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GEOLOGIX EXPLORATIONS INC.

TECHNICAL REPORT
ON THE MINERAL RESOURCES
OF THE TEPAL GOLD-COPPER PROJECT
MICHOACÁN STATE, MEXICO

March 29, 2012

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1.0 SUMMARY

This Technical Report was compiled by Micon International Limited (Micon) for Geologix Explorations Inc. (Geologix).

The purpose of this Technical Report is to update the mineral resources of the Tepal gold-copper project, located in Michoacán State, Mexico. Geologix completed over 40,000 metres of infill diamond drilling in 2011, after the last mineral resource estimate was completed. This new drilling combined with the historic drilling is the basis of this new mineral resource. This infill drill program is intended to upgrade much of the previous Inferred Mineral Resource into higher classifications for use in a preliminary feasibility study.

The Tepal Property is located in the municipality of Tepalcatepec, Michoacán State in southwestern Mexico. The property is centered at 19° 7' 40" Latitude and 102° 56' 8" Longitude or 2,116,257mN and 717,161mE , Zone 13Q (UTM - NAD 83). The average elevation is 550 m. The climate is hot and relatively dry.

The Tepal Property consists of six contiguous concessions totalling 13,843.2 ha. The property has been explored by several exploration companies over the past 30 years.

The property is located within the Coastal Range of south-western Mexico south of the Neogene Trans-Mexican Volcanic Belt. Basement rocks consist of Cretaceous to early Tertiary intermediate plutons, stocks and plugs intruding weakly metamorphosed sedimentary and volcanic rocks of probable Jurassic to Cretaceous age.

Three small mineralized tonalite stocks have been identified on the property. The mineralization is characteristic of porphyry copper-gold deposits consisting of disseminated copper sulphides in structurally controlled, multi-phase intrusive zones. The North and South Zones have a gold enriched core with a copper dominant periphery and then to barren pyritic halos. There is a distinct oxide zone in the three deposits but the majority of the mineralization is sulphides (85 to 90%).

The metallurgical data to-date indicates that the sulphide mineralization responds well to conventional milling which produces a good quality copper flotation concentrate enriched in gold. The oxide mineralization responded well to cyanide heap leach technology.

A new mineral resource estimate was calculated using the Ordinary Kriging method. The three deposits were defined by mineralogical models which where based on metal prices and geological boundaries. The interpolation was further constrained by soft economic pit shells. The following table documents the Measured and Indicated Mineral Resources of the three deposits at US $5/t equivalent value cut-off.

Table 1.1
Measured and Indicated Mineral Resources at US $5/t Equivalent Value Cut-Off

Deposit	Resource Category	Tonnage (kt)	Average Grade				Contained Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (Mlb)
Tepal North	Measured	14,067	0.50	0.29	0.78	0.002	228	89
	Indicated	55,320	0.30	0.21	1.01	0.002	533	252
	M + I	69,387	0.34	0.22	0.96	0.002	761	341
Tepal South	Measured	20,011	0.47	0.22	1.07	0.002	300	96
	Indicated	20,993	0.45	0.20	1.17	0.002	305	91
	M + I	41,005	0.46	0.21	1.12	0.002	605	187
Tizate	Measured	-	-	-	-	-	-	-
	Indicated	77,375	0.18	0.17	2.29	0.006	438	285
	M + I	77,375	0.18	0.17	2.29	0.006	438	285
Total	Measured	34,078	0.48	0.25	0.95	0.002	528	185
	Indicated	153,688	0.26	0.19	1.67	0.004	1,276	628
	M + I	187,766	0.30	0.20	1.54	0.004	1,804	813

*Assumptions used to calculate soft pit constraint: Au Price US$ 1300/oz, Cu Price US$ 3.30/lb
Tizate Oxide Au Recovery - 68.8%, Cu Recovery - 6.8%
Tizate Sulphide Au Recovery - 66.2%, Cu Recovery - 85.3%
Tepal Oxide Au Recovery - 78.4%, Cu Recovery - 14.3%
Tepal Sulphide Au Recovery - 60.7%, Cu Recovery - 87.4%

*Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves.

The following table documents the Inferred Mineral Resources of the three deposits at the same US $5/t equivalent value cut-off.

Table 1.2
Inferred Mineral Resources at US $5/t Equivalent Value Cut-Off

Deposit	Resource Category	Tonnage (kt)	Average Grade				Contained Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (Mlb)
Tepal North	Inferred	906	0.22	0.21	1.21	0.003	6.5	4.2
Tepal South	Inferred	412	0.40	0.16	0.95	0.002	5.3	1.5
Tizate	Inferred	34,426	0.15	0.15	1.70	0.007	169.8	114.8
Total	Inferred	35,743	0.16	0.15	1.68	0.006	181.7	120.4

*Assumptions used to calculate soft pit constraint: Au Price US$ 1300/oz, Cu Price US$ 3.30/lb
Tizate Oxide Au Recovery - 68.8%, Cu Recovery - 6.8%
Tizate Sulphide Au Recovery - 66.2%, Cu Recovery - 85.3%
Tepal Oxide Au Recovery - 78.4%, Cu Recovery - 14.3%
Tepal Sulphide Au Recovery - 60.7%, Cu Recovery - 87.4%

2.0 INTRODUCTION

This Technical Report was compiled by Micon International Limited (Micon) for Geologix Explorations Inc. ("Geologix").

The purpose of this Technical Report is to up-dated the mineral resources of the three deposits that are part of Geologix's Tepal gold-copper project located in Michoacán, Mexico.

Geologix has completed a major in-fill drilling program in 2011 on the North, South and Tizate deposits. The purpose of the drilling was to better define the deposits and upgrade the PEA Inferred Mineral Resources to higher categories for use in a pre-feasibility study.

Several sections of this report are taken from the preceding technical reports.

- "Resource Estimation Update Revised for the Tepal Gold-Copper Prospect, Michoacán, Mexico" dated November 4, 2009, prepared by ACA Howe International Limited for Geologix (White, 2009).
- "Tepal Project, Preliminary Economic Assessment, Technical Report", dated October 8, 2010, prepared by SRK Consulting (Murphy et. al., 2010)
- "Revised Tepal Project, Preliminary Assessment, Technical Report - Tepal and Tizate Deposits", dated August 29, 2011, prepared by SRK Consulting (Murphy et. al., 2011)

All report information is referenced as appropriate. Other references can be found in Section 20.

Mr. David K. Makepeace, M.Eng., P.Eng. is an independent qualified person ("QP") under NI-43-101 and is responsible for all sections of this report. He has visited the site from January 8 to 12, 2012.

All units in this report are based on the International System of Units ("SI"), unless otherwise stated. All currency values are United States Dollars ("US$" or "$") unless otherwise stated.

This report uses abbreviations and acronyms common within the minerals industry.

3.0 RELIANCE ON OTHER EXPERTS

Preparation of this report is based upon public and private information provided by Geologix and information provided in various previous Technical Reports.

Mr. Sandeep Prakash, M.Sc.,P.Geo. is a mineral resource geologist for Micon International Limited. He assisted in the Tepal mineral resource estimate under the direct supervision of Mr. David Makepeace, P.Eng. and Mr. Thomas C. Stubens, P.Eng. Both David Makepeace, P.Eng. and Thomas C. Stubens, P.Eng. are independent QP's as defined by NI 43-101.

The results and opinions expressed in this report are conditional upon the information being current, accurate, and complete as of the date of this report. There has been no information withheld that would affect the conclusions to Micon's knowledge.

Neither Micon nor the author of this technical report qualified to provide extensive comment on legal issues associated with the Tepal property. As such, portions of Section 3 dealing with the types and numbers of mineral tenures and licenses, the nature and extent of Geologix's title and interest in the Tepal property, the terms of any royalties, back-in rights, payments or other agreements and encumbrances to which the property is subject are descriptive in nature and are provided exclusive of a legal opinion on the part of Micon.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Tepal Property is located in the municipality of Tepalcatepec, Michoacán State in southwestern Mexico. The property is centered at 19° 7’ 40” Latitude and 102° 56’ 8” Longitude or 2,116,257mN and 717,161mE , Zone 13Q (UTM - NAD 83). The average elevation is 550 metres (“m”). Figure 4.1 illustrates the location and the infrastructure surrounding the Tepal Property.

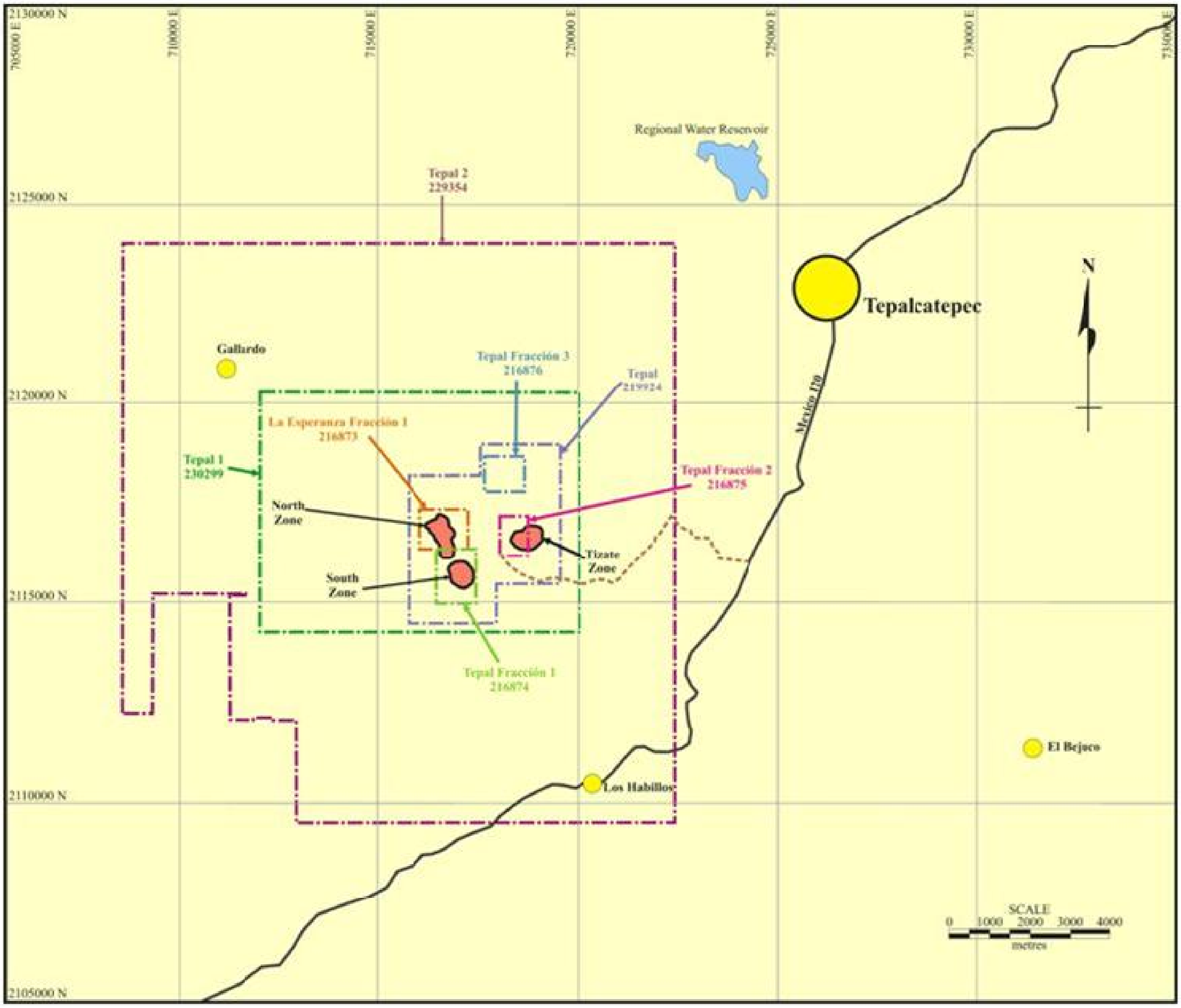
Figure 4.1
Tepal Property Location

The Tepal Property consists of six contiguous concessions totalling 13,843.2 hectares (“ha”) (Figure 4.2, Table 4.1).

Table 4.1
Concession Titles

Concession	Title No.	Area (ha)	Date of Title	Expiration Date	Owner
La Esperanza Fr. 1	216873	120	June 5, 2002	June 4, 2052	Minera Tepal S.A. de C.V.
Tepal Fr. 1	216874	140	June 5, 2002	June 4, 2052	Minera Tepal S.A. de C.V.
Tepal Fr. 2	216875	70	June 5, 2002	June 4, 2052	Minera Tepal S.A. de C.V.
Tepal Fr. 3	216876	90	June 5, 2002	June 4, 2052	Minera Tepal S.A. de C.V.
Tepal	219924	986	May 7, 2003	May 6, 2053	Minera Tepal S.A. de C.V.
Tepal 1	230299	3,394	August 3, 2007	June 27, 2055	Minera Tepal S.A. de C.V.
Tepal 2	229354	12,437.2	April 12, 2007	April 12, 1957	Arian Silver de Mexico S.A. de C.V.
Total		17,237.2			

Figure 4.2
Tepal Property Concessions



The concessions were surveyed in order for the titles to be issued, as required under Mexican law. Micon is unaware of any independent surveys of the claims. Historical claim information is documented in SRK's PA report (Murphy et. al., 2011).

Arian Silver de Mexico S.A. de C.V. ("Arian") originally optioned the internal concessions (La Esperanza Fracción 1, Tepal, Tepal Fracción 1, Tepal Fracción 2, Tepal Fracción 3) from Minera Tepal S.A. de C.V. ("Minera Tepal") for US$ 5,000,000 to gain 100% interest in the property, subject to a 2.5% net smelter return (NSR).

In 2007, Minera Tepal acquired the Tepal 1 concession (3,394 ha) that surrounds the internal concessions. Also in 2007, Arian acquired the Tepal 2 concession (12,437.2 ha) which is over free ground and completely surrounding the internal concessions.

As of April 4, 2011, Geologix has completed the purchase of the internal concessions and Tepal 2 from Arian and Arian's obligations to Minera Tepal, subject to the 2.5% NSR. There is a first-right-of-refusal on the Minera Tepal NSR royalty should Minera Tepal elects to sell the royalty.

Geologix is presently acquiring 100% interest of Tepal 1 from Minera Tepal. The payments are listed in the following table.

Table 4.2
Tepal 1 Payment Schedule

Amount (US$)	Due Date	
57,000	On signing	Paid
57,000	June 1, 2011	Paid
115,000	December 1, 2011	Paid
172,000	June 1, 2012	
287,500	December 1, 2012	
862,500	December 1, 2013	
1,437,500	December 1, 2014	

Payments are subject to Mexican Value Added Tax (15%) which will be paid by Geologix and applied for reimbursement. A 2% NSR based on the sale of minerals is payable to Minera Tepal. There is a first-right-of-refusal on the Minera Tepal NSR royalty should Minera Tepal elects to sell the royalty. Geologix may purchase at any time all or part of the Tepal 1 NSR for US$ 1,100,000 plus Value Added Tax for every 1% of the royalty.

The majority of surface rights for the property are owned by three individuals. However, some of the peripheral areas of the concession are owned by several ejidos. Geologix has negotiated an agreement for an extend period of time with the main private owner.

Mining taxes for mining concessions, in Mexico are based on the amount of time elapsed from the date the concession title was issued and the number of hectares covered by the concessions. These taxes are paid twice per year and the resulting tax liabilities for the Tepal Property total Mx$783,458 or US$67,682 for 2011.

Assessment work is calculated on the same basis as property taxes. The assessment work commitment for the property has been met for 2010 and 2011 and sufficient assessment work credits are available to meet the requirements for 2012.

Clifton Associates has been retained as Geologix's environmental consultants. They are not aware of any environmental issues currently relating to the property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The following section is modified from Murphy et al, 2011.

5.1 ACCESSIBILITY

The property can be accessed year round by paved highway Mexico 120 which traverses the southeastern portion of the property. The last 7.5 km to the centre of the property is on unimproved dirt roads.

A series of all-weathered roads and the Morelia-Lazaro Cárdenas Autopista (tollway) can be used to reach the capital of Michoacán State, Morelia or Mexico's main west coast port of Lazaro Cárdenas within 3.5 hours.

Two international airports service the area. The General Francisco J. Mujica International Airport (Morelia) is approximately 4.5 hours drive northeast of the property while the Ixtapa Zihuatanejo International Airport is approximately 5 hours south of the property. The closest domestic airport to the property is the Pablo L. Sidar Airport in Apatzingán which is approximately 1 hour drive southeast of the property.

5.2 CLIMATE

The rainy season is usually from June to October while the dry season extends from late November to May. Heavy rains during the rainy season can prevent easy access to the property by turning the dirt roads into mud and/or producing wash outs in places.

Average annual precipitation ranges from 500 mm to 700 mm (Murphy et al, 2011). The daytime temperatures range from 27°C to 40°C with an average annual temperature between 28ºC to 30ºC.

5.3 PHYSIOGRAPHY

The property lies within rugged terrain, part of the northeast side of the Mexican Coastal Range. The elevation on the property ranges from 500 m to 700 m. The elevation immediately around the deposit ranges from around 550 m to around 650 m. There are large flat areas immediately south and northeast of the property that can be used for mine related infrastructure. A small relatively flat area between the three deposits is acceptable for establishing the mill site.

Vegetation consists of thorny brush, small trees and occasional cactus.

5.4 INFRASTRUCTURE

Tepalcatepec is the town nearest the property. It has a population of approximately 30,000. Services available in Tepalcatepec include lodging, a number of small restaurants, gasoline stations, a variety of small hardware, grocery, and retail stores, and an open air market. Geologix has established an exploration compound on the western edge of Tepalcatepec. It also has a secure warehouse for core and reject sample storage near the exploration compound.

Apatzingán, located approximately 55 km southeast of Tepalcatepec, has a population of approximately 90,000. It is the closest town with scheduled domestic air service (Pablo L. Sidar Airport). Daily commuter flights are made to Guadalajara.

Morelia is the capital of Michoacán State and has a population of approximately 550,000. All the regional government and utility offices are located in Morelia. Morelia has an international airport with daily connections to Mexico City and the United States. Morelia is connected to the autopista highway system. Both Guadalajara and Mexico City can be reached within half a day's drive.

There is a three phase power line located 7 km east of the deposits. A major power substation is located 2 km east of the town of Tepalcatepec. The Comisión Federal de Electricidad ("CFE"), the federal power authority in Mexico has indicated that sufficient power is available to meet the needs of the project and a power line between the substation and the project could be constructed and power provided from the local electrical grid. Presently there is no power on the property.

There are a series of aqueducts and canals that provide irrigation water to the farms around Tepalcatepec. These aqueducts are feed by several reservoirs in the region. Water for the mine may be available from this reservoir system however the property water table appears to be shallow, based on the property wide drill hole information. Also several wells in the area of the project indicate that the water table is generally located approximately 3 m below the surface.

The dominant land use centred around the three deposits is non-agricultural due to the steep terrain and thick brush. Some of the peripheral land however is used for grazing cattle and goats. In the most arable land at the edges of the property sorghum and corn are grown.

6.0 HISTORY

The following section is modified from Murphy et. al., 2011.

"The presence of a few small surface workings and several old generations of punto de partido, or concession survey monuments (beacons) in the area of the North and South Zones provide evidence of past exploration on the property. However, there is no anecdotal or written evidence of any production and nothing is known of this early period.

In 1972, the International Nickel Company of Canada, Ltd ("INCO") identified the Tepal and the Tizate gossans and associated copper mineralization (Copper Cliff, 1974). INCO worked through its Mexican subsidiary DRACO although the sole surviving report from this time period was prepared by Copper Cliff. Limited data remains from the INCO period.

INCO explored the property during the period 1972 to 1974 by means of surface geochemistry, IP geophysics and drilling. INCO developed a historic (non-NI 43-101 compliant) resource estimate of 27 Mt averaging 0.33% Cu and 0.65g/t Au. It is unknown the methodology used to develop the estimate. This estimate was used to attract future companies to the property. Unfortunately INCO abandoned the property. INCO however stressed that more drilling was required to further define the width of the mineralised zones.

The historical estimate prepared by INCO is believed reliable and a good approximation of the amount and grade of mineralization found on the property at the time the estimate was prepared. The historical estimate is no longer relevant as it precedes the estimates presented in this report.

Teck Resources Inc. ("Teck") acquired the property in late 1992. Work completed by Teck include geologic mapping, the collection of over 200 rock samples for multi-element analysis, the construction of more than 60 km of grid line, the collection of 1,268 soil samples and 50 rock chip samples from the grid, the construction of 15 km of access road and the completion of 50 reverse-circulation holes totalling 8,168 m in four phases of work. Teck also undertook some metallurgical testing.

In 1994, Teck completed an historic resource estimate (non-NI 43-101 compliant). The resource estimate was a polygonal block estimate based on the manual definition of polygonal blocks on computer drafted drill sections using manual composited intercept intervals. The total for all categories was 78.8 Mt grading 0.40 g/t Au and 0.25% Cu with drill indicated resources totalling 55.8 million tonnes grading 0.51 g/t Au and 0.26% Cu. The South Zone had a drill indicated resource of 24.3 Mt averaging 0.55 g/t Au and 0.25% Cu. The North Zone had a drill indicated resource of 31.6 Mt averaging 0.49 g/t Au and 0.27% Cu. It should be noted that the resource categories defined by Teck were drill indicated, drill inferred and projected and do not directly correspond to the categories of mineral resources prescribed in NI 43-101 but are broadly correlative with Indicated and Inferred resource categories as defined in CIM Definition Standards on Mineral Resources and Reserves (Canadian Institute of Mining, Metallurgy and Petroleum, 2010).

The historical estimate is believed reliable and a good approximation of the amount and grade of mineralization found on the property at the time the estimate was prepared. The historical estimate is no longer relevant as it precedes the estimates presented in this report.

In late 1996, Minera Hecla S.A. de C.V. ("Hecla") visited the property and initiated a work program in the spring of 1997. Hecla's expenditures on the property are unknown however Hecla's primary focus on the property was to define a large tonnage, low-grade gold target.

Work by Hecla included the creation of a 1:2,000 scale topographic map from aerial photographs, a geologic mapping program, the collection of nearly 900 rock chip samples on a 50 m by 50 m grid, the re-analysis of 298 pulps from the Teck reverse-circulation drilling program, the completion of 17 reverse-circulation drill holes totalling 1,506 m and the completion of a historic resource estimate (Gómez-Tagle, 1997 and 1998). Although all samples were analyzed for copper and gold, Hecla did not include copper in its resource estimate. The resource estimate was a polygonal block estimate based on manual definition of polygonal blocks on computer drafted drill sections using manual composited intercept intervals. The total resource for oxide and sulphide material in the North and South Zones was 9.06 Mt averaging 0.90 g/t Au and containing 262,359 ounces of gold."

The historical estimate prepared by Hecla is believed reliable and a good approximation of the amount and grade of mineralization found on the property at the time the estimate was prepared. The historical estimate is no longer relevant as it precedes the estimates presented in this report.

"In 2007, Arian Silver de Mexico S.A. de C.V. ("Arian") undertook a diamond drill program consisting of 42 holes totalling 7,180 m. In April 2008, ACA Howe did a mineral resource estimate using an inverse weighted method to the third power (ID3). The constrained +0.18 g/t Au mineralised zones at Tepal were interpolated to have a total Inferred Mineral Resource of 78.8Mt grading 0.47g/t Au and 0.24 % Cu at a zero cut off grade for approximately 1.18Moz Au and 421.5Mlbs Cu.

In September, 2008, ACA Howe International Limited undertook a second NI 43-101 Technical Report which included a mineral resource estimate. A block model was created and constrained by interpreted geological wireframe solids of the North and South Zones. The blocks were interpolated using an ID^3. The North and South Zones were estimated to contain an Indicated Mineral Resource of 25.0 Mt grading 0.54 g/t Au and 0.27% Cu and an Inferred Mineral Resource of 55.0 Mt grading 0.41 g/t Au and 0.22% Cu, constrained by a 0.18 ppm Au envelope that honoured geology. This resource did not include the Tizate Zone.

Micromine software was used to generate a wireframe restricted, linear block model resource estimate of contained gold and copper over the project using ID^3.

In 2010, Geologix completed a 42-hole diamond drill program totalling 10,656 m. There were 26 holes that defined the North and South Zone deposits and 14 holes that targeted the Tizate Zone. Two additional holes were completed between the North/South Zones and the Tizate Zone. SRK completed a Preliminary Economic Assessment Technical Report (PEA) in October 8, 2010 and a Preliminary Assessment Technical Report (PA) in April 29, 2011. A new mineral resources estimate was completed as part of the PA Technical Report."

A new mineral resource was completed as part of the 2011 Preliminary Assessment technical report (Murphy et. al., 2011). This estimate included the North, South and Tizate Zones. There was a re-examination of all domains in the three deposits. New drilling up to 2010 was included into the drill database.

New models were constructed by Geologix using envelopes that utilized an US$ 8.70 equivalent cut-off based on a price of US$ 900/oz for gold and US$ 2.75/lb for copper. The cut-off used in the models corresponded closely with the primary economic limits of the mineralization and was based on geological observations on the type and intensity of alteration, veining and sulphide or oxide mineralization.

A digital terrain model (DTM) was created for each deposit to represent the base of the oxide zone which usually corresponded to the base of the hematite mineralization. There is a transition zone in the deposits but is generally narrow (i.e. 1 to 2 m) so a separate domain was not created for this zone.

Minimal top cuts were made for copper and gold after an outlier review was made of the data. The cumulative frequency inflection point method was used to determine the capping level.

A two metre composite was chosen as the optimum length for the drill hole data. Variography was used to define the directions of grade anisotropy and spatial continuity of gold and copper grades. This data was used as input parameters for grade interpolation. There was insufficient data to generate correlograms for silver and molybdenum therefore range and orientation parameters were taken from the corresponding copper correlograms.

Two block models were generated for Tepal (North and South Zones) and Tizate. A block size of 10m x 10m x 5m was selected. There was no sub-blocking in the models. Gold and copper grades were interpolated on respective domains for Tepal and Tizate deposits using the Ordinary Kriging interpolation method. Silver and molybdenum grades were only generated for the Tizate deposit. These grades were interpolated using the inverse distance squared (ID2) method.

"In order to determine the quantities of material offering "reasonable prospects for economic extraction" (CIM definition) from an open pit, SRK used the Whittle pit optimizer to evaluate the profitability of each resource block based on certain optimization parameters selected from comparable projects. The optimization parameters include: waste mining costs of US$1.00/t; mining and processing costs of US$5.60/t milled; overall pit slope angles of

45°; metallurgical recoveries of 60% and 78% were applied for gold in sulphide and oxide respectively and recoveries of 87% and 14% were applied for copper in sulphide and oxide. Appropriate dilution and offsite costs and royalties were also considered and applied where appropriate. A gold price of US$1,200/oz and a copper price of US$3.00/lb were used." (Murphy et. al. 2011).

"Based on the above, SRK estimated that the Tepal and Tizate deposits contained 57.8 million tonnes of Indicated mineral resources grading 0.42 g/t Au and 0.24% Cu at a cut-off grade of US$ 5.00 equivalent value. The deposits contained an additional 93.2 million tonnes grading 0.28 g/t Au and 0.20% Cu classified as Inferred mineral resource at a cut-off grade of US$ 5.00 equivalent value (Murphy et. al. 2011).

7.0 GEOLOGICAL SETTING AND MINERALIZATION

The following section is modified from excerpted from Priesmeyer (2007).

7.1 REGIONAL GEOLOGY

"The property is located within the Coastal Ranges of south-western Mexico south of the Neogene Trans-Mexican Volcanic Belt. Basement rocks consist of Cretaceous to early Tertiary intermediate intrusions (plutons, stocks and plugs) intruding weakly metamorphosed sedimentary and volcanic rocks of probable Jurassic to Cretaceous age. The Jurassic to Cretaceous sedimentary and volcanic rocks are part of an accreted Mesozoic island arc volcanosedimentary assemblage. At least some of the intrusive rocks are probably coeval with the volcanic units. Neogene basalts locally overly basement rocks and represent outliers of the Trans-Mexican Volcanic Belt.

The property lies just south of the Huacana Batholith (Figure 7.1), a Cretaceous to early-Tertiary batholith that ranges from quartz diorite to tonalite and granodiorite in composition.

The mineralized hyp-abyssal intrusions at the Tepal property are thought to be marginal phases of this batholith (Shonk, 1994)".

7.2 PROPERTY GEOLOGY

"Teck geologists identified three layered units and ten distinct intrusive rocks, some with multiple variations.

The layered units include a mixed unit of andesitic volcanics and interlayered volcanoclastic sediments, an andesitic to dacitic volcanic unit with minor interlayered volcanoclastic sediments (greywackes and siltstones) and a predominantly sedimentary unit of greywacke, shale, minor limestone and subordinate flows, tuffs and mudflows.

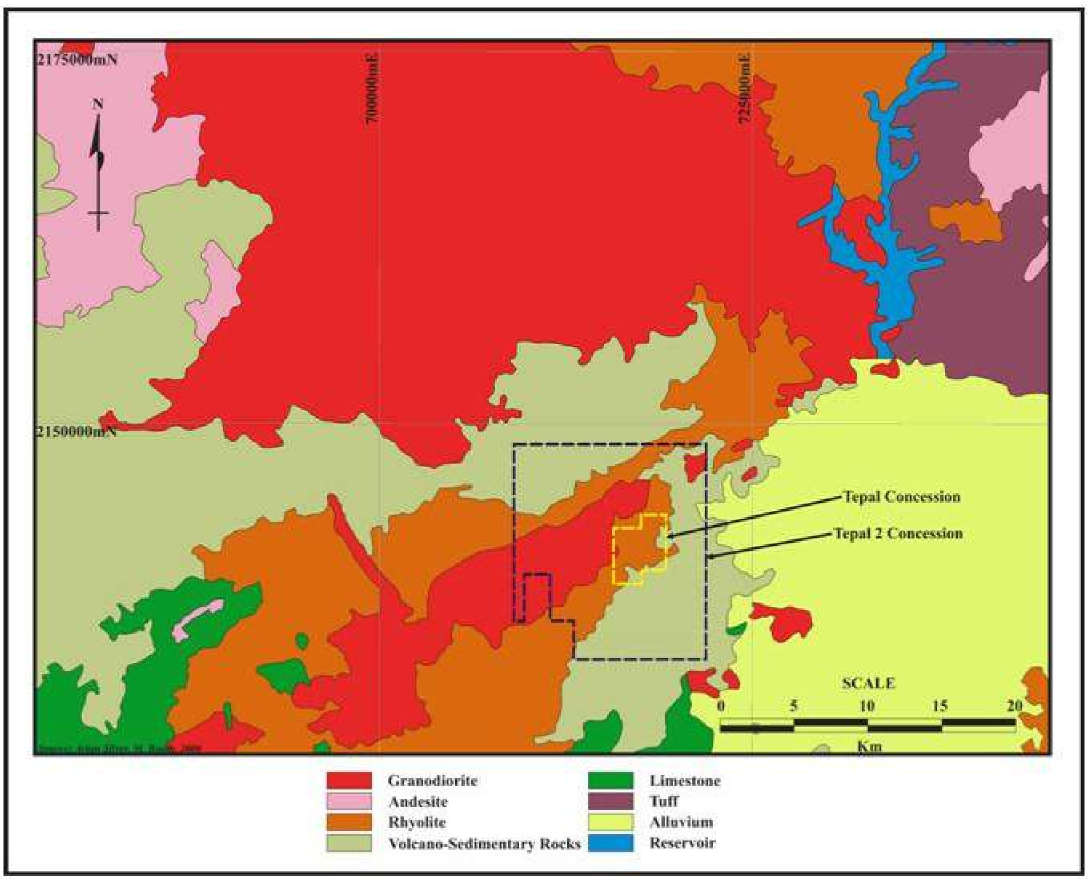
Intrusive rocks on the property are only known north of a major east-northeast-trending fault on the southern part of the property. Nearly all fall in the tonalite/low-K dacite compositional range with the exception of post-mineralization and post-alteration andesite dikes. Intrusive rocks also display a wide variation in texture and phenocrysts abundance indicating diverse cooling histories and suggest multiple intrusive events and relatively high levels of emplacement. A detailed discussion of these lithologic units is presented in Shonk (1994).

Several inferred north-northwest-trending and east-northeast-trending faults cut the property dividing it into several parallelogram-like blocks. The southernmost east-northeast-trending fault separates two different domains of pre-intrusive rocks.

The rocks to the south form a homoclinal, south-dipping sequence which displays only weak thermal metamorphism, no alteration, and includes no intrusive rocks. North of the fault, the units are folded, faulted, more strongly thermally metamorphosed, and extensively intruded. The central north northwest-trending fault appears to juxtapose two different erosional levels and is parallel to a prominent structural grain seen in Landsat TM images of the property. The evidence for different erosional levels lies in the characteristics of the intrusive rocks. Intrusions east of the fault are typically large, equigranular, and medium-grained while porphyritic tonalite porphyry is virtually restricted to the western block south of the northern east-northeast-trending fault.

All of the defined resources are also located within this block. The deeper drilling in this area also shows a transition in the three small stocks in this area from tonalite porphyry and intrusion breccia near the surface to equigranular, medium grained tonalite at depth similar to those to the east of the fault. The presence of coarsely crystalline sericite north of the northern east-northeast-trending fault also supports the interpretation that deeper structural levels are exposed to the north and east.

