MICON INTERNATIONAL LIMITED | mineral industry consultants

NI 43-101 Technical Report for the 2023 Mineral Resource Estimate on the Peñasco Quemado Project, Sonora, Mexico

Effective Date: March 21, 2023
Report Date: April 17, 2023

Prepared By:
William J. Lewis, P.Geo.
Chitrali Sarkar, M.Sc, P.Geo.
Rodrigo Calles-Montijo, CPG

Lodestar BATTERY METALS

LODESTAR BATTERY METALS CORP.
1680 – 355 Burrard St.
Vancouver, BC
Canada, V6C 2G8

Page

Table of Contents

Page

Page

APPENDIXES

Page

List of Tables

Page

List of Figures

Page

1.0 SUMMARY

1.1 INTRODUCTION

Loadstar Battery Metals Corp. (Lodestar) is in the process of assessing all of the information it has acquired in relation to the Peñasco Quemado Project. As part of this assessment, Loadstar retained Micon to compile the drilling data, construct a block model using the geological and assay information and complete a mineral resource estimate. Micon was also retained to disclose the results of its mineral resource estimate in a Technical Report in compliance with the requirements of Canadian National Instrument (NI) 43-101, Standards of Disclosure for Mineral Projects.

In this report, the term Peñasco Quemado Project (or the Project) refers to the immediate area surrounding the existing silver deposit where the majority of the exploration has been conducted since 2005, while the term Peñasco Quemado property refers to the entire land package controlled by Loadstar.

The information in this report was derived from published material, as well as data, professional opinions and unpublished material submitted by the professional staff of Loadstar or its consultants, supplemented by Micon's and its QPs independent observations and analysis. Much of these data came from prior Micon reports for the Peñasco Quemado Project, with updated information provided by Loadstar, as well as information researched by Micon and its QPs.

Micon and its QPs do not have, nor have they previously had any material interest in Loadstar or related entities. The relationship with Loadstar is solely a professional association between the client and the independent consultant. This Micon report has been prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of the reports.

This report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, neither Micon nor its QPs consider them to be material.

This report is intended to be used by Loadstar subject to the terms and conditions of its agreement with Micon. That agreement permits Loadstar to file this report as a Technical Report with the Canadian Securities Administrators (CSA) pursuant to provincial securities legislation or with the Securities and Exchange Commission (SEC) in the United States.

The conclusions and recommendations in this report reflect the authors' best independent judgment based on the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

1.2 PROPERTY DESCRIPTION AND LOCATION

The Peñasco Quemado property is located within the north-central portion of the state of Sonora, Mexico. The property is approximately 70 kilometres (km) southwest of Nogales, on the border with the

American state of Arizona and 77 km northwest of the Mexican city of Magdalena de Kino (Magdalena). Specifically, the Project is located approximately 14.5 km northwest of the town of Tubutama and in the Magdalena-Tubutama mining district.

The longitude and latitude for the Project site are approximately 30°58’36.9” N, 111°33’36.85” W. The UTM coordinates for the Project are 3,426,995 N, 446,502 E and the datum used was NAD 27 Mexico.

Loadstar advises that it holds its 100% interest in the Peñasco Quemado property through its wholly owned Mexican subsidiary Minera Terra Plata, S.A. de C.V. (Terra Plata) which holds the option on seven exploitation concessions. Except for two fractional mineral concessions, all of the mineral concessions are contiguous and vary in size, for a total property area of 3,746.18 hectares (ha). All concessions are subject to a bi-annual fee (twice yearly) and the filing of assessment work reports in May of each year, covering the work accomplished on the property between January and December of the preceding year.

1.3 Accessibility, Climate, Physiography, Local Resources and Infrastructure

The closest population centres to the property are the villages of Tubutama and Sáric situated along Sonora Hwy 43, with the village of Tubutama being the closest and Sáric situated to the northeast of Tubutama.

The major population centres for the region are Magdalena, to the east of Tubutama and Caborca, 50 km west. With populations of over 50,000 inhabitants, these cities are the supply centres for the region. An airstrip is located on the property but is presently unusable. The closest accommodations are in Altar, to the southwest of Tubutama, but a camp could be situated on site, as there is an adequate water source and an electric generator for lighting.

The Project is located within the Arizona-Sonora desert in the northern portion of the Mexican state of Sonora. The climate at the Project site ranges from semi-arid to arid. The average ambient temperature is 21 degrees Celsius (°C), with minimum and maximum temperatures of -5ºC and 50ºC, respectively. The average annual rainfall for the area is 330 millimetres (mm), with a maximum of 880 mm. The wet season or desert “monsoon” season occurs between the months of July and September and heavy rainfall can hamper exploration at times. However, exploration work can generally be conducted year-round.

The Peñasco Quemado Project is situated within the southern basin and range physiographic province, which is characterized by elongate, northwest-trending ranges separated by wide alluvial valleys. The Peñasco Quemado property is located in a relatively flat area of the desert, with the topography ranging between 700 and 800 metres above sea level (masl).

