwest trending Santa Juana vein system.

## 7.2 Local Geology

The San Diego property is underlain by a thick sequence of limestone that corresponds to rocks of the Aurora and Cuesta del Cura formations of Lower Cretaceous age. The Aurora limestone is generally medium to thick-bedded, dark grey to black and locally cherty. The Cuesta del Cura limestone is thin to medium bedded, dark grey to black, locally with whitish siliceous lenses and beds. These are overlain by the Upper Cretaceous Caracol and Indura Formations consisting of thin-bedded calcareous shale interbedded with thin-bedded limestone (Figure 8).

The Ahuichila Formation represents a post Laramide depositional domain characterized by conglomerate, siltstone and sandstone of Paleocene age. In the Velardeña district, this unit acts as a favorable reservoir for capturing superficial rain water. Volcanic rocks, principally rhyolite, outcrop on the western flank of the Sierra San Lorenzo, and unconformably overlie the Cretaceous limestone formations.

Several types of Tertiary intrusive rocks are present in the Velardeña district (Figure 8, Figure 10). The Santa Maria dome, west of the village of Velardeña, consists of quartz latite porphyry, and occurs as two large bodies, as well as several smaller stocks, dikes, and sills. Biotite from this intrusion has been dated by the potassium-argon (K-Ar) method at 33.1 +/- 1.4 Ma (Pinet, 1999, and Gilmer, 1988). The metamorphic aureole developed in the limestone host-rock is characterized by garnet, wollastonite, and the absence of pyroxene.

The Terneras dioritic pluton outcrops on the western flank of Sierra San Lorenzo and underlies a portion of Golden Minerals' Velardeña mines. It forms a northeast-elongated body which outcrops over a distance of about 2.5 km. Its skarn aureole varies in widths from 30 to 150 m, and consists of metamorphosed limestone and diorite (exoskarn, and endoskarn).

The Guardarraya and Reyna del Cobre intrusions are situated east of the Terneras pluton, and correspond to a series of NE-oriented irregularly shaped bodies of quartz diorite to granodiorite composition. These intrusions differ from the Terneras pluton by the occurrence of well-developed porphyritic textures, abundant leucocratic dykes, and a narrower skarn aureole (<20 m).

At the San Diego project, the dioritic intrusion coring the centre of property is shaped also as a northeast-elongated body. The limestone units surrounding the intrusion show a generally weak skarn aureole, 15 to 45 m wide, occurring as bleached, recrystallized white marble and green garnet skarns. This alteration halo gradually decreases away from the intrusion into partial (patchy) recrystallized limestone, and to fresh limestone. In the area of the Fernandez Zone, skarn alteration is strongest with broad endoskarn, exoskarn aureoles having developed. Latite and hornfel units thought to be related to the intrusion emplacement and resulting skarn alteration are found at depths, stratigraphically located between the fresh limestone units and the endoskarn. Monzodiorite sills are injected along the ESE-oriented Trovador and Montanez Veins structures. A third sill located in the area of the Porvenir Vein to the northeast of the property is also interpreted from the more recent Phase 5 and 6 drilling.

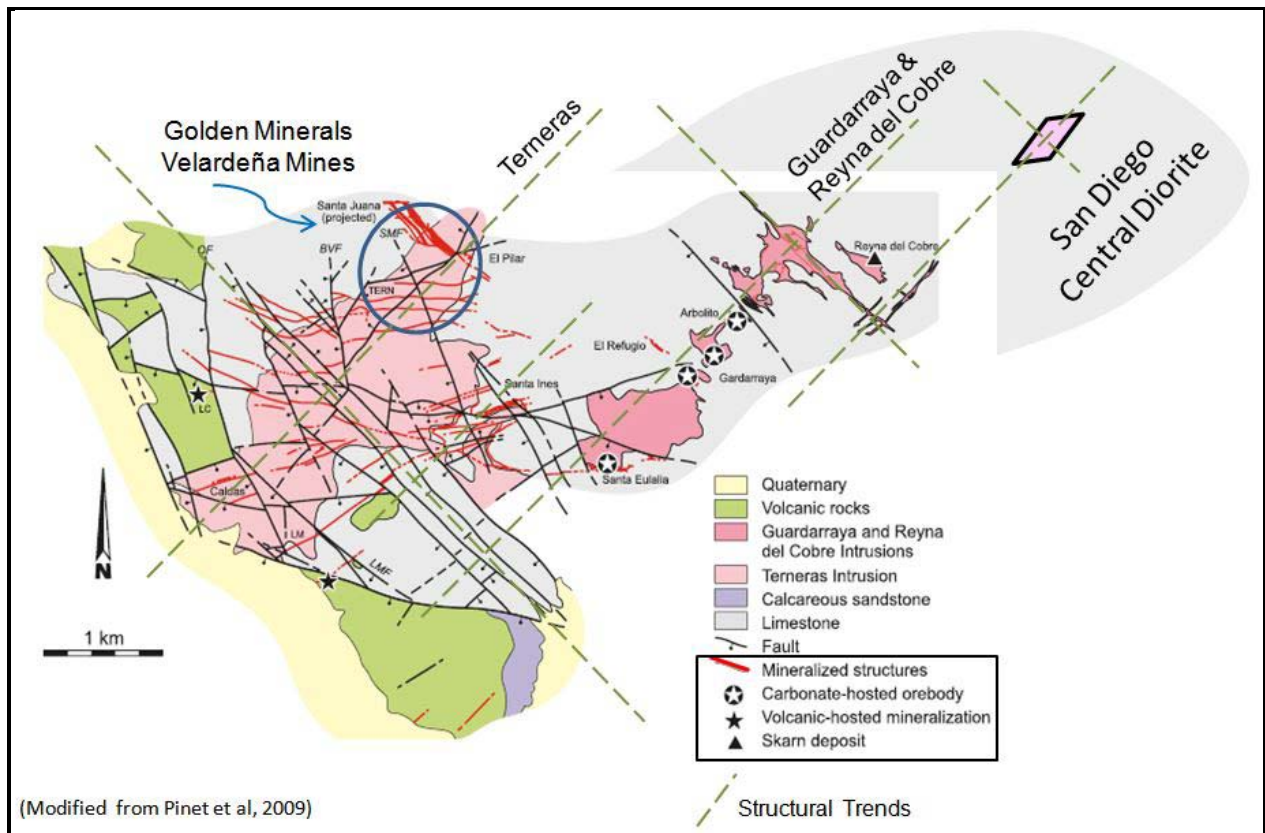


Figure 10: Geological Map of the main intrusions across the Sierra San Lorenzo range. San Diego is located in the upper-right corner of the map.

### 7.3 Property Geology

The vast majority of the San Diego property is underlain by massive beds of grey limestone of the Aurora Formation, and includes lesser amounts of thin to medium bedded limestones from the Cuesta del Cura formation. The Aurora formation plays host to the Francisco Zarco Dam; a large water reservoir located 20 km northwest from the property (Figure 8). Reef-type features such as burrow-mottled textures have been observed in core in the limestone units intersected south of the Trovador fault structure.

The limestone formations are intruded by the Central Diorite pluton, and related porphyritic monzonite sills. The Central Diorite is a differentiated intrusion that ranges from a diorite with hornblende-biotite phenocrysts to a feldspar porphyry diorite and a potassium feldspar (quartz) monzodiorite. A common feature of all intrusive rocks found on the property is their porphyritic texture. Their primary assemblage consists of plagioclase, amphibole and quartz with hornblende and/or biotite phenocrysts with accessory magnetite, apatite and sphene. Iron and magnesium minerals are typically altered to carbonates, epidote and chlorite. Quartz occurs both as a primary constituent forming small phenocrysts, anhedral rounded eyes as well as a post-magmatic alteration product that will infill cavities and crystal interstices (Renou, 2007).

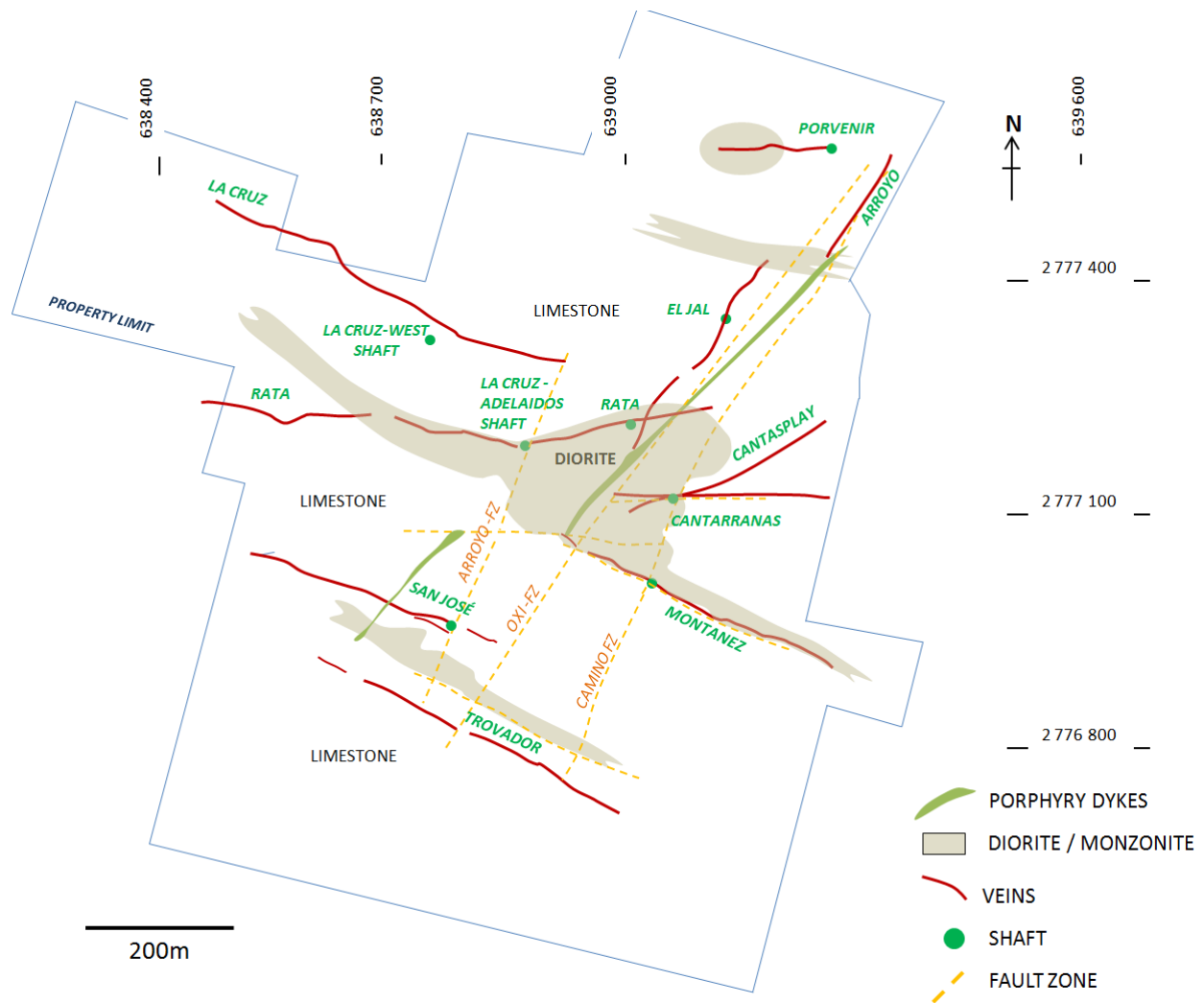


Figure 11: Geological map of the San Diego Property showing the main veins and structures observable at surface.

Large monzodiorite to monzonite sills outcrop in both the western and eastern portions of the property, forming a cross-shape pattern with the elongated NE-oriented Central Diorite. These sills are associated to the mineralized Montanez Zone (East sector), and to the La Cruz/Rata Zones (West sector). More recent drilling has revealed similar ESE oriented sills to be associated to the Trovador and the Porvenir structures, respectively located at the south and north end of the property. These sills are thought to bear similarities with the “Rhyolite” Dyke described at the Santa Maria Mine with contact-skarn sulphide mineralization found along their contact zones. Finally, late NNE to NE-oriented, narrow, feldspar-quartz porphyry dykelets cross-cut the diorite locally and intrude fault zones (Figure 11).

The late emplacement of intrusive bodies within the limestone package created skarn alteration zones along the contact areas. These zones are best developed in the vicinity of the diorite stock where contact metamorphism led first to partial and then, closer to the contacts, complete recrystallization of the limestones into marble and exoskarn. The gradual change from an all-grey limestone into a white marble, and to a green skarn approaching the diorite intrusive is commonly

observed in drill core. A petrographic study of the exoskarn samples shows that these rocks consist of carbonate as a primary constituent. Green garnets, and more occasionally brown garnets, are present in variable amounts of less than 1% up to 20% and usually range from 10 to 30 mm in size. Garnets can be partially to completely replaced by epidote and carbonates. Wollastonite and tremolite are identified in minor amounts and are likely formed during retrograde metamorphism. Quartz alteration from iron-magnesium minerals is also noticed. Garnets are generally more abundant than pyroxenes.

No petrographic study has been yet undertaken on the endoskarn unit of the Fernandez Zone. This unit has only been recently discovered below a depth of 450 m along the southeast corner of the Central Diorite. Based on grade distribution, the Fernandez Zone has been divided into 2 sub-units - Endoskarn and Fringe - which respectively correspond to a higher-grade core unit surrounded by an outer section of lower-grade material. The Endoskarn portion mainly contains mineralized, microfractured and altered dioritic rock whereas the Fringe portion includes a mixed-bag of rock units among which: exoskarn, green skarn, variably altered limestones ranging from fresh-looking grey limestone to marble, latite/hornfel units and massive diorite.

### 7.3.1 Structure

Stratigraphy is generally oriented northwest-southeast and limestone units generally have steeply dipping beds, which are facing north in the West sector and are south dipping in the East sector of the property. Figure 12 is a shaded satellite image which shows some of the regional geological and structural features affecting the property. Structural zones present in the San Diego Property indicate a complex deformation history which has the following relative sequence (Palmer, 2012):

1. Laramide Orogeny creating upright to overturned folds generally oriented N115°, and NE-verging;
2. Tertiary intrusions across the Velardeña area along N050° axis (the Velardeña Mine Trend) producing N040 and N066° conjugate; intrusions may branch out locally to follow stratigraphy,
3. Later intrusive event causes mineralizing event infilling N040° and 060° structures (El Jal – CantaSplay veins),
4. Monzonite sills at N115°, following normal faults related to Basin and Range extension regime (Montanez, Trovador and Porvenir structures),
5. Remobilization of early mineralization along N090° structures (Rata, Cantarranas, and Porvenir veins),
6. N020° en-echelon tear faults, steeply-dipping, that offset Laramide fold axis,
7. Possible re-activation of N090° structures ( E-W Fault Zone),
8. Low angle faults oriented N300-340°, calcite-filled and barren; slickensides indicate dip slip movement.

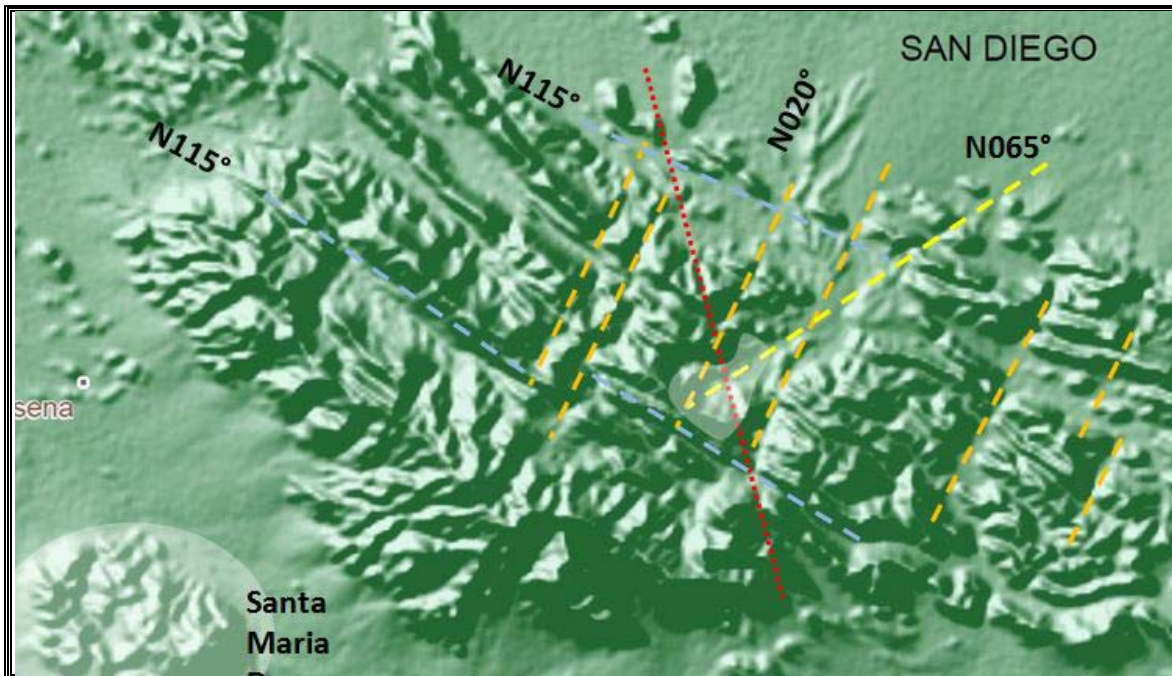


Figure 12: Shaded satellite imagery of the San Lorenzo range showing the regional lineaments.

At the property scale, four major fault zones are identified. Movements along these faults are partially responsible for the abruptly changing topography. These major faults are:

- 1) The ESE-oriented Montanez and La Cruz Fault Zones respectively located to the NE and SW of the Central Diorite intrusion. The Montanez fault zone located in the eastern block dips steeply south whereas the La Cruz fault zone, dips at a  $-65^\circ$  angle from surface down to 150 m below surface at which point, it abruptly changes to a steep southerly dip. Geological information gathered from drilling, and computer modelling suggests these two zones are actually one and the same structure. Recent drilling work also confirmed the Trovador Vein to belong to a similar fault system as that of the La Cruz-Montanez Veins;
- 2) A series of closely-spaced  $N020^\circ$  oriented late faults - the Arroyo, Oxi and Camino faults - are interpreted in the middle portion of the project area. These are steeply dipping to nearly vertical faults that cover extensive distances ( $+500$  m) and coincide with topographic lows. At the regional scale, the  $N020^\circ$  faults are interpreted as en-echelon tear fault system off-setting the  $N115^\circ$  trending ridges (Figure 12). The Arroyo Fault is the most westerly of the 3 faults and coincides with a deep ravine used as a natural boundary to define the limit between the property Western and Eastern sectors. Together, these late faults are thought to have reshaped the Central diorite intrusion after its emplacement along the regional NE-trending axis (the Velardeña Mine Trend).
- 3) The Grey Fault is a late east-west trending fault rich in carbonate and clay minerals. This extensive fault goes from the West and East sector of the property, across the Central Diorite. It dips to the south at about  $80^\circ$ , and varies greatly in width from just a few metres up to 20 m. This fault appears to offset late stratigraphic units such as the NNE-oriented

porphyry dykes. This fault coincides with the mineralized Cantarranas Vein Zone (East sector), and E-W Fault Zone (West sector).

The deformation style observed at the San Diego project belongs to brittle, and brittle-ductile regimes. Foliation defining a preferred mineral alignment is for the most part, only weakly developed and in that sense, reflects the ample fold tectonic shaping the area. Crenulation cleavage is absent, whether in core or outcrops. Deep drilling completed during the Phase 5 has revealed shearing zones affecting the hornfel/latite units intersected at depths across the Eastern sector. Shearing effects are most noticed as sericitic planar surfaces that may correspond to the limestone units' original bedding planes.

The intrusive rocks provide a brittle rheologic regime that promotes open veins and gashes within which sulphide mineralization can collect. This is somewhat in contrast to the limestone rock and altered version which tend to be softer and less prone to brittle fracturing. Secondary enhancement of permeability and porosity through micro-fracturation and faulting are essential to allow circulation (and trapping) of sulphide-bearing fluids. Simply said, the more fractured the rock the more likely for it to be mineralized. The best example of this ore forming process is the EndoSkarn Zone which has developed on the Central Diorite eastern contact where multiples fault are intersecting resulting into extense micro-fracturation development which in turn, allowed for stockwork-style mineralization to form. The stockwork nature of this broad zone can be seen in a stereographic plot of some 330 measurements of veins and stringers sets from oriented core of the Fernandez Zone; the wide ranging spectrum of orientation distributed around the stereographic plot testify to multiple stockwork-style veining sets (Figure 13).

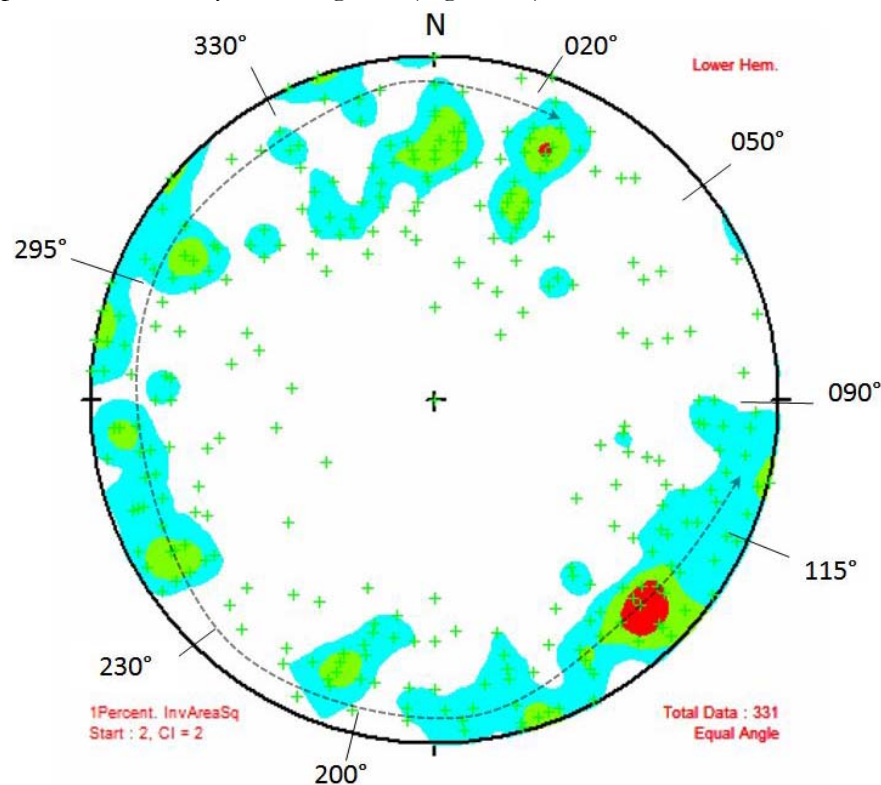


Figure 13: Stereographic projection of 330 sulphide vein measurements from the Fernandez Zone; orientations ranging from N200° to N115° and dips are from 60° to 90°.

### 7.3.2 Alteration

Carbonatization is the most widespread alteration and affects all rock units except where replaced by pervasive silicification and/or propylitic alteration. Carbonatization is most present within argillic alteration zones, particularly in the late faulted zones, which are often crumbly and rich in carbonate and clay minerals such as the Grey fault zone. It is also closely associated to exoskarn alteration like observed in hole SD-11-42, which hole cuts across marble units overlying the Fernandez Zone.

The prograde skarn alteration affecting the limestone and marble units is characterized by the mineral assemblage tremolite-garnet-wollastonite. Two types of exoskarn have been identified: a Green Skarn unit, which takes its name from its green garnet content (possibly grossular) and a Café Skarn unit containing brownish garnet. The green garnets are commonly replaced by epidote and carbonate. Based on drilling completed to date, the skarn alteration envelope is more extensively developed along the eastern contact of the diorite pluton and quickly disappears moving away from the contact area. Starting from Phase 3, diamond drilling uncovered mineralized contact skarn replacement zones adjacent to the Central Diorite and Montanez sill (holes 08-22, and 08-33). Further drilling carried out during Phase 4 to 6, lead on to the discovery of a large mineralized endoskarn zone at depth.

The Central Diorite intrusion commonly displays a propylitic alteration consisting of carbonate-epidote-chlorite, which becomes more pervasive within endoskarn zones with stringer-stockwork mineralization. The alteration minerals are formed from the breakdown of iron-magnesium minerals, such as biotite, amphibole and pyroxene and they can also replace feldspars. Petrographic observations indicate that the propylitic alteration overprints the earlier skarn mineral assemblage (Renou, 2007). A bleached, albitized diorite is also commonly associated to stringer-stockwork style mineralization developed in the endoskarn portion of the Fernandez Zone. This unit is characterized by ample microfracturing, a whitish, bleached aspect and variable amounts of secondary white feldspar phenocrysts.

Phyllic alteration consisting of quartz-sericite-illite containing appreciable quantities of pyrite is also noted. The phyllic and propylitic alterations are typical of low temperature environments and suggestive of deposits formed at relatively shallow depths.

A broad zone of hornfel alteration has been identified starting from Phase 4 drill program. For now, this alteration has only been recognized in the Eastern sector of the property, and is mainly developed between the Trovador and Mid-Zone Vein structures. The hornfels alteration affects the limestone forming a very hard, siliceous, light grey colored rock. Latite units with a similar aspect to that of the grey hornfels limestone are also believed to occur in that area, this is based on limited whole rock analysis work performed.

Finally, the late, post-sulphide argillic alteration affects all units and is most developed in the western sector of the property, where the oxide-sulphide limit sits roughly 150 m below surface. This alteration pattern consists of various clay minerals, such as kaolinite, illite and smectite occurring along with the iron and manganese oxides limonite, hematite and pyrolusite.

Skarn and phyllic propylitic alterations are attributed to hypogene hydrothermal fluids while the argillic alteration is a supergene effect.



## 7.4 Mineralization

The San Diego property hosts an extensive pattern of high-grade Ag-Pb-Zn veins that show impressive continuity along strike and at depth. These veins were the focus of historical mining work that first attracted miners to this area. Detailed descriptions of individual vein zones found at the San Diego property are included in previous Technical reports (Micon, 2009, and 2008). A Table of the Vein zones with their respective azimuth and dip orientation is included in chapter 14 of this report.

These narrow, high-grade veins represent the near-surface expression of a low-sulphidation epithermal system of mineralization. At greater depths, this system further evolves in the mesothermal environment into contact-skarn mineralization with distal mantos and chimney occurrences. This mineralization is centered on the Central Diorite intrusion and nearby large monzonite sills. All mineralization is essentially polymetallic, with economically recoverable quantities of silver, lead, zinc, and potentially copper and gold as by-products.

The epithermal environment is characterized by the occurrence of various silica minerals and vein textures including: growth bands, jigsaw quartz with or without adularia, chalcedony, amorphous and crystalline quartz. The multiple repetitions of petrographically different styles of silica is observed in many low sulphidation deposits Mexico and likely reflects successive sealing and opening of the various faults that control vein formation. The setting of these deposits is rarely associated with major volcanic centers and is more frequently associated with domes and extensional settings (Megaw et al., 1988).

Evidence of carbonate-replacement deposits forming adjacent to large monzonite sills have been observed in drilling (Figure 14A) completed on the eastern contact of the Diorite starting from Phase 3 which revealed the existence of semi-massive sulphide veins and pods occurring as replacement of the white marble or exoskarn host from contact alteration (Figure 14B and D). Occasional mantos lenses were intersected during Phase 4, 5 and 6 particularly associated with Trovador and MS Zones (Figure 14D). Mantos occurrences are characterized by wide, high-grade massive sulphide lenses generally developed along bedding planes. These will often have a higher zinc content (hole SD-11-49), and occasionally a higher gold content relative to the property background (SD-11-46). Most notable in these zones, are the razor-sharp contacts between the massive sulphide mineralization and the unaltered limestone host.

Chimney-type occurrences resulting from intersection of two or more fracture and vein structures are also present at San Diego. Historically, the richest ore extracted at the project site came from the Los Adelaidos shaft located in the northwest corner of the Central Diorite intrusion. This shaft appears to be located near a triple junction point where the LaCruz/Rata, W-Contact zone and Arroyo fault are intersecting. It is possible that the Fernandez Zone located in the southeastern corner of the intrusion represents the mirror image to that zone, where a significant chimney-type occurrence is also interpreted at the junction point of the Trovador, Fernandez Zone, and Camino Fault (Figure 11 and Figure 15).

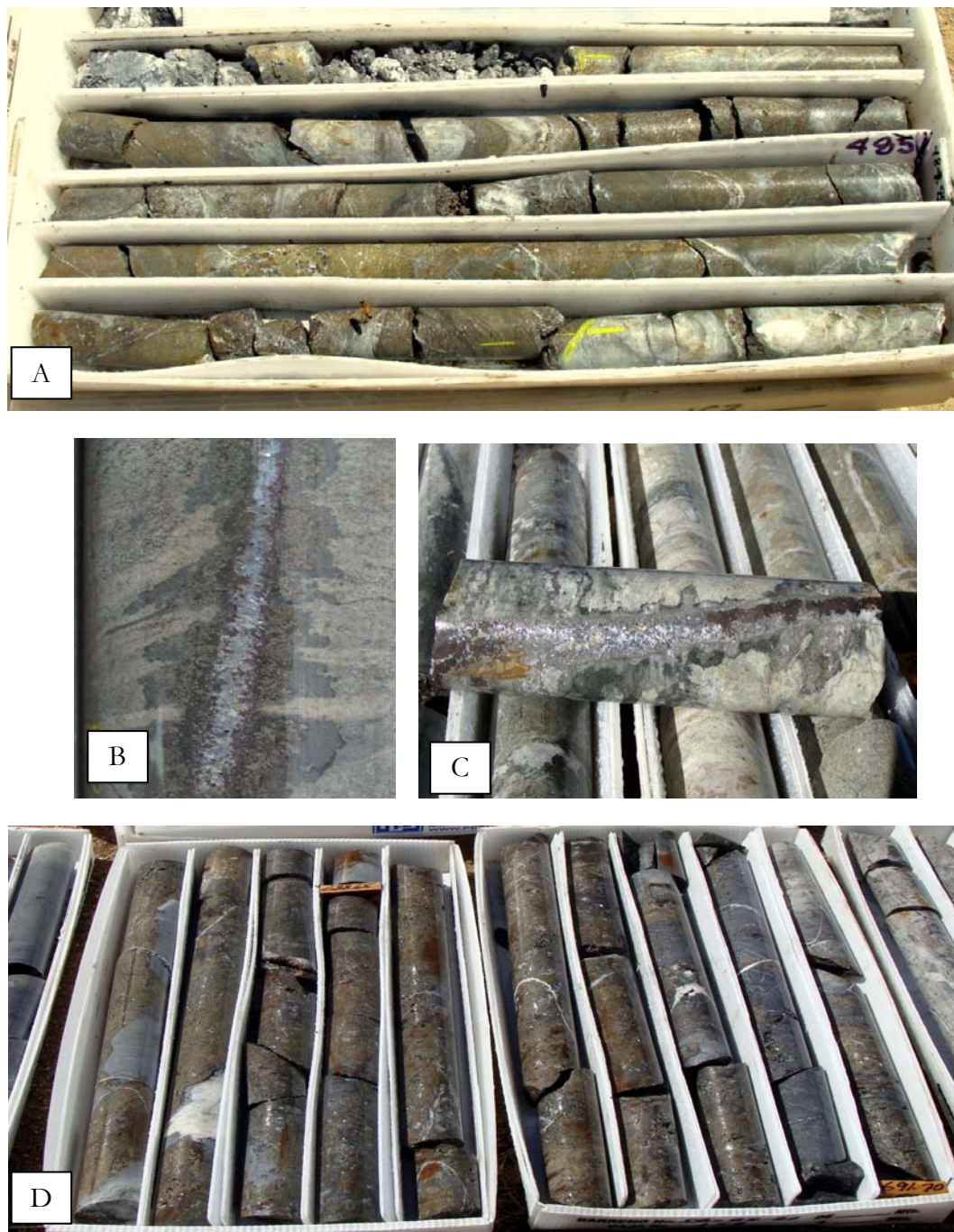


Figure 14: Photos of core carbonate replacement deposits.

*A) Contact-skarn semi-massive sulphide intercept that returned 165 g/t Ag over 8.10 m with 4.2 % Pb and 4.6% Zn – Drill hole SD-08-33. B) and C) Contact-skarn replacement in Exoskarn with arsenopyrite-sphalerite stringer-filling extending out along pre-existing contacts (bedding planes) – Drill Hole SD-12-50A, and SD-06-34 D) Mantos-style massive sulphide intercept that returned 457 g/t Ag over 5.85 m, with 10.3% Pb and 11.8% Zn. Host rock is massive limestone - Drill hole SD-07-21A.*

Structural controls played a key role in the spatial distribution of the mineralization. These controls take the form of fault zones, stratigraphic contacts, bedding planes, and intense hydrofracturing. The brittle deformation regime present at San Diego favored the development of broad zones of mineralization within intrusive rocks where increased porosity from fracturation contributed to greater fluid circulation and alteration of the host rock. The best example of this ore forming process would be the EndoSkarn Zone which shows complex networks of micro-fracturation with stockwork-style sulphide veining (Figure 15).



Figure 15: Photo of the EndoSkarn Zone (Fernandez) comprising stockwork sulphide mineralization hosted in the Wall-rock Unit ; ddh SD-12-50 W2.

Oxide mineralization in the eastern sector is quite limited and either matches the surface or reaches a maximum depth of 30 m. In the western block, the oxide/sulphide boundary occurs at greater depths, reaching 150 to 200 m below surface. Transitional, mixed oxide/sulphide zones are reported for the La Cruz, La Rata, Cantarranas and the Montanez structures. The transition zone from oxides to sulphides is quite abrupt and generally less than 10 m in depth. The oxide portions of the veins are composed of carbonates, oxides, halides and sulphosalts as replacement minerals.

### 7.4.1 Mineralization

Deposits of the Velardeña mining district consist of epithermal silver-lead-zinc veins hosting semi-massive to massive sulphides set in a calcite and/or quartz gangue. The polymetallic veins are usually thin, normally within the range of 0.2 m to 0.8 m, but remarkably persistent along strike and down dip. High grade silver veins generally consist of pyrite-galena-sphalerite with sulfosalts and acanthite in a calcite-quartz gangue with occasional green or violet fluorite. The sulphide stringers in stockwork zones more commonly consist of pyrite-sphalerite-pyrrhotite-galena +/- chalcopyrite. The deeper, mesothermal environment is characterized by a gradual decrease of the lead content with an increase in copper content found in a pyrrhotite-sphalerite-chalcopyrite assemblage. This sulphide zonation bears similarities to the Santa Maria Mine, where the Pyrrhotite Zone is located closest to the quartz latite stock.

Iron sulphides are very common on the property and occur as: pyrite, galena, sphalerite, chalcopyrite, arsenopyrite, marcassite and pyrrhotite. The oxide zones commonly include limonite, hematite, pyrolusite and calcite with occasional goethite. Magnetite commonly occurs as fine disseminations, is also widespread within the diorite, endoskarn and white skarns units.

A detailed ore microscopy and petrographic study was carried out in 2012 by IOS Services Géoscientifiques of Chicoutimi, Quebec (Canada). A total of seventeen mineralized core samples were chosen from different vein zones across the deposit from both the near-surface epithermal environment, and mesothermal environment. The purpose of the study was to identify the different mineral phases, assemblages, textures and grain size of the mineralization found at the San Diego project. More specific attention was given to the identification of the silver-bearing phases and deleterious elements. The study also focused on identifying the nature of the silver mineralization associated to deep skarn zones with high zinc to lead ratio.

Silver is present in galena as a solid solution, and as a silver sulphide (acanthite-argentite) as well as sulfosalt minerals. Several types of sulfosalts are reported (17 in total) and are arsenic and/or antimony sulfosalts. The most common sulfosalts are tetrahedrite, geocronite, and bourmonite generally occurring in association with galena. Presence of freibergite, enargite, giraudite, pearceite, pyrargyrite in trace amount are also noted. Lead is found as amorphous to euhedral galena and commonly associated to pyrite, sphalerite +/- arsenopyrite assemblage. Gold is found in trace amount across the property both in the near-surface and deep environment and concentrations of up to 25 g /t Au have been observed on occasions. Gold is typically associated with the pyrite-arsenopyrite assemblage although massive sulphide mantos lenses can have 1 to 3 g/t Au content. Sphalerite is the dominant zinc mineral and microprobe analysis show that it contains variable amounts of iron, manganese and cadmium as solid solutions. Its iron content varies greatly from the near-surface to the deep environment ranging from 0.6% (near-surface) up to 11% for the Trovador samples. A close association between sphalerite and chalcopyrite is also reported with abundant chalcopyrite inclusions noted in some of the deeper samples. Copper is mainly found as chalcopyrite and on rare occasions, as bornite and covelite. The presence of a bismuth telluride phase was also noted in one of the thin section.

Gangue minerals are quartz and carbonates (mainly calcite), and adularia was locally noted. Phyllosilicates and clay minerals are also present in trace amounts.

## 7.4.2 Mineralized Vein Zones

Below is a brief description of the 21 vein zones found at the San Diego project as well as the Fernandez skarn zone. The distribution and interrelationship between veins is can be more easily understood by looking at Figures 11, 16 and 17.

### Northwest Trending Vein System

#### **La Cruz**

The La Cruz and La Rata veins were historically mined to a maximum depth of approximately 150 to 180 m. The Los Adelaidos shaft was sunk on the eastern extension of the two veins where one of the richest portions of the vein containing massive galena was encountered. Extensive mining is reported to have been carried out on this vein with historic production on the order of 1.5 million ounces (Moz) of silver. The vein varies in width from 0.1 to 1.7 m, averaging 0.5 m. Low gold values in the 1 to 2 g/t range are occasionally obtained from both the La Cruz and La Rata veins.

The La Cruz vein extends for a minimum horizontal distance of 500 m and mineralization was intersected as far down as 600 m below surface. It dips to the south at 55 to 65° close to surface but steepens up to 85° at greater depths. Recent drilling confirmed that the vein becomes part of a stockwork zone with disseminated to semi-massive sulphides hosted within a fault zone corridor following the monzonite-limestone contact. The La Cruz Vein and Montanez Vein are now interpreted to be part of the same structure which was offset by the late N020° faults set.

#### **Corridor**

The Corridor zone in the western sector is host to a high grade gold zone (15.31 Au g/t over 3.25 m), which was intersected during Phase 2 in drill hole SD-07-08. This zone corresponds to a slender unit of skarn with disseminated coarse grained pyrite, present as disseminations within the monzonite sill or along the skarn/intrusive contact and is not hosted within a vein. Recent Phase 6 drilling returned high grade oxide intersections at the top of holes SD-12-50, and 50A for this zone.

#### **Montanez**

The Montanez vein is recognized in the eastern sector of the property where the vein has been traced over 400 m and to a depth of 750 m. The oxide portion of this vein has been mined from surface to approximately 25 m, at which point the oxide/sulphide limit is encountered.

The Montanez vein is spatially associated with a porphyritic monzonite sill, which dips to the south at a steep angle of 85 to 87°. Three individual mineralized zones are currently defined within the northwest trending Montanez structure. From south to north, they are the Hangingwall (HW), the Centre, and the Footwall (FW) zones. The HW and FW zones are respectively located along the upper and lower contact of the monzonite sill-limestone whereas the Centre zone corresponds to a narrow fault affecting the middle portion of the sill. Richest sulphide intersections are found in the close vicinity to the Central diorite.

The closely-spaced Montanez Veins are host to varied style of mineralization ranging from narrow, very high-grade silver veins (>1,000 g/t Ag in SD-06-01, and 01A), to sheeted and cross-cutting stringer-style mineralization, and semi-massive sulphide veins and pods of contact-skarn mineralization. This zone (like Trovador and Fernandez) could be amenable to bulk mining techniques locally.

### **Trovador and MS Zones**

The Trovador vein is the most extensively worked vein on the San Diego property. It has been worked over a strike length of 500 m and down to a depth of 220 metres (elevation 1,535 m a.s.l.). The vein is sub-vertical and varies in width from 0.10 to 1 meter within the historical workings. The Phase 5 and Phase 6 drill programs have shown that this structure is not pinching out at depth like previously thought. Quite to the opposite, recent drilling showed this zone to be the richest and widest of the vein zone occurrences on the property with horizontal widths of 10 to 20 m. It also confirmed this zone to be closely associated to a monzonite sill similar to the one observed at the Montanez Zone. Most impressive for this zone were large massive sulphide intercepts intersected in holes SD-11-44, and 12-49 the later corresponding to zinc-rich massive sulphide mineralization grading 118 g/t Ag with 9.2% Zn and 1.1% Pb over 16.8 m, hosted in plain grey limestone. The Trovador Zone, like the Fernandez, contributed in a significant way to the tonnage increase of both Indicated and Inferred in the present Estimate.

The MS Zone is located immediately south of the Trovador zones and includes mantos-type lenses formed along limestone bedding planes, and occasional stringers and veins with sulphides replacing the white calcite gangue material. Similarly to Trovador, higher zinc content relative to lead is noted for this zone.

### **Ag-Zone; Mid-Zone, Panda, SouthSkarn and Lorenzo**

None of these zones outcrop at surface, and were discovered through drilling. The Ag-Zone is located immediately north of the Montanez structure whereas the Mid-Zone and Panda Zones are located in the south-east area of the property, between the Montanez and Trovador structures. These zones contain wide zones of stringer-style mineralization hosted in marble to green skarn intervals. Individual stringer widths are locally increased from sulphide mineralization seeping out on each side to replace the immediate host-rock. The SouthSkarn and Lorenzo are contained within the large Latite/hornfel unit extending across the East sector at depth. Most notable, is the SouthSkarn zone adjacent and/or forming part of the Fringe Zone. Interesting narrow massive sulphide veins have also been encountered along the contact of the latite unit and the limestone host.

### **San José**

The San José vein is part of the group of veins that were historically mined at the San Diego property. The 2 shafts on this vein are located on the western side of the Central diorite, about 125 m north of the Trovador Vein. Production from the two shallow shafts is not documented and is presumed to have been relatively minor. The old workings on this vein were not mapped or sampled as part of the underground exploration program undertaken by Minera William in 1999, probably due to unstable, ground conditions. This vein, like the Trovador vein, is dipping steeply to the north at 85° and is ESE oriented.

During the Phase 4 program, a massive sulphide zone hosted in weakly altered limestones found in drill hole SD-07-21A was thought to represent the eastern extension of this structure. Recent Phase 5 drilling however demonstrated the zone to be a distinct structure from the original San José. The “new” San José structure is now interpreted as N295° oriented and shallow dipping to the north at 30°.

### East-West Vein System

#### **Rata and Rata-Sub**

The La Rata vein was historically mined down to a depth of about 140 m. It is subvertical and rarely exceeds 1 m in true width and more commonly ranges from 20 to 80 cm in width. The vein cuts across the western sector property and gets deflected to the northeast along the diorite W-Contact Zone. The zone is hosted in both limestone and diorite with the widest and richest intercept in the limestone. A chimney-type occurrence is interpreted for hole SD-07-02 where the La Cruz zone intersects the Rata Vein forming a blow-out zone with resulting vein width increase.

#### **Cantarranas Vein**

The Cantarranas vein can be followed over a distance of at least 375 m; it dips 80° to the south and has a true width ranging from 20 to 60 cm. The old workings on the vein do not exceed 40 m in depth and are located along the eastern contact of the diorite intrusive. In the near surface environment, the Cantarranas vein corresponds to a true fracture-filling vein occurring within weakly altered, massive grey limestones or diorite and hosts semi-massive sulphides (pyrite-sphalerite-galena) in a vuggy calcite gangue. Closer to the Central diorite, drill hole SD-08-33 intersected two semi-massive and massive sulphide zones located along favourable diorite/marble contacts, with associated sulphide replacement of adjacent marbles (Figure 14A).

#### **Porvenir Vein**

The Porvenir Vein is located in the north-eastern portion of the property and is included in the historically mined veins. Small scale historical mining was conducted from an adit located at the bottom of a small diorite hill and from a shaft driven down from the adit floor. The adit is roughly 36 m horizontally and the shaft extends to depths of 70 to 80 m. There are no known records of past production for this vein. The adit ceiling greatly varies in height from 1.5 m to more than 20 m, at which point it breaks the surface. The vein is sub-vertical to steeply dipping south at 80 to 85° and ranges in width from 10 to 40 cm. From the width of the adit, it can be seen that the vein was mined over wider sections of up to 2 m. These areas correspond to intersection points between the east-west trending Porvenir vein and cross-cutting narrow veins that are either northeast (045°) or northwest (340°) oriented.

The adit level of the vein contains oxide material that changes to sulphide at a vertical depth of about 30 m. Numerous massive galena samples from the deeper sulphide levels of the mine are scattered around the vertical shaft sunk on the south side of the Porvenir vein to bring the ore to surface. These galena-silver rich samples are identical to samples collected at depth from the La Cruz vein. Hole SD-07-27 from Phase 3 confirmed the extension of the Porvenir Vein to depths of 200 m below surface.

## North-northeast Trending Vein System

### **El Jal Vein**

The El Jal is oriented at north 030° and dips to the southeast at 65°. Historical workings on this vein are limited to a 40 m inclined shaft accessing one level. The El Jal vein is traced laterally over nearly 650 m and has a true width of 10 to 50 cm. It is the definition of a fracture-filling vein with limited or no alteration of the host rock which could point to a mantos-type origin.

### **Arroyo Zone**

This vein was intersected for first time during Phase 3 drilling in hole SD-07-27, which collared into an oxide zone located beneath a dried up stream bed with no bedrock exposure. The vein orientation coincides with the general northeast structural trend identified in that sector and thought to be related to the Camino and Oxi fault zones. To date, the vein has been traced over a strike length distance of 525 m. The presence of this oxide zone right below surface should be further investigated as part of an exploration program targeting the oxide potential on the property.

## North-east Trending Vein System

### **CantaSplay**

The CantaSplay vein trends along the eastern contact of the diorite stock, dips to the northwest at 83° and has been traced over a distance of 300 m in drilling. This narrow vein commonly occurs as black stringers of sulphosalt minerals, and sphalerite.

### **West-Contact Zone**

Hole SD-12-49 intersected at relatively shallow a wide pyrite-rich stringer zone that can be traced at depth to Phase-3 hole SD-07-18. This steeply-dipping zone can be followed over 365 m along the western contact of the Central Diorite, and coincide with a main regional lineament (Figure 12). This zone remains open in all directions and demonstrates the potential for a skarn zone similar to the Fernandez Zone to have developed on that side of the intrusion

### **Fernandez Zone**

The Fernandez Zone spans more than 300 m along the eastern edge of the central diorite intrusion, extending from the Trovador, in the south to the Ag-Zone to the northeast. At depth, the zone is contained from 1,200 m to 500 m elevation (approximately 450 m to 1,150 m below surface). The body has a steep plunge to the south-southeast and occurs at the junction point of the ESE Trovador structure with the N020° Camino Fault, and N065° oriented diorite contact which together define a triangular-shape. The large Fernandez Zone and more specifically its Fringe unit, encompasses portions of several broad Vein Zones such as Ag-Zone, Panda, SouthSkarn, and Lorenzo. The three Montanez Veins and Mid-Zone are the only two structures that cross-cut both the Endoskarn and Fringe units from east to west.

Phase 6 drilling (SD-12-47 to 12-50W2) completed in that area lead to the discovery of the Fernandez Zone, a deeper body of stockwork-style mineralization predominantly developed within endoskarn host-rock. Based on grade distribution, the Fernandez Zone has been divided into the Endoskarn and Fringe units, which correspond to a higher-grade core surrounded by a shell of



lower-grade material. The Endoskarn portion mainly contains mineralized and microfractured altered dioritic rock whereas the Fringe portion includes a mixed-bag of rock units among which: exoskarn, green skarn, variably altered limestones ranging from plain grey limestone to marble, latite/hornfel units and massive diorite.

As part of the 2012-Phase 6 program, five holes were drilled to the west of drill section 1+05E to test the strike extent of sulphide-rich mineralizations intersected in drill holes SD-11-40 and 11-44. All five holes intersected very long intervals of skarn-hosted mineralization resulting in the discovery of the Fernandez Zone.

Overall, at least three to four different “types” of endoskarn were recognized in drill logs: the so-called Wall-rock Unit which consists of bleached and albitized diorite, and can locally be highly silicified or soft and powdery where affected by late fault zones; a quartz-flooded endoskarn characterized by bluish-chalcedonic, weakly mineralized quartz veins that appear late-stage; and, a dark green-to-reddish fine grained endoskarn with strong, pervasive propylitic alteration. The endoskarn most commonly observed shows a moderate propylitic chlorite-epidote-silica alteration associated to variable amounts of disseminated sulphides and stringer veining. The best grading sections were returned from highly silicified Wall-rock units where intense micro-fracturing with sulphide stringers infilling have developed or within exoskarn sections that have undergone carbonate replacement by sulphides with the exoskarn having behaved like a sponge soaking up the sulphide-bearing fluids. Local traces of realgar and orpiment were also noted in the arsenopyrite and sulfosalt-rich portions of the Wall-rock Unit.

Of the five holes drilled across the EndoSkarn, the widest and more pervasive section of propylitic alteration was observed in hole 12-47 whereas the most arsenopyrite and sulfosalt rich sections was intersected in hole 12-50W2 within highly microfractured sections of Wall-rock type endoskarn. Local traces of realgar and orpiment were also noted in that hole.

Interesting transitions were observed going from diorite to mineralized endoskarn. The transition would generally be gradual going from massive, barren diorite to moderately bleached and fractured diorite, to the Blue Quartz Veined diorite/endoskarn and then, getting into the sulphide-bearing endoskarn. An even more dramatic transition is the one from mineralized endoskarn to country rock which coincides with a sharp sulphide content enrichment. This sulphide increase at the main contact zone usually continues beyond the contact itself either as discontinuous, mantos sulphide lenses developed within variably altered and bleached limestone or else as long, narrow stringers hosted within strongly silicified latite/hornfel units. Mineralization content gradually decreases getting further away from that main contact.

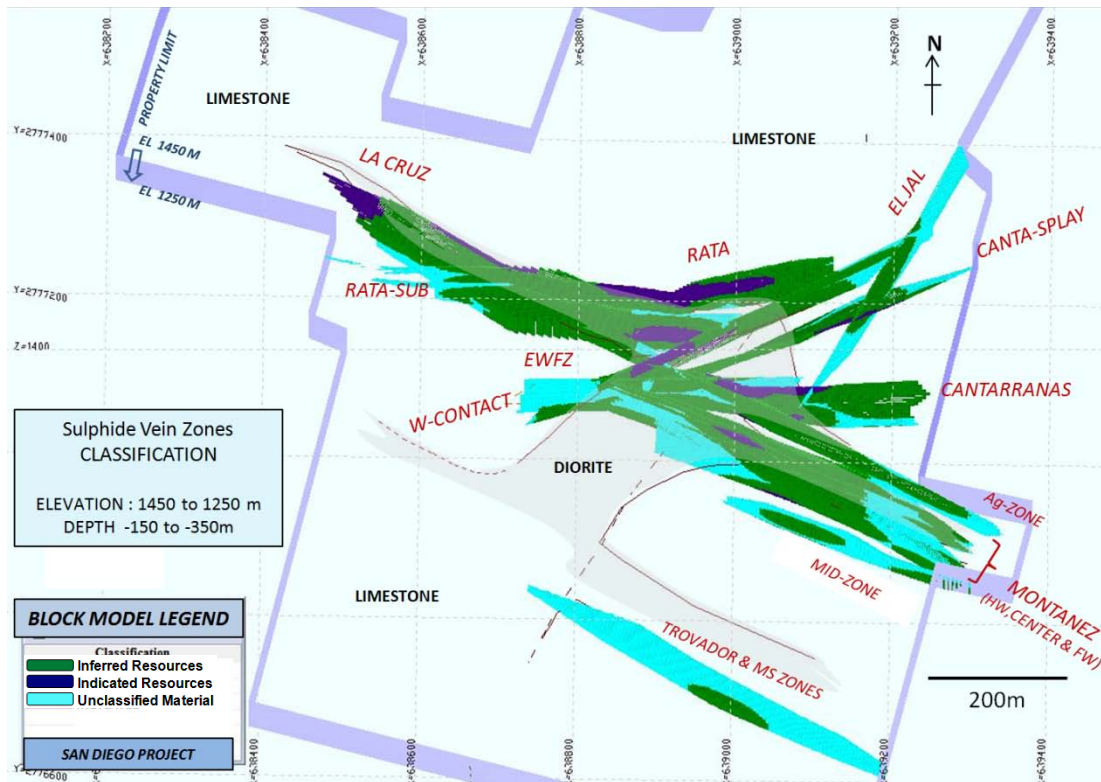


Figure 16: Plan section (-250m depth) above the Fernandez zone showing the relationship between the veins.

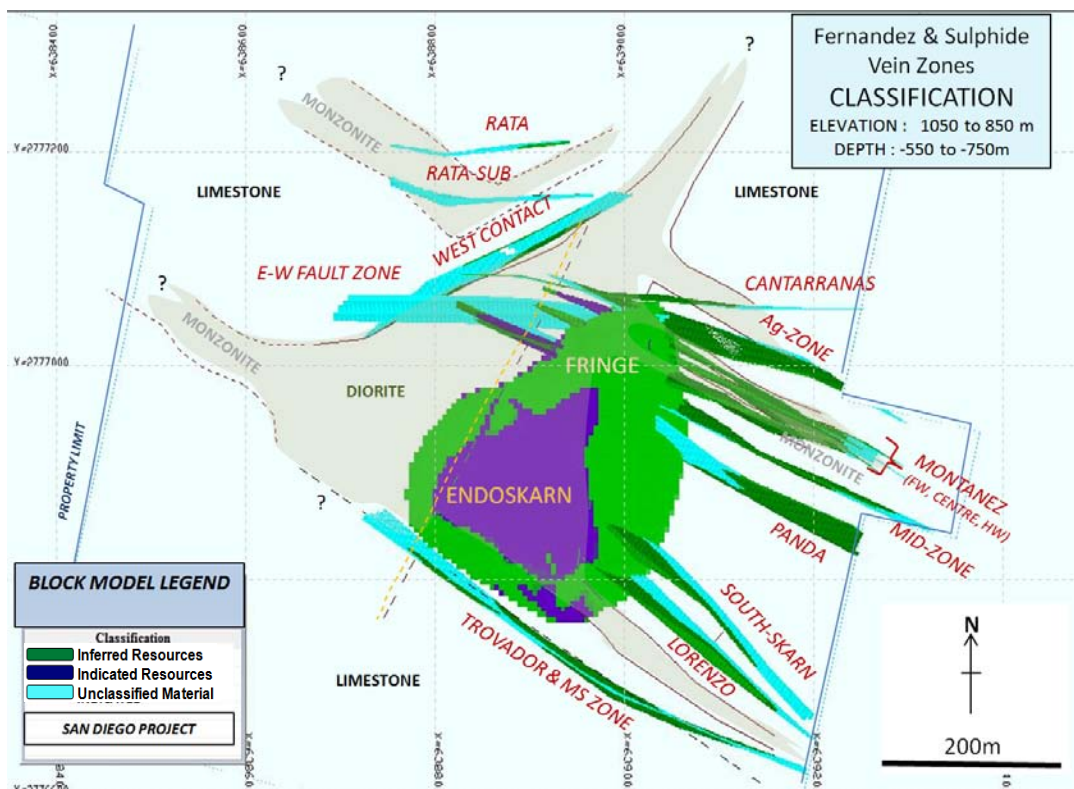


Figure 17: Plan section (-650m depth) through the Fernandez zone showing the relationship between the veins, diorite, Endoskarn and Fringe.

As part of the 2012-Phase 6 program, five holes were drilled to the west of drill section 1+05E to test the strike extent of sulphide-rich mineralizations intersected in drill holes SD-11-40 and 11-44. All five holes intersected very long intervals of skarn-hosted mineralization resulting in the discovery of the Fernandez Zone.

Overall, at least three to four different “types” of endoskarn were recognized in drill logs: the so-called Wall-rock Unit which consists of bleached and albitized diorite, and can locally be highly silicified or soft and powdery where affected by late fault zones; a quartz-flooded endoskarn characterized by bluish-chalcedonic, weakly mineralized quartz veins that appear late-stage; and, a dark green-to-reddish fine grained endoskarn with strong, pervasive propylitic alteration. The endoskarn most commonly observed shows a moderate propylitic chlorite-epidote-silica alteration associated to variable amounts of disseminated sulphides and stringer veining. The best grading sections were returned from highly silicified Wall-rock units where intense micro-fracturing with sulphide stringers infilling have developed or within exoskarn sections that have undergone carbonate replacement by sulphides with the exoskarn having behaved like a sponge soaking up the sulphide-bearing fluids. Local traces of realgar and orpiment were also noted in the arsenopyrite and sulfosalt-rich portions of the Wall-rock Unit.

Interesting transitions were observed going from diorite to mineralized endoskarn. The transition would generally be gradual going from massive, barren diorite to moderately bleached and fractured diorite, to the Blue Quartz Veined diorite/endoskarn and then, getting into the sulphide-bearing endoskarn. An even more dramatic transition is the one from mineralized endoskarn to country rock which coincides with a sharp sulphide content enrichment. This sulphide increase at the main contact zone usually continues beyond the contact itself either as discontinuous, mantos sulphide lenses developed within variably altered and bleached limestone or else as long, narrow stringers hosted within strongly silicified latite/hornfel units. Mineralization content gradually decreases moving further away from that main contact.

## 8- Deposit Types

The Mexican Silver Belt that encompasses the Velardeña mining district is almost 1,000 km long, stretching from Pachuca and Real del Guadalupe, in the south to Chihuahua, in the north (Figure 18). Within the belt, the Fresnillo, Guanajuato, Zacatecas and San Francisco del Oro-Santa Barbara districts have all produced in excess of 10,000 t of silver.

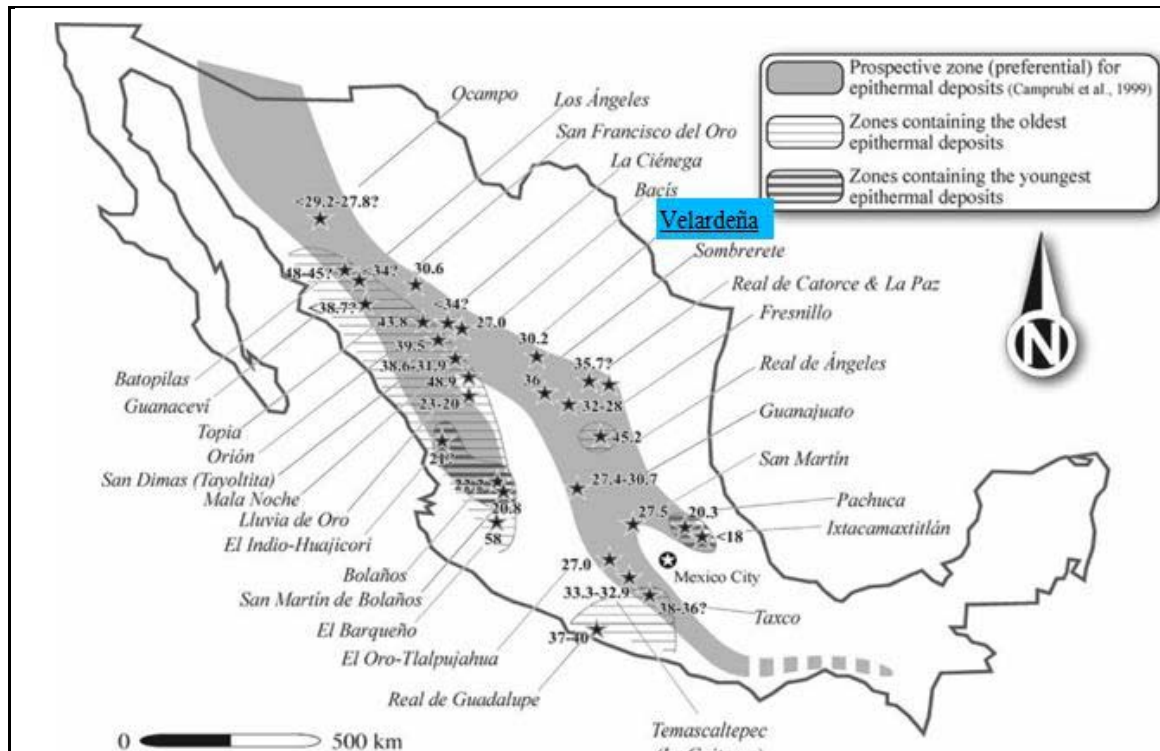


Figure 18: Distribution of the dated epithermal deposits within the Mexican Silver Belt ; Velardeña Santa Maria deposit dated at 30.2 Ma (modified from Camprubi et al., 2003a)

There are four principal types of epithermal deposits within this belt:

1. **Fracture-filling veins** which can be subdivided based on the mineralogy into:
  - a) polymetallic silver-lead-zinc (+/- gold, copper) veins.
  - b) gold-silver veins.

These veins can have considerable extension along strike and at depth. Mexico's largest silver production comes from the Santo Niño Vein developed by Peñoles in the Fresnillo district. Discovered in 1975, this Vein has been traced over 2.5 km along strike to a depth of 500 m with a width ranging from 0.10 to 4 metres. At San Diego, the Montanez and Trovador vein structures can be followed over 500 m along strike, and the Trovador was intersected at depths of up to 1,000 m below surface.

2. **Skarn-hosted silver-lead-zinc stringer-stockwork deposits.**

At their Santa Juana deposit, Golden Minerals identified in 2007 a wide mineralized corridor consisting of closely-spaced networks of sulphide veins and stringers developed along the northeastern corner of the Terneras dioritic intrusion with the surrounding limestone units.

This stockwork-style zone called El Triangulo has dimensions of approximately 500 meters along strike and 250 meters vertically with widths up to 100 meters; it is currently being evaluated for bulk underground mining (CAM, 2012).

More recently at San Diego, the 2012 work program defined a similar stockwork deposit, the Fernandez Zone, developed along the southeastern contact of the San Diego diorite intrusion.