Figure 7.1
Tepal Geological Map



Thermal metamorphism has converted andesitic volcanics to gray biotite hornfels and limestones to marbles and skarns peripheral to the intrusive rocks. Development of chlorite, clay, and carbonate in the volcanics and volcaniclastics may be due to weak regional metamorphism."

7.3 MINERALIZATION

"Mineralization on the property consists of structurally controlled zones of stockwork and disseminated copper sulphide with elevated gold values. Mineralization occurs along a line of three small tonalite stocks just west of the north-northwest-trending fault that trends through the centre of the property. All three stocks are composed of multiple intrusive phases with tonalite porphyry and tonalite porphyry intrusion breccia phases hosting the highest grade mineralization. Most of the historic resource is hosted by these lithologies in the northern and southernmost stocks (North Zone and South Zone respectively). Both the North and South Zones are crudely zoned from a gold-rich core with the highest gold and copper values and highest Au:Cu ratios to a copper dominant periphery with lower Au:Cu ratio to a barren pyritic halo (Shonk, 1994).

Mineralization within the Tizate deposit is similar to the North and South Zones but generally containing slightly lower gold and copper value, however, the Tizate deposit also contains molybdenum and silver mineralization in addition to gold and copper. Tizate is located approximately 1,400 m east of the North Zone.

Primary sulphide mineralization consists dominantly of disseminated and stockwork-controlled chalcopyrite and pyrite with minor, locally significant pyrrhotite, bornite, sphalerite, molybdenite and galena. The highest grade mineralization is associated with low total sulphide contents and low pyrite:chalcopyrite ratios. Micron-sized native gold is usually associated with the chalcopyrite either as grains attached to the surface or fracture fillings within copper sulphides (Duesing, 1973) although free grains can also occur. Hypogene sulphide mineralization typically occurs as irregular individual sulphide grains or interstitial patches of pyrite-chalcopyrite-bornite within the granular, altered tonalite porphyry groundmass, often associated with growth of granular quartz in the groundmass, as chalcopyrite-pyrite veinlets and as quartz-hydrobiotite/Fe-chlorite-pyrite-chalcopyrite veinlets associated with sericite-hydrobiotite/Fe-chlorite-pyrite-quartz alteration (Shonk, 1994).

The depth of oxidation ranges from 20 m to 40 m on the hilltops and 0 to 20 m in the drainages. Minerals in the oxidized zone include malachite, chalcocite, minor azurite, tenorite and minor chrysocolla. Thin supergene-enriched zones do exist locally at the base of the oxide zone and consist of chalcocite and covellite coatings on sulphide grains and local areas of poddy, massive chalcocite (Shonk, 1994).

Several different generations of quartz veining, quartz replacement, and silicification are prominently associated with copper-gold mineralization. Quartz vein types include early granular quartz veins with no alteration envelope consisting of quartz-sulphide-biotite of probable late magmatic age. Locally late magmatic veining is so closely spaced that vein material comprises the majority of the rock. Chlorite-quartz-sulphide-calcite and prismatic to comb quartz-sulphide veins are later. Veins of all generations display a prominent 325°-350° orientation parallel to the central fault zone. Dips are generally vertical to steep either east or west. Other orientations are also present with a near east-west orientation and moderate south dip of secondary prominence.

Granoblastic growth of granular subhedral to euhedral quartz in the groundmass and patchy, finer grained, blue-gray quartz flooding of the groundmass (colour due to very fine grained disseminated sulphides) are often associated with granular quartz veins and are also inferred to be of late magmatic age. This quartz is typically associated with disseminated chalcopyrite and bornite (Shonk, 1994).

Mineralization on the property is consistently hosted by tonalite porphyry intrusions with at least the local presence of tonalite intrusion breccia showing chilled porphyritic to glassy porphyritic textures indicative of a near-surface environment. Intensity of mineralization is strongly related to the presence of late magmatic quartz and the density of late magmatic veining. The strong preferred orientation of these veins and evidence of shearing suggests development of a late magmatic age structure is required to focus mineralizing fluids.

Fracturing of the upper sections of the intrusive tonalite porphyritic units is likely related to continued movement on the north-northwest-trending structure controlling emplacement rather than volatile release (Shonk, 1994).

Mineralization on the property is characterized by strongly anomalous Cu, Au, Ag, Zn, and Mo and more erratic and weakly anomalous Pb, Mn, Bi, and As. Inter-element relationships and zoning have not been systematically analyzed because all soil samples and most drill samples were only analyzed for Cu and Au. Copper and gold are strongly correlated with the highest Au:Cu ratios present in core of the North and South Zone resource areas. Gold copper ratios appear to decline toward the periphery of these zones. Molybdenum, zinc, and silver are also elevated within the cores of the resource areas but the highest Zn and Ag values appear to occur on the periphery. The highest Pb and As values tend to occur in veins and mineralized structural zones outside of the resource areas. Sporadic high As values are most common in altered sediments (Shonk, 1994)".

7.4 ALTERATION

"Tonalities hosting the mineralized zones display alteration features typically associated with immature island arc-type porphyry systems. Potassic alteration is poorly developed and represented dominantly by secondary biotite when present. It is restricted to the core of the system in both the North and South Zones where it occurs as late magmatic biotite replacement of hornblende phenocrysts and in hydrothermal quartz-biotite-sulphide-magnetite veins. It is closely associated with copper-gold mineralization and the best grades.

Hydrothermal potassium feldspar is locally present but uncommon to rare. It occurs in quartz veins and after plagioclase. Hydrothermal amphibole has also been recognized. Both secondary biotite and amphibole are almost always strongly to completely chloritized.

The most visible and conspicuous alteration assemblage consists of sericite-pyrite-clay-silica/ quartz ± tourmaline in veins and veinlets. This alteration assemblage is best developed in dacite volcanic rocks and domes adjacent to the mineralized zones and locally overprints mineralization.

Associated sericite-clay-pyrite alteration also affects post-mineralization dacite dikes which cut the North Zone, reflecting overprinting of this alteration on earlier alteration types.

Anomalous gold and copper values are often associated with this type of alteration but higher grade mineralization is absent. Associated quartz veins are generally uncommon but when present are typically pale gray and chalcedonic to cherty in appearance.

In the dacite unit, this alteration type is characterized by sparsely vegetated, red-brown to red colour outcrops of argillized rock as a consequence of supergene argillization due to oxidation of the 3 to 15% disseminated pyrite. Supergene minerals include kaolinite, illite, diaspore, pyrophyllite, and silica. Structurally controlled quartz-sericite-pyrite alteration is present locally elsewhere on the property.

Coincident chlorite-sericite-pyrite-quartz alteration, granular quartz flooding of the groundmass, and quartz-Fe-chlorite-sulphide veining are also closely associated with copper-gold mineralization. The Fe-rich chlorites have been interpreted as indicating formation temperatures just below the stability limit of biotite, so that Fe-rich chlorites form contemporaneously with the hydrothermal biotite. Other alteration minerals sporadically associated with these assemblages include albite, calcite, epidote, clinozoisite, leucoxene, hematite, tourmaline, apatite, rutile and gypsum after anhydrite.

Whole rock analyses of altered and unaltered rocks available in the INCO data demonstrate significant addition of potassium associated with mineralization and alteration in spite of the scarcity of potassic alteration phases such as potassium feldspar or biotite. Potassium addition is probably reflected by the abundance of sericite.

Veinlets and replacements of quartz-chlorite-pyrite-epidote-calcite were noted in several drill holes peripheral to the South Zone and interpreted as peripheral to mineralization in location and post-mineralization in timing. This alteration type is associated with only very weakly anomalous gold and copper values. It often overprints assemblages more closely related to mineralization.

Chlorite-calcite-epidote with calcite and/or epidote veining or fracture coatings is the main alteration type in the post-mineralization andesite and diorite dikes. Propylitic alteration of this type is also pervasive in the andesitic volcanic rocks. It is probably related to regional, low grade metamorphism (Shonk, 1994)."

8.0 DEPOSIT TYPES

The following section is modified from excerpted from Priesmeyer, 2007.

"Mineralization on the property is characteristic of porphyry copper-gold mineralization. Porphyry-type deposits in Mexico occur in a northwest trending belt 2,800 km long on the west side of the country, following the Pacific continental margin (Sillitoe, 1976). The belt is located in the Sonoran Basin and Range, Sierra Madre Occidental and Sierra Madre del Sur covering the states of Sonora, Sinaloa, Chihuahua, Durango and Michoacán.

Panteleyev (1995) characterizes porphyries as large masses of hydrothermally altered rock containing quartz veins and stockworks, including sulphide-bearing veinlets and dissemination, covering areas up to 10 km^2 in size. These altered zones are commonly coincident with shallow intrusives and/or dike swarms and hydrothermal or intrusion breccias. Deposit boundaries are determined by economic factors, which outline ore zones within larger areas of low-grade concentrically zoned mineralization.

Important geological controls on porphyry mineralization include igneous contacts, cupolas and the uppermost, bifurcating parts of stocks and dike swarms. Intrusive and hydrothermal breccias and zones of intensely developed fracturing due to coincident or intersecting multiple mineralized fracture sets commonly coincide with the highest metal concentrations.

Surface oxidation commonly modifies the distribution of mineralization in weathered environments.

Acidic meteoric waters generated by the oxidation of pyrite leach copper from soluble copper minerals and re-deposit it as secondary chalcocite and covellite immediately below the water table in tabular zones of supergene enrichment. The process results in a copper-poor leached cap lying above a relatively thin higher-grade zone of supergene enrichment that in turn overlies a thicker zone of lower grade primary hypogene mineralization at depth.

Porphyry systems may also exhibit hypogene enrichment. The process of hypogene enrichment may relate to the introduction of late hydrothermal copper-enriched fluids along structurally prepared pathways or the leaching and re-deposition of hypogene copper, or a combination of the two. Such enrichment processes result in elevated hypogene grades.

Copper-gold porphyries differ slightly from copper ± molybdenum porphyries in the following ways:

- They can be associated with alkaline intrusive suites;

- Copper-gold porphyries do not typically contain economically recoverable Mo (< 100 ppm) but do contain elevated gold (> 0.3 g/t) and silver (>2 g/t);

- They are commonly associated with abundant hydrothermal magnetite, which is commonly associated with higher gold grades;

- Copper and gold may or may not be associated with zones of quartz veining (depending on degree of silica saturation), in contrast to most "normal" porphyry systems where quartz veining is the norm, and;

- Supergene enrichment can be restricted due to the general sulphide-poor nature of the alteration and they often lack an extensive peripheral hypogene alteration "footprint".

Porphyry copper-gold deposits range from very large, low-grade deposits such as Bingham Canyon in the United States which contains 3,228 Mt averaging 0.88% Cu and 0.50 g/t Au (Cooke and others, 2004) to small high-grade deposits such as Ridgeway in Australia which contains 54 Mt averaging 0.77% Cu and 2.5 g/t Au (Wilson and others, 2003). The average of 112 deposits from around the world is 200 Mt averaging 0.44% Cu, 0.4 g/t Au, 0.002% Mo and 1.4 g/t Ag (Singer and et al, 2005).

It should be noted that mineralization on these or any other properties in this class of deposit around the world is not necessarily indicative of the mineralization on the Tepal Property."

9.0 EXPLORATION

The following section is a modified excerpt from Priesmeyer (2007).

9.1 INCO

"In 1972 the International Nickel Company of Canada, Ltd ("INCO") recognized the Tepal (North Zone) and the Tizate gossans and associated copper mineralization (Copper Cliff, 1974).

The Tepal and Tizate gossans were originally considered as separate entities but were eventually evaluated by a single soil grid. Soil samples were analyzed for Cu, Mo, Zn and Au. Anomalous copper zones were identified from the soil samples. In early 1973 six diamond drill holes (57001 –57006) were drilled in the Tepal gossan. Geologic mapping and an Induced Polarization ("IP") survey were completed during the winter of 1973-74. IP anomalies were found to be generally confined to geochemically anomalous copper zones. According to Shonk (1994), a summary map showing extent and strength of interpreted anomalous IP responses along each line in conjunction with molybdenum in soil anomalies and drill hole locations was available as well as photocopies of contoured IP sections. The summary map indicated a strong to moderate IP response over and peripheral to the North Zone, a moderate IP response just south of the South Zone, and a number of lines with weak to strong IP anomalies coinciding with the broad zone of soil geochemical anomalies on the east side of the property (Tizate Zone). At the time Shonk prepared his 1994 report, many of the IP anomalies had not been drilled."

9.2 TECK

"Teck Resources Inc. ("Teck") acquired the property in late 1992. Work completed by Teck included geologic mapping, the collection of over 200 rock samples for multi-element analysis, the construction of more than 60 km of grid line, the collection of 1,268 soil samples and 50 rock chip samples from the grid, the construction of 15 km of access road and the completion of 50 reverse-circulation holes totalling 8,168 m in four phases. Total expenditure by Teck was approximately $875,000 (Shonk, 1994). Teck also completed metallurgical testing.

Only very limited data remains from the Teck period on the property. There is one report, a variety of hand-drafted maps, drill logs and sample pulps from the drilling program. No duplicate samples or coarse rejects were available for review or analysis and there were no original assay certificates for data verification purposes.

Initial mapping on the property was conducted by Richard L. Nielsen, a Denver-based consultant. Nielsen mapped the property at a scale of 1:5,000 and collected 165 samples for multi-element analysis. The west side and portions of the east side of the property we subsequently remapped by another consultant at scales of 1:2,000 and 1:1,000 on a grid base.

The early grid covered the western part of the mineralized area and part of the eastern half with a line spacing of 100 m and a station spacing of 50 m over areas of known mineralization and alteration and a station spacing of 100 m outside areas of known mineralization and alteration.

In late 1993 and early 1994 Teck completed a soil sampling program. Grid lines were spaced 200 m apart and sample spacing was 100 m. Over anomalous areas, line spacing was reduced to 100 m and sample spacing reduced to 50 m. A total of 1,268 soil samples and 50 rock chip samples were collected. Soil samples were analyzed for Cu and Au and most rock chip samples were analyzed using multi-element Inductively-Coupled Plasma ("ICP"). According to Shonk (1994), values from both soil and rock samples showed a strong positive correlation.

While the North Zone was known from previous INCO drilling, soil geochemistry as well as geologic mapping by Teck delineated the South Zone as a new target. Both the North and South Zones occur as well defined coherent anomalies. A broad zone of less coherent anomalous Cu values covered a 1.5 x 2.0 km area on the east side of the property with three poorly defined highs (Tizate Zone). Gold values show the same general pattern though anomalies are more subdued on the east side of the sampling grid.

There are no surviving contoured soil geochemistry maps of the property based on the Teck data. There is a map prepared by Hecla showing the Teck soil sample locations and values in conjunction with their own but the Teck data was not contoured."

9.3 HECLA

"In late 1996 Minera Hecla S.A. de C.V. ("Hecla") obtained the property and initiated a work program in the spring of 1997. Work by Hecla included the creation of a 1:2,000 scale topographic map from aerial photographs, a geologic mapping program, the collection of nearly 900 rock chip samples on a 50 m by 50 m grid, the re-analysis of 298 pulps from the Teck reverse-circulation drilling program, the completion of 17 reverse-circulation drill holes totalling 1,506 m and the completion of a resource estimate (Gómez-Tagle, 1997 and 1998).

Hecla's expenditures on the property are unknown.

The work completed by Hecla is the best documented of all the previous work. There are two reports prepared by the project geologist, assay data in digital form and limited documentation for the resource estimate. Hand-written drill logs are also available. Most of the maps generated by Hecla remain, at least in electronic form. Sample splits and chip trays remain from the Hecla drilling. Four of the sample splits were re-sampled by ACA Howe for grade verification purposes.

Hecla mapped the property at a scale of 1:2,000. Mapping was intended to define lithologic units and the type, intensity and extent of mineralization and hydrothermal alteration. There is no mention in the Hecla reports as to whether geologic mapping was done on the rock chip sampling grid. Roads were located using a compass and tape.

In 1997, Hecla collected 895 rock chip samples from trenches, road cuts and constructed a north-south grid on the property. The grid covered an area measuring approximately 1,000 m in a north-south direction and 750 m in an east-west direction. Grid lines were spaced 50 m apart.

Hecla defined a large copper anomaly with the concave portion of the anomaly open to the southwest. The anomaly was defined by copper values in excess of 301 ppm copper in rock.

This anomaly measured approximately 1,100 m in length and 125 m in width and was open to the northeast and the south. Within this large anomaly were three strongly anomalous areas defined by copper values exceeding 1,000 ppm. The largest of these strong anomalies measured approximately 300 m by 230 m and generally defined the North Zone.

The gold anomaly defined by Hecla was more restricted in aerial extent. The anomaly was defined by gold values in excess of 200 ppb or 0.2 g/t Au in rock and was open to the south and southeast. The anomaly trended 320° and measured approximately 700 m by 215 m.

Within this anomaly was a smaller, very strong anomaly in which all values exceed 910 ppb or 0.91 g/t Au. This anomaly measured approximately 230 m by 80 m and generally corresponded to the North Zone.

In order to confirm the analytical results from the Teck drilling, Hecla re-analyzed 298 pulps from some of the Teck diamond drill holes (i.e. T-9, T-13, T-23, T-24, T-25 and T-30). Results of the Hecla re-analysis indicated that the values obtained by Hecla were 7% higher than those obtained by Teck. Since Hecla's primary focus was gold, ACA Howe presumed that this difference was for gold values only."

9.4 ARIAN

"Exploration by Arian was initiated in April 2007. Exploration consisted of a Tepal Phase 1 diamond drill program."

The following sub-section is a modified excerpt from Murphy et. al. (2011).

9.5 GEOLOGIX

"During the due diligence period commencing in the 4th quarter of 2009 and continuing into the 1st quarter of 2010 the Company initiated metallurgical test work utilizing core from historical drill core, an induced polarization (IP) survey over the core mineral concessions covering 1,526 hectares, geological test work including geology, mineralization and alteration studies and preliminary economic studies as they pertain to the viability of the Tepal project.

By the end of the 1st quarter of 2010 the geophysical survey had been completed with a total of 78.4 line-kilometres of surveying.

On June 16, 2010, an extensive diamond drill testing program was initiated on the Tepal project. The drill program was geared to evaluate the "near resource" potential of additional mineralization being located near the Arian Silver/ACA Howe resource outlines and to test for additional mineralization on the remainder of the property. Targets on the remainder of the property were defined by geological, geochemical and geophysical anomalies as outlined in historic surveys as well as the geophysical survey completed by the Company in 2010. By the end of 2010 a total of 10,656 m of drilling in 42 holes had been completed by two drilling rigs including 26 holes around the resource area at Tepal (North and South Zones), 14 holes in the Tizate zone where no previous resources had been outlined, and two other exploration targets on the property."

Drilling continued with seven drill rigs in 2011. In addition, the Company initiated detailed property geological mapping, prospecting, a soil geochemical grid survey, a silt sampling programs and an airborne geophysics survey which included magnetics, radiometrics and EM to cover the entire 172 km^2 land package. A total of 1,551 line kilometres were flown with 1,421 line km flown at a flight line spacing of 150 m over the entire concession. A more detailed survey over 19 km^2 (130 line km) was flown over the known deposit area at 75 m spacings.

10.0 DRILLING

The following section is a modified excerpt from Murphy et. al. (2011).

10.1 INCO

"Between 1973 and 1974, INCO drilled at least 21 diamond drill holes utilizing a Longyear 38 core rig from Boyles Brothers. Holes were collared with NX (core - 54.7 mm) and reduced to BX (42.0 mm). Sample intervals ranged from 0.2 to 3.0 m and averaged 2.0 m. INCO drill the North and Tizate Zones since the South Zone had not been identified. The total number of drill holes is unknown, as is the grand total length of the drill program due to incomplete documentation."

A more detailed description of this drill program is available from Murphy et. al. (2011).

10.2 TECK

"In 1994, Teck drilled 50 reverse-circulation ("RC") drill holes totalling 8,168.8 m. The drilling contractor employed by Teck is unknown as are the drilling procedures.

The majority of Teck's drill holes were drilled in the North and South Zones although a few holes were drilled in the Tizate area. A differential GPS survey was conducted in late January, 1994 to locate the INCO holes and the first 24 Teck holes as well as roads, key grid points, concession monuments and planned drill holes. Compass and tape surveys were used to establish coordinates of later drill holes and map access roads constructed after the survey.

Samples were collected every 2.03 metres (3 per 20-foot drill rod) for the first 24 holes and every 1.52 metres (5 ft intervals) for holes T-25 through T-50.

A duplicate analytical sample was collected every tenth sample interval. All drill samples were analyzed for Cu and Au at Chemex (now ALS Chemex). An additional 123 samples from selected intervals were analyzed for Ag, Co, Cu, Fe, Mn, Mo, Ni, Pb, and Zn using a multi-element ICP procedure.

Drilling at Tepal generally indicated that the best values were present within 150 m of the surface. Significant intercepts at greater depths were confined to the cores of the North and South Zone resource areas.

Preliminary metallurgical tests were also conducted on a few selected intervals of mineralized intercepts from drill hole IN57002."

A more detailed description of this drill program is available from Murphy et. al. (2011).

10.3 HECLA

"In late 1997, Hecla conducted a 17-hole reverse-circulation ("RC") drilling program totalling 1,506 m.

All but three of the Hecla holes were drilled in the North Zone. The remaining three were drilled in the South Zone. Sample interval for the Hecla reverse-circulation drilling program was 1.0 m."

A more detailed description of this drill program is available from Murphy et. al. (2011).

10.4 ARIAN

"The Phase 1 diamond drilling campaign was completed in June 2008, consisting of 42 holes totalling 7,180 m. Drilling has been carried out using two Boart Longyear 38 drill rigs owned and operated by GICSA (Geotechnica, Igenieria y Construction, S.A. de C.V.), of Paseos de Taxquena, Mexico, D.F.

The majority of the initial diamond drilling was carried out using HQ drill steel (core - 63.5 mm) and reduced if required to NQ (core - 47.6 mm). Drill core was not oriented for the Phase 1 program."

A more detailed description of this drill program is available from Murphy et. al. (2011).

10.5 GEOLOGIX 2010

"Geologix carried out a diamond drilling program in 2010. There was a total of 42 drill holes totalling 10,656 m completed on the Tepal property. The drill program utilized two diamond drilling machines. The purpose of the drill program was to evaluate the "near resource" potential for additional mineralization located near the Arian Silver/ACA Howe resource outlines and test for additional mineralization on the remainder of the property. No drilling was completed within the resource limits.

Geologix drilled 26 core holes which targeted the peripheral area of the Tepal (North and South Zone) and 15 holes that targeted the Tizate zone. Two holes tested exploration targets in the area between Tepal and Tizate."

A more detailed description of this drill program is available from Murphy et. al. (2011).

10.6 GEOLOGIX 2011

Geologix continued to drill the Tepal (North and South Zones) and the Tizate Zones throughout 2011. There were 202 diamond drill holes in the totalling 41,247.5 m (see Appendix 1). The drill program utilized seven diamond drilling machines from Major Drilling International Inc. and Intercore Perforaciones S. De R.L. de C.V. to complete the program within 2011 time frame. The focus of this diamond drill program was to infill the three deposits thereby upgrading the mineral resource categories for use in a PFS.

The following table documents the number of holes and the total length for the Tepal and Tizate. Appendix 1 has more detailed statistics.

Table 10.1
Geologix 2011 Drill Statistics

Deposit	Holes	Length
Tepal	132	23,074.3
Tizate	70	18,173.2
Total	202	41,247.5

In addition to the infill drill holes there were a series of wide-spaced condemnation and geotechnical holes that were completed on the property (see Appendix 1). There were 7 in-pit geotechnical drill holes totalling 1,353.6 m and a total of 6 condemnation holes totalling 297.5 m.

The following table documents some of the significant mineralized intervals obtained in the 2011 drill program.

Table 10.2
Geologigix 2011 Significant Assay Results

Hole No.	Zone	From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)	Ag (g/t)
TEP-11-010	South	0.00	64.05	64.05	0.30	0.67	0.8
TEP-11-012	South	146.50	425.90	279.45	0.26	0.54	1.3
	including	301.40	403.85	102.45	0.38	0.86	0.9
	including	303.40	370.95	67.55	0.42	1.01	1.0
TEP-11-015	South	0.00	91.10	91.10	0.25	0.67	1.0
TEP-11-016	South	6.20	86.10	79.90	0.26	0.88	1.4
TEP-11-018	South	0.00	140.00	140.00	0.27	0.59	1.4
TEP-11-020	South	0.00	213.40	213.40	0.21	0.39	0.5
TEP-11-026	South	309.20	498.00	188.80	0.40	1.04	2.7
	including	317.20	422.00	104.80	0.44	1.45	1.3
TEP-11-033	North	0.00	41.90	41.90	0.58	0.29	5.9
TEP-11-043	South	152.00	294.55	142.55	0.35	0.91	1.3
	including	162.00	274.00	112.00	0.38	1.04	1.2
TEP-11-060	North	0.00	96.00	96.00	0.26	0.43	2.3
TEP-11-063	North	4.00	67.40	63.40	0.26	0.36	1.0
TEP-11-064	North	0.00	54.50	54.50	0.29	0.43	2.1
TEP-11-065	North	0.00	29.95	29.95	0.39	0.41	0.5
	and	54.40	77.25	22.85	0.42	0.43	0.8
TEP-11-068	North	52.50	93.50	41.00	0.37	0.74	1.1
TEP-11-072	North	0.00	76.00	76.00	0.59	0.77	1.0
TEP-11-075	North	0.00	140.70	140.70	0.36	0.87	1.4
	and	162.75	188.90	26.15	0.23	0.53	0.8
TEP-11-084	North	0.00	31.50	31.50	0.30	0.14	0.7
TEP-11-089	North	0.00	41.00	41.00	0.78	0.45	1.8

Hole No.	Zone	From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)	Ag (g/t)
TEP-11-093	North	0.00	67.95	67.95	0.64	0.67	0.9
TEP-11-094	North	18.65	224.70	206.05	0.19	0.42	0.6
TEP-11-102	North	0.00	137.00	137.00	0.23	0.47	0.7
TEP-11-110	North	0.00	78.00	78.00	0.32	0.30	1.4
TEP-11-113	North	0.00	179.35	179.35	0.24	0.54	1.1
TEP-11-115	North	0.00	54.45	54.45	0.32	0.73	1.3
TEP-11-120	North	0.00	119.60	119.60	0.19	0.30	1.2
TEP-11-125	North	0.00	122.05	122.05	0.25	0.60	0.9
TEP-11-128	South	316.00	437.40	121.40	0.18	0.72	2.1
	including	318.00	401.00	83.00	0.20	0.89	2.3
TEP-11-130	South	149.75	253.70	103.95	0.12	0.22	2.5
	and	284.25	439.20	154.95	0.24	0.41	1.2
TIZ-11-003	Tizate	25.90	154.00	128.10	0.20	0.13	3.2
TIZ-11-006	Tizate	182.00	255.00	73.00	0.20	0.13	2.9
TIZ-11-007	Tizate	0.00	41.00	41.00	0.15	0.08	3.3
TIZ-11-011	Tizate	5.25	100.95	95.70	0.13	0.21	1.4
TIZ-11-013	Tizate	76.80	173.40	96.60	0.16	0.13	2.4
	and	218.00	320.00	102.00	0.22	0.14	4.0
TIZ-11-017	Tizate	60.40	301.04	240.65	0.20	0.18	2.3
TIZ-11-019	Tizate	87.00	148.55	61.55	0.18	0.15	1.3
TIZ-11-021	Tizate	123.90	229.00	105.10	0.20	0.16	1.5
TIZ-11-023	Tizate	0.00	97.75	97.75	0.20	0.17	1.4
TIZ-11-025	Tizate	6.00	106.80	100.80	0.19	0.08	1.2
TIZ-11-027	Tizate	0.00	42.00	42.00	0.16	0.15	1.4
TIZ-11-035	Tizate	0.00	63.00	63.00	0.24	0.27	5.1
TIZ-11-037	Tizate	0.00	63.10	63.10	0.20	0.23	3.9
TIZ-11-050	Tizate	0.00	85.00	85.00	0.18	0.34	1.7
TIZ-11-056	Tizate	0.00	92.15	92.15	0.31	0.21	1.8
TIZ-11-057	Tizate	0.00	107.90	107.90	0.17	0.21	2.5
TIZ-11-061	Tizate	0.00	140.65	140.65	0.19	0.26	1.9
TIZ-11-062	Tizate	4.00	230.05	226.05	0.15	0.32	1.0
TIZ-11-063	Tizate	52.20	193.60	141.40	0.21	0.19	2.0
TIZ-11-065	Tizate	5.15	238.00	232.85	0.14	0.32	1.2

Source : Geologix 2011 and 2012 news releases

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

The following section is modified from Murphy et. al. (2011). A detailed sampling methodology and approach is documented in Murphy et. al. (2011).

11.1 INCO

"Nothing is known of the sample preparation, analysis and security methods employed by INCO nor is it known whether INCO employed a quality control/quality assurance program."

11.2 TECK

"Nothing is known of the security employed by Teck nor is it known whether Teck employed a full quality control/quality assurance program. Shonk (1994) indicates that every tenth sample submitted for analysis by Teck was a duplicate.

All samples collected by Teck were analyzed by ALS Chemex ("ALS") in Vancouver. The analytical methods utilized by Teck for gold consisted of a standard fire assay followed by an atomic absorption finish. The method requires that a sample weighing about 30 g weighed be mixed in a crucible with lead oxide, a reducing agent and fluxes. The sample is then fired in a furnace. In the furnace the complete content of the crucible is melted. After cooling, the metallic lead "button" at the bottom of the mold is separated from the glassy slag which is discarded.

The metallic lead button is placed into a cupel and placed into a cupelling furnace. In the "cupelling" process lead metal turns back into oxide which volatilizes away from the precious metals and soaks into the bone ash cupel, leaving the minute amount of precious metals as a metallic speck of metal called a "bead" on the bottom of the cupel.

The bead of precious metals that is recovered in the cupel after the lead has been removed is dissolved in aqua regia. The resulting solution is then analyzed by atomic absorption spectrometry, allowing the grade of gold and silver in the original sample to be back calculated. High grade samples were re-analyzed using fire assay with a gravimetric finish.

Teck assayed all samples for copper using an aqua regia digestion followed by ICP analysis. Samples collected from the oxide were analyzed for non-sulphide copper minerals by digestion in dilute sulfuric acid and AA finish.

Micon is not aware of the certification ALS had in the mid-1990's. Currently, ALS laboratories in North America are certified with ISO 9001:2000 for the "provision of assay and geochemical analytical services" by QMI Quality Registrars. In addition to ISO 9001:2000 registration, the ALS Vancouver laboratory has received ISO 17025 accreditation from the Standards Council of Canada under CAN-P-1579 "Guidelines for Accreditation of Mineral Analysis Testing Laboratories". They also have CAN-P-1579 which is the

Amplification and Interpretation of CAN-P-4D "General Requirements for the Accreditation of Calibration and Testing Laboratories" (Standards Council of Canada ISO/IEC 17025). "Geologix carried out a limited check program of the Teck drill core in 2010. A total of 234 pulps were re-assayed at ALS in Vancouver. The re-assay program results corroborate with the original assay results."

11.3 HECLA

"Nothing is known of the sample preparation, analysis and security methods employed by Hecla nor is it known whether Hecla employed a quality control/quality assurance program.

All samples were analyzed by ALS Vancouver. Gold content was determined by fire assay with an atomic adsorption finish following similar procedures to the Teck analyses discussed above. Copper and 30 other elements were determined by ICP."

11.4 ARIAN

"Arian geologists typically used 2 m sample intervals within the mineralized zones apart from where broken ground and/or specific geological conditions determine otherwise.

Sampling intervals ranged from 0.25 m to 5.95 m (which represents an inter zone waste composite sample), with most intervals in the 1.5 m to 2 m range.

Core was transported from site to the processing facility, in Tepalcatapec, 15 km northeast of the Tepal Project. In the warehouse, the areas of core that had been marked for sampling were cut in half using a diamond-bladed core-saw. One half of the core was replaced into the core-box, and the other half was bagged. Inside the bags were placed sample tickets with a unique sample ID number, and the same sample number was written on the outside of the plastic bag with permanent markers. The bag was then sealed on site.

After the core has been logged and photographed, all information was entered into an Access Database (Booth, 2007b). The samples (in groups of 10 samples) are placed inside nylon rice-bags and sealed with a cable-tie to prevent access. There were 3,532 samples of NQ size. Samples were sent to Inspectorate Labratories in Durango, Durango State, Mexico for sample preparation and the pulps were then shipped to Inspectorate Labratories in Reno Nevada USA for analysis.

Sampling issues were identified by ACA Howe. CRMs that were assayed at Inspectorate Labs using the 3 acid digestion and ICP finish method returned copper results that were generally erratic and higher than expected.

To remedy this, a full review of Inspectorate analytical techniques was undertaken. It was recognized through this review that sample preparation for the 3 acid digestion and ICP finish method was inadequate. Based on these findings it was agreed that re-analysis for copper and gold for all Phase 1 holes must be undertaken, using the more reliable method of Aqua Regia digest with Atomic Adsorption finish.