The desert vegetation surrounding the Peñasco Quemado Project is composed of low-lying scrub, thickets, and various types of cacti, with the vegetation type classified as Microphyllus Desertic Thicket. The state of Sonora is well known for its mining and cattle industries, although US manufacturing firms have established operations in the larger centres, as a result of the North American Free Trade Agreement (NAFTA).

1.4 HISTORY AND EXPLORATION

Mining in the northern part of the state of Sonora, Mexico dates back to the precolonial period and both Father Kino and later Father Alvaro mentioned the mineral wealth of the surrounding countryside during their missionary travels through this area. The newspaper, Daily Alta California, in its August 6, 1860, edition ran an article on the mineral wealth of Sonora and the Los Angeles Herald, on November 6, 1904, commented on interest in the valuable properties that had been neglected in the Magdalena Mining District.

In the 1700s and 1800s, a number of mineral properties were operated on various scales, but most were abandoned due to the raids conducted on them by the native American tribes, with the most prominent being the Apache’s.

The Peñasco Quemado property was mined on a small scale many years ago, most likely prior to the 1910 revolution; however, no details are available regarding this early activity. Foundations of an old foundry or mill and a slag pile remain about 200 m west of the present pit. The shafts located on the property, one in the centre and one to the east of the present pit, as well as one which doubles as a water well in the arroyo west of the pit, are all most likely from this early period.

1.4.1 Exploration Programs, 1960s

Modern exploration activity on the property dates from the early 1960s, when Asarco Mexicana (Asarco) reportedly optioned the property as a copper-silver prospect and drilled a total of 531 m of core in 12 holes. Incomplete reports regarding the Asarco exploration indicate that the core recoveries averaged less than 50%. Intercepts of silver were encountered in several drill holes, however, the average grades indicated by the drilling (0.04% copper and 56 grams per tonne (g/t) silver) were uneconomic (1982 Cerro de Plata report). None of the Asarco reports has survived, so that it is not possible to independently confirm the Asarco data contained in the Cerro de Plata report.

1.4.2 Exploration Programs, 1970s and 1980s

Small scale open pit mining was carried out intermittently at Peñasco Quemado by Adalberto Ballesteros beginning in the late 1970s. Silver ore with a grade averaging approximately 225 g/t was mined from a small open pit and the material was shipped as flux ore to the Phelps Dodge smelter in Douglas, Arizona. A total of approximately 10,000 tons was mined from the pit area.

Cerro de Plata optioned the Peñasco Quemado property in early 1981 from Adalberto Ballesteros Duran and Bartolome Lugo Lopez. Cerro de Plata completed initial geological mapping and surface sampling by March, 1981, which was immediately followed by a drilling program. During the Phase 1 drilling program in April and May, 1981, 12 vertical percussion holes totalling 469 metres (m) were drilled in a rectangular grid pattern of 30 m by 20 m, extending 200 m west of the pit. In 10 of the 12 holes, significant grades were encountered over good widths. Subsequently, 13 additional holes totalling 814 m were drilled between December, 1981 and February, 1982. During both phases of drilling, the average depth of the holes was 51 m. In addition to the extra drill holes, the geological mapping program and geochemical sampling program were extended over the entire mineralized area. The exploration results delineated shallow silver mineralization in the West zone.

1.4.3 Exploration Programs, 2004 to 2006

In 2004, exploration work was carried out by geologists Julio Cesar Esquer and Jaime Castillo. They conducted field mapping and sampling on the brecciated zones and successfully delineated a continuous 1,500 m by 150 m mineralized zone. A total of 21 chip samples were collected at this time; 14 samples were collected from the brecciated zone to confirm the continuity of the West and East zones and 7 samples were collected from the granitic intrusive within previously identified strongly fractured and oxidized zones.

In September, 2005, Silvermex, which had acquired the property in 2005, conducted its first exploration program on the Peñasco Quemado property, comprising 15 reverse circulation drill holes, totalling 1,449.35 m. The objective of the exploration program was two-fold: first, to confirm the results of the previous drilling programs conducted by Cerro de Plata on the West zone and, secondly, to progressively extend the drilling to the southwest to explore and to expand the limits of the known silver mineralization on the West zone, and to begin to explore the mineral potential of the East zone.

Silvermex's fall 2005 drilling program was successful in confirming the nature of the mineralization which Cerro de Plata had encountered during its exploration programs in the early 1980s. Silvermex also extended the mineralization in both the southeast direction, towards what Cerro de Plata referred to as the East zone, and in the southwest direction towards the arroyo (creek). The drilling program also explored the nature and extent of the silver mineralization in the East zone.

Subsequent to the 2005 drilling program, prospecting, geological mapping and sampling were carried out on the property and this information was combined with the 2005 drilling results to identify further exploration and in-fill drilling targets.