3. **Carbonate-replacement deposits** of silver-lead-zinc  $\pm$  copper; Contact-Skarns and Mantos. Carbonate replacement-type (“CRD”) deposits can form massive sulphide lenses representing major sources of precious and base metals in a high-grade, high tonnage ratio. These deposits typically form in carbonate-rich rocks, like limestone and marble, where hot acidic sulphide-bearing solutions have dissolved and replaced the carbonate host. CRD will develop as contact-skarn occurrences and mantos type lenses. Contact-skarn zones, like their name suggest, are found immediately at the intrusive-limestone contact. In the Velardeña district, a good example of this type of mineralization is the Pyrite Zone of the Santa Maria Mine. This ore zone is characterized by massive sulphide replacement bodies up to 200 m high, 300 m long and 20 m wide developed along the Rhyolite Dyke. About 90% of the total production from the Santa Maria dome was derived from this zone (Gilmer, 1988). At San Diego, contact-skarn occurrences with massive to semi-massive sulphide have been outlined along the ESE-oriented Montanez monzonite sill intruded into the limestone units.

In contrast to contact-skarn occurrences, mantos deposits form at greater distances from the intrusive contacts and are generally stratigraphically controlled. Due to their distal nature, mantos occurrences have little to no alteration associated with them, often resulting in razor sharp contacts between the unaltered limestone and the high-grade sulphide lead-zinc-silver lenses. Such lenses have been encountered at San Diego, mainly associated with the Trovador and MS Zones.

#### 4. **Breccia zones and chimney pipes.**

Breccias and chimney pipes are common features of epithermal systems and have irregular cylindrical shapes; they can range in width from less than 1 meter up to several metres and serve as excellent mineralization traps due to their permeable nature. Chimney zones found at San Diego are generally structurally-controlled features developed at vein intersections forming “blow-outs” where widths and sulphide content can significantly increase. At Golden Minerals Velardeña deposits, mineralized chimneys can reach 7 meters in width and extend for tens of meters vertically.

Historical mine production at the San Diego property, as well as at Golden Minerals’s Velardeña mines, typically came from mining narrow, high grade silver-lead-zinc veins. Drilling work undertaken since 2006 at the San Diego property has demonstrated that, in addition to the narrow vein systems, broad zones of mineralization such as stockwork and contact-skarn zones exist at depth and, can be associated to more distal chimneys and massive sulphide Mantos-type lenses. For now, these new occurrences are for the most part limited to the southeastern side of the Central Diorite Intrusion. They appear to be closely related to deep, ESE-trending boundary faults (Trovador and Montanez) that possibly acted as main conduits to the mineralization.

## 9- Exploration

Since 2006 when Golden Tag Resources started exploring on the San Diego project, the company's exploration effort has been mainly focused on drilling work. To this day, surveys and investigations other than drilling remain limited on the project. The present section summarizes the exploration work conducted by or on behalf of Golden Tag for the period from 2006 to 2012. A description of the historical exploration work conducted on the project is provided in Section 6 of this report.

### 9.1 Geophysical Survey

In July 2011, a down-hole induced polarization (IP) survey was completed by Abitibi Geophysics of Val-d'Or, Quebec (Canada) with a total of 7 holes being tested. The down-hole IP survey experienced several problems, the most serious being the lack of water in the drill holes which is necessary for this type of surveys. That problem could be partially overcome by pumping water down the holes to be surveyed from water trucks. However, the fractured nature of the country rock allowed the water to filter out of the holes forcing the IP crew to conduct their survey starting from the bottom of holes and moving upwards. The rapid escape of the water meant that the top 100 m of any of the holes could not be surveyed. The dry conditions also made it difficult to induce current into the ground and for that reason, the crew had to increase current from 1.0 amp to, 4.0 amps to get quality data. In addition, loose rock material and the presence of viscous drill grease prevented surveying some of holes to their final depth. The depths covered by the IP survey range from 1,600 to 1,200 m a.s.l elevation (approximately 100 to 400 m below surface).

Those problems aside, the survey successfully identified three anomalies labeled A, B and C. The A and B anomalies are similar and characterized by high chargeability and low resistivity. More specifically, the A anomaly is directly linked to a pyritic fault breccia, and massive sulphide lens – interpreted as the Old San José Vein. The B anomaly lies immediately south of the Montanez structure at shallow depths of 300 to 350 m below surface, and could potentially represent the western extension of the New San José Vein in hole 07-21A, and/or be associated to sulphide mineralization with high grade gold values intersected in hole SD-07-11. Abitibi Geophysics recommends the B anomaly to be further investigated with a drill hole.

The C anomaly was identified at depths of 200 to 400 m below surface and extends out between drill holes SD-11-42 and SD-11-40. This anomaly coincides with the location of both the Fernandez, and the Trovador zones. Most interesting is the fact the survey shows the Trovador Zone could extend further out to the south-west (UTM 638 800m E and 2 776 700m N) and, also detected another anomaly in the south-east corner of the property where holes SD-11-45 and 11-46 intersected broad sections of hornfels and quartz latite rocks with stringer-style mineralization, including some massive sulphide veins.

### 9.2 Underground Sampling

In May, 2008, ECU Silver and Golden Tag took a total of 14 chip samples using the same sampling method as that used by BLM Minera (ECU) to collect the chip samples in 1999. The 1999 sampling methods are described in Chapter 6 of this report. The sampling was conducted on the historically

mined Porvenir vein located in the northeastern corner of the property. The chip samples were taken inside an adit located at the bottom of a small diorite hill and, from an inclined shaft driven down from the adit floor. The adit has some 36 m of horizontal distance and the shaft reaches down to depths of 70 to 80 m. The height of the adit ceiling greatly varies from approximately 1.5 m to more than 20 m in places where it actually reaches out to surface. Assay results from the underground sampling are reported in Table below.

Table 8: Underground Assay Results for the Porvenir Vein.

Station (m)	Sample number	Au g/t	Ag g/t	Pb %	Zn %	Cu %	As %	Sb %	Type	True Width (m)	Comments
0	105013	0.51	95	1.29	1.19	0.02	0.25		Oxide	0.35	
	200124	1.38	115	1.00	0.48	0.02	0.36	0.23	Oxido	0.40	3 m up wall
6	105014	0.39	468	0.87	1.22	0.03	0.12		Oxide	0.20	
	105015	0.43	197	1.06	0.76	0.01	0.25		Oxide	0.35	
9	105016	0.61	65	2.80	7.28	0.10	0.17		Oxide	0.20	
12	105017	0.93	174	2.54	2.07	0.18	0.49		Oxide	0.40	
	105018	0.52	84	1.82	1.42	0.07	0.30		Oxide	0.30	
	200125	1.23	188	4.81	1.17	0.12	0.81	0.07	Oxide	0.35	3 m up wall
22	105019	0.46	2,150	>30.0	3.85	0.15	0.31		Mixed	0.12	
25	200127	0.48	1,140	18.35	21.50	0.08	0.07	0.11	Mixed	0.05	
27	105020	0.16	89	2.32	2.09	0.18	0.22		Oxide	0.15	
	200126	0.64	383	6.47	3.36	0.13	0.30	0.15	Oxide	0.20	6 m down shaft
	200128	0.16	373	3.86	2.19	0.08	0.09	0.14	Mixed	0.10	
	200129	0.94	1,440	6.07	6.59	0.49	0.40	0.27	Mixed	0.30	30 m down shaft
<b>Total</b>		<b>14</b>	<b>samples</b>								

Table provided by Golden Tag /ECU Silver Mining Inc.

### 9.3 Surface Sampling

In June 2008, Golden Tag carried out a sampling program on some of the waste piles found at the San Diego project. As mentioned in Chapter 6, mining waste material extracted from historical underground operations is scattered over the property in waste dumps of variable size and height. A detailed summary of the waste piles sampling completed on the project is presented in Chapter 10 of the present report.

### 9.4 Petrography and Ore Microscopy Studies

A petrographic study with polished thin section analysis was completed in November, 2007 by A.-S. Renou of Modèlaur Enr. on eleven core samples from mainly intrusive rocks and, some skarns. The objective of this study was to characterize the intrusive sequence and define the hydrothermal alterations affecting these rocks. The study concluded that the intrusive's samples were from diorite with one exception of a monzodiorite. All samples displayed a porphyritic texture and showed variable degrees of propylitic-phylic alteration occasionally overprinted by a late argillic alteration.

That study was followed in June, 2008 by a geochemical study done from whole-rock analysis performed on the core samples submitted the previous year. The study - also completed by A.-S. Renou - showed that the intrusive rocks originated from the same intrusive body through magmatic differentiation.

A series of seventeen mineralized core samples from different vein zones were submitted in 2012 to IOS Services Géoscientifiques of Chicoutimi, Quebec (Canada) for an ore microscopy and petrographic study. The purpose of the study was to identify the minerals, assemblages, textures and grain size of the mineralization found at the San Diego project. More specific attention was given to the identification of the silver-bearing phases and deleterious elements. As well, the study focused on the nature of the silver mineralization associated to the new skarn zones where higher zinc to lead content is observed. The petrographic description of the 17 polished thin sections was carried out with a Leica polarizing stereo microscope, and a Leitz petrographic microscope equipped with both transmitted and reflected light, and a digital camera. A more detailed examination was then performed at Université Laval in Quebec City on a scanning electronic microscope (SEM) to differentiate and correctly identify the various sulphosalt minerals. In addition, 4 of 17 samples were further examined using an electronic microprobe to identify the nature and content of major and trace elements occurring in the different mineral phases. The information collected in this study will be a complementary tool used in future metallurgical tests.

## 9.5 Structural Studies

In 2012, while the Phase 6 program was underway, a structural study of the property was undertaken at the request of Golden Tag Resources by Dr Sarah Palmer - an independent consulting geologist - who visited twice the property on May 15 to June 1 and, August 15 to 28. The objectives were first to study the mineralized vein sets in core to determine the orientation of the stringer zones and thereafter, to look at outcrops exposed outside of the mineralized zones to provide a structural interpretation on surface for the deposit. Structural data was collected from field observations in well exposed continuous outcrops and suggests a multi-stage post intrusion history is responsible for mineralization and that late structures offset these zones. Further conclusions from this study are presented in Chapter 7 of this report.

Also during the 2012 drill program, a Devi-Core instrument was used to orient core in order to measure the strike and dip of the several stringers and veins intersected in drill holes as well as other structural elements such as faults and bedding planes. The structural data obtained can prove invaluable for differentiating and classifying the different vein systems intersected and understanding their relationship and development history. More work on this data is required to complete its analysis.



## 10- Drilling

The present section focuses on the drilling programs undertaken by Golden Tag Resources since the start-up of exploration work in 2006. A total of 59 holes representing 32,967 metres have now been drilled on the property during the course of 6 successive drilling programs. Figure 19 shows the location of drill holes from the most recent Phase 5 and 6 programs (in red), along with prior drill holes (in blue) from the 2006 to 2009 programs.

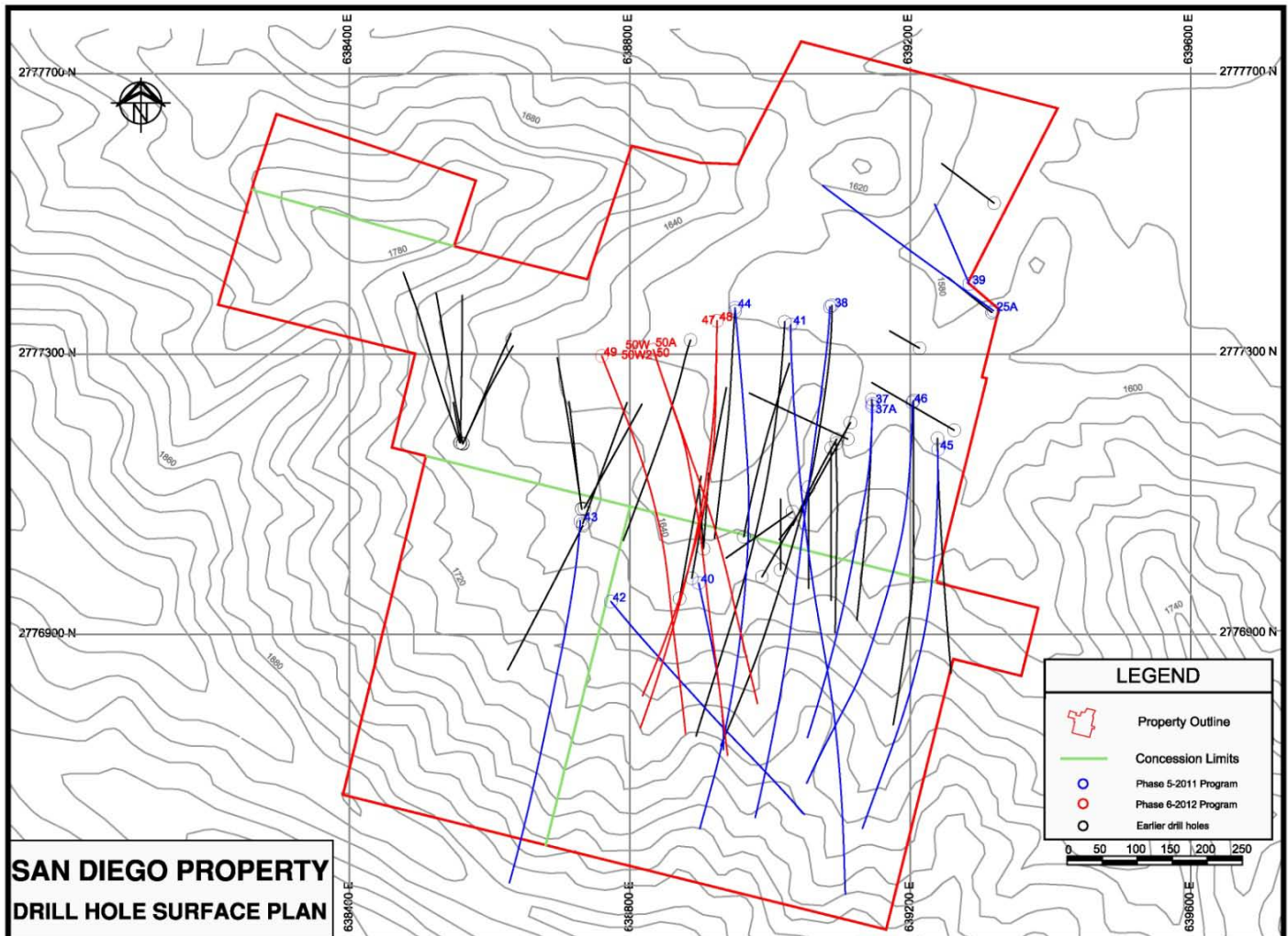


Figure 19: Plan map showing drill hole locations.

### 10.1 Past Exploration Drilling

The Phase 1 to Phase 4 drill programs that took place from 2006 to 2009 will be briefly discussed in this section. More ample details for these programs can be found in the NI 43-101 Technical Report: «Review and Audit of the Updated Mineral Resource Estimate for the San Diego Project»,

completed by MICON in January 2009. During Phase 1 to 4, a total of 17,033 m of drilling was performed. All drill core from these programs has been stored on site within numbered plastic core boxes; these are cross-piled outside on wooden pallets and covered with tarps to protect them from the sun and rain.

### 10.1.1 2006-2007 Exploration Program (Phase 1 & 2)

The 2006-2007 exploration program undertaken at San Diego represented the first ever modern exploration work conducted on the property. This program, which ran from August 2006 to April 2007, entailed the completion of 6,590 m of NQ and BQ size core drilling. A total of 4,850 core samples were assayed for gold, silver, lead, zinc, copper and arsenic. The sampling procedures included the systematic inclusion of standards and property specific blank samples. The drill holes from this campaign are numbered from SD-06-01 to SD-07-17. At the end of the campaign, the drill hole collars were surveyed by ECU's mine surveyor.

The aim of the Phase 1 and 2 drilling programs was to confirm the extension along strike and at depth below the main vein old workings as these areas remained untested and represented a major exploration target.

Overall, the 2006-2007 drilling campaign proved to be successful in confirming:

- 1) The presence and continuity along strike and at depth of the main historical veins.
- 2) The presence of a northeast-southwest trending diorite stock which cores the central portion of the property as well as the presence of a northwest-southeast oriented porphyritic monzodiorite to monzonite sills that would represent a more differentiated phase of the main intrusive.
- 3) High grade silver, lead and zinc mineralization within the veins and stringers and several silver assay values exceeded 1,000 g/t silver.
- 4) The potential for high grade gold mineralization as demonstrated by drill hole SD-07-08 with a reported intersection of 15.3 g/t of gold over 3.25 m.
- 5) The structural control of the epithermal style mineralization along stratigraphic contacts and fault corridors.
- 6) The presence of broad stringer-type zones associated with the La Cruz and Montanez Veins.

### 10.1.2 2007-2008 Exploration Program (Phase 3)

The 2007-2008 program (Phase 3) ran from October, 2007 to March, 2008 and entailed the completion of 15 holes totalling 6,654 m of drilling. A total of 5,686 core samples were assayed for gold, silver, lead, zinc copper and arsenic and more occasionally, antimony. The sampling procedures included the systematic inclusion of standards and property specific blank samples. The drill holes from this campaign are numbered from SD-07-18 to SD-08-33. At the end of the campaign, the drill hole collars were surveyed by ECU's mine surveyor.

Explorations results from the 2007- 2008 drilling program include:

- 1) A new environment of contact skarn-type sulphide mineralization was identified in the highly prospective Eastern Sector of the property along monzonite sills and dykes contacts.
- 2) Potential for massive to semi-massive sulphide (Mantos-type) zones to have developed from replacement of marble and skarn was identified
- 3) Lateral and vertical continuity of the known high grade polymetallic veins was confirmed.

### 10.1.3 2008-2009 Exploration Program (Phase 4)

The 2008-2009 (Phase 4) exploration program went from September to December 2008 with a total of 3,788 m completed in three drill holes including a wedge-cut done from a 2007 hole. A total of 3,040 samples were assayed for gold, silver, lead, zinc copper, arsenic, and antimony and occasionally for iron. The sampling procedures included the systematic inclusion of standards and property specific blank samples. At the time the Resource Estimate was completed, the Phase 4 program remained in progress and only those results from diamond drill holes SD-07-21A, SD-08-34 and partial results from SD-08-35 were taken into account for the Estimate. Those 3 holes represent 2,487 m of HQ and NQ drilling out of the 3,788 m total done during Phase 4. Drill hole collars were surveyed at the end of the campaign by ECU's mine surveyor.

As part of the QA/QC program, 278 rejects of samples from the 2006-2007 and 2007-2008 drill programs (Phase 1 to 3,) originally assayed at ALS Chemex facilities of Guadalajara and Vancouver were sent out to SGS certified laboratory of Durango to have check assays performed.

The 2008-2009 program aimed at testing to depths of 600 to 800 metres below surface the highly prospective diorite eastern contact in the area of the merging Montanez and Cantarranas Fault Zones. More specifically, it was designed to confirm and expand upon:

1. Massive to semi-massive sulphide mineralization hosted in contact skarn replacement zones in marble and exoskarn units.
2. Polymetallic stringer-stockwork mineralization associated to the Montanez Zone.

Results from the 2008 to 2009 drilling program have proved to be highly successful as:

- 1) Wide zone of Green Skarn (exoskarn) units hosting stringer and pods of silver-lead-zinc mineralization confirmed the extensive nature of the mineralization proximal to the Diorite body and the monzonite sill following the Montanez structure.
- 2) A chimney-type occurrence with sulphide stringer mineralization was identified at the merging point of the Ag-Zone, Montanez and Cantarranas vein structures
- 3) Potential for carbonate replacement mantos-type zones in limestone was further confirmed with the discovery of a massive sulphide zone interpreted as the eastern extension to the San José vein structure
- 4) A new skarn area with associated stringer-style mineralization defining a broad zone with bulk tonnage potential was identified to the south of the Montanez structure

These new discoveries contributed in a significant way to the large increase of resources over the prior resource estimate released the year before, in January, 2008. They also confirmed the diversity of mineralized environments present at San Diego that reach well beyond the high-grade narrow vein-type context that initially caught the attention of the JV partners.

## 10.2 2011 Drilling Program (Phase 5)

The Phase 5 program operated from February 2011 to January 2012 and comprised 10,398 m of drilling carried out during the months of April to October. This program represented the first drilling conducted after a 2-year halt in exploration work, which resulted from a legal action undertaken by GOG against ECU to resolve numerous breaches of the JV agreement during the Phase 4 program. The arbitration procedure initiated in June, 2009 came to conclusion in September 2010.

The 2011 program was, for the most part, under the supervision of Sean Muller P.Geo., president at Chemrox Technologies LLC (“Chemrox”) of Greenwood Village, Colorado. Chemrox acted as third party operator reporting to, and acting under the direction of the Joint Venture (JV) Committee as per decision of the arbitration panel that ordered ECU be removed from its operatorship role.

On September 29, Chemrox withdrew from the program and Ms Marchand was asked to oversee the Phase 5 program to completion. The work performed during this period included among other tasks, the re-logging and infill sampling of several of the Phase 5 drill holes which were for the most part, only quick-logged by Chemrox.

The objectives of the 2011 drilling program were two fold aiming:

- to conduct delineation drilling on massive to semi-massive sulphide replacement zones where high grade, polymetallic intercepts had been returned in previous drilling programs such as in drill holes SD-07-21A, SD-08-34, and SD-08-33;
- to carry out exploration drilling to further extend Inferred Resources and evaluate highly prospective targets, including:
  - a) A new Skarn Zone south of the Montanez Zone intersected at relatively shallow depths (400 m) in SD-08-21A ddh;
  - b) New broad Green Skarn Zones in limestone (exoskarn) on the Eastern contact of the central Diorite Intrusion containing polymetallic stringer zones;
  - c) The potential intersection point at depth of the Montanez and Trovador vein structures.

During Phase 5, a total of 12 diamond drill holes numbered SD-11-25A to SD-11-46 were completed. Here below, Table 9 summarizes the technical data for this campaign which was carried out using two hydraulic, truck-mounted drills owned and operated by Layne de Mexico S.A. de C.V., of Hermosillo, Sonora (Figure 20).

Table 9: San Diego Project Phase 5 Diamond Drill Hole Technical Data Summary Table

AREA	Hole Number	UTM Coordinates (WGS84)			AZ (°)	Dip (°)	Depth (m)	Core size
		Easting	Northing	Elev. (m)				
NORTH-EAST	SD-11-25A	639319	2777362	1591	305	-70	696.4	HQ,NQ
	SD-11-39	639284	2777400	1589	337	-50	192.4	HQ
EAST	SD-11-37	639146	2777229	1599	180	-80	446.2	HQ
	SD-11-37A	639146	2777226	1598	180	-70	1,288.6	HQ, NQ, BQ
	SD-11-38	639085	2777367	1595	182	-50	1,034.8	HQ,NQ
	SD-11-40	638898	2776973	1653	168	-76	860.1	HQ,NQ
	SD-11-41	639029	2777342	1602	180	-50	1,096.2	HQ, NQ, BQ
	SD-11-42	638773	2776947	1670	141	-50	628.3	HQ,NQ
	SD-11-44	638950	2777366	1604	175	-58	1,186.9	HQ, NQ, BQ
	SD-11-45	639240	2777164	1603	180	-70	1,210.3	HQ, NQ, BQ
WEST	SD-11-46	639203	2777231	1599	180	-70	1,295.3	HQ, NQ, BQ
	SD-11-43	638729	2777062	1656	184	-50	695.4	HQ,NQ
<b>TOTAL : 10,398.3 m</b>								

Table provided by Golden Tag



Figure 20: View of hydraulic drill from Layne de Mexico S.A. de C.V.

All drill holes were initiated with HQ sized rods (inside diameter 77.8 mm) and generally reduced to NQ (inside diameter 60.3 mm) beyond 500 m, and to BQ (inside diameter 45.9 mm) around 1,000 m to adjust to drill rig capacity. On some occasions, the rod size was reduced to deal with fractured and blocky rock sections, or to limit water consumption.

Drill hole orientation surveys were taken every 50 m down the hole using a Reflex instrument rented out from the drilling company. Water for drilling for the first portion of the program was pumped out directly from the La Cruz old workings as done during previous programs. However, a break down of the submersible pump set up inside the old workings resulted into having to truck water in from the nearby Francisco Zarco dam for the remainder of the program.

In accordance with current Mexican environmental regulations, the drill work was planned in such a way as to reduce the impact of drilling activities on the environment. As such, the planning of drill hole locations was restricted whenever possible to already existing roads, and those same roads were also used to move machinery between drill hole locations. Nonetheless a section of new drill roads had to be opened up with a bulldozer in the northeast corner of the property as the initial planning for the Phase 5 program included several holes in that sector where little to no drilling had been completed to date.

Original drill hole casings were for the most part pulled out and replaced with 3-m long sections of white PVC plastic tubing with a 4.5 inch diameter. All casings were capped and individually labelled at the end of the campaign. Drill hole collars were surveyed with high precision GPS instruments and referenced under the same UTM system (WGS84) used in the 2006 to 2009 drill programs. once by Ruiz Galindo, a surveying outfit from Lerdo, Durango, and thereafter, by Golden Minerals' surveyors (Figure 21).



Figure 21: Base station used for the DGPS system (Galindo Surveyors).

All drill core from the Phase 5 program has been kept and stored on site inside numbered plastic core boxes. Boxes containing unsampled, barren core sections were cross-piled outside on wooden pallets and covered with tarps whereas the boxes containing split, assayed core were stored inside the main storage building.

A total of 5,957 core samples (Table 10) assayed for gold and silver by fire assay with gravimetric finish, and for multi-elements with an ICP package (“TCP41”) at ALS Global certified laboratories of Hermosillo, Zacatecas and Vancouver. The sampling procedures included the systematic inclusion of commercial standards and silica powder blank samples.

Table 10: Assay Summary Table for the Phase 5 program.

TOTAL NUMBER OF CORE ASSAY SAMPLES & INFILL SAMPLES SAN DIEGO PROJECT - PHASE 5 PROGRAM			
DDHs	ORIGINAL ASSAYS	INFILL ASSAYS	TOTAL ASSAYS
SD-11-25A	32	18	50
SD-11-37	57	44	101
SD-11-37A	862	273	1135
SD-11-38	591	167	758
SD-11-39	0	34	34
SD-11-40	535	192	727
SD-11-41	653	not done	653
SD-11-42	54	230	284
SD-11-43	0	9	9
SD-11-44	917	40	957
SD-11-45	517	not done	517
SD-11-46	708	24	732
<b>TOTAL</b>	<b>4,926</b>	<b>1,031</b>	<b>5,957</b>

As part of the ongoing QA/QC program, a total of 266 pulp samples were submitted to SGS lab facility of Durango (Mexico) for check assays. The detailed results for this program can be found in Section 11 of the present report.

Similarly to previous programs core recovery was very good and in the 95 to 100% range. Occasional low core recoveries were observed within sections affected by faulting and weathering such as oxidized zones of mineralization, and fault zones. All sections of non-recovered core were identified on cross-sections and in drill logs with the code name “CNR” for core not recovered. Zero assay grades were attributed to these intervals in calculating hole intercepts.

Specific gravity measurements using the immersion method were carried out at the end of the program by the site technicians. The measurements were performed on sampled core intervals as opposed to single core pieces which allowed for graphical comparison of grade values and density factors (see Section 14). That approach was deemed more suited to the varied type and content of sulphide mineralization encountered at the San Diego project which can include barren limestone, disseminated sulphides, stringers and veins, and even massive sulphide lenses. The fluctuations in

total sulphide content, and sulphides versus host-rock have a direct impact on density factors measured across a single sample interval and from one mineralized zone to the next. The varying S.G. factors in turn can have a significant impact on density/tonnage determination as well as grade dilution.

All of the interpretation of the geology and mineralization was completed by K. Marchand first using sets of hand-drawn cross-sections and level plans which information and then, moving that information into SGS's GENESIS 3D modelling software. Thereafter, SGS used the interpreted data to build 3D envelopes and generate block models for each of the 23 mineralized zones identified.

For this program, the two JV partners - Golden Tag, and ECU (Golden Minerals) - were paying for their proportionate 50% share of exploration expenditures. Golden Tag's share of total exploration expenditures is presented in Table 11 and totals exploration expenditures of CAN\$ 1,836,000 as of December 31, 2011. The 16% Mexican value added tax (IVA) is not included in the listed costs.

Table 11: San Diego Project – Golden Tag's Exploration Expenditures for the 2011 Phase-5 Program as of December 31, 2011

Description	Cost (CAN\$)
Diamond drilling (50% of 10,398 m)	1,050,000 \$
Assaying (50% of 5,957 samples)	127,000 \$
Consulting fees	150,000 \$
Chemrox - Project Management fees	471,000 \$
Other Project Expenses	38,000 \$
<b>Total</b>	<b>1,836,000 \$</b>

### 10.2.1 2011 Drilling Program Results

Drilling was designed to intersect the veins and zones identified in previous programs such as: El Jal, Arroyo, Cantarranas, CantaSplay, Montanez (Hanging Wall, Footwall and Centre), Mid-Zone, and San José. Nearly all drill holes completed during this campaign intersected significant mineralization either associated to the projected targets or, in many cases, associated to new mineralized vein and stringer zones such as the Lorenzo, SouthSkarn, Trovador and MS Zones. More importantly, the 2011 campaign identified extensive sections of sulphide mineralization along the Eastern contact of the Central Diorite intrusion which lead to the discovery of the Fernandez Zone during the follow-up Phase-6 program.

A description of the individual drill holes is presented below according to the sectors of the property where they were drilled. The Central Diorite intrusion marks the limits between the Eastern and Western sectors (Figure 11) whereas the Northeastern sector is defined by the flat valley area extending to the northeast of that same intrusion. A listing of significant mineralized intervals intersected during the program is presented in Table 12.



Table 12: Listing of significant Mineralized Intervals from Phase 5 program (includes Vein Zones followed by Fernandez Zone). The intervals represent core lengths and not the true thicknesses.

Ag-ZONE								
Hole	From	To	Length (m)	Au g/t	Ag g/t	Pb %	Zn %	Ag_Eq
SD-11-41	425.0	426.4	1.40	0.09	103.1	1.94	0.93	178.1
SD-11-46	602.8	608.3	5.55	0.1	77.1	1.53	2.2	166.8
CANTA SPLAY								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	163.9	168.3	4.40	0.09	87	0.36	0.21	101.9
SD-11-38	318.0	320.9	2.93	0	73	1.11	1.91	144.0
SD-11-41	300.4	301.6	1.23	0.28	93	2.78	3.37	243.2
SD-11-46	118.7	122.3	3.56	0.06	156	1.48	1.47	228.4
CANTARANNAS								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	483.9	486.6	2.75	0.36	72.4	0.99	1.81	138.6
SD-11-38	424.4	432.8	8.42	0.07	40.9	0.72	0.71	76.3
EL JAL								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-25A	202.9	206.5	3.68	0.13	301.2	4.07	0.48	428.1
SD-11-37	133.5	142.8	9.32	0.07	222.0	1.51	0.88	283.5
SD-11-37A	205.2	210.6	5.40	0.25	66.3	0.22	0.26	78.1
SD-11-39	120.3	122.4	2.10	0.01	153.3	0.06	0.04	155.9
LORENZO								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-41	841.8	860.5	18.68	0.05	45.6	0.83	0.78	85.6
SD-11-37A	1139.5	1142.6	3.05	0.03	56.8	0.3	1.23	90.8
SD-11-38	832.6	834.3	1.75	0.02	69.4	0.92	0.92	114.8
SD-11-45	1071.6	1082.2	10.55	0.03	56.8	0.33	1.2	91.1
SD-11-46	1117.6	1120.7	3.10	0.02	91.8	0.68	3.46	183.1
MONTANEZ CENTRE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	681.2	684.1	2.88	0.04	34.6	0.79	0.75	72.7
SD-11-38	537.5	540.4	2.90	0.04	28.6	0.78	0.46	60.5
SD-11-41	496.6	498.8	2.21	0.13	47.4	1.15	1.66	115.0
SD-11-44	590.8	602.0	11.16	0.12	34.6	0.93	0.57	73.2
SD-11-45	576.1	579.2	3.05	0.14	64.6	1.01	1.9	133.2
SD-11-46	713.8	716.7	2.90	0.04	51.1	1.62	1.48	128.3
MONTANEZ FOOTWALL								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	653.7	656.6	2.90	0.07	70.0	1.28	1.09	129.3
SD-11-38	521.3	523.9	2.60	0.03	27.0	0.75	0.69	62.9
SD-11-45	564.7	567.0	2.26	0.4	114.9	2.51	1.99	228.3
SD-11-46	697.1	700.1	3.05	0.09	58.4	1.32	1.37	124.7

MONTANEZ HANGING WALL								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	697.5	704.9	7.38	0.11	88.5	1.74	1.8	175.8
SD-11-38	552.6	564.9	12.29	0.15	48.4	1.33	0.89	105.2
SD-11-41	511.1	524.7	13.69	0.19	59.6	1.33	1.21	123.0
SD-11-44	628.3	645.4	17.10	0.11	84.1	1.79	1.79	172.7
SD-11-46	724.4	741.4	16.95	0.04	59.3	1.82	1.33	139.2
SD-12-47	675.7	677.8	2.10	0.06	54.3	0.95	0.2	85.8
SD-12-48	466.3	467.9	1.60	0.07	51.1	0.86	1.33	103.5
MID-ZONE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	767.5	770.2	2.67	0.18	98	2.57	4.75	270.1
SD-11-38	580.4	586.5	6.10	0.18	52	1.35	1.04	112.0
SD-11-41	536.6	540.6	3.98	0.13	68	1.52	2.00	152.9
SD-11-44	655.9	658.8	2.93	0.04	91	1.69	1.39	168.8
SD-11-45	673.4	675.9	2.43	0.07	47	0.87	0.72	86.7
SD-11-46	788.3	792.1	3.75	0.08	89	1.45	1.36	158.7
MS ZONE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-41	941.4	942.8	1.42	0	124.0	2.01	3.58	255.9
SD-11-42	515.5	520.4	4.97	0.47	111.9	2.53	2.03	226.8
SD-11-44	1020.7	1025.6	4.92	0.37	152.2	2.59	3.65	302.4
PANDA								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	886.9	890.6	3.75	0.09	120.3	1.95	1.65	210.5
SD-11-38	597.1	602.9	5.75	0.02	46.18	1.67	1.86	132.7
SD-11-41	584.1	586.3	2.18	0.12	103.88	3.4	2.61	255.8
SD-11-45	779.1	785.2	6.14	0.06	105.97	1.97	1.23	188.2
SD-11-46	871.2	877.3	6.10	0.01	57.4	1.56	0.74	117.7
RATA								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-38	184.9	187.7	2.78	0.23	170.9	1.14	1.06	225.4
SD-11-44	281.4	283.5	2.10	0.07	169.7	0.86	0.55	205.9
SOUTH SKARN								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-37A	1078.4	1087.4	8.98	0.01	88.5	0.8	3.14	176.9
SD-11-41	793.0	795.1	2.06	0.05	32.9	0.71	0.95	72.9
SD-11-45	1032.1	1034.0	1.88	0	84.5	0.5	3.57	172.9
SD-11-46	1055.5	1066.2	10.65	0.16	177.3	2.26	5.54	357.2
TROVADOR								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-40	782.1	838.2	56.12	0.02	42.9	0.57	0.77	75.1
SD-11-41	917.2	932.0	14.81	0.02	47.0	0.96	0.78	90.7
SD-11-42	445.5	452.5	7.03	0.21	87.7	2.06	1.39	175.7
SD-11-44	988.2	1016.6	28.42	0.11	177.9	1.86	4.20	318.7
SD-11-45	1118.3	1125.9	7.63	0.01	68.9	0.54	1.34	112.3

FERNANDEZ ZONE - ENDOSKARN								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-44	834.1	979.5	145.42	0.03	58.2	0.71	1.28	105.1
FERNANDEZ ZONE - FRINGE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-40	487.4	782.1	294.73	0.03	29.6	0.67	0.70	63.3
SD-11-44	645.4	834.1	188.69	0.03	29.2	0.45	0.56	53.8
SD-11-44	979.5	988.2	8.69	0.01	45.6	0.36	0.62	68.8

a) Eastern Sector

The majority of the holes drilled during the Phase 5 program aimed at testing the Eastern sector of the property and those holes are: SD-11-37, 11-37A, 11-38, 11-40, 11-41, 11-42, 11-44, 11-45, and 11-46 (Figure 19). Together, this drilling covers over 350 metres of strike length in a NW-SE direction. Drill hole SD-11-45 was drilled farther to the East whereas holes SD-11-40, 11-42, and 11-44 represent the most westerly holes, and as such the ones closest to the Central Diorite intrusion. The most robust grades and widths of sulphide mineralization were obtained in holes SD-11-40 and 11-44. These 2 holes returned broad sections of high-grade vein and stringer-style sulphide mineralization developed in the south-east corner of the EndoSkarn Zone, adjacent to a chimney-type occurrence formed at the intersection of the Trovador structure with the NNE oriented Camino Fault. Mantos-style sulphide lenses were also intersected in the limestone units south of Trovador and form part of the MS Zone.

Hole 11-37A was completed to a depth of 1,288 m representing, with holes 11-45 and 11-46, the deepest holes drilled during the program. However, although hole 11-37A was pushed quite deep, the interpretation completed for the present study showed the hole was stopped short of the Trovador structure. Nonetheless, that hole intersected wide zones of stringer mineralization which were included in the new Lorenzo, SouthSkarn and Panda Zones. Other new stringer zones intersected in that hole are the Sigma and Ska Zones which are not included in the present estimate as sufficient lateral continuity could not be demonstrated. Further drilling is required to better define the orientation and strike extent of these potential zones so they can be included in future resource studies. All of the newly identified stringer zones are situated between the Montanez and Trovador structures, and are hosted within fresh to skarnified (hornfels) limestone and/or latite units.

Hole 11-37A, like the other two deep holes 11-45, and 11-46, was drilled to test the southeast corner of the project area. All three holes ended within a thick and continuous latite/hornfels units where stringer sulphide mineralization gradually evolves from a pyrrhotite-sphaletite +/- chalcopyrite assemblage, to a more zinc-copper assemblage where galena (and lead values) are nearly absent. This sulphide zonation is thought to be indicative of the proximity to a deep-seated intrusion. A similar zonation is reported for the Santa Maria Mine in the Pyrrhotite zone where the pyrrhotite-sphaletite +/- chalcopyrite assemblage becomes increasingly chalcopyritic toward the main intrusion. A chemical change rather than a thermal variation is seen as responsible for the mineralogic change observed (Gilmer, 1988). To that effect, it would be useful to complete the infill sampling program started out at the end of Phase 5 to have more comprehensive assay data for hole 11-45. That hole, as well as hole 11-41, are the only two holes from the Phase-5 program which have not yet been yet relogged and re-sampled.

Hole SD-11-38 was drilled after 11-37 to also test the Montanez structure and adjacent Vein Zones such as Ag-Zone, Cantarranas, and Mid-Zone. As this hole was completed early on in the program, the potential for the Trovador Vein to host significant sulphide mineralization had not yet been demonstrated and consequently, the hole was ended before reaching Trovador. However, drill hole casings are systematically left in place so, as part of the Phase-6 program, that hole was re-entered and deepened to intersect the Trovador and MS Zones.

In addition to the targeted known vein zones, hole 11-38 uncovered at fairly shallow depths, a new high grade, sulphide vein hosted in limestone interpreted as the H-Vein Zone. That new Vein was also intersected in hole SD-11-25A, and in both cases returned impressive values of respectively: 671 g/t Ag with 5.5% Pb and 1.2% Zn over 1.89 m (ddh 11-38), and 1,138 g/t Ag with 1.4% g/t Au and, 0.32% Pb-Zn over 1.36 m in 11-25A. The H-Vein is interpreted as N030° oriented and steeply dipping to the east. That zone can be followed further out to the SW and would most likely represent the northeastern extension of the Oxi Fault Zone. The mineral potential of the Oxi-Zone was first noticed during the Phase 1 and 2 programs in drill holes SD-06-10 and 07-24. At shallow depth, the Oxi Fault Zone follows the diorite eastern contact whereas at depth, it coincides with the western limit of the Fernandez Zone. Like for the Ska and Sigma Zone mentioned previously, additional drilling is needed to better define this zone and have it included in future resource estimates.

Hole SD-11-42 was originally planned as a north-to-south hole with a N180° azimuth however, for undetermined reasons; it ended up being drilled at azimuth N141°. As such, the hole was drilled directly above the Fernandez Zone and intersected stringers mineralization corresponding to the Trovador and MS Zone. For the most part, the hole cut through barren marble units with a strong supergene argillic alteration characterized by weathered, bleached core with local soft, to almost powdery sections. The few sulphide/oxide stringers and veinlets intersected were generally associated to narrow fault zones with a very characteristic blend of bright green and yellow oxidized patches with sulfur enrichment.

b) Western Sector

As part of Phase 5, there was only one hole completed in the western sector. Hole SD-11-43 was drilled due south to test the western extension of the Trovador Vein at relatively shallow depth, 225 m below surface (elevation 1,450 m asl.). The hole intersected no significant mineralization and ended outside of the property boundary at a final depth of nearly 700 m. Other than a section of monzodiorite sill with a marble contact aureole, the hole remained within monotone, dark grey limestone locally thinly interbedded with shales of what would be the Caracol and Indura Formations.

c) North-eastern Sector

Holes SD-11-25A and 11-39 were drilled to follow up at shallow depth on the north-east trending El Jal Vein and Arroyo Zone. Both holes intersected near-surface oxide to sulphide mineralization including, a very high grade interval for El Jal Vein grading 711 g/t Ag with 0.26 g/t Au, 9.2% Pb and 1% Zn over 1.62 m in hole 11-25A. These holes also uncovered sub-parallel stringers and narrow veins trending at N030° to N045° which can be followed over 200 to 250 m of strike length distance. Moreover, 11-25A confirmed the existence of an ESE oriented monzodiorite to monzonite

sill similar to the ones observed along the Montanez and Trovador structures. Very little drilling has been carried out in that sector of the property and additional drilling is recommended to further test its potential. The area combines several favorable features such as NE-trending sheeted systems of narrow oxide/sulphide veins, including very shallow occurrences such as the Arroyo Zone intersected near surface in SD-09-27.

Explorations results from the Phase 5 (2011) program proved highly successful, exceeding all expectations as:

1. It confirmed the extension, both along strike and at depth, of the Trovador Vein structure which until then was thought to pinch out at depths of 250 m below surface (1,535 m a.s.l. elevation);
2. A chimney-type occurrence with extensive sulphide stringer mineralization was uncovered where the N020° oriented Camino Fault intersects the Trovador Vein structure (drill section 1+05 E, at 638 930 E and 2 776 765 N UTM);
3. Massive sulphide lenses interpreted as carbonate replacement, mantos-type occurrences were intersected in drill holes SD-11-42 and 11-44, in close relation to the sulphide-rich chimney environment developed on Section 1+05E.
4. It confirmed the presence at depth of a new skarn environment to the south of the Montanez structure hosting narrow stringer-type mineralization associated to skarnified limestone (hornfel) and quartz latite units. The new ESE-oriented zones outlined include the SouthSkarn, Lorenzo, Ska and Panda zones;
5. Confirmed once again the impressive lateral extension and vertical continuity of the San Diego vein system with the Trovador structure and nearby MS Zone followed to depths of 1,250 m below surface with nearly 400 m of demonstrated strike length.

### 10.3 2012 Drilling Program (Phase 6)

The Phase 6 program objectives were to further delineate and potentially extend the mineralized zones uncovered the previous year during the Phase 5 program, as well as to upgrade broad sections of inferred resources to the indicated category. As such, the program planned to infill to the east and west of Section 1+05E with drill hole spacing set at 70-meter to respect extrapolation distances for Indicated resources. Drilling was also designed so to test the Trovador structure to the south.

- **Eastward Extension:** Extend drill holes SD-08-34 and SD-11-38, which were stopped before intersecting the Trovador Vein during the earlier Phase- and Phase-5 drill programs;
- **Westward Extension:** Originally, three drill holes were proposed to test new exploration ground west of drill Section 1+05E. However, during the course of the program, in view of the extensive lengths of new mineralization being intersected, a fourth hole with a wedge-cut were added to better test this area.

The Phase 6 diamond drilling campaign went from May 15, 2012 to October 19, 2012 and included the extensions of two previous holes (SD-08-34 and 11-38) and the completion of four new drill holes (SD-12-47 to 12-50) with two wedge-cuts off hole SD-12-50 (SD-12-50W, and 50W2). A total of 5,536 m were drilled and 3,996 samples assayed. All drill casings were left in place, capped, labeled, and surveyed at the end of the campaign with a high precision GPS instrument. Table 13 summarizes the details of Phase 6 drilling campaign.

Table 13: San Diego Project Phase 6 – 2012 Diamond Drill Hole Technical Data Summary Table

ZONES	Hole Number	UTM Coordinates (WGS84)			AZ (°)	Dip (°)	Depth (m)	Core Size	Comments
		Easting	Northing	Elevation					
East Sector & Trovador	SD-08-34	639088	2777369	1595	180	-65	232.7	HQ, NQ	Extension
	SD-11-38	639085	2777367	1595	182	-50	320.7	HQ,NQ	Extension
Fernandez	SD-12-47	638924	2777348	1610	180	-63	1055.7	HQ	
	SD-12-48	638924	2777347	1610	181	-56	875.8	HQ	
	SD-12-49	638760	2777297	1631	158	-63	1091.9	HQ,NQ	
	SD-12-50	638834	2777306	1620	162	-62	27.8	HQ	Abandoned
	SD-12-50A	638833	2777306	1620	162	-63	1049.1	HQ	
	SD-12-50W	638833	2777306	1620	162	-62	81.3	HQ	Wedge Cuts
	SD-12-50W2	638833	2777306	1620	162	-62	801.0	HQ,NQ	
TOTAL:							<b>5,535.9 m</b>		

Table provided by Golden Tag

For the duration of the campaign, the water needed for drilling was trucked in from the Francisco Zarco dam on a 24/7 schedule with trucks owned and operated by a nearby Velardeña entrepreneur. Overall, drill platform preparation caused minimal damage to the existing vegetation as new hole locations either corresponded to previous drill set-ups or to waste pile areas.

Like for previous programs, core recovery levels remained high in the 95 to 100% range. On occasions, low core recoveries were obtained within sections affected by faulting and weathering such as oxide zones of mineralization and fault zones. Lost core sections were usually under 50 cm except for hole SD-12-49 where a 2.50 m wide void corresponding to an underground section of the historic La Cruz Mine was intersected. All sections of non-recovered core were identified on cross-sections and in drill logs with the code name “CNR” for core not recovered. Zero assay grades were attributed to these intervals in calculating hole intercepts

For the first 2 months of the campaign, drill hole orientation surveys were done using a Reflex instrument with tests taken every 50 to 100 m. Thereafter, a DeviFlex instrument was rented out to allow for accurate measuring within magnetic sections of the diorite intrusion and pyrrhotite-bearing zones. The instrument was set to generate measurements at 3-meters intervals.

DeviCore instruments were also used for the first time at San Diego during this program. Those are high-precision, electronic instruments that register the core orientation and the hole inclination. Oriented core drilling was performed only during day shifts, but in a continuous way using two DeviCore instruments. Once the core was emptied out of the core barrel, a technician accommodated the core pieces in a 3-meter long tray and then, drew a continuous line on top of the core indicating the tool face position. This line was either drawn with blue or orange wax pencil (Figure 22) and it represented the reference point from which core pieces could be oriented after by the geologist using the azimuth and dip measurements for the hole at the corresponding location.

Photos of every core box (wet and dry) were also systematically taken for drill holes SD-11-47 to 11-50W2.

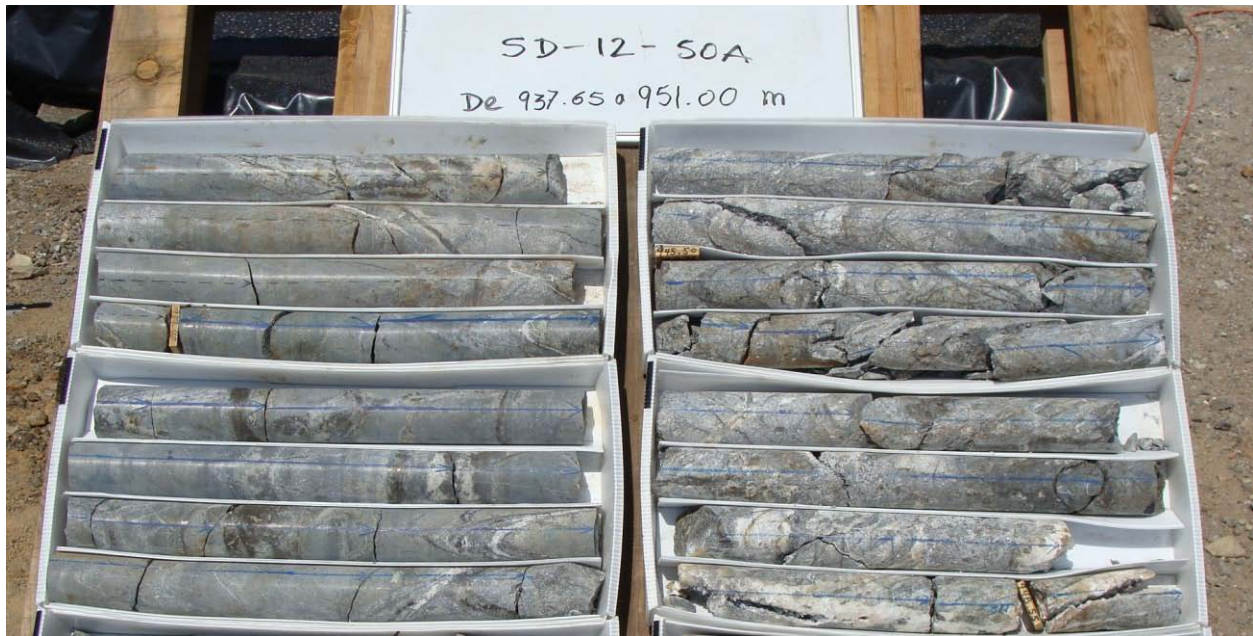


Figure 22: Oriented Core boxes from hole SD-12-50A – Phase 6 Program.

Density measurements were completed at the end program on selected assayed drill core sections. The tests were once again performed on the full length of half-split core samples using the immersion method. The study included a total of 165 samples that were measured by SGS at their Durango lab. With this last round of tests, a total of 777 core samples have presently been measured for the San Diego project.

All information obtained for the Phase 6 drill program was processed using a similar approach to that of Phase 5 with the geological interpretation being completed on paper cross-sections and level plans as well as directly into GENESIS 3D mining software.

A total of 3,996 split core samples were assayed for gold by atomic absorption and for multi-elements with an ICP package ("ICP41"). The assayed samples were from the newly drilled core as well, 216 infill samples from hole SD-11-44 taken as part of the infill sampling program initiated the previous year on the Phase 5 drill core. The sampling procedures included the systematic insertion of standards and blank samples. In addition to the core samples, 48 pulp samples were submitted for whole rock analysis. All core and pulp samples were assayed at ALS Global lab facilities of Zacatecas and Vancouver. No pulps or rejects samples from this program were submitted to a second lab as part of the QA/QC controls, the 2012 program being seen as an extension of the 2011 program for which assay checks on pulps samples had been performed at the SGS lab in Durango.

The Phase 6 program was fully funded by Golden Tag as part of its earning of an additional 10% interest in the San Diego project. Total exploration expenditures as of December 31, 2012 for the Phase 6 drilling program are presented in Table. The 16% Mexican value added tax (IVA) is not included in these expenditures.

Table 14: San Diego Project Exploration Expenditures for the 2012 drilling program (Phase 6), as of December 31, 2012 (unaudited).

Description	Cost (CAN\$)
Diamond drilling (5,536 m)	1,024,000 \$
Assaying (4,044 samples)	150,500 \$
Consulting fees	450,000 \$
Metallurgical & Density tests	17,850 \$
Manpower	44,500 \$
Rentals (instruments)	50,750 \$
Project expenses	94,400 \$
Administration	30,000 \$
<b>Total</b>	<b>1,860,000 \$</b>

Table supplied by Golden Tag Ltd

### 10.3.1 2012 Drilling Program Results

This Phase-6 campaign aimed to better understand the nature and relations of the large volume of stringer and vein mineralization intersected during Phase-5 along drill section 1+05E, in close proximity to the Trovador Vein structure. A description of each drill hole completed as part of this program is presented below.

Figure 23 shows in plan section the lay-out of the Phase 6 drill holes with significant mineralized intersections. As well, a listing of significant mineralized intervals intersected during the program is presented in Table 12.

#### a) Trovador Eastern Extension:

The campaign started out with the completion of extension holes SD-11-38, and 08-34 located on drill section 1+75 E. Highlights for hole SD-11-34 were the intersection of additional stringer-type mineralization associated to Panda Zone returning 56 g/t Ag with 1.7% Pb-Zn over 11.75 m in weakly altered limestone as well as, a massive sulphide section grading 467 g/t Ag with 9% Pb-Zn over 1.95 m interpreted as part of the SouthSkarn Zone. That high-grade sulphide lens is located at the contact of unaltered limestone units with the latite/hornfel package found in the deeper holes spanning the Eastern sector of the property. However, the latite/hornfel units in hole 08-34 are not as mineralized as those seen in Phase-5 drill holes SD-11-37A, 11-45 and 11-46. But they show the same sericitic alteration developed along centimetric shear planes that could also be bedding planes. Hole 08-34 cut the projected down-dip extension of the Trovador structure at great depth, some 1,150 m below surface (elevation 500 m a.s.l.) where it encountered only low grade mineralization.



Extension hole SD-11-38 intersected the Trovador structure at relatively shallower depth of 700 m (elevation 950 m a.s.l.). The hole cut a wide mineralized section grading 49 g/t Ag with 0.7% Pb and 0.9% Zn over 27.75 m hosted within bleached to fresh limestone in contact with the Trovador monzonite sill. That intersection demonstrates that, like observed for the Montanez structure, the monzonite sill contact zones can act both as pathways and structural traps to sulphide-bearing hydrothermal fluids. It does confirm those sills to be highly prospective exploration targets, and especially within close proximity to NE-oriented fractures where diorite dykes will have been injected.

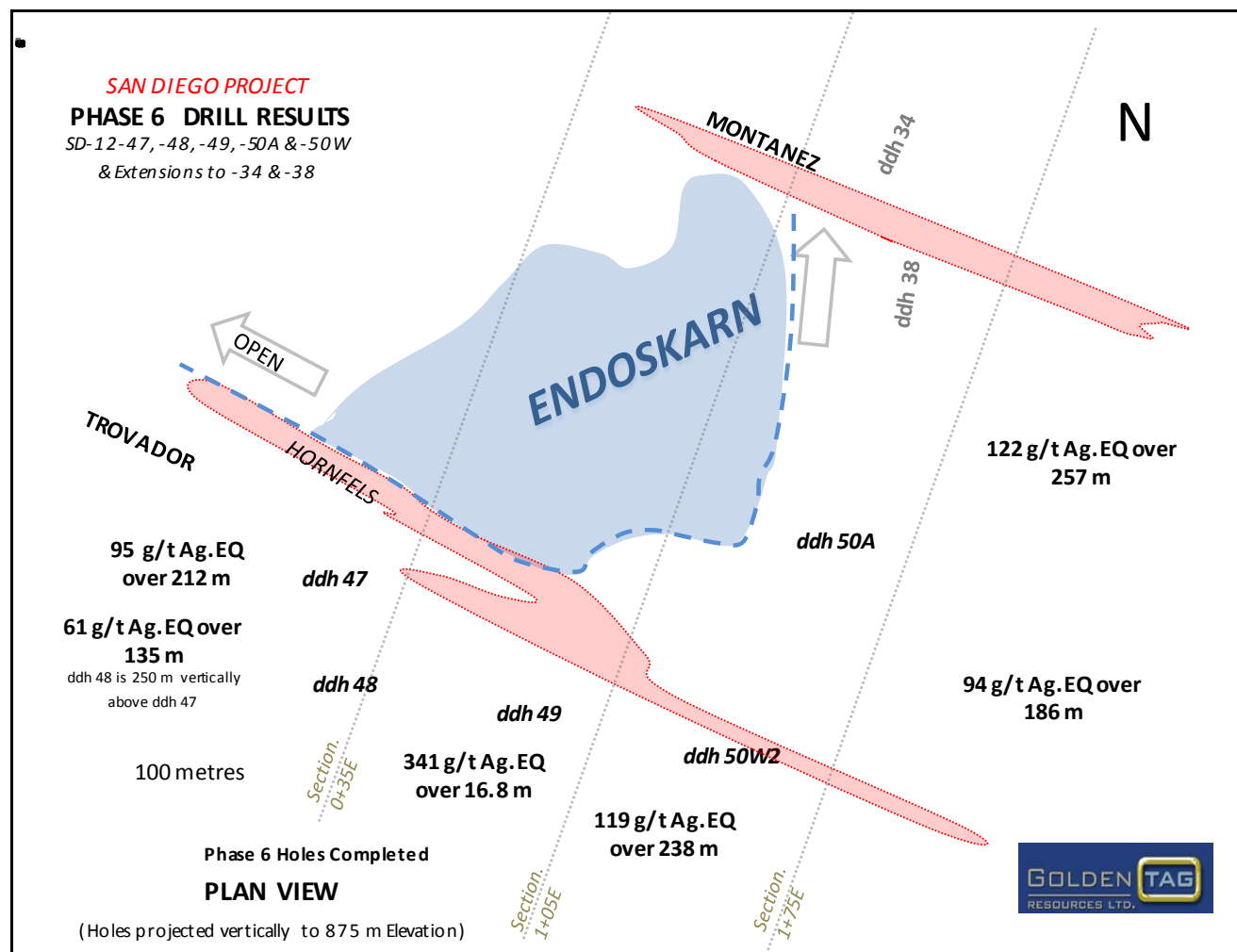


Figure 23: Plan map showing drill results from the phase 6 drill campaign.

To date, aside from the Montanez sill which outcrops on surface, two other similar sills have been outlined and confirmed through the 2011-2012 drilling programs. Those are the Trovador and Porvenir sills respectively located at the south and north end of the property.

b) Trovador Western Extension:

The five holes (SD-12-47 to 12-50W2) completed in that area lead to the discovery and definition of the Fernandez Zone, a deeper body of stockwork-style mineralization predominantly developed within endoskarn host-rock. Based on grade distribution, the Fernandez Zone has been divided into the Endoskarn and Fringe units, which respectively correspond to a higher-grade core surrounded by a shell of lower-grade material. Based on current drill information, the Fernandez Zone spans more than 300 m along the eastern edge of the central diorite intrusion, extending from the Trovador, in the south to the Ag-Zone to the northeast. At depth, the zone is contained from 1,200 m to 500 m elevation (approximately 450 m to 1,150 m below surface). The large Fernandez Zone and more specifically its Fringe unit, encompasses portions of several broad Vein Zones such as Ag-Zone, Panda, SouthSkarn, and Lorenzo. The three Montanez Veins and Mid-Zone are the only two structures that cross-cut both the Endoskarn and Fringe units.

Holes SD-12-47 and 12-48 were both drilled on section 0+35E with the later planned to hit Trovador at 650 m below surface (elevation 1,000 m a.s.l.) whereas the former intersected the zone at 900 m (elevation 750 m a.s.l.).

Hole 12-48 drilled directly above hole 12-47 at a 250 m distance intersected a shorter section of mineralized endoskarn compared to hole 12-48. That section also contained more marble sections with argillic alteration similar to the one seen in hole 11-42. This hole is interpreted as having cut through the upper portion of the Fernandez body. Hole SD-12-49, 12-50A and 50W were drilled with a N160° azimuth to intersect at right angle the NE trending diorite intrusion (Figure 23).

Aside from its wide endoskarn section, other highlights for hole 12-49 are the intersection of sulphide stringer mineralization on the western contact of the Central Diorite intrusion and, zinc-rich, massive sulphide lenses within the Trovador Zone. Along the western contact and at relatively shallow depth, the hole cut a wide pyritic stringer zone which can be traced at depth down to Phase-3 hole SD-07-18. These 2 intersections are now interpreted to belong to the new W-Contact Zone trending along the diorite western contact at N065°. This zone remains open in all directions and enhances the possibility for a skarn zone similar to the Fernandez Zone to have developed on the West side of the intrusion. Further down in the hole, a significant lens of zinc-rich massive sulphide mineralization coinciding with the Trovador Zone returned grade values of 118 g/t Ag with 9.2% Zn and 1.1% Pb over 16.8 m. This mantos-style mineralization is hosted within fresh-looking grey limestone.

Table 15: Listing of significant Mineralized Intervals from Phase 6 program (includes Vein Zones followed by Fernandez Zone). The intervals represent core lengths and not the true thicknesses.