Once re-analysis was complete, the CRM and duplicate results were greatly improved for gold and were presented in the April 2008 report. It was found that the gold re-assay results undertaken at Inspectorate were sufficient to be, on the whole, suitable for confident use in resource estimation.

Copper control results remained poor and it was agreed that all Phase 1 assays would have to be re-analyzed by ALS Chemex Laboratories Canada. To ensure an adequate level of confidence in assay results for use in resource estimation the majority of samples beyond Sample 143422, hole AS-07-023, were sent to ALS Chemex for gold and copper analysis in place of Inspectorate Labs. The sampling preparation and analytical methods employed by each lab are presented in the following sections.

11.4.1 Inspectorate Labs

Samples sent to Inspectorate Labs for analysis, were collected from Arian's warehouse every two weeks by Inspectorate personnel, who transported the samples to their preparation facility in Durango, Durango State, Mexico.

The entire half-core was crushed to 75% passing 2 mm followed by the pulverization of a 150 g split in a chromium steel crusher to 85% passing 75 microns. The pulp samples were then air freighted to Inspectorate's analytical laboratories in Reno, Nevada, for analysis.

Gold analysis for samples below 3 ppm Au used an Aqua Regia digestion with an AAS finish (Detection range was 0.005 to 10 ppm Au). Samples over 3 ppm Au used the fire assay method with a gravimetric finish (Detection range was 0.005 to 100 ppm Au).

Copper analysis used an Aqua Regia digestion with an AAS finish (Detection range was 0.2 to 10,000 ppm Cu).

11.4.2 ALS Chemex Labs

Samples analyzed by ALS were collected from Arian's warehouse and transported the samples to ALS's sample preparation facility in Guadalajara, Jalisco State, Mexico. It is uncertain whether ALS personnel collected the samples at Arian's warehouse or whether the samples were couriered via a private company.

Once the samples were received by ALS, the entire half-core was crushed and pulverized to 85% passing 75 microns. The pulps are then air freighted to the ALS analytical laboratories in Vancouver, Canada, for analysis.

Gold analysis for samples below 3 ppm Au used an Aqua Regia digestion with an AAS finish (Detection range was 0.005 to 10 ppm Au). Samples over 3 ppm Au used the fire assay method with a gravimetric finish (Detection range was 0.005 to 100 ppm Au).

Copper analysis for samples below 10,000 ppm Cu used a 3 acid digestion with an ICP analysis (Detection range was 0.2 to 10,000 ppm Cu). Samples over 10,000 ppm Cu used an Aqua Regia digestion with an AAS finish (Detection range was 0.01 to 3% Cu).

Results were received from the labs via email and hardcopy certificate. For each laboratory used, the sample dispatch routines, security, preparation and analysis are considered consistent with satisfactory working practices for this type of deposit and type of exploration work."

Micon believes that the appropriate steps were taken to identify and re-assay the samples. Micon feels that the resulting Arian assays presented by Geologix are appropriate for use in a mineral resourse estimate.

11.5 GEOLOGIX

"Geologix geologists typically used 2 metre sample intervals within the mineralized zones apart from where broken ground and/or specific geological conditions determine otherwise. Sampling intervals ranged from 0.25 m to 5.95 m (which represents an inter zone waste composite sample), with most intervals in the 1.5 m to 2 m range.

In 2010, core was transported from site to the processing facility, housed in the grounds of the house that the company currently occupies in Tepalcatapec, 15 kms northeast of the Tepal Project. In the warehouse, the areas of core that had been marked for sampling were cut in half using a diamond-bladed core-saw. One half of the core was replaced into the core-box, and the other half was bagged. Inside the bags were placed sample tickets with a unique sample number and the same sample number was written on the outside of the respective bag. Each bag was then sealed on site. The sample bags in groups of ten were placed inside nylon rice-bags and sealed with a cable-tie to prevent access."

In 2011, Geologix built a new covered core logging facility and secure storage area within the new exploration camp facilities on the Tepal property, south of the South Zone. The identical sample procedure was used at this new facility as the old one. The facility is surrounded by a high wire mesh fence which is locked and secure. The rock saws have been moved from town and are housed beside the logging facility.

"A QA/QC program was implemented to ensure all core and sample handling procedures were in accordance with the best possible practices. The assay protocol included the insertion of standards, blanks and duplicates into the sample stream on an average basis of one standard, one blank, and one duplicate sample for every 30 samples. At no time after this the rice bags were seal, were the samples handled by Geologix personnel or contractors working for Geologix.

After the core has been logged and photographed, all information was entered into an Microsoft Access Database.

Samples were analyzed by ALS Chemex. They were collected from Geologix's warehouse and transported to ALS Chemex's sample preparation facility in Guadalajara, Jalisco State. The analytical work was completed at ALS Chemex's laboratory facilities in North Vancouver, B.C.

All samples were assayed for gold by Aqua Regia digest with AAS finish on a 30 g sample and by ICP-AES for 33 elements, including copper, using a four acid "near total" digestion. High grade gold (>10.0 g/t) samples were re-analyzed using fire assay with a gravimetric finish. High grade (>10,000 ppm) copper samples were re-analyzed on a single element basis using an ore grade 4 acid digestion with ICP-AES finish.

Results were received from the lab via email along with hardcopy certificates."

ALS Chemex (ALS Minerals) is an ISO 9001 and ISO 17025:2005 accredited facility. Micon believes that the sampling, transportation, preparation and analysis are considered consistent with exploration best practices for this type of deposit and is acceptible for use mineral resource estimation.

12.0 DATA VERIFICATION

The following section is modified from Murphy et. al. (2011). It is unknown what data verification was undertaken with INCO, Teck and Hecla sample results.

12.1 ARIAN

"A quality assurance and quality control (QA/QC) program was implemented during the 2007 and 2008 drilling campaign at Tepal, in an attempt to provide adequate confidence that sample and assay data could be used in resource estimation.

An assessment of QA/QC samples submitted to Inspectorate laboratories was completed (White, 2008, 2009). Inspectorate gold results were sufficient to be, on the whole, confident in assay precision and accuracy.

The review of sampling and assaying procedures indicates that an adequate system was in place to maximize the quality of drill hole samples and to assess the reliability, accuracy and precision of subsequent assay data for use in resource estimation.

The QA/QC program consisted of:

- The inclusion of Certified Reference Material standards (CRM's) in sample batches sent to both Inspectorate and ALS laboratories, to assess analytical accuracy (4 per 100 samples).
- The inclusion of field blanks and pulp blanks to assess laboratory sample preparation and analytical accuracy (3 per 100 samples).
- The inclusion of field duplicates and externally assayed pulp duplicates to assess sample preparation and precision (3 per 100 samples).

12.1.1 CRM

Certified Reference Material samples were prepared from mineral matrices that contain gold and copper values similar to the grade of the Tepal deposit, which are uniformly distributed throughout the pulverized rock. CRM samples were routinely submitted for assaying with core at a ratio of up to 1:60, totalling 2% of all samples. Three CRM's were used CU139 (low grade) and CU150 and OX14 (higher grades) (see table . The CRM's were prepared by WCM Minerals, Burnaby, British Columbia and Rock Labs, New Zealand.

Table 12.1
Arian CRM Statistics

CRM	Recommended Values		Standard Deviation	
	Au (ppm)	Cu (%)	Au (ppm)	Cu (%)
CU139	0.55	0.43	0.031	0.007
CU150	0.79	0.59	0.033	0.012
Ox14	1.22	NA	0.057	NA

A detail of Arian's CRM plots is available from Murphy et. al. (2011) for gold and copper.

Field blanks were prepared from samples of un-mineralized Tonalite taken from a quarry near Arian's San Jose property and submitted along with the core samples. All Pulp Blanks were prepared from the un-mineralized Tonalite at the Inspectorate Laboratories sample preparation facility.

12.1.2 Blanks

Blanks were typically inserted at the end of an expected high grade run, after vein intersections that contained significant sulphides. Blanks were inserted with core samples at a ratio of 1:54 and totalled 2% of all samples. A total of 144 blanks were submitted including 33 Field Blanks and 33 Pulp Blanks.

Gold grades in Field Blanks submitted to ALS showed that only 3 results returned values marginally greater than the lower limit of detection 0.5 ppm Au and were well within tolerance limits, returning values of up to 0.009 ppm Au. Copper grades in Field Blanks were on the whole acceptable with 67% returning values below 1 standard deviation of 0.002% Cu based on all samples. There were two copper outliers of 0.007% and 0.008% however these were considered insignificant and within tolerance limits.

As part of the Phase 1 quality control sample resubmission 33 pulp blanks, prepared by Inspectorate, were submitted for reanalysis. Gold grades for Pulp Blanks showed that 67% of returned grades were below the limit of detection. Of the remaining samples 8 returned values greater than 0.01 ppm Au, including one outlier, sample 145521 at 0.08 ppm Au. Copper values were much more variable with only 52% returning values below 1 standard deviation of 0.007% Cu based on all samples, with the majority of samples returning grades of 0.009% Cu. There was one outlier, again sample 145521, which returned a grade of 0.04% which is considered beyond acceptable limits.

On the whole the results of Blank Sample Analysis are acceptable; however there were some anomalous assays for both field and pulp Blanks. Field Blanks were acceptable indicating that there were no significant contamination issues in field sample preparation. Pulp samples demonstrate limited but significant values over acceptable limits for gold and copper, indicating a potential error in the numbering of sample 145521 or contamination during sample preparation. This anomalous value should be investigated.

12.1.3 Duplicates

Sixty-nine (69) duplicate samples were re-analyzed and compared, accounting for 2% of all samples.

Duplicates were either obtained from a Coarse Reject sample comprising a 1 kg or 25% split taken from a randomly selected coarse reject sample that had been returned from Inspectorate or from a Pulp Reject sample comprising a 100 gram sample taken from a randomly selected pulp reject sample that had been returned from Inspectorate after analysis.

There was a good correlation for pulp and coarse reject duplicates for gold, indicated by the correlation coefficients of 0.9319 and 0.9717 respectively. There is good level of precision between original assays and duplicate assays. Forty-four (44)% of gold duplicate assays were within 10% of the original assay value.

A lesser level of precision between original and duplicate assays was shown for the copper analysis. There appears to be some significant overestimating of coarse duplicates particularly at higher grades with one anomaly indicating a 102% difference in copper grade. The sample has been flagged for reassessment. Correlation coefficients of 0.8112 and 0.867 indicate a reasonable level of precision.

12.1.4 Historic Duplicates

Arian undertook a program of historical pulp duplicate re-analysis on available pulp samples to verify historical drill sample assay results. Pulps were available for a number of Teck and Hecla drill holes.

Pulp duplicate assessment shows repeatability of historical Au assay data is reasonable with correlation coefficients of 0.94 and 0.91 for Teck and Hecla samples respectively. Pulp duplicate assessment of Cu values returned equally satisfactory correlation coefficient values of 0.93 and 0.98 respectively.

As part of the Phase 1 diamond drill program Arian also twinned a number of historical drill holes for data verification purposes. Identification of twin holes by Arian was done by reference to historical collar co-ordinates in the historical database.

Arian was unable to locate evidence on the ground to confirm the accurate location of all but one of the INCO drill holes (IN-57002). Lack of evidence for the INCO drilling on the ground suggests co-ordinates for the INCO drilling listed in the historical database are incorrect. Due to the inability to accurately locate and verify the INCO hole data, these have been removed from the data verification assessment and subsequent resource study.

Arian geologists indicated poor correlation between Arian diamond drill hole results and historical Hecla RC drill grades. The ‘average’ difference for Au was 19% and for copper 16% (with maximums of 72% and 142% respectively). For this reason, the historic assay results provided by Hecla were deemed inaccurate and therefore removed from the Tepal database."

12.2 GEOLOGIX

Geologix established a QA/QC program for all of its drilling at Tepal and Tizate in an attempt to provide adequate confidence that sample and assay data could be used in resource estimation. Procedural documentation pertaining to sample collection, field preparation, sample dispatch, assay lab sample preparation, sample analysis and collation of assay results was presented and reviewed prior to resource estimation.

The review of sampling and assaying procedures indicates that an adequate system is in place to maximize the quality of drill hole samples and to assess the reliability, accuracy and precision of subsequent assay data for use in resource estimation.

The QA/QC program consisted of:

- The inclusion of Certified Reference Material standards (CRM's) in sample batches sent to ALS to assess analytical accuracy (1 per 30 samples).

- The inclusion of field blanks and pulp blanks to assess laboratory sample preparation and analytical accuracy (1 per 30 samples).

- The inclusion of field duplicates and externally assayed pulp duplicates to assess sample preparation and precision (1 per 30 samples).

Approximately 20% of all samples submitted to the laboratory were quality control samples.

12.2.1 CRM

Certified Reference Material samples were prepared from mineral matrices that contain gold and copper values similar to the grade of the Tepal deposit, which are uniformly distributed throughout the pulverized rock. Standard statistical techniques were used to assign a recommended assay value with associated 95% confidence interval (Table 12.2). CRM's were prepared by CND Laboratories Langley, British Columbia and Ore Research and Exploration Pty Ltd. of Australia.

Table 12.2
Geologix CRM Statistics

CRM	Recommended Values		3 Standard Deviations		Failures	
	Au (ppm)	Cu (%)	Au (ppm)	Cu (%)	Au	Cu
CDNCGS-21	0.99	1.300	0.265	0.252	2	0
CDNCGS-23	0.218	0.182	0.108	0.030	3	3
Oreas 50Pb	0.841	0.744	0.190	0.126	1	3
Oreas 52Pb	0.307	0.334	0.104	0.046	0	2
Oreas 53Pb	0.623	0.546	0.128	0.081	2	6
Oreas 52c	0.346	0.344	0.100	0.057	2	7
Oreas 151a	0.043	0.166	0.014	0.031	2	5
Oreas 152a	0.116	0.385	0.030	0.057	5	15
Oreas 153a	0.311	0.712	0.069	0.151	2	1

CRM samples were routinely submitted for assaying with core at a ratio of up to 1:30, totalling 4% of all samples. Initial drilling utilized CDNCGS-21, CDNCGS-23, 50pb and 52pb while the 2011 used 52c, 151a, 152a and 153a. Error plots for each CRM for gold and copper are presented in the following pages (Figures 12.1 to 12.18). Failures are indentified as yellow squares in each plot.