The 2006 drilling program conducted by Silvermex on the property was comprised of 19 drill holes totalling 2,248.61 m, of which 12 holes (1,639.03 m) were diamond drilling and 7 holes (609.58 m) were reverse circulation. The core drilling was distributed as follows: 4 holes were drilled in the Peñasco Quemado area (West zone), 4 holes in the southeastern portion of the Peñasco Quemado area (East zone) and the remaining four holes were drilled at the San Luis-Pink Breccia area west of the Peñasco Quemado area. The reverse circulation drilling was distributed as follows: two in-fill drill holes in Peñasco Quemado (West zone), 2 holes in the Stockwork area and 3 holes in the Low Angle area, which lie to the west of the Peñasco Quemado area.

The first area covered by the drilling program was the immediate area southeast of the old pit, in-order to extend the trend of the high-grade mineralization exposed in the pit. The 2006 drill holes confirmed the presence of high-grade silver mineralization in the conglomerates and breccias for at least 300 m along strike to the southeast and extended the mineral deposit 50 m to the southwest, down dip. The step-out drilling program provided valuable information regarding the structural history and orientation of the mineral deposit. While the mineralization is consistent along the entire 750 m of strike length, its general south-east trend has been offset by north-south faulting, approximately 450 m southeast of the old pit.

1.4.4 Silver One Exploration Programs 2016 to 2019

1.4.4.1 Geochemical Survey

Silver One, which had acquired the property in September, 2016, conducted a geochemical survey consisted of 1,930 soil samples collected in a regular grid with east-west lines 200 m apart and sample spacing of 100 m covering the entire property. Sampling was completed in December, 2016 and XRF assays in January, 2017. A total of 320 Quality Assurance/Quality Control (QA/QC) samples were analyzed at Skyline Labs in Tucson, AZ. Skyline results correlated well with XRF assays and confirmed values obtained by Silver One's XRF analyses.

The Peñasco Quemado geochemical anomalies matched well with known mineralized structures. The main anomaly reflects the known mineralized body containing the historical resources and extended that mineralized trend.

1.4.4.2 Geophysical Survey

On December 5, 2017, Silver One announced that it had commenced a geophysical survey with the intention of developing a 3D quality map of the lithologies identified as high-priority target areas with strong zinc and lead geochemical anomalies, in order to better delineate future drill targets. Silver One believed that the geophysical survey would be extremely useful, as the previous geophysical surveys had successfully identified lithologies and mineralization associated with the historical resource area. However, the previous surveys were conducted in specific areas of the property and did not entirely test the areas outlined in Silver One's geochemical soil surveys.

Additionally, Silver One noted that the Controlled-Source Audio-Frequency Magnetotellurics (CSAMT) being used would probe deeper and with higher resolution than previous surveys.

The geophysical work consisted of a 36-km CSAMT survey which was integrated with data of a 14-km induced polarization (IP), complex resistivity (CRIP) and natural source audio magnetotellurics (NSAMT) survey done in 2007. In addition, Silver One consolidated and reinterpreted the 2007 geophysical data and completed new petrophysical testing in drill core samples performed concurrently with the CSAMT survey.

The new CSAMT survey was separated into two areas called Western Area (8 lines) and Eastern (4 lines), with each line being three kilometres in length. The lines traversed strong soil geochemical zinc, lead, copper, manganese and barium anomalies.

1.4.4.3 Drilling Program

On February 14, 2019, Silver One announced that it has commenced a drilling program on the Peñasco Quemado Project.

The drilling was initiated to test three targets in two separate areas of the Peñasco Quemado property. Silver One selected the targets based on coincidental geochemical and geophysical anomalies previously identified by its 2017 and 2018 exploration programs. Silver One drilled five holes totalling 974.40 m.

Drill holes in the eastern part of the property targeted the interpreted southwest, down-dip extension of the defined historic silver resources, which has been interpreted as a shallow, southwest-dipping replacement manto. This anomaly was outlined by geophysics (area of low-intermediate resistivity). Additional drilling was designed to test the interpreted along-strike extensions to this historic resource area, as identified by strong, 3+ km long, southeast trending zinc, lead, barium and manganese in soil anomalies, which are in part associated with geophysical anomalies.

In the western part of the Peñasco Quemado property, drilling tested strong zinc, lead and copper soil anomalies with coincidental geophysical anomalies, in an area drilled by Silvermex in 2008 where significant silver values were intersected in drill hole PQRC51.

Assay results indicated that the mineralized silver-manganese system does extend outside the area of the historic resource. However, as Silver One noted: “the limited drilling program was not enough to fully test all the areas of interest” and further work remained to identify the true extent of the mineralization at the Peñasco Quemado Project.