CORREDOR								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-50	17.4	22.0	4.60	0.45	504.5	0.62	1.47	552.7
SD-12-50A	19.3	27.8	8.50	0.26	209.7	0.55	1.02	246.7
EAST-WEST FAULT ZONE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-48	431.5	433.5	2.00	0.43	197.0	2.88	2.48	331.2
SD-12-49	468.0	482.9	14.91	0.07	72.4	1.86	1.94	166.2
MID-ZONE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-50A	668.0	671.3	3.35	0.04	98.3	0.9	0.62	136.9
MS ZONE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-11-38	962.3	965.0	2.70	0.37	184.4	3.13	3.19	340.5
SD-12-47	1025.1	1026.6	1.53	0.01	24.0	0.64	4.51	136.0
SD-12-48	831.3	833.5	2.15	0.18	60.0	0.9	1.24	111.6
SD-12-49	1071.8	1073.6	1.85	0.04	86.4	0.65	1.66	139.6
PANDA								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-08-34	924.1	935.8	11.75	0.01	56.2	1.64	1.8	140.8
RATA								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-48	246.0	248.3	2.25	0.33	145.4	1.15	0.68	192.6
SD-12-49	185.0	188.9	3.95	0.37	439.2	7.6	2.46	708.6
SD-12-50A	224.1	226.4	2.30	0.07	134.2	0.33	0.6	156.1
RATA-SUB								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-48	315.2	323.2	7.95	0.13	502.3	2.43	0.88	590.4
SD-12-50A	319.6	322.2	2.60	1.11	180.2	2.9	2.25	310.3
SOUTH SKARN								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-08-34	1053.7	1055.6	1.95	0.06	467.1	9.23	9.1	921.1

TROVADOR								
Hole Name	From	To		Au	Ag	Pb	Zn	Ag_Eq
SD-08-34	1255.0	1267.6	12.60	0.01	12.2	0.15	0.83	33.7
SD-11-38	909.1	936.9	27.75	0.03	48.6	0.65	0.89	85.6
SD-12-47	1004.4	1011.3	6.92	0.01	66.9	0.9	3.22	159.7
SD-12-48	814.0	833.5	19.45	0.05	33.0	0.46	0.62	59.2
SD-12-49	1018.6	1035.4	16.80	0.15	118.0	1.12	9.18	340.6
SD-12-50W2	1076.8	1092.7	15.85	0.01	26.0	0.24	1.83	71.0
W-CONTACT								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-48	352.7	356.5	3.80	0.18	122.0	0.35	0.7	146.7
SD-12-49	441.6	461.9	20.35	0.25	72.7	1.81	0.89	143.2
SD-12-50A	428.1	431.6	3.50	0.65	75.0	1.66	1.83	160.7
FERNANDEZ ZONE - ENDOSKARN								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-47	779.8	991.7	211.85	0.04	54.2	0.48	1.28	94.7
SD-12-48	664.7	788.5	123.85	0.03	32.3	0.55	0.62	61.0
SD-12-50A	743.5	1000.4	256.95	0.13	65.7	0.74	1.69	122.1
SD-12-50W2	761.3	947.7	186.35	0.05	53.1	0.56	1.2	93.9
SD-12-49	755.3	993.4	238.15	0.07	63.6	0.77	1.59	118.9
FERNANDEZ ZONE - FRINGE								
Hole	From	To	Length (m)	Au	Ag	Pb	Zn	Ag_Eq
SD-12-47	991.7	1004.4	12.70	0.02	31.7	0.26	1.26	65.3
SD-12-49	697.8	755.3	57.45	0.05	34.7	0.42	0.5	57.3
SD-12-50A	686.5	743.5	56.95	0.07	39.5	0.58	0.55	67.5
SD-12-50A	1000.4	1049.1	48.70	0.02	41.4	0.44	1.08	76.4
SD-12-50W2	702.2	761.3	59.10	0.09	28.6	0.46	0.42	50.6

The Phase-6 program has proved to be the most successful of all work programs done to date on the San Diego Project. Not only did all the holes from this program hit mineralization but most important, the completed holes:

1. Intersected Silver-Lead-Zinc mineralization showing consistent grades over extensive core lengths that defines a large new skarn zone – the Fernandez Zone - developed along the southeast edge of the central diorite intrusion at depth;
2. Confirmed the broad stringer mineralization intersected during Phase-5 on Section 1+05E to be part of a chimney structure peripheral to the Fernandez zone;
3. Confirmed the presence of massive sulphide mantos-style lenses along the Trovador and MS Zones, immediately south of the Fernandez Zone;

4. Intersected significant widths of stringer mineralization on the western contact of the Central Diorite supporting the potential for additional skarn mineralization to be discovered on that side of the intrusion.

Results from the 2012 drilling program represent a break-through in the history of exploration work at San Diego with the discovery a large coherent skarn zone developed along the Central Diorite eastern contact. The Fernandez Zone forms a broad mineralized mass stretching across from the Trovador to the Montanez Vein structures. This large new zone has a strike length extent of 325 meters, a width of 200 meters, and a vertical height of 700 meters and remains open to the west and at depth. This discovery confirms the San Diego project as a Ag-Pb-Zn skarn occurrence similar to those of the Santa Maria Mine (Penoles) and Santa Juana Mine (Golden Mineral), and as such represents a newly found deposit within the Velardeña Mining District.

## 11- Sample Preparation, Analyses and Security

The sample preparation, analysis and security for the 2006 to 2008 drilling programs were discussed in details in the previous NI 43-101 reports by Micon on the San Diego project filed on SEDAR on January 20, 2009 and, January 28, 2008 and will be only briefly summarized here. This section will therefore focus on describing the sample preparation, analysis and security during the 2011 to 2012 surface drilling programs. It should be noted that the sample preparation and assay procedures remained fairly unchanged through the successive drilling programs completed on the project as nearly all core samples from the project were sent for preparation to ALS's Mexico facilities of Guadalajara, Hermosillo and/or Zacatecas with assaying done at ALS's Vancouver lab. .

### 11.1 Drill Core Sampling Protocol

For all drilling programs starting from 2006, the drill hole core samples were split in half with a hydraulic core splitter with one half sent for assaying while the second half was retained as a witness sample for future geological reference or re-assaying should it be deemed necessary.

The core sampling protocol was as follows:

- 1) For mineralized intervals from HQ, NQ or BQ size core, the drill core samples have a minimum core length of 20 cm and generally, a maximum length of 1 m
- 2) Outside of the mineralization in HQ,NQ and BQ core, the maximum sample length is generally of 1.50 m
- 3) For the period from 2006 to 2008, photos of only the main mineralized intersections were taken using a digital camera. Thereafter, systematic photos of all core boxes (wet and dry) were taken.
- 4) Core is split in half with a hydraulic core splitter by technicians at the project site.
- 5) Half core samples retained for future references are returned to the core box along with their respective assay tag number.
- 6) Samples are bagged at the project site and delivered by the project geologist to Paqueteria y Mensajería en Movimineto S.A de C.V. (PMM), a local courier in Torreón. From Torreón samples are shipped to ALS facilities in Mexico for preparation.

Core boxes are generally stored outside on site. Each individual core boxes is identified with aluminum metallic tags labelled by a dymo with the drill hole number. The boxes are cross piled on pallets and each pallet carries a number for quick reference. A local watchman is hired to guard the site at all time.

In January, 2008 ECU and Golden Tag rehabilitated one side of a large adobe house on site as a warehouse in order to be able to securely store the sample rejects and pulps on site rather than at the assay laboratories. During the 2011 Program, the other half of that building was refurbished to store the split core boxes from the Phase 5 and Phase 6 programs and boxes containing valuable mineralized intersections from previous programs.

For all drill programs going from 2006 to 2012, information recorded in the drill log by the project geologist describing the core included the depth, core length, true width when known, as well as observations concerning rock type, deformation, alteration, fault zones and nature of mineralization (oxide, sulphide or mixed), the name of the vein if possible, and core angles. All observations were entered into GeoBase, a drill hole database management software program using Microsoft Access, created and supported by SGS-Geostat of Blainville (Canada).

## 11.2 Sample Preparation, Analyses and Security for the 2006 to 2008 programs

Except for a batch of some 100 samples assayed at ERSA uncertified laboratory of Torreon in the early stage of the 2006 program, all core samples were sent to ALS laboratory facilities located in Mexico and Canada. Therefore, sample preparation and assaying procedures for the 2006 to 2009 drilling programs are the same as those described further on in this report for the more recent 2011 and 2012 programs.

From the beginning of the exploration programs in 2006, all core samples were assayed systematically for gold, silver, lead, zinc, copper and arsenic and later on during the 2007 to 2008 programs, for antimony and iron as well. Table 16 summarizes the assaying methods used to analyse samples during the 2006 to 2007 programs and Table 17, the assaying methods used during the 2007 to 2008 program.

Table 16: Assay Methods of ALS Chemex used in the 2006-2007 programs with Detection Limits.

Assay Method	Lower Detection Limit	Upper Detection Limit	Units
Gold – AA23	0.005	10	ppm
Gold – GRA21	0.05	1,000	ppm
Silver – AA45	0.20	100	ppm
Silver – AA46	1	1,500	ppm
Silver – GRA21	5	1,000	ppm
Lead, zinc, copper – AA45	1	10,000	ppm
Lead, zinc, copper – AA46	0.01	50	%
Arsenic – AA45	5	10,000	ppm
Arsenic – AA46	0.01	30	%

Table provided by Golden Tag Resources

Table 17: Assay Methods of ALS Chemex used in the 2007-2008 programs with Detection Limits.

Assay Method	Lower Detection Limit	Upper Detection Limit	Units
Gold – AA23	0.005	10	ppm
Gold – GRA21	0.05	1,000	ppm
Silver – AA45	0.20	100	ppm
Silver – ICP41	0.20	100	ppm
Silver – GRA21	5	1,000	ppm
Lead, zinc, copper, arsenic, antimony – ICP 41	2	10,000	ppm
Lead – OG46	0.01	20	%
Zinc – OG46	0.01	30	%
Copper – OG46	0.01	40	%
Arsenic – OG46	0.01	60	%
Iron – ICP41	0.01	50	%

Table provided by Golden Tag Resources

ECU and Golden Tag implemented a Quality Control/Quality Assurance (QA/QC) program for the San Diego project at the beginning of the Phase 1 drill program in August, 2006 that remained in application through the subsequent drilling programs. It consisted of the insertion of certified reference material and property specific blanks into the sample stream. The blanks consisted of non-altered, non-mineralized limestone rocks that were collected in nearby dried-up stream beds. The only changes over the years to this protocol were that starting from the 2011 program, sealed pouches of silica powder were used as well for blanks. Also starting from 2011, field duplicate samples were systematically taken, either at random or at set intervals, as part of the on-going QA/QC protocol.

Through the 2006 to 2008 period standards and blanks were systematically inserted into the sampling sequence in order to have 2 blanks and 2 standards per 100 samples. ECU and Golden Tag used the following method for insertion:

- Sample Numbers ending in '50 and '00 are used for standards.
- Sample Numbers ending in '25 and '75 are used for blanks.

ECU and Golden Tag had a selection of 5 different standards during the course of the 2007 to 2008 and 2008 to 2009 campaigns (Table 18). The standard reference material was chosen in relation to both the polymetallic nature of mineralization at the San Diego project as well as the host-rock.

Table 18: Summary of the Standard Reference Material

Type of Reference Material	Label	Recommended Value	95% Confidence Level	
			Low	High
Gold standards	OREAS 7 Pb	2.77 ppm Au	2.75 ppm Au	2.79 ppm Au
Gold standard	OREAS 54 Pa	2.90 ppm Au	2.83 ppm Au	2.97 ppm Au
Copper-Gold standard	OREAS 50 Pb	0.841 ppm Au 0.744 % Cu	0.825 ppm Au 0.733 % Cu	0.857 ppm Au 0.755 % Cu
Copper standard	OREAS 96	3.91 % Cu	3.86 % Cu	3.96 % Cu
Multi-elements standard (Au, As, Pb, Zn)	OREAS 42P	0.091 ppm Au 110 ppm As 0.015 % Pb 0.062 % Zn	0.088ppm Au 104 ppm As 0.0146 % Pb 0.060 % Zn	0.094ppm Au 116 ppm As 0.0154 % Pb 0.062 % Zn

Table provided by ECU Silver Mining Inc.



Comparative tables of standard assay results were produced in which relative and absolute errors were calculated. The relative errors from the standards assays are ranging from 2 to 7 % with an average relative error value of 4%.

As part of the on-going QA/QC program, 278 check assays were performed at SGS certified laboratory of Durango on rejects of samples from the 2006-2007 and 2007-2008 drill programs originally assayed at ALS Chemex facilities of Mexico and Canada. The check samples represented nearly 3 % of the some 10,500 samples taken during the course of the Phase 1 to 3 programs. Comparative graphs of the original assays from ALS Chemex and the check assays completed by SGS on the rejects were produced for gold, silver, lead, zinc and arsenic assay results of both laboratories. An analysis of the various graphs showed that there is an excellent correlation between the two laboratories for all assayed elements with the exception of the gold assays where more discrepancies were noticed.

Micon stated that, based on a review of the QA/QC program and data and on discussions with ECU and Golden Tag personnel, the companies apply a reasonable degree of care and diligence in monitoring the sample results on the property. Micon considered that the QA/QC procedures and protocols employed at the San Diego project are rigorous enough to ensure that the sample data are appropriate for use in mineral resource estimations.

### **11.3 Sample preparation: 2011 and 2012 programs**

Samples from the 2011 program were sent to ALS prep labs of Hermosillo (Sonora) and Zacatecas (Zacatecas), Mexico, after which they were analysed at the ALS Vancouver lab.

Samples from the 2012 program were prepared only at the Zacatecas facility and assayed in Vancouver like the previous year.

Sample preparation includes the following procedures and operations:

- 1) Log sample into the tracking system.
- 2) Record the weight of material received from the client.
- 3) Crush chips and/or drill core samples to finer than 70% -2 mm.
- 4) Split sample using a riffle splitter.
- 5) Pulverize the split (up to 250 g) to a particle size finer than 85% < 75 micron.

Once the sample is pulverized the following assay methods are then applied to the sample:

- Gold assays are routinely performed using fire assay (FA) with atomic absorption (AA) finish (method Au-AA23). High gold assays are automatically re-assayed using a FA with

gravimetric finish (method Au-GRA21). However, for most of the 2011 program, gold assays were routinely done with the Au-GRA21 method instead of Au-AA23.

- During the 2011 program, silver assays were performed using aqua regia digestion with AA finish (ALS's method AA45) with automatic re-assays of >100 g/t Ag values using assay method Ag-AA46. All assays above 1,000 g/t Ag were automatically re-assayed using FA with gravimetric finish (ALS's Ag-GRA21). During the 2012 program, silver assays were routinely performed with multi-element package (ALS's ICP41) with assay >100 g/t Ag automatically re-assayed using a 4-acid digestion method with AES finish (ALS's OG62). High grade values over 750 g/t Ag were systematically re-assayed using FA with gravimetric finish (ALS's Ag-GRA21).
- Copper, lead, zinc, arsenic antimony and iron assays are routinely performed by aqua regia digestion (method ICP41). During the 2011 program, all copper, lead and zinc and arsenic assays above the upper detection limits of 10,000 ppm were automatically re-assayed using aqua regia digestion with AA finish (method OG46). However, during the 2012 program, above detection limit re-assays were systematically performed with a 4-acid digestion method with AES finish (ALS's OG62).

## 11.4 Quality Assurance and Quality Control Procedure

A total of 5,957 samples were analysed during the 2011 program; 867 of these samples were control samples. 4,044 samples were analysed during the 2012 program; 295 of which were control samples.

Golden Tag implements its own internal protocol in addition to the standard laboratory QA/QC program. Certified and reference materials (analytical standards and blanks) and core duplicates are inserted in the sample series. Golden Tag also sent pulp duplicates for re-analysis to the SGS laboratory of Durango (Durango State, Mexico), which represents approximately 5% of the total 2011 samples assayed. Golden Tag assigned a  $\pm 3\sigma$  tolerance window to the reference material. Results that fall outside the range are investigated at various levels (core logging facility to the laboratory) in an attempt to identify the anomaly; batch reruns can be requested in those occasions. Chemroc did not have a policy to request for batch reruns when standards fell outside their tolerance range; this affects the early part of the 2011 campaign.

### 11.4.1 Analytical Standards

Fourteen certified standards were used for the 2011 program and five for the 2012 program. The standards have varying metal content within an appropriate grade range for the San Diego project. Figure 24 to Figure 31 display results for analytical standards with a  $\pm 3\sigma$  range. The analytical results for the certified standards present sound results overall (Figure 24, Figure 25). Several results circled in red on should have been sent for reanalysis. Some of the errors are thought to be handling issues, for example the protocol of 2011 was to tear open two or three pouches of standard material, combine them in a transparent bag and send them to the lab. It is likely that some pouches were mismatched and accidentally combined. This protocol was not used in the 2012 program, where far fewer outliers exist as shown on the graphs. Of note is standard OREAS 134a, a high grade Ag-Pb-Zn standard with low copper values (0.101% Cu). This standard suggests precise results for Ag, Zn

and Pb but shows consistently higher copper analytical results for both 2011 and 2012 programs (Figure 26, Figure 27).

2011 Program

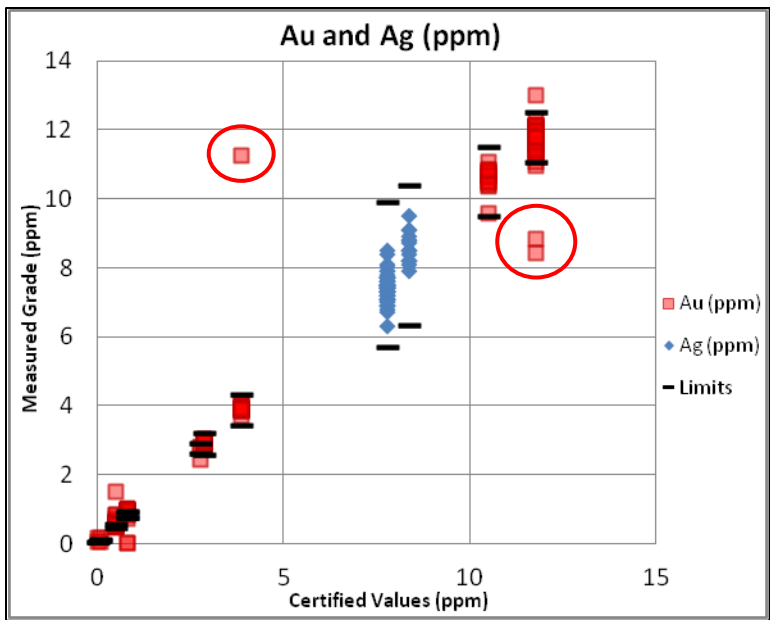


Figure 24: Au and Ag measured versus certified grade for standard material of the 2011 program. Outliers are indicated with red circles.

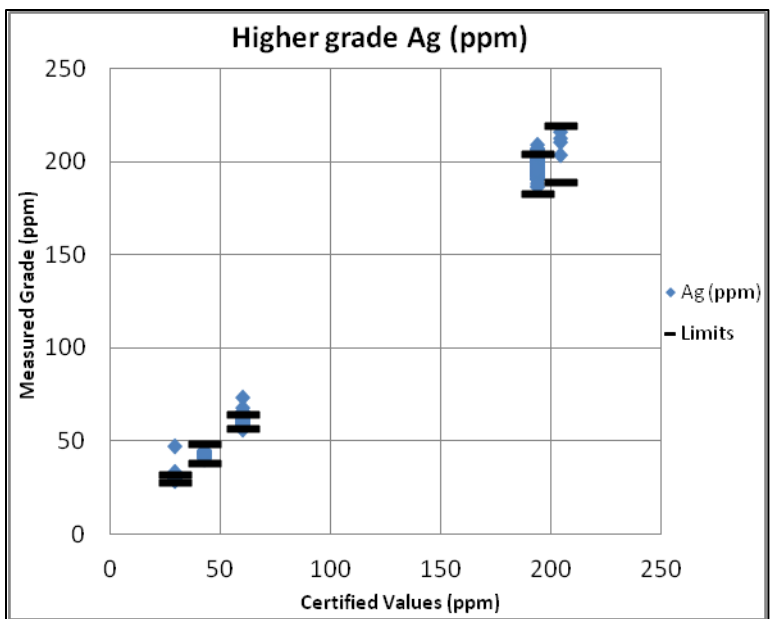


Figure 25: Higher grade Ag measured versus certified grade for standard material of the 2011 program.

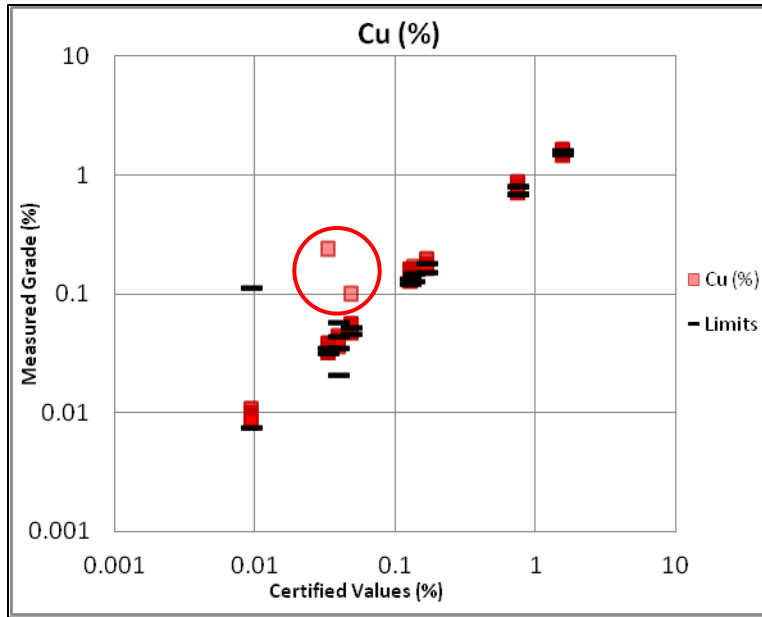


Figure 26: Cu measured versus certified grade for standard material of the 2011 program. Outliers are indicated with red circles.

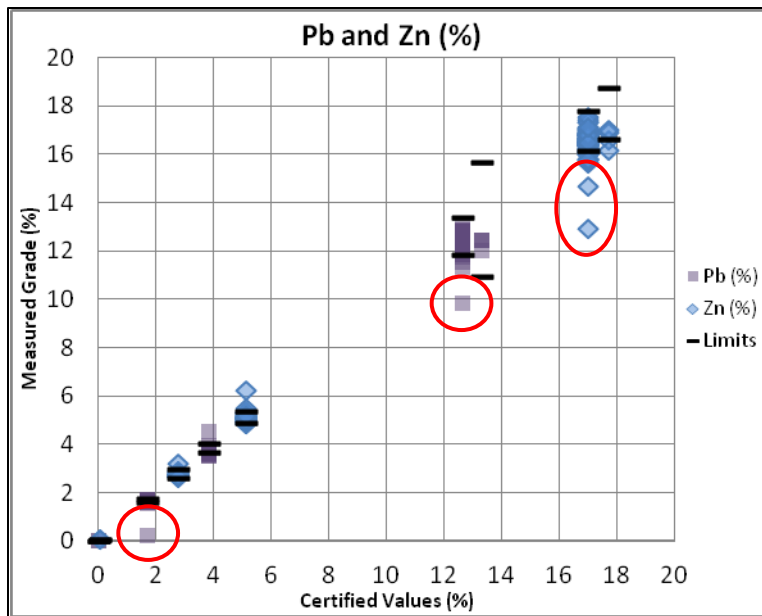


Figure 27: Pb and Zn measured versus certified grade for standard material of the 2011 program. Outliers are indicated with red circles.

2012 Program

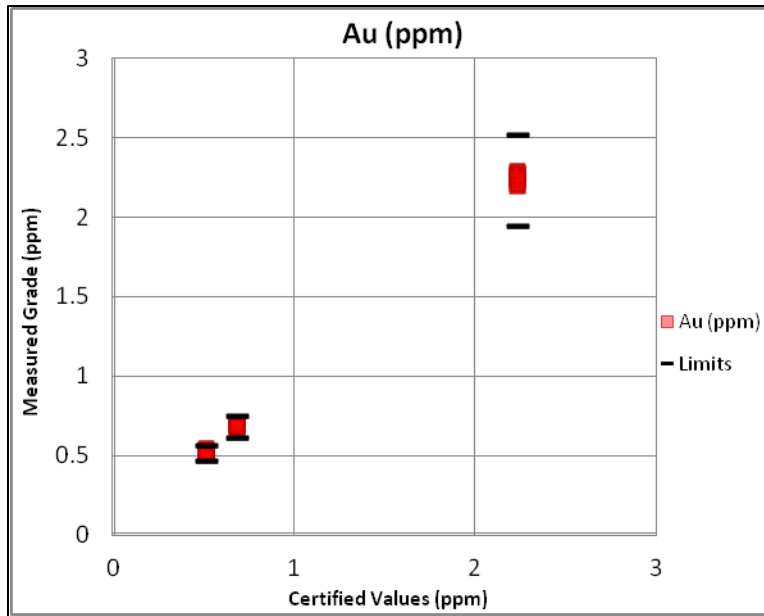


Figure 28: Au measured versus certified grade for standard material of the 2012 program.

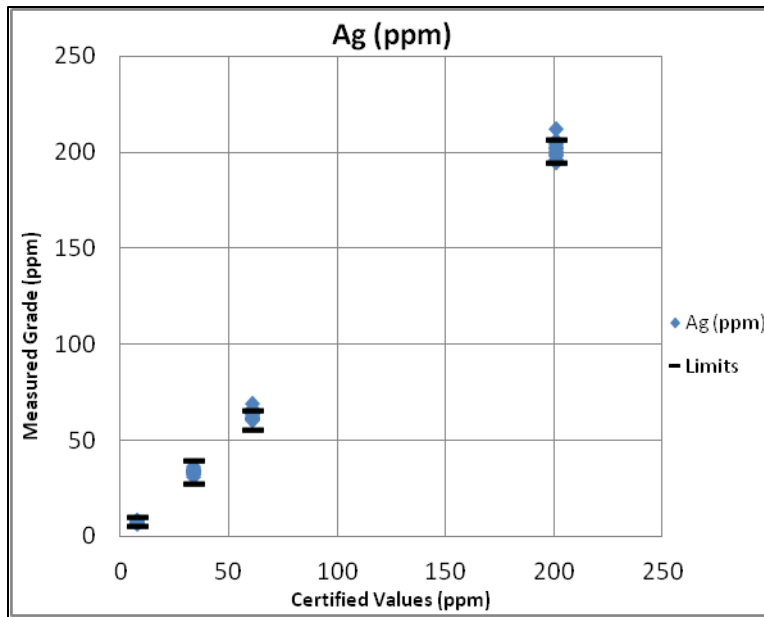


Figure 29: Ag measured versus certified grade for standard material of the 2012 program.

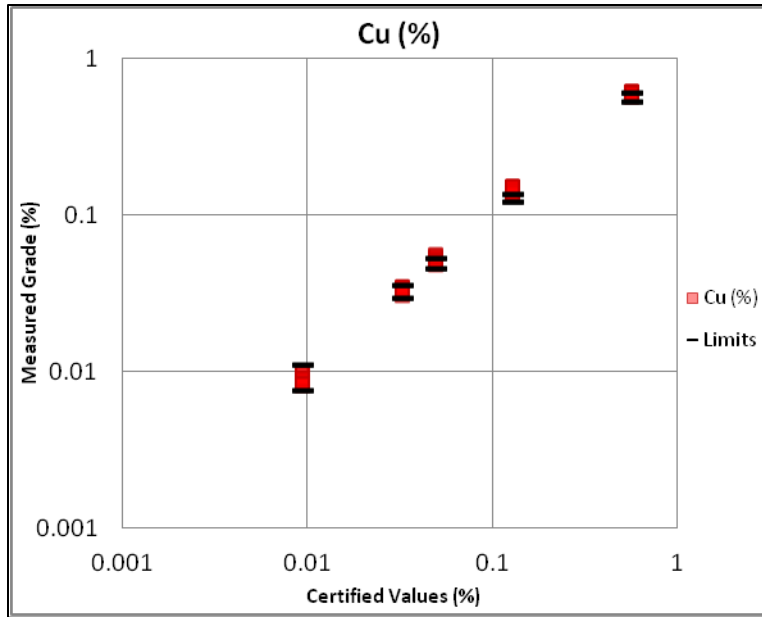


Figure 30: Cu measured versus certified grade for standard material of the 2012 program.

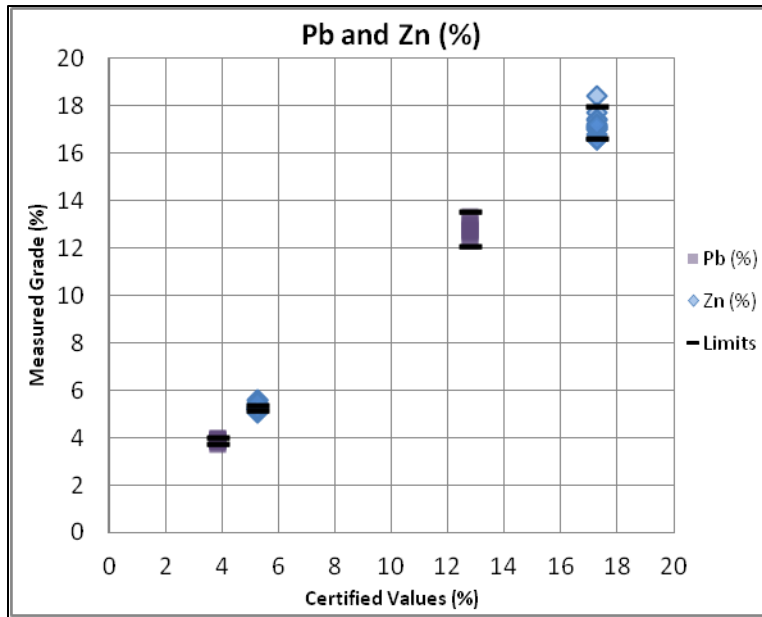


Figure 31: Pb and Zn measured versus certified grade for standard material of the 2012 program.

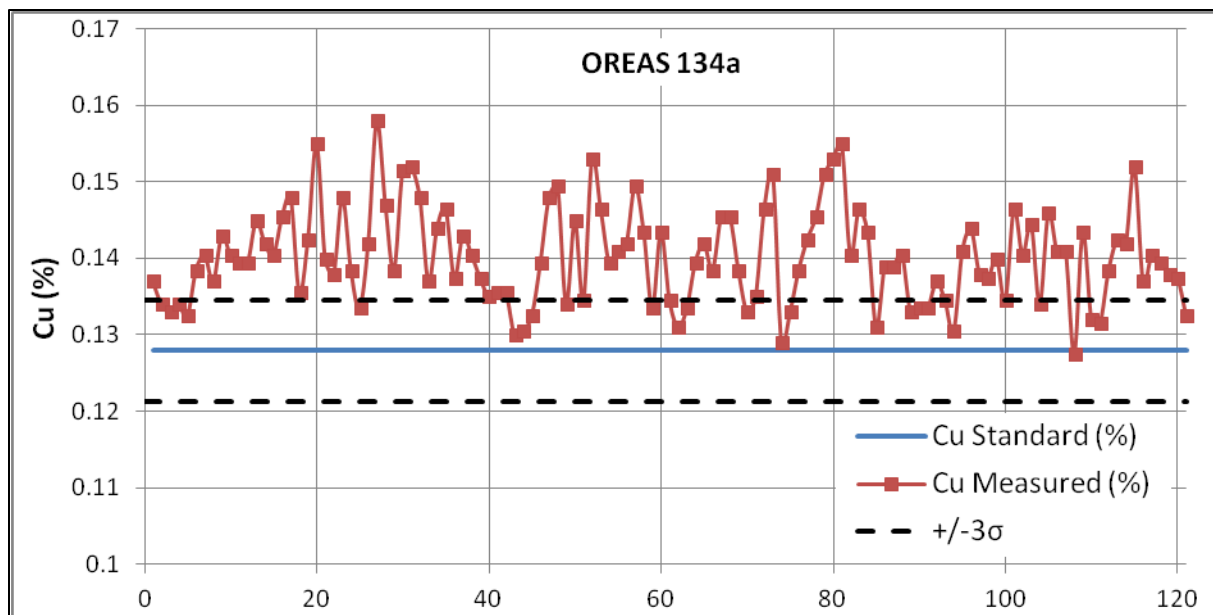


Figure 32: Cu standard material compared to the certified value +/- 3σ for the 2011 program.

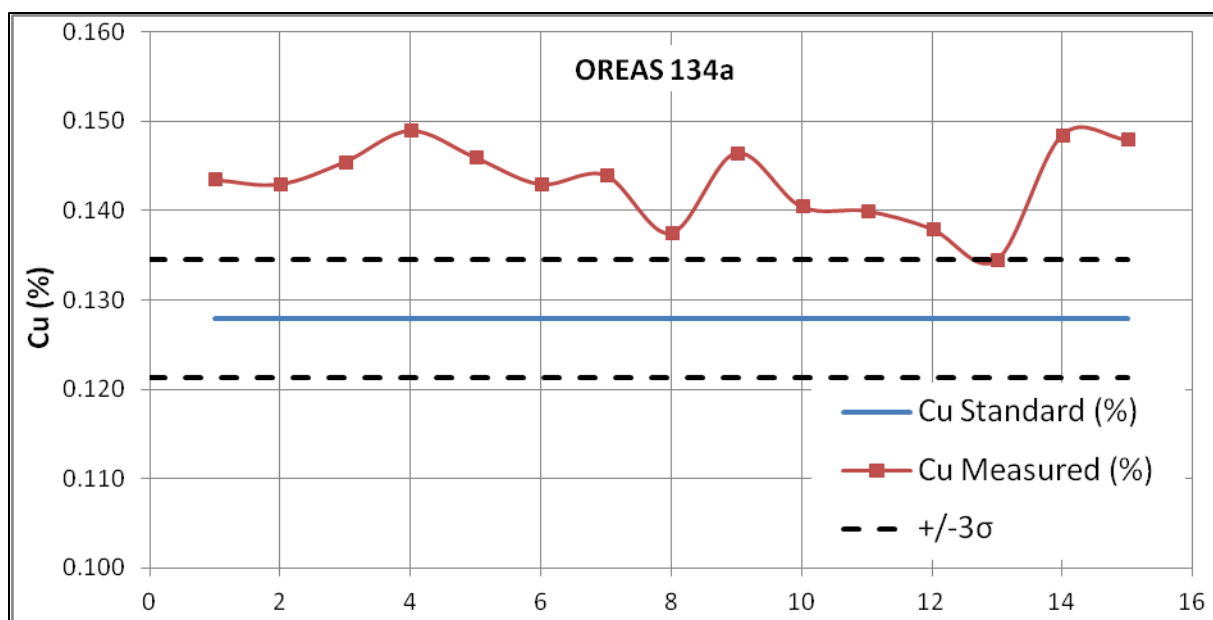


Figure 33: Cu standard material compared to the certified value +/- 3σ for the 2012 program.

## 11.4.2 Analytical Blanks

Blank material used during the 2011 program at San Diego project were sealed pouches of silica powder material. A total of 229 blank samples were analyzed in 2011 and the results were very good with the exception of Ag. Only three of 229 blanks were above 0.05 ppm for Au, Cu, Pb and Zn. Ninety blanks were above 0.05 ppm for silver content as presented in Figure 34. For the 2012, a total of 80 blanks were submitted of which about half were of silica powder whereas the remaining portion were blanks sourced locally (i.e. unmineralized limestone pebbles). Results were excellent with the exception of Ag. The analytical results for Au, Cu, Pb and Zn were all below 0.05 ppm, however 44 blanks (49%) were above 0.05 ppm Ag (Figure 34).

### 2011 Program

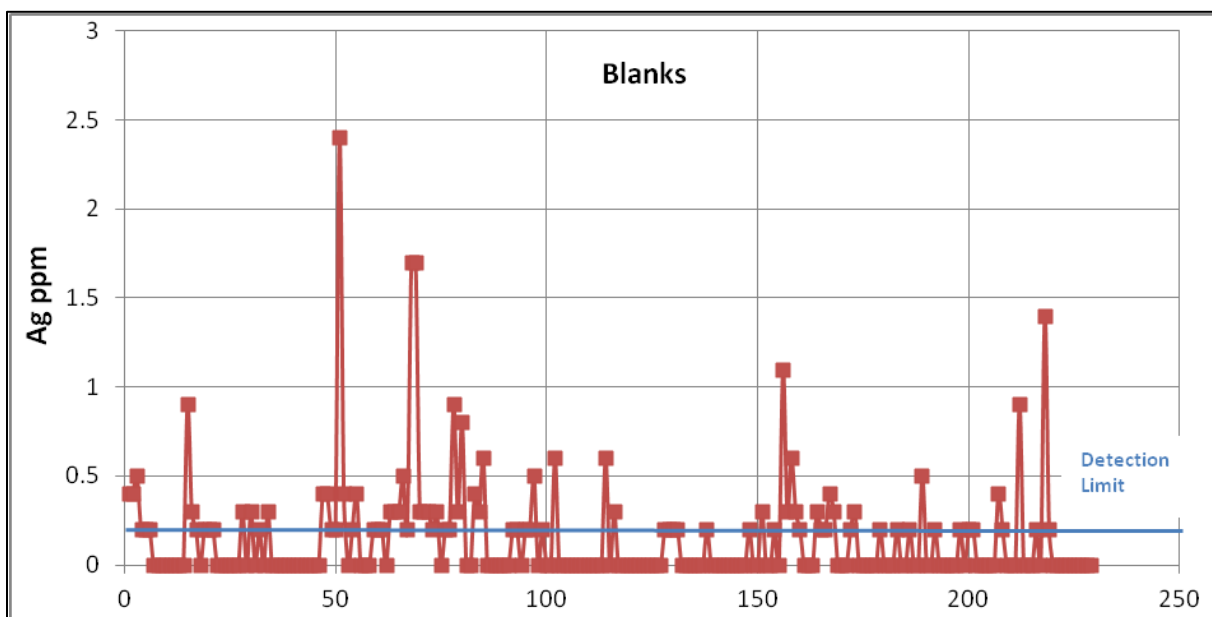


Figure 34: Ag analytical results for blank material of the 2011 program. The detection limit is 0.2 ppm.



## 2012 Program

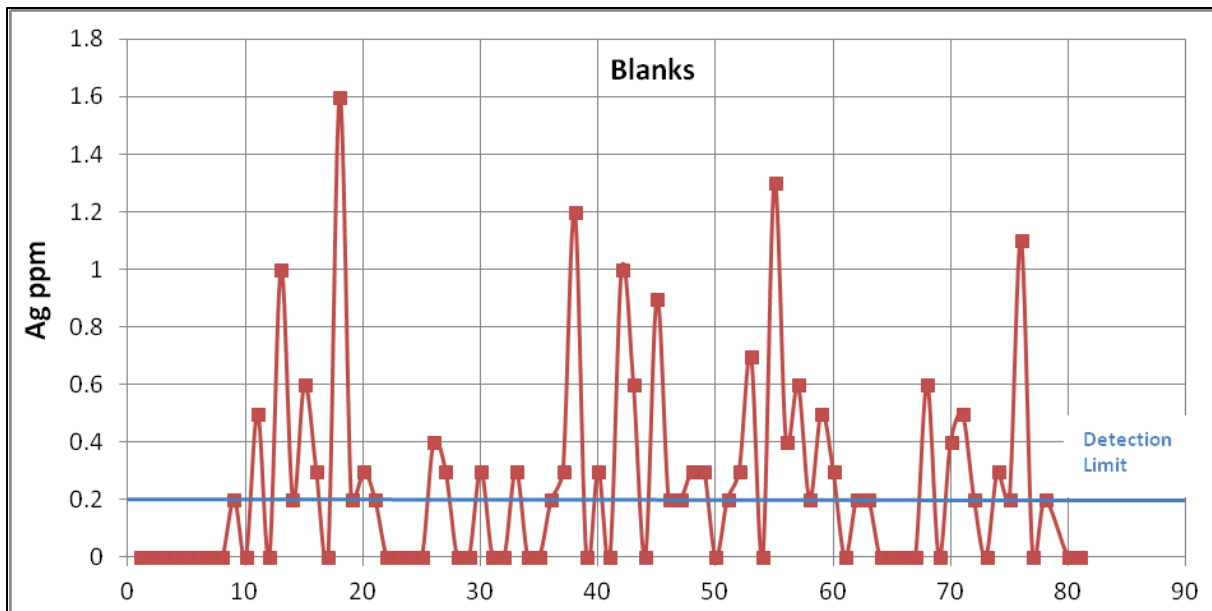


Figure 35: Ag analytical results for blank material of the 2012 program. The detection limit is 0.2 ppm.

An investigation into Ag anomalies larger than 1 ppm for the 2011 and 2012 programs was performed (Table 19). The anomalies are likely due to variably enriched Ag content in the blank material or analytical issues and not likely due to contamination during sample preparation. This is supported by the inconsistent Ag grade of samples preceding the anomalous blank values. A batch of blank material should be analysed to conclude if a different source for blank material should be used in future.

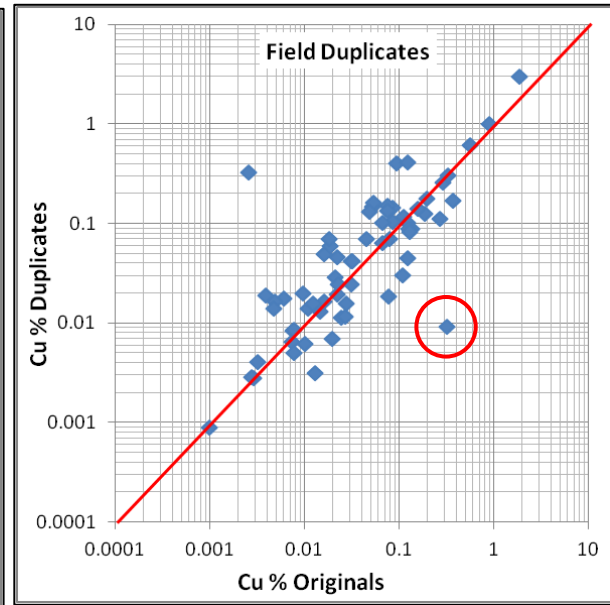
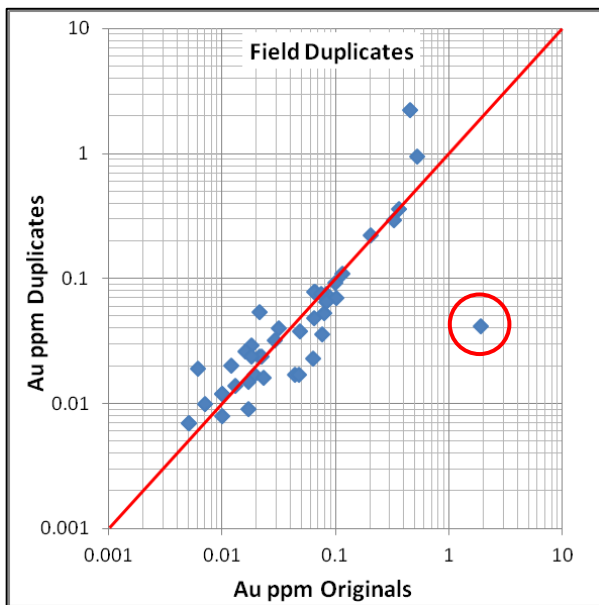
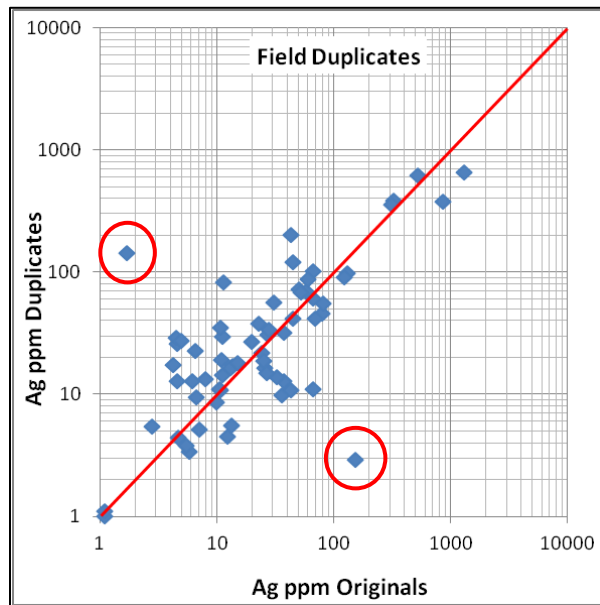
Table 19: Ag values above 1 ppm in blank material for the 2011 and 2012 programs. Preceding samples included for comparison.

2011													
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-11-38	168.08	168.49	14404	0.41		0	1.5	0.0053	0.0127	0.0037	320	21	0.82
SD-11-38	168.49	168.89	14405	0.4		0.68	1820	4.72	6.64	0.609	2560	4880	5.6
SD-11-38	0.023	0.024	14406	0.001	Blank	0	2.4	0.0022	0.0052	0.0002	12	0	0.54
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-11-38	551.5	552	14708	0.5		0.2	22.8	0.62	0.0635	0.0136	212	63	2.35
SD-11-38	552	552.56	14709	0.56		0	8.8	0.194	0.0563	0.0099	275	52	2.14
SD-11-38	0.072	0.073	14710	0.001	Blank	0	1.7	0.0426	0.0082	0.0012	25	3	0.71
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-11-38	556.35	557	14720	0.65		0.1	31.2	0.689	0.51	0.018	892	346	4.07
SD-11-38	557	557.3	14721	0.3		0.5	26.3	0.52	0.1195	0.0159	1590	192	12.2
SD-11-38	0.074	0.075	14722	0.001	Blank	0	1.7	0.0406	0.0302	0.0009	58	16	0.69
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-11-44	629.1	629.39	000288	0.29		0.2	362	7.03	6.26	0.321	7180	1135	14.6
SD-11-44	629.39	629.69	000289	0.3		0	404	8.17	8.8	0.339	5030	871	18.6
SD-11-44	0.036	0.037	000290	0.001	Blank	0	1.1	0.0004	0.0004	0.0001	0	0	0.02
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-11-46	591.4	592.1	671473	0.7		0.029	99.4	2.7	1.26	0.221	325	117	3.24
SD-11-46	592.1	593.1	671474	1		0	0.6	0.006	0.057	0.0039	337	5	0.53
SD-11-46	0.016	0.017	671475	0.001	Blank	0	1.4	0.0004	0.0003	0.0001	9	0	0.02
*Average Ag for 2011 program is: 47.00 ppm													
2012													
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-12-47	887.95	888.95	606323	1		0.078	92	2.01	1.76	0.246	13750	1400	6.44
SD-12-47	888.95	889.93	606324	0.98		0.027	39.9	0.212	0.4	0.109	496	17	4.67
SD-12-47	0.21	0.22	606325	0.01	Blank	0	1	0.0053	0.0075	0.0014	26	5	0.19
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-12-48	214	214.5	607023	0.5		0.118	461	0.435	1.19	0.0364	746	2890	3.1
SD-12-48	214.5	215.25	607024	0.75		0.079	102	0.377	0.469	0.0941	442	1995	0.88
SD-12-48	0.01	0.02	607025	0.01	Blank	0	1.6	0.0032	0.0064	0.0013	34	18	0.18
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-12-49	783.3	784.3	606623	1		0.491	51	0.891	0.972	0.1855	13750	1795	6.66
SD-12-49	784.3	785.3	606624	1		0.055	48.5	0.382	0.608	0.207	716	25	7.51
SD-12-49	0.3	0.31	606625	0.01	Blank	0	1.2	0.0086	0.0114	0.0021	20	4	0.39
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-12-49	968.85	969.9	606823	1.05		0.06	81.1	0.938	1.15	0.301	13300	208	5.05
SD-12-49	969.9	970.7	606824	0.8		0.255	102	1.055	2.63	0.1875	45800	70	6.97
SD-12-49	0.48	0.49	606825	0.01	Blank	0	1	0.0099	0.0165	0.0037	114	0	0.28
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-12-50A	863.15	864.05	81473	0.9		0.017	93.1	0.753	1.44	0.155	2180	125	4.81
SD-12-50A	864.05	864.85	81474	0.8		0.036	92.7	0.472	2.44	0.215	4290	99	7.29
SD-12-50A	0.44	0.45	81475	0.01	Blank	0	1.3	0.0118	0.0255	0.003	54	4	0.43
Hole Name	From	To	Sample Number	length	Certificate	Au	Ag	Pb	Zn	Cu	As	Sb	Fe
SD-12-50W2	1087.9	1088.25	82773	0.35		0.054	265	5.57	2.12	0.304	30300	2460	3.45
SD-12-50W2	1088.25	1089.45	82774	1.2		0	0.8	0.0084	0.1085	0.0092	270	10	0.85
SD-12-50W2	0.64	0.65	82775	0.01	Blank	0	1.1	0.0249	0.0141	0.0016	114	16	0.19
*Average Ag for the 2012 program: 40.71 ppm													

### 11.4.3 Field Duplicates

No field duplicates were taken on a systematic basis as part of the 2011 program. Only 66 samples from a high grade zone were taken in hole SD-11-44 served as field duplicates for this program. In the 2012 program, a total of 131 field duplicates taken at regular intervals in all drill holes that were processed. Core was split in half and then quartered; the two quarters were prepared for analysis, while the remaining half was returned to the core box as witness core. The results display distributions acceptable with industry standards; the few outliers (as indicated in red) are expected given the several sulphide stringers intersected at low angle to core axis (Figure 36 and Figure 37).

#### 2011 Program



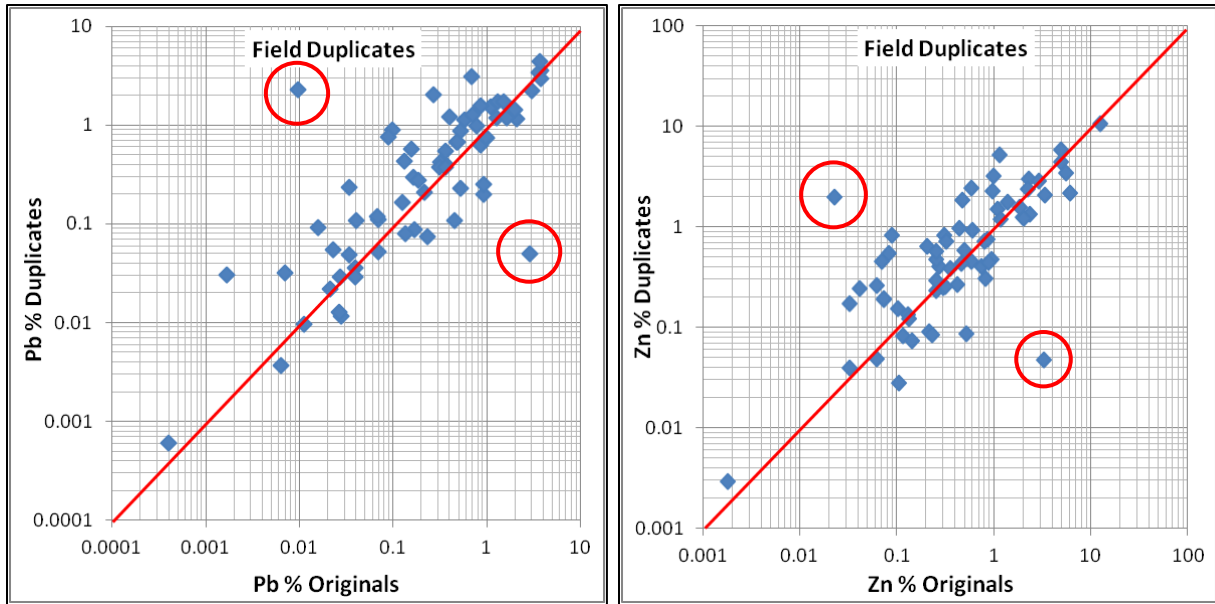
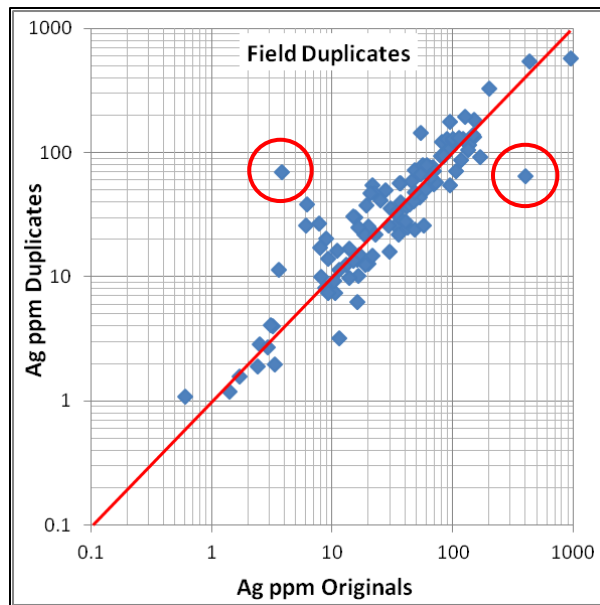


Figure 36: Field duplicates for the 2011 program. Outliers requiring further investigation are indicated in red.

2012 Program



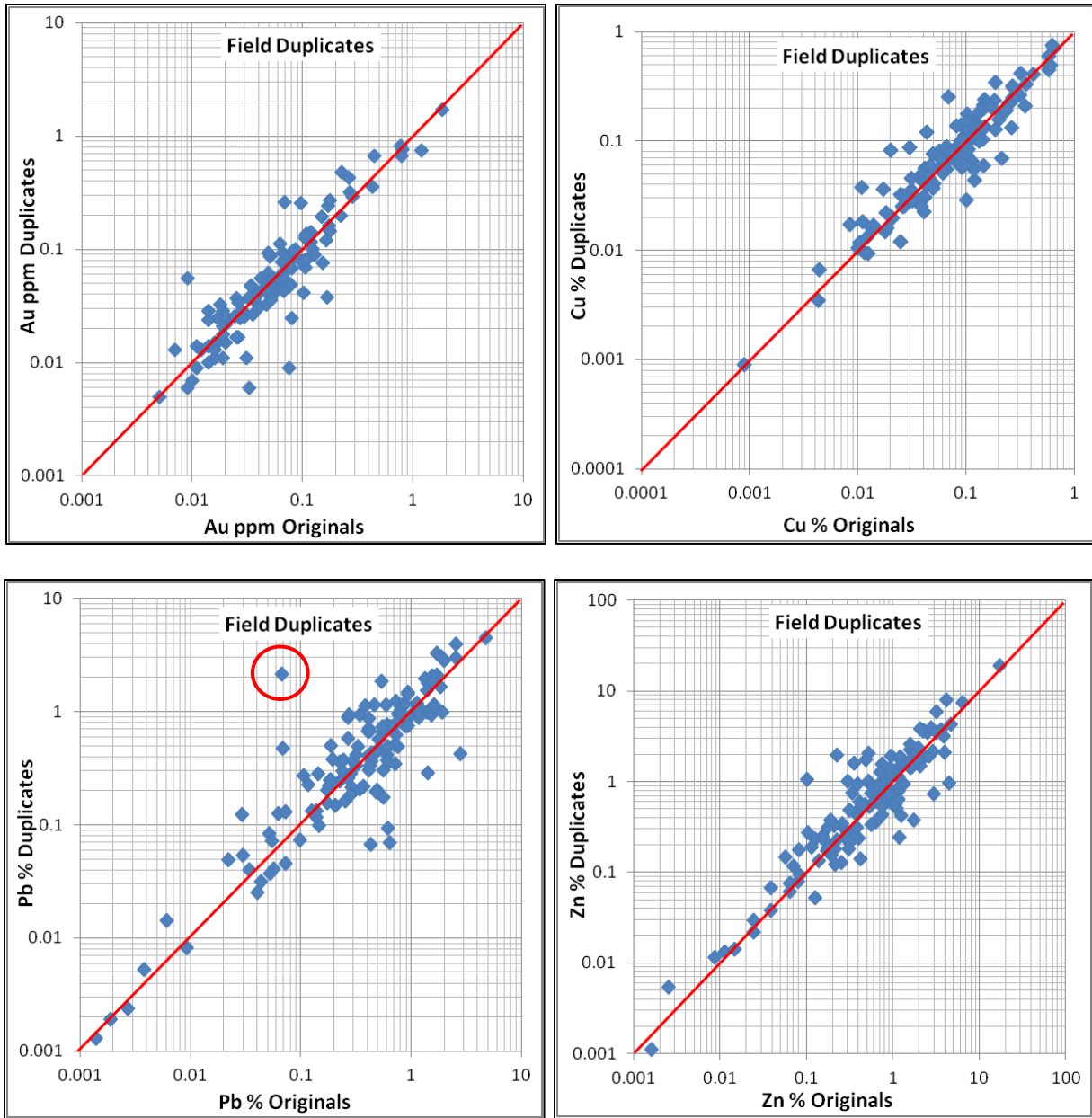


Figure 37: Field duplicates for the 2012 program. Outliers requiring further investigation are indicated in red.

### 11.4.4 Pulp Duplicates

As part of its on-going 2011 QA/QC program, Golden Tag submitted 266 pulp duplicates to SGS Durango (Durango State, Mexico) to examine the repeatability of ALS results. The pulp duplicates were taken from drill holes SD-11-38, SD-11-40, SD-11-41, SD-11-42, SD-11-44 and SD-11-45. The graphs display positive linear trends with a slope of 1, which indicate good correspondence between SGS Durango and ALS results. The variance displayed in Figure 38 for Au is to be expected due to the nugget effect (blue box), as well as the Au grades approaching detection limit.

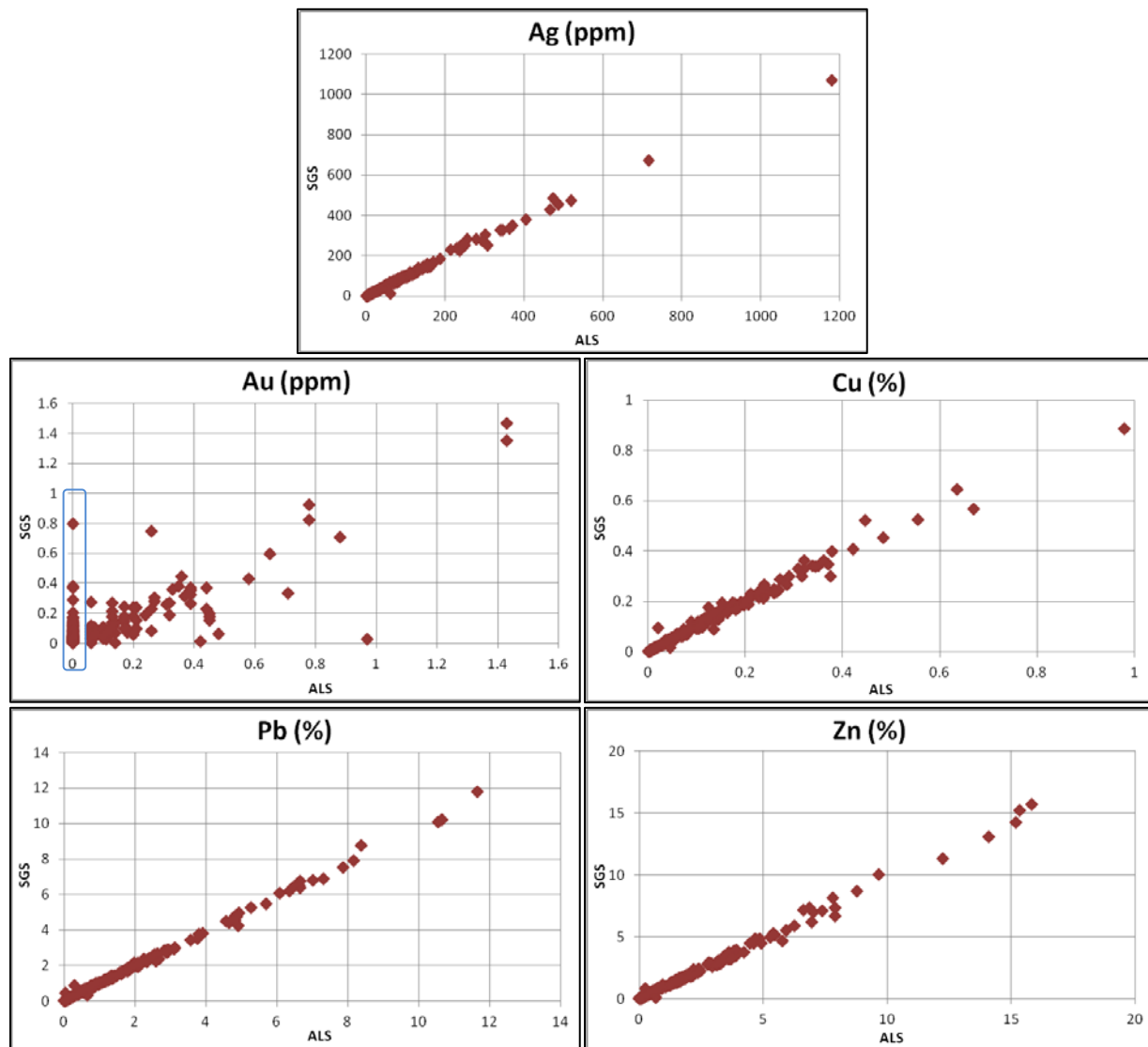


Figure 38: Pulp duplicates for the 2011 program. The blue box on the Au graph delineates the nugget effect.

## 11.5 Independent Sampling

The SGS site visit included the collection of independent samples. As there are no pulps or rejects from the 2008 program, a decision was made to submit a small quantity of witness core (44 samples) from drill hole SD-08-35. The core samples were delivered by Mr. Claude Duplessis to the ALS laboratory in Val d'Or, Quebec (Figure 39). Twelve rejects from drill hole SD-07-11, 6 rejects from SD-07-12, and 30 rejects and pulps from drill hole SD-11-38 were sent to the SGS Durango lab. The core samples show a good overall correspondence with the original data with a wide spread which is expected given the sample type and nugget effect (Figure 39). The rejects show a good correspondence with a tighter spread that is expected given the sample type (coarse reject). There appears to be a sample bias for gold values between 0.1 and 1 ppm; with the original samples showing higher grades than the independent samples. This effect appears to be restricted to this range of concentrations; further investigations are recommended to identify the source for the apparent bias. The results from the pulp duplicates are displayed in Figure 41 and good correspondence with an even narrower spread. Once again we see a small group of analyses between 0.1 and 1ppm Au which appear to be biased to higher values in the original values. This effect appears to be restricted to this range of concentrations; further investigations are recommended to identify the source for the apparent bias. It must be noted that the impact of this apparent bias is minor because gold is not included in the AgEq for the vast majority of the resources (only in the oxides). There are a few Pb values within the pulp duplicates that have errors which are likely due to transcription errors (Figure 41). These results should also be revised to see where the errors occurred. Overall, the analytical results generally correspond very well with the independent sampling undertaken.