Figure 12.1
CRM - CDN-CGS-21 - Au Values

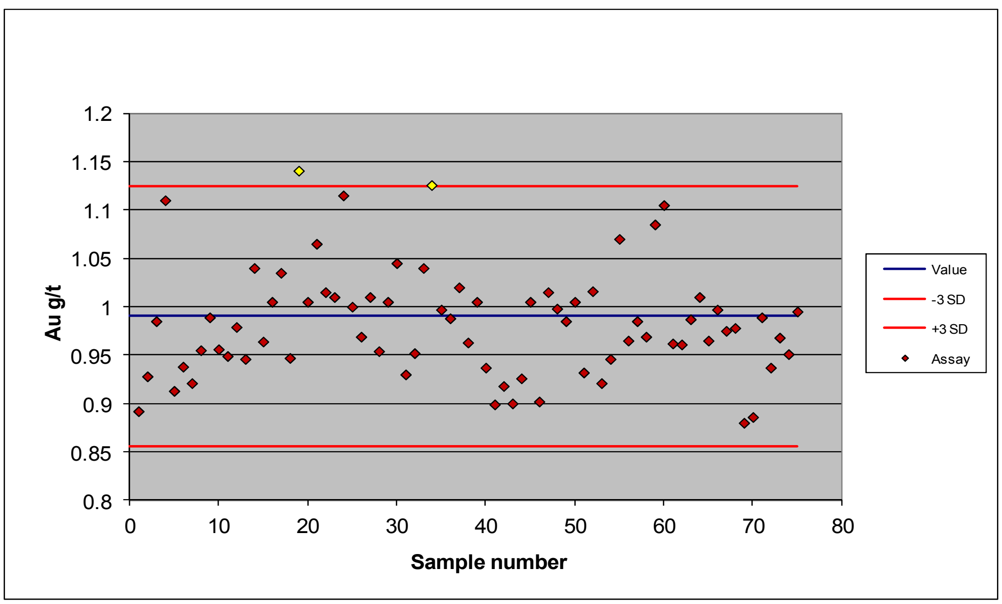


Figure 12.2
CRM - CDN-CGS-21 - Cu Values

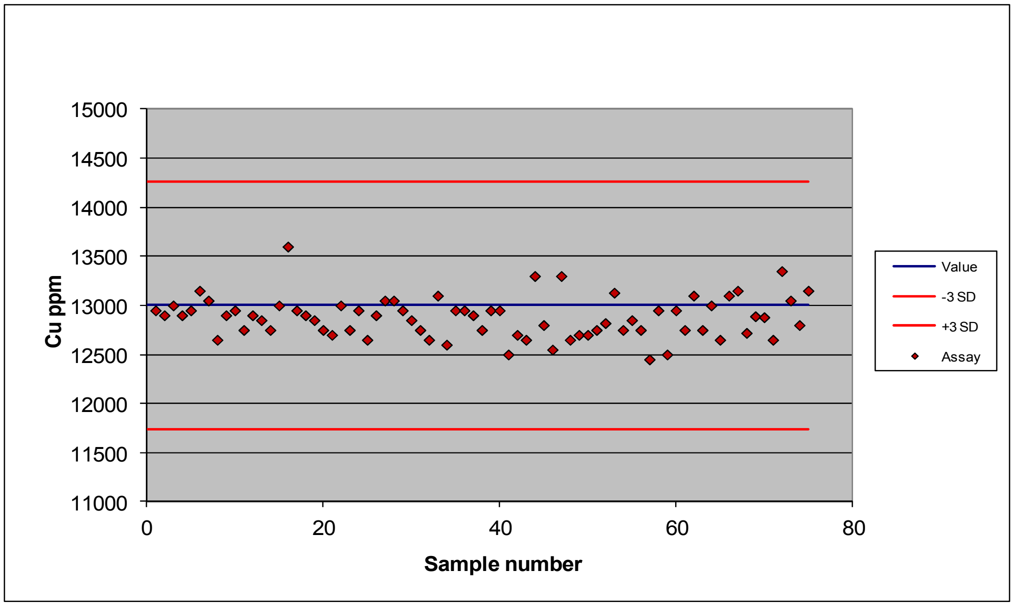


Figure 12.3
CRM - CDN-CGS-23 - Au Values

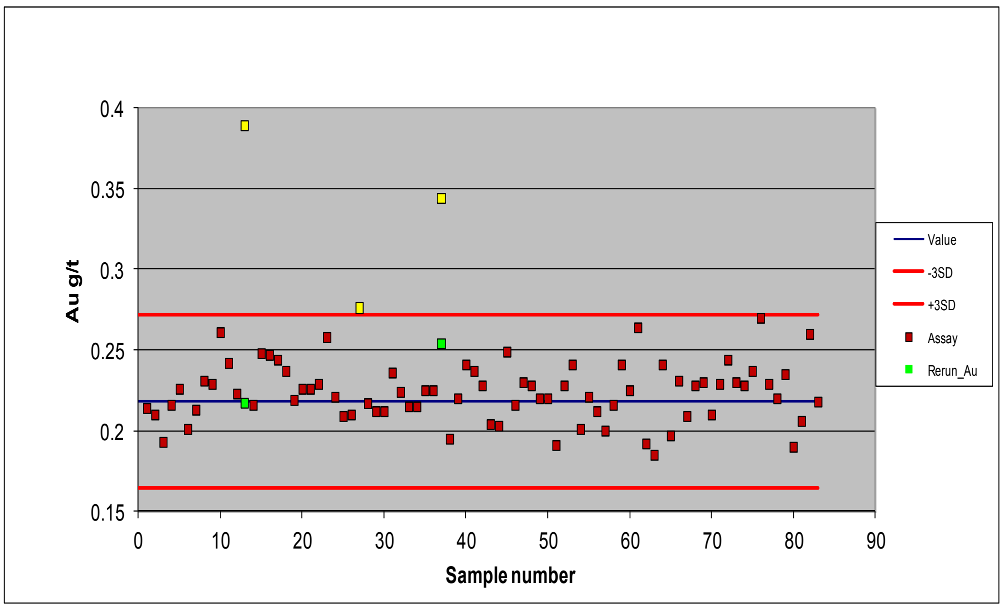


Figure 12.4
CRM - CDN-CGS-23 - Cu Values

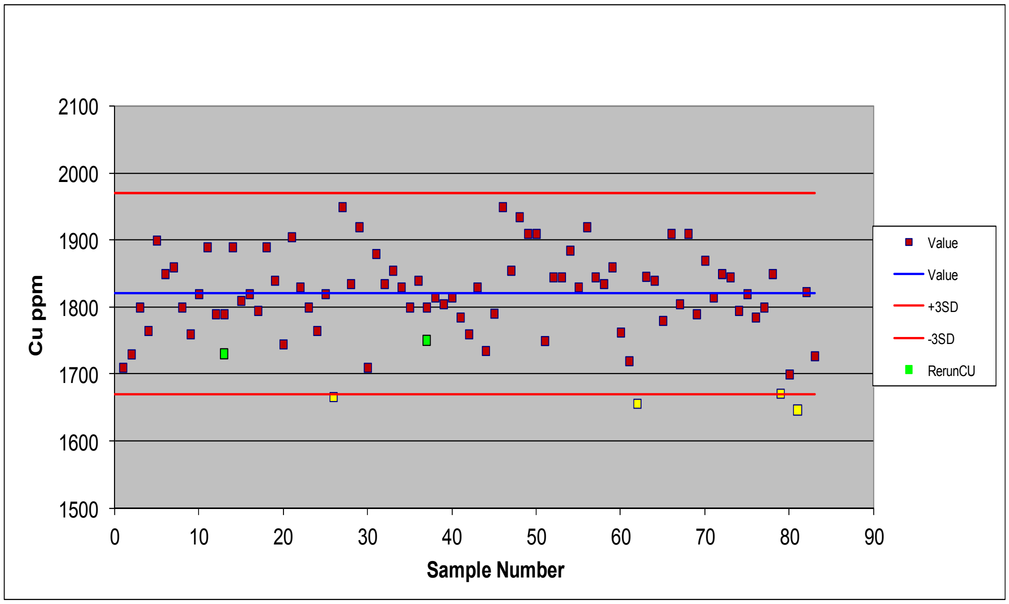


Figure 12.5
CRM - Oreas-50Pb - Au Values

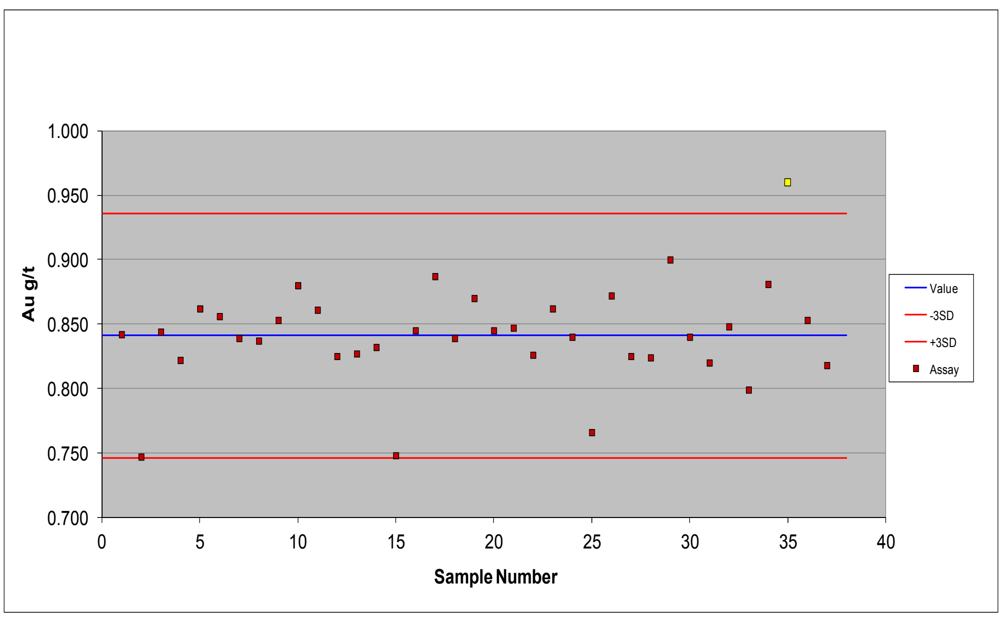


Figure 12.6
CRM - Oreas-50Pb - Cu Values

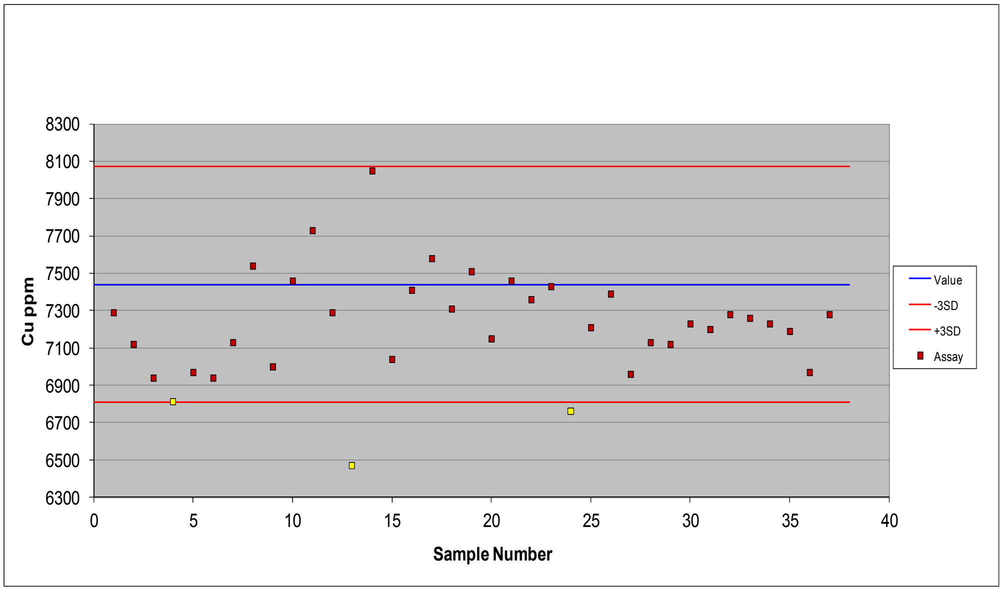


Figure 12.7
CRM - Oreas-52Pb - Au Values

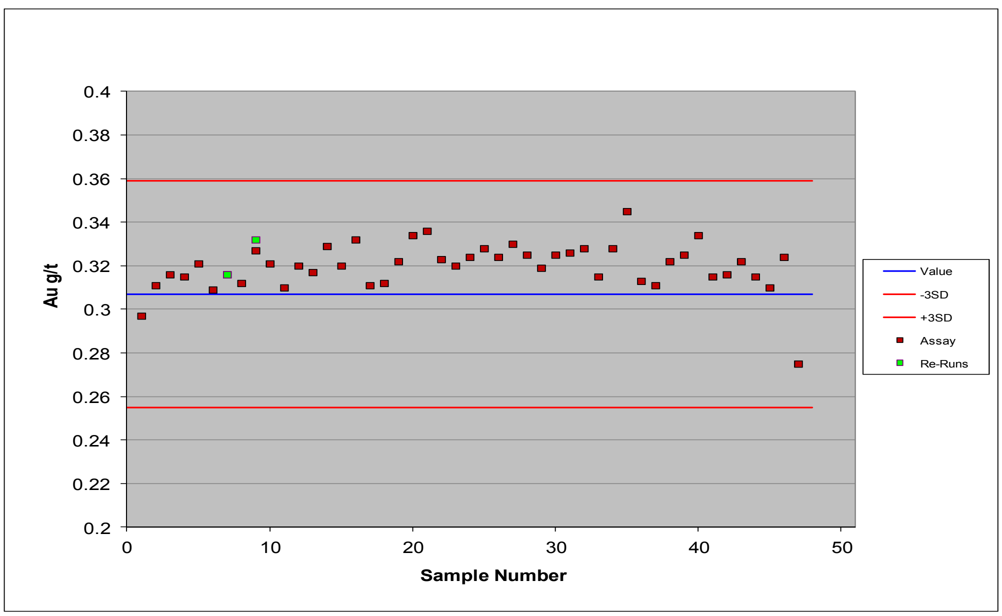


Figure 12.8
CRM - Oreas-52Pb - Cu Values

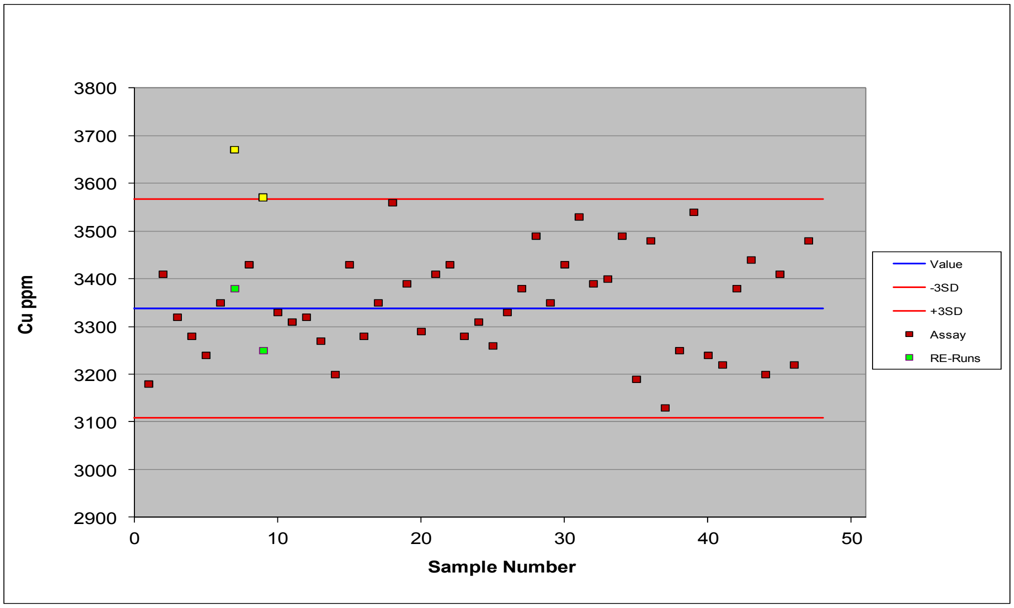


Figure 12.9
CRM - Oreas-53Pb - Au Values

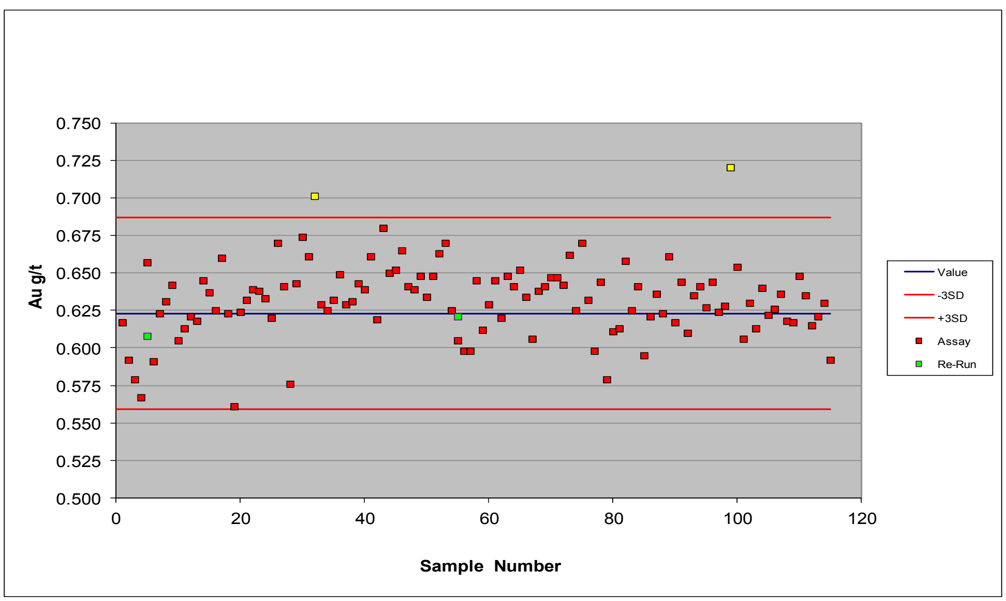


Figure 12.10
CRM - Oreas-53Pb - Cu Values

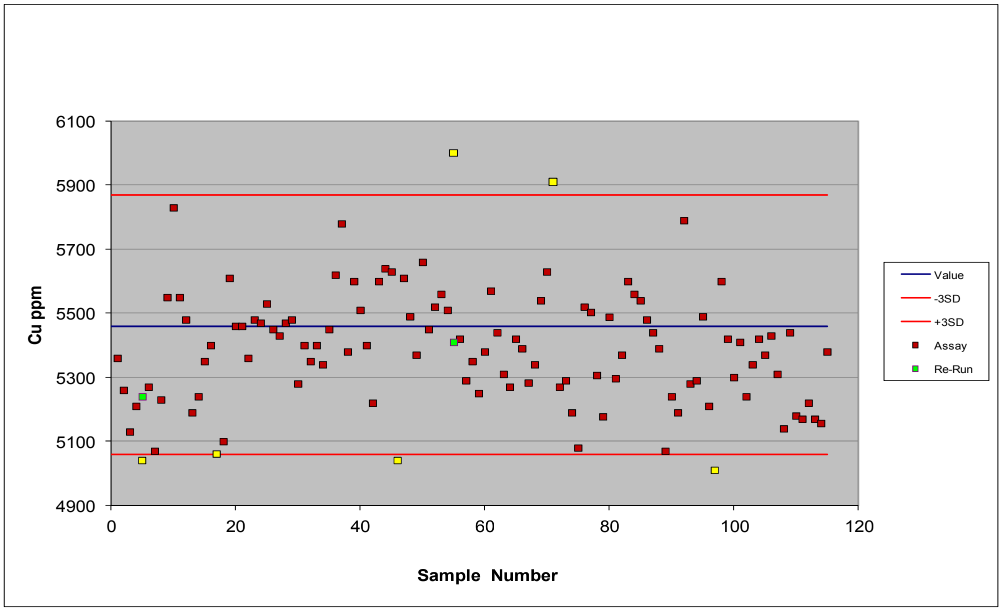


Figure 12.11
CRM - Oreas-52c - Au Values

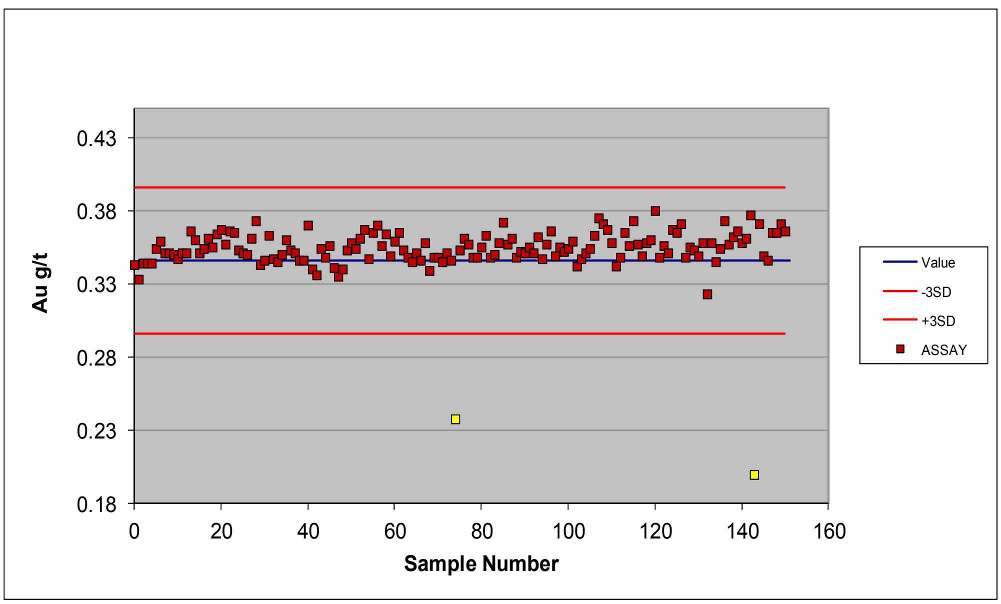


Figure 12.12
CRM - Oreas-52c - Cu Values

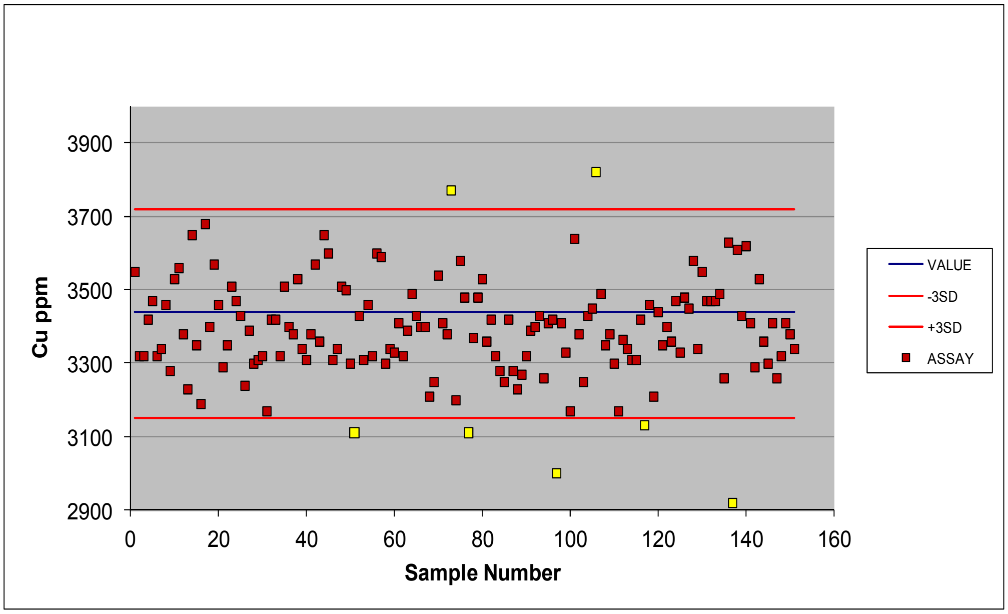


Figure 12.13
CRM - Oreas-151a - Au Values

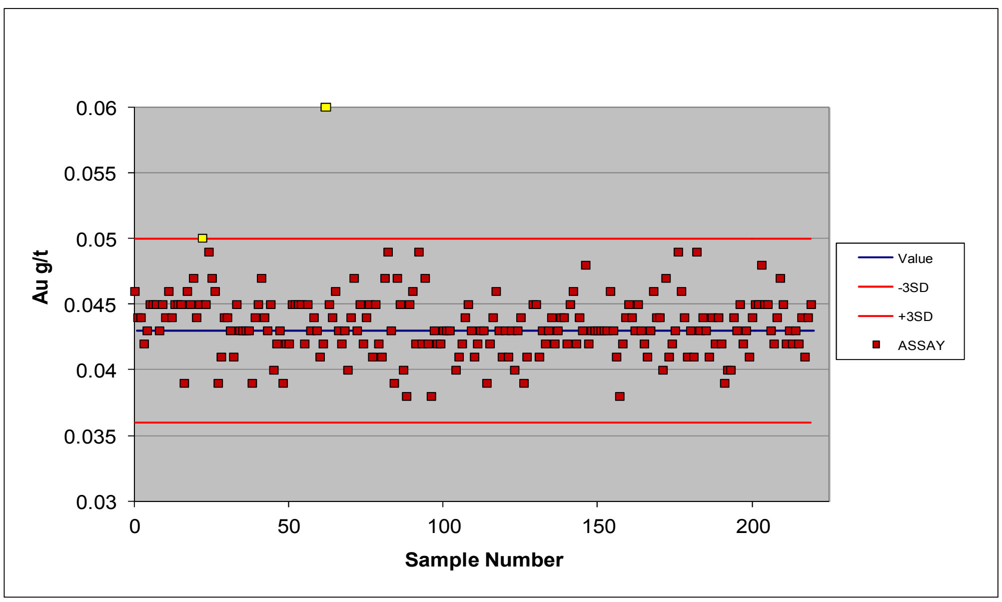


Figure 12.14
CRM - Oreas-151a - Au Values

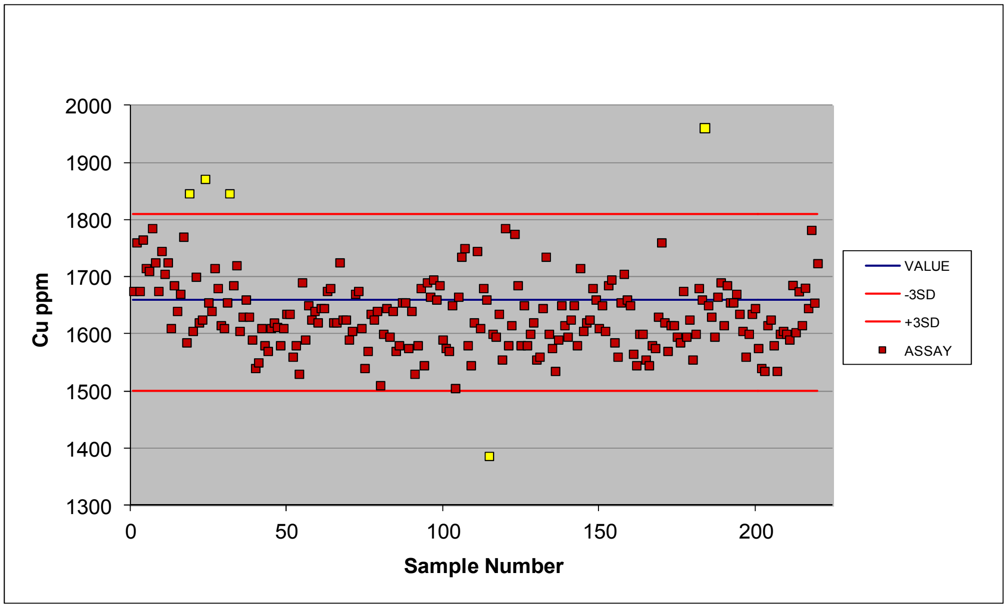


Figure 12.15
CRM - Oreas-152a - Au Values

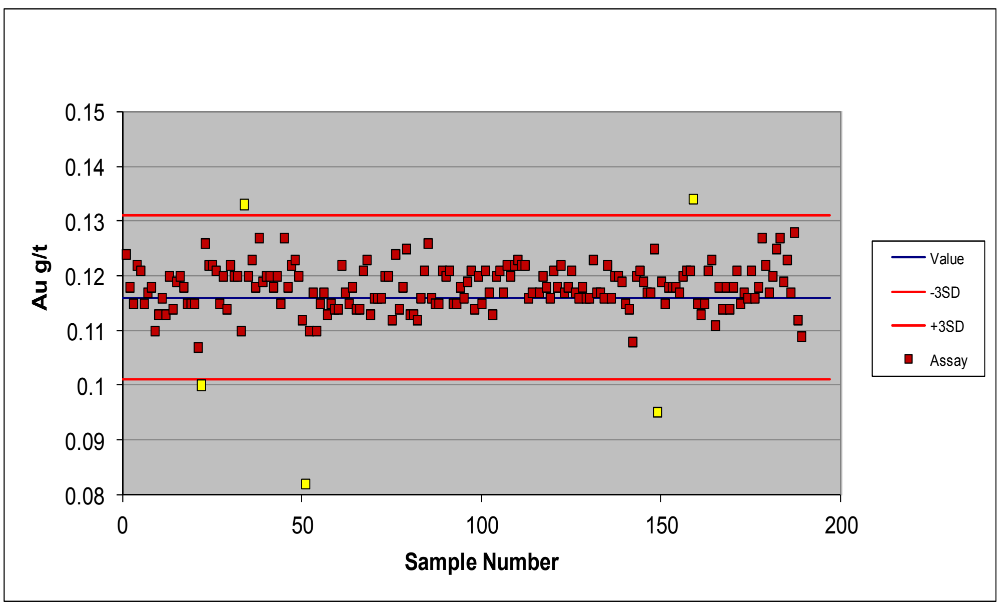


Figure 12.16
CRM - Oreas-152a - Cu Values

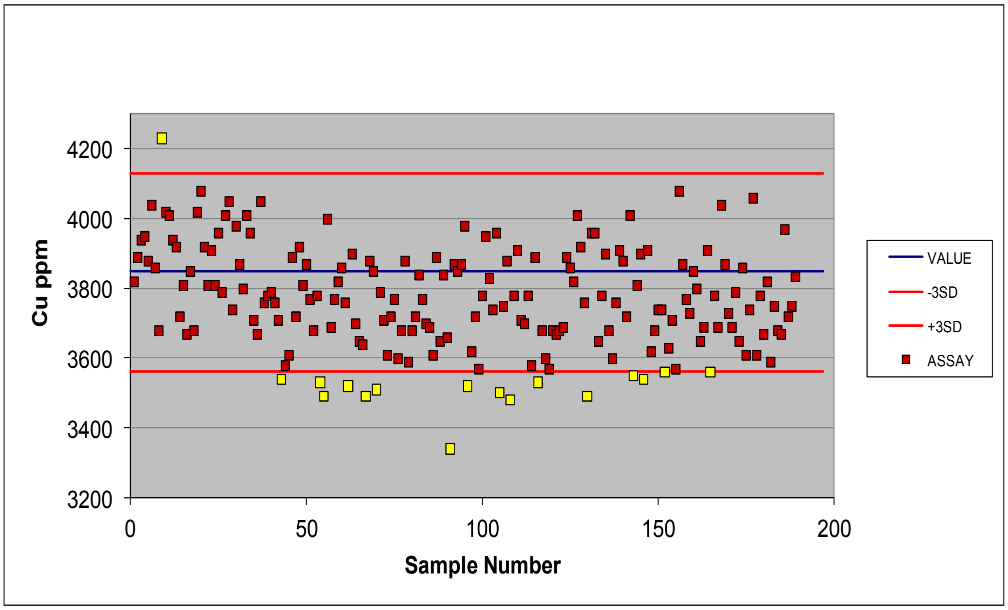


Figure 12.17
CRM - Oreas-153a - Au Values

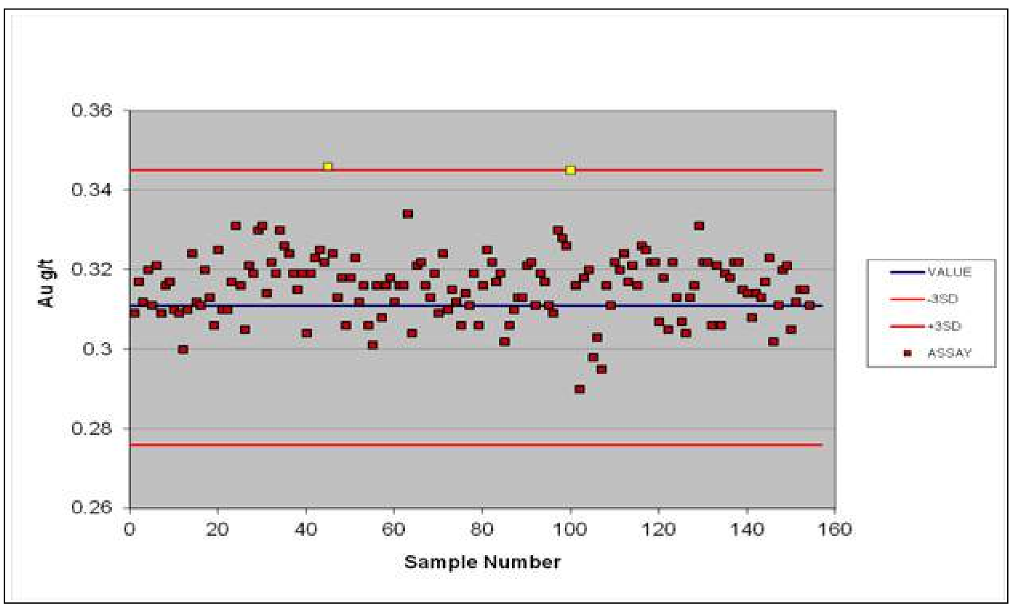
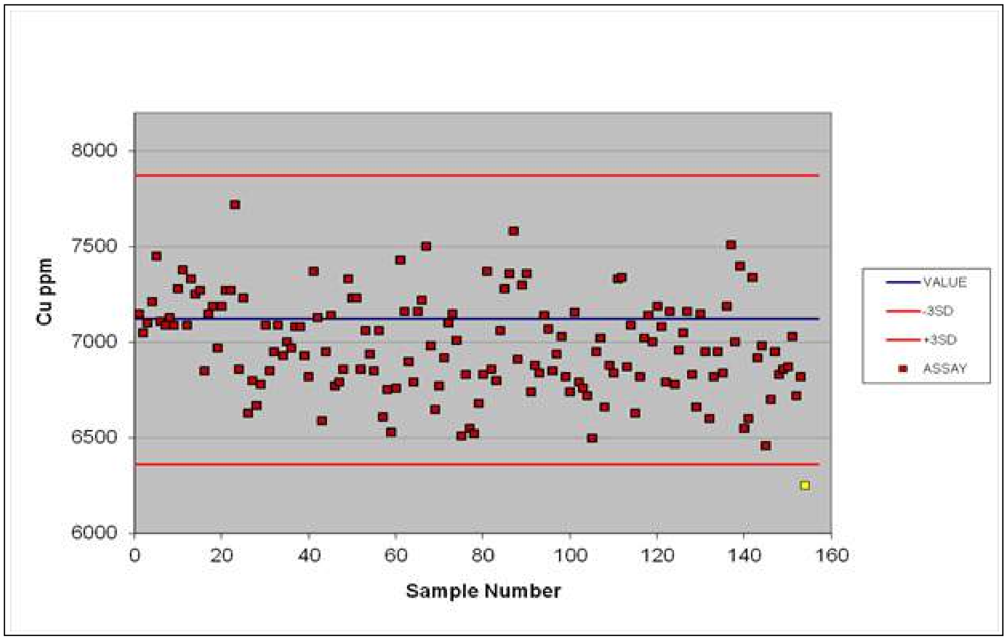


Figure 12.18
CRM - Oreas-153a - Cu Values



Most of the CRM for both gold and copper fall well within the ± 2 SD of the expected value. Of the failed CRMs (± 3 SD), there were a total of 733 samples that were associated with the failed CRMs. Out of that total, there were 377 samples within the mineralized zones and 356 sample considered waste. These samples have been sent for re-assay. Assay results from roughly two-thirds of the samples have shown little change in their respective original assays. The re-assay data were entered in the database.

In general, submitted standard samples showed good repeatability for both copper and gold at both low and high grades. Standards CGS-23, 52Pb, 53Pb, 52c, 152a and 153a seem to consistently report above the expected value for gold but well within the accepted value for each of the standards. Standard CGS-23 also seem to consistently report above the expected value for copper. Standards 52c and 153a seem to have a very narrow range for gold while CGS-21 to have a very narrow range for copper but well within the accepted value for each of the standards.

New or fresh CRMs may alleviate the random but minor failed CRM assays. Micon believes that the procedures in place for CRM are to industry standards and that the resultant assays reflect the mineralization within the deposits.

12.3 BLANKS

Blanks monitor the calibration of analytical equipment and potential sample contamination during sample handling and preparation. Blanks were inserted with core samples at a ratio of approximately 1:30.

Blanks were obtained from two locations within the concessions but away from the known deposits (Location 1 : 720954 E, 2115284 N and Location 2 : 719423 E, 2115012 N). The blanks were identified as non-mineralized porphyritic andesite and non-mineralized granodiorite.

Figure 12.19
Blank – Analyses Au (g/t)

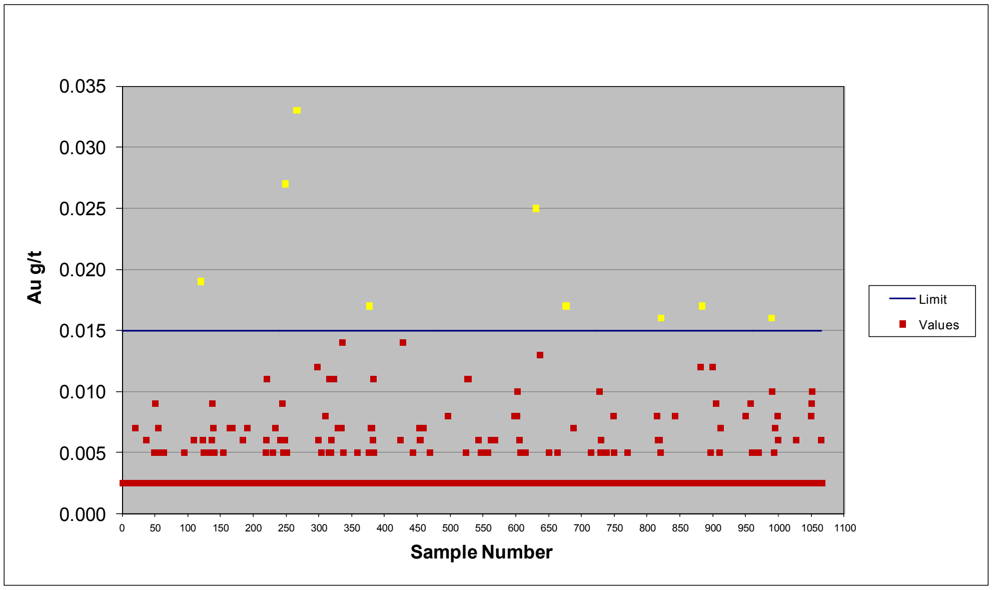
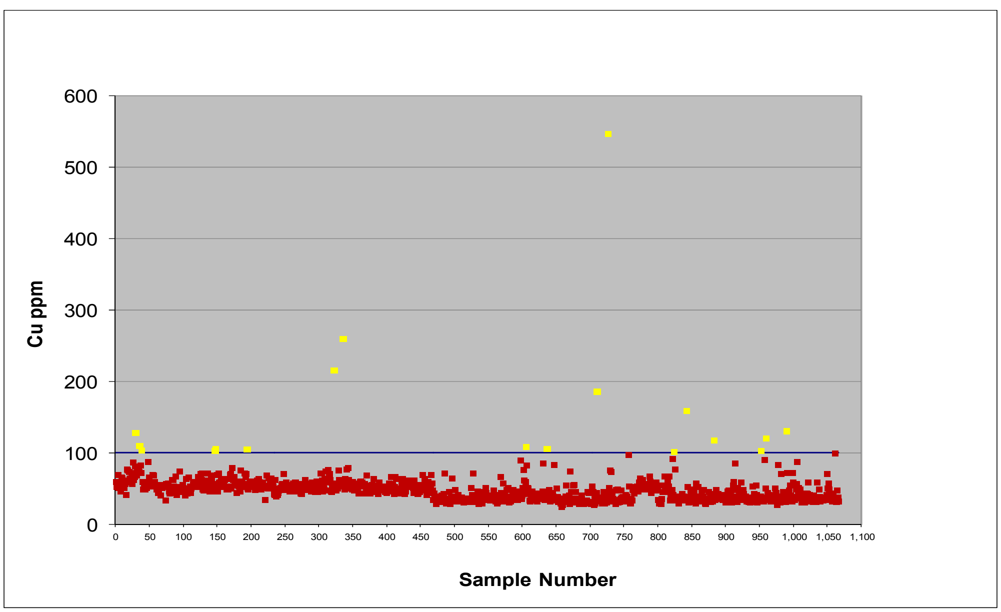


Figure 12.20
Blank - Analyses Cu (ppm)



There were 1067 blank samples inserted into the sample stream. The following figures illustrate the results for gold and copper. Table 12.3 documents the outliers with respect to gold and copper.

Table 12.3
Blank Failures

Outliers	Percentage (%)
11	1.03
18	1.69

Micon believes that in general the results of Blank Sample Analysis is acceptable indicating that there is no significant contamination issues in field sample preparation. However, Micon believes that a certified blank should be used to detect sample preparation cross-contamination. The use of local lithologies for a source of blanks can be misleading if the material is at all mineralized. Local material should initially be thoroughly analyzed before being used as a blank.

12.4 DUPLICATES

There were 1048 dupicate core samples assayed in the sample stream. Duplicates samples were prepared by sawing the core in half and sending both halves of the core for assay. Assays were part of the ALS sample stream. There is a very good correlation for both gold and copper for the duplicate assays from coarse reject (Figure 12.21 and Figure 12.22). There is good level of precision between original assays and duplicate.

Figure 12.21
Tepal Core Duplicates - Au

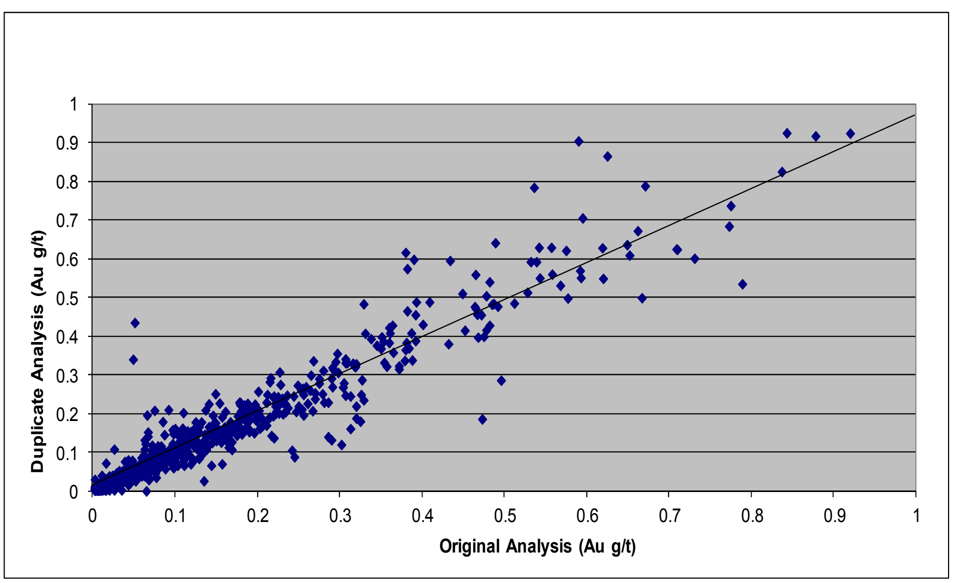
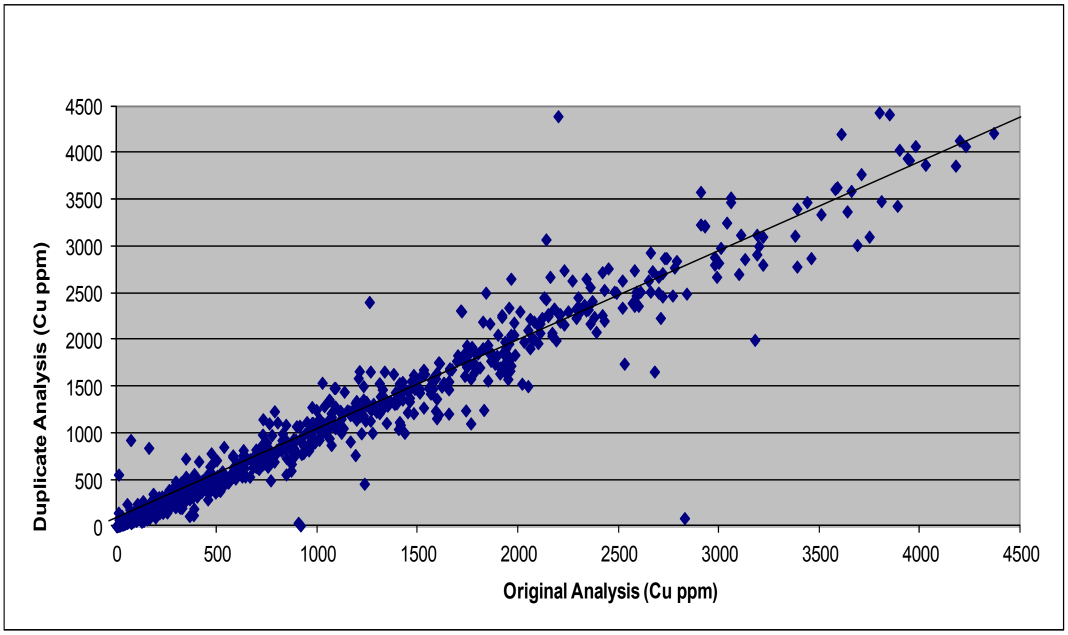


Figure 12.22
Tepal Core Duplicates - Cu



12.5 CHECK ASSAYS

Geologix selected 603 samples for re-assay to Acme Analytical Laboratories as a check on the primary laboratory. Samples were selected from pulp rejects from ALS and forwarded to ACME for re-assay. ACME is a well recognised laboratory based in Vancouver. The laboratory maintains ISO 9001:2000 and has been approved for ISO/IEC 17025:2005 accreditation.

The results from the pulp re-assay program for gold, copper, silver and molybdenum are illustrated in Figures 12.23 to 12.26 respectively. The results seems to indicate that ALS is reporting slightly higher than ACME for silver. Values for gold, copper and molybdenum appear to correlate very well between the original lab and Acme labs.

Figure 12.23
Gold Check Assays

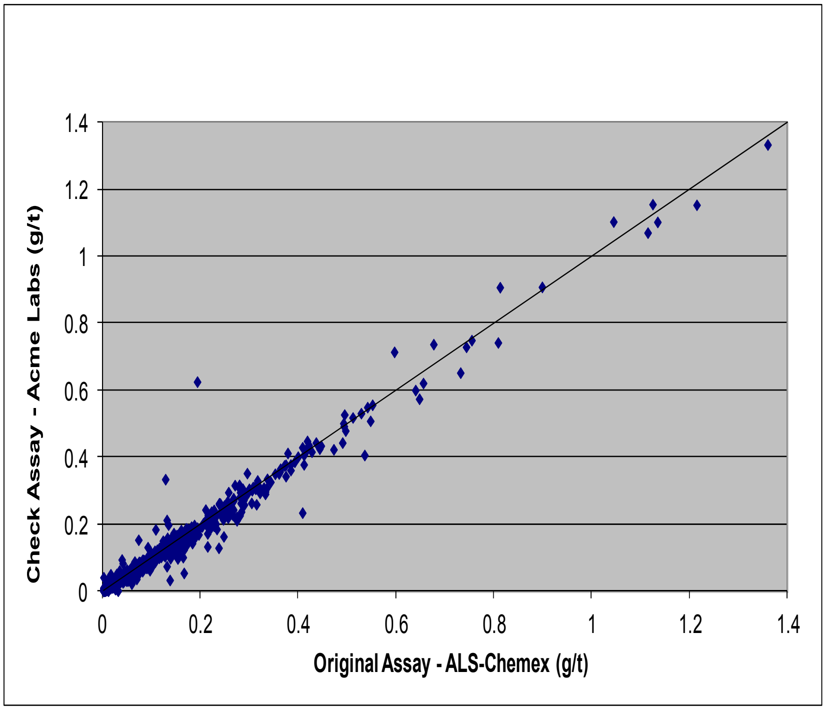


Figure 12.24
Copper Check Assays

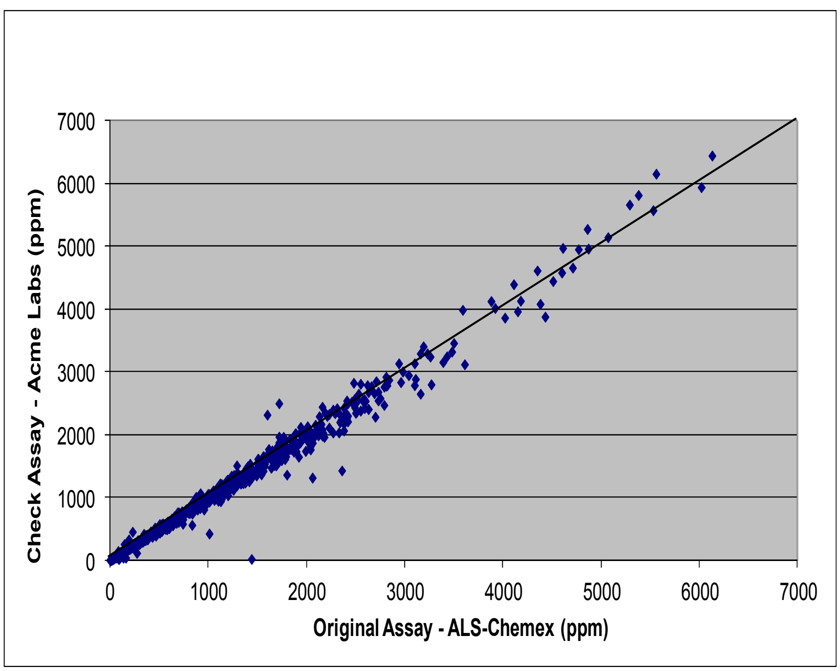


Figure 12.25
Silver Check Assays

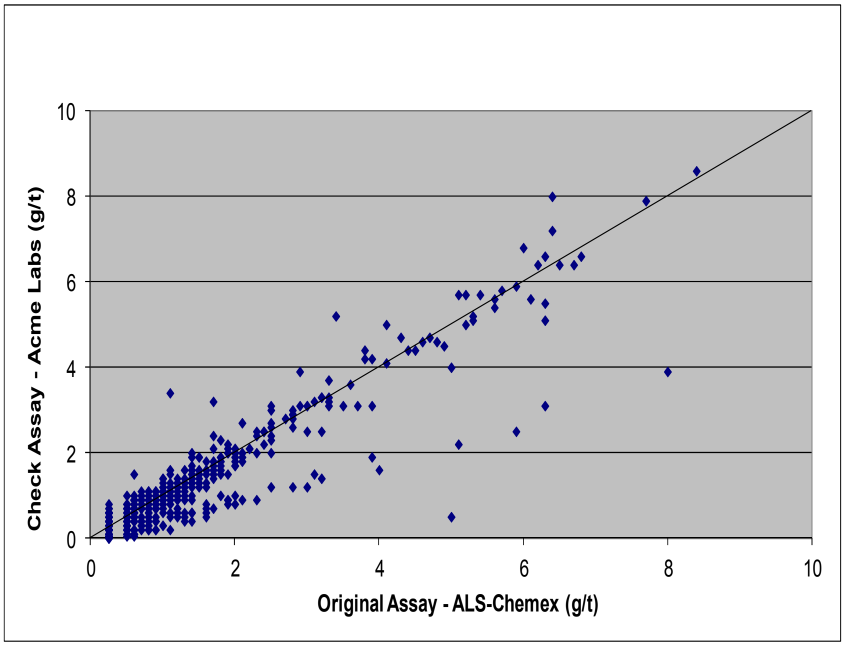
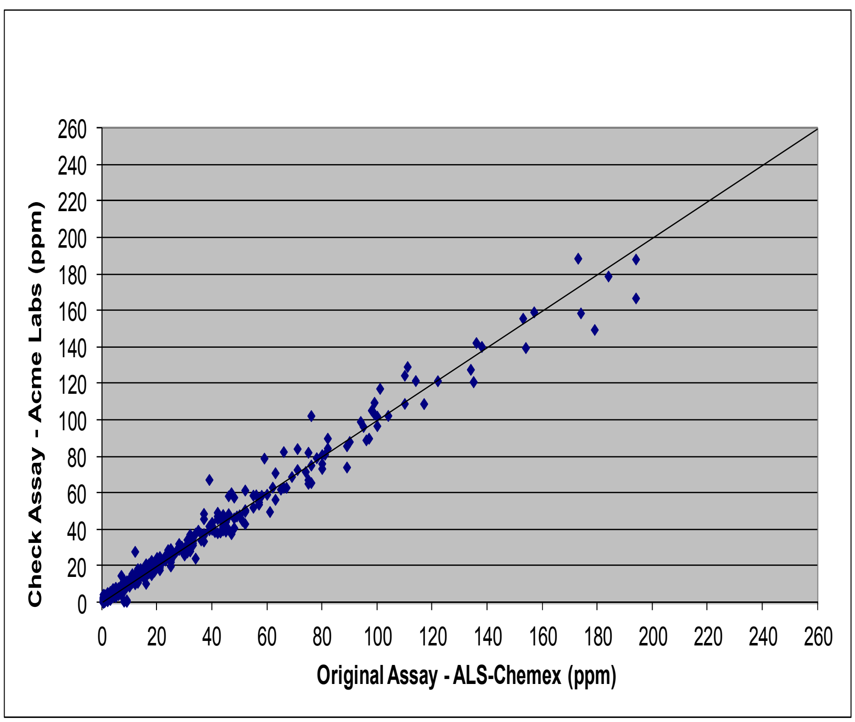


Figure 12.26
Molybdenum Check Assays



12.6 HISTORIC CHECK ASSAYS

Geologix undertook a program of historical pulp duplicate re-analysis on available pulp samples to verify historical drill sample assay results. A total of 103 Hecla pulps were selected and sent for re-assay. The Hecla pulp re-assays were carried by ACME laboratory. Figure 12.27 and 12.28 illustrate the comparison of the Hecla check assays.