1.5 GEOLOGICAL SETTING AND MINERALIZATION

In general, the Peñasco Quemado property is extensively covered by a cap of alluvium and valley fill which varies from 0 to 40 m thick. The alluvium and fill overlie the Pit (Volcaniclastic) Conglomerate (formerly named as the Red Conglomerate) and the Upper conglomerate, which is up to 200 m thick, as evidenced from drill hole intersections. The Pit (Volcaniclastic) Conglomerate is in a high angle fault contact with a volcanic sequence that includes andesite tuffs, andesite breccia and andesite flows. The entire upper lithological column is unconformably overlying a basement of gneissic granite and between the two units there exists a complex unit that has been described by the geologists of Silvermex/Terra Plata as felsite. The felsite is associated with a mylonite zone that has been identified along a strike distance of several kilometres from the west portion of the property, where it outcrops in the areas called the Low Angle, The Pink Breccia and the Stockwork. In the Peñasco pit area, the mylonite has been encountered up to 130 m to 150 m deep in the drill holes.

In the eastern portion of the property, there are scant outcrops of sandstones, limestones, jaspers and siltstones. These outcrops are being explored for borax in the San Carlos area, where the borax appears to be contained in the lower portion of the Tubutama Formation, interbedded in a succession of sandstone and tuffaceous shale.

The Peñasco Quemado Project is primarily a silver occurrence with minor amounts of gold and copper hosted in structurally controlled fissure fillings in granite and disseminated in sheared polyclastic sedimentary breccia.

Two separate zones of anomalous silver mineralization were previously identified by Cerro de Plata at Peñasco Quemado, by mapping and percussion drilling. Of the two zones, only the West zone was previously drilled and the East zone randomly chip sampled. The East zone is considered to be part of the same epithermal system which deposited the West zone, but higher in the system and above the silver rich West zone.

1.6 2012 Silvermex Metallurgical Testwork

On February 12, 2012, Silvermex announced that it had sent samples of drill core from the Peñasco Quemado Project to Hazen Research, Inc. (Hazen) to conduct a metallurgical testwork program. Previous testwork, according to Hazen's report, had shown low silver recoveries from this mineralization by direct cyanidation. Therefore, Hazen evaluated other options to improve silver extraction.

The head analysis of the 20-kg sample received by Hazen is summarized in Table 1.1.

Table 1.1
Analysis of the Metallurgical Sample

Met Sample	g/t		%							
	Ag	Au	Ca	Cu	Fe	Mg	Mn	Pb	Zn	S
53042	156	<0.2	0.40	0.16	2.27	0.31	1.35	0.06	0.03	0.13

Hazen noted that, based on previous experience and published literature, silver mineralization containing manganese oxides requires that the manganese be solubilized before silver can be recovered by cyanidation. Manganese solubilization requires a reductant in an H_2SO_4 leach, which leaves the silver retained in the solid residue. After neutralization, the solids can then be leached in cyanide to solubilize the silver for subsequent recovery using conventional technology. Previous work involved dissolving the MnO_2 directly in H_2SO_4 in the presence of H_2O_2. The residue from this reduction step advanced to cyanidation for silver extraction. These laboratory experiments recovered up to 70% of the silver in the cyanide leach, but at a very high H_2O_2 consumption. Other research and work previously performed at Hazen on similar silver–manganese deposits used SO_2, which is a strong reductant, and it was recommended by Hazen for further study on the Peñasco Quemado mineralization.

Based on the data generated from Hazen's experimental program, approximately 96 to 98% of Mn in the Peñasco Quemado mineralization can be extracted using a combination of concentrated H_2SO_4 and SO_2 as a reductant. Peñasco Quemado mineralization containing 1.35% Mn required approximately 33 to 49 kg SO_2/t of mineralization and 23 to 38 kg of 96% concentrated H_2SO_4/t of mineralization to leach the manganese.

When the cyanidation step followed the SO_2 leach, 67% Ag extraction was achieved on both grind sizes tested, 65% passing (P_{65}) 200 mesh and 95% passing (P_{95}) 200 mesh. These silver extraction results are in agreement with previous research, using H_2SO_4 and H_2O_2. Without a reduction–leach step, only 14 to 16% Ag was extracted from the Peñasco Quemado sample at these particle grind sizes.

When the SO_2 leach slurry was directly neutralized, without a solid–liquid separation step prior to cyanidation, 100% of the Fe was precipitated from solution. Subsequent cyanide leaching extracted 68 to 69% of the silver with a 5 to 7 kg/t NaCN consumption.

Microprobe analysis on a cyanide leach residue sample confirmed that the remaining silver within the cyanide leach residue was locked as small inclusions (less than 3 µm) within quartz particles.

1.7 Mineral Resource Estimate

The mineral resource estimate discussed in this report covers the Peñasco Quemado Project area. The mineralization is associated with conglomerate and exhibits a northwest-southeast trend, based on the existing drill-hole data. The database contains no surface sampling data.