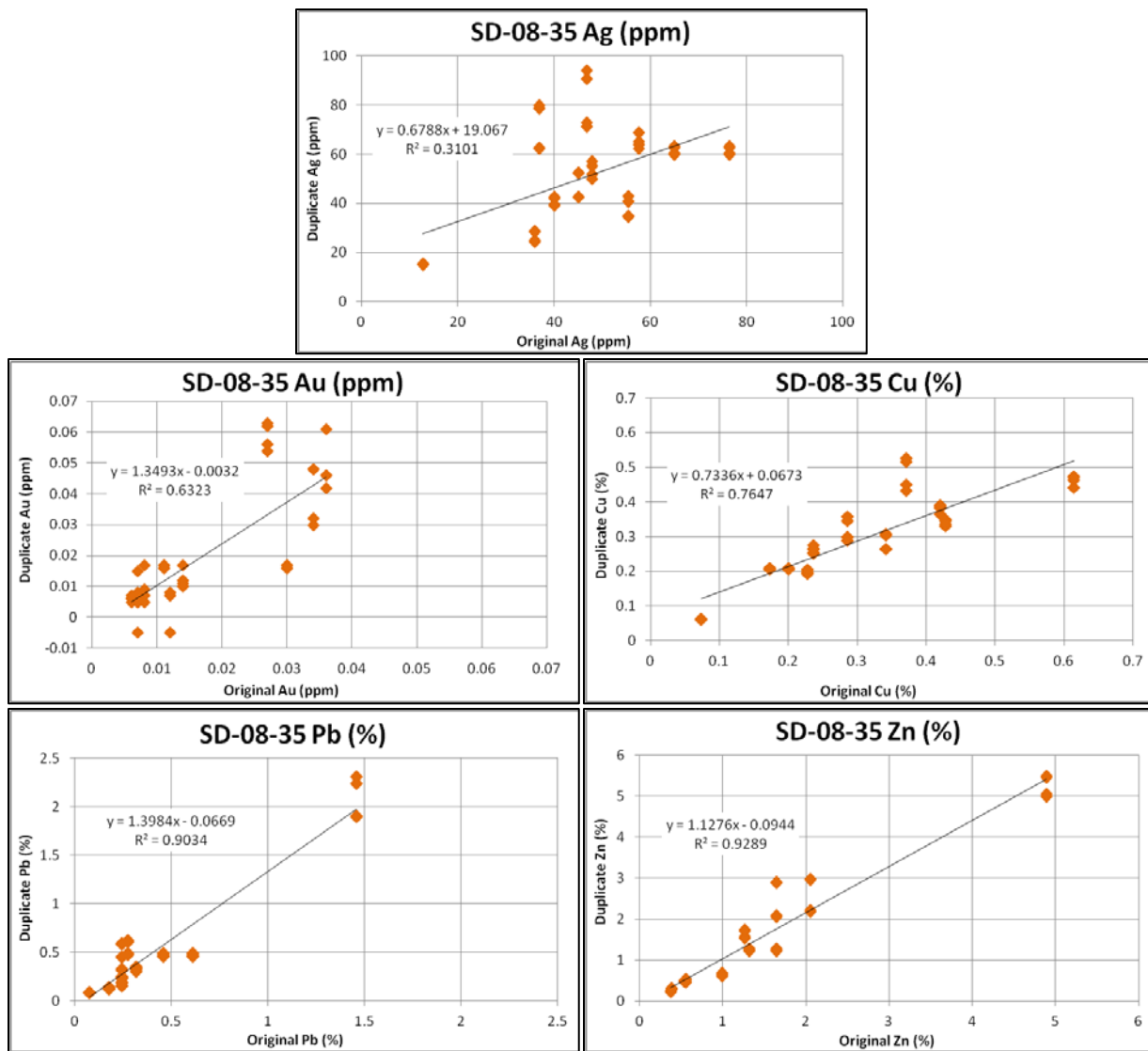


Figure 39: Independent samples from SD-08-35 taken by Mr. Duplessis during the site visit. The samples were submitted to ALS Val d’Or and compared with the original 2008 analytical data that was prepared at ALS Guadalajara and analyzed at ALS Vancouver.



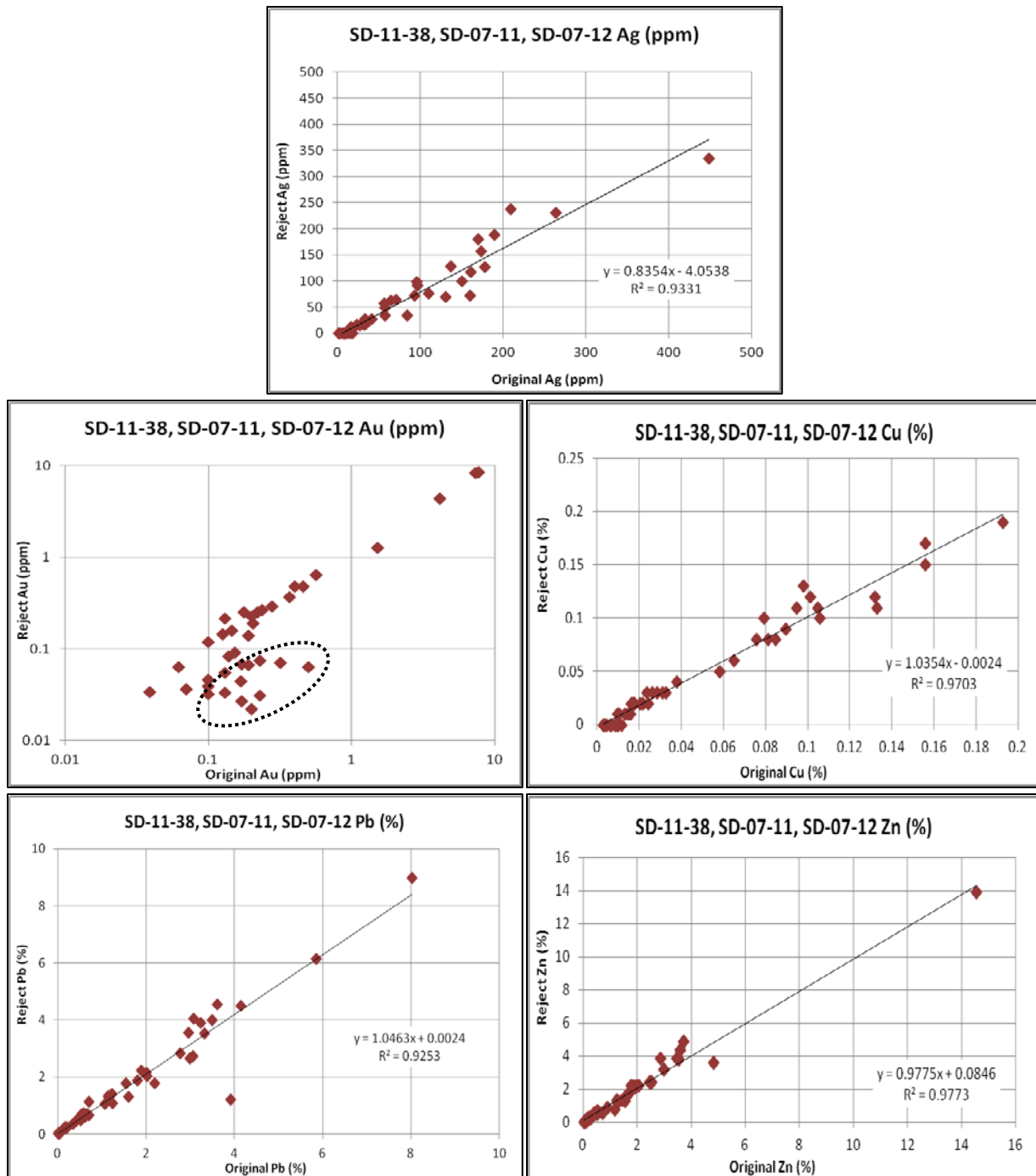


Figure 40: Reject material submitted to ALS Durango compared with original 2011 analytical results (prepared at ALS prep labs of Hermosillo and Zacatecas and analysed at the ALS Vancouver lab) and original 2007 analytical results (prepared at ALS Guadalajara and analyzed at ALS Vancouver).

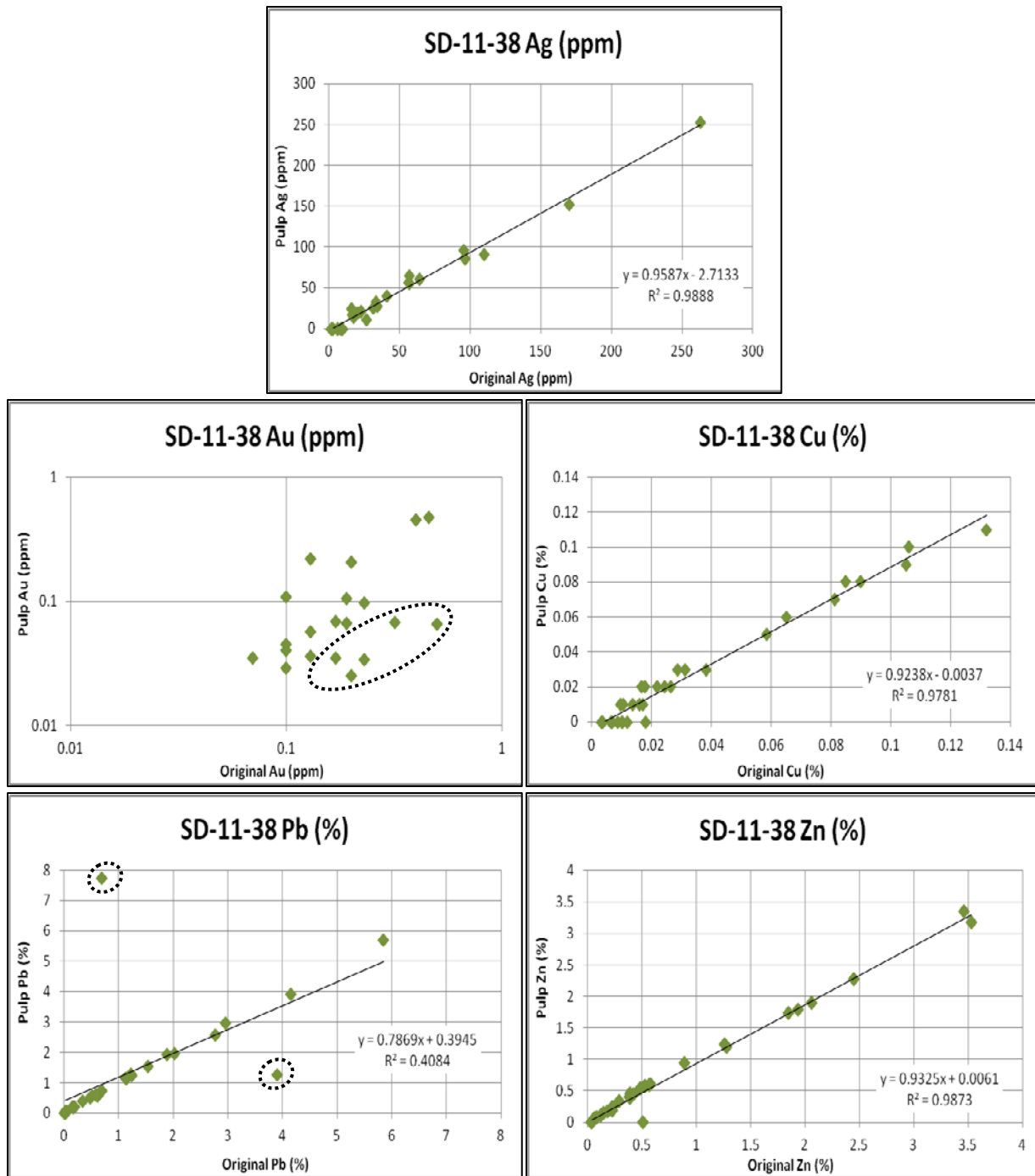


Figure 41: Pulp material submitted to ALS Durango compared with original 2011 analytical results, which were prepared at ALS prep labs of Hermosillo and Zacatecas and analysed at the ALS Vancouver lab.

## 11.5 QA/QC Conclusion

Analytical results for the drill core, rejects and pulp duplicates, and independent samples show good correlation with the original values; no significant biases are apparent. The persistently high results for Cu in standard 134a should be investigated by requesting batch reruns and confirming the certified value with OREAS. The analytical results for blank material were good with the exception of Ag; investigation as per the reliability of the Ag content of the blank material should be performed (particularly the local limestone pebbles). The variance observed in outliers for the field duplicates are few and overall the field duplicate results are acceptable. The R-value of the independent samples for Ag and Au is weak. This can be explained by the coarse nature of the mineralization and nugget effect. A system which tracks which batches that were rerun with the failed control sample would enable a more robust analysis of QA/QC in the future.

It is of the Author's opinion that the QA/QC protocol of Golden Tag is at the level industry standards. The analytical data is considered to be of sufficient quality for use in mineral resource estimation.

## 11.6 Specific Gravity Measurements

A total of 777 specific gravity (S.G.) measurements were taken from the entire core inventory during the 2012 program. 612 samples were measured directly at the property site by Golden Tag's technicians whereas all S.G. measurements for the Phase drill core – 165 in total – were submitted to SGS Durango. In both cases half-split core pieces were submitted to SGS Durango for S.G. measurements using the water immersion method. The porosity of the lithologies in question are considered negligible therefore we can safely assume that S.G. represents density within error. The density measurements should correlate very strongly with mineralogy due to the high density contrast between the sulphide minerals and the gangue minerals. An investigation of the correlation between geochemistry and density was undertaken to attempt to better assign density values to rock types. The content of Fe % was the best indicator of S.G. but analyses of Fe % were not completed in 2006, 2007, and 2008. It was decided to use the sum of the of Pb % + Zn % +As % in order to establish a regression formula for the sulphide veins. Measurements from the sulphide vein structures were established separately from the Fernandez zone samples (Figure 42, Figure 43). Insufficient data was available for the oxide zones so an average value of 2.55 g/cm<sup>3</sup> was assigned. The Fernandez Zone analytical results include Fe % in which case Fe was taken into account in calculating the density of the Fringe and Endoskarn.

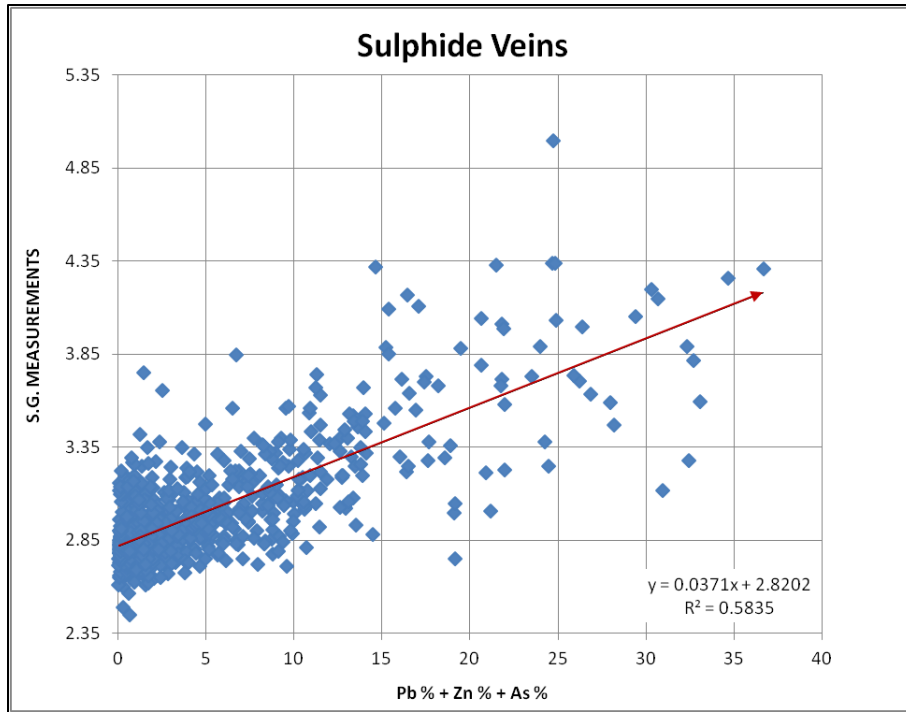


Figure 42: Specific gravity plot for sulphide vein zones displaying S.G. measurements versus the percentage of Pb + Zn + As.

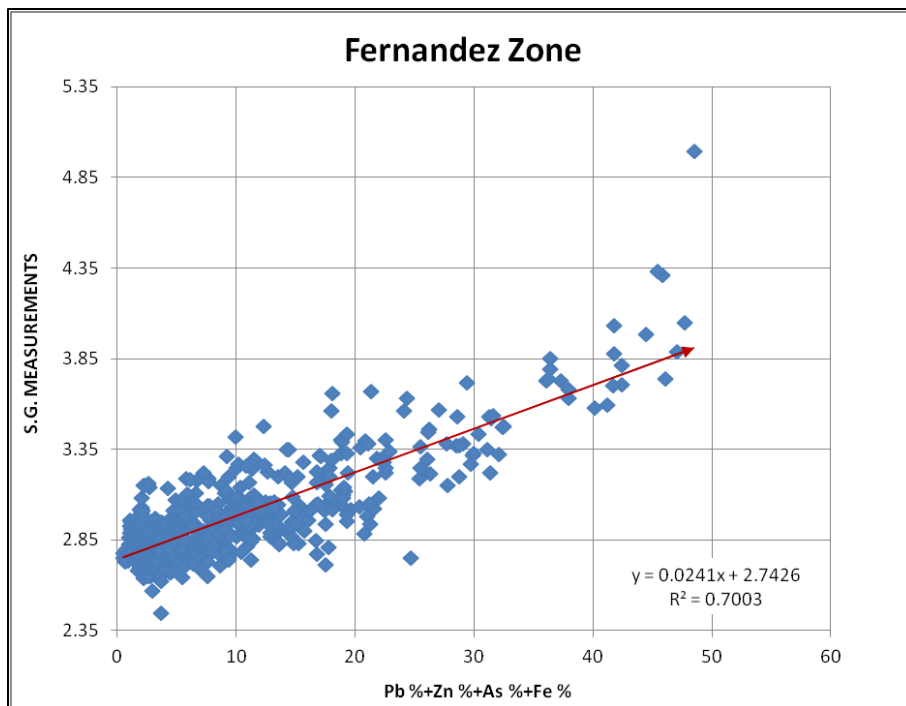


Figure 43: Specific gravity plot for the Fernandez Zone displaying S.G. measurements versus the percentage of Pb + Zn + As + Fe.

## 12- Data Verification

As part of SGS Canada Inc.'s data verification program, independent samples were submitted from drill hole SD-08-35 as discussed in section 11. Rejects from drill hole SD-07-11 and rejects and pulps from drill hole SD-11-38 were sent to the SGS Durango lab to compare with ALS results. Personnel of SGS Canada Inc. also conducted verification of the laboratory analytical certificates and checked the database supplied by Golden Tag for errors and discrepancies. It is of the Author's opinion that the Golden Tag database is adequate to support a mineral resource estimate. Details of the site visit are discussed below.

### 12.1 Site visit

The author has visited the site on June 18th to 21th 2012. The personal inspection was positive; the work sites were clean and well maintained, organization and work process was up to international standards and best practices. Golden Tag used the outdoor exploration logging facilities and warehouse/office at the site of San Diego project. The project is relatively remote from any major town, and storage buildings were in rehabilitation during site visit. At the site facilities, the drill core is logged and split with a core splitter and witness core is stored in core racks. Starting from the Phase 5 and 6 programs, witness core boxes are stored in core racks inside a large warehouse and the remaining unsampled core boxes are stored on wrapped wood pallets outside the office building. Rejects and pulp are also stored inside the same warehouse. Phase 1 to 4 witness core is stored on covered wooded pallets outside. The project site has 24 hours per day and 7 days per week surveillance.

All drill sites are identified with the drill hole number in addition to a steel rod on the casing cap. The author was able to locate the drill holes and verify their location and direction using a hand held GPS and a compass. All holes that were visited had a GPS position consistent with that recorded in the database. SGS is satisfied with evidence of exploration on the site and has no reason to doubt the authenticity of drill holes (Figure 44).

The property has several openings left by historical mining of the oxides, which are visible in Google Earth. The openings follow main veins structures and are generally dry except for rain water collected at the bottom of the La Cruz and Montanez workings.



Figure 44: Photos taken by SGS consultant Claude Duplessis during the site visit. A) Core and pulp storage facility inside warehouse. B) Witness core during site visit. C) Claude Duplessis entering an old drift of the La Cruz Vein historical workings D) Drill hole SD-11-42, casing with coordinates confirmed with GPS.



Figure 45: Photos taken by SGS consultant Claude Duplessis during the site visit. A) Core splitting facility near the old Los Adelaidos/La Cruz shaft. B) Split drill core from drill hole SD-11-44. C) Chief Geologist Kateri Marchand confirming metallurgical sample list. D) Core storage yard adjacent to the splitting facilities.

### 13- Mineral Processing and Metallurgical Testing

The mineralization is rather variable in mineralogy and grade within and between structures. A total of 8 batch flotation tests were conducted at SGS Durango, representing four representative samples from different parts of the San Diego deposit (each sample was tested twice). The head grades of the 4 samples are presented in Table 20. Tests were performed under the supervision of Rodolfo Polanco, senior metallurgist at SGS-Durango, and monitored by Gilbert Rousseau, P.Eng. from SGS Canada. Mr Rousseau is the person responsible for this section of the present report. The head grades of the 4 samples are presented in Table 20.

Table 20: Head grades of 4 representative samples from the San Diego Project.

SAMPLES	Au	Ag	Pb	Cu	Zn	Fe	As
	g/t	g/t	%	%	%	%	%
HI GRADE LA CRUZ #1	0.18	259	2.97	0.04	1.61	7.30	0.11
HI GRADE LORENZO # 2A	0.02	101	0.93	0.32	2.34	7.40	1.26
LOW GRADE LORENZO # 3A	0.02	52.7	0.98	0.12	0.97	2.44	0.24
NARROW VEIN HI GRADE #3A	0.20	606	3.16	0.21	3.25	6.10	0.11

Initial and very limited bench tests confirm that the San Diego material is amenable to conventional flotation. No optimization has been attempted and no “lock cycle tests” were performed. SGS Durango reported only the raw assays from the different flotation products without attempting to correlate the results to probable mill concentrate grades and recovery.

Because the gold and the copper head grades are so low in all of the samples, no particular attempt was made to optimize their recovery. In fact, copper must be considered in a negative light, as its recovery in both the lead and zinc concentrates might end up as a penalty at the smelters. However, any gold recovered will be at least partly paid for. In a second series of tests it may be worthwhile to investigate the possibility of depressing more copper from the lead and zinc concentrates without affecting the gold and silver recovery.

After correcting for the recirculation of the different test middlings, and having taken into account that the scavenger concentrate in a commercial mill will probably be pumped back to the head of the flotation circuit<sup>1</sup>, a new listing of the test results is presented in Table 21 to Table 28:

<sup>1</sup> It has been assumed that the recirculation of the middlings plus the scavenger concentrates within the flotation circuits will increase the mass pull by 8%. On the other hand, it is likely that 50% of the metals that have reported to the middlings and to the scavenger concentrates will be recovered.



Table 21: High-grade La Cruz #1 – Test 1

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	4.26	0.27	3513.58	63.85	0.11	4.17	6.80	64.30	90.75	15.40	11.10
Zn CONCENTRATE	2.65	0.30	1724.62	1.19	0.41	47.61	4.70	19.60	1.05	36.55	78.80
FINAL TAILINGS	93.09	0.18	40.30	0.26	0.02	0.17	88.50	16.10	8.20	48.05	10.10
HEAD CALC.	100.00	0.17	233.00	3.00	0.03	1.60	100.00	100.00	100.00	100.00	100.00

Table 22: High-grade La Cruz #1 - Test 2

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	5.16	0.31	3101.48	58.48	0.11	4.36	8.43	65.97	91.17	13.55	13.00
Zn CONCENTRATE	2.42	0.26	1898.62	2.75	0.84	53.92	3.32	18.94	2.01	50.80	75.43
FINAL TAILINGS	92.42	0.18	39.61	0.24	0.02	0.22	88.26	15.10	6.82	35.66	11.58
HEAD CALC.	100.00	0.19	242.59	3.31	0.04	1.73	100.00	100.00	100.00	100.00	100.00

Table 23: High-grade Lorenzo #2A - Test 1

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	1.42	0.04	4340.35	57.31	5.21	5.43	2.62	65.56	80.57	25.50	3.06
Zn CONCENTRATE	2.88	0.19	135.14	0.76	2.93	56.50	27.76	4.14	2.18	29.06	64.83
FINAL TAILINGS	95.70	0.01	29.76	0.18	0.14	0.84	69.62	30.30	17.25	45.45	32.11
HEAD CALC.	100.00	0.02	94.01	1.01	0.29	2.51	100.00	100.00	100.00	100.00	100.00

Table 24: High-grade Lorenzo #2A - Test 2

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	1.68	0.46	4290.85	47.35	11.07	5.64	27.06	67.32	73.65	54.70	3.67
Zn CONCENTRATE	4.99	0.04	148.07	0.77	1.17	45.66	6.90	4.21	3.35	17.11	88.32
FINAL TAILINGS	93.33	0.02	29.58	0.26	0.10	0.21	66.04	28.47	23.01	28.19	8.01
HEAD CALC.	100.00	0.03	107.08	1.08	0.34	2.58	100.00	100.00	100.00	100.00	100.00

Table 25: Low-grade Lorenzo #3A - Test 1

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	1.24	0.27	2839.64	61.31	1.31	3.90	11.29	71.12	83.55	11.64	4.99
Zn CONCENTRATE	2.00	0.38	175.76	3.23	2.59	41.06	25.29	7.10	1.64	37.04	84.65
FINAL TAILINGS	96.76	0.02	10.76	0.09	0.07	0.10	63.42	21.78	14.81	51.32	10.36
HEAD CALC.	100.00	0.03	49.51	0.91	0.14	0.97	100.00	100.00	100.00	100.00	100.00

Table 26: Low-grade Lorenzo #3A - Test 2

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	2.22	0.23	1641.25	37.01	0.64	2.25	16.93	76.95	90.28	11.85	5.25
Zn CONCENTRATE	3.21	0.32	140.43	0.68	1.90	25.97	34.22	9.52	2.39	50.85	87.75
FINAL TAILINGS	94.57	0.02	6.77	0.07	0.05	0.07	48.85	13.53	7.33	37.30	7.00
HEAD CALC.	100.00	0.03	47.35	0.91	0.12	0.95	100.00	100.00	100.00	100.00	100.00

Table 27: High-grade Narrow Vein #3A - Test 1

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	5.02	0.35	9146.91	61.20	2.42	10.38	8.30	76.05	84.40	63.90	15.55
Zn CONCENTRATE	3.25	0.25	956.76	2.68	0.81	60.76	3.85	5.15	1.6	13.85	58.95
FINAL TAILINGS	91.73	0.20	123.74	0.26	0.05	0.93	87.85	18.80	14.00	22.25	25.50
HEAD CALC.	100.00	0.21	603.78	3.64	0.19	3.35	100.00	100.00	100.00	100.00	100.00

Table 28: High-grade Narrow Vein #3A - Test 2

PRODUCTS	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONCENTRATE	4.71	0.19	7901.66	53.15	1.91	9.14	4.50	61.55	77.75	45.00	13.20
Zn CONCENTRATE	3.96	0.15	3351.59	1.71	1.20	49.35	2.95	21.95	2.10	23.68	59.95
FINAL TAILINGS	91.33	0.20	109.24	0.71	0.07	0.96	92.55	16.50	20.15	31.32	26.85
HEAD CALC.	100.00	0.20	604.66	3.22	0.20	3.26	100.00	100.00	100.00	100.00	100.00

With the exception of Low Grade Lorenzo 3A – Test 2, the tests show promising results. Even if there is no direct explanation for the low silver recovery of sample High Grade Lorenzo #2A compared to Low Grade Lorenzo #3A, it remains that the silver head grade is much lower in both Lorenzo samples compared to the High Grade La Cruz #1. Usually in mineralization dressing, higher head grades produce higher recoveries for same concentrate grades.

Not many conclusions can be drawn in regards to the other test results. In their effort to improve the overall results, except for High Grade La Cruz #1, SGS Durango changed more than one variable at a time following the first test of each sample. It is therefore impossible to identify which variables (reagents addition, fineness of grind, cell rotor RPM, etc.) altered the overall metallurgical performance.

Also, without performing mineralogical studies (QemScan) or running a multitude of grinding-flotation tests there is no way to predict the mineral liberation size. Normally, the galena and the chalcopyrite require a much coarser grind than the sphalerite, which is why many copper, lead, zinc mills have a grinding stage between the flotation of the lead-copper and the flotation of the zinc.

Finally, it has been observed that some of the mineral samples contain an appreciable amount of pyrrhotite. It may be worthwhile to determine if some of this pyrrhotite (especially the pyrrhotite free from the galena and the sphalerite) could be eliminated by a magnetic separation process.

## 13.1 Recovery Methods

The discussions presented herein are based on the results elaborated above and a set of assumptions on conceptual parameters.

### 13.1.1 Milling

Because metallurgical tests at SGS Durango were very preliminary and no real optimization has been attempted, the following is based as much on the results of the tests as on the experience of the author of this section of the report.

The process plant is designed to recover the lead and the zinc by froth flotation. Gold and silver are recovered with the galena and the sphalerite. The mill will incorporate the following sections: run-of-mine ore storage, a one-stage crushing plant, crushed ore storage, SAG milling with screens classification followed by a single-stage ball milling with cyclone classification, flotation of the galena, regrind of the lead circuit tailings with cyclone classification, flotation of the sphalerite, thickening of the Pb and Zn concentrates, filtering, tailings handling, water distribution, and reagents.

### 13.1.2 Grade and Recovery

Given the distribution of sulphides mineralization within the deposits, a conceptual mill feed was constructed comprising 60% Lorenzo low grade, 20% Lorenzo high grade, 10% La Cruz and 10% Narrow veins. Table 29 provides the metallurgical test results that could be expected for a mill feed based on the proposed blending scenario. The tests results in Table 29 were used to establish net recoveries including smelter terms.

Table 29: Calculated metallurgical results given the conceptual mill feed discussed in the text.

	WEIGHT	GRADES					DISTRIBUTION				
	Rec	Au	Ag	Pb	Cu	Zn	Au	Ag	Pb	Cu	Zn
	%	g/t	g/t	%	%	%	%	%	%	%	%
Pb CONC.	2.31	0.26	3623.29	52.16	2.44	4.36	12.84	71.1	84.78	21.96	6.39
Zn CONC.	2.97	0.3	519.77	1.28	1.92	40.91	22.06	9.1	2.1	37.23	80.69
FINAL TAILS	94.71	0.05	26.84	0.22	0.07	0.27	65.1	19.8	13.13	40.82	12.92
HEAD CALC	100	0.06	133.37	1.42	0.17	1.58	100	100	100	100	100

### 13.1.3 Estimated Operating Cost

These economic factors are merely used to calculate a cut-off grade which is relevant to reality of the San Diego Property.

Today the milling cost for a 500 tpd flotation mill built and operated in Canada, is in the order of \$24.00/tonne while the mill construction cost, including the tailings pond, would be in the \$15 to 20M\$ range<sup>2</sup>. Considering the operation is located in Mexico where the labour costs are lower, a diminution of 20% was applied on the overall processing cost, resulting in a milling cost of \$20.00/tonne.

<sup>2</sup> No provision was taken for further recovery of the gold and silver by cyaniding or pressure leaching the sulphides in the final tailings.

## 14- Mineral Resource Estimates

### 14.1 Data

All data used in the generation of the 2013 resource estimate was provided to SGS by Golden Tag Resources Ltd. The database used to retrieve analytical data is titled *GOG\_SDiego\_Nov-29.acddb*. Fifty-nine drill holes totalling 32,967 m of drill core and 22,619 analyses were used in the resource estimation. A total of 1,483 drill hole deviation measurements were taken with Tropari, Reflex and DeviCore. Mineralized intervals were provided by Kateri Marchand, P.Geo, a consultant for Golden Tag. Modelling was completed by qualified staff of SGS Canada Inc. and Ms. Marchand. SGS Canada Inc. in-house geological software, Genesis, was used to model and estimate resources.

### 14.2 Topography

The topographic data was provided to SGS by Golden Tag. All drill hole collars from the Phase 1 to Phase 6 programs have been surveyed with high precision GPS instruments and referenced in the WGS84 UTM system. Satellite coverage in the area is good, generally providing UTM coordinates within a +/- 3 m range for simple hand-held GPS devices. The topographic data is considered to be valid. The accuracy of this product is relatively good (but with poor precision); however the surface is rounded to the nearest 10m and there were local discrepancies (up to 8m) between the drill hole collars that were located with a DGPS. We therefore elected to create a surface equivalent to the topography minus 15 m elevation with which we cut all the resource block models.

### 14.3 Density

Information regarding density measurements used in the generation of the 2013 resources can be found in section 11.6 Specific Gravity Measurements (S.G.). Porosity is considered negligible therefore we can assume that S.G. factor represent the density. The density is expected to have a strong correlation with the mineralogy of the measured samples. In the case of San Diego due to the high density contrast between sulphide minerals and the host rock, complete sample intervals were measured instead of single core pieces. Linear regression graphs were built from the samples' combined sulphide assay results with their measured S.G. factors. The strongest correlation was established when combining Fe, Pb, Zn and As assay results; unfortunately a portion of the database lacked Fe analyses. It was therefore decided to use the regression formula from combined Pb-Zn-As-Fe assay results for the Fernandez Zone (which has good Fe data coverage) whereas a regression formula based on Pb-Zn-As alone was used for the Vein Zones (Figure 42, Figure 43). The determined regression equations were applied to each individual blocks to obtain their respective tonnage.

This approach translated for Fernandez Zone in average density values of 2.90 and 2.93 g/cm<sup>3</sup> for the Inferred and Indicated categories of the EndoSkarn portion. For the Fringe, the average density values for the 2 resource categories are: 2.92 g/cm<sup>3</sup> (Inferred), and 2.87 g/cm<sup>3</sup> (Indicated). Individual blocks from the sulphide vein zones have density values typically ranging between 2.82g/cm<sup>3</sup> and 3.3g/cm<sup>3</sup> with an average of 2.9g/cm<sup>3</sup>. In the case of oxide mineralization, a fixed

density factor of 2.55 g/cm<sup>3</sup> was used for all tonnage estimation based on the average density of this facies.

## 14.4 Current Mineral Resource Estimate

This resource estimate is an update to the previous estimate filed on January of 2009, and includes 21 mineralized veins and a newly-discovered mineralized body, the Fernandez Zone. The 2009 estimate is available on SEDAR, as well as previous reports. The resource information included in this report is based on all available data, including data collected during the 2011 and 2012 programs.

The mineral resource has been estimated by Claude Duplessis, Eng, Consulting Geological Engineer and Guy Desharnais, PhD., P.Geo, Project Manager for SGS Canada Inc. (SGS Geostat). Mr. Duplessis and Mr. Desharnais are independent qualified persons (QP) as per section 1.4 of the NI 43-101 Standards of Disclosure for Mineral Projects.

### 14.4.1 Overview

Combinations of cross-sectional and plan-level views were used in order to develop a better understanding of the relationships between structures. Prisms were drawn around mineralized intervals diluting to a minimum horizontal width of 1m. The prisms are then connected to generate solids, which are validated to ensure they are water-tight. Composites and blocks are isolated within the solids. The mineralized intervals used to generate equal-length composites are available in Appendix 1. Composites were capped at 1,400 g/t Ag and 5 g/t Au prior to interpolation.

The metal recoveries of the metals in the oxidized versus non-oxidized material differs significantly; separate Ag equivalent formulae were established based on metal price assumptions and recovery factors. The resources were limited by cut-offs derived from the calculated AgEq values (Table 30).

Table 30: Assumptions used for the resource estimation for sulphide and oxide mineralization at San Diego.

Study Parameters	Ag (g/t)	Pb (\$/lb)	Zn (\$/lb)	Au (g/t)	Cu (\$/lb)
Metal Pricing (\$US)	\$28.10/oz	\$1.0/lb	\$0.96/lb	\$1,455/oz	\$3.65/lb
Sulphide Net Recoveries (Mill & Smelter)	64.9 %	76.4 %	57.5 %	0.0 % <sup>(1)</sup>	0.0 % <sup>(1)</sup>
Silver Equivalent (AgEq g/t)	1	28.73	20.76	n/a <sup>(1)</sup>	n/a <sup>(1)</sup>
Oxide Net Recoveries (Mill & Smelter)	60.5 %	0.0 %	0.0 %	62.5%	0.0 %
Silver Equivalent (AgEq g/t)	1	n/a	n/a	53.4	n/a

(1) Although the Au and Cu are excluded from the Net Smelter and AgEq formulas, it is expected that a large proportion of these elements will report to either of the concentrates and will be recovered by a downstream refiner. As such they are retained in the resource estimation.

Silver equivalent formulae used based on Table 30:

$$\text{Ag Equivalent Sulphide} = [\text{Ag} + (\text{Zn} \times 20.76) + (\text{Pb} \times 28.73)]$$

$$\text{Ag Equivalent Oxide} = [\text{Ag} + (\text{Au} \times 53.4028)]$$

Different mining methods could be considered due to variations in the type, size, shape, and depth of mineralization on the property. Four cut-off grades were used in the present resource estimate of sulphides based on various applicable mining methods; minimum mining widths were applied to each cut-off grade (CoG) as outlined in Table 31. The Fernandez and Trovador zones were defined by a cut-off of 52g/t AgEq due to their relatively thick geometries. The sulphide vein zones on the other hand were initially limited by a cut-off of 125g/t; and where applicable, parts of the sulphide veins that were below 125g/t and were sufficiently thick to be analysed with a lower cut-off were added to the resources.

Table 31: Cut-off grade scenarios including mill and smelter metal recoveries.

Mining Method	Cut-off (CoG)		Minimum Width (m)
	\$/t*	g/t AgEq	
Narrow vein Shrinkage	73.00	125	1.0
Long Hole Mining	60.00	102	2.5
Bulk Mining	47.50	81	5.0
Mechanized Bulk or Block Cave	30.00	52	>5.0

\*Estimated mining cost (\$/t) in Mexico

## 14.4.2 Veins

For this version of the resource estimate, 21 veins were modelled. Based on the author's site observations and the historic vein continuity on the property, the typical extrapolation distance during solid modeling was 100 m. Most of the veins are defined by a sporadic pattern of drilling, therefore reasonable geological shapes were drawn to limit the lateral extents of the veins where necessary. Limiting the extrapolation of the resources was therefore enforced by the classification process. Vein mineralized intervals were diluted to a minimum horizontal width of 1 m. This value is based on historic and current operations in the region.

Ten of the veins contain a portion of oxidized material near-surface; and the resources estimated for those oxide zones were accounted for separately from the sulphide resources. Table 32 outlines the orientation of each vein included in the resource.

Table 32: Orientation of each vein included in the 2012 resource.

<b><u>VEIN</u></b>	<b><u>STRIKE</u></b>	<b><u>DIP</u></b>
Trovador	N297°	Sub-vertical North
Montanez HangingWall	N110° to N115°	Sub-vertical South
Montanez Center	N110° to N115°	Sub-vertical South
Montanez FootWall	N110° to N115°	Sub-vertical South
Cantarranas	N090°	-80° South
La Cruz	N115°	-65° South to -1450 m El. ; -75° South to -1250 m El.; -85° to 900 m El.
Corredor	N117°; N107° East of UTM 638630 m	-75° to -85° South
East-West Fault Zone	N090°	-80° South
W-Contact	N065°	-88° Southeast
Rata	N090°; N075° East of UTM 638900 m	Sub-vertical South
Rata-sub	N090°	Sub-vertical South
El Jal	N035°	-65° Southeast
Mid-Zone	N110° to N115°	Sub-vertical South
CantaSplay	N252°; N245° East of UTM 639090 m	-83 Northwest
Arroyo	N032°	-80° Southwest
MS Zone	N117°	-75° to -85° South
Ag-Zone	N110° to N115°	Sub-vertical South
Lorenzo	N113°	-88° South to -80° North
Panda	N115°	-85° South to -85° North
San Jose	N295°	-30° North
SouthSkarn	N113°	-88° South to -80° North



### 14.4.3 Variography

A variographic analyses was undertaken to establish the geospatial behavior of the San Diego deposits. Variography was completed using the same composites established for the interpolation. Due to the relative dearth of data available for any given mineralized structure, no clear observations could be made on any given structure.

It was therefore decided to “stack” the data to enable sufficient data pairs to create a coherent picture. The composites for a set of sub-parallel structures were selected (115°) and exported into excel. The Z values for each structure was altered to ensure that data pairs could not be shared between structures (e.g. added 1000m to the Z values for Panda, added 2000m to the Z values for South Skarn ect.). This means that the variation for a given distance can be compared within a structure, and the variation will be compiled for each structure (stacked). The results of this exercise can be seen in Figure 46 and Figure 47. In general we see a nugget effect of around 50% and a range of between 40m and 80m. Variograms for Au and Pb were not as clear as Zn and Ag and are not shown here.

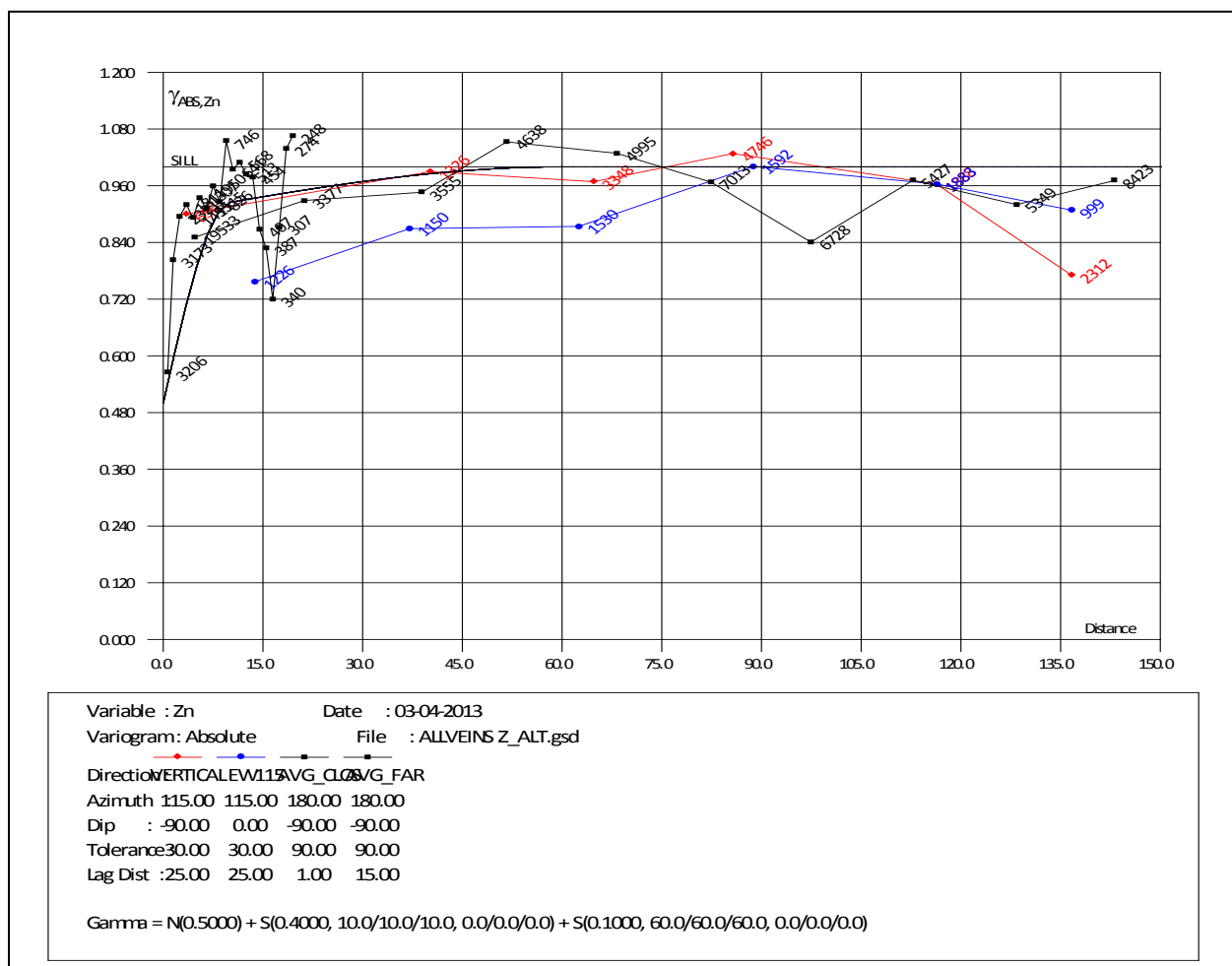


Figure 46: Variogram of Zn from structures trending Az 115°.

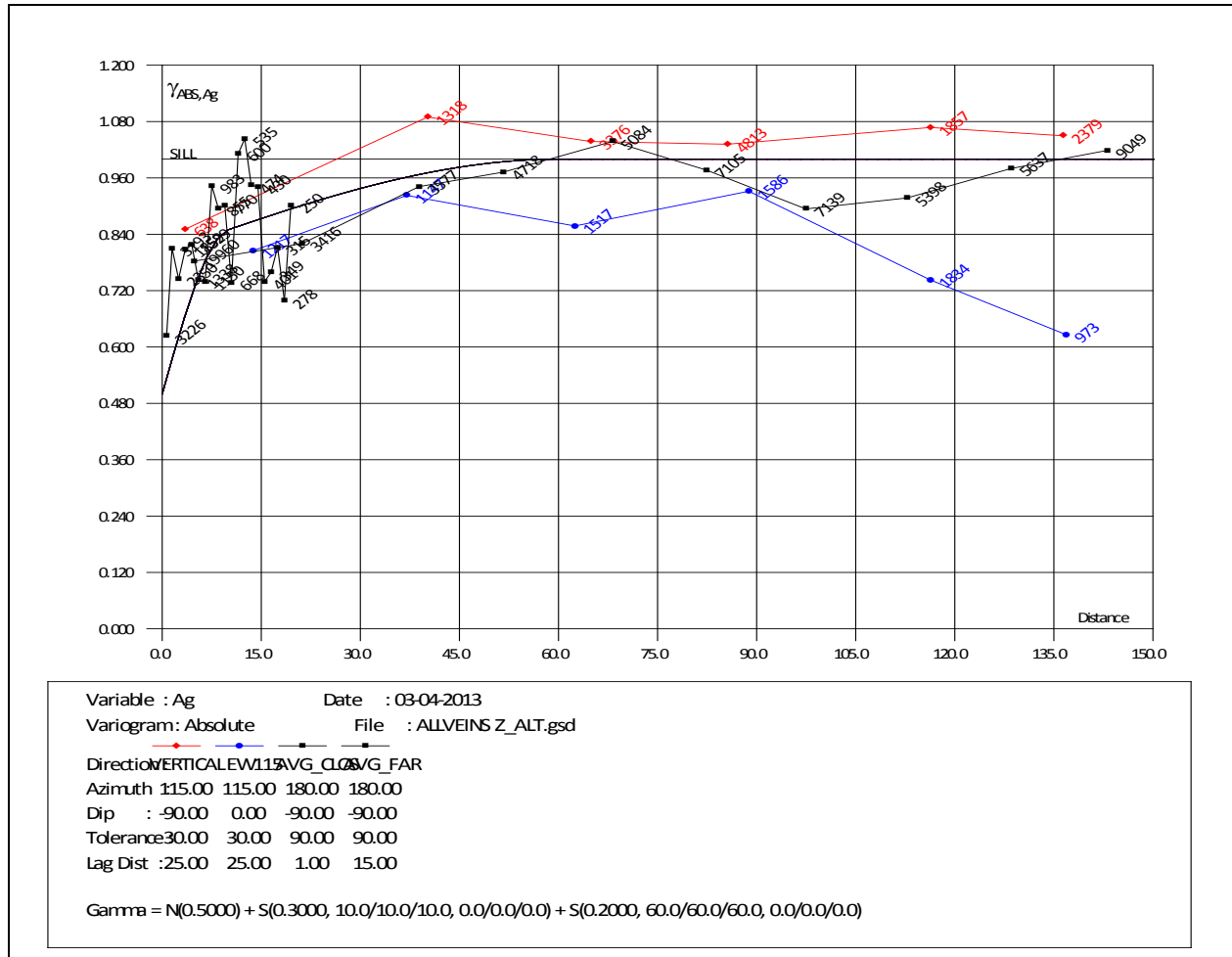


Figure 47: Variogram of Ag from structures trending Az 115°.

#### 14.4.4 Capping

An analysis of the distribution of composites was undertaken to verify whether there was a need to cap the very high grade values. Lead and zinc distributions were very regular with no high outliers that required capping. There were slight discontinuities at the high end of the Ag and Au cumulative frequency plots. Silver values were capped at 1,400g/t representing an approximate metal loss of 1.5% (Figure 48). Gold values were capped at 5g/t representing an approximate metal loss of 3.5% (Figure 49).

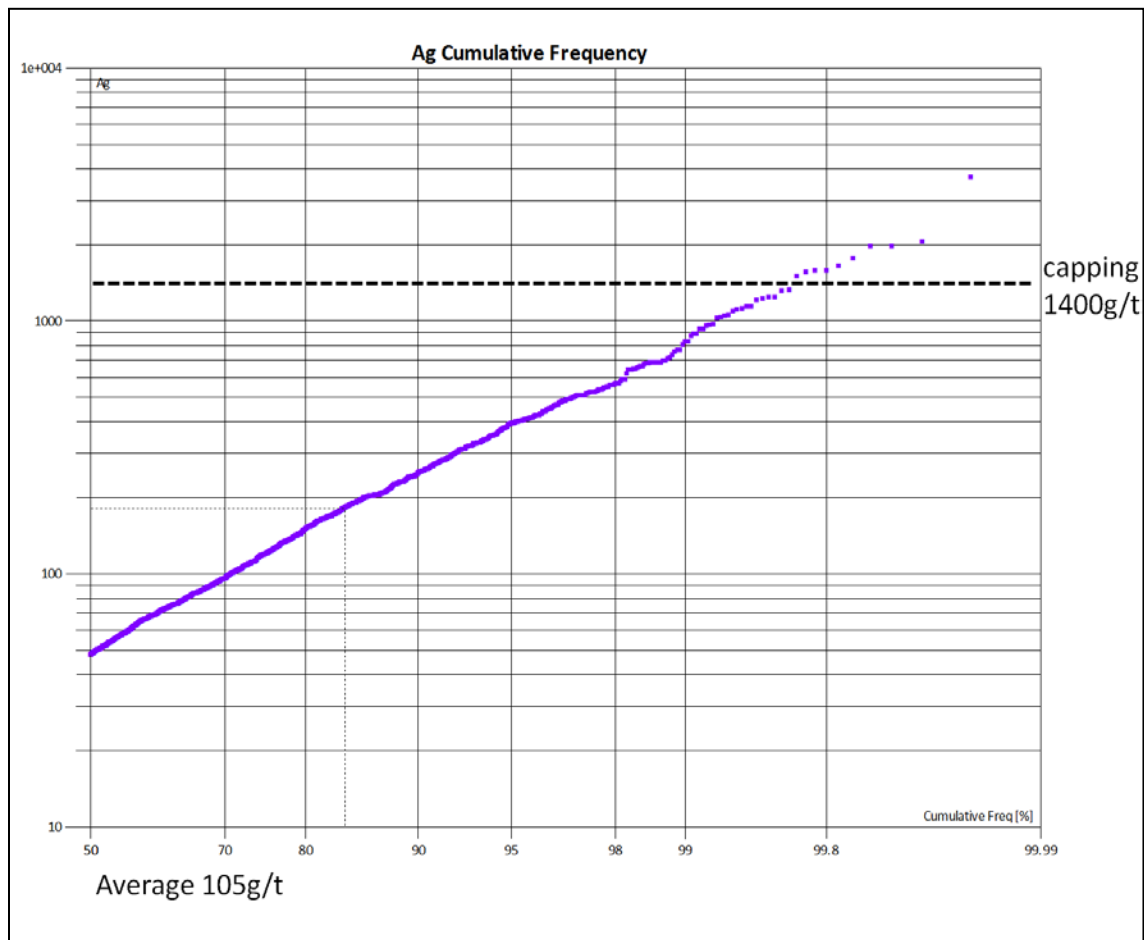


Figure 48: Capping study for Ag composites.

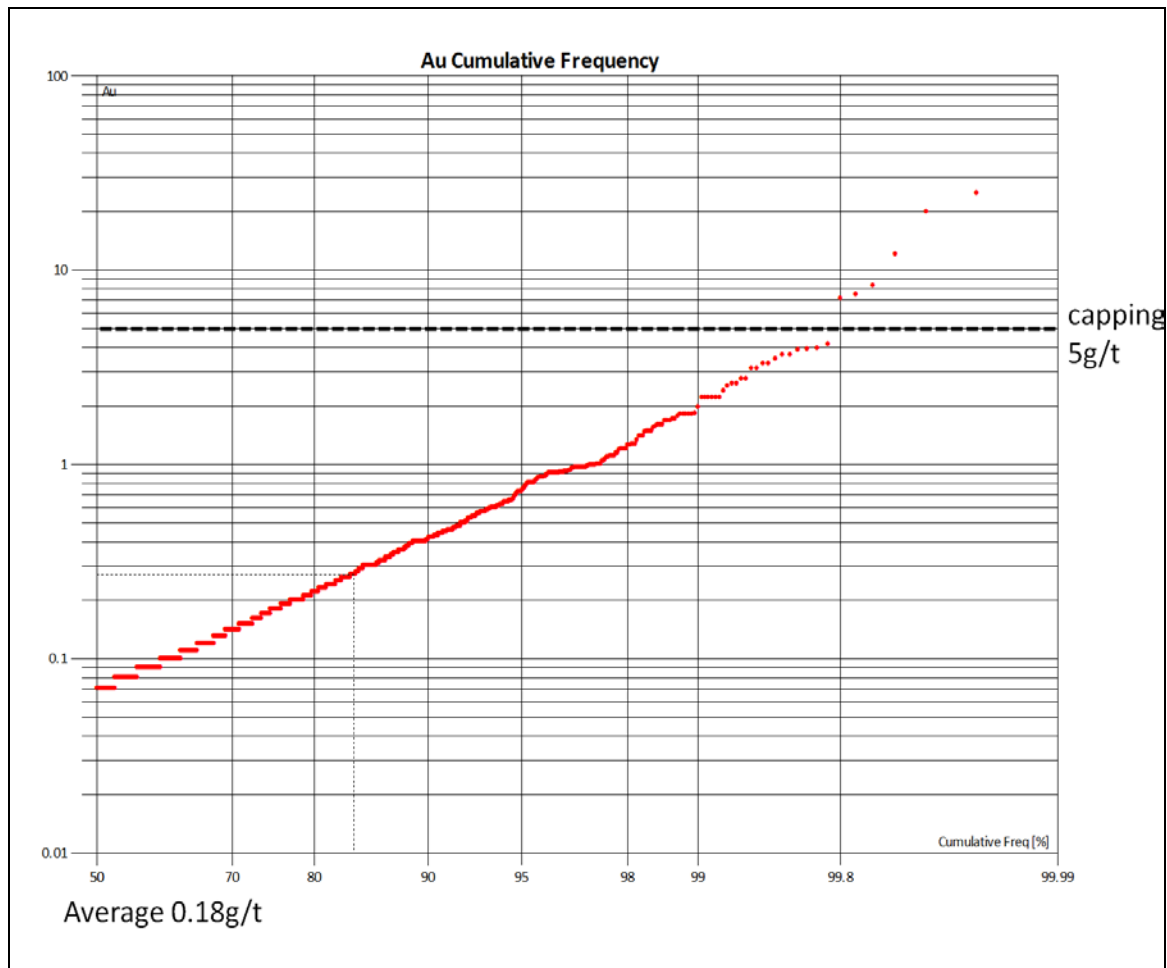


Figure 49: Capping study for Au composites.

#### 14.4.5 Veins Block Model

Mineralized intervals were used to generate 0.5 m equal-length composites used for the vein block model interpolations (see Appendix 1 for the mineralized intervals). Solids were populated with blocks of 5 x 0.5 x 5 m for each vein with the exception of El Jal and La Cruz. For these two cases, the structures have shallow dips, therefore the block size was adapted to 10 x 0.5 x 2.5 m. Near-surface veins were isolated into two block models representing oxide and sulphide material. Composites, interpolation and AgEq formulas were isolated and calculated separately. Blocks occurring outside the property, above the lowered topographic surface (-15m) and from intersecting structures were deleted after interpolation. The most important reallocation of blocks corresponds to the intersection of the Fernandez zone (Fringe) with the veins.

The “donation” of blocks to the Fernandez zone accounts for a portion of decrease in tonnage provided by the vein hosted deposit when compared to the 2009 resource estimate. The remaining decrease in tonnage for vein deposits can be attributed to a stricter application of extrapolation distances and cut-off grade.

Mineralized veins were estimated using the inverse distance squared method involving three passes with isotropic ellipses. Table 33 outlines the search parameters. A high number of “Maximum Composites per Block” were necessary to account for a few drill holes that were completed sub-parallel to the structures. The impact of using a typical maximum of 15 composites for interpolation would effectively ignore the composites at the center of the intersections for all but a few blocks. The drawback of using such a high maximum is that you would expect a high level of smoothing and a higher weighting towards intersections with higher composites. Given the highly irregular pattern of drilling, it was decided that the benefit of this approach outweighed the drawbacks.

Table 33: Block model estimation parameters for mineralized veins.

Pass	Ellipse	Radius (m)	Minimum Composites per Block	Maximum Composites per Block
1	Isotropic	60	8	50
2	Isotropic	120	8	50
3	Isotropic	240	4	50

#### 14.4.6 Veins Classification

The veins were classified using three passes of isotropic ellipses as outlined in Table 34. The result of which can be seen in (Figure 50).

Table 34: Classification parameters for mineralized veins.

Pass	Ellipse	Radius (m)	Minimum Drill Holes within Radius
1	Indicated	65	3
2	Inferred	130	2
3	Inferred	120	1

The justification for the indicated and inferred categories is based on historic structures that consistently exhibit lateral continuity and constant thickness, many of which can be traced along surface for hundreds of meters. Variographic analyses also outlined a typical range of between 60-80 m. This classification scheme generated a very spotted appearance for the vein block models. Although this is a result that should usually be avoided, this pattern was necessary to avoid unjustly excluding important intersections from the resources.

The distribution of the mineralized zones displayed as their 3D shells can be seen in Figure 51. This plan map shows that the 21 individual vein structures have complex cross-cutting relationships. These structures were modeled to extend geologically reasonable distances typically extending 100m past known information. In cases where it is reasonable to assume geological continuity the models were extend to connect distant drill holes to preserve a geologically reasonable shape. They were locally drawn past the property limits and topography; the trimming occurred on the block level. The majority of veins trend Az110° to Az120° and are mostly centered around the Fernandez zone. The El Jal and La Cruz veins appear larger than they are in reality in this figure, due to their relatively shallow dip.

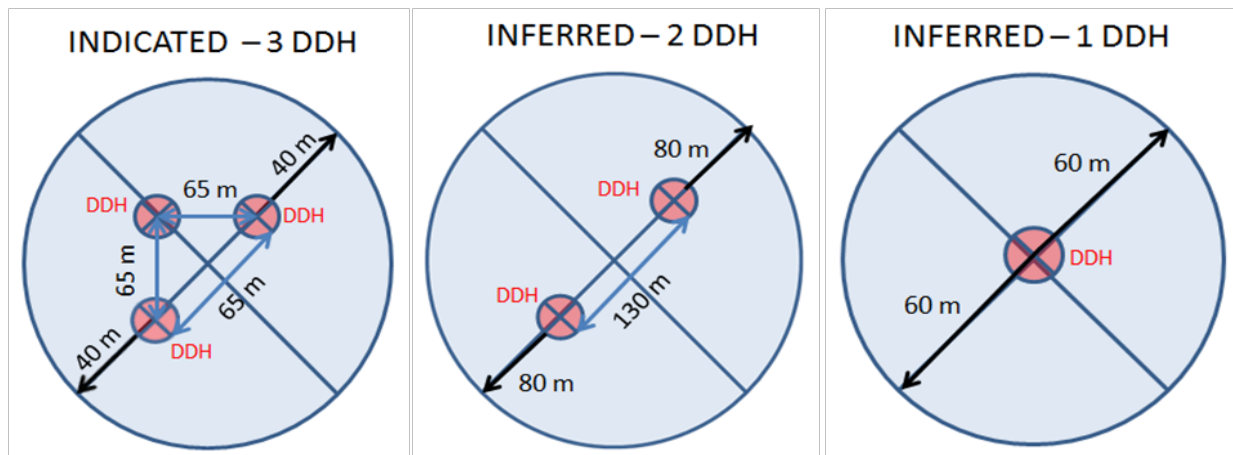


Figure 50: Visual representation of indicated and inferred classifications.

Figure 52 to Figure 91 display each vein in plan view, followed by longitudinal views of the structure, the oxide block model, the sulphide block model, and the resource classification. Where historical mining (grey or tan solids) has removed material from a vein, an additional image is included depending on the scale of the structure (example: the Montanez veins, Figure 54, Figure 56 and Figure 58). Topographic and oxide-sulphide limit are displayed as 3D surfaces, thickness variations of these lines represent the surface dipping into the section within the specified corridor. The images showing the resource classification shows blocks that are tagged as indicated (dark purple), inferred (green) and potential (teal). Only blocks tagged as indicated or inferred that also met the cut-off grade for the given situation are compiled in the resource tables.

The classification of “potential” in teal colour refers to areas within the mineralized zones that are too far from drill holes to be considered resources; infill drilling could capture the resources within these regions. The blocks tagged as “potential” were compiled and used to estimate a range of “Additional Exploration Potential” as discussed in Section 14.5. White gaps or streaks within the block models are due to removal of these blocks due to intersecting zones; this was necessary to avoid double accounting of resources. For example the gaps at the base of the Montanez zones are due to the intersection of the Fringe zone (Fernandez) with these structures (Figure 57, Figure 59).