There were 1,688 Teck pulps that were selected and sent for re-assay. The Teck re assays were carried out by ALS laboratories. Figure 12.29 and 12.30 illustrate the comparison of the Teck check assays.

Results of the re-assay program returned very similar results to the original data entered in the database for the historical drill holes in most cases. There was a wider scatter of Teck gold values than Teck copper values which is expected due to possible nugget effect. As the grades increased especially for gold there was some scatter of data, but this is to be expected due to possible nugget effect.

Figure 12.27
Historic Hecla Gold Check Assays

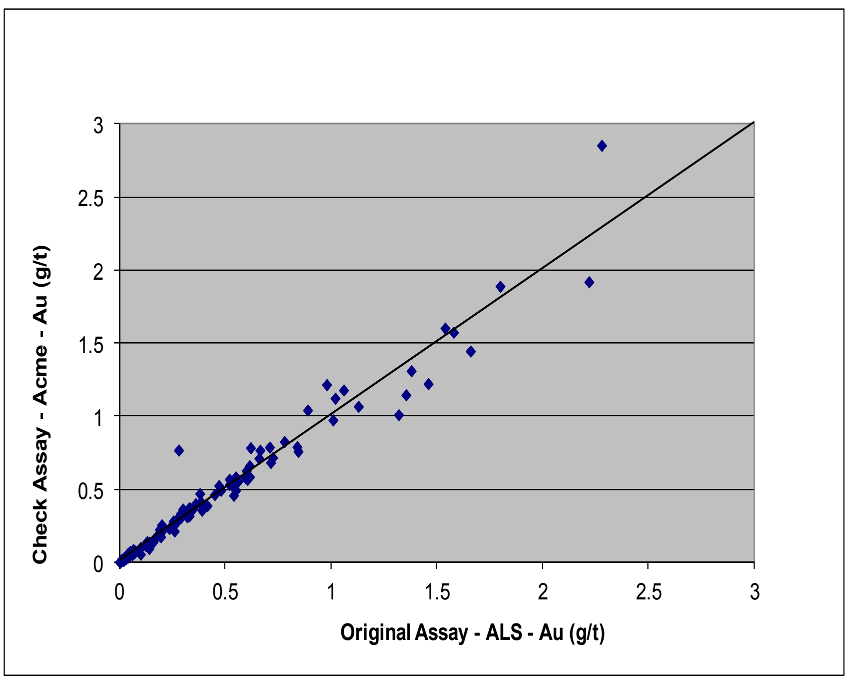


Figure 12.28
Historic Hecla Copper Check Assays

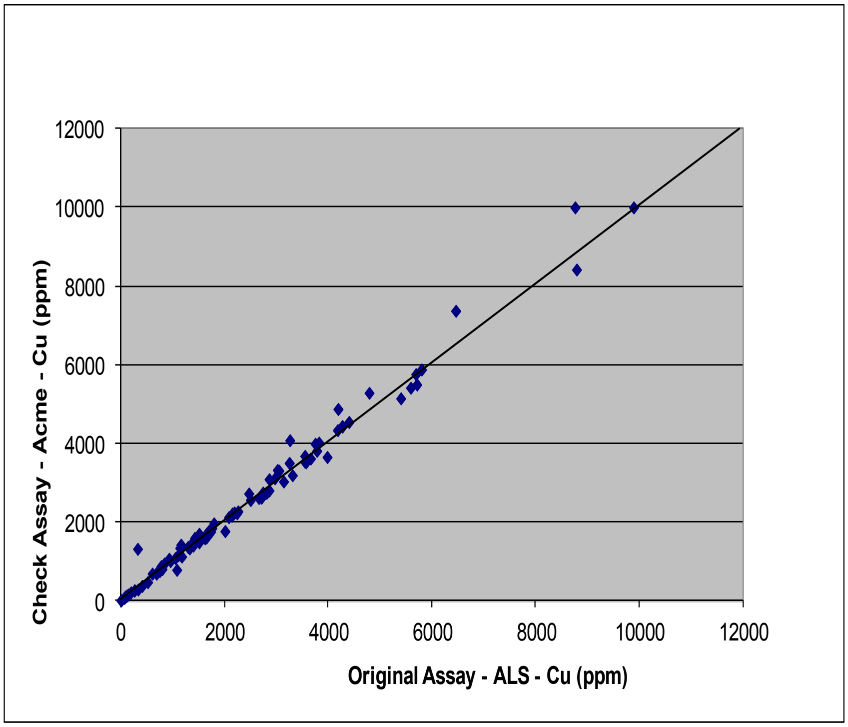


Figure 12.29
Historic Teck Gold Check Assays

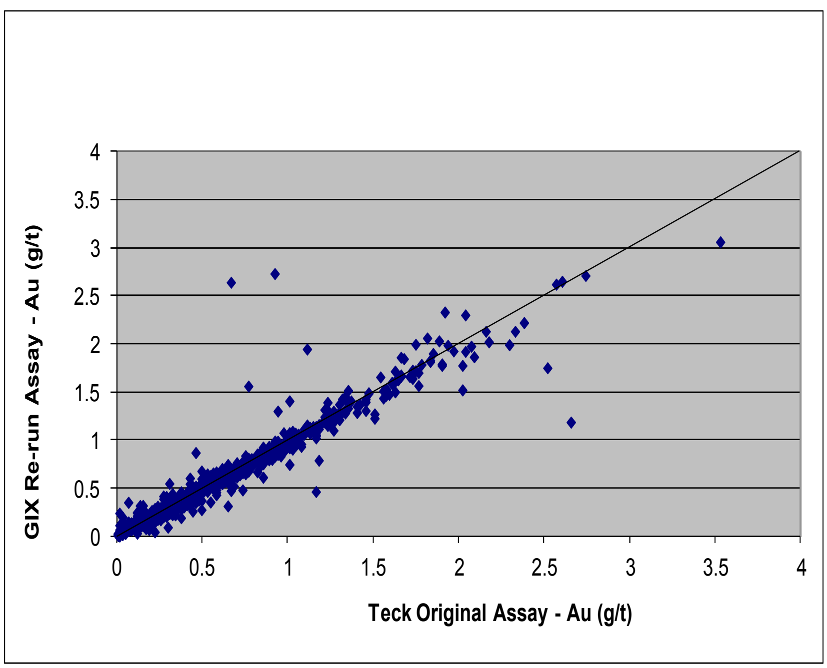
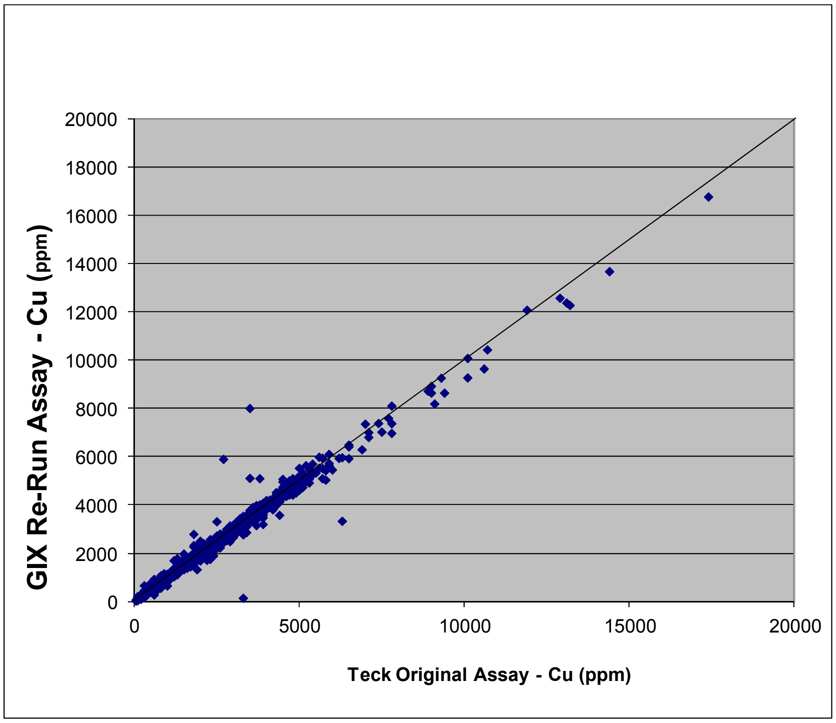


Figure 12.30
Historic Teck Copper Check Assays



12.7 HISTORIC DRILL HOLES

Only INCO drill hole IN-57002 has been located by Arian and Geologix. Lack of evidence for the INCO drilling on the ground suggests co-ordinates for the INCO drilling listed in the historical database are incorrect. Due to the inability to accurately locate and verify the INCO hole data, these holes have been removed from the data verification assessment and subsequent resource study.

The geology in the Hecla drill-holes indicated a good correlation with Arian's drill-holes. There was an excellent correlation between the original Hecla assays and the Geologix re-assay program. Therefore Micon has included the Hecla drill holes in the drill hole database and mineral resource estimate.

12.8 MICON DATABASE VALIDATION

Micon obtained the Adobe Acrobat assay certificates of the drill hole assay database. Approximately 5% of the drill hole assays were examined and compared to the the digital database for validation of the database. There were only minor errors in transferring some of the peripheral multi-element ICP data to the database. This was transmitted to Geologix and the database was amended. None of the main elements reported in the mineral resource were affected by these minor errors. Micon believes that the present digital database is clean of errors and is acceptable for use in the mineral resource.

Micon located several drill hole collars from each of the deposits as a check on the drill database. A Garmin GPS 60Csx was used to obtain the coordinates of these holes. The following table compares the database collar coordinates with Micon's coordinates.

Table 12.4
Drill Collar Coordinate Comparison

Zone	Hole No.	Geologix			Micon			Difference		
		N (m)	E (m)	El. (m)	N (m)	E (m)	El. (m)	N (m)	E (m)	El. (m)
North	TEP-11-116	2116249	716715	535	2116251	716721	543	-2	-6	-8
	TEP-11-127	2116548	716528	569	2116552	716527	577	-4	1	-8
	TEP-11-039	2117256	716472	580	2117260	716471	594	-4	1	-14
South	TEP-11-128	2115699	717316	489	2115703	717315	495	-4	1	-6
	TEP-11-013	2115551	717105	511	2115557	717105	516	-6	0	-5
Tizate	TIZ -11-070	2116630	718474	502	2116626	718447	490	4	27	12
	TIZ-11-059	2116558	718460	498	2116560	718443	489	-2	17	9
	TIZ-11-004	2116712	718974	431	2116713	718972	438	-1	2	-7

Elevations tend to be less accurate than northings and eastings depending on the number of satallites available and the time alloted to a reading, especially a non-differential GPS unit. Two of the Tizate holes have a large difference in the Easting which could be due to the limited time taken to obtain those readings. Most of the northing and easting readings are approximately within the tolerance of the GPS used. Micon is confident that the locations documented for the drilling are accurate.

12.9 VALIDATION SUMMARY

Results of the QA/QC work indicate that the analytical techniques employed by the laboratories are generally reliable and repeatable. There is a good level of accuracy and precision. CRM and duplicate analysis indicate that there are no significant bias to over or under-reporting of assay results.

It is Micon's opinion that of the QA/QC protocol used by Geologix is in keeping with best industry practices and sufficient for the estimation of mineral resources.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

The following section is an excerpt from Murphy et. al. ,2011.

13.1 INTRODUCTION

"The Tepal deposits are dominantly a copper-gold (Cu-Au) resource. The bulk of the resource (85 to 90%) is sulphidic, but is overlain by a distinct oxide zone. The sulphide responds well to milling, with production of a Cu-Au flotation concentrate. However, based on the current mine schedule, most of the oxide would be mined first. This material is a candidate for cyanide leaching, either in crushed ore heaps or coarse ore dumps. This would produce gold and some cyanide soluble copper. The latter would be removed from the gold circuit as a sulphide and combined with the concentrate using SART (sulphidation-acidification-recycling-thickening) technology.

To ensure that all process options were considered, milling and flotation of the oxide was also briefly investigated. This did produce a Cu-Au concentrate that could be leached. However, this option did not appear to offer any advantages over the more conventional heap leach approach in terms of recovery or cost.

Very little oxide-to-sulphide transition material has been encountered. Where it exists, most of the copper is still sulphidic and it responds well to flotation. Thus, any transition material will be mined and processed through the mill, along with the primary sulphide ore.

The balance of this section addresses the metallurgical testing that has been done on samples from the North, South and Tizate zones. It starts with a brief review of the limited testwork programs conducted by previous owners. Then the focus shifts to the recent program conducted by Geologix in 2010. This portion contains material on sample selection, the three phases of the milling and flotation program on the sulphide ores, and the bottle roll and column leach testing done on the oxide ore. G&T Metallurgical Services, Limited ("G&T") of Kamloops, British Columbia conducted the milling and flotation studies. McClelland Laboratories, Inc. ("MLI") of Sparks, Nevada conducted the majority of the leaching testwork. The final portion covers the conclusions.

Metric units are used throughout this section. Where English units are widely used, they are given in parentheses.

13.1.1 Historical Background

Apparently, neither Arian nor Hecla pursued a metallurgical testwork program on the property. Work done by two other previous owners is summarized below.

13.1.1.1 INCO

The earliest testwork done on the property was conducted by INCO at their J. Roy Gordon Research Laboratory in mid-1973. INCO viewed the property as a Cu-Au porphyry and focused on production of a co-product concentrate. The composite tested was from the first 88 metres of drill hole IN 57002. The head grade assay for this composite was 0.43% Cu, 1.3 ppm Au and 1.25 ppm Ag.

Following some preliminary grinding and flotation trials, two locked cycle tests were performed. The primary grind size was a P86 of 325 mesh (44 µm). The ore charge was conditioned for 10 minutes at 20% solids and a pH of 11 using lime, xanthate (0.1 g/kg) and a frother. Then rougher flotation was run for 10 minutes. This was followed by three stages of cleaning, apparently without regrinding, using the same pH and xanthate concentration. Flotation times were too long in the first locked cycle test and were shortened to 5, 4 and 3 minutes, for the three cleaner stages respectively. Results for the second test are summarized in Table 13.1.

Table 13.1
INCO Flotation Recoveries

Constituent	Distribution in Concentrate (%)
Cu	74.2
Au	~76
Ag	~75
Mo	~62

As can be seen, the INCO recoveries are reasonable, especially for the precious metals. However, the grade would be unacceptable and probably reflects the lack of a regrind step on the rougher concentrate. The tailings assayed 0.11% Cu, mostly as non-floating oxides. The gold content of the tailings was 0.25 ppm. The mode of occurrence of the gold in the tailings was not indicated.

13.1.1.2 Teck

Unlike INCO, Teck viewed Tepal as a gold project and focused on cyanide leaching. The metallurgical work was done under contract at Lakefield Research, Peterborough, Ontario in mid-1993. Lakefield received six samples identified as T-101, 102, 103, 104, 110 and 114 and weighing about 5.5 kg each. Since the sample numbers do not match the Teck drill hole numbers, the origin of the samples is uncertain. Only samples T-103, 104, 110 and 114 were used to prepare composites to be tested. These had the highest gold grades, ranging from 1.07 to 1.36 g/t. Each of the four samples was blended and split in half. The halves were then blended to produce two composites. Composite 1 was crushed to minus 10 mesh (-2 mm). Composite 2 was retained in as-received condition with a ½-in. (12.5 mm) top size. The expected composite grade was 1.21 g/t Au and 4,775 g/t copper, of which 3,775 g/t (79%) was acid soluble.

Composite 1 was further ground to a P100 of 65 mesh (~225 μm) and then subjected to cyanide bottle roll leach tests. The tests were run for 48 hours on 500 g charges at 40% solids and pH 11. Three cyanide levels were tested: 5, 10 and 20 kg/t NaCN. The latter represented 100% stoichiometry for complete gold extraction. The best results were obtained at 5 kg/t, with 90% gold extraction in 24 hours; increasing to 95% after 48 hours. Corresponding levels of copper extraction were 4.5% and 5.3%. Cyanide consumption was 0.91 kg/t, similar to that in the current tests.

Composite 2 was split into three size fractions and leached for seven days at pH 11 and 1.5 kg/t NaCN, with cyanide added as needed to maintain 0.5 g/L NaCN. After just three days, the gold extraction was essentially complete and was the same for all three splits. This extraction level averaged 84%, with 0.75 kg/t cyanide consumption. The copper extraction was slower (5.5% after three days), so stopping the leach after just three days minimized cyanide consumption.

Because the bulk of the copper was present in oxide form, an acid leach test was also performed on the coarse ore sample. This was run at 40% solids for seven days using a sulphuric acid solution at pH 1.5. Copper extraction was fast, with 60% recovery in two days. At this point acid consumption was 20 kg/t. Extending the leach to seven days only increased extraction to 63%, but caused a 50% increase in acid consumption.

13.2 TEPAL NORTH AND SOUTH ZONE METALLURGICAL PROGRAM

None of the material that was tested in this program came from core or reverse circulation (RC) cuttings drilled by Geologix. This is because the metallurgical work began before Geologix undertook its first drilling campaign. Therefore, all samples were taken from core drilled by Arian. Details of all samples and composites are shown in the Murphy et. al. (2011). The samples include material from the North Sulphide Zone (NSX), the North Oxide Zone (NOX) and the South Sulphide Zone (SSX). For some tests, the North Zone was divided into a northern section and a southern section. Later, samples from the South Oxide Zone (SOX) were included in the leach program at MLI.

A 2-m interval from each drill hole was selected for preparation of the composites for the testwork. These composites were identified as NSX-1, NOX-1, and SSX-1. These samples were also used in the second program conducted at G&T. An additional sulphide composite from the North Zone, NSX-2, was included in the second G&T program. This was prepared the same way as the others.

The third phase of the testwork at G&T utilized two new sulphide composites, one from each zone. These were identified as NSX-3 and SSX-2. Preparation of these composites followed the same procedures as the earlier ones.

All testwork conducted by MLI was performed on material from the oxide, rather than the sulphide zones. The oxide composites were drawn from both the South and North zones, with the latter further divided into north and south areas. Bottle roll leach tests were run on 11 samples taken from all areas of the resource, thus representing a variability study. As discussed later, bottle roll tests were also performed on pulverized splits from the oxide column composites.

The column composites are NOXCL01 (north end of North Oxide Zone), NOXCL2 (south end of North Oxide Zone), and SOXCL1 (South Oxide Zone).

The single most important factor in a metallurgical testwork program was how well the samples being tested represent the ore type or portion of the resource being studied. The samples for the program were selected by the Geologix geologist in an effort to provide representative material. Best efforts were made in selecting samples that met the following criteria:

- Collect samples that were spatially representative of each zone.
- Collect samples that were representative of all grade ranges within each zone.
- Ensure that the weighted average grade for each zone was a close as possible to average deposit grade.

Material available for selection of the oxide composites was more limited than the sulphides. As a result, preparing a representative composite was more difficult and the variation from the average grade of the deposit was greater than it was for the sulphides.

Table 13.2 shows a comparison between the composite grades and the grades given in the 2010 resource report. The overall average gold and copper composite grades are slightly higher than the resource grades. However, most gold grades are less than 0.1 g/t higher and most copper grades differ by 0.10% Cu, or less. The only significant difference is in the low values for NOXCL02. However, this reflects reality, as the southern portion of the north zone has lower gold and copper grades than the northern portion."

Table 13.2
Comparison of Composite Sample and Resource

Composite	Weighted Sample Grades		Resource Grades	
	Au (g/t)	Cu (%)	Au (g/t)	Cu (%)
NSX-1	0.53	0.30	0.45	0.25
NSX-2	0.55	0.32	0.45	0.25
NSX-3	0.50	0.32	0.45	0.25
SSX-1	0.50	0.26	0.44	0.21
SSX-2	0.53	0.27	0.44	0.21
NOX-1	0.55	0.29	0.50	0.27
NOXCL01	0.52	0.37	0.50	0.27
NOXCL02	0.37	0.16	0.50	0.27
SOXCL01	0.52	0.32	0.44	0.22

Detailed description of the metallurgical tests on these sample can be found in Murphy et. al., 2011. The results obtained from the metallurgical testwork programs undertaken at G&T and MLI lead to the conclusions which are from Murphy et. al., 2011.

13.2.1 Sulphide Ore Processing

13.2.1.1 Tepal North and South Zones

"The QA/QC procedures in place at G&T Labs was more than adequate to assure the accuracy of the metallurgical results.

With one exception, back calculated and assays heads agreed closely, showing that there were no significant assaying problems affecting the flotation program.

Based on a single Bond ball mill grindability test conducted on NSX-1, the North Zone grinding work index was 19.8 kW-h/mt, which would rank the material as "hard".

Following optimization studies on various parameters, including grind size, collectors and dosages, and pH levels, locked cycle testing showed that the sulphide ore responded well to conventional copper-gold technology. Material from the North Zone responded somewhat better than material from the South Zone. The optimum primary grind was 125 µm, regrinding to 25 µm for cleaning. The collector 3418A gave the best overall performance. The ore from the North Zone was little impacted by pH, but the South Zone material performed better at pH 11.

The North Zone locked cycle cleaner concentrate graded 27% Cu at 90% recovery and 33.8 g/t Au at 65% recovery. The South Zone cleaner concentrate assayed 26.1% Cu and 32.7 g/t Au. Metal recoveries dropped to 84% for copper and 52% for gold.

Final concentrate quality was excellent, with payable gold and silver and no impurities present at concentrations above threshold penalty levels. Silver recovery to concentrate was typically around 25%.

Evaluation of the tailings showed that most of the unrecovered gold was associated with pyrite. However, a few particles of free gold were observed. Installation of a gravity trap on the tailings line should recover most of the free particles, marginally increasing overall gold recovery.

Because most of the unrecovered gold was associated with pyrite, a pyrite concentrate was produced and a gravity concentrate was produced from the pyrite tailings. Gold grades were low in both products and cyanide leaching did not do a good job extracting the gold. As a result, further gold recovery from the rougher tailings does not appear to be economically viable."

13.2.1.2 Tizate Zone

"The master composite appears to be a representative sample of the sulphide portion of the Tizate Zone deposit. Material was drawn from shallow, intermediate and deep intervals on drill holes spread across the deposit. Although the samples used to prepare the master composite had a wide range of head grades, the average was close to the average for the deposit.

Based on 13 rougher and cleaner tests, optimum flotation conditions included a 147 µm K80 primary grind size with lime at pH 11, rougher flotation at pH 11 using 3418A and MIBC as reagents, plus use of fuel oil during grinding to enhance molybdenum recovery. Regrinding was done for 15 minutes at pH 10 producing a regrind discharge of 16 µm, with cleaner flotation using the same reagents run at pH 10 or 11.

The Tizate Zone sulfide material responds well to milling and flotation. Locked cycle testing with a cleaner float at pH 10 produced concentrate containing 24% Cu, 14.6 g/t Au, 248 g/t Ag and 0.68% Mo with corresponding recoveries of 85%,66%, 55% and 71%.

Raising the pH to 11 improved the grade and recovery for copper and silver, but reduced gold and molybdenum recovery.

The Tizate Zone flotation results are generally on a par with earlier results from tests on the North and South Zones. Copper and gold recoveries are similar, as is the copper grade. However, the Tizate Zone gold grade is lower, reflecting the lower head grade."

13.2.2 Oxide Ore Processing

13.2.2.1 Tepal North and South Zones

"The QA/QC procedures in place at MLI was more than adequate to assure the accuracy of the metallurgical results.

In all cases the back calculated and assay head grades agreed closely, indicating that no significant assay accountability issues affected the results. For the gold assays, the standard deviation was 0.02 g/t and the precision averaged 95%. For copper, the results were even better, with an average precision of more than 97%.

Based on a single Bond ball mill grindability test conducted on N0XCL02, the grinding work index was 9.0 kW-h/mt, which would rank the material as "moderately soft". Thus, crushing the oxide should require about half the power needed for crushing the sulphide ore.

Based on a single test conducted on NOXCL02, the abrasion index for the oxide was measured as 0.0245. Such a value would class the oxide as being nearly non-abrasive.

Eleven -1.7 mm samples spatially distributed across the deposit and covering the expected range of head grades were subjected to bottle roll cyanide leaching. On average, 81% of the gold, 21% of the silver and 6% of the copper were extracted in this small-scale variability test program. Gold recovery ranged from 70 to 91%, while copper extraction varied from 0.5 to 15.5%.

In the bottle roll program, cyanide consumption averaged 0.57 kg NaCN per tonne. The range was 0.15 to 2.08 kg/t and generally increased as copper extraction increased. Lime consumption averaged 3.9 kg/t, with a range of 1.7 to 9.2 kg/t.

Gold extraction was rapid in the bottle roll program, with most tests reaching 60% recovery in six hours, or less. One third of the samples were leached to exhaustion in less than 24 hours and another third were leached to exhaustion in less than 72 hours.

Both bottle roll and column leach tests were conducted on three composites of -12.5 mm material taken from the north end of the North Zone, the south end of the North Zone and the South Zone. The composites were leached to exhaustion in all tests and the average gold extraction was 78% for both types of testing. The gold recovery range for the column tests was 72.5 to 86%. Average copper extractions were also similar, with 14% in the columns and 17% in the bottle rolls.

Average cyanide consumption was 1.59 kg/t in the columns vs. 1.41 kg/t in the bottle rolls.

Lime consumption in the columns was uncertain, as lime additions to the columns were too low and caustic additions were required to provide the alkalinity needed to achieve the desired pH levels.

In spite of the lime addition problems, the gold extraction rate in the column tests was rapid. In 10 to 28 days, the gold extractions reached 80% of the final values. In 16 to 38 days, extractions reached 90% of the final values. In less than 60 days, all three columns reached 98% of the final extractions. Never the less, these rates may be biased to the low side. Additional tests should be run with proper lime additions in order to confirm the gold leach kinetics.

Size distributions were determined on the column feed and residue for each composite. All three composites had similar size distributions, with about 80% of the material in the +1.7 mm fractions and 7 to 10% in the -150 µm fractions. The only significant upgrading was in the latter fractions, which contained 14 to 21% of the gold.

The -150 µm fines tended to skew the column results. Not only were the gold grades higher, but the gold recoveries averaged 91%. Virtually all coarser fractions had both head grades and recoveries that were below the average for their respective composite. It is not clear how the behaviour of the fines will affect the recovery when leaching a coarser crush size or ROM material.

On a mass basis (g/t), anywhere from 500 to 2,000 times as much copper was extracted as gold in the column tests. In addition, copper concentration in the leach solution reached as much as 2 g/L in a single 90-day leach cycle. Therefore, technology such as SART will be needed to remove copper from the leach solution and recover the cyanide for recycle.

Results of static acid/base accounting (ABA) tests showed that all three column residues would be classed as non-acid generating. As a result, no special measures should be required to control acidic drainage from the gold heaps following closure.

A split from composite NOXCL02 was subjected to rougher flotation after grinding to 146 µm. The flotation recovered only 52% of the gold and 14% of the copper. After regrinding to 13 µm, the concentrate was given a cyanide leach, which recovered 98% of the contained gold, giving an overall recovery of 50%. This is far less than the 78% average recovery in the column leach tests. In addition, cyanide consumption was high at 10.6 kg/t. Based on the added cost of grinding, the low recovery and the high cyanide consumption in flotation-plus-concentrate leaching, heap leaching the oxide ore appears to be the more attractive processing route."

13.2.2.2 Tizate Zone

"The Tizate Zone oxide material is generally amenable to cyanide leaching when crushed to a relatively fine size.

The average head grade of the ten Tizate Zone composites was 0.24 g/t Au, 0.15% Cu and 1.7 g/t Ag . The grade was lower than the average of the North and South Zones previously tested under the same conditions. These two zones averaged 0.48 g/t Au, 0.22% Cu and 1.8 g/t Ag.

For the Tizate Zone there was a positive correlation between the gold and copper head assays.

For Tizate Zone, the gold recovery averaged 69% and was independent of the gold head grade. This recovery level is lower than the average gold recovery in the North-South samples, which was 81%.

Gold extraction was very fast and averaged 46% during the first two hours of leaching. This represents about 70% of the final 96-hour extraction.

The typical gold leach curve showed a near vertical segment for the first two hours, followed by a much slower nearly linear rise thereafter.

In all, 60% of the tests reached their maximum gold extraction at an intermediate time and not at the end of the leach cycle.

Three of the tests reached their peak extraction in just 24 hours, followed by a sharp drop thereafter. Such behavior suggests possible gold readsorption (preg robbing), a phenomenon not seen in the earlier North/South tests.

Copper extraction was low but somewhat scattered, averaging about 7%. This is about the same as the copper extraction in the North-South tests. The variation in copper extraction suggests that the copper mineralization is variable in the Tizate Zone oxide capping. Copper extraction was independent of the copper head grade.

Silver recoveries are subject to possible revision due to reassaying. However, the available results show the silver recovery was erratic, but averaged 39%. This was nearly twice the average for the North-South tests.

NaCN consumption averaged 0.33 kg/t ore, less than the North-South average of 0.57 kg/t.

Lime consumption for Tizate Zone averaged 4.4 kg/t ore, slightly more than the average for the North-South tests.

The lime consumption was independent of the natural pH of the samples."

14.0 MINERAL RESOURCE ESTIMATES

Three NI 43-101 compliant Mineral Resource estimates have been completed on the Tepal property, details of which can be found in Section 6, History. The mineral resource estimate reported below supersedes these previous estimates.

14.1 MICON ESTIMATE

The Tepal property mineral resource was based on 353 drill hole data. Mineralogical models were generated by Geologix and used to constrain the grade estimation. Datamine Studio V3 mining software data was used to create block models of the three deposits. Grades were interpolated using the ordinary kriging method. The data was converted to Surpac V6.2 mining software to generate a soft pit for each deposit that provided the limit for defining material which offered a reasonable prospect for economic extraction. A cut-off equivalent value of US$ 5.00 per tonne was used to select a break even mining cost for an open pit type operation of this size. The following table summarizes the Measured and Indicated Tepal Property Mineral Resource estimate.