1.7.1 Methodology

The main steps in the resource estimation methodology were as follows:

- Construction and validation of the Peñasco Quemado Project database.
- Preparation of the geological model and delineating the mineralized zones.
- Statistical analysis of the drill hole intercepts, compositing, and grade capping for the purposes of estimation.
- Defining the parameters of the block model and silver grade interpolation.
- Validation of the estimate.
- Generation of a mineral resource statement.

1.7.2 Database

The Project database includes a total of 138 drill holes. Micon's QP received the drill hole information in Excel spreadsheet format. All of the available information was collated to form a Project database including assay, collar, survey and lithology information in .csv format. Assay values below the detection limit have been replaced by the numeric value of half the detection limit for the relevant element. The 138 holes have been drilled throughout the mineral concessions comprising the overall property. However, for the purpose of mineral resource estimate, only the drill holes falling inside the Peñasco Quemado mineral concession has been used to interpret the mineralized zones.

1.7.3 Wireframes

Micon prepared the mineralized wireframe models to be used for the mineral resource estimate. A 25 g/t silver cut-off grade within the available assay data for the Project has been used to generate the wireframes for the deposits. Two mineralized zones have been interpreted, both having a trend of northwest-southeast and a gentle dip towards southwest. In addition to considering the silver assays, the lithology data also has been interpretated. Micon found that the mineralized zone is congruous with the conglomerate/red conglomerate lithology, according to the drill logs. The two mineralized zones have been identified as the PQ zone and PQ_South zone.

1.7.4 Topography

Topographic survey data were provided by Loadstar in .dem format and have been converted into a shape file format to be used in Leapfrog Geo software. The topography used for the Project area has a contour interval of 5 m. A more detailed topographic survey is required for the concession area, in order to be able to capture any existing historic pits and other workings.

1.7.5 Data Analysis

1.7.5.1 Compositing

Micon's QPs have performed compositing on all of the available sample intervals intercepted by the mineralized zones. A compositing length of 1.5 m was chosen, based on the average sample interval. The residual lengths (25% of the actual composite length) have been distributed equally within the previous intervals.

1.7.5.2 Grade Capping

After compositing, all outlier values for silver were capped to minimize the influence of extreme high grade within the wireframe. This was carried out by analyzing histograms and log probability plots. A grade cap of 460 g/t silver was applied to the PQ zone and 120 g/t silver for PQ_South zone.

1.7.5.3 Variography

Variography analyzes the spatial continuity of grade for the commodity of interest within a deposit. In the case of the Peñasco Quemado Project, the analysis was conducted primarily on the PQ mineralized envelope. Down-the-hole variograms and 3D variographic analysis was performed to define the directions of maximum grade continuity. First, down-the-hole variograms were constructed for silver, to establish the nugget effect (0.03) to be used to model the 3D variograms. Next, the direction with the minimum sample variation was identified to be modelled into variography. Based on the results of the variographic analysis the most reasonable variogram chosen to support the Ordinary Kriging interpolation method. The results of the variographic analysis were used to aid in establishing the search ranges and anisotropic directions. However, for the PQ_South zone, no reasonable variography could be performed due to limited sample data.

1.7.5.4 Continuity and Trends

The mineralized zones exhibit a stable strike direction, with variable dip directions. The PQ zone strikes northwest-southeast and gently dips towards southwest. The PQ_South zone shares the same mineralization trend but is nearly flat lying. For the purpose of estimation of the PQ_South zone, the same continuity as the PQ zone has been used.

The grade and tonnage of silver have been estimated for the PQ and PQ_South mineralized envelopes or zones at the Peñasco Quemado Project, with all steps performed using Leapfrog Geo/Edge software.

1.7.5.5 Rock Density Data

There is no rock density study available for the Peñasco Quemado Project. Micon has analyzed the available lithological information and found that there is a considerable depth of alluvium (up to 22 m) present at the Project. Densities of 2.5 g/cm^3 for the alluvium and 2.75 g/cm^3 for the remainder of the lithologies (conglomerate, intrusive and basement) have been used for the resource estimate discussed herein. For future advancement of the Project, Micon recommends carrying out a density study for all of the lithological units present.

1.7.6 Block Model

A single block model has been created to contain the geological model, silver assays and open pit mining parameters. The estimation has been performed using only the silver assay data. Elements such as copper and manganese are contained within the Project database, but they have not been included in the estimation process at this time. Sub-blocking has been used to ensure that every part of the mineralized envelopes have been captured. Child blocks have dimensions that are half the dimensions of the parent block.

1.7.6.1 Search Strategy and Interpretation

Parameters derived from the variography have been used to interpolate the composite grades into the blocks. The interpolation has been performed by the Ordinary Kriging method.