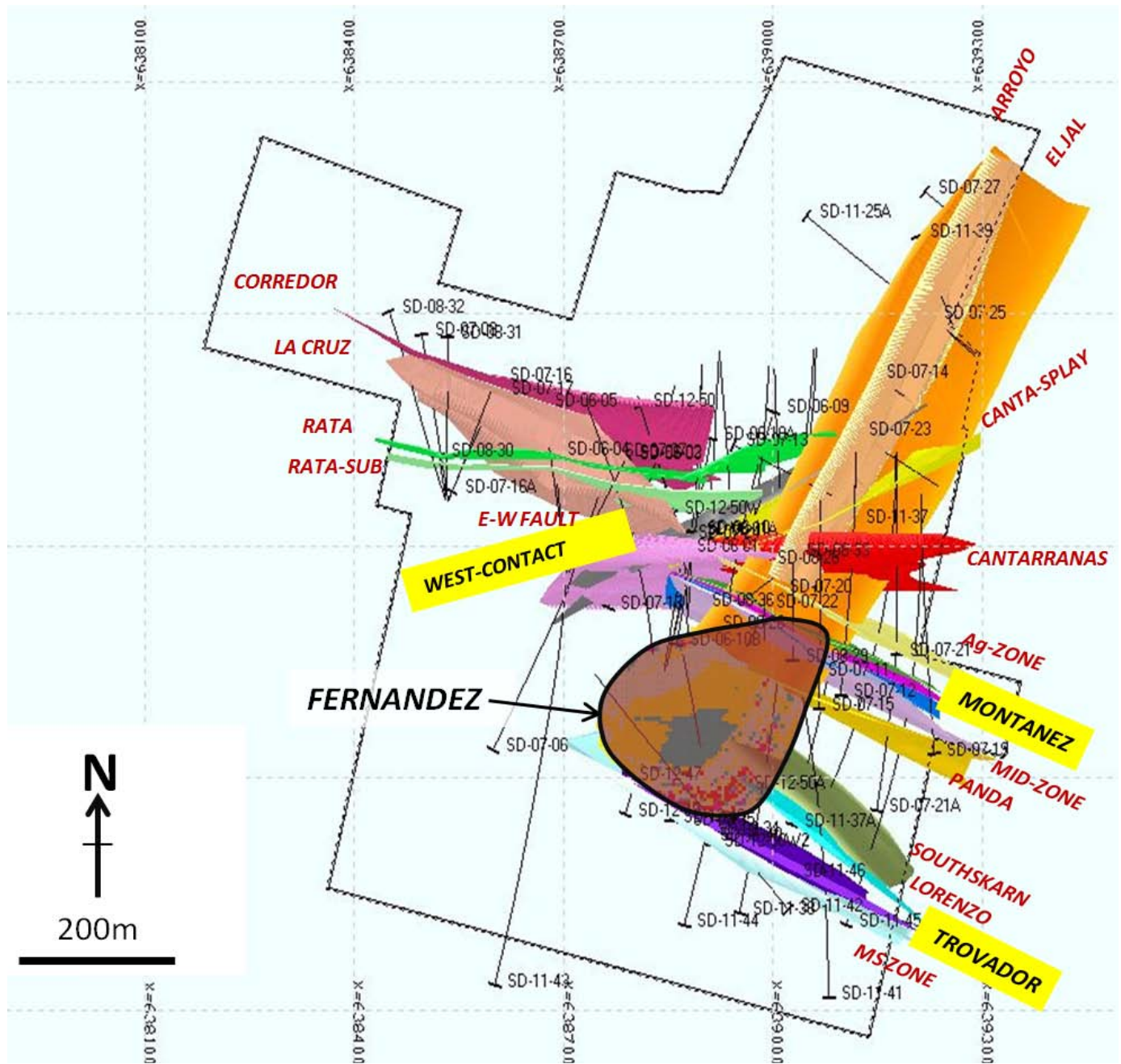


Figure 51: Map showing the distribution of all the mineralized zones. The dashed outline represents the property limit.

# Trovador

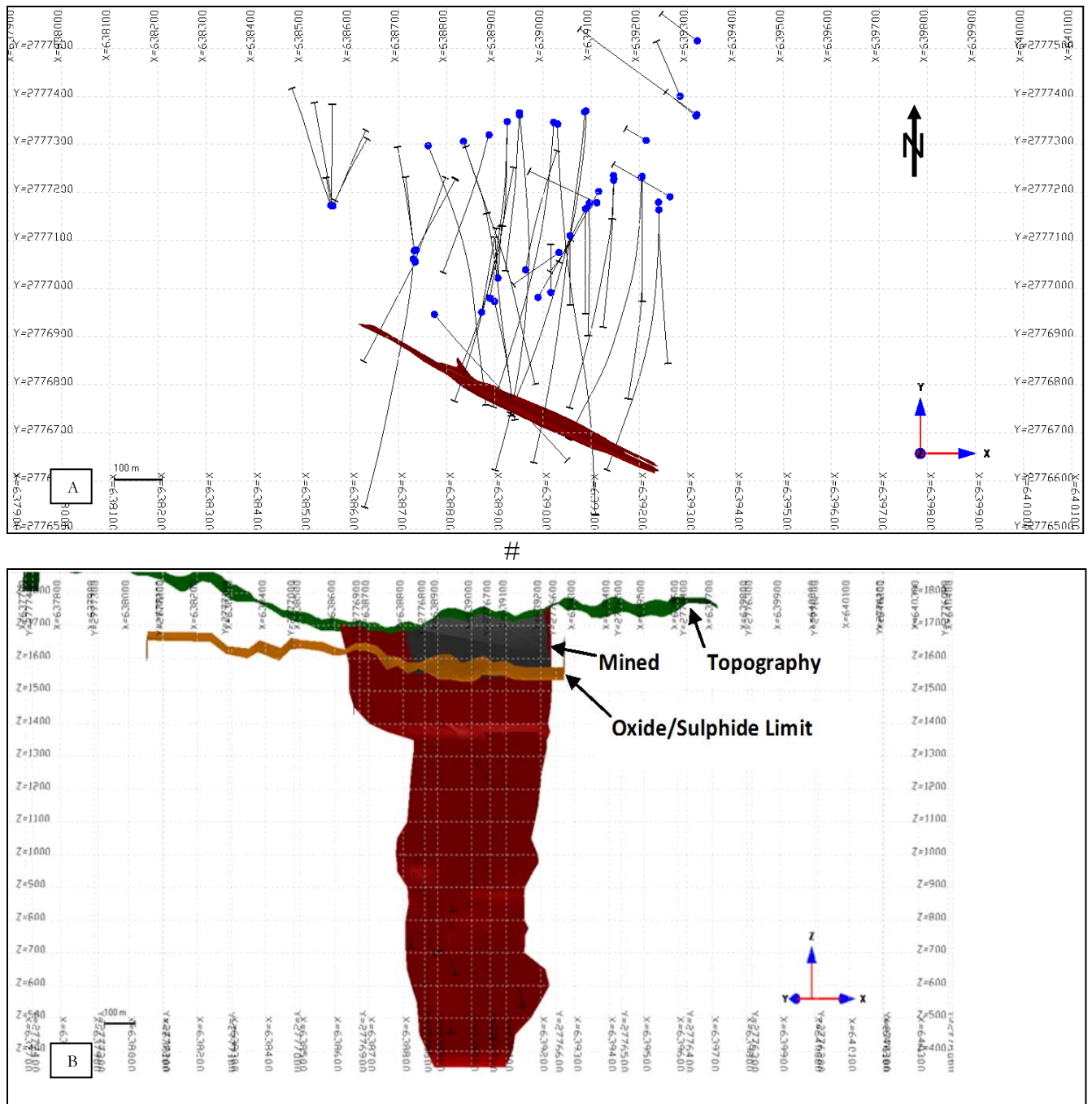


Figure 52: Plan view and longitudinal section view of the Trovador vein, (B) looking N028°.



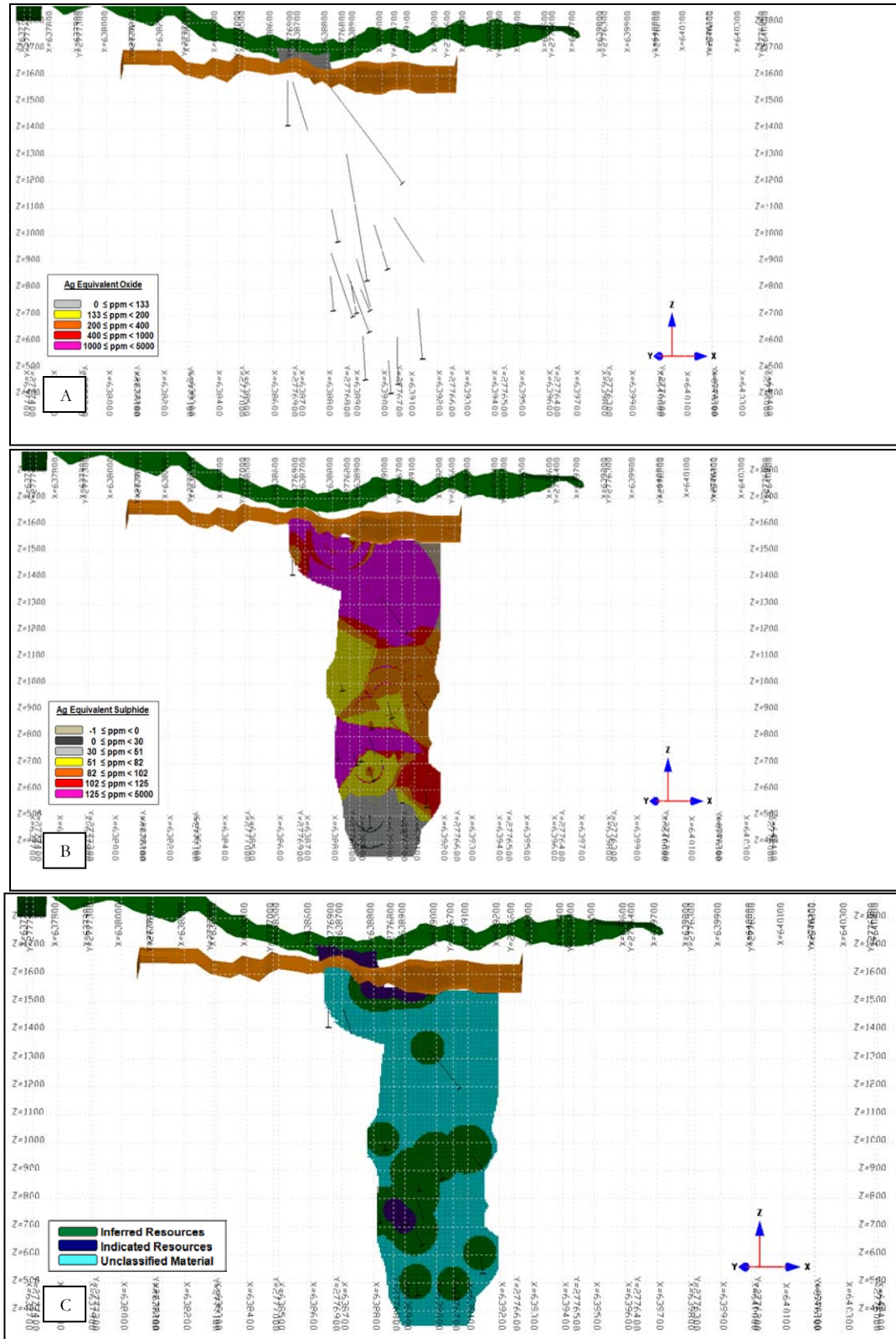


Figure 53: Oxide and sulphide block models, and classification of the Trovador vein, looking N028°.

### Montanez Hanging Wall

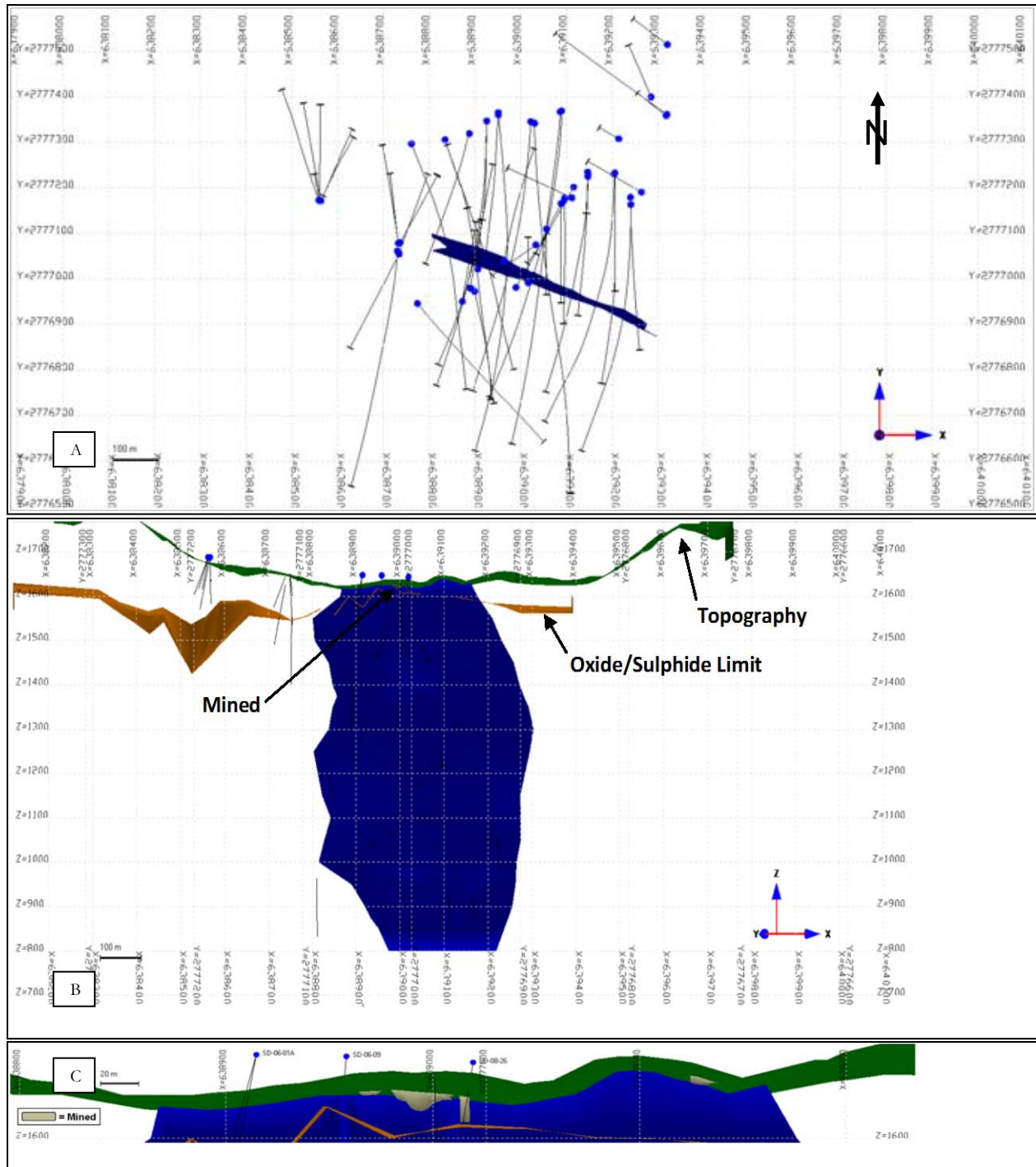


Figure 54: Plan view, longitudinal section view, and old workings of the Montanez Hanging Wall vein, (B) and (C) looking N022°.

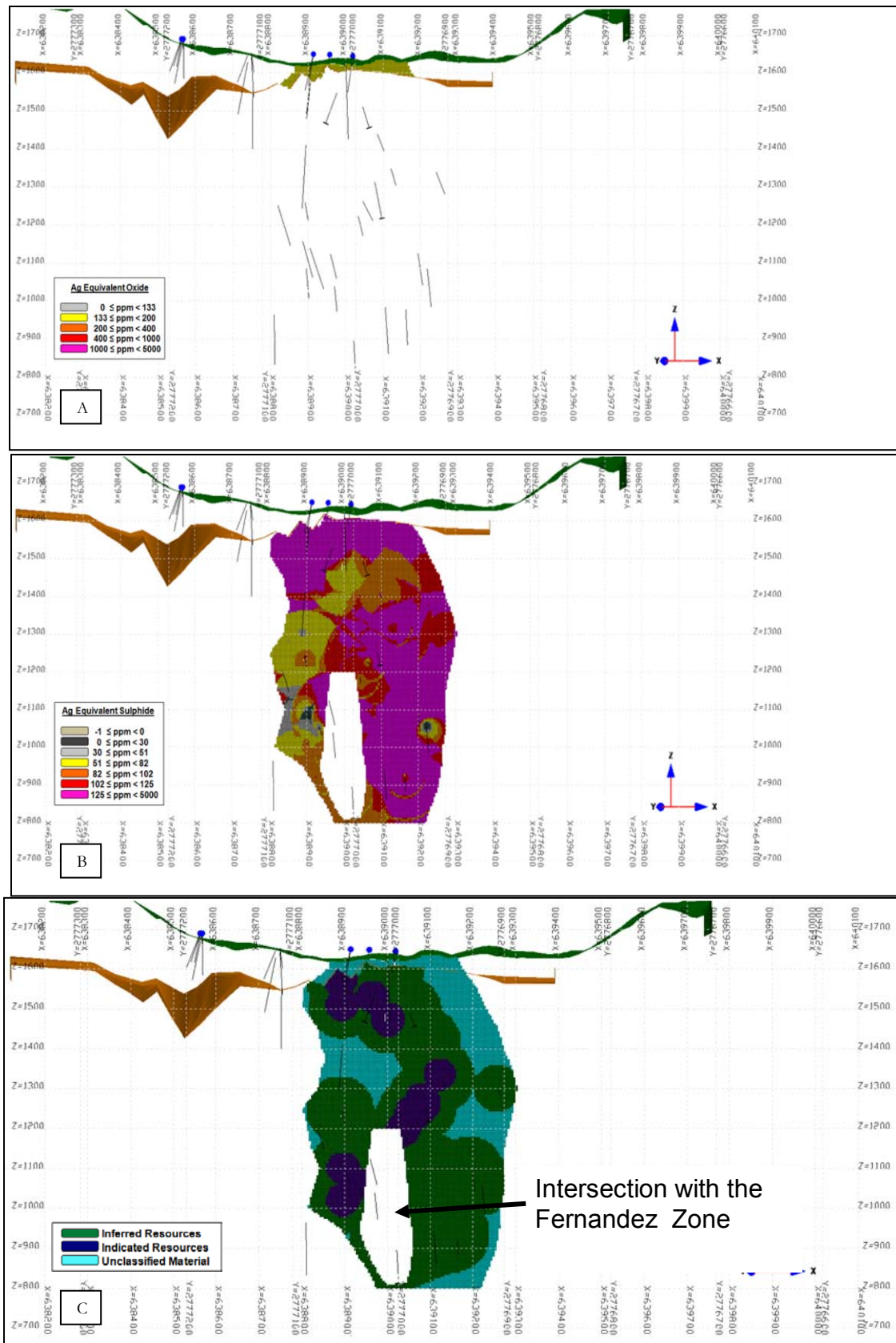


Figure 55: Oxide and sulphide block models, and classification of the Montanez Hanging Wall vein, looking N022°.

Montanez Center

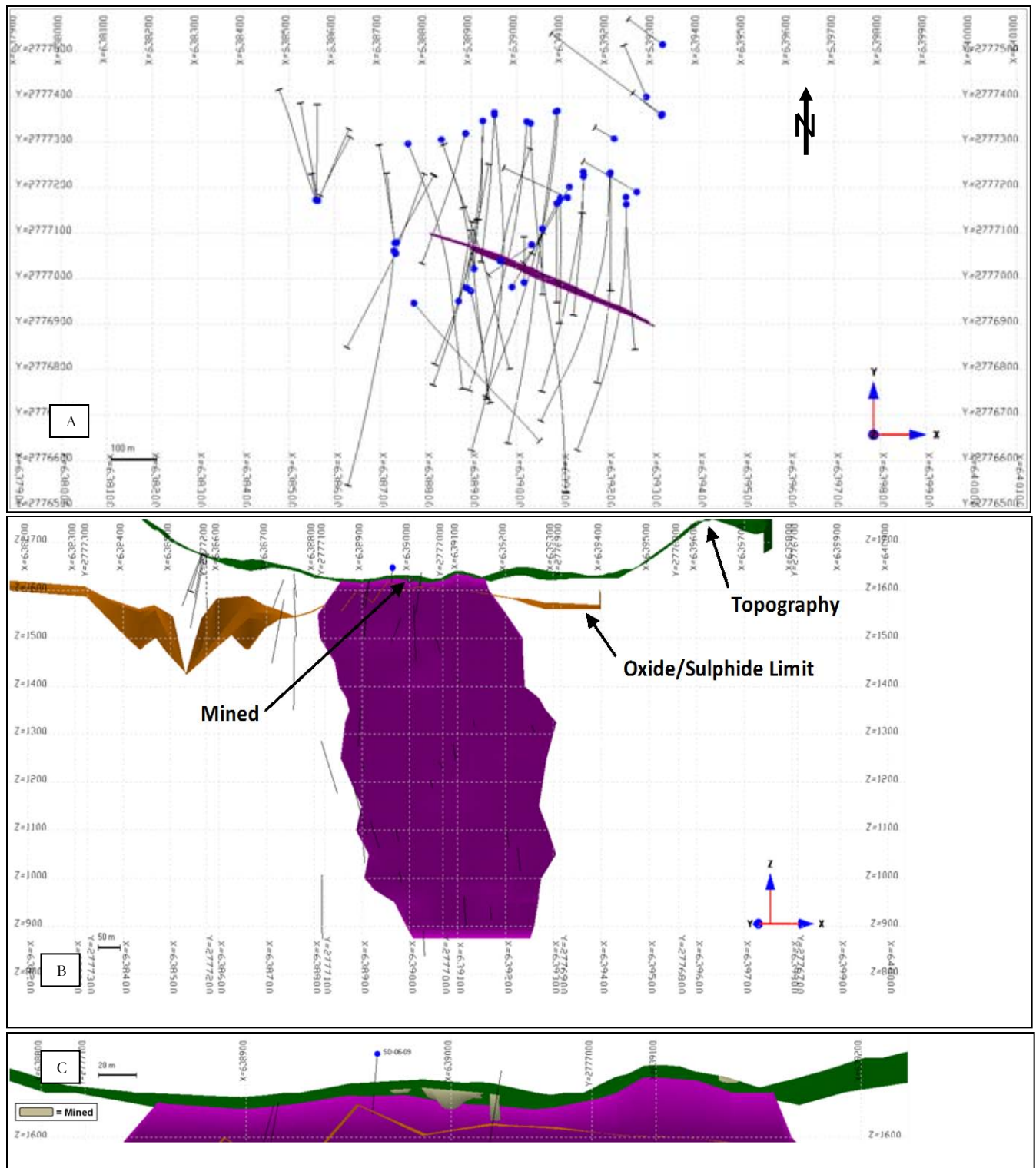


Figure 56: Plan view, longitudinal section view, and old workings of the Montanez Center vein, (B) and (C) looking N022°.

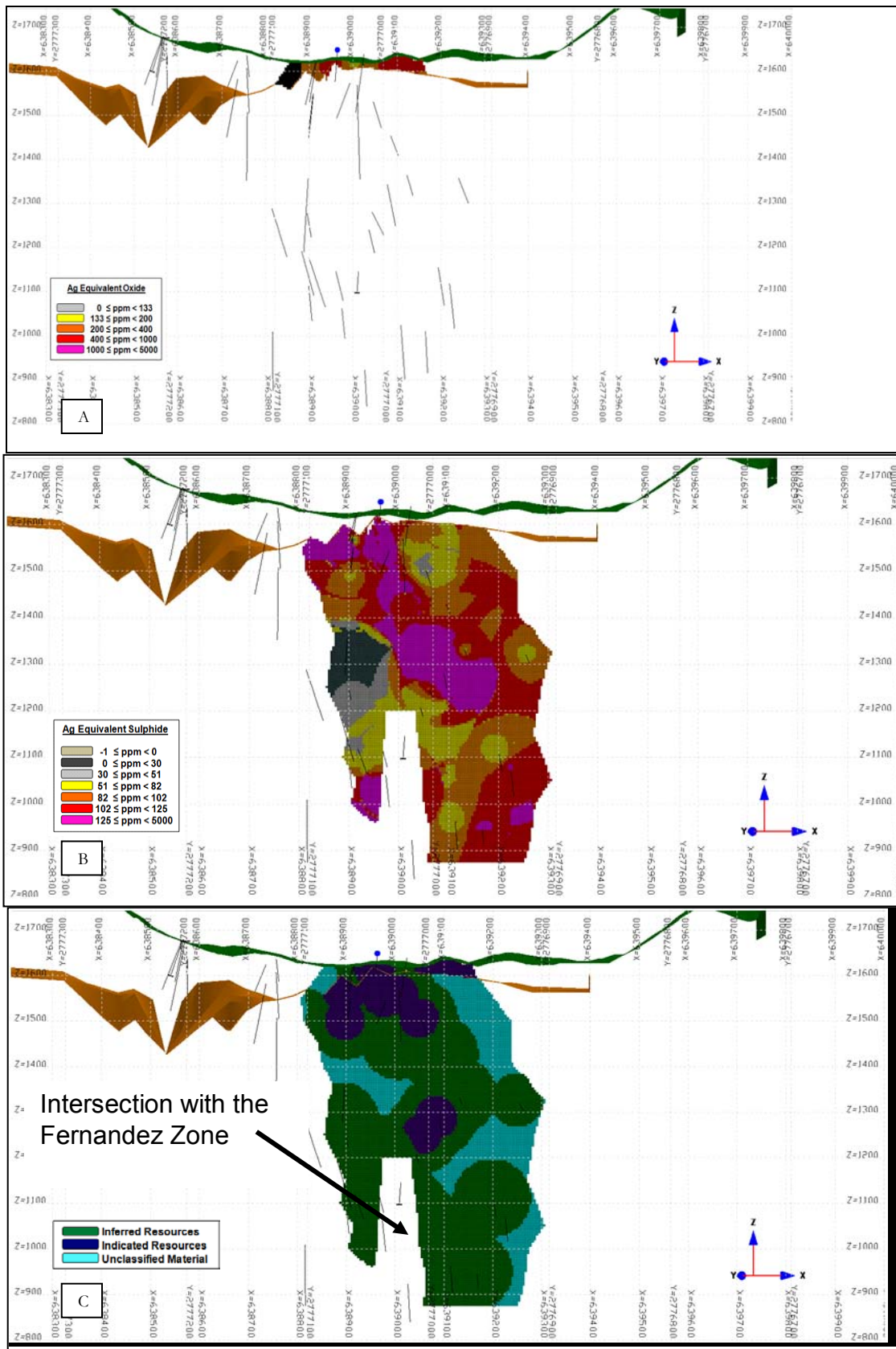


Figure 57: Oxide and sulphide block models, and classification of the Montanez Center vein, looking N022°.

### Montanez Foot Wall

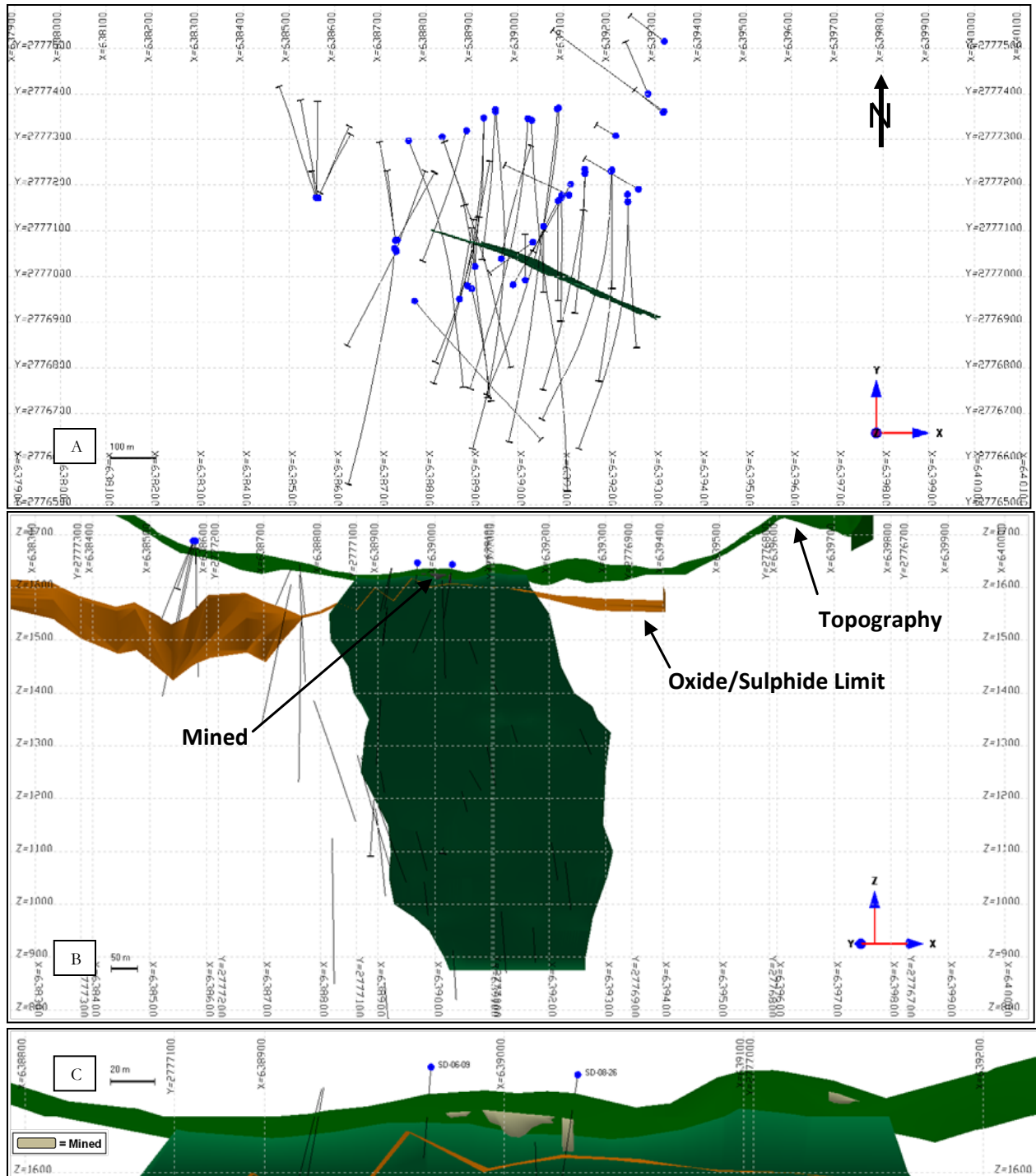


Figure 58: Plan view, longitudinal section view, and old workings of the Montanez Foot Wall vein, (B) and (C) looking N022°.

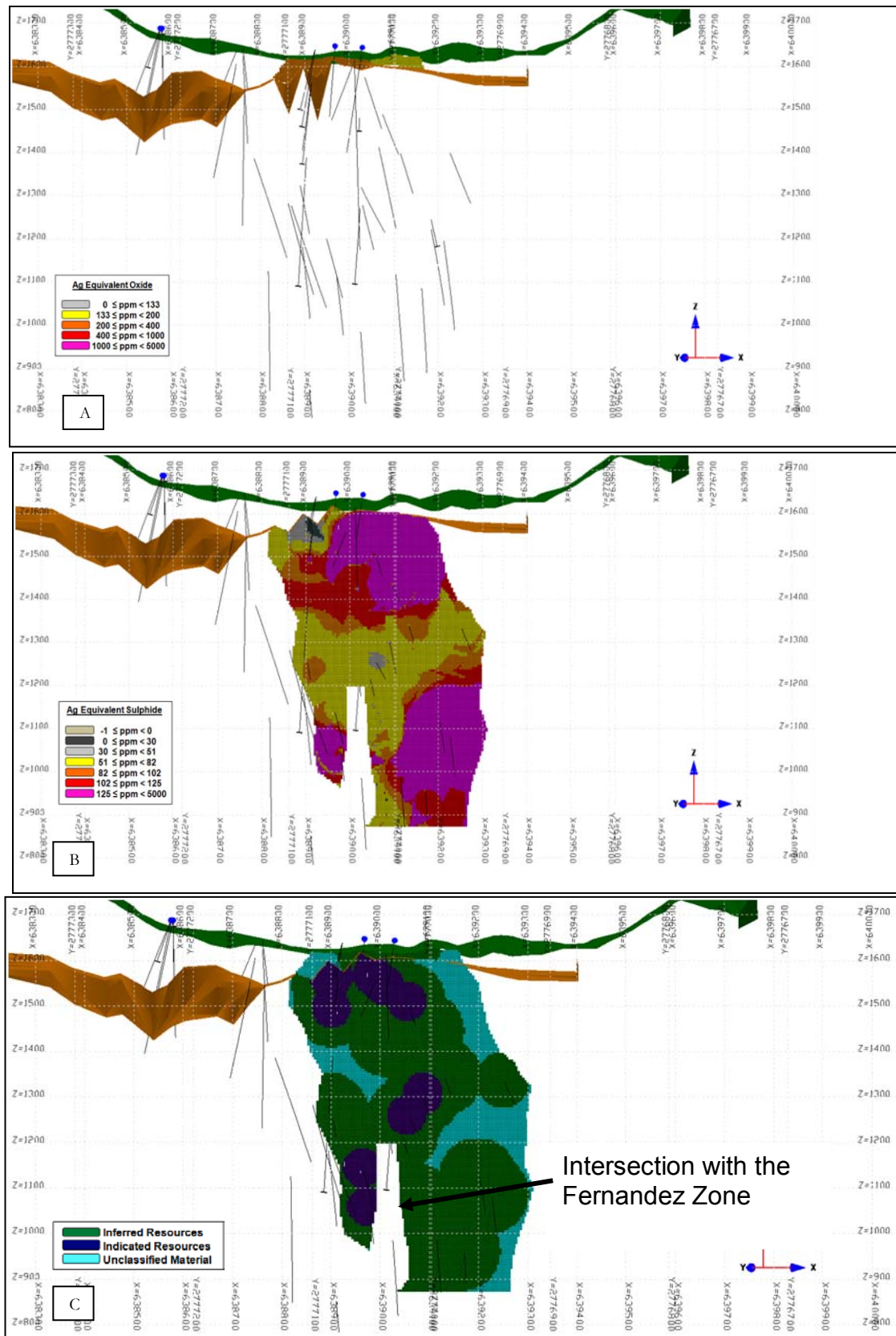


Figure 59: Oxide and sulphide block models, and classification of the Montanez Foot Wall vein, looking N022°.

# La Cruz

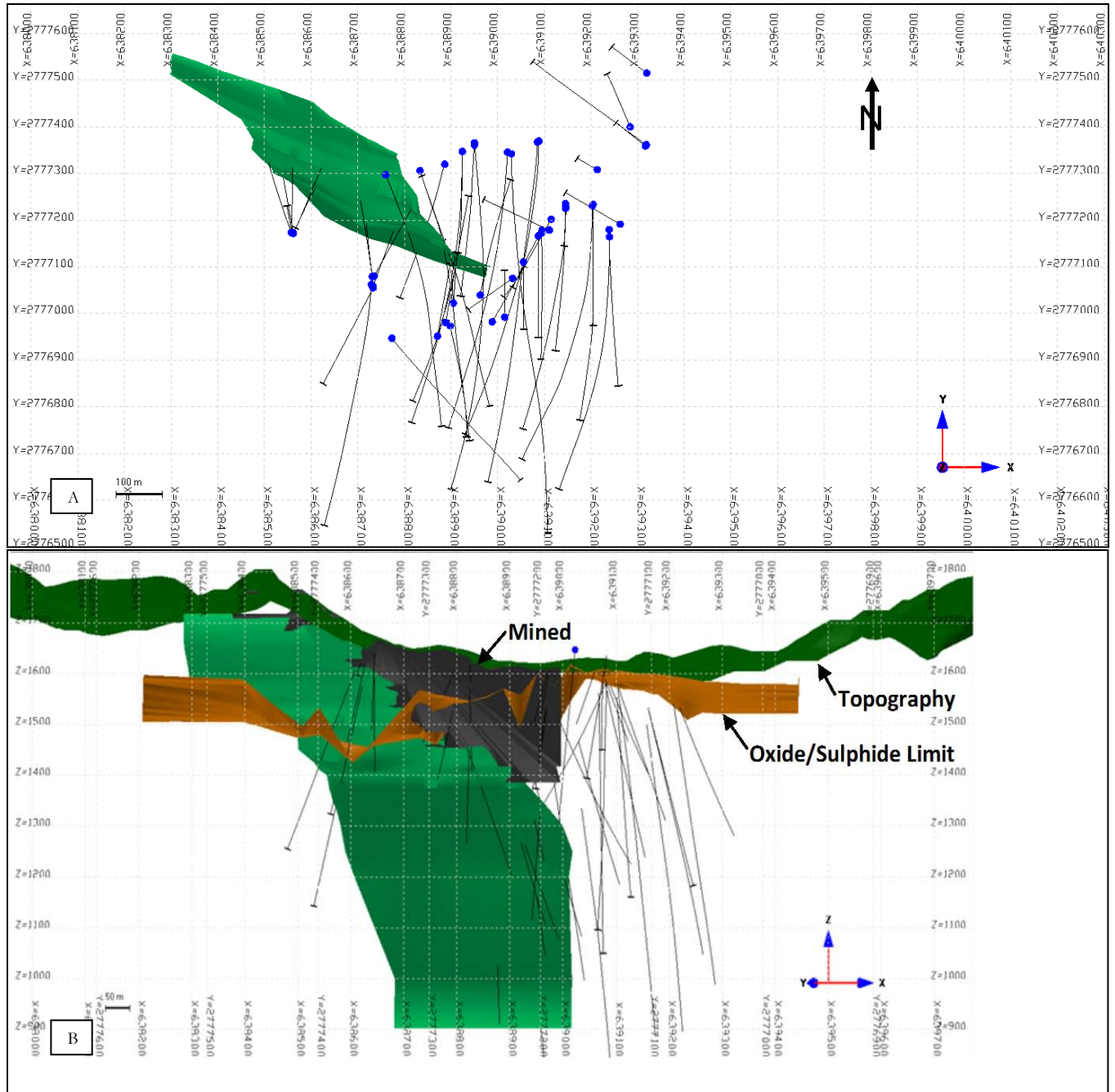


Figure 60: Plan view and longitudinal section view of La Cruz vein, (B) looking N026°.



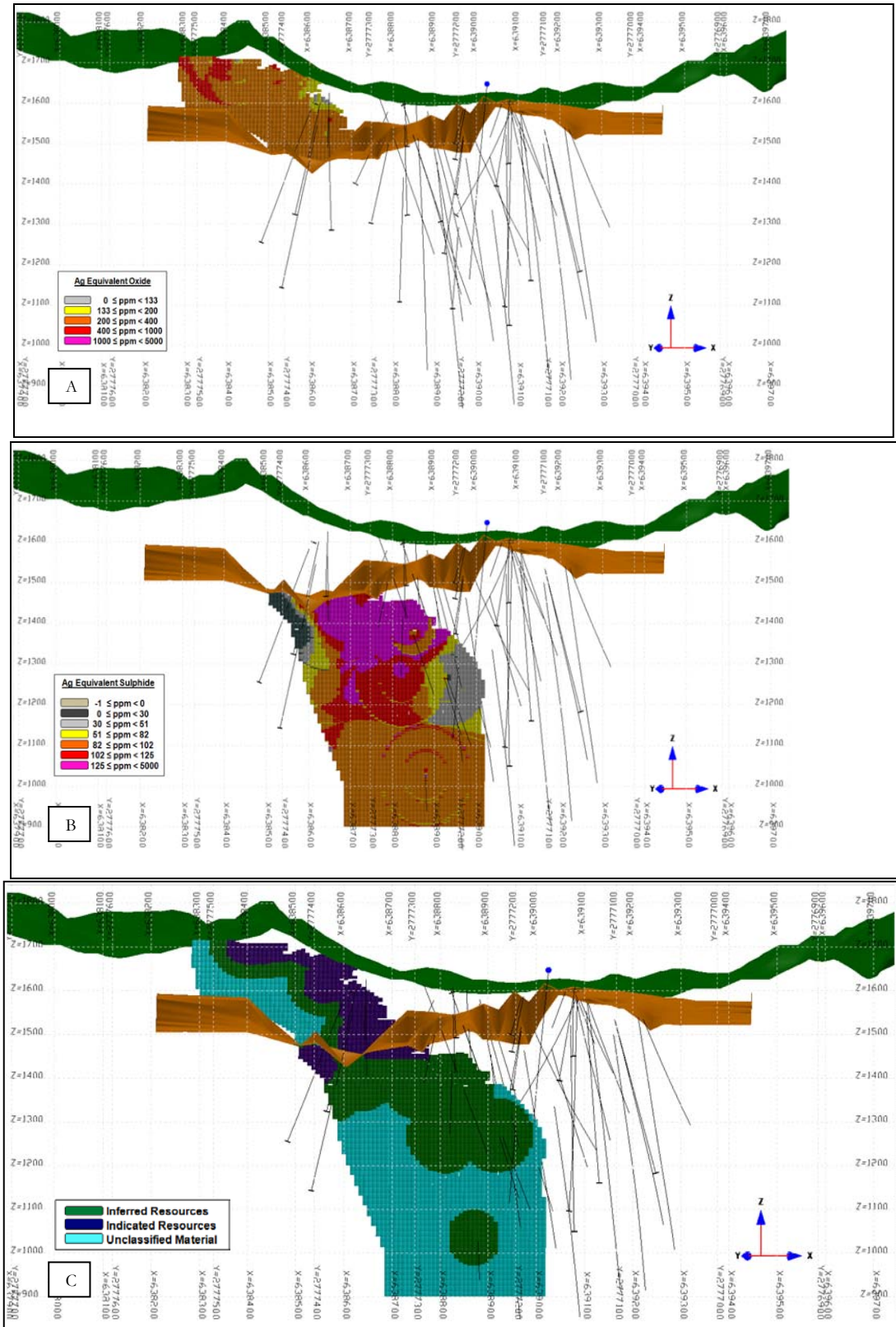


Figure 61: Oxide and sulphide block models, and classification of the La Cruz vein, looking N026°.

Corredor

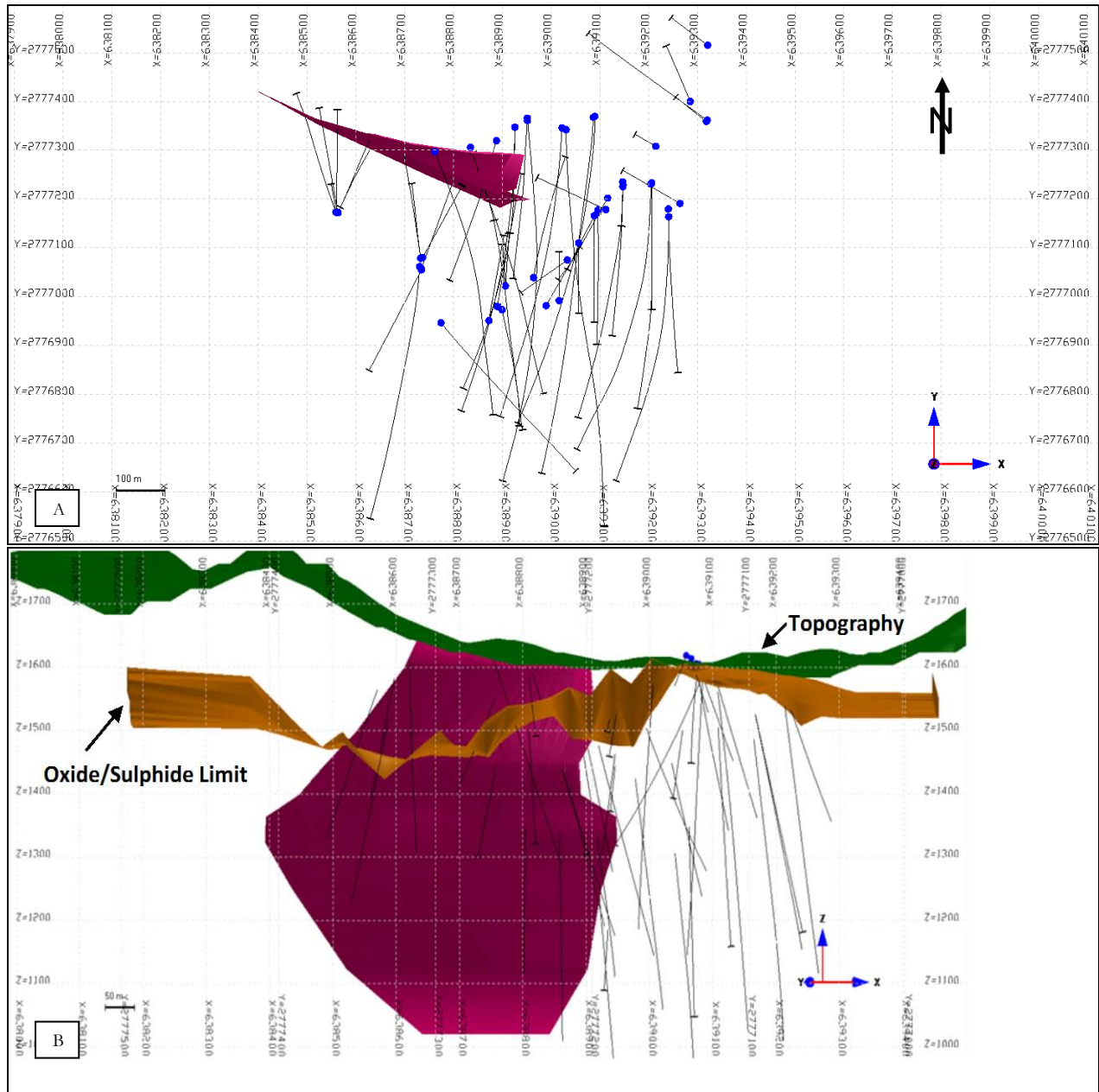


Figure 62: Plan view and longitudinal section view of the Corredor vein, (B) looking N022°.

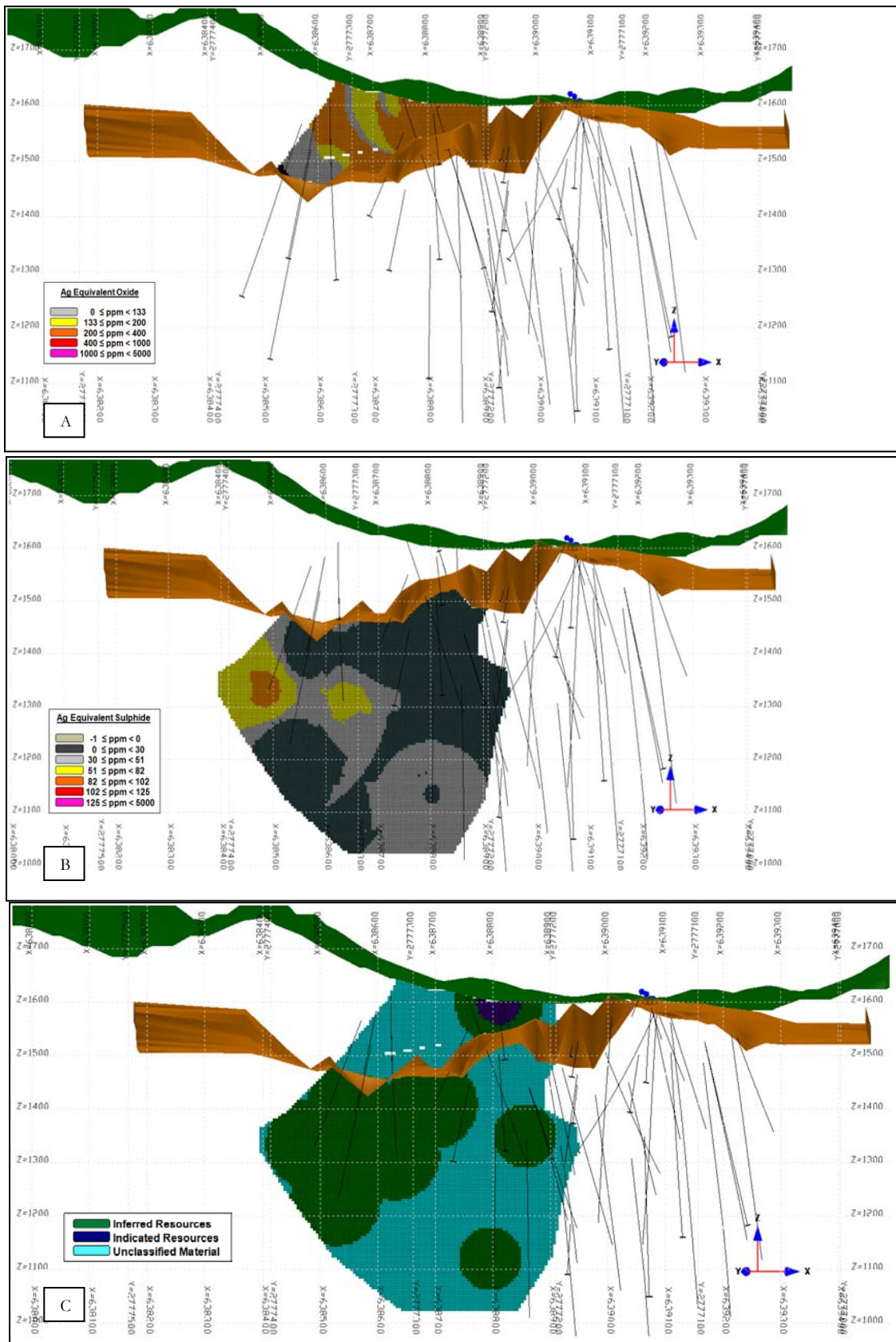


Figure 63: Oxide and sulphide block models, and classification of the Corredor vein, looking N022°.

E-W Fault Zone

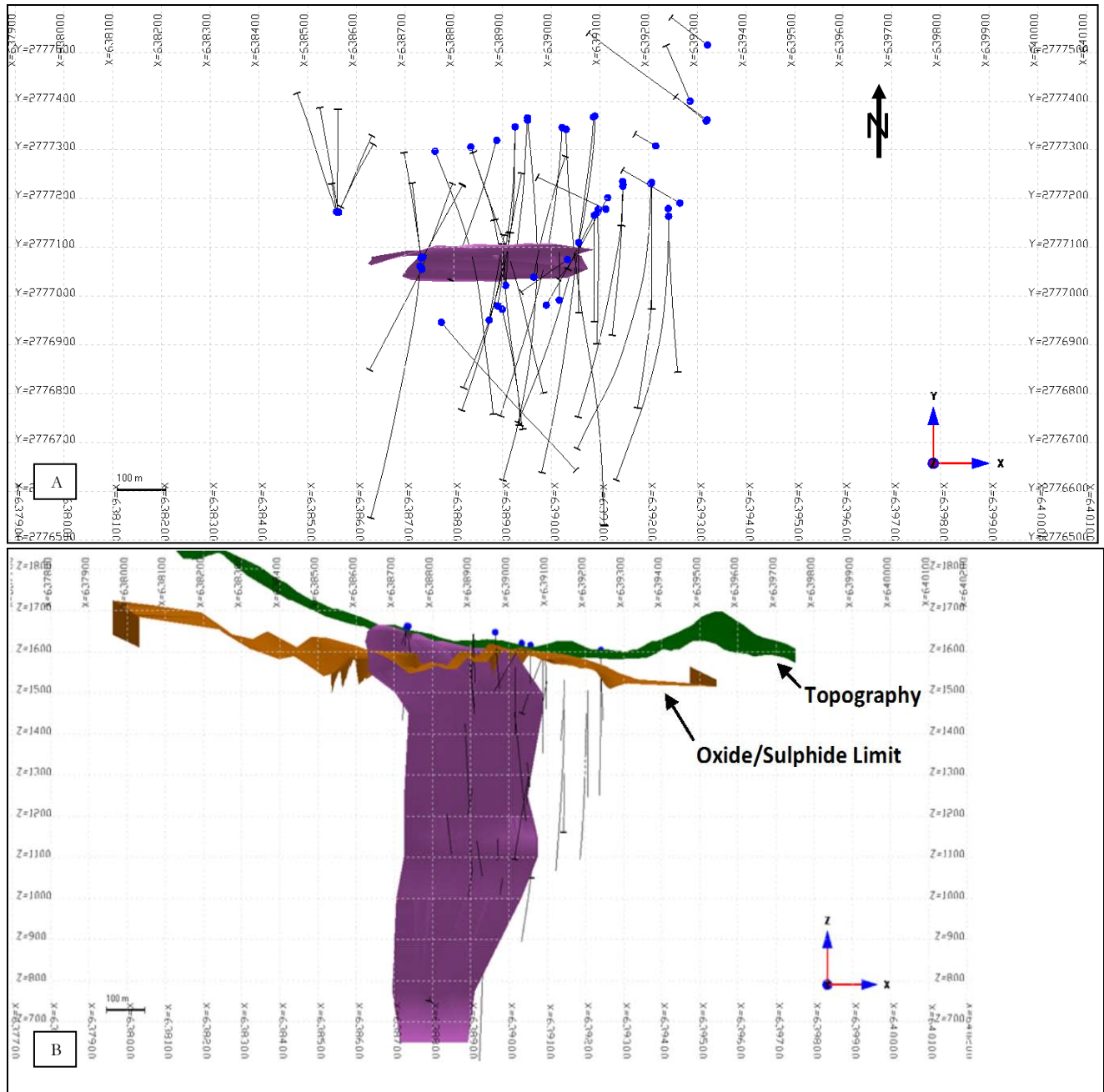


Figure 64: Plan view and longitudinal section view of the E-W Fault Zone vein, (B) looking N000°.

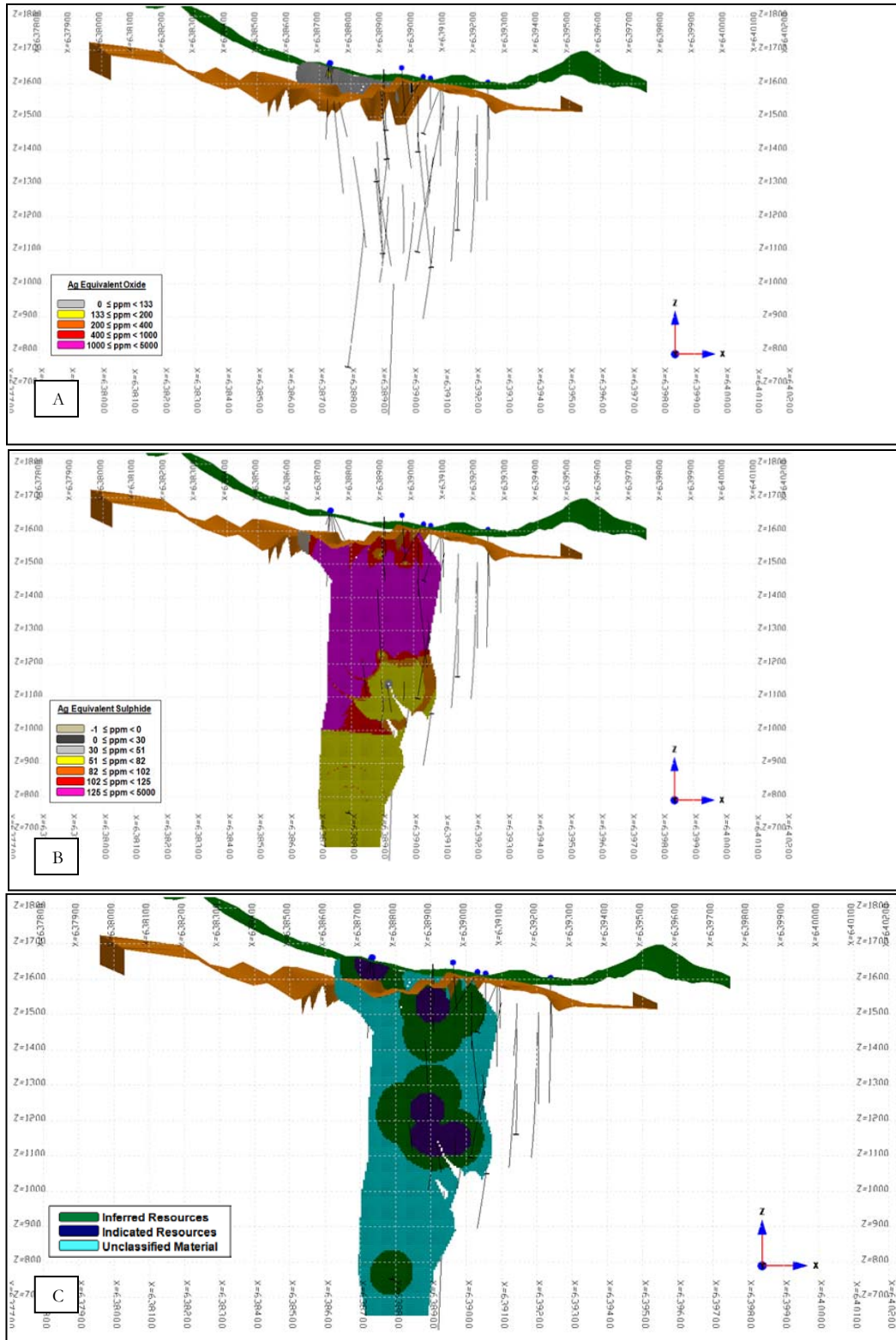


Figure 65: Sulphide and oxide block models, and classification of the E-W Fault Zone vein, looking N000°.

W-Contact

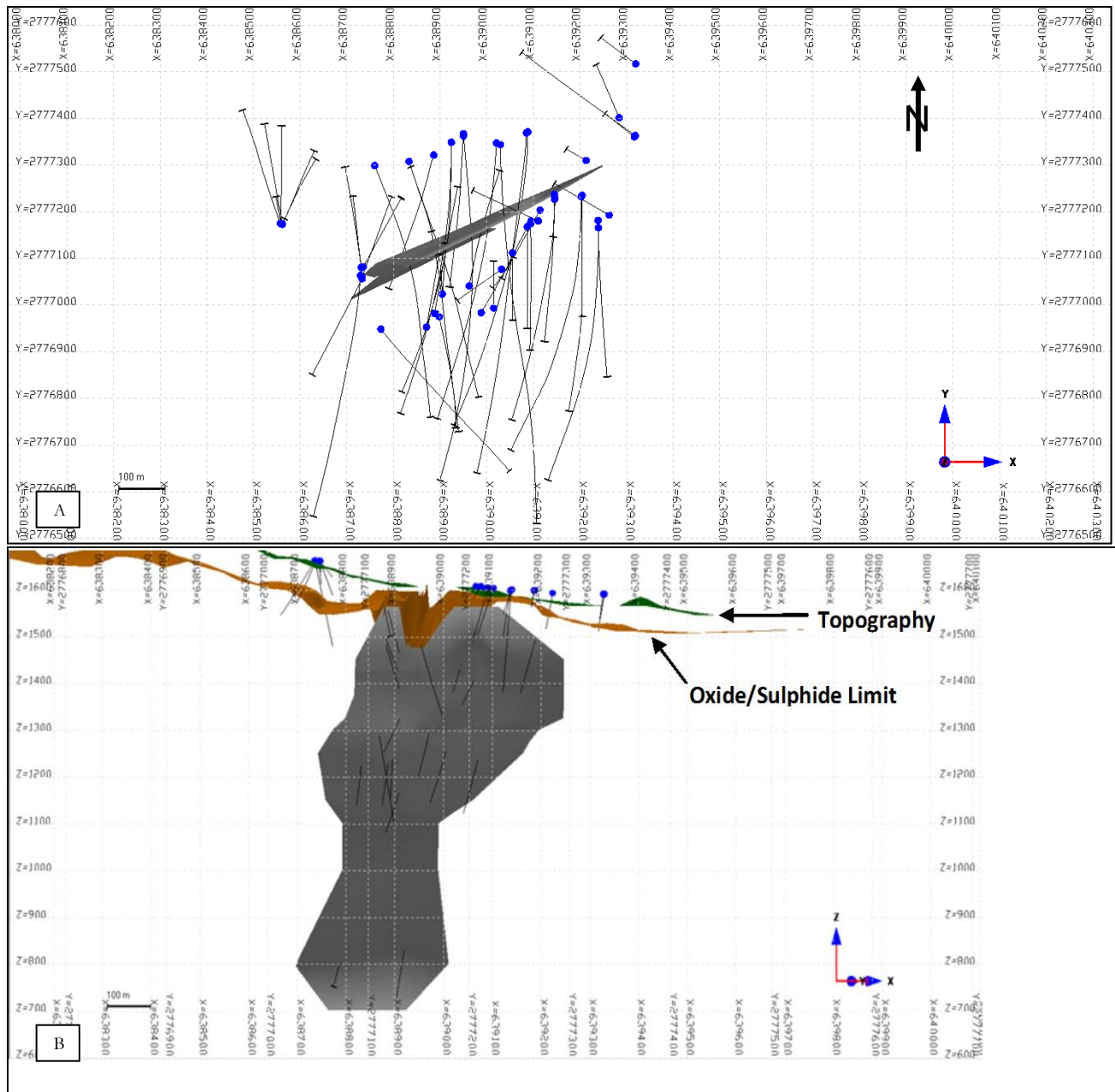


Figure 66: Plan view and longitudinal section view of the W-Contact vein, (B) looking N334°.