Table 14.1
Measured and Indicated Mineral Resources at US$5/t Equivalent Value Cut-Off

Deposit	Resource Category	Tonnage (kt)	Average Grade				Contained Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (Mlb)
Tepal North	Measured	14,067	0.50	0.29	0.78	0.002	228	89
	Indicated	55,320	0.30	0.21	1.01	0.002	533	252
	M + I	69,387	0.34	0.22	0.96	0.002	761	341
Tepal South	Measured	20,011	0.47	0.22	1.07	0.002	300	96
	Indicated	20,993	0.45	0.20	1.17	0.002	305	91
	M + I	41,005	0.46	0.21	1.12	0.002	605	187
Tizate	Measured	-	-	-	-	-	-	-
	Indicated	77,375	0.18	0.17	2.29	0.006	438	285
	M + I	77,375	0.18	0.17	2.29	0.006	438	285
Total	Measured	34,078	0.48	0.25	0.95	0.002	528	185
	Indicated	153,688	0.26	0.19	1.67	0.004	1,276	628
	M + I	187,766	0.30	0.20	1.54	0.004	1,804	813

*Assumptions used to calculate the soft pit constraint: Au Price US$ 1300/oz, Cu Price US$ 3.30/lb
Tizate Oxide Au Recovery - 68.8%, Cu Recovery - 6.8%
Tizate Sulphide Au Recovery - 66.2%, Cu Recovery - 85.3%
Tepal Oxide Au Recovery - 78.4%, Cu Recovery - 14.3%
Tepal Sulphide Au Recovery - 60.7%, Cu Recovery - 87.4%

*Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves.

The following table summarizes the Inferred Mineral Resources of the three deposits above the same US$ 5/tonne equivalent value cut-off .

Table 14.2
Inferred Mineral Resources at US$5/t Equivalent Value Cut-Off

Deposit	Resource Category	Tonnage (kt)	Average Grade				Contained Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (Mlb)
Tepal North	Inferred	906	0.22	0.21	1.21	0.003	6.5	4.2
Tepal South	Inferred	412	0.40	0.16	0.95	0.002	5.3	1.5
Tizate	Inferred	34,426	0.15	0.15	1.70	0.007	169.8	114.8
Total	Inferred	35,743	0.16	0.15	1.68	0.006	181.7	120.4

*Assumptions used to calculate the soft pit constraint: Au Price US$ 1300/oz, Cu Price US$ 3.30/lb
Tizate Oxide Au Recovery - 68.8%, Cu Recovery - 6.8%
Tizate Sulphide Au Recovery - 66.2%, Cu Recovery - 85.3%
Tepal Oxide Au Recovery - 78.4%, Cu Recovery - 14.3%
Tepal Sulphide Au Recovery - 60.7%, Cu Recovery - 87.4%

The following are the parameters and assumptions made to complete this estimate.

14.1.1 Mineralogical model

Geologix generated new mineralogical model for each of the three deposits. The models were designed to contain all drill hole intervals with a dollar value of greater than US$ 8.70/tonne based on metal prices of US$ 1,000/oz for gold and US$2.75/lb for copper. The envelopes took into consideration all historic and new infill drill holes, geological contacts and updated interpretations of the three deposits. The boundary of the models corresponded to geological observations and the approximate primary economic limits of the mineralization. Geological parameters included the type and intensity of alteration, the type, style and abundance of veinlets and the type, style and abundance of sulphide and oxide mineralization. Minor internal dilution below the US$ 8.70 limit was included for continuity of the model. Blocks inside the mineralogical models were classified as “Ore” and those outside were classified as “Waste”.

14.1.2 Oxide Zone

A wireframe surface was generated to further divide the models into a near surface oxide domain and a sulphide domain at depth. The surface generated was based on data supplied to Micon by Geologix with the base of the oxide interval usually corresponding to the first appearance of sulphide mineralization.

14.1.3 Drill Data

The digital drill hole database used 353 drill holes from the various drill programs that have been run on the property (Table 14.3).

Table 14.3
Tepal Drill Hole Summary

Company	Holes Drilled	Type	Holes Used	Length (m)
Inco	+21	DD	0	0
Teck	50	RC	49	8,169
Hecla	49	RC	17	1,506
Arian	42	DD	42	7,180
Geologix 2010	43	DD	43	10,656
Geologix 2011	215	DD	202	41,248
Total	420		353	68,759

The locations of the Inco holes could not be confirmed so these were removed from the database. In addition, 13 condemnation and geotechnical holes, completed in 2011, were not included in the database.

14.1.4 Composites

The composite length for the interpolations was determined by considering the lengths of all the assay intervals within the mineralized zones. The dominant sample interval length is 2 metres which has been chosen as the composite length. Therefore the samples were composited to 2 metres, honouring domain contacts. The minimum composite length was 1 metre with remnants and less than 1 metre intervals were added to the previous composite.

Basic statistics were generated for each deposit with respect to oxide and sulphide domains. A comparison of uncapped values to capped values is listed in the following tables.

Table 14.4
Tepal North Zone Sulphide Domain Uncapped and Capped Composite Statistics

Statistics	Gold (g/t)		Copper (%)		Silver (g/t)		Molybdenum (ppm)	
	uncapped	capped	uncapped	capped	uncapped	capped	uncapped	capped
Mean	0.38	0.38	0.25	0.24	1.1	1.0	21	20
Minimum	0.00	0.00	0.00	0.00	0.0	0.0	0	0
Maximum	7.20	3.00	6.32	2.50	209.0	12.5	569	300
Median	0.25	0.25	0.20	0.20	0.70	0.70	12.50	12.50
Standard Deviation	0.43	0.40	0.23	0.21	3.73	1.25	29.96	27.45
Coeff. of Variation	1.13	1.05	0.92	0.85	3.46	1.26	1.45	1.34
Number of Samples	4,135	4,135	4,135	4,135	4,135	4,135	4,135	4,135

Table 14.5
Tepal North Zone Oxide Domain Uncapped and Capped Composite Statistics

Statistics	Gold (g/t)		Copper (%)		Silver (g/t)		Molybdenum (ppm)	
	uncapped	capped	uncapped	capped	uncapped	capped	uncapped	capped
Mean	0.39	0.39	0.23	0.23	0.9	0.8	17	17
Minimum	0.00	0.00	0.00	0.00	0.0	0.0	0	0
Maximum	2.52	2.52	3.23	3.23	35.0	7.0	220	200
Median	0.25	0.25	0.16	0.16	0.60	0.60	10	10
Standard Deviation	0.39	0.39	0.26	0.26	1.49	0.94	21.93	21.77
Coeff. of Variation	1.00	1.00	1.12	1.12	1.72	1.14	1.30	1.30
Number of Samples	1,097	1,097	1,097	1,097	1,097	1,097	1,097	1,097

Table 14.6
Tepal South Zone Sulphide Domain Uncapped and Capped Composite Statistics

Statistics	Gold (g/t)		Copper (%)		Silver (g/t)		Molybdenum (ppm)	
	uncapped	capped	uncapped	capped	uncapped	capped	uncapped	capped
Mean	0.48	0.48	0.22	0.22	1.2	1.1	21	21
Minimum	0.00	0.00	0.00	0.00	0.0	0.0	0	0
Maximum	3.24	2.54	1.72	1.00	84.9	10.0	363	363
Median	0.38	0.38	0.19	0.19	0.80	0.80	15	15
Standard Deviation	0.39	0.39	0.14	0.14	3.04	1.30	22.14	22.14
Coeff. of Variation	0.81	0.81	0.63	0.62	2.43	1.14	1.05	1.05
Number of Samples	2,855	2,855	2,855	2,855	2,855	2,855	2,855	2,855

Table 14.7
Tepal South Zone Oxide Domain Uncapped and Capped Composite Statistics

Statistics	Gold (g/t)		Copper (%)		Silver (g/t)		Molybdenum (ppm)	
	uncapped	capped	uncapped	capped	uncapped	capped	uncapped	capped
Mean	0.42	0.41	0.19	0.19	1.3	1.0	15	15
Minimum	0.00	0.00	0.00	0.00	0.0	0.0	0	0
Maximum	1.37	1.10	0.77	0.77	36.4	6.0	65	65
Median	0.35	0.35	0.17	0.17	0.70	0.70	11.5	11.5
Standard Deviation	0.28	0.27	0.11	0.11	3.06	1.01	12.02	12.02
Coeff. of Variation	0.67	0.66	0.58	0.58	2.42	1.04	0.80	0.80
Number of Samples	253	253	253	253	253	253	253	253

Table 14.8
Tizate Zone Sulphide Domain Uncapped and Capped Composite Statistics

Statistics	Gold (g/t)		Copper (%)		Silver (g/t)		Molybdenum (ppm)	
	uncapped	capped	uncapped	capped	uncapped	capped	uncapped	capped
Mean	0.18	0.18	0.17	0.17	2.2	2.2	69	69
Minimum	0.00	0.00	0.00	0.00	0.0	0.0	0	0
Maximum	5.24	1.10	1.30	0.80	44.1	15.0	1691	625
Median	0.15	0.15	0.17	0.17	1.66	1.66	53	53
Standard Deviation	0.16	0.13	0.08	0.08	2.10	1.82	75.06	64.87
Coeff. of Variation	0.90	0.74	0.49	0.48	0.93	0.82	1.08	0.95
Number of Samples	3,932	3,932	3,932	3,932	3,932	3,932	3,932	3,932

Table 14.9
Tizate Zone Oxide Domain Uncapped and Capped Composite Statistics

Statistics	Gold (g/t)		Copper (%)		Silver (g/t)		Molybdenum (ppm)	
	uncapped	capped	uncapped	capped	uncapped	capped	uncapped	capped
Mean	0.19	0.19	0.18	0.18	2.2	2.2	31	31
Minimum	0.01	0.01	0.01	0.01	0.0	0.0	0	0
Maximum	1.28	0.60	1.11	0.50	8.4	8.0	144	144
Median	0.16	0.16	0.16	0.16	1.90	1.90	26	26
Standard Deviation	0.15	0.13	0.14	0.10	1.55	1.55	23.11	23.11
Coeff. of Variation	0.79	0.68	0.75	0.56	0.70	0.69	0.74	0.74
Number of Samples	255	255	255	255	255	255	255	255

14.1.5 Capping

The coefficient of variation (CV) is an indicator of outliers that may bias the grade generated in the interpolation. This is sometimes referred to as a "nugget effect". A CV value of over 1.2 is an indication that capping of high-grade composites may be required. The methods used to identify the level of capping were Decile Analysis and Log Probability plots.

The results of the capping for gold, copper, silver and molybdenum are documented in the following tables with respect to each deposit and the oxide/sulphide domains.

Capping was done after generating the 2 metre composites so that the capping were less harsh.

Table 14.10
Tepal Property Capping Summary for Gold

Zone	Domain	Threshold Au (g/t)	Data Capped		
			Number	Proportion (%)	Metal Loss (%)
North	Sulphide	3.0	9	0.22	0.9
	Oxide	-	-	-	-
South	Sulphide	2.54	3	0.11	0.1
	Oxide	1.1	2	0.79	0.3
Tizate	Sulphide	1.1	6	0.15	1.0
	Oxide	0.6	6	2.35	3.0

Table 14.11
Tepal Property Capping Summary for Copper

Zone	Domain	Threshold Cu (%)	Data Capped		
			Number	Proportion (%)	Metal Loss (%)
North	Sulphide	2.5	2	0.05	0.4
	Oxide	-	-	-	-
South	Sulphide	1	1	0.04	0.1
	Oxide	-	-	-	-
Tizate	Sulphide	0.8	4	0.1	0.1
	Oxide	0.5	7	2.75	4.2

Table 14.12
Tepal Property Capping Summary for Silver

Zone	Domain	Threshold Ag (g/t)	Data Capped		
			Number	Proportion (%)	Metal Loss (%)
North	Sulphide	12.5	11	0.27	7.9
	Oxide	7	4	0.36	5.0
South	Sulphide	10	17	0.6	8.8
	Oxide	6	5	1.98	22.7
Tizate	Sulphide	15	8	0.2	1.1
	Oxide	8	1	0.39	0.1

Table 14.13
Tepal Property Capping Summary for Molybdenum

Zone	Domain	Threshold Mo (ppm)	Data Capped		
			Number	Proportion (%)	Metal Loss (%)
North	Sulphide	300	5	0.12	0.9
	Oxide	200	1	0.09	0.1
South	Sulphide	-	-	-	-
	Oxide	-	-	-	-
Tizate	Sulphide	625	7	0.18	1.1
	Oxide	-	-	-	-

*Capping threshold derived by Decile Analysis and Log Probability plots.

14.1.6 Geostatistics

Spatial data analysis was considered prior to block model grade estimation in an attempt to generate a series of variograms and variogram maps that would define the directions of spatial continuity of gold and copper grades. The results of the variograms were used as input parameters for Ordinary Kriging grade estimation.

The drill spacing over the deposits is sufficient sample density to be able to generate variograms for gold and copper, especially in the sulphide zones. Average ranges from gold and copper is used so every block will be estimated with same search distance. Data are insufficient to generate variogram ranges for silver and molybdenum so the search range and orientation parameters for silver and molybdenum were derived from the gold and copper variogram. The following table summarizes the strike orientation and dip orientation of the variograms for each metal, with respect to each deposit and oxide/sulphide domain.

Table 14.14
Variogram Parameters

Zone	Metal	Nugget C_0	Sill $C_1/C_2/C_3$	Rotation Z	Rotation Y	Rotation X	Ranges X	Ranges Y	Ranges Z
North Tepal Oxide	Au	0.07	0.63	112.5	0	0	47	32	23
			0.30	112.5	0	0	79	320	42
	Cu	0.08	0.61	112.5	0	0	78	28	16
			0.30	112.5	0	0	109	175	79
	Ag	0.06	0.20	112.5	0	0	8	3	5
			0.57	112.5	0	0	20	12	71
			0.17	112.5	0	0	89	105	117
	Mo	0.05	0.26	112.5	0	0	8	3	5
			0.50	112.5	0	0	20	12	71
			0.19	112.5	0	0	89	105	117
North Tepal Sulphide	Au	0.1	0.30	112.5	0	0	20	8	7
			0.35	112.5	0	0	37	67	52
			0.25	112.5	0	0	152	134	198
	Cu	0.16	0.37	112.5	0	0	6	10	7
			0.25	112.5	0	0	51	29	33
			0.23	112.5	0	0	129	158	127
	Ag	0.07	0.29	112.5	0	0	7	17	13
			0.44	112.5	0	0	84	60	77
			0.20	112.5	0	0	133	119	217
	Mo	0.09	0.26	112.5	0	0	20	12	12
			0.37	112.5	0	0	71	55	59
			0.29	112.5	0	0	124	117	194
South Tepal Oxide	Au	0.06	0.35	80.25	30	35.25	32	8	7
			0.01	80.25	30	35.25	66	62	32
			0.59	80.25	30	35.25	116	211	84
	Cu	0.19	0.39	80.25	30	35.25	10	10	4
			0.42	80.25	30	35.25	39	47	15
	Ag	0.13	0.25	80.25	30	35.25	6	10	5
			0.56	80.25	30	35.25	32	37	115
			0.06	80.25	30	35.25	83	69	200
	Mo	0.06	0.46	80.25	30	35.25	15	17	6
			0.48	80.25	30	35.25	73	91	71
South Tepal Oxide	Au	0.08	0.40	80.25	30	35.25	50	12	7
			0.34	80.25	30	35.25	74	83	90
			0.18	80.25	30	35.25	127	510	238
	Cu	0.10	0.50	80.25	30	35.25	54	22	18
			0.28	80.25	30	35.25	77	105	53
			0.12	80.25	30	35.25	123	334	241
	Ag	0.13	0.64	80.25	30	35.25	22	6	29
			0.06	80.25	30	35.25	126	163	117
			0.17	80.25	30	35.25	278	305	191
	Mo	0.13	0.53	80.25	30	35.25	9	8	22
			0.27	80.25	30	35.25	28	153	119
			0.07	80.25	30	35.25	83	284	248

Zone	Metal	Nugget C_0	Sill $C_1/C_2/C_3$	Rotation			Ranges		
				Z	Y	X	X	Y	Z
Tizate Oxide	Au	0.14	0.36 0.51	-28.68 -28.68	15.7 15.7	42.74 42.74	5 144	5 200	6 82
	Cu	0.07	0.49 0.45	-28.68 -28.68	15.7 15.7	42.74 42.74	19 141	8 68	4 166
	Ag	0.05	0.31 0.64	-28.68 -28.68	15.7 15.7	42.74 42.74	21 137	7 51	7 117
	Mo	0.15	0.47 0.38	-28.68 -28.68	15.7 15.7	42.74 42.74	15 108	12 75	5 208
Tizate Sulphide	Au	0.17	0.29 0.41 0.12	-28.68 -28.68 -28.68	15.7 15.7 15.7	42.74 42.74 42.74	38 81 167	17 84 250	6 28 246
	Cu	0.16	0.28 0.38 0.18	-28.68 -28.68 -28.68	15.7 15.7 15.7	42.74 42.74 42.74	18 69 229	8 92 189	8 27 372
	Ag	0.09	0.31 0.33 0.26	-28.68 -28.68 -28.68	15.7 15.7 15.7	42.74 42.74 42.74	6 72 138	8 34 360	6 39 295
	Mo	0.10	0.30 0.37 0.23	-28.68 -28.68 -28.68	15.7 15.7 15.7	42.74 42.74 42.74	28 91 297	6 88 126	10 34 333

14.1.7 Specific Gravity

Specific gravity (SG) samples were collected approximately every 50 metres in the sulphide zone from all available Arian and Geologix core from the three deposits. Samples were taken from mineralized and non-mineralized core (i.e. ore and waste). The oxide samples were collected from as many Arian holes as possible and from the 2010 Geologix core. There were also oxide samples taken from two 2011 Tizate holes (TIZ-11-001 to TIZ-11-037). A total of 1,053 samples have had SG determinations.

SG determination for each sample was performed by ALS, Vancouver, BC. SG measurements were derived by gravimetric methods. Core was covered in a paraffin wax coating and weighed. The sample was then weighed while it was suspended in water and the SG determined by measuring the volumetric displacement of the rock in water and dividing the weight of rock by the volume. The following table lists the SG for each zone and domain used in the block model.

Table 14.15
Tepal Property SG Averages

Zone	Domain	Category	Density	No. Samples
North	Oxide	Ore	2.42	13
	Sulphide	Ore	2.70	86
	Oxide	Waste	2.45	14
	Sulphide	Waste	2.73	229
South	Oxide	Ore	2.46	4
	Sulphide	Ore	2.72	81
	Oxide	Waste	2.45	16
	Sulphide	Waste	2.73	109
Tizate	Oxide	Ore	2.49	4
	Sulphide	Ore	2.74	169
	Oxide	Waste	2.39	10
	Sulphide	Waste	2.73	318
Total				1053

The number of oxide ore sample determinations is low compared to sulphide determinations. Micon recommends that additional oxide ore samples be sent to ALS for SG determination to obtain a more representative average oxide SG in each deposit.

14.1.8 Block Model

Two block models were created. The Tepal block model contains both the North and South Zones. The Tizate block model encompasses the Tizate Zone. The block model extents are documented in Table 14.16 and Table 14.17.

Table 14.16
Tepal (North and South Zones) Block Model Limits

Axis	Minimum	Maximum	Block Size	No. of Blocks
X	715,600	718,100	10	250
Y	2,114,800	2,117,800	10	300
Z	-300	1,000	5	260

Table 14.17
Tizate Block Model Limits

Axis	Minimum	Maximum	Block Size	No. of Blocks
X	717,500	719,900	10	240
Y	2,115,800	2,117,650	10	185
Z	-100	1,000	5	220

A series of block model codes were developed to identify the zones and domains within the block models. Table 14.15 documents these codes. No sub-blocks were created in the model to facilitate transfer of the block model to other software platforms.

Table 14.18
Tepal Property Block Codes

Code	Description
101	Tepal North Oxide Ore
102	Tepal North Sulphide Ore
129	Tepal North Oxide Waste
130	Tepal North Sulphide Waste
201	Tepal South Oxide Ore
202	Tepal South Sulphide Ore
229	Tepal South Oxide Waste
230	Tepal South Sulphide Waste
301	Tizate Oxide Ore
302	Tizate Sulphide Ore
329	Tizate Oxide Waste
330	Tizate Sulphide Waste

14.1.9 Grade Interpolation

Gold, copper, silver and molybdenum grades were interpolated into both block models. The interpolation for each block model was constrained by block codes and the respective mineralogical model domains. Interpolation only used composite data falling within the constraints. Blocks outside the constraints were also interpolated using the same boundary constraints.

Each block model used the Ordinary Kriging (OK) method to estimate the grades in each block. Interpolation was performed using multiple passes with successively larger search ellipses until all blocks within each domain had received an interpolated grade. The search distances were derived from the ranges derived from the variogram analysis. To ensure that clustered sample groups did not preferentially bias block grades, interpolations included a restriction on the minimum and maximum number of samples used as well as the maximum number of samples used per drill holes. Interpreted search ellipse parameters for each model are documented in Table 14.19.

Table 14.19
Search Parameters

Zone	Metal	Search Pass	Rotation			Range			Composites		Max. per Hole
			Z (°)	Y (°)	X (°)	X (m)	Y (m)	Z (m)	Min	Max	
North Tepal	Oxide	1	45	0	0	49	68	23	5	15	4
		2	45	0	0	74	102	34	5	15	4
		3	45	0	0	123	170	57	4	15	4
	Sulphide	1	45	0	0	40	41	41	5	15	4
		2	45	0	0	60	62	62	5	15	4
		3	45	0	0	100	103	103	4	15	4
South Tepal	Oxide	1	45	45	0	41	63	25	5	15	4
		2	45	45	0	62	94	38	5	15	4
		3	45	45	0	103	157	63	4	15	4
	Sulphide	1	45	45	0	48	53	43	5	15	4
		2	45	45	0	72	80	64	5	15	4
		3	45	45	0	120	133	107	4	15	4
Tizate	Oxide	1	315	45	0	88	82	73	5	15	4
		2	315	45	0	176	164	146	4	15	4
	Sulphide	1	315	45	0	70	79	25	5	15	4
		2	315	45	0	140	158	50	4	15	4

14.1.10 Block Model Validation

Global validation of the block models were undertaken to confirm the OK method was reporting the appropriate results. To validate the block models for global bias, the models were re-estimated by using the Inverse Distance Squared (ID^2) and the Nearest Neighbour (NN) methods. The following table documents the metal loss of the two different methods compared to OK for each deposit.

Table 14.20
Metal Loss Comparison Between OK and ID^2 and NN

Domain	ID2		NN	
	Gold Metal Loss (%)	Copper Metal Loss (%)	Gold Metal Loss (%)	Copper Metal Loss (%)
Tepal North	-2.1	-1.2	0.7	2.4
Tepal South	-1.9	-1.3	-0.4	-0.1
Tizate	-1.0	-0.8	1.4	1.3

Note : Based on US$ 5 equivalent

The table shows that there are small losses and gains of metal compared to OK. These small losses and gains validate that the OK method is not biasing for any of the deposits.

Normally, both methods (ID^2 and NN) tend to under-estimate the tonnage and over-estimate the grade compared to the OK method. In general, the NN method tends to over-estimate the grade more than ID^2 method. The table illustrates these relationships.

Swath plots were generated on each deposit for gold and copper. The plots include declustered composite sulphide grades compared to OK, ID^2 and NN sulphide block grades in west-east, south-north and vertical directions through each deposit.

Figure 14.1
Tepal North Sulphide Gold W-E Swath Plot

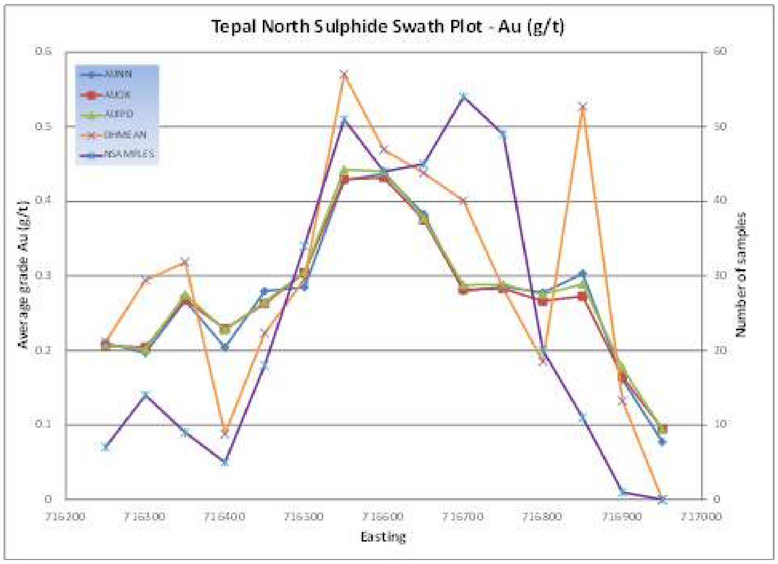


Figure 14.2
Tepal North Sulphide Gold S-N Swath Plot

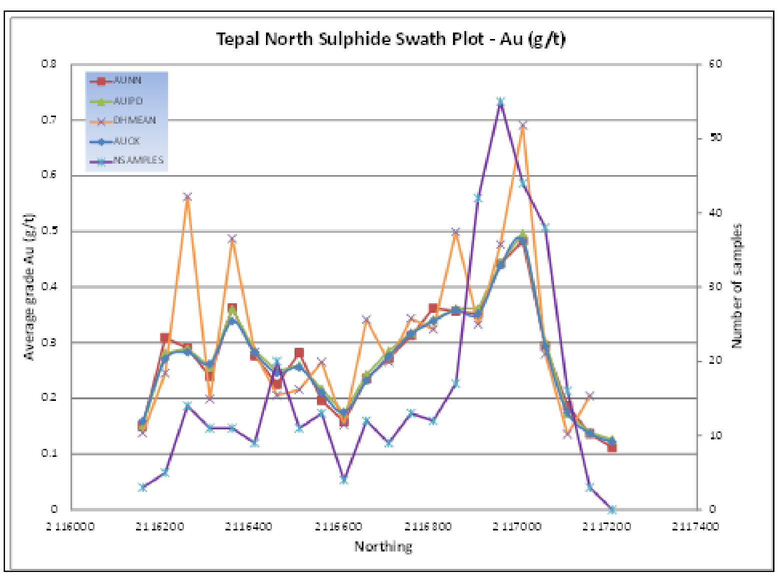


Figure 14.3
Tepal North Sulphide Gold Elevation Swath Plot

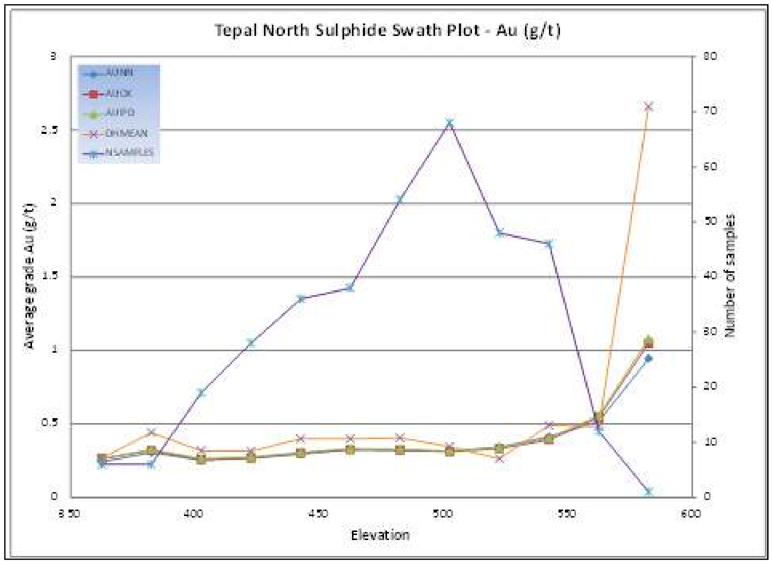


Figure 14.4
Tepal North Sulphide Copper W-E Swath Plot

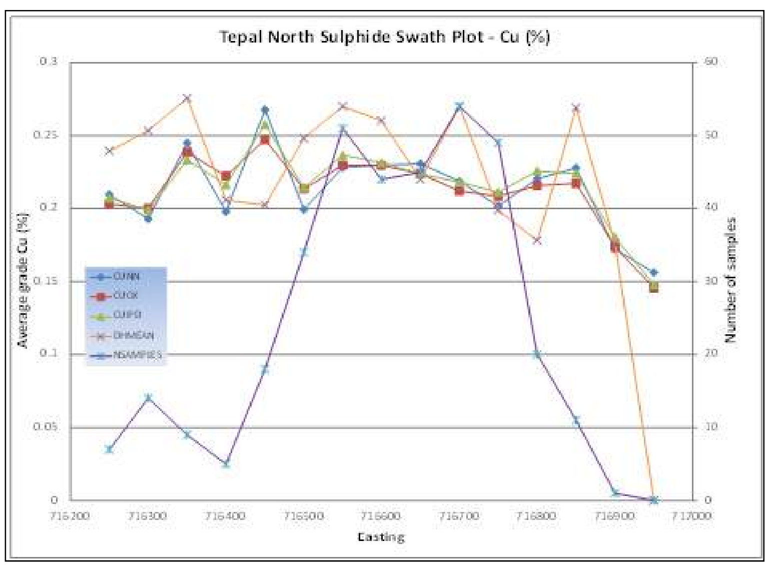


Figure 14.5
Tepal North Sulphide Copper S-N Swath Plot

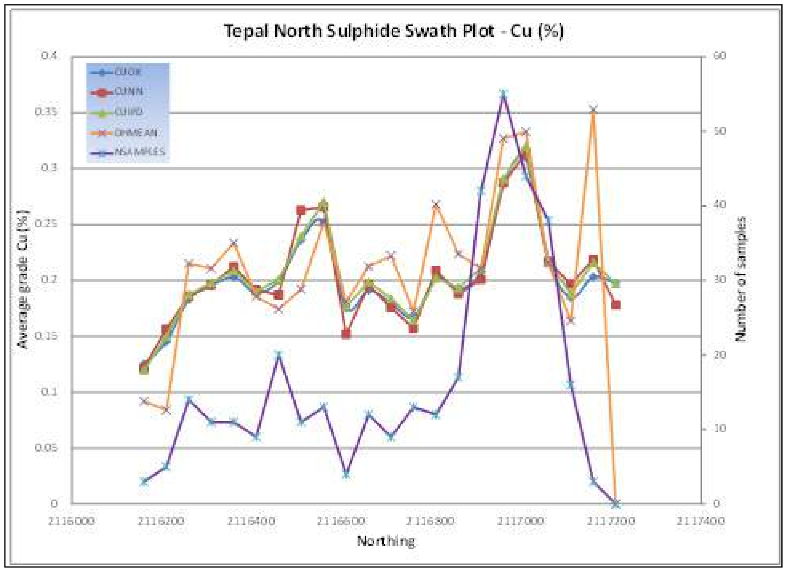


Figure 14.6
Tepal North Sulphide Copper Elevation Swath Plot

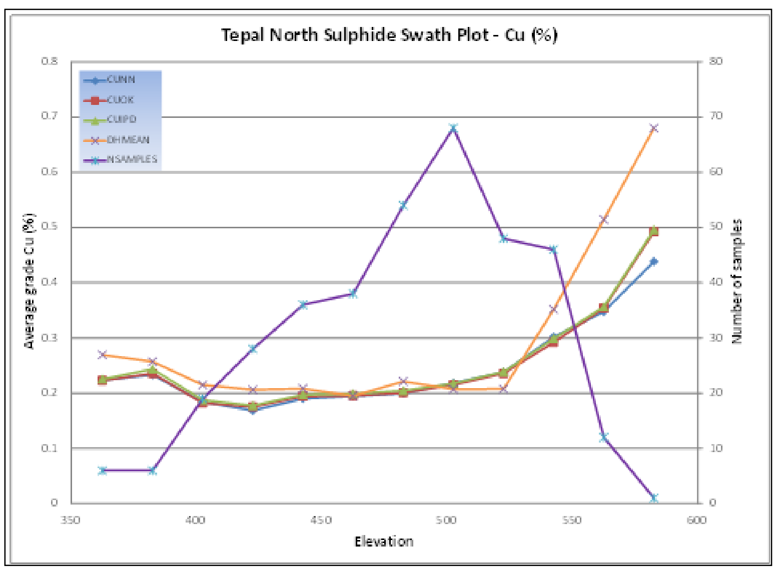


Figure 14.2 and 14.5 illustrate a potential starter pit at approximately 2117000 mN.