1.7.7 Prospects for Economic Extraction

The CIM standards require that a mineral resource must have reasonable prospects for eventual economic extraction. Since no economic parameters were received from Loadstar, Micon's QPs have estimated appropriate the parameters, based on similar projects in Northern Mexico. The silver price used was the average price for the prior twelve months. Operating costs were based on other projects in the State of Sonora. Metallurgical recovery was based upon the results of Silvermex's testwork program. In Micon QP's opinion, the parameters are suitable for the current resource estimate but will need to be revaluated prior to undertaking future mineral resource estimates. A bench slope of 30° was used for the overlying alluvium, and a slope of 45° was used for all other lithologies.

The cost and recovery parameters are summarized in Table 1.2. Using these parameters, the calculated breakeven cut-off grade (COG) is 84.75 g/t silver. The COG has been rounded to 85 g/t Ag for resource reporting purpose.

Table 1.2
Summary of the Economic Assumptions for the Conceptual Open Pit Mining Scenario

Description	Units	Value Used
Silver Price	USD/oz	25.00
Mining Cost	USD/t	2.00
Processing Cost	USD/t	40.00
General & Administration	USD/t	5.00
Silver Recovery (Metallurgical)	%	69

Source: Micon, 2023.

1.7.8 Mineral Resource Classification

Although the drill holes are reasonably closely spaced, Micon's QPs have classified the entire mineral resource estimate in the inferred category, for the following reasons:

- The database is historic in nature and consists of principally of reverse circulation/percussion drill holes.

- The assay results need to be validated against the original assay certificate.
- The historic drill hole assays need to be verified with twin core drill holes.
- No density measurements are available for the deposit.

All mineralized blocks not contained within the pit shell have not been classified and are not considered to be part of the mineral resource estimate.

1.7.9 Mineral Resource Estimation

The mineral resource estimation was conducted based on a calculated cut-off grade of 85 g/t silver and an open pit mining scenario. Pit optimization was conducted using Datamine Software, based on the economic parameters shown in Table 1.2. Although, separate pits were generated for the two mineralized zones, the ultimate pit for the PQ_South zone does not meet the requirement for being potentially economic, as it generated a negative net present value. Thus, a pit constrained mineral resource could only be reported for the PQ mineralized zone.

The mineral resource estimate for the Peñasco Quemado Project is summarized in Table 1.3, with an effective date of March 21, 2023.

Table 1.3
Mineral Resource Estimate for the Peñasco Quemado Project at 85 g/t Ag Cut-off as of March 21, 2023

Pitshell	Resource Category	Zone	Stripping Ratio	Tonnage (Mt)	Average Grade	Metal Content
					Ag (g/t)	Ag (Million oz)
Inpit	Inferred	PQ	2.25	1.1	168.6	6.2

Notes:

1. The effective date for the Peñasco Quemado Project mineral resource estimate is March 21, 2023.
2. The mineral resources are reported based on open pit mining method scenarios.
3. The pit was constrained based on bench slope of 30° for the overlying alluvium and 45° for the remaining lithologies.
4. The mineralized wireframes (PQ zone) within which the resources are contained were modelled on a cut-off silver grade of 25 g/t.
5. Grade capping was applied to reduce the influence of outlier samples, a cap of 460 g/t silver was applied for PQ zone.
6. The economic parameters used to define mineral resources are a metal price of USD25 per troy ounce silver, a mining cost USD2/t, a processing cost of USD40/t and a G&A cost of USD5/t, for a total of USD47/t mined and processed. The silver recovery was estimated at 69%.
7. The resource is estimated for silver only, as manganese is not recoverable into a salable product for Peñasco Quemado Project.
8. The entire mineral resource has been categorized in the Inferred category.
9. The mineral resources presented here were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council May 10, 2014.
10. Mineral resources which are not mineral reserves do not have demonstrated economic viability. The QP believes that, at this time, the mineral resource estimate is not materially affected by environmental, permitting, legal, title, socio-political, marketing, or other relevant issues. However, as the Peñasco Quemado Project advances, further required studies in these areas or other socio-political factors may affect the resource estimate.
11. The mineral resource estimate has been prepared without reference to surface rights or the potential presence of overlying infrastructure.
12. Figures may not total due to rounding.

1.7.10 Mineral Resource Sensitivity Analysis

Micon's QPs have performed a resource sensitivity analysis for the PQ zone, based on a silver price range from 15 USD/oz to 30 USD/oz, with an increment of every 5USD. Different silver prices correspond to different cut-off grades. Other economic parameters (mining and processing cost, G&A cost and silver metallurgical recovery) remain unchanged. Table 1.4 summarizes the result of this analysis. The reader is cautioned that the figures provided in Table 1.4 should not be interpreted as a mineral resource statement. The reported quantities and grade estimates at different silver price and cut-off grades are presented for the sole purpose of demonstrating the sensitivity of the mineral resource to variations in the price of silver. Micon's QP has reviewed the sensitivity study and believes that the results meet the requirements needed to demonstrate potential economic extraction, at the silver prices used.