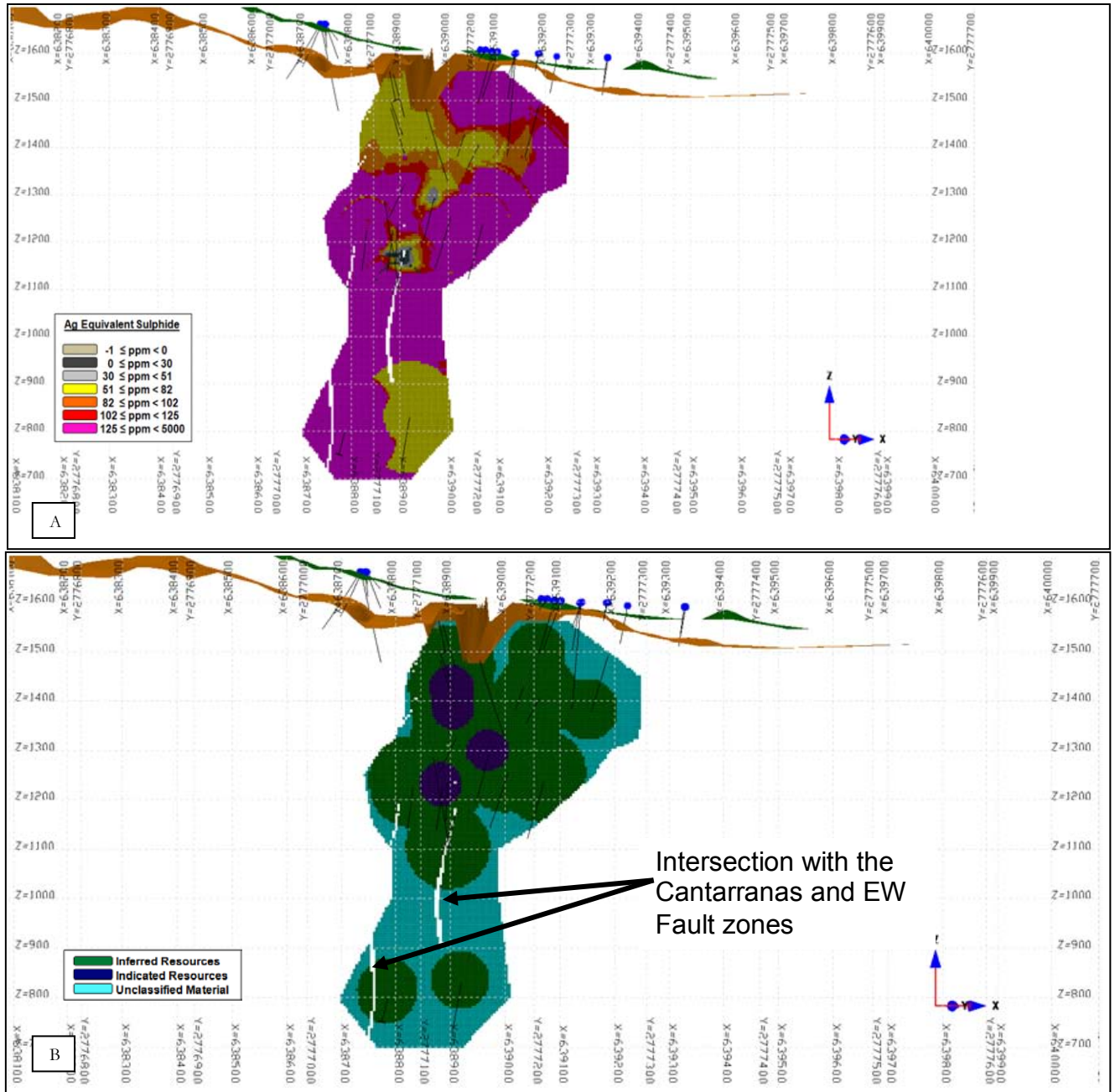


Figure 67: Sulphide block model and classification of the W-Contact vein, looking N334°.

Rata

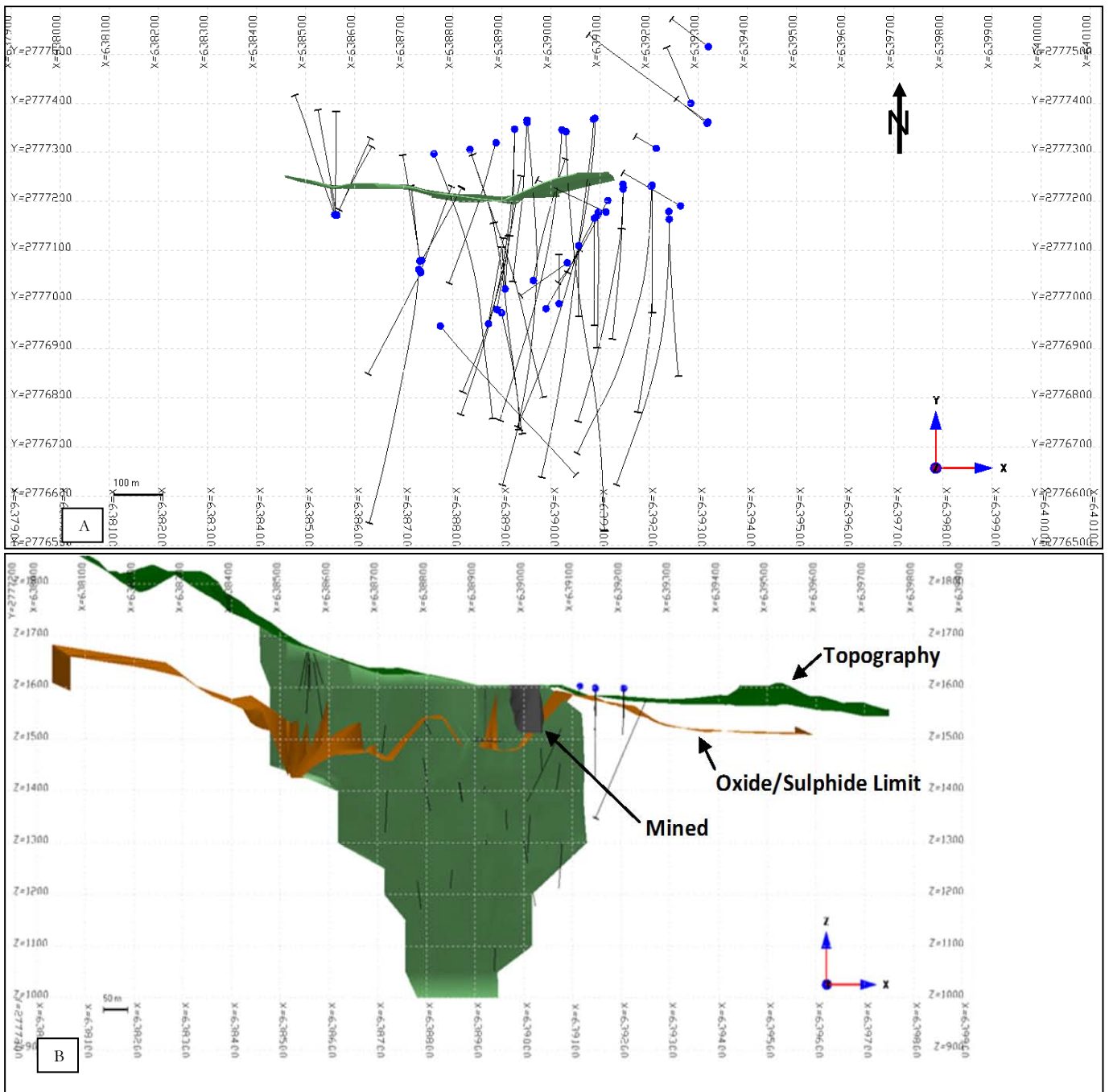


Figure 68: Plan view and longitudinal section view of the Rata vein, (B) looking N000°.



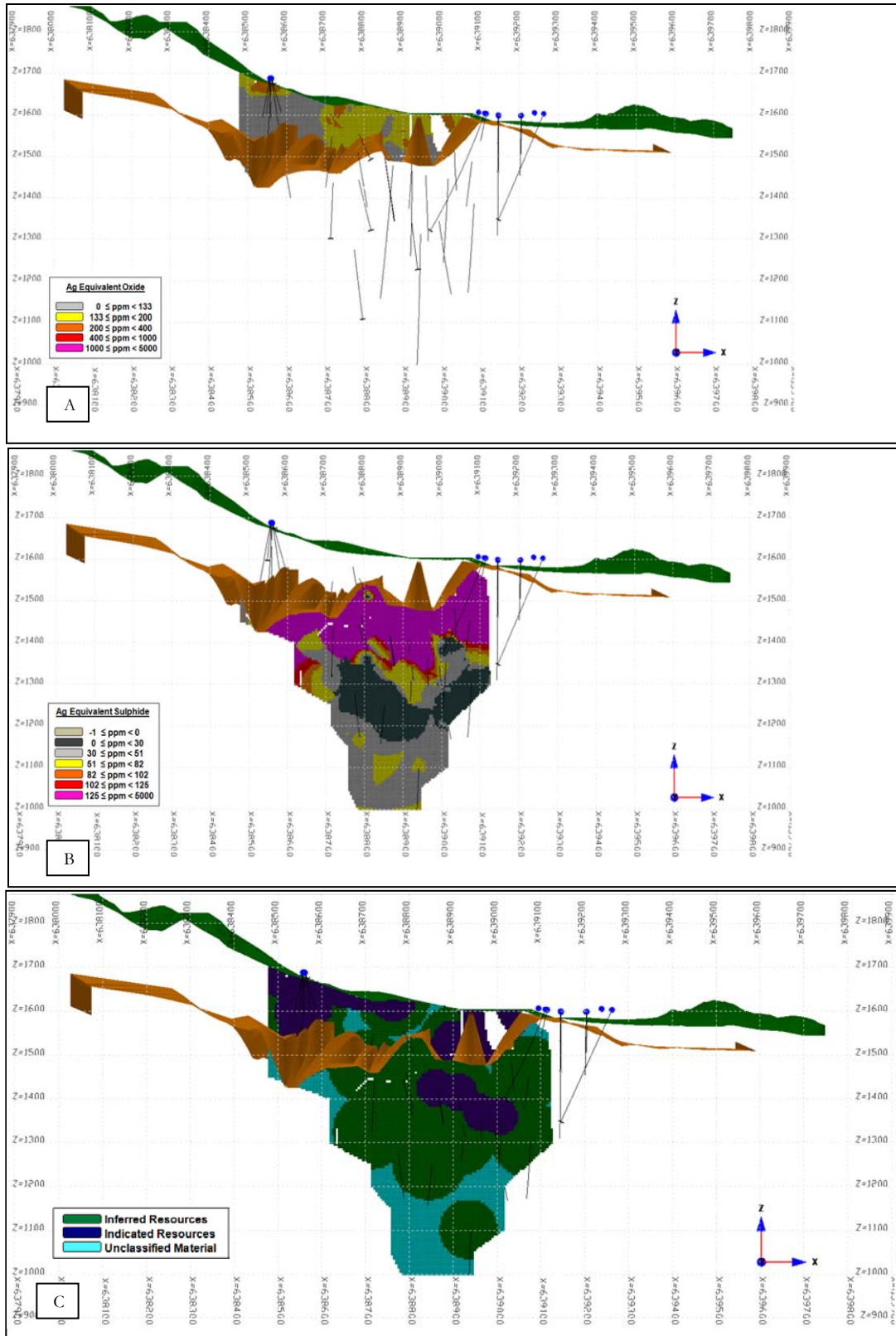


Figure 69: Oxide and sulphide block models, and classification of the Rata vein, looking N000°.

Rata-Sub

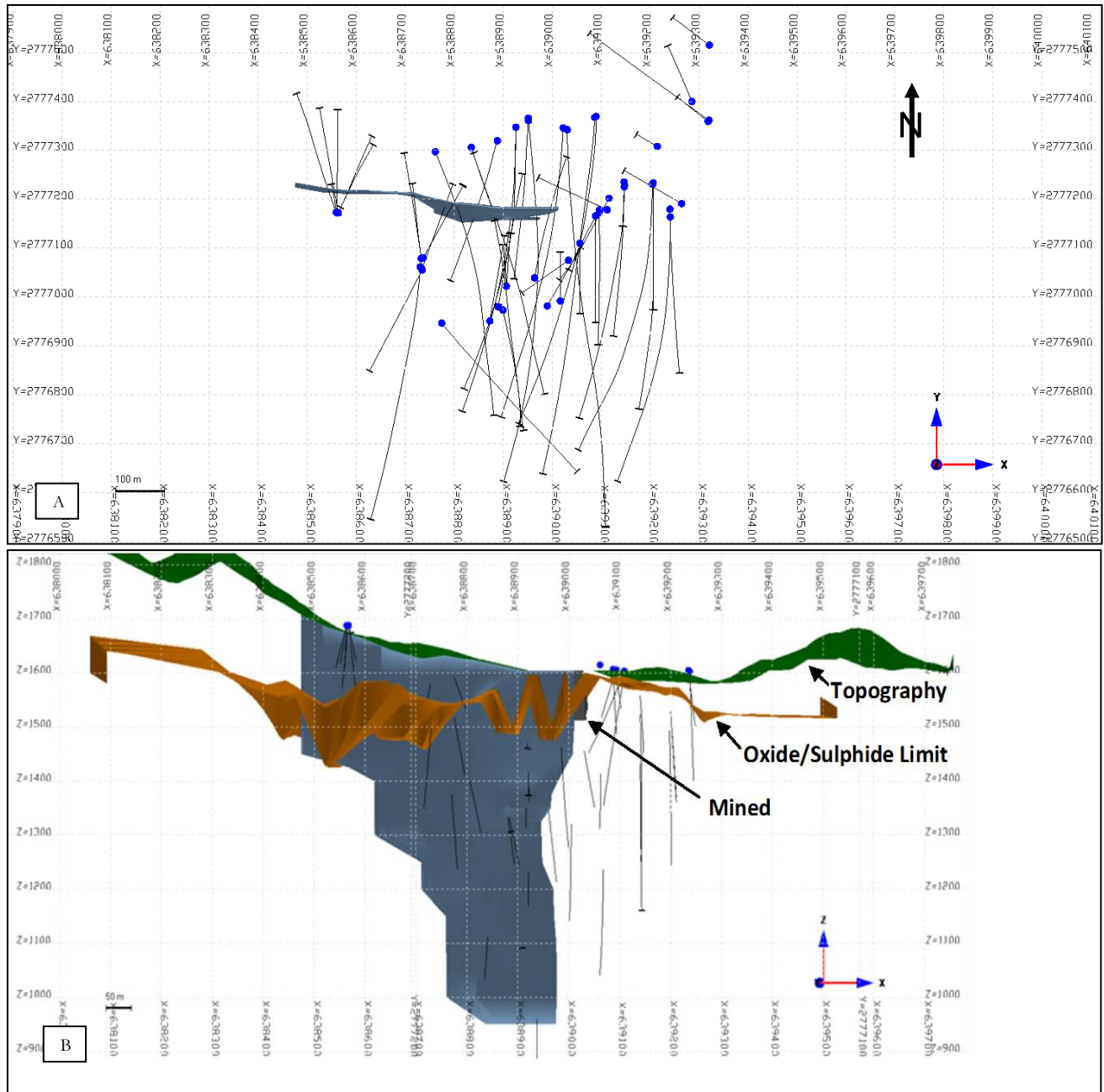


Figure 70: Plan view and longitudinal section view of the Rata-Sub vein, (B) looking N006°.

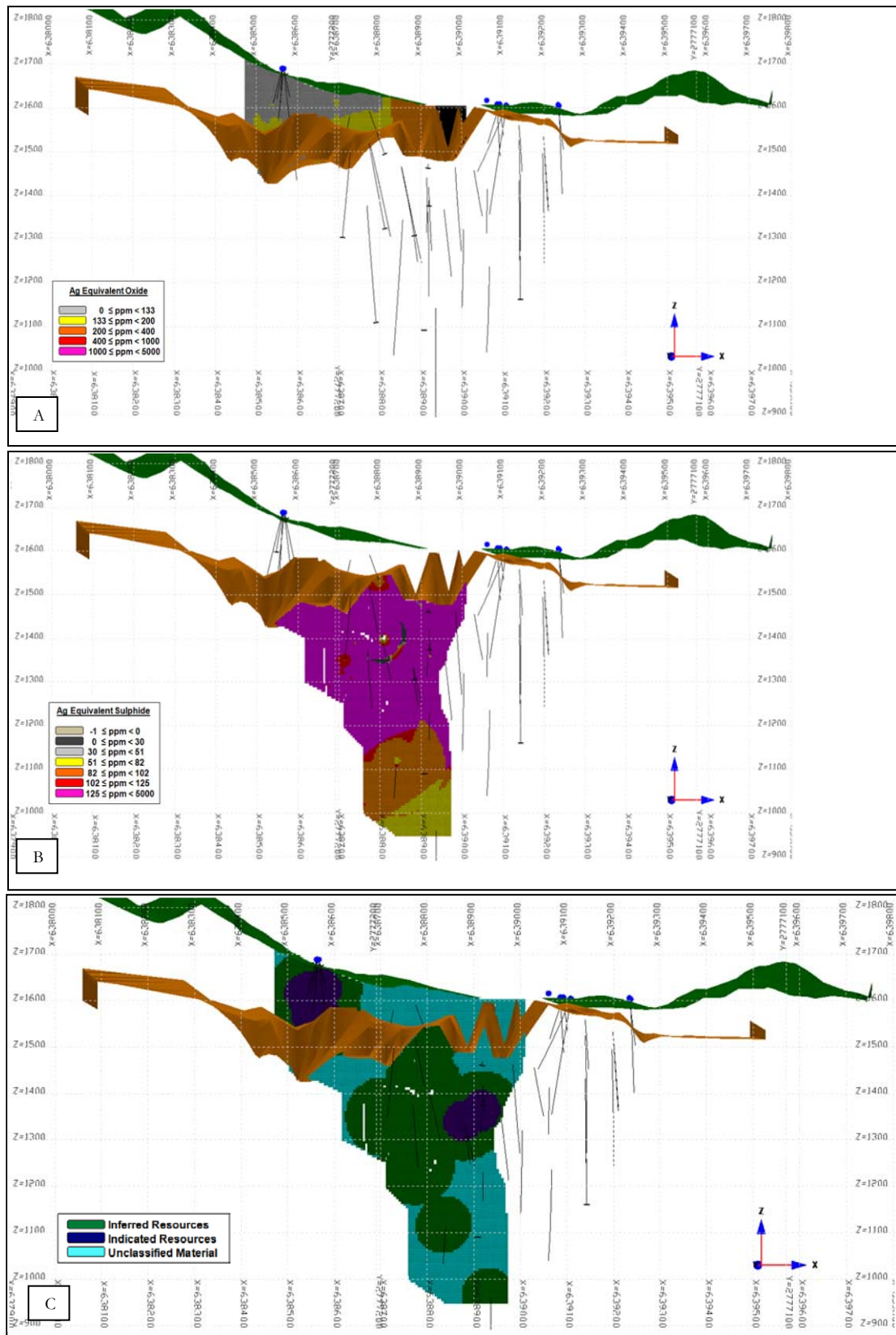


Figure 71: Oxide and sulphide block models, and classification of the Rata-Sub vein, looking N006°.

El Jal

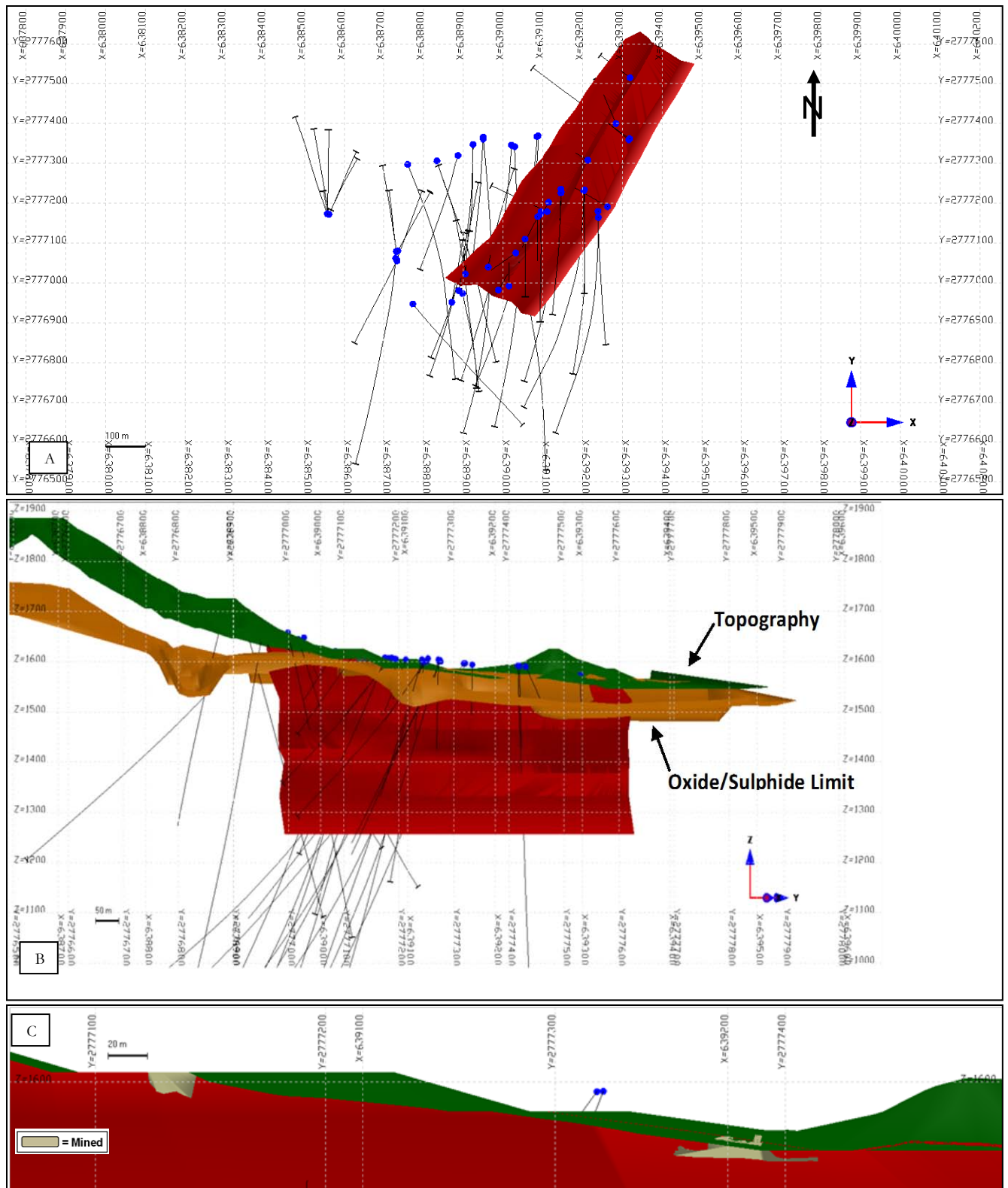


Figure 72: Plan view, longitudinal sections view, and old workings of the El Jal vein, (B) and (C) looking N302°.

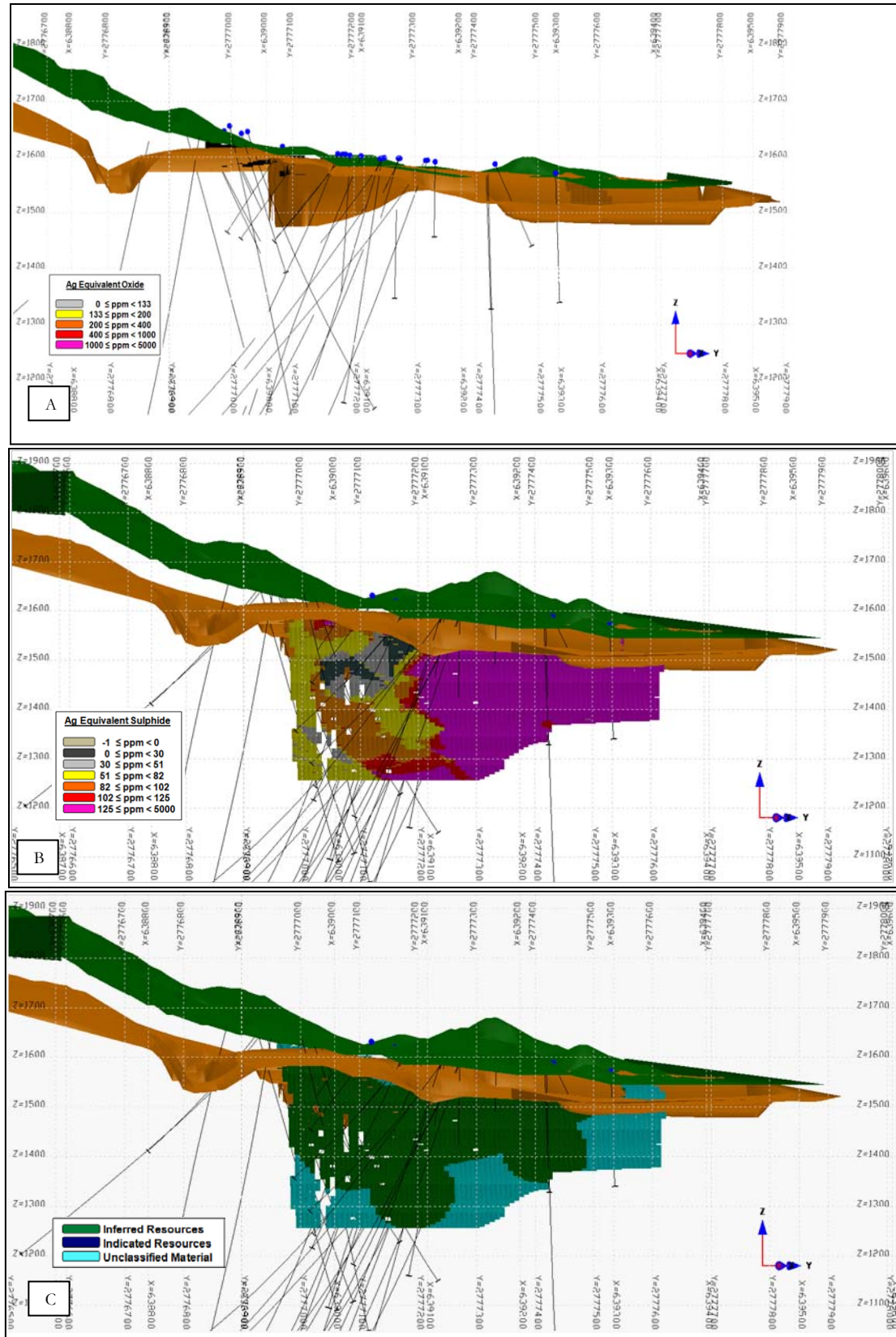


Figure 73: Oxide and sulphide block models, and classification of the El Jal vein, looking N302°.

Mid-Zone

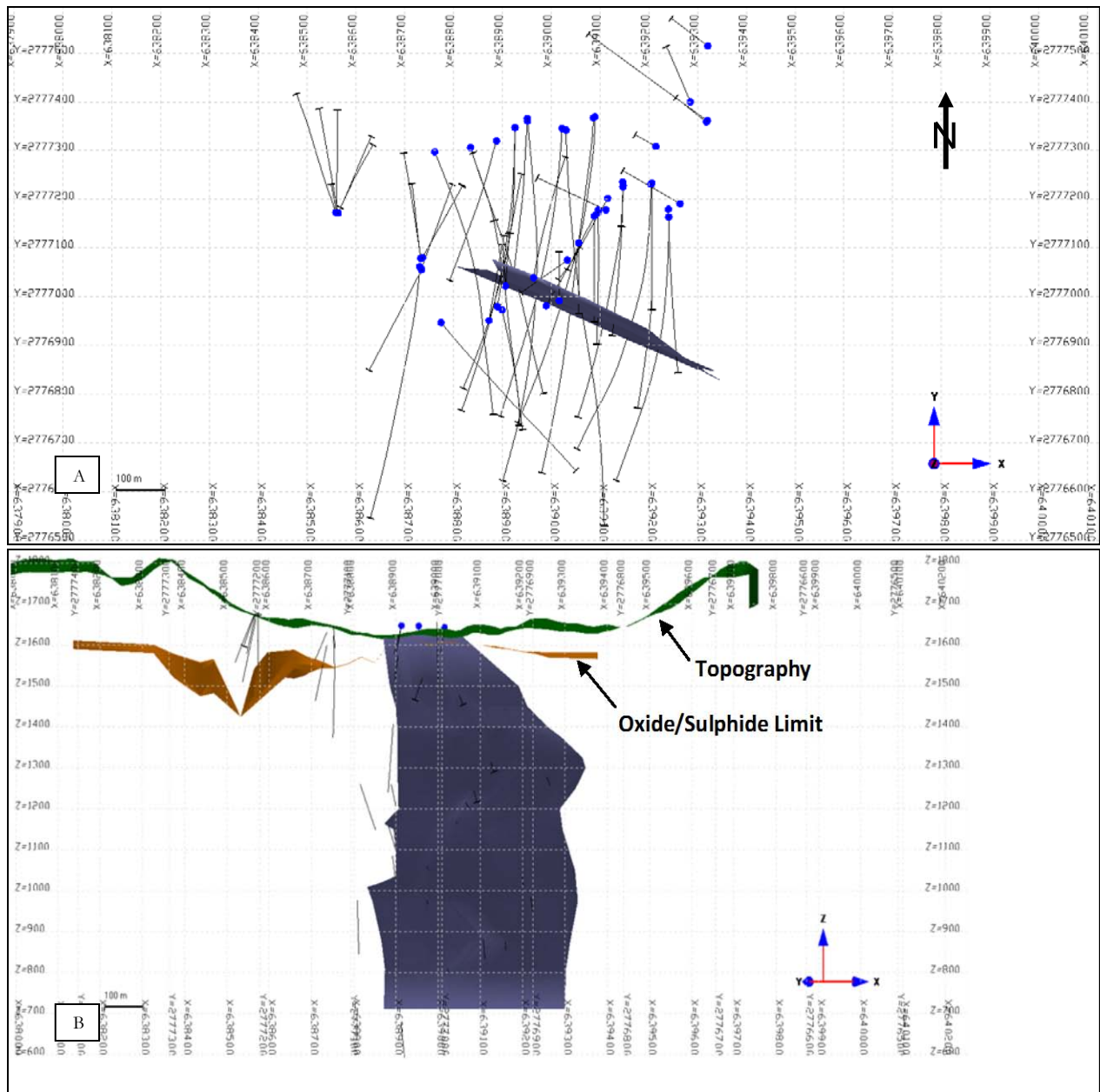


Figure 74: Plan view and longitudinal section view of the Mid-Zone vein, (B) looking N025°.

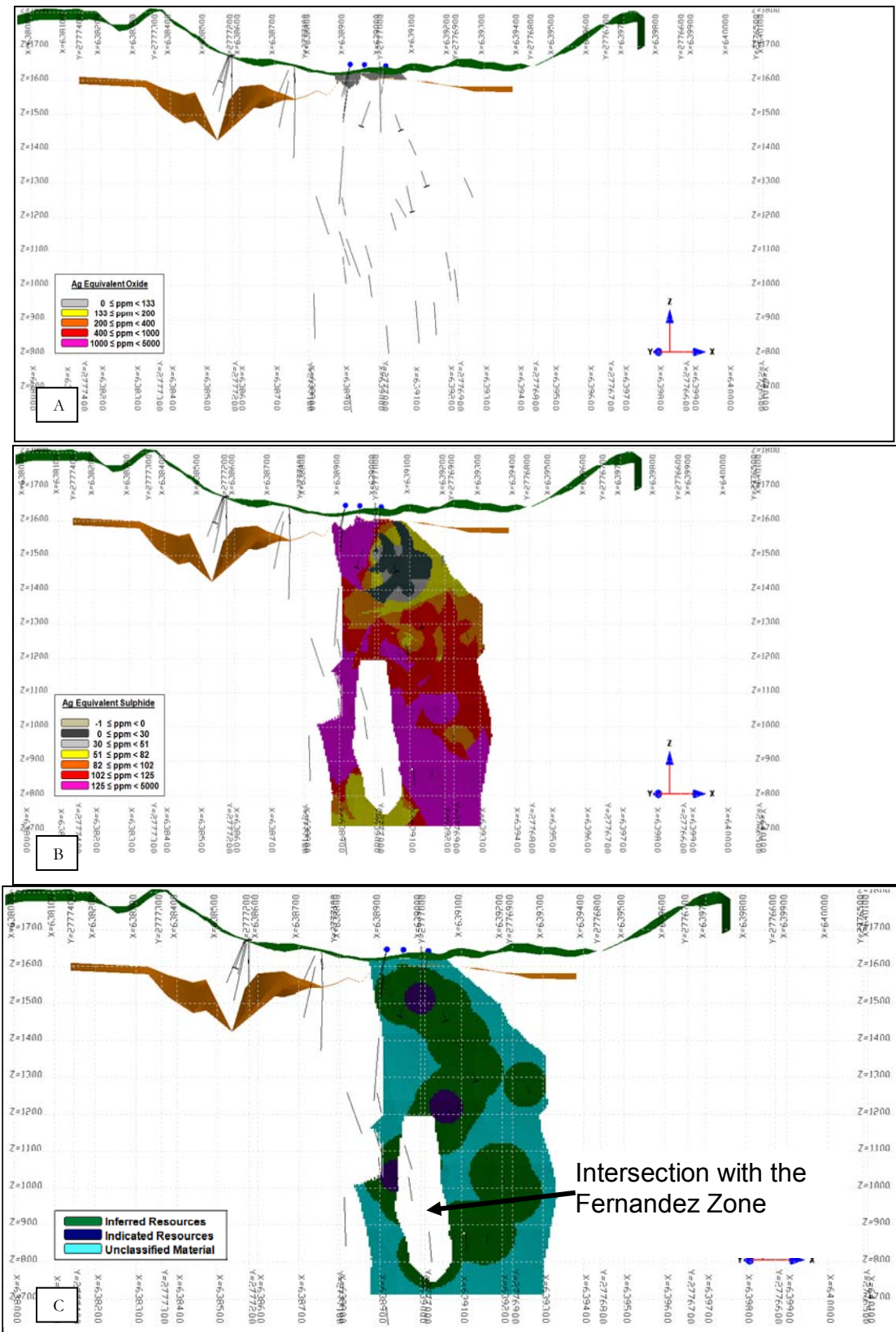


Figure 75: Oxide and sulphide block models, and classification of the Mid-Zone vein, looking N025°.

Canta-Splay

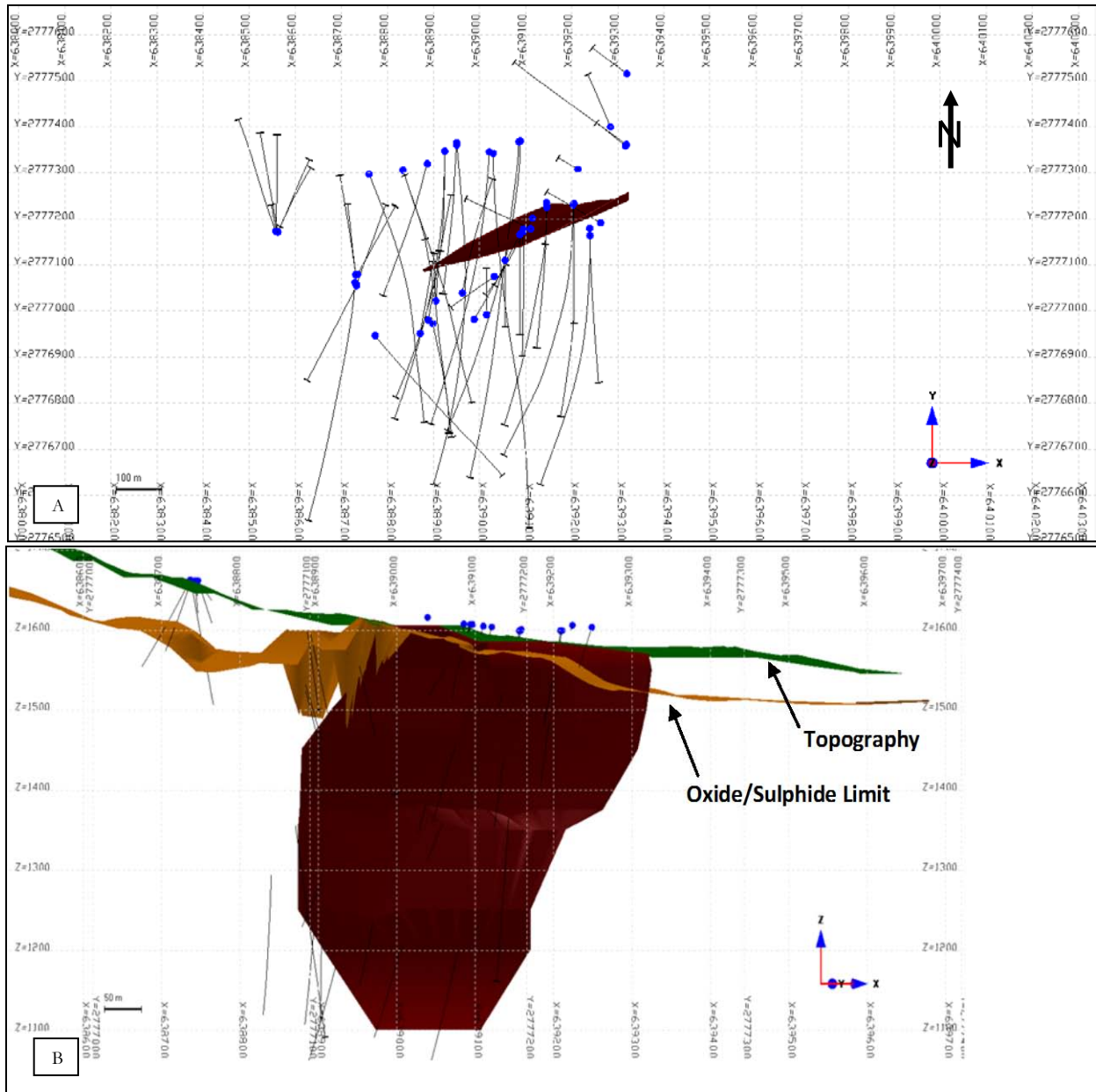


Figure 76: Plan view and longitudinal section view of the Canta-Splay vein, (B) looking N340°.



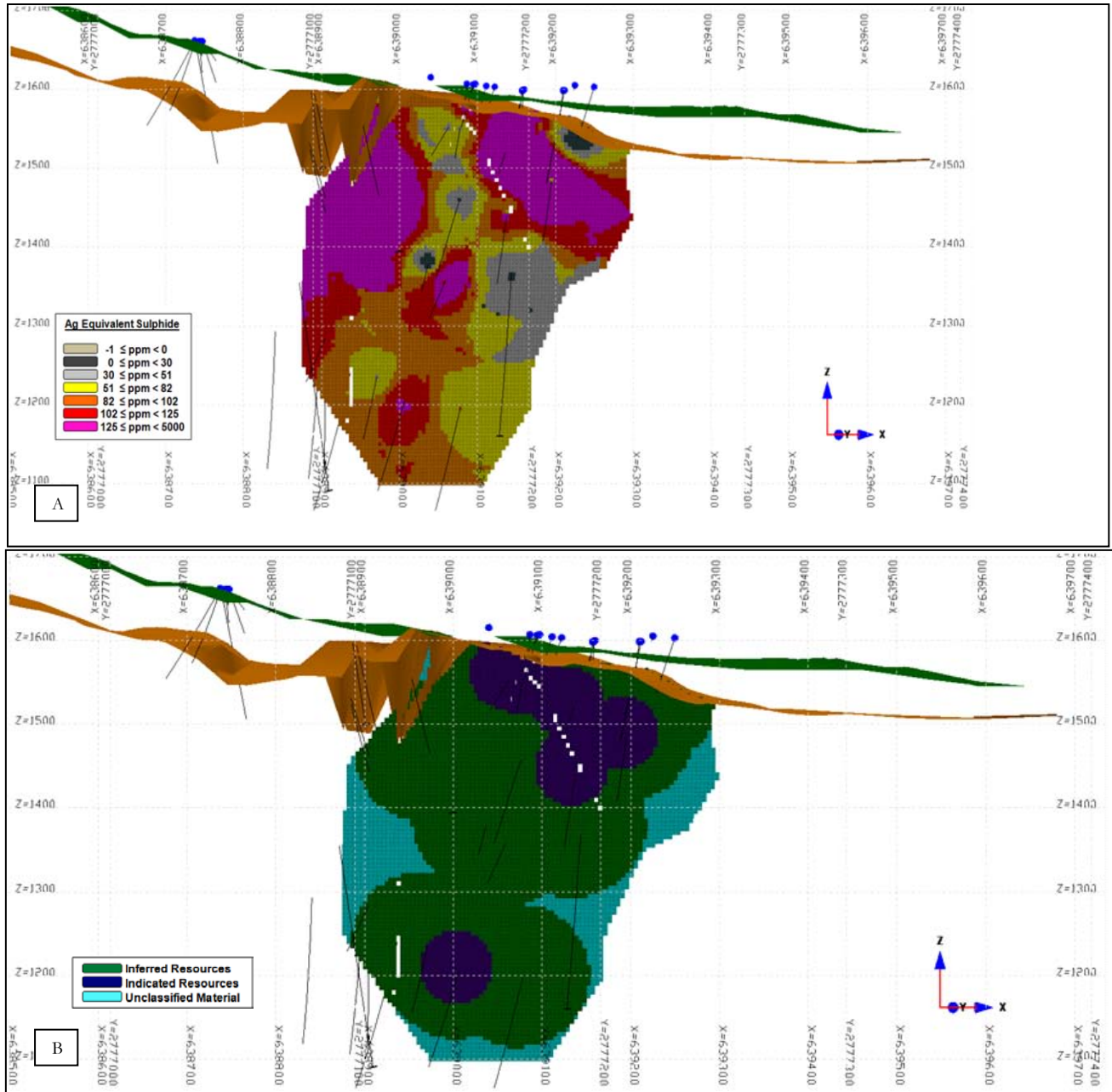


Figure 77: Sulphide block model and classification of the Canta-Splay vein, looking N340°.

Arroyo

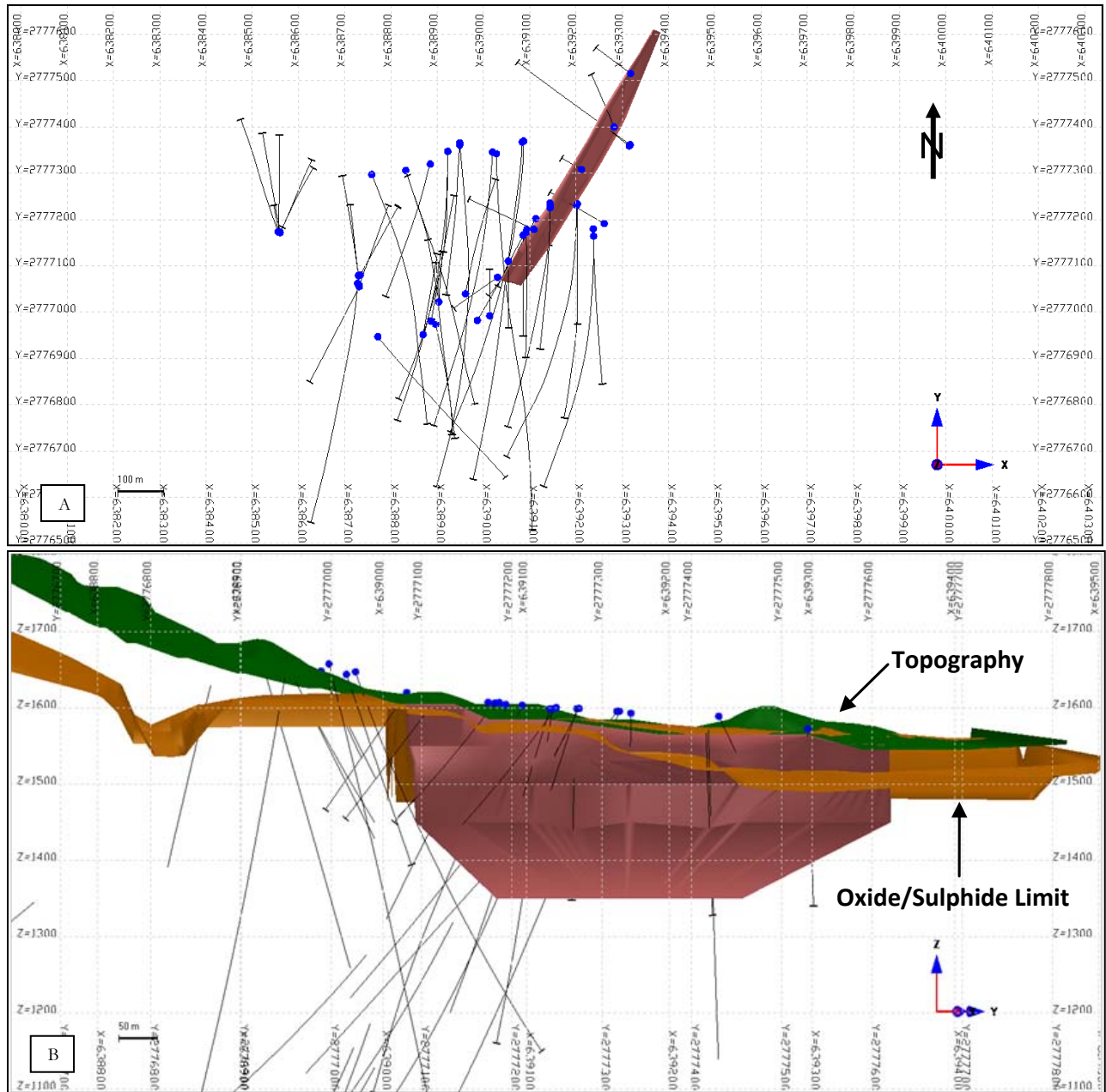


Figure 78: Plan view and longitudinal section view of the Arroyo vein, (B) looking N302°.

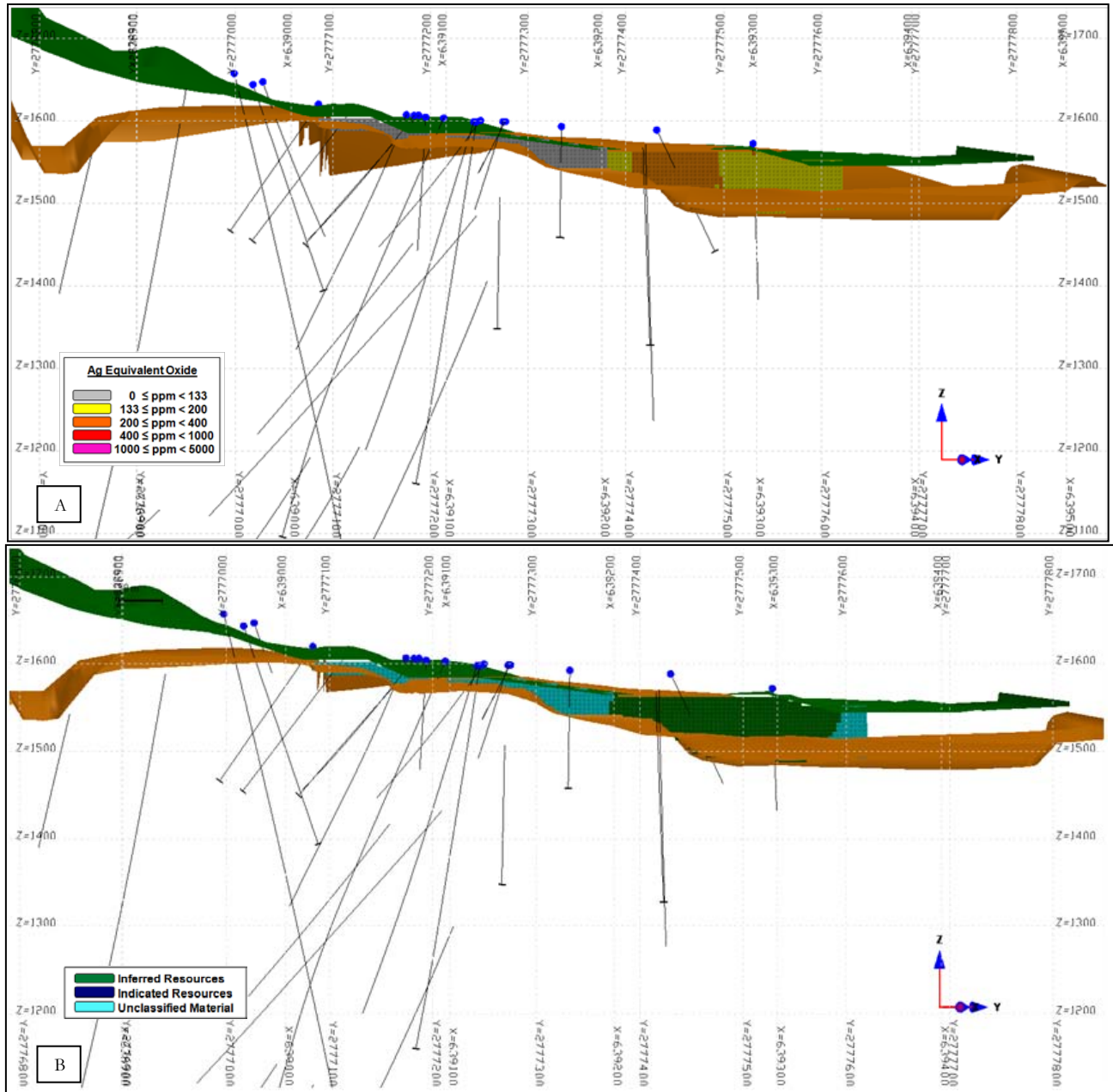


Figure 79: Oxide block model and classification of the Arroyo vein, looking N302°.

MS Zone

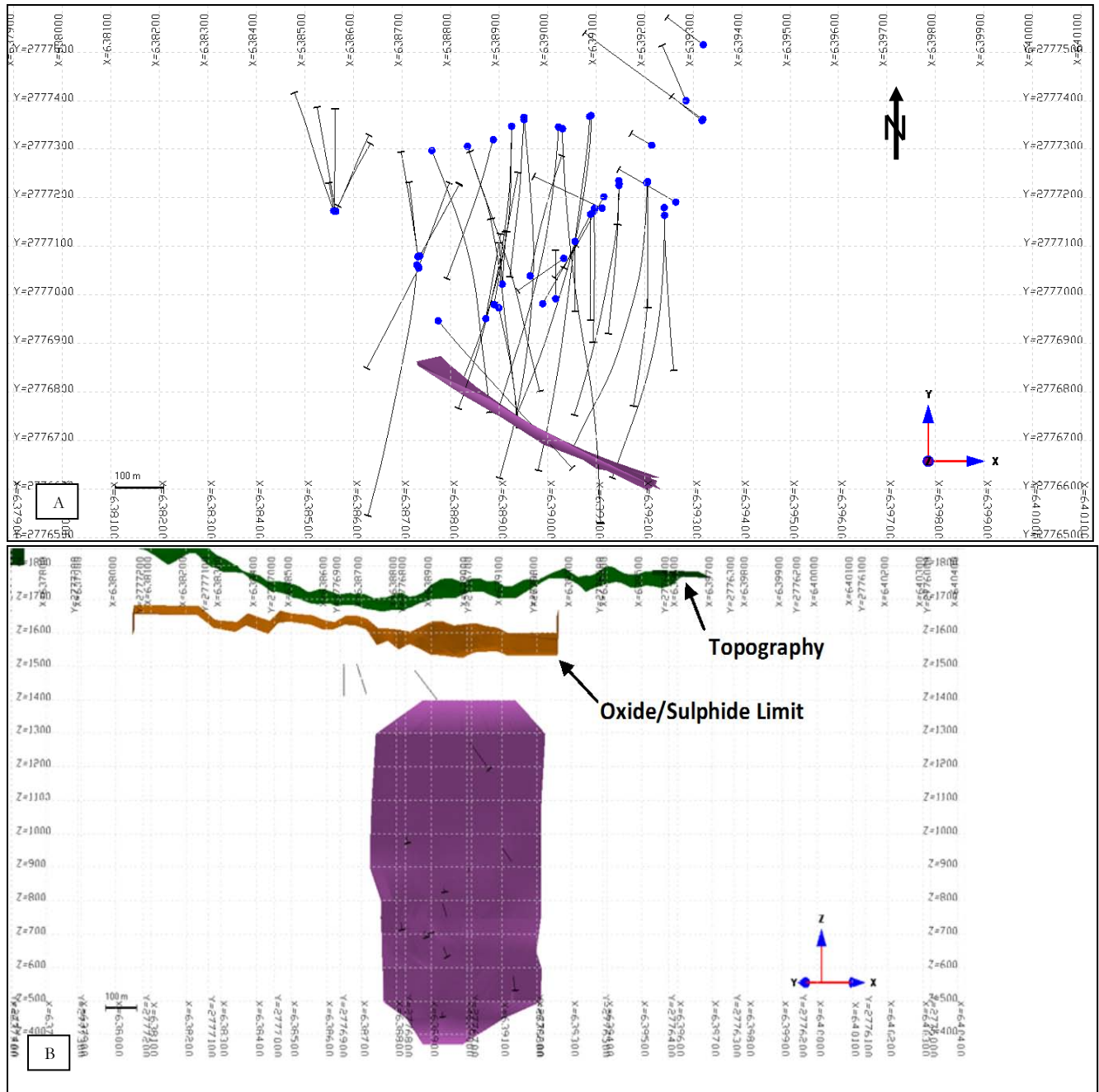


Figure 80: Plan view and longitudinal section view of the MS Zone vein, (B) looking N028°.

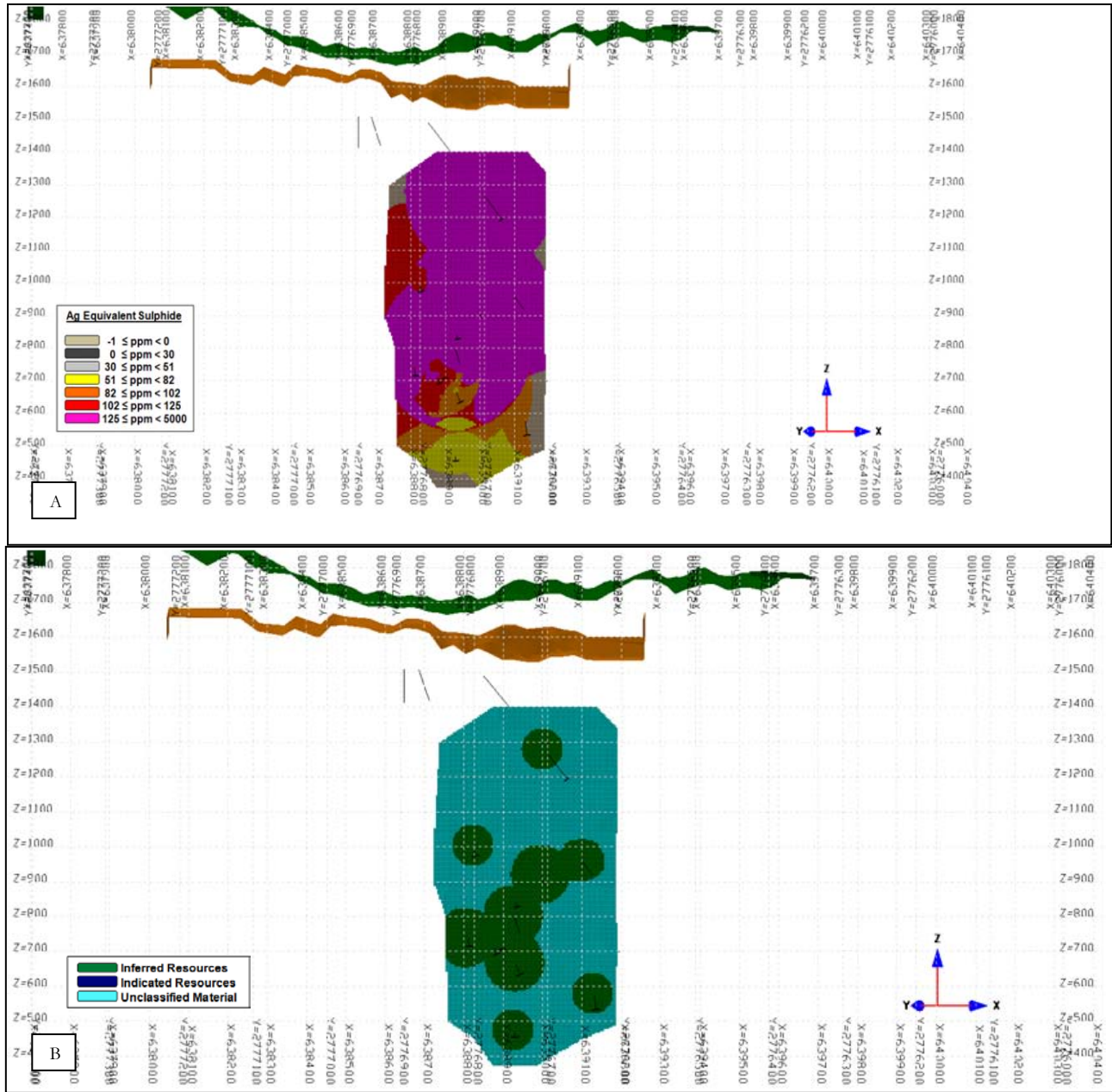


Figure 81: Sulphide block model and classification of the MS-Zone vein, looking N028°.

Ag Zone

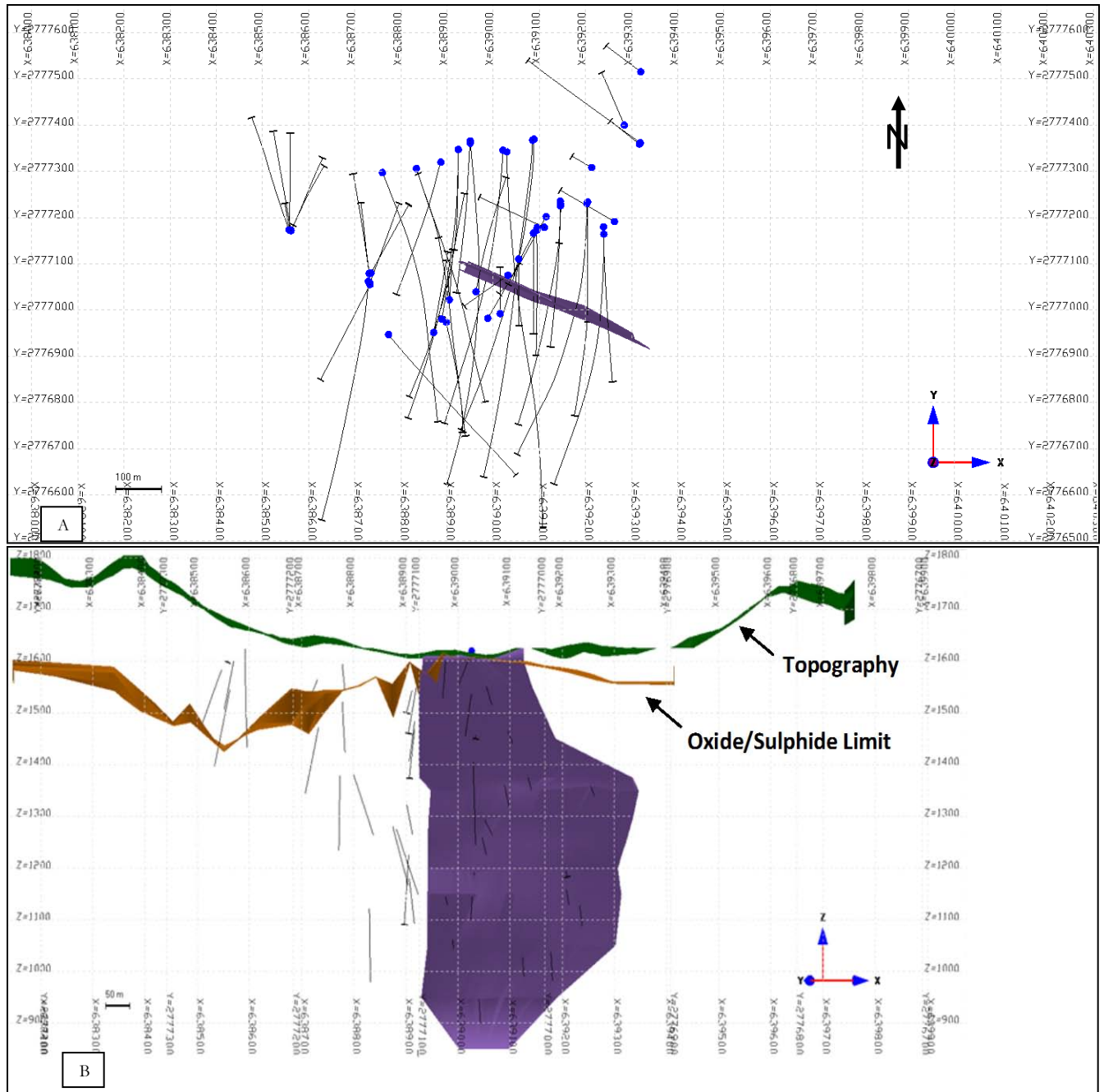


Figure 82: Plan view and longitudinal section view of the Ag-Zone vein, (B) looking N023°.

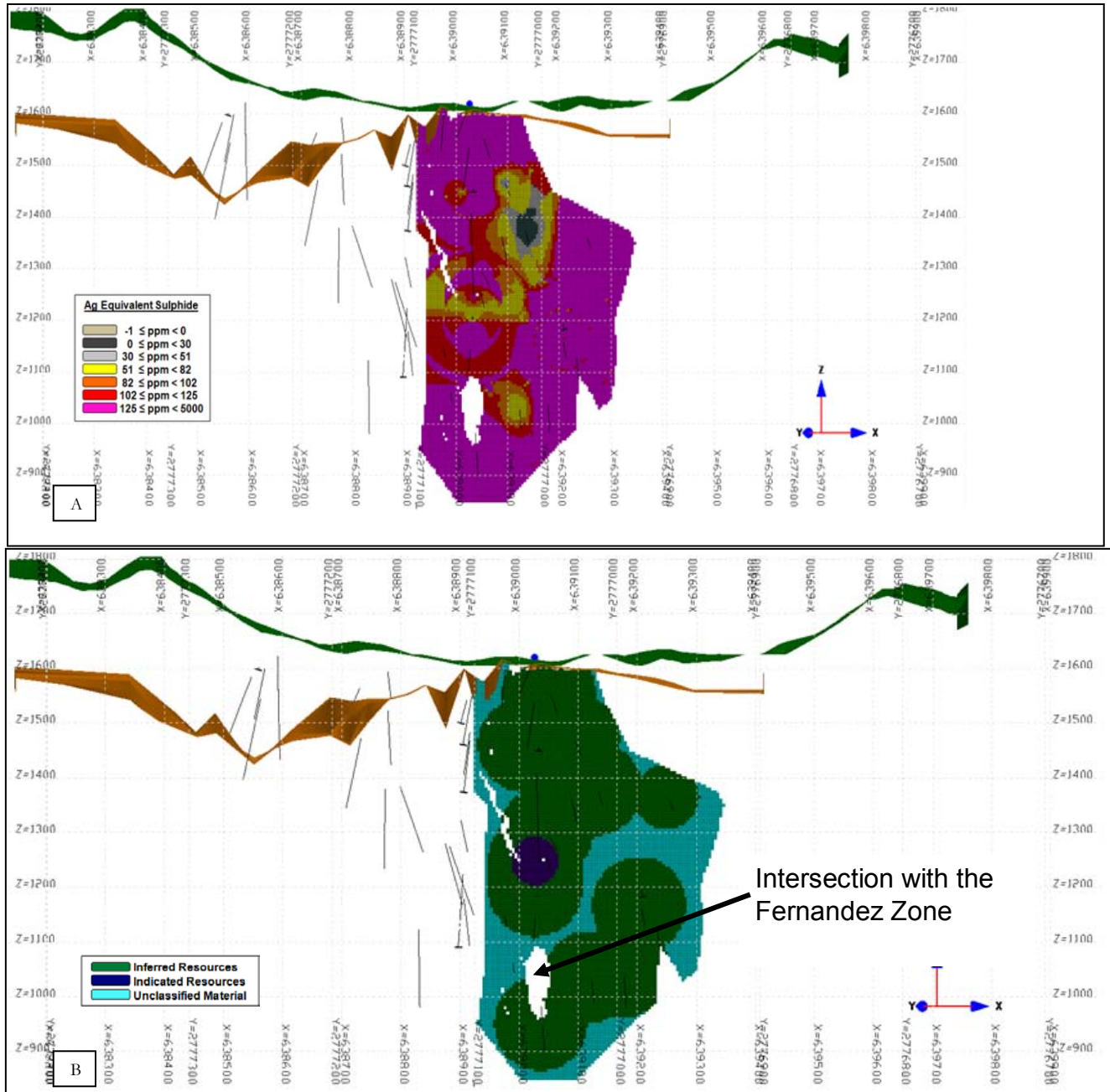


Figure 83: Sulphide block model and classification of the Ag-Zone vein, looking N023°.