Figure 14.7
Tepal South Sulphide Gold W-E Swath Plot

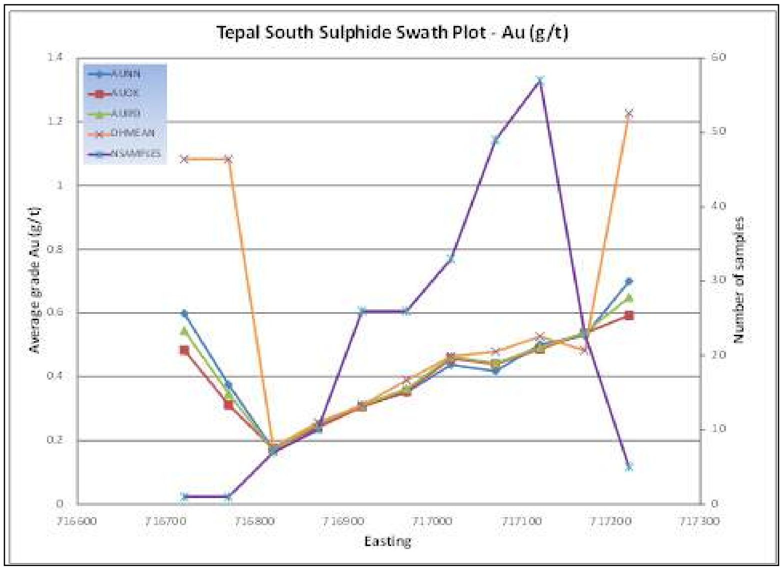


Figure 14.8
Tepal South Sulphide Gold S-N Swath Plot

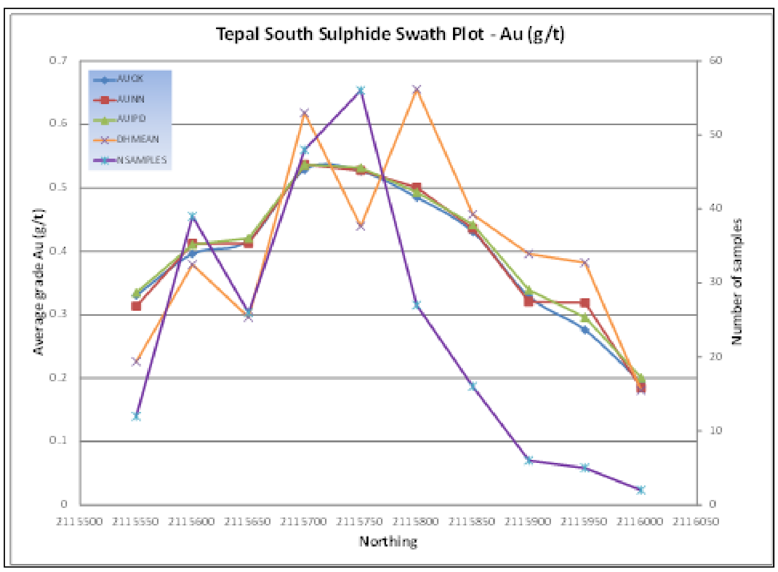


Figure 14.9
Tepal South Sulphide Gold Elevation Swath Plot

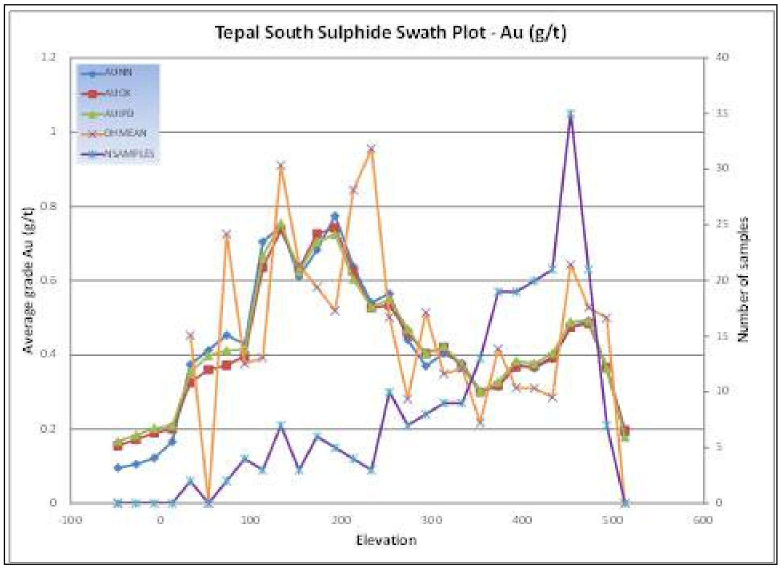


Figure 14.10
Tepal South Sulphide Copper W-E Swath Plot

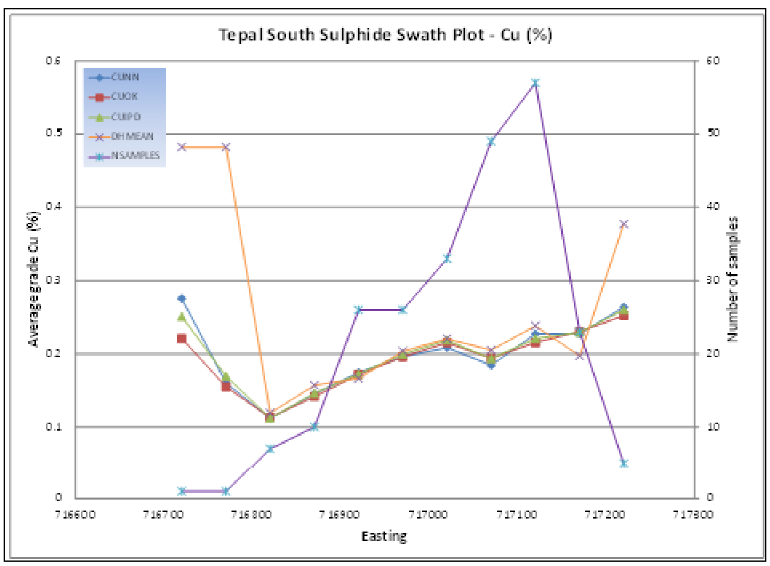


Figure 14.11
Tepal South Sulphide Copper S-N Swath Plot

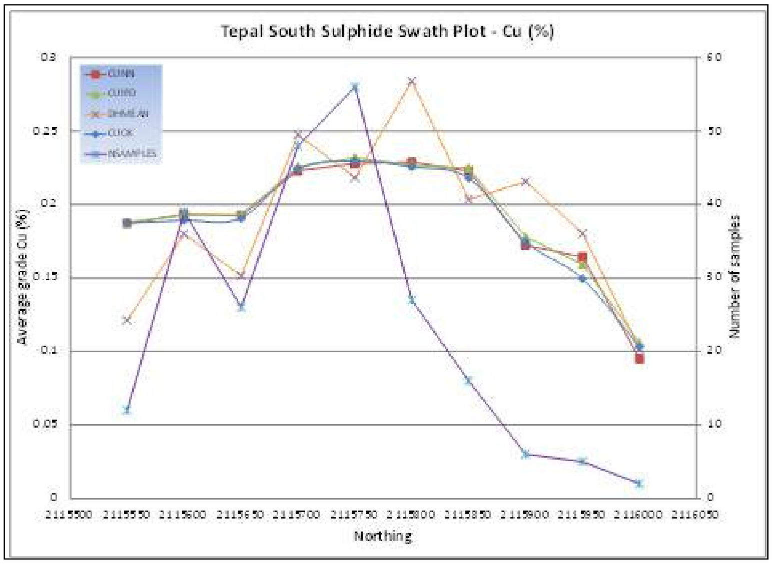


Figure 14.12
Tepal South Sulphide Copper Elevation Swath Plot

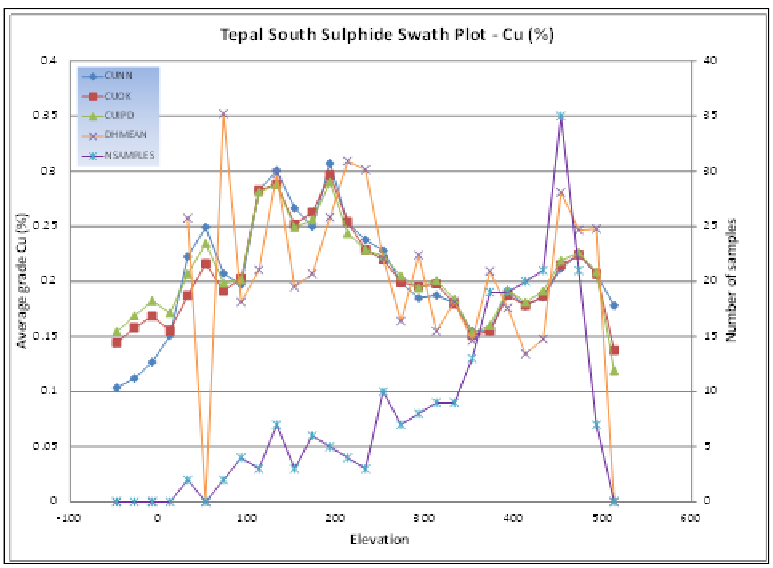


Figure 14.9 and 14.12 illustrate the high grade mineralization below the South Zone optimized soft pit.

Figure 14.13
Tizate Sulphide Gold W-E Swath Plot

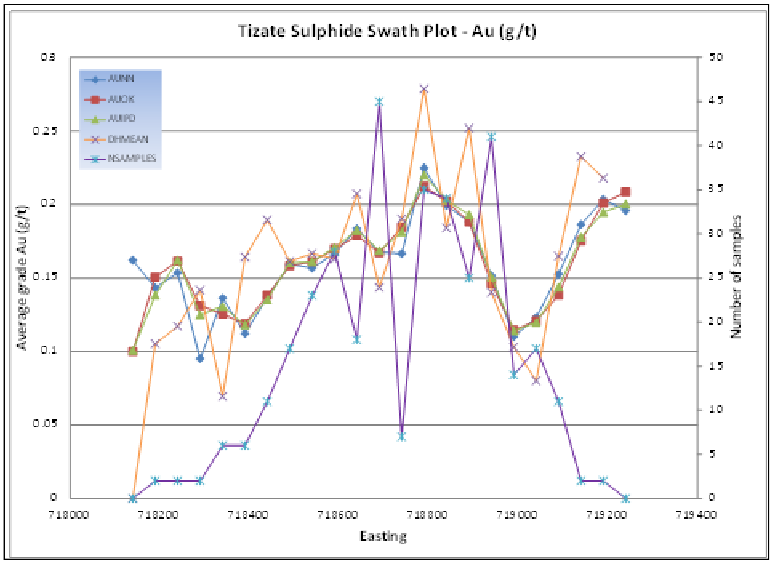


Figure 14.14
Tizate Sulphide Gold S-N Swath Plot

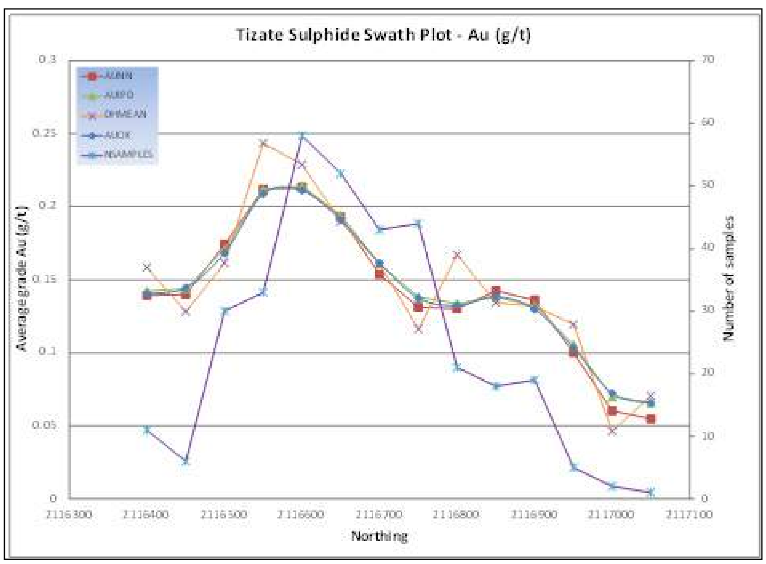


Figure 14.15
Tizate Sulphide Gold Elevation Swath Plot

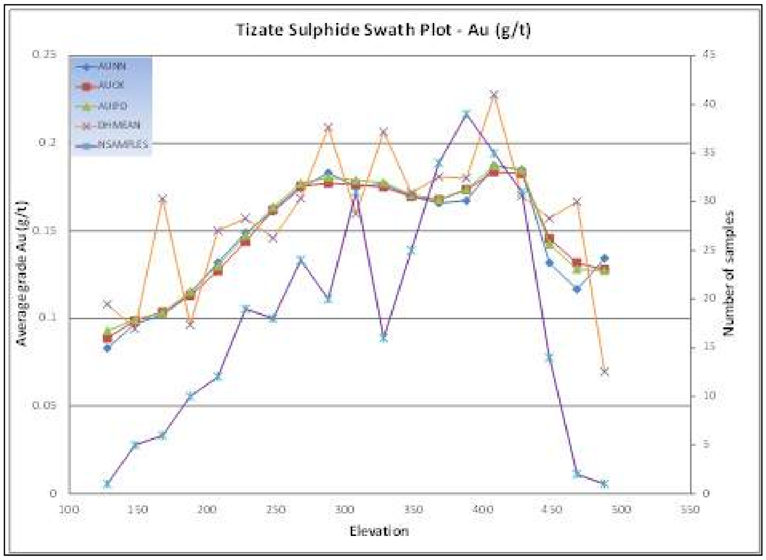


Figure 14.16
Tizate Sulphide Copper W-E Swath Plot

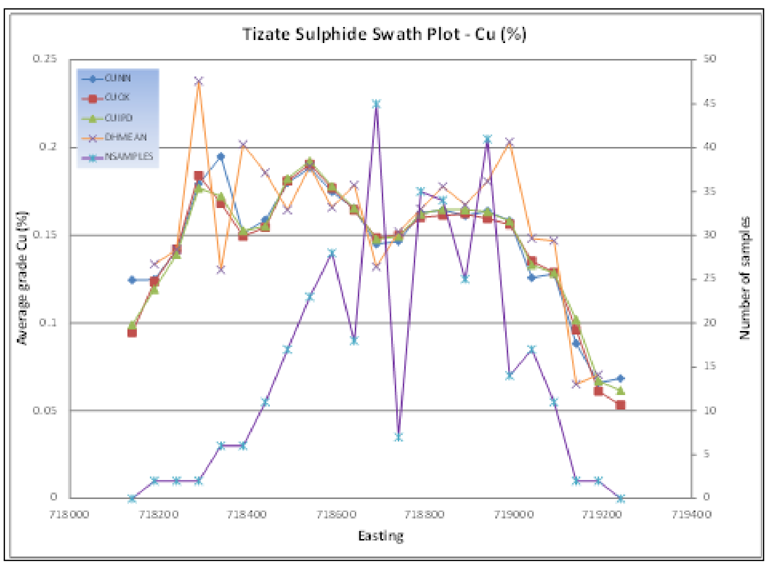


Figure 14.17
Tizate Sulphide Copper S-N Swath Plot

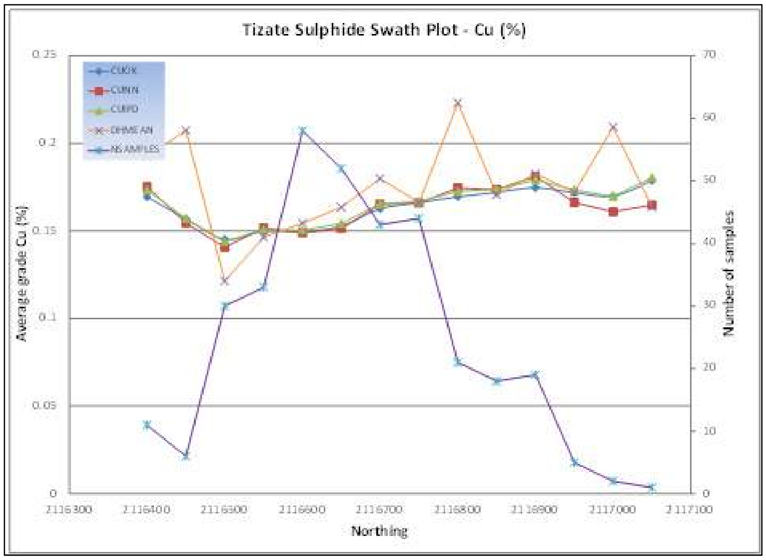
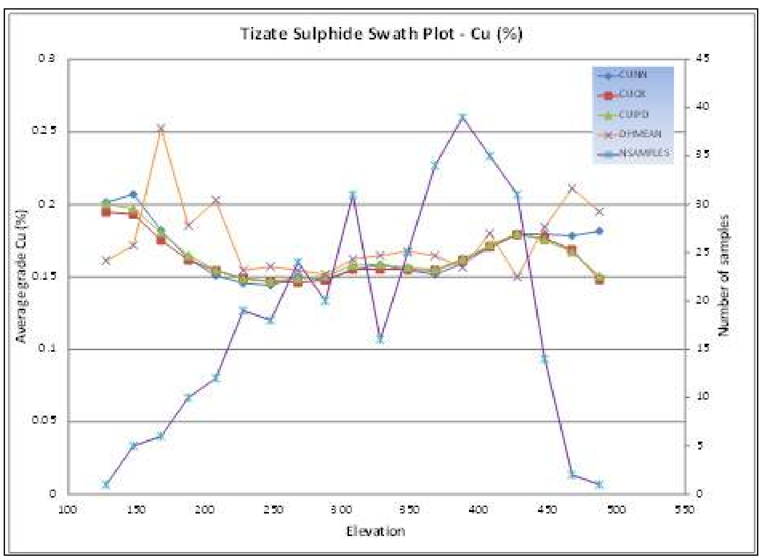


Figure 14.18
Tizate Sulphide Copper Elevation Swath Plot



The swath plots illustrate that all three interpolation method block grades compare well with each other. All three sets of block grades trend well with the composite grades for both metals, in all three axes and for all three deposits. The NN block grades show the most variability especially when there are a small set of samples like near the edges of deposits.

A comparison of the gold and copper composites has been compared to the blocks in the models to assess the potential of over or under estimating during interpolation. The following tables list the statistics for the various domains in each deposit.

Table 14.21
Tepal North Sulphide Domain Gold and Copper Composite Versus Block Model Statistics

Statistics	Au (g/t)		Cu (%)	
	composite	block model	composite	block model
Mean	0.38	0.33	0.24	0.22
Minimum	0.00	0.00	0.00	0.02
Maximum	3.00	2.65	2.50	1.73
Standard Deviation	0.40	0.23	0.21	0.12
Coeff. of Variation	1.05	0.71	0.85	0.54
Number of Samples	4,135	44,445	4,135	44,445

Table 14.22
Tepal North Oxide Domain Gold and Copper Composite Versus Block model Statistics

Statistics	Au (g/t)		Cu (%)	
	composite	block model	composite	block model
Mean	0.39	0.35	0.23	0.21
Minimum	0.00	0.00	0.00	0.00
Maximum	2.52	1.91	3.23	1.75
Standard Deviation	0.39	0.24	0.26	0.14
Coeff. of Variation	1.00	0.68	1.12	0.68
Number of Samples	1,097	12,681	1,097	12,681

Table 14.23
Tepal South Sulphide Domain Gold and Copper Composite Versus Block model Statistics

Statistics	Au (g/t)		Cu (%)	
	composite	block model	composite	block model
Mean	0.48	0.45	0.22	0.21
Minimum	0.00	0.01	0.00	0.00
Maximum	2.54	2.08	1.00	0.69
Standard Deviation	0.39	0.27	0.14	0.09
Coeff. of Variation	0.81	0.60	0.62	0.45
Number of Samples	2,855	35,541	2,855	35,541

Table 14.24
Tepal South Oxide Domain Gold and Copper Composite Versus Block model Statistics

Statistics	Au (g/t)		Cu (%)	
	composite	block model	composite	block model
Mean	0.41	0.41	0.19	0.18
Minimum	0.00	0.06	0.00	0.04
Maximum	1.10	0.89	0.77	0.43
Standard Deviation	0.27	0.19	0.11	0.06
Coeff. of Variation	0.66	0.45	0.58	0.32
Number of Samples	253	3,227	253	3,227

Table 14.25
Tizate Sulphide Domain Gold and Copper Composite Versus Block model Statistics

Statistics	Au (g/t)		Cu (%)	
	composite	block model	composite	block model
Mean	0.18	0.17	0.17	0.16
Minimum	0.00	0.02	0.00	0.01
Maximum	1.10	0.76	0.80	0.57
Standard Deviation	0.13	0.08	0.08	0.05
Coeff. of Variation	0.74	0.48	0.48	0.29
Number of Samples	3,932	82,837	3,932	82,837

Table 14.26
Tizate Oxide Domain Gold and Copper Composite Versus Block model Statistics

Statistics	Au		Cu	
	composite	block model	composite	block model
Mean	0.19	0.17	0.18	0.17
Minimum	0.01	0.03	0.01	0.05
Maximum	0.60	0.48	0.50	0.41
Standard Deviation	0.13	0.08	0.10	0.05
Coeff. of Variation	0.68	0.44	0.56	0.28
Number of Samples	255	7,396	255	7,396

The statistics indicate that the degree of smoothing has been reduced due to the in-fill drilling program. Composites and the blocks correlate well with each other in most domains, even though the composite number of samples is significantly smaller. This indicates that the blocks are being interpolated correctly and without bias, on a statistical basis.

The block models and accompanying drill hole database were compared visually in section (east-west). Visually the blocks and their respective grade attributes corresponded well to both grade and 3D location of the mineralized intervals within the database.

Micon believes that the block model results portray a reliable estimate of the mineralization within each of the deposits, with the available data.

14.1.11 Classification

Mineral resource reporting in Canada follows National Instrument 43-101 and its companion policy 43-101CP and technical report requirements 43-101F1 which have been in place since February 1, 2001. The mineral resource definitions are based on the Canadian Institute of Mining, Metallurgy and Petroleum's (CIM) definitions (CIM Definition Standards – For Mineral Resources and Mineral Reserves, adopted on November 27, 2010).

Under these definitions:

> "A *Mineral Resource* is a concentration or occurrence of diamonds, natural solid inorganic material or natural solid fossilized organic material including base and precious metals, coal and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a *Mineral Resource* are known, estimated or interpreted from specific geological evidence and knowledge.
>
> The term *Mineral Resource* covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A *Mineral Resource* is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports." (CIM, 2010)

There are three subdivisions within the mineral resource category, which are based on decreasing geological confidence *(Measured, Indicated and Inferred).* The Tepal property has mineral resources in all three categories based on geostatistics. The definitions of the categories are as follows:

Inferred Mineral Resource

> "An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies."

Indicated Mineral Resource

"An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions."

Measured Mineral Resource

"A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade of the *mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit."*

In order to determine the resources that offered a reasonable prospect for economic extraction from an open pit, Micon used the Whittle pit mining software package to create soft pits. The software evaluated the profitability of each resource block within each model, based on the parameters listed in Table 14.20.

Table 14.27
Soft Pit Optimization Parameters

Parameters	Units	Oxide	Sulphide	Comment
Mining Cost	US$/t	1.35	1.35	SRK PA report, April 29, 2011
Processing Cost	US$	4.30	4.30	SRK PA report, April 29, 2011
G & A	US$/t	0.68	0.68	SRK PA report, April 29, 2011
Gold Price	US$/oz	1300	1300	Kitco 3 yr trailing avg. 02/2012
Copper Price	US$/lb	3.30	3.30	LME 3 yr trailing avg. 02/2012
Recovery Tizate Au	%	68.8	66.2	SRK PA report, April 29, 2011
Recovery Tizate Cu	%	6.8	85.3	SRK PA report, April 29, 2011
Recovery Tepal Au	%	78.4	60.7	SRK PA report, April 29, 2011
Recovery Tepal Cu	%	14.3	87.4	SRK PA report, April 29, 2011
Pit Slope Angle	°	45	45	SRK PA report, April 29, 2011

Note: The SRK PA values will be updated during the Prefeasibility Study

Using the soft pit and the mineralogical models as constraints on the block model, the following mineral resource estimates were derived using a range of equivalent value cut-offs. The following tables document the different mineral resources at various equivalent cut-off values for the deposits with respect to oxides and sulphides. However Micon believes that US$ 5.0/t equivalent is an appropriate cut-off value that would represent a break even open pit mining cost operation with a mining rate of approximately 35,000 tpd which is anticipated by Geologix.

The mineral resource classification was based on variography and the resulting search passes. For North and South Tepal, search pass 1 represented the Measured category, search pass 2 represented the Indicated category and search pass 3 represented the Inferred category. For the Tizate, search pass 1 represented the Indicated category and search pass 2 represented the Inferred category. There are no Measured blocks in Tizate.

Both Measured and Indicated categories were forced to look for 2 drill holes (maximum 4 composites per hole) and 5 composites total (Table 14.19). The Inferred category needed 1 drill hole (maximum 4 composites per hole) and 4 composites total (Table 14.19).

Table 14.28
Tepal North Zone Oxide Mineral Resources

Resource Class	Cut-off Eq. V. ($/t)	Tonnes (x1000)	Average Grade				Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (M-lb)
Measured	1.0	3,455	0.50	0.30	0.71	0.001	56	23
Measured	3.0	3,447	0.50	0.30	0.71	0.001	56	23
Measured	**5.0**	**3,398**	**0.51**	**0.31**	**0.72**	**0.001**	**56**	**23**
Measured	7.0	3,085	0.55	0.32	0.75	0.001	54	22
Measured	9.0	2,761	0.59	0.33	0.77	0.001	52	20
Indicated	1.0	10,359	0.30	0.18	0.93	0.002	99	42
Indicated	3.0	10,330	0.30	0.18	0.93	0.002	99	42
Indicated	**5.0**	**10,050**	**0.30**	**0.19**	**0.94**	**0.002**	**98**	**41**
Indicated	7.0	8,712	0.33	0.19	0.97	0.002	92	37
Indicated	9.0	6,402	0.38	0.20	1.02	0.002	78	28
M + I	1.0	13,814	0.35	0.21	0.87	0.002	155	65
M + I	3.0	13,776	0.35	0.21	0.88	0.002	155	65
M + I	**5.0**	**13,448**	**0.36**	**0.22**	**0.88**	**0.002**	**154**	**64**
M + I	7.0	11,797	0.39	0.23	0.91	0.002	146	59
M + I	9.0	9,163	0.44	0.24	0.94	0.002	130	48
Inferred	1.0	30	0.24	0.18	0.77	0.002	0.2	0.1
Inferred	3.0	28	0.26	0.19	0.82	0.002	0.2	0.1
Inferred	**5.0**	**24**	**0.29**	**0.21**	**0.86**	**0.002**	**0.2**	**0.1**
Inferred	7.0	21	0.31	0.22	0.80	0.002	0.2	0.1
Inferred	9.0	15	0.34	0.26	0.73	0.002	0.2	0.1

Table 14.29
Tepal North Zone Sulphide Mineral Resources

Resource Class	Cut-off Eq. V. ($/t)	Tonnes (x1000)	Average Grade				Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (M-lb)
Measured	1.0	10,670	0.50	0.28	0.81	0.002	172	66
Measured	3.0	10,670	0.50	0.28	0.81	0.002	172	66
Measured	**5.0**	**10,669**	**0.50**	**0.28**	**0.81**	**0.002**	**172**	**66**
Measured	7.0	10,623	0.50	0.28	0.81	0.002	172	66
Measured	9.0	10,457	0.51	0.28	0.81	0.002	172	66
Indicated	1.0	45,335	0.30	0.21	1.02	0.002	435	211
Indicated	3.0	45,325	0.30	0.21	1.02	0.002	435	211
Indicated	**5.0**	**45,270**	**0.30**	**0.21**	**1.02**	**0.002**	**435**	**211**
Indicated	7.0	45,016	0.30	0.21	1.03	0.002	434	210
Indicated	9.0	44,110	0.30	0.21	1.03	0.002	431	209
M + I	1.0	56,005	0.34	0.22	0.98	0.002	607	277
M + I	3.0	55,996	0.34	0.22	0.98	0.002	607	277
M + I	**5.0**	**55,939**	**0.34**	**0.22**	**0.98**	**0.002**	**607**	**277**
M + I	7.0	55,639	0.34	0.23	0.98	0.002	606	276
M + I	9.0	54,567	0.34	0.23	0.99	0.002	602	274
Inferred	1.0	882	0.22	0.21	1.22	0.003	6	4
Inferred	3.0	882	0.22	0.21	1.22	0.003	6	4
Inferred	**5.0**	**882**	**0.22**	**0.21**	**1.22**	**0.003**	**6**	**4**
Inferred	7.0	874	0.22	0.21	1.23	0.003	6	4
Inferred	9.0	863	0.23	0.21	1.23	0.003	6	4

Table 14.30
Tepal South Zone Oxide Mineral Resource

Resource Class	Cut-off Eq. V. ($/t)	Tonnes (x1000)	Average Grade				Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (M-lb)
Measured	1.0	2,145	0.46	0.20	1.06	0.001	32	9
Measured	3.0	2,140	0.46	0.20	1.07	0.001	32	9
Measured	**5.0**	**2,103**	**0.47**	**0.20**	**1.08**	**0.001**	**32**	**9**
Measured	7.0	2,035	0.48	0.20	1.09	0.001	31	9
Measured	9.0	1,917	0.50	0.21	1.11	0.001	31	9
Indicated	1.0	1,484	0.34	0.17	0.90	0.002	16	5
Indicated	3.0	1,483	0.34	0.17	0.90	0.002	16	5
Indicated	**5.0**	**1,380**	**0.36**	**0.17**	**0.94**	**0.002**	**16**	**5**
Indicated	7.0	1,127	0.41	0.18	1.02	0.001	15	5
Indicated	9.0	954	0.45	0.19	1.07	0.001	14	4
M + I	1.0	3,629	0.41	0.18	1.00	0.001	48	15
M + I	3.0	3,623	0.41	0.18	1.00	0.001	48	15
M + I	**5.0**	**3,483**	**0.43**	**0.19**	**1.02**	**0.001**	**48**	**14**
M + I	7.0	3,162	0.45	0.20	1.07	0.001	46	14
M + I	9.0	2,871	0.48	0.20	1.09	0.001	44	13
Inferred	1.0	47	0.28	0.13	0.75	0.002	0	0
Inferred	3.0	47	0.28	0.13	0.75	0.002	0	0
Inferred	**5.0**	**46**	**0.28**	**0.13**	**0.76**	**0.001**	**0**	**0**
Inferred	7.0	43	0.29	0.13	0.76	0.002	0	0
Inferred	9.0	30	0.32	0.14	0.72	0.002	0	0

Table 14.31
Tepal South Zone Sulphide Mineral Resource

Resource Class	Cut-off Eq. V. ($/t)	Tonnes (x1000)	Average Grade				Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (M-lb)
Measured	1.0	17,908	0.47	0.22	1.07	0.002	268	87
Measured	3.0	17,908	0.47	0.22	1.07	0.002	268	87
Measured	**5.0**	**17,908**	**0.47**	**0.22**	**1.07**	**0.002**	**268**	**87**
Measured	7.0	17,908	0.47	0.22	1.07	0.002	268	87
Measured	9.0	17,767	0.47	0.22	1.07	0.002	268	86
Indicated	1.0	19,786	0.45	0.20	1.19	0.002	289	86
Indicated	3.0	19,734	0.46	0.20	1.19	0.002	289	86
Indicated	**5.0**	**19,613**	**0.46**	**0.20**	**1.19**	**0.002**	**289**	**86**
Indicated	7.0	19,281	0.46	0.20	1.19	0.002	288	86
Indicated	9.0	18,455	0.48	0.21	1.19	0.002	284	85
M + I	1.0	37,694	0.46	0.21	1.13	0.002	558	173
M + I	3.0	37,642	0.46	0.21	1.13	0.002	558	173
M + I	**5.0**	**37,521**	**0.46**	**0.21**	**1.13**	**0.002**	**557**	**173**
M + I	7.0	37,189	0.47	0.21	1.13	0.002	556	173
M + I	9.0	36,221	0.47	0.21	1.13	0.002	552	171
Inferred	1.0	366	0.42	0.17	0.97	0.002	5	1
Inferred	3.0	366	0.42	0.17	0.97	0.002	5	1
Inferred	**5.0**	**366**	**0.42**	**0.17**	**0.97**	**0.002**	**5**	**1**
Inferred	7.0	366	0.42	0.17	0.97	0.002	5	1
Inferred	9.0	346	0.43	0.17	1.00	0.002	5	1

Table 14.32
Tizate Zone Oxide Mineral Resources

Resource Class	Cut-off Eq. V. ($/t)	Tonnes (x1000)	Average Grade				Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (M-lb)
Indicated	1.0	5,997	0.20	0.18	2.45	0.003	38	24
Indicated	3.0	5,904	0.20	0.18	2.46	0.003	38	23
Indicated	**5.0**	**4,181**	**0.23**	**0.19**	**2.27**	**0.003**	**31**	**17**
Indicated	7.0	2,288	0.28	0.19	2.19	0.003	21	10
Indicated	9.0	954	0.33	0.20	1.79	0.003	10	4
Inferred	1.0	2,341	0.13	0.14	2.26	0.003	10	7
Inferred	3.0	2,176	0.13	0.14	2.27	0.003	9	7
Inferred	**5.0**	**640**	**0.17**	**0.13**	**2.14**	**0.002**	**4**	**2**
Inferred	7.0	19	0.25	0.19	2.60	0.004	0	0
Inferred	9.0	5	0.29	0.19	2.22	0.003	0	0

Table 14.33
Tizate Zone Sulphide Mineral Resources

Resource Class	Cut-off Eq. V. ($/t)	Tonnes (x1000)	Average Grade				Metal	
			Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Au (koz)	Cu (M-lb)
Indicated	1.0	73,335	0.17	0.17	2.28	0.007	407	267
Indicated	3.0	73,334	0.17	0.17	2.28	0.007	407	267
Indicated	**5.0**	**73,194**	**0.17**	**0.17**	**2.29**	**0.007**	**406**	**267**
Indicated	7.0	72,516	0.17	0.17	2.30	0.007	405	266
Indicated	9.0	69,771	0.18	0.17	2.33	0.007	397	261
Inferred	1.0	33,887	0.15	0.15	1.69	0.007	166	113
Inferred	3.0	33,872	0.15	0.15	1.69	0.007	166	113
Inferred	**5.0**	**33,786**	**0.15**	**0.15**	**1.69**	**0.007**	**166**	**113**
Inferred	7.0	33,343	0.15	0.15	1.70	0.007	165	112
Inferred	9.0	31,331	0.16	0.16	1.74	0.007	159	108

14.1.12 Cut-off Grade Sensitivity

The following graphs illustrate the Tepal North, Tepal South and Tizate Zones sensitivities of tonnage and grade to cut-off values.