Table 1.4
Silver Price-based Mineral Resource Sensitivity for the Peñasco Quemado Project

Pitshell	Silver Price	Cut-off Grade Ag (g/t)	Stripping	Resource Category	Tonnage (Mt)	Average Grade	Metal Content
	USD/oz		Ratio			Ag (g/t)	Ag (Million oz)
Inpit	15	141	2.96	Inferred	0.6	217.6	4.0
	20	106	2.35		0.9	189.2	5.2
	25*	**85**	**2.25**		**1.1**	**168.6**	**6.2**
	30	71	2.07		1.3	155.3	6.7

Source: Micon, 2023.
*Peñasco Quemado 2023 base case Mineral Resource Estimate.

1.8 Conclusions and Recommendations

1.8.1 Conclusions

Micon's QPs have compiled a mineral resource estimate that takes into account the historical Silvermex drilling on the Peñasco Quemado Project, as well as drilling information obtained by other companies that have owned the Project. It is the opinion of Micon's QPs that the quality of the available data requires that the resources be classified entirely as inferred, based on current CIM best practice guidelines and CIM definition standards for mineral resources and mineral reserves.

However, given the close spaced nature of the historical drilling, Micon's QPs are also of the opinion that, with a program of dedicated drill hole twinning and data compilation and verification Lodestar could easily increase the classification of the existing resources to the measured and indicated categories.

The pit optimization study does not generate a potentially economic pit for the PQ_South zone, so, the reported resource is restricted entirely to the PQ mineralized zone. Further drilling in and around this area may be able to enlarge the existing PQ mineral resource and this would assist in potentially bridging the gap between the two detached mineralized zones and increasing the resource potential beyond the extent of the current pit shell.

Micon's QPs believe that further exploration to increase mineral resources at the Peñasco Quemado Project is warranted.

1.8.2 Exploration Potential

Micon's QPs have conducted an independent review of the exploration potential the Peñasco Quemado Project, using historically available information, as well as through discussions with Loadstar personnel. Micon's QPs have performed a study to estimate the global inventory of the PQ zone and have concluded that the Peñasco Quemado Project could potentially host an additional 2.3 to 3.9 million oz Ag.

1.8.3 Exploration Budget and Proposed Expenditures

A two-phase exploration and resource validation program is proposed for the Peñasco Quemado Project.

Phase 1 consists of further project data compilation and digitization, detailed Remote Sensing over the property to define and expand local areas potential mineral anomalies, and a lithological-structural interpretation of the known deposit, focusing on defining structural controls to mineralization and property-wide assessment of fundamental controlling structures over the entire Peñasco Quemado Project.

Data Compilation: Based on a review of the existing geophysical information, as well as abundant government data packages containing surface rock, mapping, geochemical and drilling data that are available, the following tasks should be performed:

- Detailed validation of historical drilling and logging information.
- Digitization of geochemical surface surveys, and property wide geological mapping.
- Development of a preliminary 2D/3D data set over the entire property.

Synthetic aperture radar data, multispectral Sentinel and Aster data: A property wide survey should be completed, the scope of which will include acquisition, processing and analysis of synthetic aperture radar data and multispectral Sentinel & Aster data, over the Peñasco Quemado Property. In addition to providing a property wide digital elevation model, remote sensing can further determine property scale prospectivity and identify and prioritize target areas elsewhere on the property.

Litho-structural Interpretation: the available 2D/3D data will be evaluated and interpreted to develop a comprehensive lithological and structural model suitable for exploration planning and targeting. The model will identify knowledge gaps, resource deficiencies, and potential geochemical trends and ultimately increase the project prospectivity.

Contingent upon the success of Phase 1, and successful delineation of drilling targets, Phase 2 will consist of a program of drilling optimization. This is to include 5,000 m of RC drilling focusing on the following tasks:

1. A number of drill holes will be twinned to verify the historical geological information and assays.

2. Additional relogging and onsite confirmation of the historical information will be undertaken to provide greater confidence in the mineral resource classification.
3. Determination of the specific gravity for each rock type.
4. Future diamond drilling and reverse circulation drilling, to better define the extent of the geological units and to confirm structural controls on mineralization more tightly.

Loadstar's proposed two-phase budget expenditures to complete the asks outlined above is summarized in Table 1.5.

Micon and its QPs agree with the direction of Loadstar's further studies and regard the work plan and expenditures as appropriate. Micon and its QPs appreciate that the nature of the programs and expenditures may change as the further studies advance, and that the final expenditures and results may vary from those originally proposed.