Lorenzo

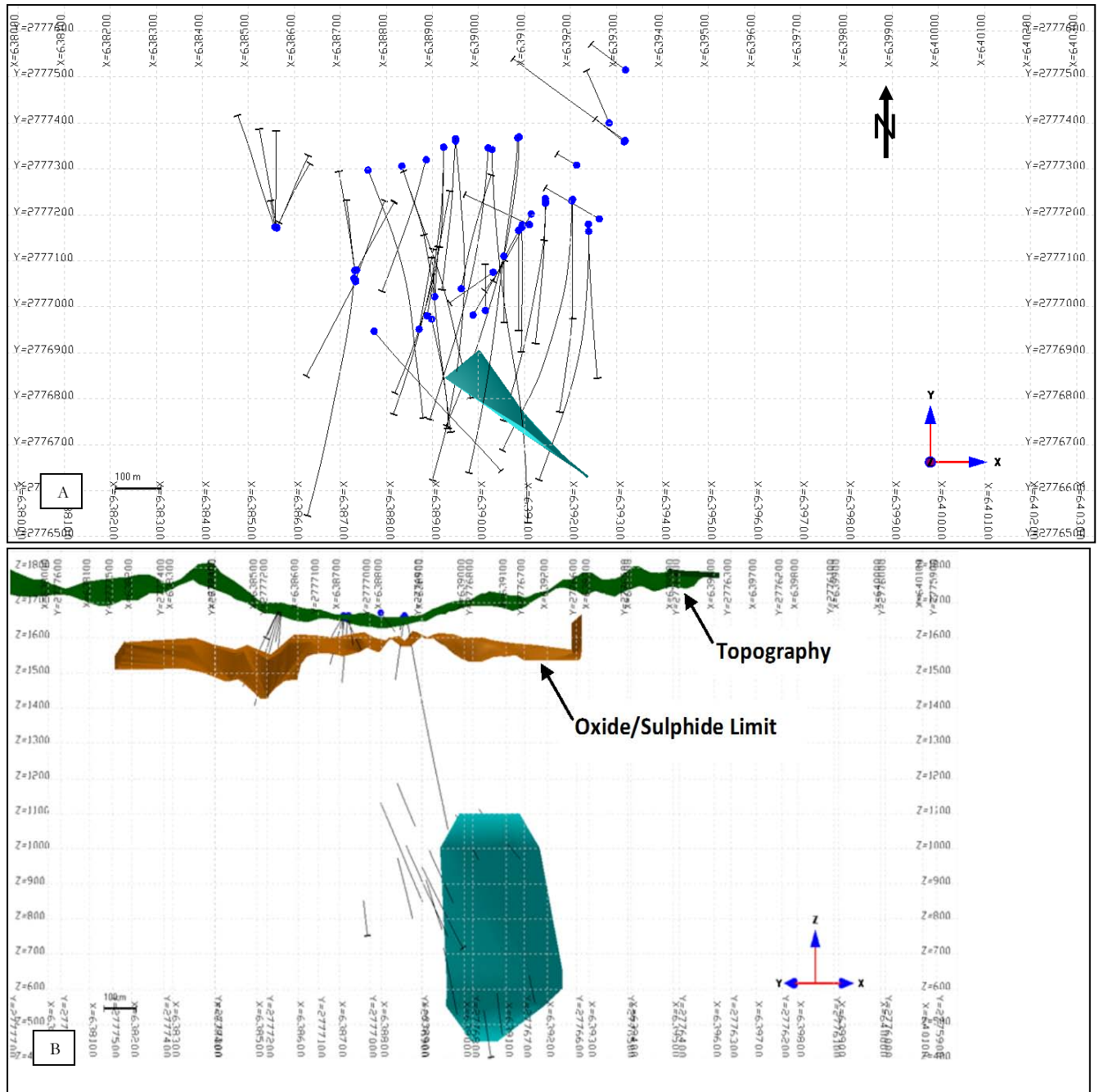


Figure 84: Plan view and longitudinal section view of the Lorenzo vein, (B) looking N039°.



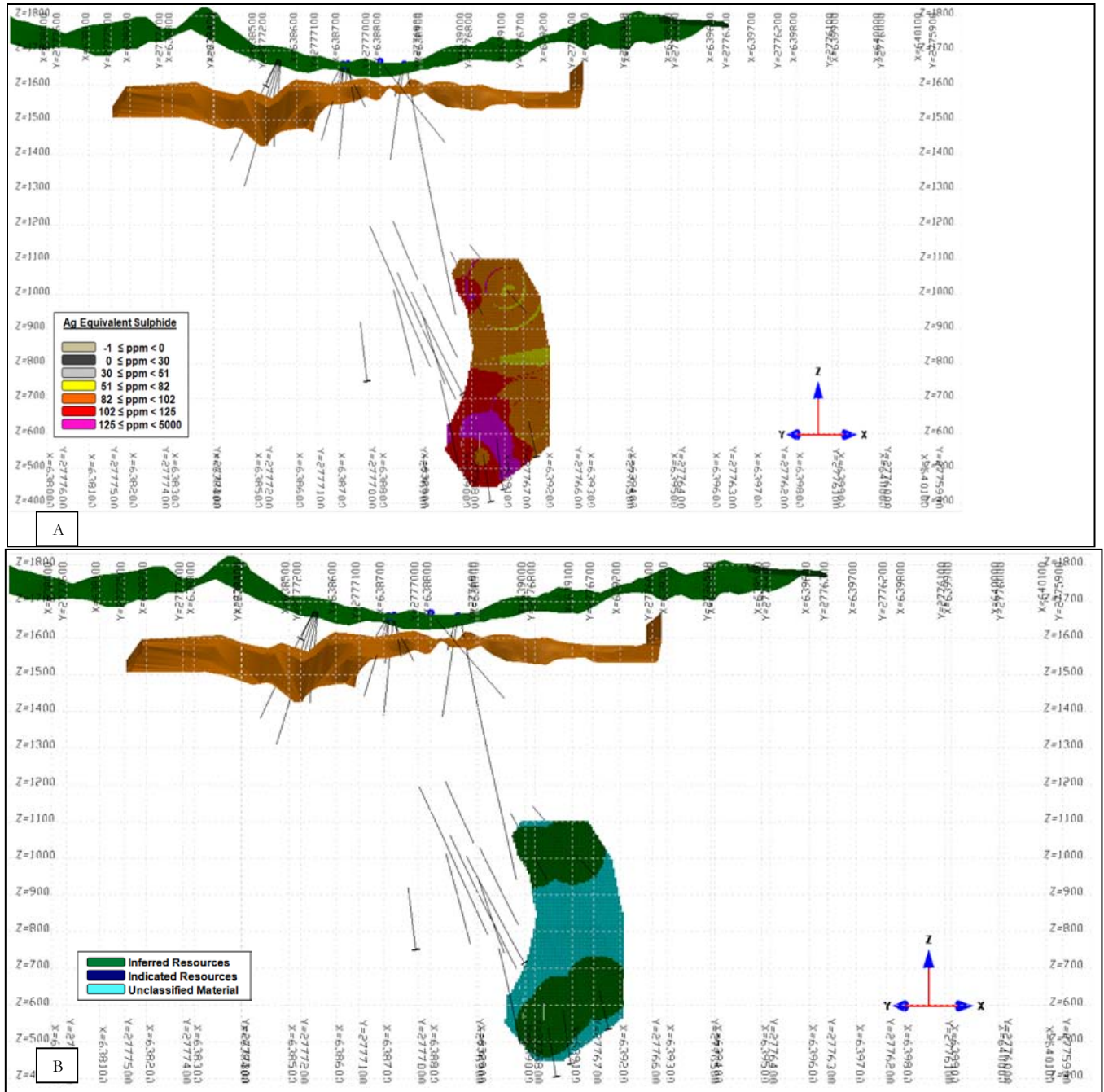


Figure 85: Sulphide block model and classification of the Lorenzo vein, looking N039°.

Panda

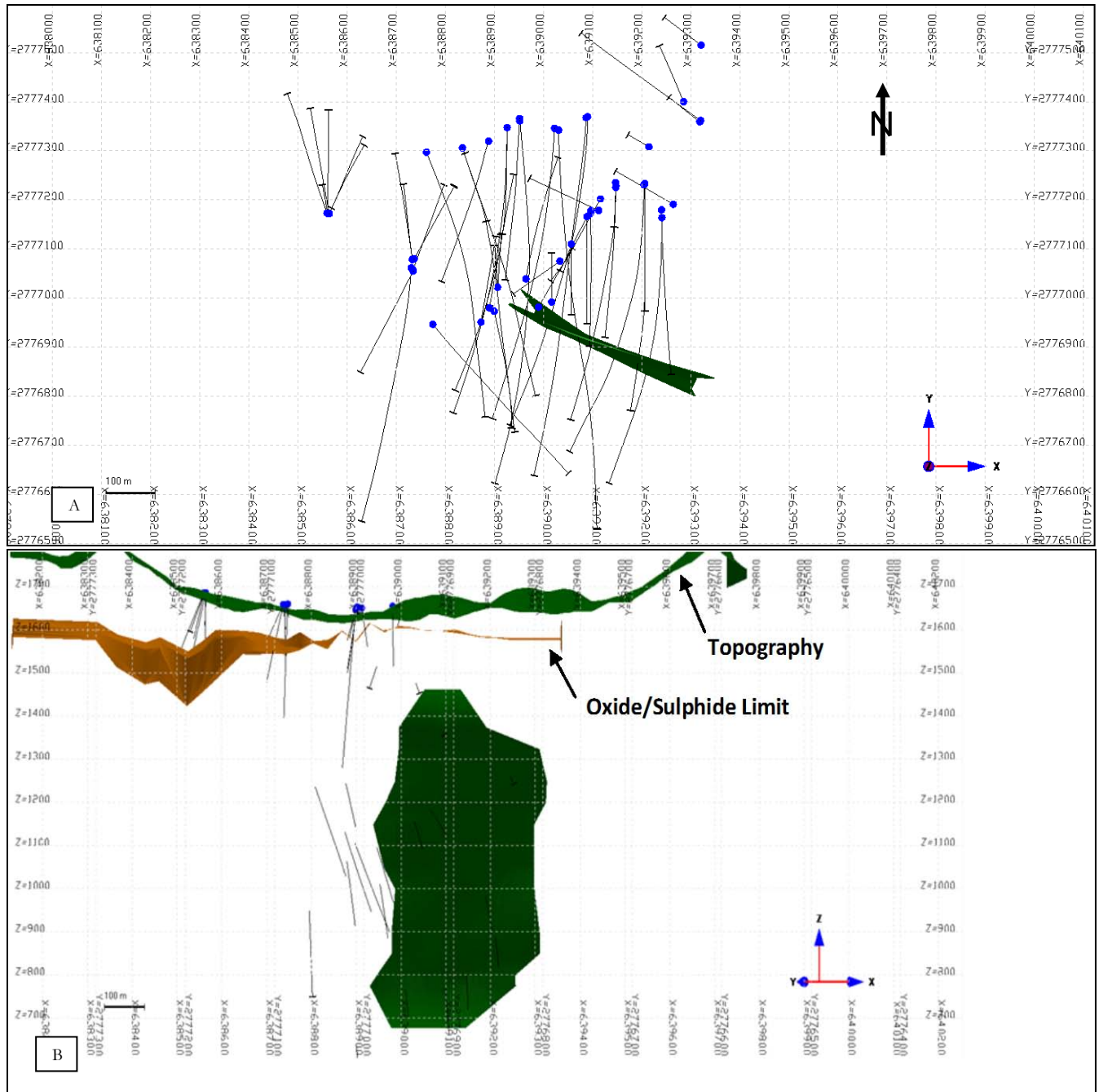


Figure 86: Plan view and longitudinal section view of the Panda vein, (B) looking N027°.

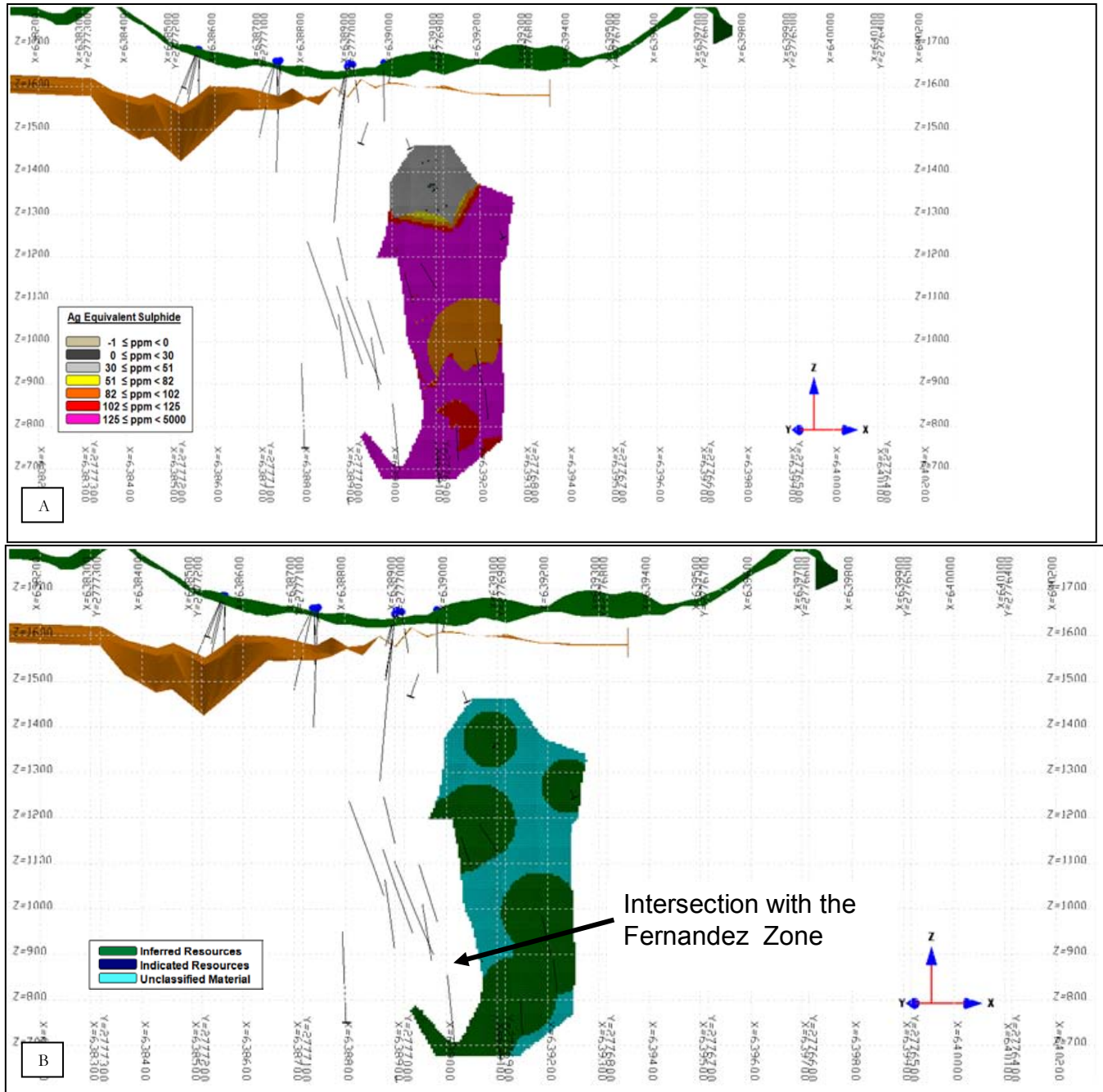


Figure 87: Sulphide block model and classification of the Panda vein, looking N027°.

San Jose

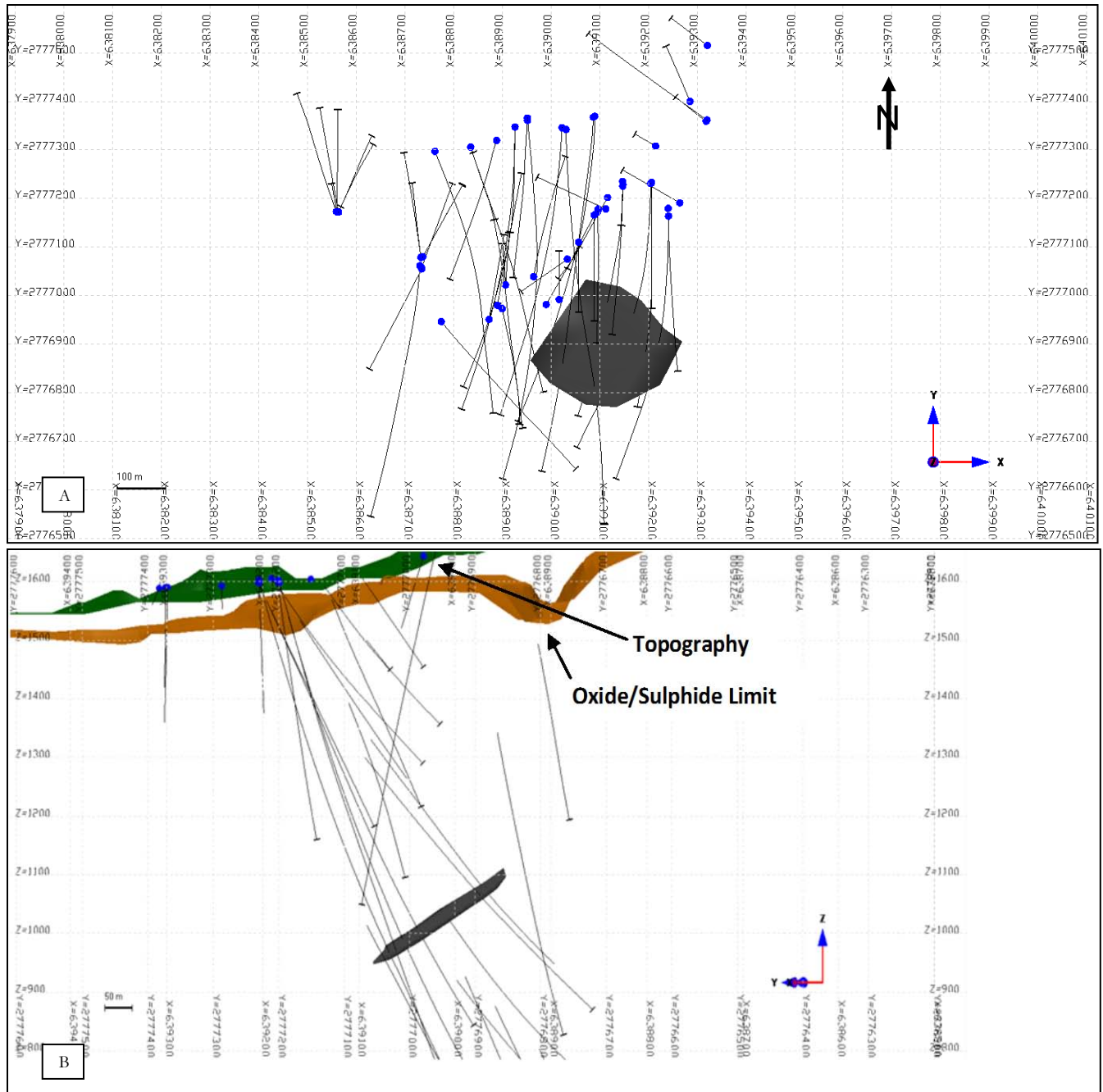


Figure 88: Plan view and cross-section view of the San Jose vein, (B) looking N126°.

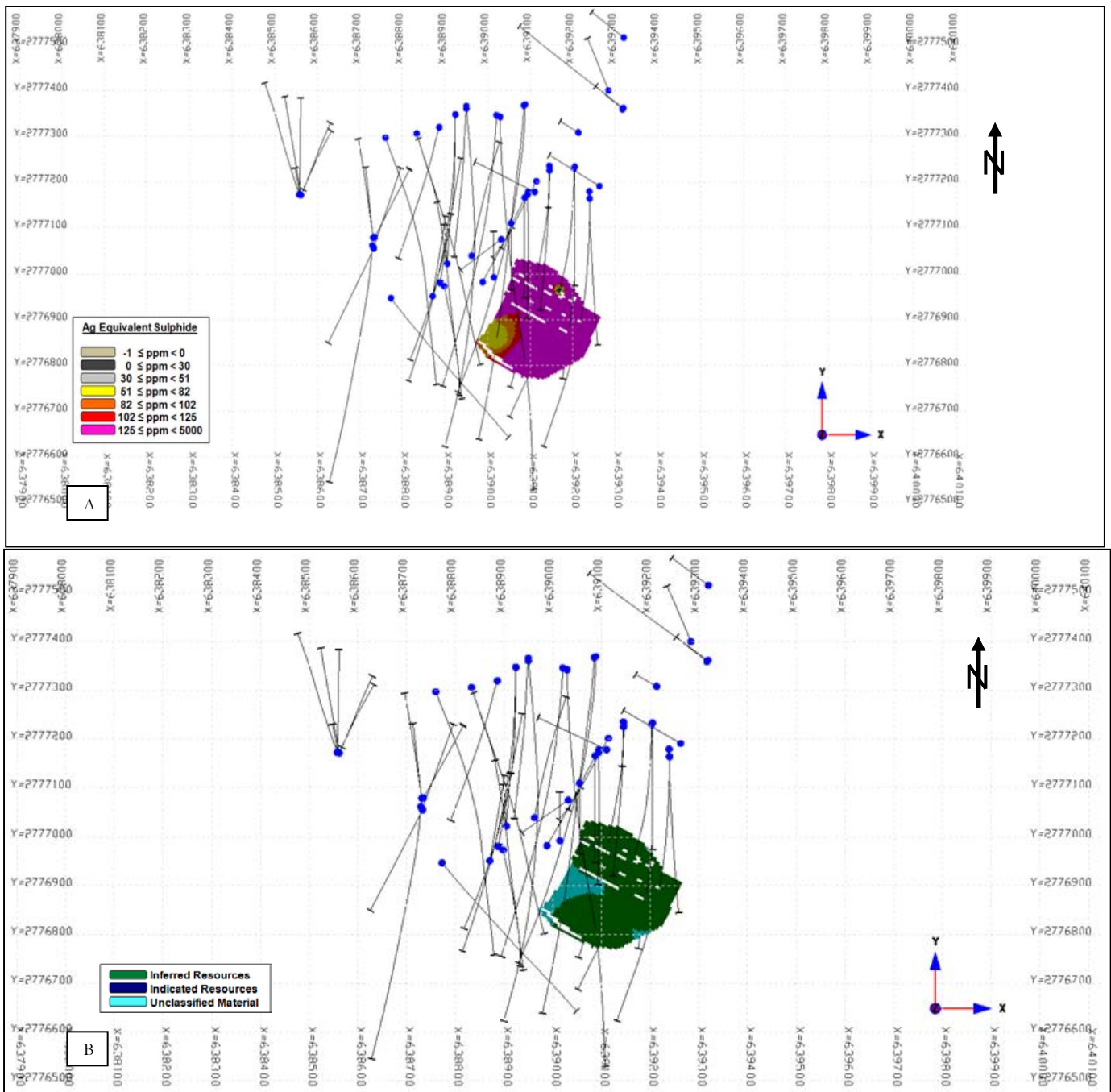


Figure 89: Sulphide block model and classification of the San Jose vein, plan view.

South Skarn

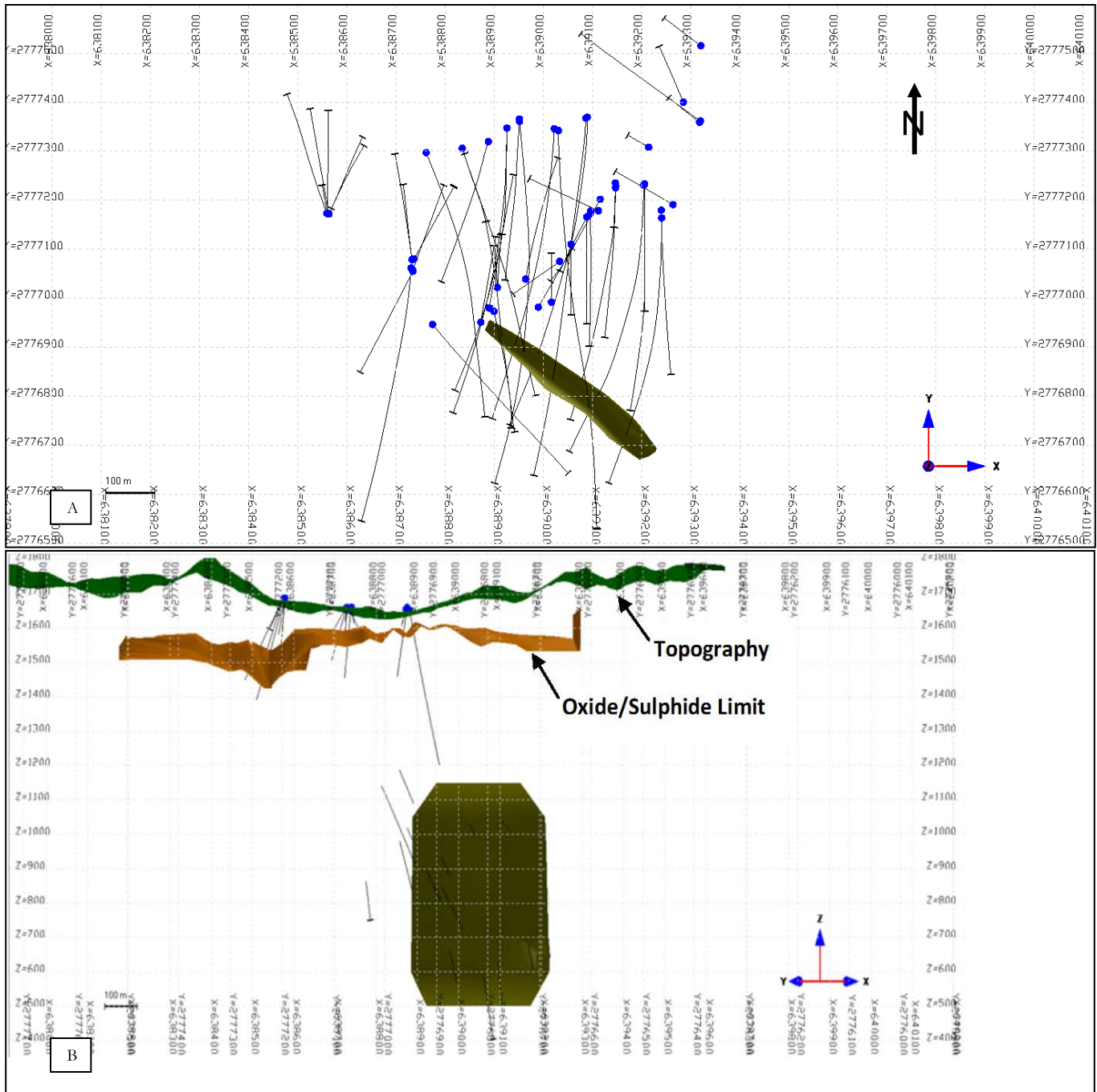


Figure 90: Plan view and longitudinal section view of the South Skarn vein, (B) looking N039°.

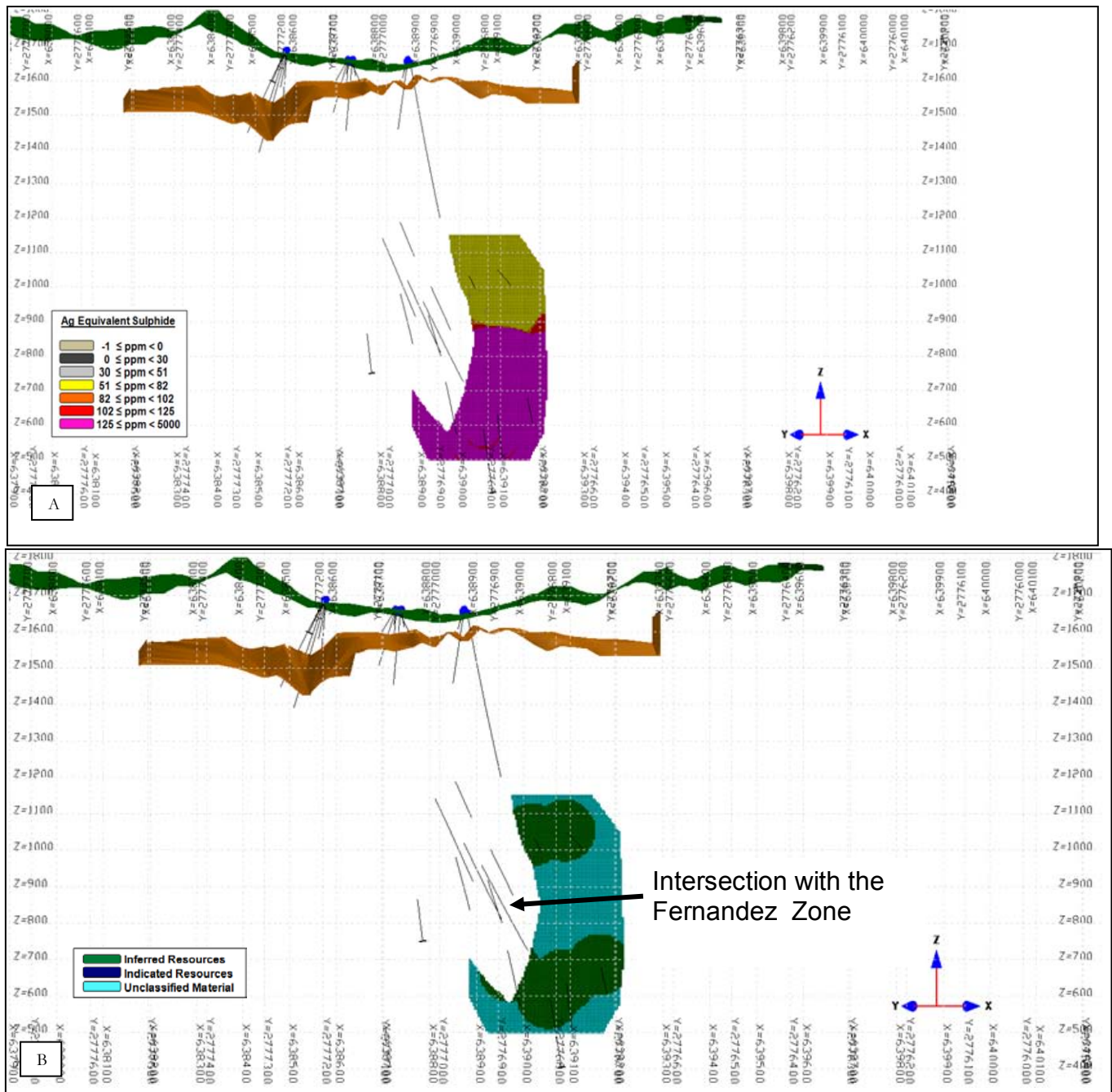


Figure 91: Sulphide block model and classification of the South Skarn vein, looking N039°.

## 14.5 Fernandez Zone

The Fernandez Zone was discovered in 2011 and represents a new style of mineralization which has the potential to support a variety of bulk mining approaches. The zone is characterized by a central core of Endoskarn-type alteration which hosts stockwork-style mineralization within Diorite. A lower grade outer shell of altered limestone and diorite hosts a stockwork of sheeted veins and stockwork sulphides collectively called the Fringe zone. Together the Endoskarn and Fringe zone comprise the Fernandez zone. It straddles the eastern and southeastern contacts of the Central Diorite Intrusion. The zone has a demonstrated north-south dimension of 325 meters, resting against the Trovador vein to the south and extending to north of the Montanez Zone. The body is cigar-shaped with a vertical plunge and continuous between elevations 1200 m to 500 m (450m from surface). It remains open to the West and at depth.

The Fringe is mainly hosted in limestone units and encompasses portions of cross-cutting veins such as the Montanez Zones (Foot Wall, Center, and Hanging Wall), the Mid-Zone, the Ag-Zone, as well as parts of the newly-discovered Lorenzo, South-Skarn, and Panda veins (Figure 17). The Endoskarn core consists for the most part of mineralized endoskarn with a lesser exoskarn content.

Drilling in 2011 intersected the eastern side of what is now recognized as the Fringe portion of the Fernandez zone, identifying extensive Exoskarn-type alteration and widespread low grade mineralization. In 2012 five holes were drilled further to the west to test the apparent westerly-increasing grade trend. All five holes stepped into the Central Diorite Intrusion and intersected very long intervals of Endoskarn alteration and mineralization resulting in the discovery of the Fernandez Zone.

### 14.5.1 Fernandez Zone Block Models

Block grades for the Fernandez zone were interpolated from 2.5 m equal-length composites that were generated from mineralized intervals, which are available in Appendix 1. A block model of 5 x 5 x 5 m was generated for the Endoskarn and Fringe separately. Cut-off grade values based on the Ag equivalency formula for sulphide material were used to estimate the Fernandez zone resources (Table 30).

The Endoskarn was estimated using the inverse distance squared method involving three passes with isotropic ellipses. Several interpolations were executed using oriented search ellipses of various angles and shapes in attempts to identify mineralization trends related to identified structures and/or vein trends. These models generated high-grade blocks unsupported by direct drill hole results which are generally more uniform in grade characteristics. It was concluded that a spherical search ellipse represents the most reliable modeling approach. Additional drilling is necessary before more detailed trends to mineralization can be established for this zone. Table 35 outlines the search parameters.



Table 35: Parameters for the block model of the Endoskarn.

Pass	Ellipse	Radius (m)	Minimum Samples per Block	Maximum Samples per Block	Minimum Drill holes
1	Isotropic	60	3	8	2
2	Isotropic	120	3	8	2
3	Isotropic	250	3	8	2

The Fringe was estimated using three passes; the first pass was oriented according to crosscutting veins to avoid smearing the high-grade vein material (e.g. Montanez, Panda). The second and third passes were isotropic. Table 36 provides the orientation of the ellipse used for the first pass; Figure 92 displays the Fringe zone with the ellipse. Table 37 outlines the search parameters for the Fringe.

Table 36: Parameters for the search ellipsoid used in the first pass of the Fringe block model.

Azimuth	Dip	Spin	X	Y	Z
N108°	0°	0°	8 m	150 m	60 m

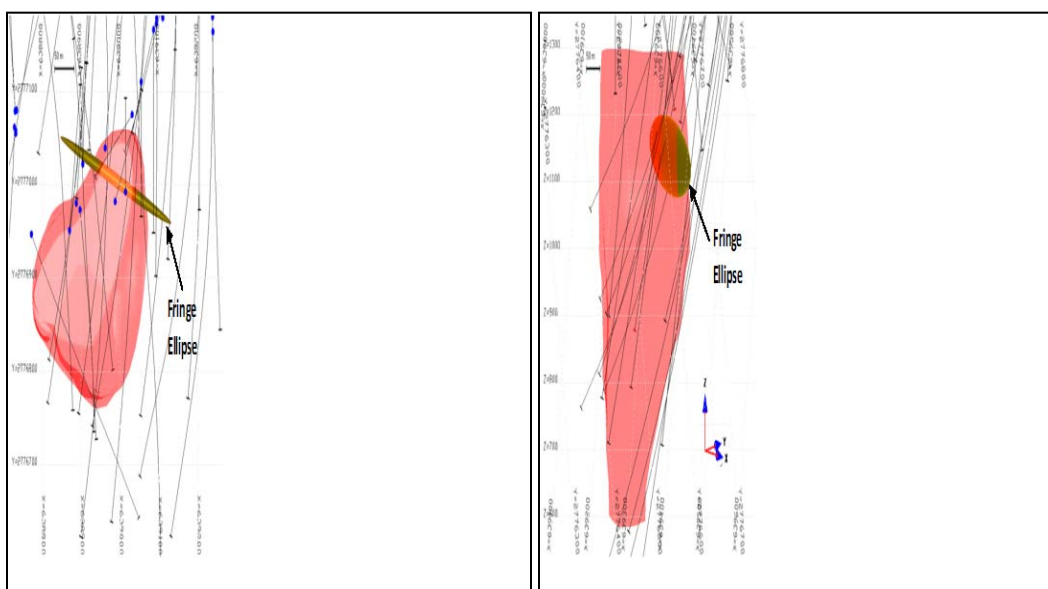


Figure 92: Plan view and 3D view of the Fringe and the N108° ellipsoid.

Table 37: Parameters for the block model of the Fringe Zone.

Pass	Ellipse	Radius (m)	Minimum Samples per Block	Maximum Samples per Block	Minimum Drill holes
1	N108°	See Table 36	3	8	2
2	Isotropic	120	3	8	2
3	Isotropic	250	3	8	2

## 14.5.2 Fernandez Zone Classification

The zones were classified using two passes of isotropic ellipses as outlined in Table 32. As all blocks were populated, a third pass for a “potential” category for the Fernandez Zone was not necessary.

Table 38: Parameters for classification of the Endoskarn and the Fringe.

Pass	Ellipse	Radius (m)	Minimum Drill holes
1	Indicated	65	2
2	Inferred	180	2

The following figures best represent the general outline of the Fernandez Zone. Cross-sectional views looking northeast at N040°, and west at N290° depict the shape, size, and depth extension of the zone; Figure 99 to Figure 106 are level plan views at every 100 m showing the grade and classification, as well as define the high-grade Endoskarn core from the surrounding Fringe. To see the geological context please see Figure 11, Figure 17 and Figure 51.

Relative Location

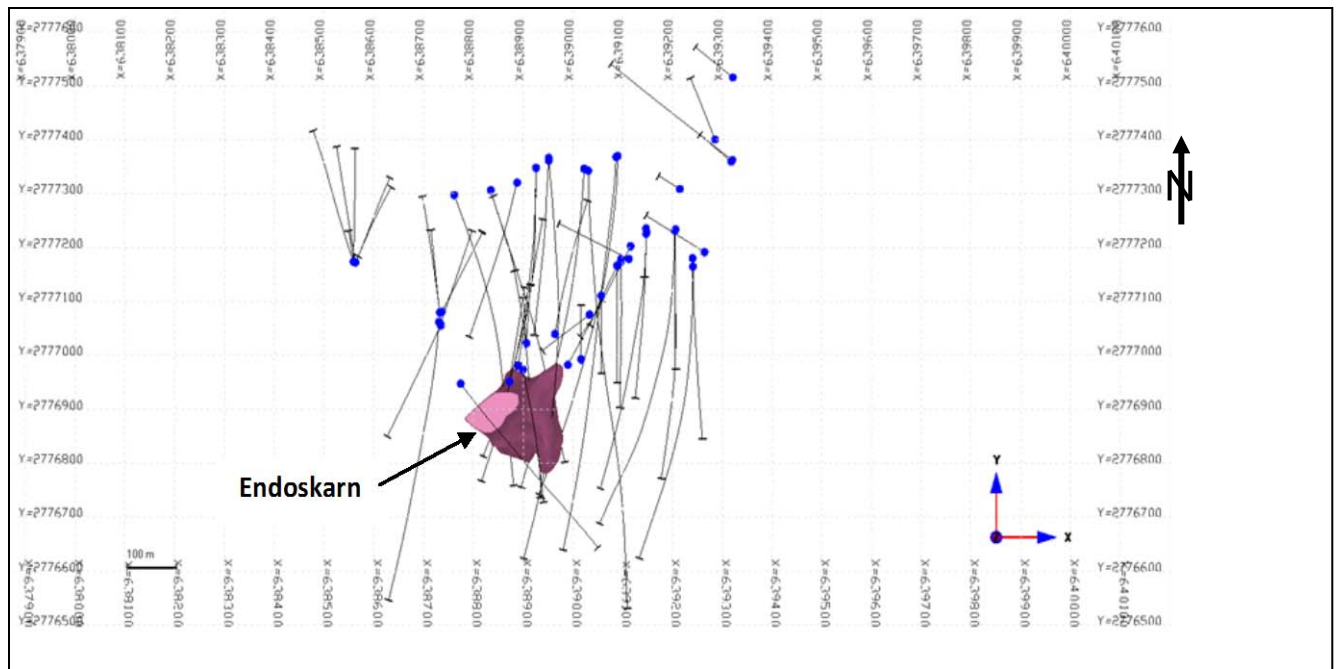


Figure 93: Plan view of the Endoskarn unit.

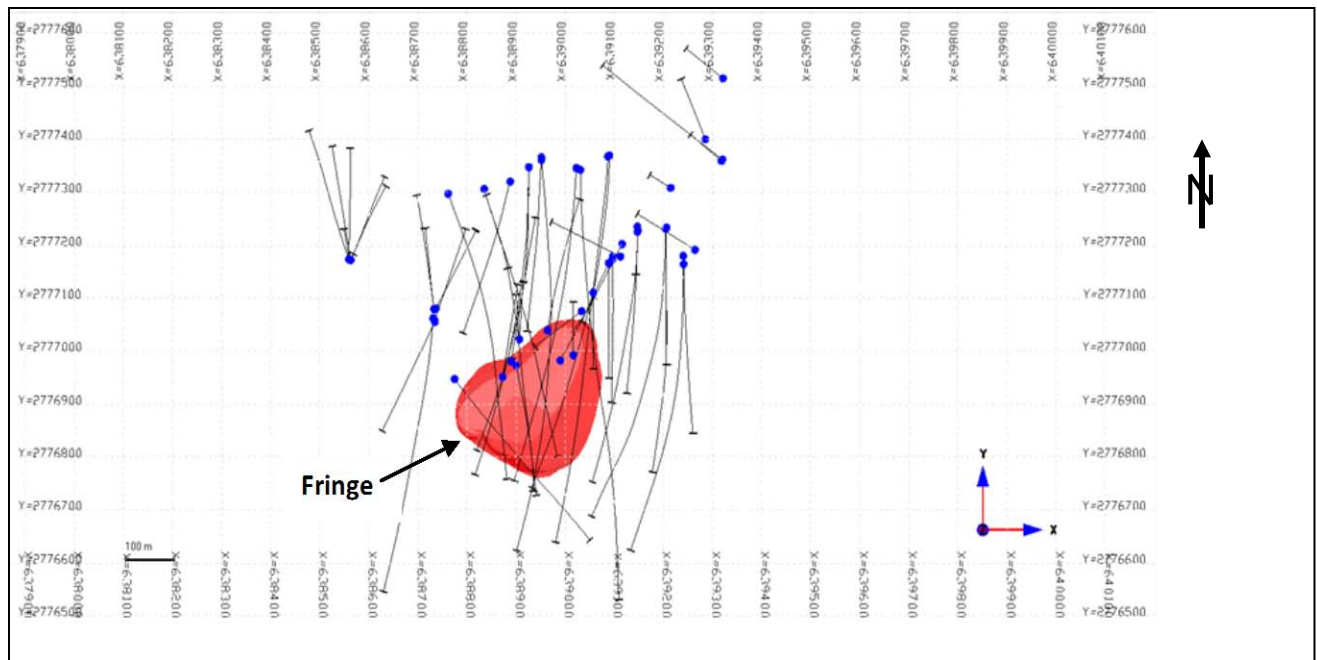


Figure 94: Plan view of the Fringe unit.

N040°

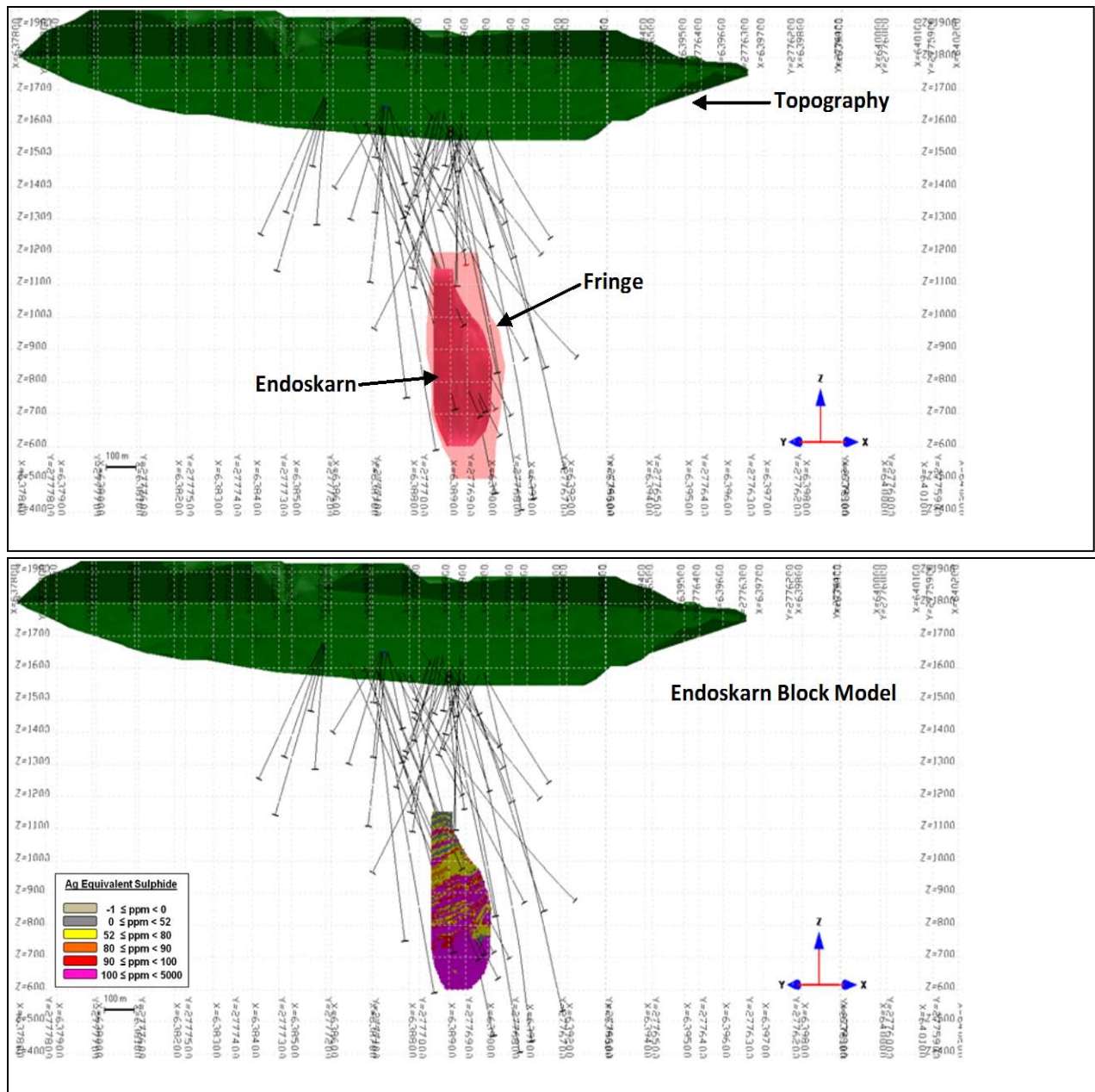


Figure 95: Cross sectional view of the Fernandez Zone and the Endoskarn block model, looking N040°.

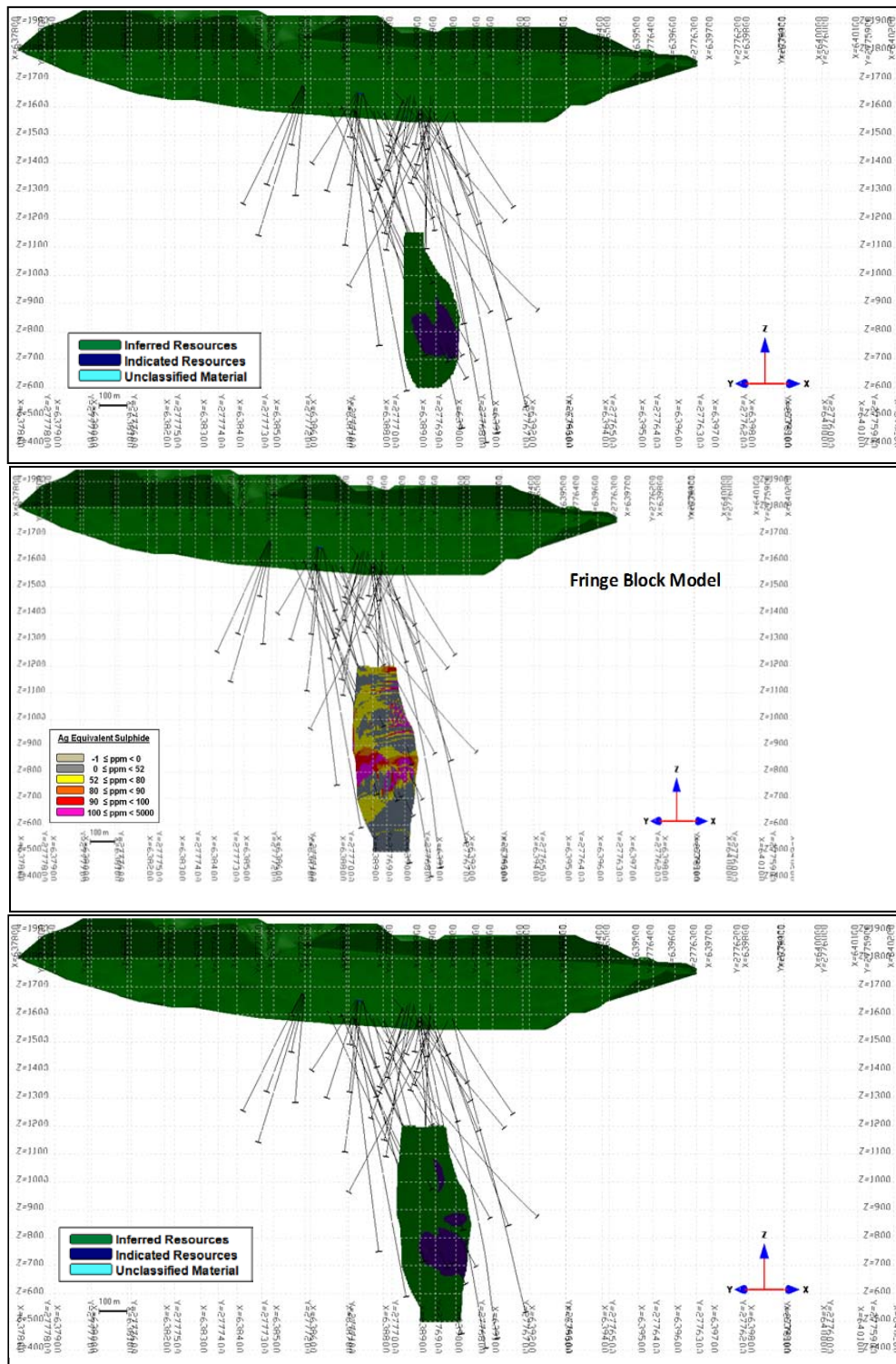


Figure 96: Endoskarn classification, Fringe block model, and Fringe classification, looking N040°.

N290°

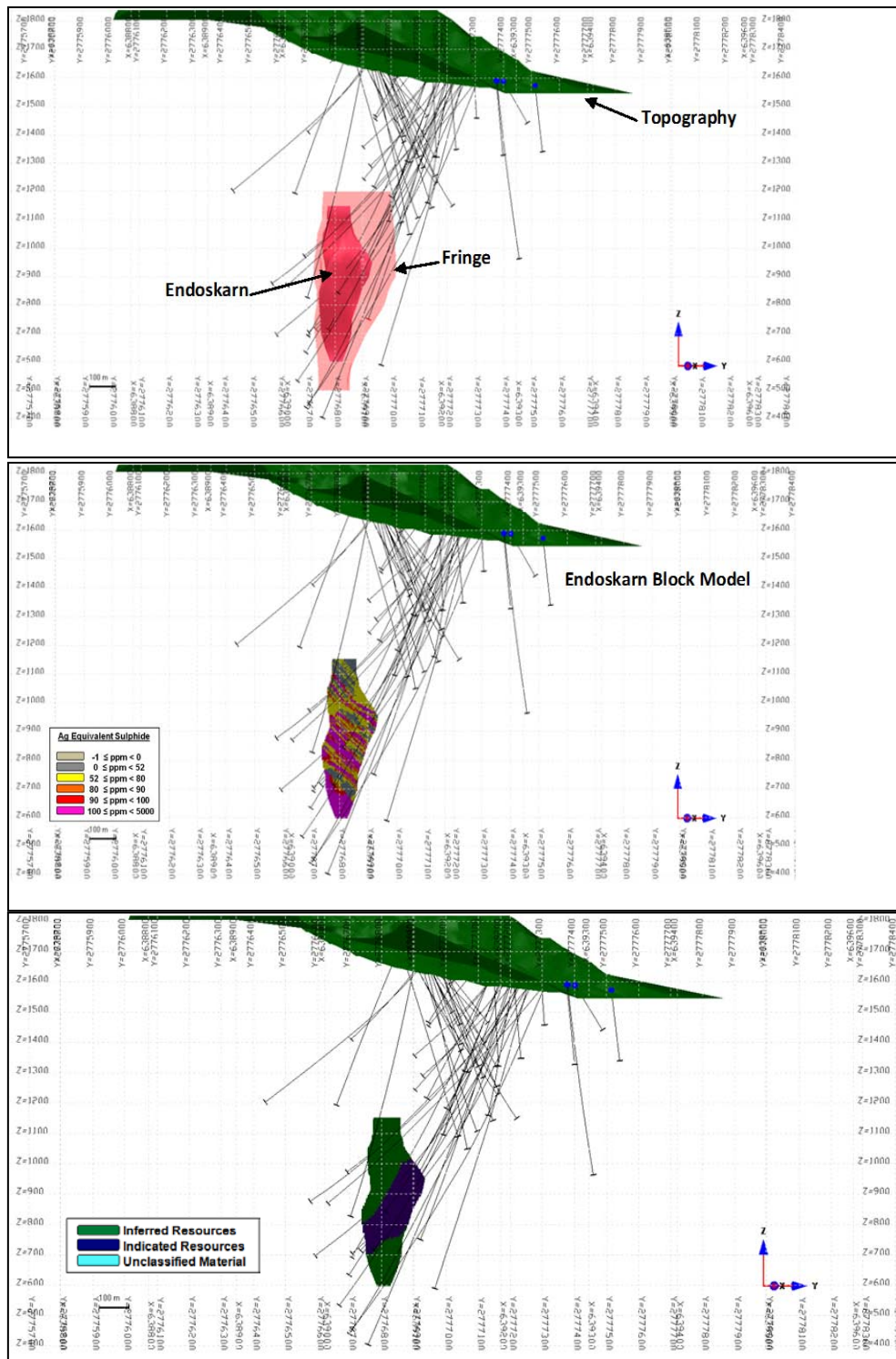


Figure 97: Cross sectional view of the Fernandez Zone, Endoskarn block model, and Endoskarn classification, looking N290°.

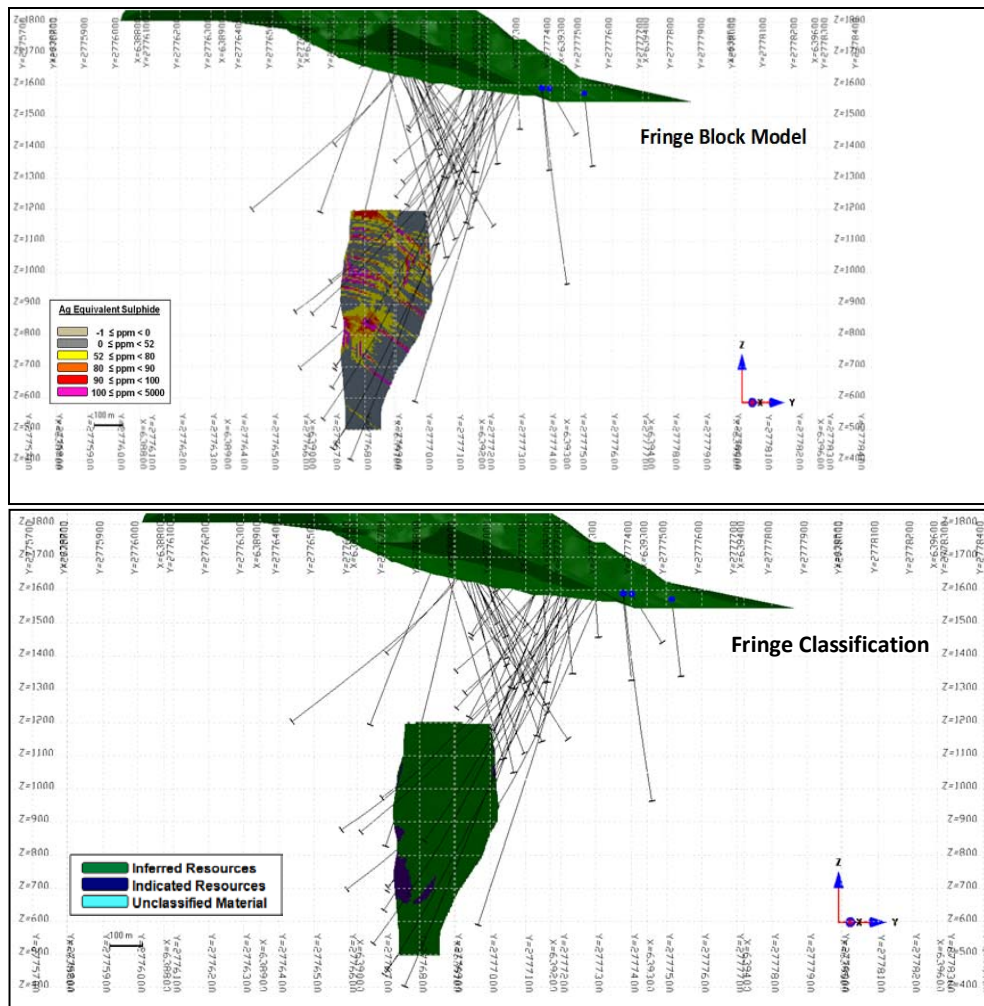


Figure 98: Fringe block model and classification, looking N290°.

### Level Plan Views of the Fernandez Zone

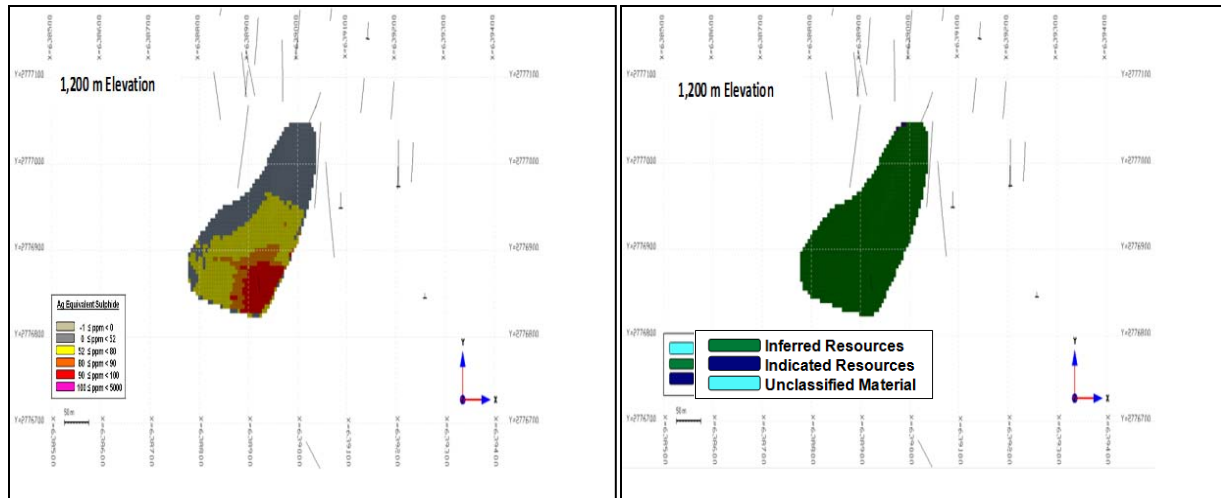


Figure 99: Sulphide block model and classification of the Fernandez Zone at 1,200 m elevation.