Figure 14.19
Grade/Tonnage Curve for Tepal North Measured and Indicated Sulphide Mineral Resource

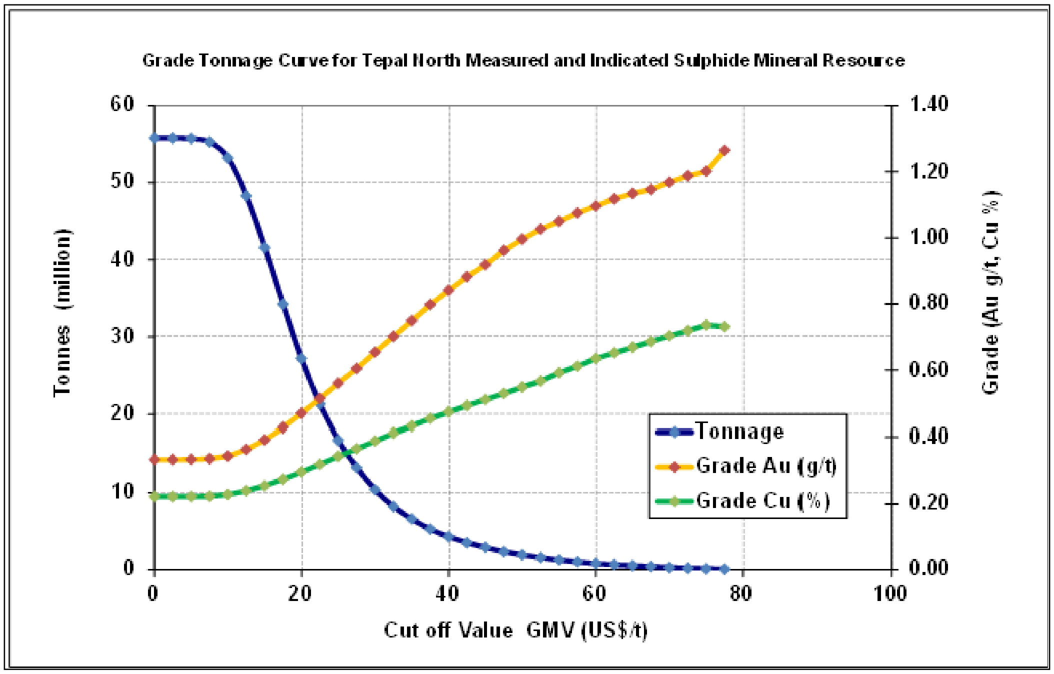


Figure 14.20
Grade/Tonnage Curve for Tepal South Measured and Indicated Sulphide Mineral Resource

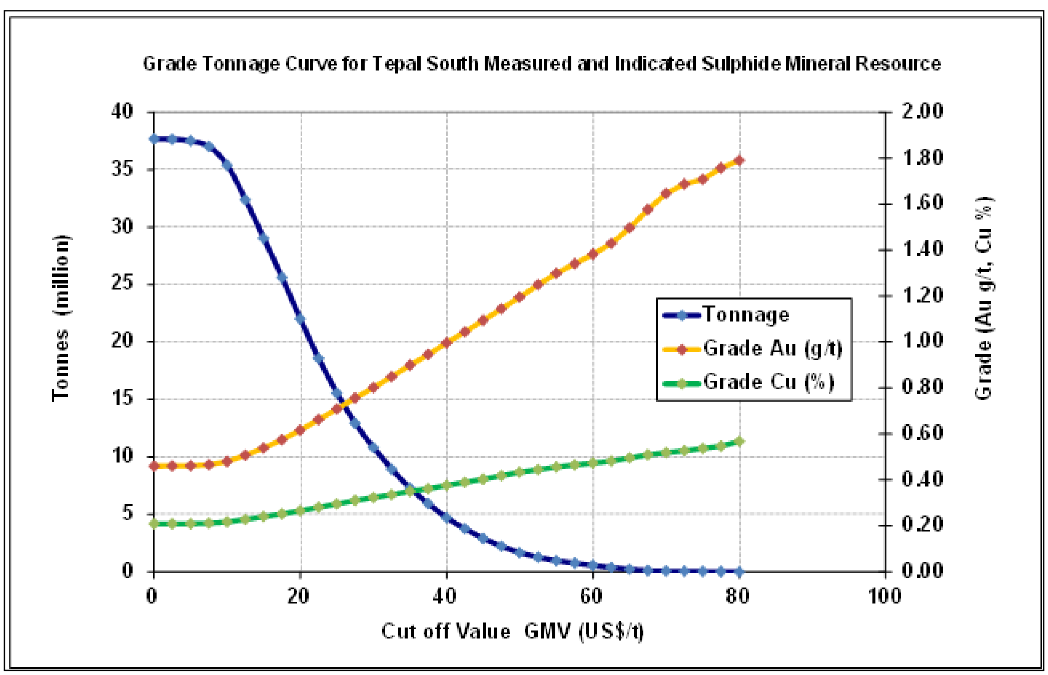
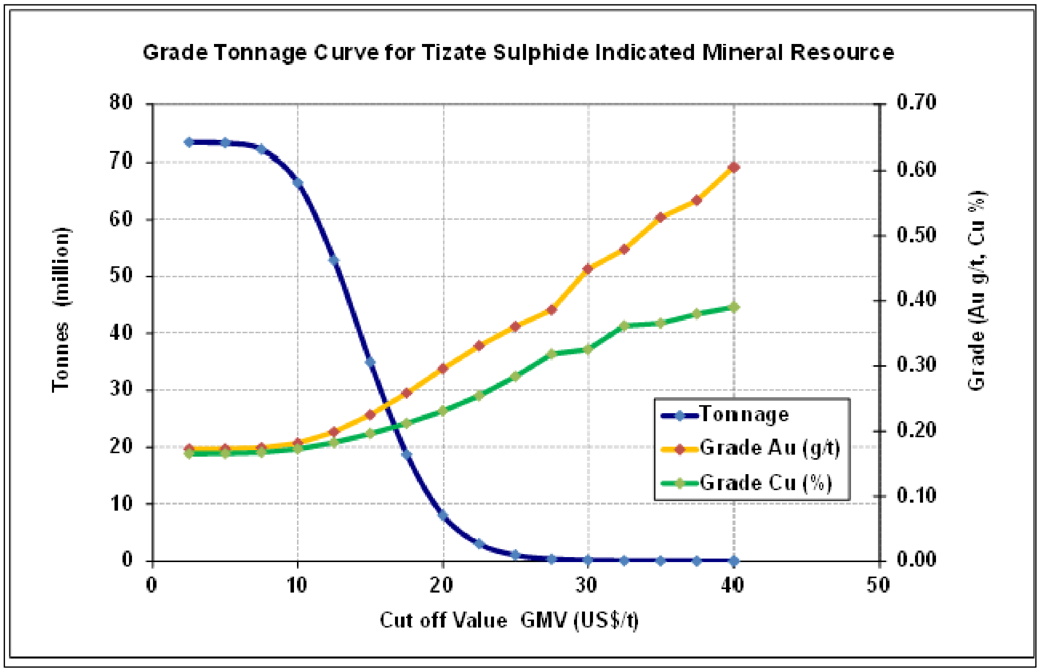


Figure 14.21
Grade/Tonnage Curve for Tizate Indicated Sulphide Mineral Resource



The deposits are very sensitive to cut-off grade. The sharp decline in tonnage at approximately US$ 10/t cut-off in all three deposits is partly due to the mineralogical models developed by Geologix that were based on US$ 8.70/tonne (US$ 1,000/oz for gold and US$2.75/lb for copper). This parameter guarantees that most of the material within the models is at least above a US$ 8.70/tonne cut-off. Consequently, there is little variation in tonnage or grade below this cut-off, as illustrated in the charts above.

14.1.13 Deep South Zone Resources

There is deep and relatively high grade mineralization within the South Zone mineralogical model that is immediately below the South Zone soft pit boundary. It has not been included in the mineral resource estimate because it is below the optimized pit limits and as such, is presently uneconomic to extract from the open pit mining method. Although some of the mineralization meets the search pass criteria for Indicated resources, this mineralization is being classified as an Inferred resource in this report due to resource definitions.

This mineralization may have the potential to be mined using underground mining methods, if found to be economic, to extract. A study is needed to determine the economic viability of this mineralization being extracted.

The table below lists the tonnage and grade at a variety of cut-off equivalents (US$ 1,000 Au and US$ 2.75 Cu). For the purposes of this report, a $20/t value has been identified as a preliminary suitable cut-off equivalent value that could potentially give a reasonable prospect for economic extraction using underground mining methods. Further analysis needs to be done to corroborate this cut-off value.

Table 14.34
South Tepal Below-Pit Inferred Resources

Cut-off Eq. V. ($/t)	Tonnes (x1000)	Average Grade Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	Metal Au (koz)	Cu (M-lb)
5.0	8,331	0.42	0.21	0.89	0.003	114	39
10.0	8,129	0.43	0.22	0.90	0.003	113	39
12.0	7,619	0.45	0.23	0.93	0.003	110	38
14.0	7,228	0.46	0.23	0.94	0.003	107	37
16.0	6,566	0.48	0.24	0.97	0.003	102	35
18.0	5,339	0.54	0.26	1.08	0.003	93	30
20.0	4,767	0.57	0.27	1.12	0.003	87	28
22.0	4,231	0.60	0.28	1.17	0.003	81	26
24.0	3,604	0.63	0.29	1.23	0.003	74	23

14.1.14 Discussion

The increase in mineral resource tonnage with respect to the previous resource estimate is primarily due to the 2011 drill program. The combination of definition and delineation drilling has not only increased the size of each of the deposits but has upgraded the resource categories within each deposit. The Tizate Zone has benefited the most from this drilling program. The Tizate deposit has expanded approximately 300 metres to the southwest and 150 metres to the northeast. In-fill drilling in all three deposits has increased the confidence in the continuity of mineralization and hence the up-grading of resource categories within each deposit.

The drill program has also identified high grade mineralization below the optimized pit limit in the Tepal South Zone. This mineralization although not part of the present mineral resource estimate has been classified as an Inferred resource that could create future opportunities for Geologix, if found to be economic via underground mining methods. Future analysis and further drilling is required.

15.0 ADJACENT PROPERTIES

Micon is unaware of any mineral exploration or mining in adjacent properties.

The closest active exploration property is La Verde. This porphyry copper deposit is owned by Catalyst Copper Corporation and is approximately 95 km due east of the Tepal property. There are two deposits on the property (West and East Hill). It has a Measured and Indicated Mineral Resource of 354 Mt grading 0.41% Cu and 0.043 g/t Au and 2.3 g/t Ag at a cut-off of 0.2% Cu. There is an additional Inferred Mineral Resource of 168 Mt grading 0.41% Cu, 0.058 g/t Au and 2.3 g/t Ag at a cut-off of 0.2% Cu. This is a global in-situ mineral resource not constrained to an economic pit (Catalyst Copper News Release, January 20, 2012).

The Cerro Pelon deposit on the San Isidro porphyry copper property is 115 km southeast of the Tepal property. The property was owned by Aquiline Resources Inc. in the 1990s. The property has been drilled and there are coincidental geophysical and geochemical anomalies that have defined the Cerro Pelon deposit. The latest data indicates that the deposit as exposed on surface is 500 by 200 m and extends to at least 300 m depth.

ASARCO (now Grupo Mexico or GMEXICO) mined several breccia bodies at Inguaran from 1971-1982 and extracted some 7,000,000 tonnes of ore grading 1.2% Cu (Osoria et al., 1991). Gold, silver and tungsten were bi-products in the concentrates. The property is presently owned by Rome Resources Ltd. of Surrey, British Columbia. The Inguaran Copper Mine is 140 km southeast of the Tepal property.

16.0 OTHER RELEVANT DATA AND INFORMATION

The following section is modified from Murphy et. al. (2011).

16.1 GEOTECHNICAL INFORMATION

16.1.1 Slope Design Review

"SRK completed a scoping level review of available geotechnical and structural data for the purposes of open pit slope design. This review was based on available diamond drill core (onsite core review, core photo review, and core recovery and Rock Quality Designation ("RQD") data), and 3D surfaces and solids."

16.1.2 Structural Information

"Fault structures within the planned Tepal open pits have been provided as 3D surfaces for the North, South and Tizate Zones. The North and South Zones are currently interpreted as largely sub-vertical structures and are not likely to have a major impact on slope stability. In the Tizate pit the major fault structure dips into the southeast slope wall."

16.1.3 Seismicity Potential

"The Tepal property is located in a high seismic hazard zone. Within this zone, the peak ground acceleration is more significant at the coast and reduces somewhat as you move inland towards the Tepal site. Based on available seismogenic data, peak ground accelerations, with a 500 year return period is in the range 4.6 to 5.6 m/s2. This should be considered during planning and costing for the various facilities for open pit operations (waste dumps, tailings dams etc.)."

16.1.4 Drill Core Review

"A 3D surface representing the base of the oxide zone has been reviewed by SRK. Drill core photos show generally weak ground conditions throughout the oxide zone. In places this weak zone is interpreted to extend to 110m depth and beneath the currently modelled surface down into what may be termed the 'mixed zone'.

At Tizate the upper oxidized zone is variable, but generally the upper weaker zone in the west and east domain is in the order of 50m in depth. In some cases in the East Domain the weaker oxidized zone can be as deep as 75m

Down hole RQD has been collected for most recent diamond drill holes at the Tepal project. The RQD for both the North and South Zones beneath the oxide zone shows improving rock mass quality with depth. At Tizate, calibration logging from photographs indicated that the RQD where slightly higher than that predicted from site logging. This was likely a result of some mechanical damage being included in the RQD estimate. In general, the rock mass is weaker at the top, but is of variable strength with depth.

Slope recommendations for the North and South Zone have been made based on RQD data and core photo reviews, separated into oxide and fresh rock (beneath oxide zone) lithologies. For the Tizate Zone, Rock Mass Rating (RMR) values where estimated and used for the slope angle derivation."

Table 16.1
Slope Angle Recommendations

Pit	Sector	Oxide Zone		Fresh Rock	Comments
		Height (m)	IRA (°)	IRA (°)	
North	NE	60	40	50	Assumes oxide reduces in thickness Towards the slope areas
	NW	90	40	50	North of 2116600 N
	S	20	40	50	South of 2116600 N
South	N			40	Possibility to increase IRA to 45° for a 50 m height to accomodate a ramp
	S			50	Possibility to increase IRA to 55° for a 50 m height to accomodate a ramp
Tizate	W	50	40	48	Maximum overall slope angle for a 200 m height is 43°
	E	50	40	52	Maximum overall slope angle for a 200 m height is 46°

Note : IRA - inter Ramp Angle

17.0 INTERPRETATION AND CONCLUSIONS

Industry standard exploration practices have been used to evaluate the Tepal Project. There is adequate geological and other pertinent data available to have generated this new mineral resource estimate.

The mineral resource has expanded the tonnage and has up-grade the mineral resource categories of all three deposits. This is due primarily by the definition and delineation drilling completed in 2011.

There is a future opportunity to expand the Geologix's mineral inventory below the South Zone pit. Higher-grade mineralization has been discovered below the soft pit. This Inferred Mineral Resource may be economically extracted by utilizing underground mining methods, if the necessary economic studies and programs, warrant it.

This mineral resource estimate will be used in advancing the Tepal Property. It has increased the confidence that a large part of each of these deposits has a reasonable prospect for economic extraction.

18.0 RECOMMENDATIONS

Micon recommends the following:

- Additional density measurements should be made in the oxide domains of each deposit. This will assist in a more reliable specific gravity number for these domains.

- There are future opportunities to mine high grade mineralization below the Tepal South Zone soft pit. It is recommended that an economic study be undertaken to evaluate whether this mineralization could be extracted economically and if so, what the appropriate underground mining method and mining costs would be. This study should be completed before further drilling is undertaken in this area. If deemed economic, the study will assist in better planning the drill program for this area.

19.0 DATE AND SIGNATURE PAGE

The drill data used in the preparation of this report is current as of December 31, 2011. Assay data used in the preparation of this report are current as of February 29, 2012. The property and agreement information in Section 4 is current to December 31, 2011.

MICON INTERNATIONAL LIMITED

"David K. Makepeace" {signed and sealed}

David K. Makepeace, M.Eng., P.Eng.
Micon International Limited

March 29, 2012

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21.0 CERTIFICATES

David K. Makepeace

As the author of this report entitled "Technical Report on the Mineral Resources of the Tepal Gold-Copper Project, Michoacán State, Mexico" dated March 29, 2012, I, David Makepeace, M.Eng., P.Eng., do hereby certify that:

1. I am employed by and carried out this assignment for:
   Micon International Limited, Suite 205 – 700 West Pender Street, Vancouver, British Columbia, V6C 1G8, Canada.
   Telephone : (604) 647-6463
   Fax : (604) 647-6455.

2. I hold the following academic qualifications:
   - Bachelor of Applied Science - Geological Engineering, Queen's University at Kingston, Ontario, 1976,
   - Master of Engineering - Environmental Engineering, University of Alberta, 1994.

3. I am a registered member of the:
   - Association of Professional Engineers and Geoscientists of British Columbia, licence - 14912.
   - Association of Professional Engineers, Geologists and Geophysicists of Alberta, licence - 29367.

4. I have worked as a geological engineer for a total of 32 years since my graduation from university.

5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with professional associations (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for this report for the purposes of NI 43-101. My relevant experience in narrow precious metal vein deposits includes mineral exploration, geological modeling, mineral resource estimates and operations of numerous properties in Canada and the USA.

6. I am the author of all sections of this technical report titled "Technical Report on the Mineral Resources of the Tepal Gold-Copper Project, Michoacán State, Mexico" dated March 29, 2012 (the "Technical Report").

7. I visited the property from January 8 to 12, 2012.

8. I have had no prior involvement with the property which is the subject of this Technical Report.

9. As of the date of this certificate, I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

10. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101 other than providing consulting services.

11. I have read NI 43-101, Companion Policy 43-101CP and Form 43-101FI, and the Technical Report has been prepared in compliance with that instrument, companion policy and form.

Dated at Vancouver, B.C. this 29th day of March, 2012.

(Signed by) "*David K. Makepeace*" *(Sealed)*

______________________________ ______________________________

David K. Makepeace, M.Eng., P.Eng. Professional Engineering Stamp

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22.0 2011 DIAMOND DRILL HOLE STATISTICS

Hole No.	Easting (mE)	Northing (mN)	Elevation (m)	Total Depth (m)	Azimuth (°)	Dip (°)
TEPAL						
TEP-11_001	716835	2116001	509	170.8	000	-90
TEP-11-002	716987	2116000	504	121.6	000	-90
TEP-11-003	716987	2116002	504	300.9	000	-45
TEP-11-004	716918	2116000	508	131.2	000	-90
TEP-11-005	716812	2115950	519	201.3	090	-85
TEP-11-006	717034	2115949	498	69.9	000	-90
TEP-11-007	717059	2115894	499	90.2	000	-90
TEP-11-008	716994	2115899	501	130.8	000	-90
TEP-11-009	716916	2115952	509	112.9	090	-85
TEP-11-010	716929	2115899	514	161.7	000	-90
TEP-11-011	716886	2115900	518	150.2	270	-65
TEP-11-012	717136	2115548	510	451.4	000	-65
TEP-11-013	717105	2115551	511	350.8	000	-90
TEP-11-014	717096	2115846	495	75.8	090	-60
TEP-11-015	717086	2115800	495	200.9	000	-90
TEP-11-016	717087	2115800	495	86.1	090	-50
TEP-11-017	716817	2115799	523	231.8	090	-60
TEP-11-018	716982	2115797	507	249.8	090	-75
TEP-11-019	716878	2115799	517	97.6	090	-55
TEP-11-020	717002	2115701	496	353.8	000	-90
TEP-11-021	716865	2115700	523	207.4	000	-90
TEP-11-022	717174	2115549	510	350.8	000	-90
TEP-11-023	716967	2115602	505	283.4	090	-80
TEP-11-024	716891	2115754	518	353.0	090	-75
TEP-11-025	717046	2115657	496	283.4	000	-90
TEP-11-026	717250	2115597	502	542.3	270	-80
TEP-11-027	716567	2117148	583	161.7	000	-90
TEP-11-028	717073	2115602	502	385.5	000	-90
TEP-11-029	716930	2115703	507	261.8	000	-90
TEP-11-030	716468	2117162	567	100.7	000	-90
TEP-11-031	717324	2115651	494	460.6	090	-75
TEP-11-032	716668	2117146	542	100.7	000	-90
TEP-11-033	716422	2117203	547	100.7	000	-90
TEP-11-034	716956	2115552	514	252.9	000	-90
TEP-11-035	716515	2117197	592	122.0	000	-90
TEP-11-036	716837	2115654	505	152.5	000	-90
TEP-11-037	716617	2117196	556	146.4	000	-90
TEP-11-038	717033	2115547	510	300.5	000	-90
TEP-11-039	716472	2117256	580	152.5	000	-90
TEP-11-040	716898	2115657	503	170.9	000	-90
TEP-11-041	717165	2115644	497	40.6	090	-75
TEP-11-042	716567	2117249	567	100.7	000	-90
TEP-11-043	717220	2115747	488	350.3	270	-65
TEP-11-044	716669	2117253	537	119.0	000	-90
TEP-11-045	716782	2116149	513	112.9	090	-70
TEP-11-046	716363	2117096	544	91.5	270	-55
TEP-11-047	716422	2117298	558	102.2	000	-90
TEP-11-048	716522	2117302	566	143.4	000	-90

Hole No.	Easting (mE)	Northing (mN)	Elevation (m)	Total Depth (m)	Azimuth (°)	Dip (°)
TEP-11-049	716616	2116248	525	201.1	090	-70
TEP-11-050	716843	2116202	510	81.6	090	-70
TEP-11-051	716620	2117300	551	103.7	000	-90
TEP-11-052	716775	2116200	519	48.8	090	-70
TEP-11-052A	716779	2116204	514	137.3	090	-70
TEP-11-053	716766	2117098	531	250.1	270	-60
TEP-11-054	716454	2117098	569	140.3	270	-55
TEP-11-055	716835	2116298	514	69.7	090	-70
TEP-11-056	716748	2116300	527	161.7	090	-70
TEP-11-057	716305	2117052	560	131.2	270	-60
TEP-11-058	716714	2116203	519	201.3	090	-70
TEP-11-059	716767	2117098	531	241.0	000	-90
TEP-11-060	716300	2116996	571	122.0	270	-60
TEP-11-061	716759	716759	537	115.9	090	-70
TEP-11-062	716655	716655	566	259.3	000	-90
TEP-11-063	716786	716786	518	125.2	000	-90
TEP-11-064	716362	716362	546	112.9	000	-90
TEP-11-065	716809	716809	541	91.5	090	-65
TEP-11-066	716808	716808	534	80.3	000	-90
TEP-11-067	716638	716638	523	241.0	090	-70
TEP-11-068	716469	716469	569	103.7	090	-70
TEP-11-069	716761	716761	532	250.1	000	-90
TEP-11-070	716669	716669	531	192.2	090	-70
TEP-11-071	716297	2116905	565	70.2	000	-90
TEP-11-072	716606	2117050	591	274.5	000	-90
TEP-11-073	716721	2117118	540	30.5	270	-60
TEP-11-074	716622	2116402	529	189.1	090	-65
TEP-11-075	716528	2116997	596	231.8	000	-90
TEP-11-076	716829	2116400	515	67.1	090	-65
TEP-11-077	716694	2116398	523	161.7	090	-65
TEP-11-078	716672	2116447	525	185.6	000	-90
TEP-11-079	716805	2117049	543	71.3	090	-80
TEP-11-080	716380	2116897	577	200.3	000	-90
TEP-11-081	716801	2116495	524	76.3	090	-65
TEP-11-082	716649	2116496	533	176.5	090	-65
TEP-11-083	716659	2116349	531	180.0	090	-65
TEP-11-084	716701	2116997	544	176.9	090	-80
TEP-11-085	716848	2116449	517	72.9	000	-90
TEP-11-086	716524	2116901	599	265.3	000	-90
TEP-11-087	716741	2116595	547	137.0	000	-90
TEP-11-088	716766	2116405	519	100.7	090	-65
TEP-11-089	716787	2116996	555	173.9	000	-90
TEP-11-090	716599	2116600	575	152.2	000	-90
TEP-11-091	716600	2116550	560	192.2	090	-65
TEP-11-092	716726	2116644	554	152.4	000	-90
TEP-11-093	716701	2116949	569	149.5	090	-70
TEP-11-094	716592	2116898	592	240.0	000	-90
TEP-11-095	716856	2116604	521	51.9	000	-90
TEP-11-096	716840	2116647	520	100.2	000	-90
TEP-11-097	716842	2116954	538	180.3	000	-90

Hole No.	Easting (mE)	Northing (mN)	Elevation (m)	Total Depth (m)	Azimuth (°)	Dip (°)
TEP-11-098	716805	2116589	538	100.7	000	-90
TEP-11-099	716664	2116656	564	127.6	000	-90
TEP-11-100	716632	2116701	577	183.0	000	-90
TEP-11-101	716598	2116648	589	164.2	000	-90
TEP-11-102	716667	2116896	577	189.1	000	-90
TEP-11-103	716562	2116694	612	201.3	000	-90
TEP-11-104	716542	2116598	596	182.5	000	-90
TEP-11-105	716905	2116845	521	51.9	000	-90
TEP-11-106	716739	2116895	595	228.8	090	-85
TEP-11-107	716777	2116848	578	112.9	000	-90
TEP-11-108	716916	2116655	533	51.4	000	-90
TEP-11-109	716951	2116698	527	109.8	090	-75
TEP-11-110	716809	2116896	568	82.4	000	-90
TEP-11-111	716872	2116801	542	91.0	000	-90
TEP-11-112	716839	2116703	526	122.0	000	-90
TEP-11-113	716632	2116850	584	190.2	000	-90
TEP-11-114	716494	2116849	630	260.1	000	-90
TEP-11-115	716518	2117051	595	200.9	270	-85
TEP-11-116	716715	2116249	535	200.8	090	-65
TEP-11-117	716590	2116300	530	200.8	090	-70
TEP-11-118	716413	2117051	549	131.6	270	-60
TEP-11-119	716575	2116801	585	192.2	000	-90
TEP-11-120	716713	2116498	536	152.5	090	-65
TEP-11-121	716604	2116753	585	134.1	000	-90
TEP-11-122	716767	2116703	530	140.3	000	-90
TEP-11-123	716302	2116953	574	150.0	270	-50
TEP-11-124	716872	2116753	553	122.0	000	-90
TEP-11-125	716635	2116807	557	140.3	000	-90
TEP-11-126	716727	2116748	530	152.5	090	-65
TEP-11-127	716528	2116548	569	220.7	090	-70
TEP-11-128	717316	2115699	489	475.8	270	-70
TEP-11-129	717239	2115651	501	79.3	270	-75
TEP-11-130	717136	2115545	510	445.3	000	-75
TEP-11-131	716747	2115947	520	277.6	000	-65
			Tepal	**23,074.3**		
TIZATE						
TIZ-11-001	719043	2116618	430	219.2	090	-50
TIZ-11-002	718973	2117098	430	159.6	000	-90
TIZ-11-003	718963	2116893	431	352.3	000	-90
TIZ-11-004	718974	2116712	431	326.2	090	-50
TIZ-11-005	719081	2116997	427	300.0	000	-90
TIZ-11-006	719070	2116794	428	360.0	000	-90
TIZ-11-007	718780	2116997	441	338.8	000	-90
TIZ-11-008	719173	2116713	425	97.4	090	-50
TIZ-11-009	718940	2116620	432	362.7	090	-50
TIZ-11-010	718566	2116895	447	295.0	090	-50
TIZ-11-011	718869	2116711	433	371.3	090	-50
TIZ-11-012	718981	2116998	431	85.2	000	-90
TIZ-11-013	718974	2116802	429	359.3	000	-90

Hole No.	Easting (mE)	Northing (mN)	Elevation (m)	Total Depth (m)	Azimuth (°)	Dip (°)
TIZ-11-014	718862	2116888	435	296.8	000	-90
TIZ-11-015A	719061	2116890	427	291.1	000	-90
TIZ-11-016	718613	2117003	457	251.6	090	-50
TIZ-11-017	718519	2116587	496	358.0	090	-50
TIZ-11-018	718408	2116826	456	357.3	090	-50
TIZ-11-019	718471	2116498	477	292.6	000	-90
TIZ-11-020	718384	2116709	468	331.5	090	-50
TIZ-11-021	718464	2116394	445	298.2	000	-90
TIZ-11-022	718187	2116655	530	301.7	090	-50
TIZ-11-023	718366	2116397	456	301.7	000	-90
TIZ-11-024	718369	2116294	452	356.6	000	-90
TIZ-11-025	718286	2116596	500	357.4	090	-50
TIZ-11-026	719382	2117384	419	253.9	090	-50
TIZ-11-027	718365	2116500	462	270.1	000	-90
TIZ-11-028	718256	2116497	477	323.8	000	-90
TIZ-11-029	719169	2116795	425	276.4	000	-90
TIZ-11-030	718167	2116498	497	336.5	000	-90
TIZ-11-031	719163	2116891	425	150.2	000	-90
TIZ-11-032	718260	2116399	484	241.7	000	-90
TIZ-11-033	718153	2116355	506	346.1	090	-50
TIZ-11-034	719278	2117486	444	214.7	090	-50
TIZ-11-035	718662	2116893	442	63.0	090	-50
TIZ-11-036	718586	2116822	447	264.0	090	-50
TIZ-11-037	718501	2116825	451	361.2	090	-50
TIZ-11-038	718826	2117049	441	213.8	000	-90
TIZ-11-039	718919	2117051	436	152.1	000	-90
TIZ-11-040	718917	2116946	434	227.5	000	-90
TIZ-11-041	718712	2116944	444	151.4	000	-90
TIZ-11-042	718805	2116938	438	227.5	000	-90
TIZ-11-043	719020	2116949	429	250.0	000	-90
TIZ-11-044	718718	2116851	439	150.8	000	-90
TIZ-11-045	718806	2116852	436	211.5	000	-90
TIZ-11-046	718924	2116853	432	328.6	000	-90
TIZ-11-047	719021	2116846	428	303.6	000	-90
TIZ-11-048	718437	2116752	468	152.0	000	-90
TIZ-11-049	718613	2116751	449	150.2	000	-90
TIZ-11-050	718522	2116742	464	136.1	000	-90
TIZ-11-051	718713	2116748	439	150.3	000	-90
TIZ-11-052	718819	2116759	434	251.9	000	-90
TIZ-11-053	718922	2116760	431	288.1	000	-90
TIZ-11-054	719025	2116760	429	296.6	000	-90
TIZ-11-055	718416	2116672	483	180.7	000	-90
TIZ-11-056	718500	2116672	474	201.3	000	-90
TIZ-11-057	718699	2116678	442	201.4	000	-90
TIZ-11-058	718822	2116674	434	300.9	000	-90
TIZ-11-059	718460	2116558	498	223.7	000	-90
TIZ-11-060	718923	2116673	432	350.3	000	-90
TIZ-11-061	718622	2116628	450	231.9	000	-90
TIZ-11-062	718800	2116579	436	230.1	000	-90
TIZ-11-063	718602	2116578	464	259.3	000	-90

Hole No.	Easting (mE)	Northing (mN)	Elevation (m)	Total Depth (m)	Azimuth (°)	Dip (°)
TIZ-11-064	718602	2116501	458	277.1	000	-90
TIZ-11-065	718897	2116571	434	239.9	000	-90
TIZ-11-066	718703	2116589	441	271.5	000	-90
TIZ-11-067	718696	2116498	440	270.9	000	-90
TIZ-11-068	718527	2116450	454	258.1	000	-90
TIZ-11-069	718798	2116503	437	271.3	000	-90
TIZ-11-070	718474	2116630	502	241.0	000	-90
			Tizate	**18,173.2**		
			Total	**41,247.5**		
GEOTECHNICAL						
GM-11-001A	716496	2116846	630	119.0	240	-70
GM-11-002	716657	2117047	566	200.0	350	-60
GM-11-003	716788	2116448	518	100.6	090	-60
GM-11-004	716983	2115826	506	234.0	340	-55
GM-11-005	717009	2115699	497	250.0	110	-60
GM-11-006	718716	2116546	440	250.0	160	-60
GM-11-007	718800	2116846	436	200.0	000	-60
			Total	**1,353.6**		
COMDEMNATION						
GT-11-01	715809	2119030	489	49.7	000	-90
GT-11-02	716924	2118897	462	60.7	000	-90
GT-11-03	716285	2119107	471	42.5	000	-90
GT-11-04	717173	2118414	514	51.9	000	-90
GT-11-05	716587	2117598	514	39.2	000	-90
GT-11-06	719908	2114992	422	53.7	000	-90
			Total	**297.5**		
		Grand Total		**42,898.6**		

Note: *All northings, eastings and elevations are rounded to zero decimal place accuracy. All total depths are rounded to one decimal place accuracy.*