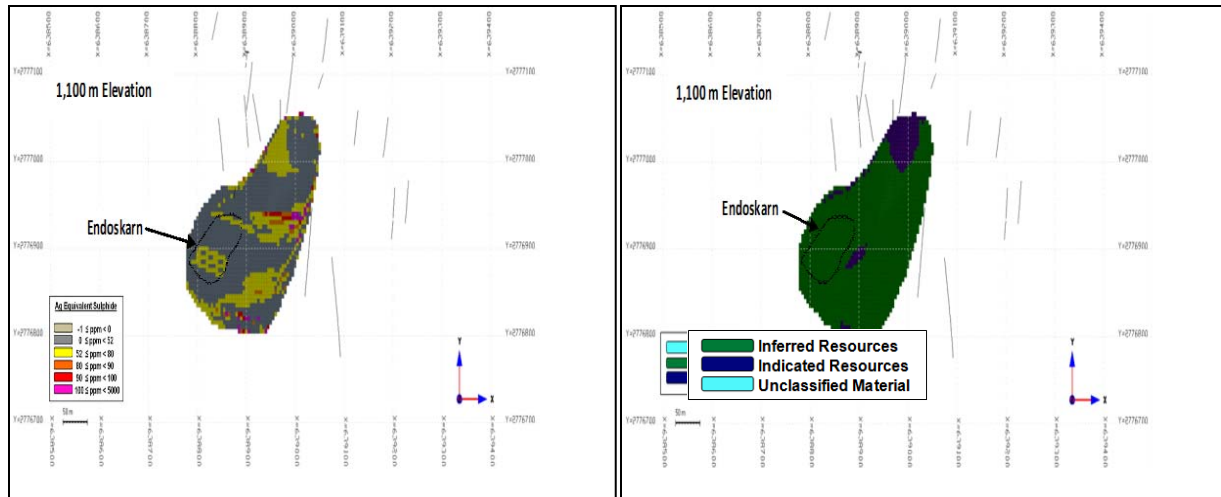


Figure 100: Sulphide block model and classification of the Fernandez Zone at 1,100 m elevation.



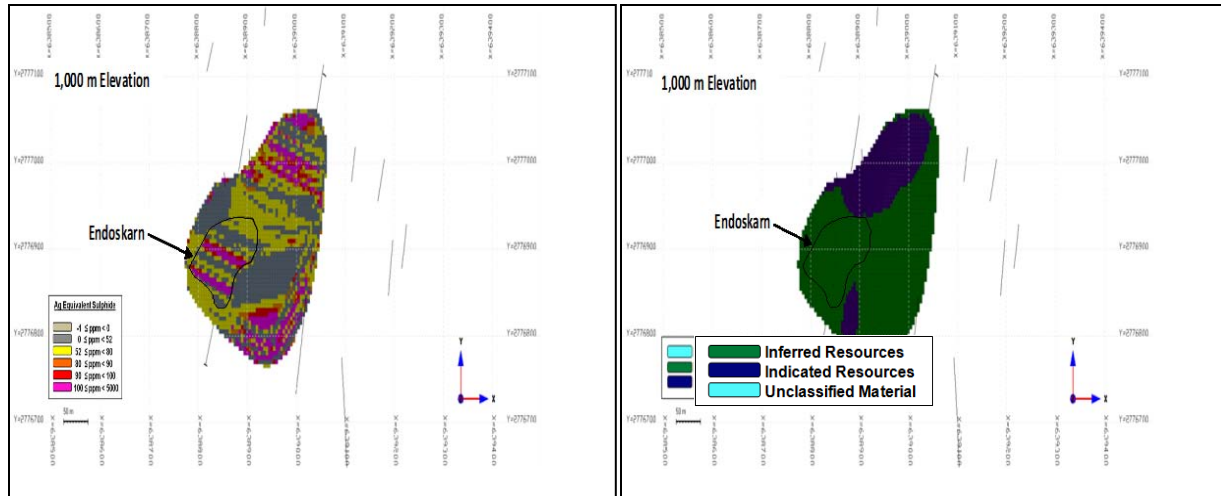


Figure 101: Sulphide block model and classification of the Fernandez Zone at 1,000 m elevation.

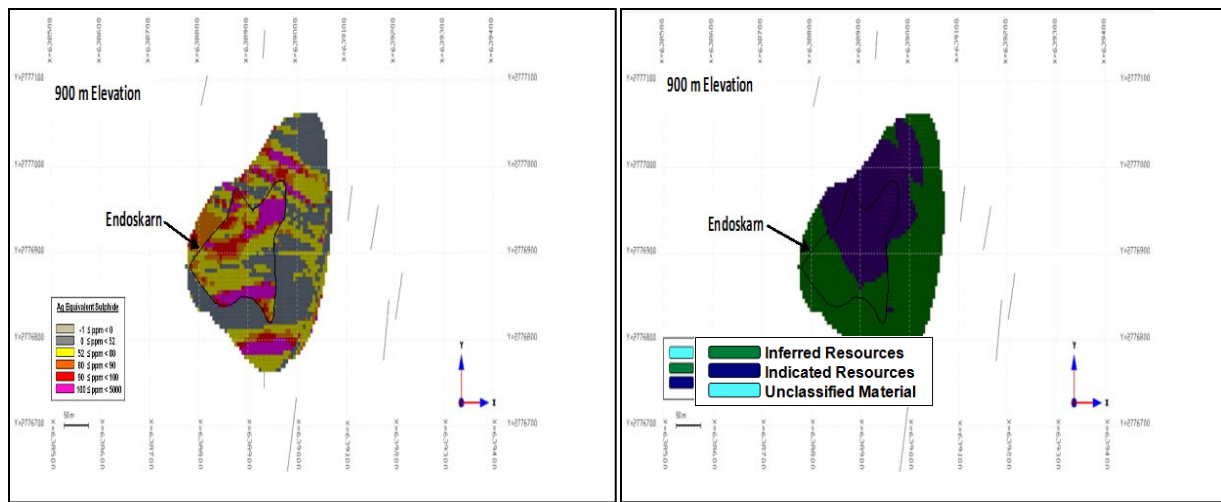


Figure 102: Sulphide block model and classification of the Fernandez Zone at 900 m elevation.

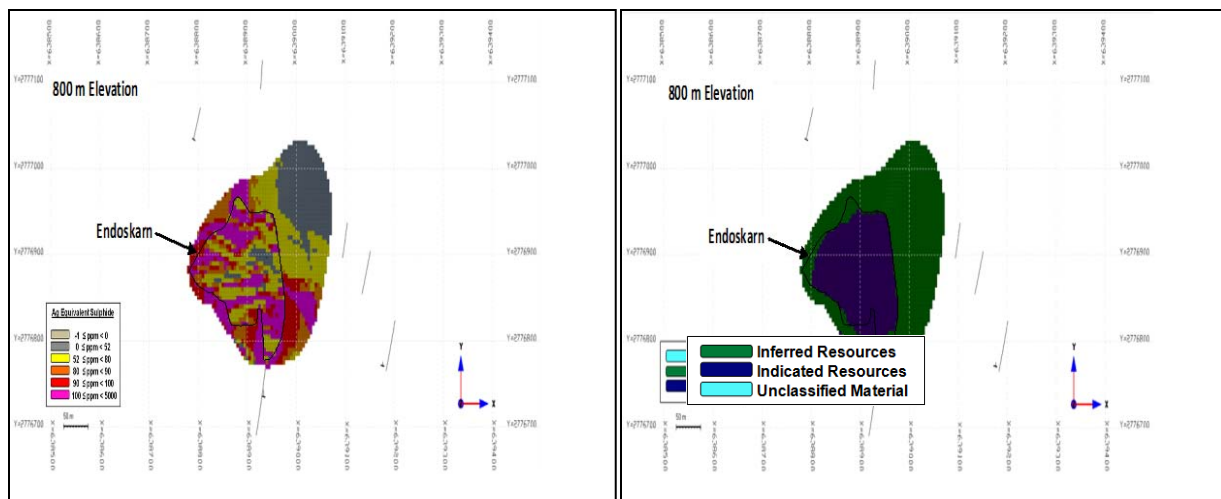


Figure 103: Sulphide block model and classification of the Fernandez Zone at 800 m elevation.

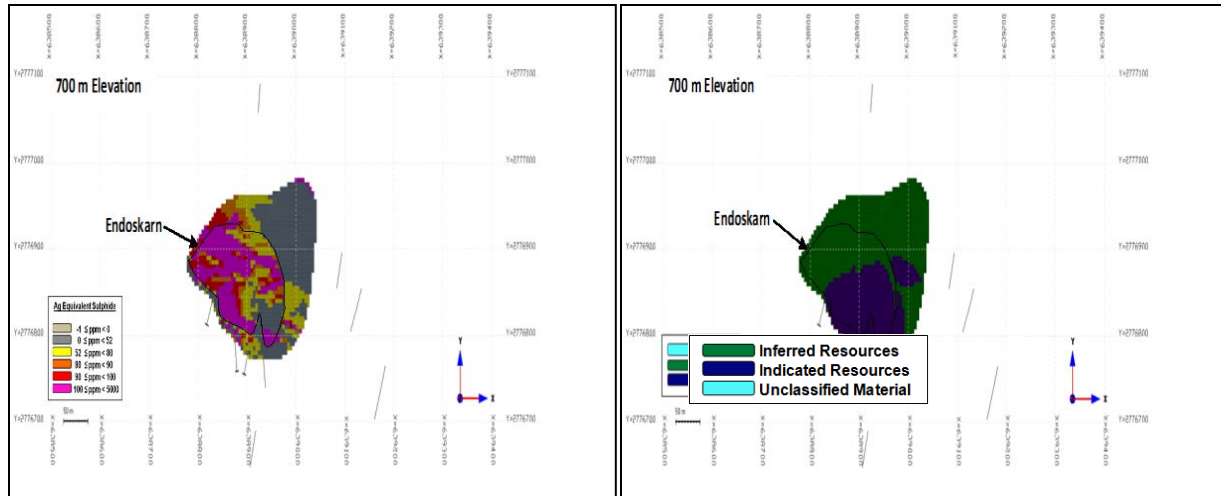


Figure 104: Sulphide block model and classification of the Fernandez Zone at 700 m elevation.

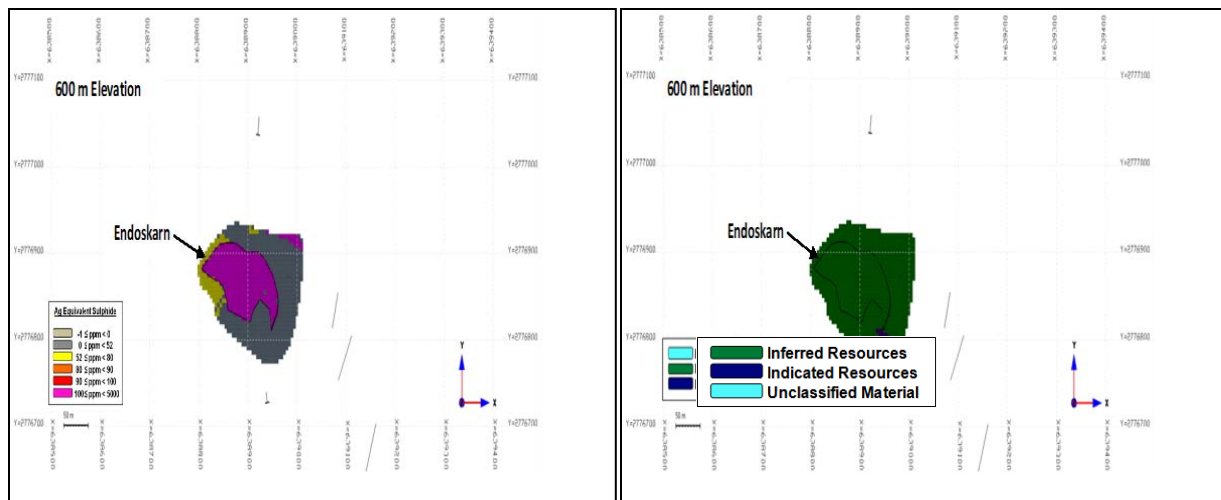


Figure 105: Sulphide block model and classification of the Fernandez Zone at 600 m elevation.

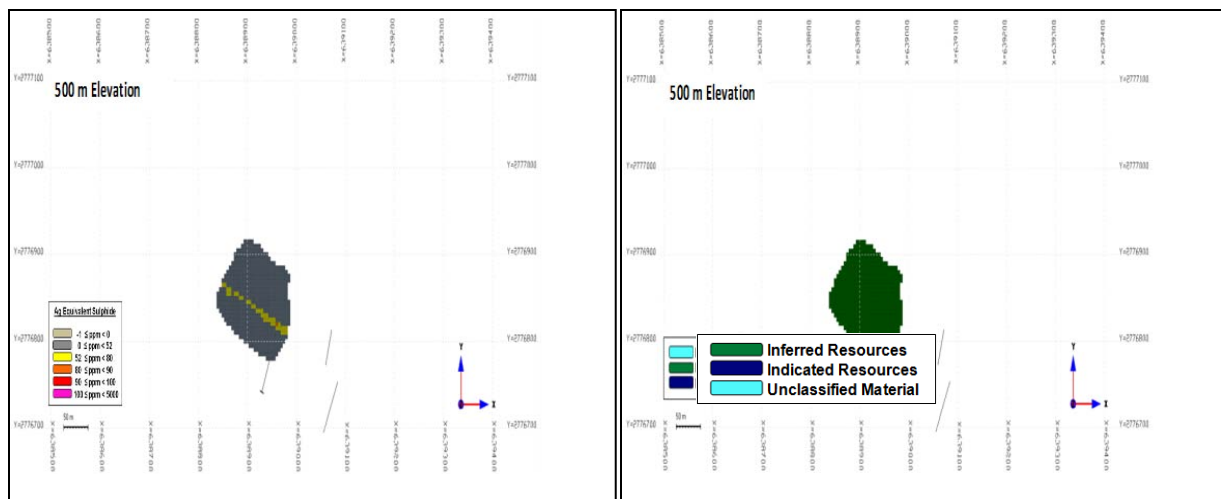


Figure 106: Sulphide block model and classification of the Fernandez Zone at 500 m elevation.

## 14.6 Summary of Resource Estimate of 2013

The resource estimates and classifications were completed according to the definitions set out by the NI 43-101 and Canadian Institute of Mining. Due to the possibility of using different mining methods depending on the width of the mineralized structure in question, five cut-off grades were considered during resource estimation (Table 39).

Table 39: Consideration of five cut-off grades for the resource estimation of the San Diego Project.

Parameters	Ag	Pb	Zn	Au	Cu
Metal Price Assumption	\$28.10/oz	\$1.0/lb	\$0.96/lb	\$1,455/oz	\$3.65/lb
<b>Sulphides</b> - Payable Conversion Factor	64.90%	76.40%	57.50%	0% <sup>(1)</sup>	0% <sup>(1)</sup>
Conversion Factor to AgEq (g/t) <sup>(2)</sup>	1	1% = 28.7	1% = 20.8	NA	NA
<b>Oxides</b> - Payable Conversion Factor	60.50%	0%	0%	62.50%	0%
Conversion Factor to AgEq (g/t) <sup>(2)</sup>	1	-	-	1g/t = 53.4	-
Potential Mining Methods	Cut-off Grades		Minimum Horizontal Mining Widths (m)		
	\$/t Mining <sup>(3)</sup>	AgEq (g/t)			
CoG 133 Narrow Vein Shrinkage - Oxide	\$ 73	133	1		
CoG 125 Narrow Vein Shrinkage	\$ 73	125	1		
CoG 102 Long Hole Mining	\$ 60	102	2.5		
CoG 81 Bulk Mining	\$ 47.5	81	5		
CoG 52 Mechanized Bulk /Block Caving	\$ 30	52	Over 5m (Fernandez / Trovador)		

- (1) Although Au and Cu are excluded from the AgEq and cut off grade for sulphide deposits they are likely to report significantly to either of the concentrates and therefore be extracted by a downstream refiner. We therefore consider them material to the resource estimation.
- (2) Conversion factors take into account the expected recoveries of the metals and Ag.
- (3) Estimated mining, processing and other operating costs (\$/t) in Mexico.

Table 40: Summary and detailed resource tables for Fernandez and Oxide vein zones. Resources from the sulphide portions of veins are found on the next page. For the details of the AgEq and cut-off grade formulas please see Table 39 above.

TOTAL INDICATED RESOURCES BY TYPE		Cut-Off	Tonnage	Au (g/t) <sup>(2)</sup>	Ag (g/t)	Pb (%)	Zn (%)	Cu (%) <sup>(2)</sup>	AgEqMIX	Ounces of Ag	Ounces of AgEq
TOTAL INDICATED OXIDE VEINS		133	311,000	0.43	211	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	234	2,110,000	2,330,000
TOTAL INDICATED SULPHIDE VEINS		52-125	1,373,000	0.20	123	1.23	1.85	0.10	197	5,430,000	8,680,000
TOTAL INDICATED FERNANDEZ		52	14,800,000	0.06	51	0.65	1.17	0.12	94	24,070,000	44,510,000
TOTAL INFERRED RESOURCES BY TYPE		Cut-Off	Tonnage	Au (g/t) <sup>(2)</sup>	Ag (g/t)	Pb (%)	Zn (%)	Cu (%) <sup>(2)</sup>	AgEqMIX	Ounces of Ag	Ounces of AgEq
TOTAL INFERRED OXIDE VEINS		133	288,000	0.43	238	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	261	2,200,000	2,410,000
TOTAL INFERRED SULPHIDE VEINS		52-125	13,100,000	0.11	93	1.41	1.83	0.10	171	39,170,000	72,230,000
TOTAL INFERRED FERNANDEZ		52	28,650,000	0.05	46	0.67	1.08	0.10	88	42,440,000	80,690,000
FERNANDEZ INDICATED											
ZONE	CATEGORY	Cut-Off	Tonnage	Au (g/t) <sup>(2)</sup>	Ag (g/t)	Pb (%)	Zn (%)	Cu (%) <sup>(2)</sup>	AgEqSUL	Ounces of Ag	Ounces of AgEq
ENDOSKARN	INDICATED	52	9,310,000	0.06	55	0.59	1.33	0.14	100	16,450,000	29,850,000
FRINGE	INDICATED	52	5,490,000	0.06	43	0.74	0.89	0.09	83	7,620,000	14,660,000
TOTAL INDICATED BULK MINERALIZATION <sup>(3)</sup>			14,800,000	0.06	51	0.65	1.17	0.12	94	24,070,000	44,510,000
FERNANDEZ INFERRED											
ZONE	CATEGORY	Cut-Off	Tonnage	Au (g/t) <sup>(2)</sup>	Ag (g/t)	Pb (%)	Zn (%)	Cu (%) <sup>(2)</sup>	AgEqSUL	Ounces of Ag	Ounces of AgEq
ENDOSKARN	INFERRED	52	9,550,000	0.04	57	0.6	1.30	0.1	101	17,350,000	30,960,000
FRINGE	INFERRED	52	19,100,000	0.05	41	0.7	0.97	0.1	81	25,090,000	49,730,000
TOTAL INFERRED BULK MINERALIZATION <sup>(3)</sup>			28,650,000	0.05	46	0.67	1.08	0.10	88	42,440,000	80,690,000
OXIDE VEINS INDICATED											
Zone	Category	Cut-Off	Tonnage	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Cu (%) <sup>(2)</sup>	AgEqOx	Ounces of Ag	Ounces of AgEq
CANTARANNAS	INDICATED	133	32,000	0.15	172	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	180	180,000	180,000
CRUZ	INDICATED	133	136,000	0.59	253	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	285	1,110,000	1,240,000
Montanez Center	INDICATED	133	15,000	0.09	417	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	421	200,000	200,000
RATA	INDICATED	133	85,000	0.38	159	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	179	430,000	490,000
RATA SUB	INDICATED	133	12,000	0.18	137	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	146	50,000	60,000
TROVADOR	INDICATED	133	31,000	0.41	137	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	159	140,000	160,000
TOTAL INDICATED OXIDE VEINS <sup>(3)</sup>			311,000	0.43	211	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	234	2,110,000	2,330,000
OXIDE VEINS INFERRED											
Zone	Category	Cut-Off	Tonnage	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Cu (%)	AgEqOx	Ounces of Ag	Ounces of AgEq
ARROYO	INFERRED	133	50,000	0.11	196	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	202	320,000	330,000
CORREDOR	INFERRED	133	73,000	0.38	296	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	317	690,000	740,000
CRUZ	INFERRED	133	68,000	0.89	256	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	304	560,000	660,000
EL JAL	INFERRED	133	20,000	0.66	354	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	389	230,000	250,000
Montanez Center	INFERRED	133	4,000	0.09	338	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	343	40,000	40,000
Montanez FW	INFERRED	133	11,000	0.05	202	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	205	70,000	70,000
RATA	INFERRED	133	53,000	0.23	146	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	158	250,000	270,000
RATA SUB	INFERRED	133	9,000	0.19	146	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	156	40,000	50,000
TOTAL INFERRED OXIDE VEINS <sup>(3)</sup>			288,000	0.43	238	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>	261	2,200,000	2,410,000

- (1) Although base metals are present within the oxide portions of veins, their economic extraction has not been established.
- (2) Although Au and Cu are excluded from the AgEq formula for sulphides (and cut-off grades) due to their relatively low direct economic impact, these elements are expected to report to either of the concentrates and be a net benefit for a refiner.
- (3) Discrepancies between totals are due to differences in rounding residuals.

Table 41: Detailed resource tables from sulphide veins. For the details of the AgEq and cut-off grade formulas please see Table 39 above.

SULPHIDE VEINS INDICATED											
Zone	Category	Cut-Off	Tonnage	Au (g/t) <sup>(2)</sup>	Ag (g/t)	Pb (%)	Zn (%)	Cu (%) <sup>(2)</sup>	AgEqSUL	Ounces of Ag	Ounces of AgEq
TROVADOR	INDICATED	52	290,000	0.09	87	0.72	4.15	0.24	194	810,000	1,810,000
MONTANEZ CENTER	INDICATED	125	79,000	0.27	88	0.98	1.71	0.04	151	220,000	380,000
MONTANEZ FW	INDICATED	125	95,000	0.18	117	1.14	1.03	0.06	171	360,000	520,000
MONTANEZ HW	INDICATED	125	384,000	0.36	100	1.49	1.47	0.07	174	1,240,000	2,150,000
AGZ	INDICATED	125	5,000	0.08	69	1.60	1.26	0.04	141	10,000	20,000
CANTARANNAS	INDICATED	125	176,000	0.07	167	1.44	1.12	0.05	232	950,000	1,310,000
Cantasplay	INDICATED	125	36,000	0.06	149	0.77	0.76	0.05	187	170,000	220,000
CRUZ	INDICATED	125	12,000	0.06	106	0.69	0.61	0.02	139	40,000	50,000
EL JAL	INDICATED	125	26,000	0.25	302	0.95	0.50	0.08	340	250,000	280,000
EWFZ	INDICATED	125	59,000	0.13	99	1.55	1.41	0.06	173	190,000	330,000
MCTR	INDICATED	52	17,000	0.09	39	0.96	1.11	0.03	89	20,000	50,000
MIDZONE	INDICATED	102	10,000	0.15	52	1.27	1.32	0.10	116	20,000	40,000
MIDZONE	INDICATED	125	43,000	0.09	96	1.15	1.24	0.07	154	130,000	210,000
RATA	INDICATED	125	44,000	0.26	230	1.62	0.75	0.02	292	330,000	410,000
RATASUB	INDICATED	125	65,000	0.27	294	1.73	0.85	0.08	362	620,000	760,000
WEST CONTACT	INDICATED	125	32,000	0.33	70	1.56	1.11	0.04	138	70,000	140,000
TOTAL INDICATED SULPHIDE VEINS <sup>(1)</sup>			1,373,000	0.20	123	1.23	1.85	0.10	197	5,430,000	8,680,000

SULPHIDE VEINS INFERRED											
Zone	Category	Cut-Off	Tonnage	Au (g/t) <sup>(2)</sup>	Ag (g/t)	Pb (%)	Zn (%)	Cu (%) <sup>(2)</sup>	AgEqSUL	Ounces of Ag	Ounces of AgEq
AGZ	INFERRED	102	115,000	0.05	50	1.56	1.16	0.07	119	190,000	440,000
AGZ	INFERRED	125	667,000	0.10	88	1.38	1.52	0.06	159	1,880,000	3,410,000
CANTARANNAS	INFERRED	125	299,000	0.10	137	1.60	1.41	0.06	212	1,310,000	2,040,000
Cantasplay	INFERRED	125	85,000	0.07	121	0.91	1.08	0.04	170	330,000	460,000
CRUZ	INFERRED	102	121,000	0.14	60	1.27	1.08	0.03	119	230,000	460,000
CRUZ	INFERRED	52	187,000	0.13	45	1.09	0.83	0.04	93	270,000	560,000
CRUZ	INFERRED	125	214,000	0.08	118	0.99	0.96	0.03	166	810,000	1,140,000
EL JAL	INFERRED	125	265,000	0.16	177	1.40	0.59	0.08	230	1,510,000	1,960,000
EWFZ	INFERRED	125	333,000	0.12	131	1.64	1.64	0.07	212	1,400,000	2,270,000
LORENZO	INFERRED	125	68,000	0.04	79	0.63	2.36	0.26	146	170,000	320,000
LORENZO	INFERRED	81	636,000	0.04	52	0.63	0.99	0.11	90	1,060,000	1,850,000
MCTR	INFERRED	52	330,000	0.12	40	0.98	0.81	0.06	86	430,000	910,000
MFW	INFERRED	102	23,000	0.10	57	1.28	1.25	0.08	120	40,000	90,000
MHW	INFERRED	81	182,000	0.16	51	1.32	1.01	0.04	110	300,000	640,000
MIDZONE	INFERRED	102	133,000	0.15	58	1.13	1.04	0.11	112	250,000	480,000
MIDZONE	INFERRED	125	299,000	0.10	100	1.46	1.79	0.07	179	960,000	1,720,000
MONTANEZ CENTER	INFERRED	125	183,000	0.19	73	1.11	1.56	0.07	137	430,000	810,000
MONTANEZ FW	INFERRED	125	360,000	0.14	99	1.30	1.12	0.06	160	1,150,000	1,850,000
MONTANEZ HW	INFERRED	125	1,024,000	0.20	92	1.65	2.23	0.09	185	3,020,000	6,100,000
MS	INFERRED	125	476,000	0.28	127	2.17	3.18	0.13	255	1,940,000	3,900,000
PANDA	INFERRED	102	40,000	0.01	57	1.56	0.74	0.09	117	70,000	150,000
PANDA	INFERRED	125	504,000	0.06	82	2.00	1.69	0.12	174	1,320,000	2,820,000
RATA	INFERRED	125	178,000	0.24	208	2.44	1.02	0.02	299	1,190,000	1,710,000
RATASUB	INFERRED	125	328,000	0.21	144	1.95	1.07	0.04	222	1,520,000	2,350,000
SAN JOSE	INFERRED	125	332,000	0.34	291	6.89	7.86	0.37	652	3,100,000	6,960,000
SOUTH SKARN	INFERRED	52	190,000	0.05	24	0.66	0.60	0.26	56	150,000	340,000
SOUTH SKARN	INFERRED	125	501,000	0.09	144	1.76	4.56	0.03	289	2,310,000	4,650,000
TROVADOR	INFERRED	52	4,410,000	0.04	68	0.85	1.55	0.13	124	9,590,000	17,600,000
WEST CONTACT	INFERRED	125	617,000	0.22	113	1.83	2.34	0.05	214	2,240,000	4,240,000
TOTAL INFERRED SULPHIDE VEINS <sup>(1)</sup>			13,100,000	0.11	93	1.41	1.83	0.10	171	39,170,000	72,230,000

(1) Discrepancies between totals are due to differences in rounding residuals.

(2) Although Au and Cu are excluded from the AgEq formula for sulphides (and cut-off grades) due to their relatively low direct economic impact, these elements are expected to report to either of the concentrates and be a net benefit for a refiner.

### 14.6.1 Grade Sensitivity Analysis of the Fernandez Zone

A cut-off grade of 52 g/t was applied for the Fernandez Zone is supported by the extensive and relatively consistent mineralized intersections. There are higher grade zones within Fernandez which show good continuity and could be mined more selectively given more conservative economic parameters. To illustrate the robustness of this resource we applied several cut-off grades that have a predictable impact of lower tonnage but higher overall grades (Table 42). Even if we apply a cut-off of 100g/t AgEq we would obtain a resource of 4.8Mt at 132g/t AgEq indicated and 7.5Mt at 130g/t AgEq inferred. The selectivity of high grade blocks could be further highlighted by isolating the high grade zones with modeled solids, and by using smaller blocks (5m x 5m x 5m herein). This highlights the flexibility of the Fernandez Zone in terms of potential mining approach, all the while retaining the option of mechanized bulk mining.

Table 42: Sensitivity study for various cut-off grades for the Fernandez Zone.

FERNANDEZ ZONE	Indicated Resources							Inferred Resources						
	Tonnes (t)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Cu (%)	AgEq (g/t)	Tonnes (t)	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Cu (%)	AgEq (g/t)
<b>CoG 52</b>														
Endoskarn	9,310,000	0.06	55	0.59	1.33	0.14	100	9,550,000	0.04	57	0.60	1.30	0.12	101
Fringe	5,485,000	0.06	43	0.74	0.89	0.09	83	19,105,000	0.05	41	0.70	0.97	0.08	81
<b>TOTAL CoG 52</b>	<b>14,795,000</b>	<b>0.06</b>	<b>51</b>	<b>0.65</b>	<b>1.17</b>	<b>0.12</b>	<b>94</b>	<b>28,655,000</b>	<b>0.05</b>	<b>46</b>	<b>0.67</b>	<b>1.08</b>	<b>0.10</b>	<b>88</b>
<b>CoG 80</b>														
Endoskarn	6,115,000	0.06	64	0.70	1.58	0.16	117	6,695,000	0.04	65	0.66	1.52	0.13	116
Fringe	2,465,000	0.06	54	0.96	1.15	0.10	106	7,870,000	0.05	52	0.92	1.30	0.11	106
<b>TOTAL CoG 80</b>	<b>8,580,000</b>	<b>0.06</b>	<b>61</b>	<b>0.78</b>	<b>1.45</b>	<b>0.14</b>	<b>114</b>	<b>14,565,000</b>	<b>0.05</b>	<b>58</b>	<b>0.80</b>	<b>1.40</b>	<b>0.12</b>	<b>110</b>
<b>CoG 90</b>														
Endoskarn	4,910,000	0.06	68	0.75	1.68	0.16	124	5,595,000	0.03	69	0.70	1.58	0.14	122
Fringe	1,750,000	0.06	58	1.05	1.24	0.10	114	5,285,000	0.05	56	1.03	1.44	0.11	116
<b>TOTAL CoG 90</b>	<b>6,660,000</b>	<b>0.06</b>	<b>65</b>	<b>0.83</b>	<b>1.56</b>	<b>0.15</b>	<b>122</b>	<b>10,880,000</b>	<b>0.04</b>	<b>63</b>	<b>0.86</b>	<b>1.52</b>	<b>0.12</b>	<b>119</b>
<b>CoG 100</b>														
Endoskarn	3,650,000	0.07	74	0.82	1.81	0.17	135	4,475,000	0.03	73	0.74	1.64	0.14	128
Fringe	1,135,000	0.07	63	1.17	1.35	0.11	124	3,000,000	0.04	62	1.24	1.62	0.12	132
<b>TOTAL CoG 100</b>	<b>4,785,000</b>	<b>0.07</b>	<b>71</b>	<b>0.90</b>	<b>1.70</b>	<b>0.16</b>	<b>132</b>	<b>7,475,000</b>	<b>0.04</b>	<b>69</b>	<b>0.94</b>	<b>1.63</b>	<b>0.13</b>	<b>130</b>

## 14.7 Addition Exploration Potential

The San Diego property is considered to offers significant additional tonnage potential. Many zones remain open to extension and provide strong lateral and vertical continuity. Four particular zones are prospective:

1. The Trovador vein, which is juxtaposed against the southern limit of the Fernandez zone, has a true mining width over 5 m and is closely associated to mantos-style massive sulphide lenses such as those seen in the adjacent MS Zone.
2. The three Montanez veins, are closely-spaced and form a continuous corridor from 1,600m to a depth of 800 m elevation which offers potential for both high-grade narrow vein mining and bulk mining.
3. The remaining narrow, high-grade veins are fairly continuous from surface to depth, allowing for relatively predictable intercepts in lateral and depth extents.
4. A portion of the modeled veins were excluded from the resources in this update due to sparse drilling (in teal in Figure 52 to Figure 91), these tonnes could be captured by future exploration campaigns.
5. The newly-discovered Fernandez Zone, localized between the major structures of Trovador and Montanez, offers bulk-mining potential (or more selective approaches), and remains open to the west and at depth.
6. The identification of other Endoskarn-Exoskarn style zones on the property remains an important exploration target, particularly on the West contact of the Central Diorite.

For the reasons provided above the authors recognize that additional tonnage of 20 to 50 million tonnes grading 100 to 150 g/t AgEq could be recognized in the future. The potential quantity and grade is conceptual in nature and there has been insufficient exploration to define a mineral resource. It is uncertain if further exploration will result in the targets being delineated as a mineral resource.

## 15- Adjacent Properties

The qualified persons responsible for this technical report are unable to verify the information discussed in this section, and the information is not necessarily indicative of the mineralization on the San Diego property.

### 15.1 Velardeña Mining District

The San Diego property is located within the prolific Velardeña mining district which is host to a number of significant historic and current Ag-Pb-Zn, and zinc mines. The most important cluster of mines in the district is situated within the Santa Maria Dome. IMMSA, a wholly-owned subsidiary of Grupo Mexico S.A. de C.V., has operated several mines in the Velardeña district in the recent past, including the Santa Maria, Los Azules, San Nicolas, Industria, and Reina Del Cobre mines. Starting in 1994, Golden Minerals, and its predecessors ECU and William Resources, have operated their Velardeña group of mines located 9 km southwest of the San Diego project that includes the Santa Juanes, San Mateo, Santa Juana and Terneras deposits with the addition in 2006 of the Chicago Mine.

The following information regarding the adjacent properties is adapted from the July, 2005 RPA Technical Report.

“Historically, almost 90% of the production from Sierra Santa Maria has come from the northeastern flank of the dome where are located the Santa Maria, and Los Azules Mines. In the 1980’s, IMMSA reported ore production of 800 t/d with 600 t/d produced from the Santa Maria Mine in carbonate-replacement zones of the Pyrite Zone and, 200 t/d from the disseminated and stockwork mineralization found at the Los Azules Mine (Gilmer, 1988). The Pyrite Zone is characterized by replacement bodies along the Santa Maria rhyolitic dyke. The dimensions of these bodies can attain 200 metres vertically over lengths of 300 m with widths of 20m. The mineralogical assemblage consists of pyrite, sphalerite and galena, with lesser quantities of chalcopyrite. The average grade of the Santa Maria mine was reported to be 156 g/t silver, 3.8% lead and 5.2% zinc. The Los Azules mine consists of mesothermal style, arsenic-rich mineralization associated with a series of small intrusive bodies and dykes of felsic composition. The individual zones can attain lengths of 100 m, with widths up to 10 m. The sulphide mineralization consists of pyrrhotite, sphalerite, and chalcopyrite, with lesser quantities of arsenopyrite, pyrite and galena. The average grade of this mineralization was 120 g/t silver, 2.1% lead and 0.8% zinc (Pinet, 1999). IMMSA operated its Sierra Santa Maria mines from the late 1960’s until 2002. That year, several factors including low Cu prices, high energy costs, continued labor problems and enormous debt from the purchase of Asarco were all weighing heavily on Grupo Mexico leading to the closure of their Velardeña operation.”

“The Industria Mine of Peñoles is situated on the southwest flank of Sierra Santa Maria. The mineralization occurs as a series of epithermal Pb-Zn-Ag-Sb veins and veinlets in both limestone and intrusive rocks. The mineralization consists of pyrite, sphalerite, boulangerite, and galena, as well as silver sulphide and sulfosalt minerals (freibergite, proustite, polybasite, and acanthite).



The average grades are reported as 4 g/t silver and 5% Zn+Pb. Peñoles zinc orebodies contain up to 20% Zn (Gilmer, 1988).”

“The mineralization in the San Nicolas Mine consists of a mineralized breccia zone and has also been classified as a mesothermal type. The mineralization is located in quartz latite porphyry to the northeast of a major calcite-filled fault zone. The mineralogical assemblage consists of pyrite, sphalerite and galena (Pinet, 1999).”

In 2004-2005, following the acquisition by Peñoles of IMMSA’s mines in the Santa Maria dome, extensive exploration programs consisting of several thousand meters of both underground and surface drilling were initiated to better define the existing ore bodies, and explore new potential areas. In 2010, Peñoles announced its decision to invest USD\$203 million into the construction of a new zinc mine with plant facilities capable of processing 6,000 short tonnes per day. Start of production at Peñoles new Velardeña zinc mine is expected for the second quarter of 2013. The total mineral resources of this property including the bodies of North Antares, South Antares and Santa Maria, are said to host more than 2.4 million tonnes of zinc and Peñoles expect to be producing 70,000 t of contained zinc per year.

Golden Minerals currently operates the Velardeña group of mines at a combined capacity of approximately 600 t/d with ore being processed at both their flotation and cyanidation plants. In June 2012, Golden Minerals released an updated resource estimate titled “NI 43-101 Technical Report – Velardeña Project, Durango, Mexico” completed by Chlumsky, Ambrust & Meyer, LLC (“CAM”) of Lakewood, Colorado, with effective date January 01, 2012, for their five Velardeña Mines (Table 43). Golden Minerals presently intends to further expand its operations to 1,150 tonnes per day throughput, and has commenced preliminary design and engineering. The ramp-up to a 1,150 t/p operation could begin as early as the first quarter of 2014, which could result in throughput at the full 1,150-tonne daily capacity being achieved by the fourth quarter of 2014. Golden Minerals’ preliminary estimate of capital and mine development cost for the expansion, most of which would be spent from mid-2013 through 2014, is between \$40-million and \$50-million, of which between \$20-million and \$30-million would be for an autoclave circuit, and approximately \$10-million would be for mine development.

Table 43: Velardeña Project Resource Estimate by CAM (June 29th, 2012).

Velardeña Measured, Indicated and Inferred Resources – 31 December 2011 (Excluding the San Diego Property)						
Category	Tonnes (M)	Gold (g/t)	Silver (g/t)	Gold Ounces (M)	Silver Ounces (M)	Silver Equivalent Ounces (M)*
Measured & Indicated	2.3	3.46	195	0.3	14.6	27.6
Inferred	3.1	3.33	159	0.3	15.8	32.3
*Assumes 50:1 Gold: Silver						

Reference: Chlumsky, Ambrust & Meyer, LLC (2012).

## 15.2 La Noria

The Noria is a small artisanal operation contiguous to the northeast of the San Diego project that is owned by a group of investors from Torreon headed by Mauricio Rojas Zinugas. This operation occupies a 9.65 ha mining concession called El Chocolatin with surface rights belonging to the Ejido of Vallecillos. The dirt road giving access to the San Diego project cuts across the Noria project area. In 2012, that road had to be partly deviated to the south to make way for new mine infrastructures being constructed at the site.

Mining activities are presently carried out from a narrow north 065° oriented sulphide vein (galena ± sulfosalts ± sphalerite ± pyrite), dipping at 68° southeast. The vein has a true width ranging from 20 to 60 cm. The depth of the shaft is approximately 60 m with limited lateral development work extending over about 70 m. Another shaft is also under operation on a N045° oriented narrow sub-vertical vein located adjacent to the property's western limit.

## 16- Other Relevant Data and Information

In June 2008, Golden Tag carried out a sampling program on the waste pile material found at the San Diego project. As reported in Chapter 5, the vast bulk of the mining waste material extracted over the years from underground operations is scattered over the hillsides in waste dumps of variable size and height. For that program, the waste piles of the La Cruz and Trovador Veins were sampled along with dumps from the Porvenir Vein, and material from the tailing pile (Figure 107). A summary of the assay results for each sampled area is given in Table 44. The exact tonnage of the waste piles and the tailings has not been formally estimated.



Figure 107: Clockwise: A) Technicians recording sample information. B) Measuring distances between samples at the La Cruz-Adelaidos pile. C) Waste material typically sampled from the La Cruz-Adelaidos pile. D) Technicians sampling the sides of the La Cruz-West pile.



Table 44: Summary of average assay results for the waste piles and tailings material sampled in June, 2008, at the San Diego Project.

LA CRUZ - Los Adelaidos								
Samples	Au ppm	Ag ppm	Pb %	Zn %	Cu %	As %	Fe %	
45	0.119	99	1.03	0.86	0.02	0.05	4.0	a) top
5	0.103	147	0.70	0.79	0.03	0.04	3.6	b) sides
50	0.111	123	0.87	0.83	0.03	0.05	3.8	Average
LA CRUZ - West								
Samples	Au ppm	Ag ppm	Pb %	Zn %	Cu %	As %	Fe %	
10	0.181	263	3.29	3.12	0.05	0.08	5.5	a) top
5	0.076	113	1.21	1.22	0.04	0.04	2.8	b) sides
15	0.128	188	2.25	2.17	0.05	0.06	4.2	Average
TROVADOR Vein								
Samples	Au ppm	Ag ppm	Pb %	Zn %	Cu %	As %	Fe %	
12	0.169	279	1.34	0.96	0.05	0.13	3.4	a) top
9	0.159	230	0.72	0.75	0.04	0.06	2.9	b) sides
21	0.164	254	1.03	0.85	0.04	0.10	3.2	Average
PORVENIR Vein								
Samples	Au ppm	Ag ppm	Pb %	Zn %	Cu %	As %	Fe %	
5	0.607	239	2.74	3.22	0.10	0.21	10.1	a) top
5	0.778	226	3.19	2.23	0.12	0.21	7.6	b) sides
10	0.692	233	2.97	2.72	0.11	0.21	8.9	Average
AVERAGE VEIN SAMPLES	0.192	168	1.47	1.31	0.04	0.08	4.4	
TAILINGS								
Samples	Au ppm	Ag ppm	Pb %	Zn %	Cu %	As %	Fe %	
15	0.638	92	0.96	1.34	0.10	0.61	5.2	a) top
12	0.392	91	0.67	0.93	0.04	0.21	8.1	b) sides
27	0.515	92	0.82	1.13	0.07	0.41	6.7	Average

ECU later provided to Golden Tag an Excel spreadsheet giving out the assay results for their October sampling. However, that report did not indicate from which location each individual sample had been taken and that information was never communicated to Golden Tag. Nonetheless, the ECU assay results confirmed the prior results obtained from the June sampling program with an average grade of: 0.45 g/t Au, 155 g/t Ag, 1.36% Pb, 1.32% Zn, 0.06% Cu for their 72 samples.

In July of 2009, ECU transported waste material from San Diego to their Velardeña milling facilities without prior approval by Golden Tag. That operation continued for 2.5 weeks with an estimated 5,000t to 6,000t of material removed from the site using a fleet of 20t trucks.

No metallurgical tests have been conducted by Golden Tag on the dump material. ECU may have metallurgical performance data corresponding to the short stint of production of this material in 2009; however this information has not been communicated to Golden Tag. More recently, in July 2012, after discussions between Golden Minerals and Golden Tag, personnel from their Velardeña Mine went to the San Diego project to collect small quantities of material from the La Cruz and Trovador piles to perform preliminary metallurgical tests at their Mine lab facilities. The indicated silver recoveries obtained from a cyanidation process were around 60% (J. Rodriguez, personal communication).

## 17- Interpretation and Conclusions

The San Diego project and surrounding properties have a rich mining heritage with a history of producing world class mines. The location of the property within this camp means that it has access to major infrastructure and a qualified workforce. Recent drilling and 3D modeling has shown that the polymetallic deposits located on the property have a predictable geometry and potential for significant tonnage additions. The resources comprise 23 separate silver-rich zones, each of which contains additional exploration opportunities. This family of structures provides flexibility in the future mine-planning in terms of methods and sequencing. The potential for the future development of a long term underground mining operation at San Diego is considered very good, and it could represent a new “Center of Mineralization” within the Velardeña mining camp.

San Diego is host to a variety of Silver-rich and Pb-Zn bearing zones variably associated with a Diorite Intrusion which lies in the center of the property. The property was previously known for narrow, high-grade Ag-Pb-Zn Veins from surface to 400-500m depth. New drilling has shown that below 500m, veins often widen and occur with massive sulphides replacing carbonate, and/or in zones of skarn and stockwork systems. Highlights from the 2011 and 2012 drill campaigns include:

- Fernandez Zone: a very large skarn deposit with high tonnage and amenable to bulk mining methods. This zone remains open to West and down-plunge;
- Discovery of the West Contact Zone that could represent the shallow up-dip edge of a second Fernandez-style zone;
- Significant potential to expand resources in down-dip and up-dip extensions to the historically important Trovador Vein;
- Ten new vein and mantos zones: including Lorenzo, EWFZ, Rata-Sub, MS, Panda and the South Skarn;
- Highlighting the excellent potential in all 23 zones for further growth in resources. This potential exists within the modeled geological solids and as lateral and depth extensions.

Modeling of the mineralized structures has provided a far better understanding of the geological context and interrelationship between structures. The geology driven resource estimation using the geo-statistical methodology employed in this study is considered to be far more robust and unbiased than previous estimates that employed the polygonal method applied to longitudinal sections. The 3D solids also provide an invaluable tool for planning drill holes; maximizing the intersections through multiple structures with fewer drill holes.

Drill campaigns undertaken in 2011 and 2012 have resulted in significant increases in the estimated resources of the San Diego Project. Of particular importance are the indicated resources that increased from 0.37 million tonnes to 16.5 million tonnes. Inferred resources have also doubled from 22 million tonnes to 42 million tonnes. This increase in tonnage is largely due to the discovery of the core Endoskarn zone in 2012 and recognition of the Fernandez Zone. This zone represents a large (325m x 200m x 700m) relatively homogeneous zone that carries relatively consistent silver-lead-zinc grades over extensive core lengths. Although first intersected in 2009, further drilling attributed to this zone in 2012 helped define a higher grade core (Endoskarn) and a lower grade shell (Fringe). The Fernandez Zone remains open to the West and at depth.

Results from the recent metallurgical tests are very encouraging and provide some confidence that the mineralization will perform well by using standard processing methods.

The average grade for the resources as a whole is somewhat lower than the previous estimate; this is due in large part to the addition of the Fernandez zone which is subject to a lower cut-off (52g/t) and represents 72% of the total resources (heavily weighted in the averages). The lower cut-off grade is supported by a significantly lower expected mining cost for this zone, due to its amenability to bulk mining methods. The discovery and definition of the 2 zones comprising the Fernandez deposit have also impacted the tonnage and grade of several sulphide vein zones that intersect that broad structure. The veins have in a way “donated” their tonnage and grade to Fernandez at areas of intersections; thus explaining to some extent the lower overall tonnage provided by the veins to the resources in this update. The use of stricter limits for the extrapolation distances and application of cut-off grades also contributed to a decrease in tonnage for the sulphide vein zones. In-fill drilling in key areas should help recapture some of the tonnage that did not have the required density of drill holes to meet the geo-statistical resource classification of this estimation.

Table 45: Summary of resources for the San Diego Project.

TOTAL INDICATED RESOURCES BY TYPE	Cut-Off	Tonnage	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Cu (%)	AgEqMIX	Ounces of Ag	Ounces of AgEq
TOTAL INDICATED FERNANDEZ	52	14 800 000	0.06	51	0.65	1.17	0.12	94	24 070 000	44 510 000
TOTAL INDICATED OXIDE VEINS	133	311 000	0.43	211	NA	NA	0.00	234	2 110 000	2 330 000
TOTAL INDICATED SULPHIDE VEINS	52-125	1 373 000	0.20	123	1.23	1.85	0.10	197	5 430 000	8 680 000
TOTAL INFERRED RESOURCES BY TYPE	Cut-Off	Tonnage	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Cu (%)	AgEqMIX	Ounces of Ag	Ounces of AgEq
TOTAL INFERRED FERNANDEZ	52	28 650 000	0.05	46	0.67	1.08	0.10	88	42 440 000	80 690 000
TOTAL INFERRED OXIDE VEINS	133	288 000	0.43	238	NA	NA	0.10	261	2 200 000	2 410 000
TOTAL INFERRED SULPHIDE VEINS	52-125	13 100 000	0.11	93	1.41	1.83	0.10	171	39 170 000	72 230 000

## 18- Recommendations

The 3D modeling and significant additions to the tonnage have provided the San Diego project with new development opportunities. Particularly with respect to the Fernandez zone; this represents a large coherent body of mineralization which could be amenable to low cost bulk mining. The top of this body is at 450m depth, nonetheless there are several thinner veins of higher grade material which come to surface. The authors feel that the next stage for the project should include another drill campaign designed to provide sufficient data to be fed into a Preliminary Economic Assessment (PEA). A study of this level of detail would enable Golden Tag to highlight the economic viability of developing San Diego through a combination of mining methods.

The next step for this project should comprise drill campaign focused on filling the gaps observed in the shallow portions of the veins (oxide and sulphide) (Phase-7). Grade-thickness maps should be prepared for each vein to identify trends that could maximize the estimated revenue for the PEA, particularly in the first 400m which have a higher potential economic value for the project. The program should also address the very high grade intersections that occur near surface (oxide) which could potentially add immediate value with little initial investment. Additionally, the shallow southern limit of the Fernandez Zone remains open and could reveal an extension in this direction. Although the deep northern portion could also provide additional tonnage, drilling this portion does not have the same level of potential economic impact as the upper portions of the Fernandez zone (Table 46). Concurrently with the drill campaign, the precision of the topographic surface should be upgraded with a new ground survey using DGPS or “Total Station” methods.

Specific targets that should be considered and prioritized based on added value include:

- High-grade veins in the very shallow domain (oxide) that could provide revenue with little investment;
- Gaps in drilling within the near surface sulphide veins that were not integrated in the current resource estimate;
- Intersections between veins which often results in blow-outs or chimneys;
- Equivalents or extensions to the Fernandez zone along the Southern Contact and/or along the Western Contact of the Central diorite. The West Contact Zone may represent the upper leading edge on this type of system on the west side of the Central Diorite.

Table 46: Estimated cost of drilling for various zones.

Target	Number of Drill holes	Average depth	Total meters	Estimated Cost
Very shallow	8	75m	600m	150,000\$
0-400m Sulphide Vein	5	500m	2,500m	700,000\$
Upper Fernandez	2	700m	1,400m	450,000\$
<b>TOTAL</b>	<b>14</b>		<b>4,500m</b>	<b>1,300,000\$</b>



A small scale metallurgical study ( $\approx 100k\$$ ) is also recommended to provide a more robust picture of the expected recovery of the different mineralization facies. Testing should focus on the Fernandez Zone because it represents the lion's share of tonnes and has not been previously addressed. Recoveries for the lower grade portions of the Fernandez zone will have tremendous impacts on the estimated economics in the proposed PEA. Potential methods to depress the copper concentrations in the Zn and Pb concentrates should be addressed.

The proposed PEA will need to consider all the potential mining strategies that could be envisioned on the property. The optimal approach to access the ore (shaft or ramp) will have to be established through multiple economic models. One of the advantages of the San Diego project is that there is potential to produce revenue early in the project through the development of near surface oxide veins and near surface sulphide veins that could conceptually supply ore to be shipped to local mills until a local plant is completed. The PEA should also study the possibility of accessing the highest grade portions of veins during decline of a ramp destined for the Fernandez zone. The added cost of testing the validity of several concepts will add to the cost of the study, however they are considered necessary in this case because of the potential to significantly impact the overall economics of the project. The estimated cost of the PEA for this type of project is 250,000\$.

The total cost of the recommended work for the San Diego Project is summarized in Table 47.

Table 47: Estimated total cost for the next recommended phase.

Component	Estimated Cost
Drill Campaign	1,300,000\$
Metallurgical tests	100,000\$
Elaboration of Preliminary Economic Assessment	250,000\$
<b>TOTAL</b>	<b>1,650,000\$</b>

## 19- References

ABITIBI Geophysics (2011), Hole-to-Hole 3D IP Survey, San Diego Project, Durango, Mexico. Prepared by C. Brown and M. Chemam. 52 p.

Broad Oak Associates, (2006), Technical Report on the Gold and Silver Resources of the Velardeña Project, Durango State, Mexico. Prepared by G.S. Carter; filed on SEDAR on August 14, 2006, 66 p.

Camprubi, A., and Albinson, T., (2007), Epithermal deposits in Mexico - update of current knowledge, and an empirical reclassification. Geological Society of America; Special Paper 422; pp. 377-415.

Chlumsky, Ambrust & Meyer, LLC (2012), NI 43-101 Technical Report – Velardeña Project, Durango State, Mexico. Prepared by C. Bow and R.L. Sandefur; filed on SEDAR on June 29, 2012, 102 pages.

Gilmer, A., Clark, K., Conde, J., Hernandez, I., Figueroa, J., and Porter, E., (1988) Sierra de Santa Maria, Velardeña Mining District, Durango, Mexico. Economic Geology; Vol.83, pp.1802-1829.

Giroux Consulting, (2007), Variography Study – San Diego Project. Prepared by G. Giroux; unpublished report, 31 p.

Hamilton, W.S. and Cahoon, G.A., (2003), Report on Resources, Velardeña Properties, Durango Mexico, unpublished incomplete Draft Report.

IOS Services Géoscientifiques (2012), Descriptions pétrographiques et minéralographiques de dix-sept échantillons de roches minéralisées. San Diego Property, Velardeña Mining District, Durango State, Mexico. Prepared by Lucie Tremblay. Unpublished report; 25 p. with annexes.

Megaw, P., Ruiz, J. And Titley, S., (1988), High-Temperature, Carbonate-Hosted Ag-Pb-Zn(Cu) Deposits of Northern Mexico. Economic Geology; Vol. 83, pp. 1856-1885.

MICON International Inc., (2009), NI 43-101 Technical Report- Review and Audit of the Updated Mineral Resource Estimate for the San Diego Project, Velardeña Mining District, Durango State, Mexico. Prepared by W.J. Lewis and K. Marchand; filed on SEDAR on January 20, 2009. 118 p. plus Appendix.

MICON International Inc., (2008), NI 43-101 Technical Report- Review of the Mineral Resource Estimate for the San Diego Project, Velardeña Mining District, Durango State, Mexico. Prepared by W.J. Lewis and K. Marchand; filed on SEDAR on January 28, 2008. 89 p. plus Appendix.

MICON International Inc., (2006), Preliminary Review of the Velardeña Property, Durango State, Mexico, unpublished report for ECU Gold Mining Inc., 42 p.

MICON International Inc., (1998), Review of the Velardeña Project, Mexico, prepared by K. Rodgers, R. Gowans and, T. Hennessey, unpublished report for ECU Gold Mining Inc., 34 p.

Modèlaur enr., (2008), Étude Géochimique : Signature géochimique des intrusions de la propriété San Diego. Prepared by A.-S. Renou, unpublished report, 21 p.

Modèlaur enr., (2007), Étude Pétrographique: Caractérisation lithologique et altérations – Propriété San Diego, Prepared by A.-S. Renou; unpublished report, 43 p.

Palmer, S., (2012), Structural Analysis, Mapping and Recommendations on the San Diego Epithermal Ag-Base Metals Project; unpublished incomplete draft report, 17 p.

Pinet, N., (1999), Geological Study of the Velardeña Mine - Progress Report, unpublished report.

Pinet, A., and Tremblay, A.,(2009), Structural analysis of the Velardeña mining district, Mexico: a faulted Au-Ag-rich hydrothermal system. Canadian Journal of Earth Sciences; Vol.46, pp.123-138.

Roscoe Postle Associates Inc., (2005), Technical Report on the Velardeña Project, Durango, Mexico, prepared by J.L. Pearson, C.S. Wallis and, A.S. Hayden; filed on SEDAR on July 26, 2005, 90 p.

SGS Mineral Services Durango, (2012) Investigación metalúrgica por flotación selectiva Pb-Zn de cuatro muestras de mineral. Preparado por Golden Tag de Mexico; Reporte SGS 17-12, 18 p.

## Certificate of Qualified Person for Kateri Marchand, P.Ge

I, Kateri Marchand, do hereby certify that:

1. I am an independent Consulting Geologist working from 6358 Molson, Montreal Qc, Canada, H1Y 3C3.
2. This certificate is to accompany the Report entitled: "Updated Mineral Resource Estimate for the San Diego Project, Durango, Mexico", which was prepared for Golden Tag Resources Ltd., dated April 12<sup>th</sup> 2013.
3. I am a graduate with a B.Sc. of Geology from the Université du Québec à Montréal and an M.Sc. (Structural Geology) from the Université du Québec à Chicoutimi. I am a registered Professional Geoscientist with the Ordre des Géologues du Québec (membership # 906). I am also a registered member of the Prospectors and Development Association of Canada (membership # 222735). I have worked as a geologist in the mineral industry for a total of 22 years. My relevant experience on epithermal; polymetallic deposits for the purpose of the Technical Report includes my work as a consulting geologist on the San Diego project since 2006:
4. My most recent visit to the property was from September 13<sup>th</sup> to October 20<sup>th</sup>, 2012.
5. I am responsible for section 7, 8, 9, 10, 15, 16 and 19 of the Technical Report.
  1. I am independent of Golden Tag Resources Limited as described in section 1.5 of the Instrument;
  6. I have worked on exploration programs on the property prior to this Technical Report.
  7. I have read the Instrument and the sections of the Technical Report that I am responsible for, which have been prepared in compliance with the Instrument; and
  8. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the parts of the Technical Report that I am responsible for, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Montreal, Quebec this June 5<sup>th</sup> 2015

*"Original document signed and sealed"*

Kateri Marchand P.Ge    Effective Date: April 12<sup>th</sup> 2013

## Certificate of Qualified Person for Claude Duplessis, Eng.

I, Claude Duplessis Eng., do hereby certify that:

1. I am a senior engineer and consultant with SGS Canada Inc. – Geostat with an office at 10 Blvd de la Seigneurie East, Suite 203, Blainville, Quebec, Canada, J7C 3V5;
2. This certificate is to accompany the Report entitled: "Updated Mineral Resource Estimate for the San Diego Project, Durango, Mexico", which was prepared for Golden Tag Resources Ltd., dated April 12<sup>th</sup> 2013.
3. I am a graduate from the University of Quebec in Chicoutimi, Quebec in 1988 with a B.Sc.A in geological engineering and I have practiced my profession continuously since that time. I am a registered member of the Ordre des ingénieurs du Québec (Registration Number 45523). I am also a registered engineer in the province of Alberta (Registration Number M77963). I have worked as an engineer for a total of 26 years since my graduation. My relevant experience for the purpose of the Technical Report is: Over 22 years of consulting in the field of Mineral Resource estimation, orebody modeling, mineral resource auditing and geotechnical engineering. I have specific experience in modelling and estimation of vein type precious metal deposits and polymetallic deposits.
4. I did the personal inspection of the San Diego Silver property and facilities in Mexico from June 18<sup>th</sup> to June 21<sup>th</sup> 2012.
5. I am responsible for section 3 to 6, 11 and 12 of the Technical Report.
6. I am independent of Golden Tag Resources Limited as described in section 1.5 of the Instrument;
7. I have had no prior involvement with the property that is the subject of the Technical Report;
8. I have read the Instrument and the sections of the Technical Report that I am responsible for, which have been prepared in compliance with the Instrument; and
9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the parts of the Technical Report that I am responsible for, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Blainville, Quebec this June 5<sup>th</sup> 2015  
*"Original document signed and sealed"*

Claude Duplessis Eng. Effective Date: April 12<sup>th</sup> 2013

## Certificate of Qualified Person for Guy Desharnais, Ph.D., P.Geo.

I, Guy Desharnais, of Laval Quebec, do hereby certify that:

1. I currently work as a geologist at SGS Canada Inc. - Geostat with an office located at 10 boul. de La Seigneurie Est, Suite 203, Blainville, Quebec, Canada J7C 3V5;
2. This certificate regards the technical report entitled "Updated Mineral Resource Estimate for the San Diego Project, Durango, Mexico", which was prepared for Golden Tag Resources Ltd., dated April 12<sup>th</sup>, 2013.
3. I have a B.Sc. honours degree from the geology department of the University of Manitoba and I received a Ph.D. in 2004 from the same university. I have more than 5 years experience in resource estimation of vein hosted and disseminated base and precious metal deposits. Additionally, I have more than 5 years experience in exploration of base and precious metal deposits. I have given several courses on geostatistics, resource estimation and the application of NI 43-101. I am a registered member of the Ordre des Géologues du Québec (#1141). I am a "Qualified Person" for the purposes of National Instrument 43-101 (the "Instrument");
4. I did not visit San Diego property;
5. I am responsible for sections 1, 2, 14, 17 and 18 of the Technical Report;
6. I am independent of Golden Tag Resources Limited as described in section 1.5 of the Instrument;
7. I have had no prior involvement with the property that is the subject of the Technical Report;
8. I have read the Instrument and the sections of the Technical Report that I am responsible for, which have been prepared in compliance with the Instrument; and
9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the parts of the Technical Report that I am responsible for, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Blainville, Quebec this June 5<sup>th</sup> 2015

*"Original document signed and sealed"*

---

Guy Desharnais Ph.D. P.Geo Effective Date: April 12<sup>th</sup> 2013

## Certificate of Qualified Person for Gilbert Rousseau, Eng.

I, Gilbert Rousseau B.Sc.A, Eng., of Ville de Saguenay, Province of Quebec, do hereby certify:

1. I am a Senior Mining-Metallurgical Engineer with SGS Canada Inc., with a business address at 10 Boul. de la Seigneurie Est, Blainville, Quebec, Canada, J7C 3V5.
2. This certificate is to accompany the Report entitled: "Updated Mineral Resource Estimate for the San Diego Project, Durango, Mexico", which was prepared for Golden Tag Resources Ltd., dated April 12<sup>th</sup> 2013.
3. I graduated from The Ecole Polytechnique of the University of Montreal (B.Sc.A, Mining Engineer in 1969). I am a retired member in good standing of the "l'Ordre des Ingénieurs du Québec" #20288). My relevant experience includes more than 40 years of experience in the mining and milling of minerals including iron, copper, lead, zinc, silver, gold, asbestos, graphite, nickel, silica, etc. I am a "Qualified Person" for the purposes of National Instrument 43-101 (the "Instrument").
4. I did not visit the property.
5. I am responsible for section 13 of the Technical Report.
6. I am independent of Golden Tag Resources Limited as described in section 1.5 of the Instrument;
7. I have had no prior involvement with the property that is the subject of the Technical Report;
8. I have read the Instrument and the sections of the Technical Report that I am responsible for, which have been prepared in compliance with the Instrument; and
9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the parts of the Technical Report that I am responsible for, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated this 5<sup>th</sup> day of June 2015 in La Baie, Quebec.

*Signed and Sealed*

*"Original document signed and sealed  
by Gilbert Rousseau, Eng"*

\_\_\_\_\_  
Gilbert Rousseau Eng. Effective Date: April 12<sup>th</sup> 2013