Table 1.5
Loadstar 2023 Budget Expenditures

Phase	Description	Amount	Unit Cost	Units	Total USD	Total Cdn*
Phase 1	Regional property wide lithostructural interpretation and 3D geo modelling	1	50,000	lump	$50,000	$62,500
	Remote sensing	1	25,000	lump	$25,000	$31,250
	Subtotal:				**$75,000**	**$93,750**
Phase 2	RC Drilling (all in)	5,000	92	$/metre	$460,000	$613,333
	Assays	1,200	52	$/assay	$62,400	$83,200
	Roads, pads and remediation	1	20,000	lump	$20,000	$26,667
	Geological labour (geo-month)	6	10,000	$/month	$60,000	$80,000
	Field Assistants (assistant-month)	240	100	$/day	$24,000	$32,000
	Per diem geologists	180	110	$/day	$19,800	$26,400
	Truck Rentals (180 days = 2 trucks 3 months)	120	90	$/day	$10,800	$14,400
	3-ton Truck rental	45	150	$/day	$6,750	$9,000
	Materials	1	5,000	lot	$5,000	$6,667
	Field & Travel	1	5,000	lump	$5,000	$6,667
	Subtotal:				**$673,750**	**$898,333**
	Contingency	1	67,375	lump	$67,375	
	Drilling Total				**$741,125**	**$988,167**
	Reporting					
	Resource & engineering (includes 43-101)	1	100,000	lump	$100,000	$133,333
	Grand Total				**$916,125**	**$1,215,250**

* Forex Cdn/US$0.75.
Table provided by Loadstar.

2.0 INTRODUCTION

2.1 TERMS OF REFERENCE

Loadstar Battery Metals Corp. (Lodestar) is in the process of assessing all of the information it has acquired in relation to the Peñasco Quemado Project. As part of this assessment, Loadstar retained Micon to compile the drilling data, construct a block model using the geological and assay information and complete a mineral resource estimate. Micon was also retained to disclose the results of its resource estimate in a Technical Report in compliance with the requirements of Canadian National Instrument (NI) 43-101, Standards of Disclosure for Mineral Projects Form NI 43-101F1 requirements.

In this report, the term Peñasco Quemado Project (or the Project) refers to the immediate area surrounding the existing silver deposit where the majority of the exploration has been conducted since 2005, while the term Peñasco Quemado property refers to the entire land package controlled by Loadstar.

The information in this report was derived from published material, as well as data, professional opinions and unpublished material submitted by the professional staff of Loadstar or its consultants, supplemented by Micon's and its QP's independent observations and analysis. Much of these data came from prior Micon reports for the Peñasco Quemado Project, with updated information provided by Loadstar, as well as information researched by Micon and its QPs.

Micon and its QPs do not have, nor have they previously had any material interest in Loadstar or related entities. The relationship with Loadstar is solely a professional association between the client and the independent consultant. This report has been prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of the reports.

This report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, neither Micon nor its QPs consider them to be material.

This report is intended to be used by Loadstar subject to the terms and conditions of its agreement with Micon. That agreement permits Loadstar to file this report as a Technical Report with the Canadian Securities Administrators (CSA) pursuant to provincial securities legislation or with the Securities and Exchange Commission (SEC) in the United States.

The conclusions and recommendations in this report reflect the authors' best independent judgment based on the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them, subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

2.2 QUALIFIED PERSONS, AREAS OF RESPONSIBILITY, DISCUSSIONS, MEETINGS, AND SITE VISITS

In order to undertake the modelling and mineral resource estimate for the Peñasco Quemado Project, the QPs of this Technical Report held a number of discussions and meetings with Loadstar's personnel and contractors, to discuss details relevant to the modelling and Project. The discussions were held via email chains and phone calls, as well as Google Teams and Zoom meetings. The discussions were open and frank and at no time was information withheld or not available to the QPs.

The QPs responsible for the preparation of this report and their areas of responsibility and site visits are noted in Table 2.1.

Table 2.1
Qualified Persons, Areas of Responsibility and Site Visits

Qualified Person	Title and Company	Area of Responsibility	Site Visits
William J. Lewis, B.Sc. P.Geo.	Senior Geologist, Micon	Sections 1 to 6, 9 to 11, 12.2, 12.3, 13, 14.1 to 14.3, 14.6.4, 14.6.5, 14.10, 23 to 28	July 22, 2005, September 13, 2005, September 9, 2006 and August 30, 2016
Chitrali Sarkar, M.Sc. P.Geo.	Geologist, Micon	Sections 12.4 ,14.4 to 14.6.3, 14.8 and 14.9	None
Rodrigo Calles-Montijo, CPG	General Administrator and Principal Consultant, Servicios Geológicos IMEx, S.C.	Sections 7, 8, and 12.1	June 15 to 16, 2022
NI 43-101 Sections not applicable to this report		15, 16, 17, 18, 19, 20, 21 and 22	

The current site visit to the Peñasco Quemado property was completed on September 14, 2020, by Rodrigo Calles-Montijo, CPG, who is an independent consultant and Certified Professional Geologist (CPG), as well as a member of the American Institute of Professional Geologists (AIPG). Mr. Calles-Montijo is based in Hermosillo, México. Mr. Calles Montijo was contacted by William J. Lewis (Micon), and was requested to complete the site visit, as required by the NI 43-101, and which was unable to be executed by Mr. Lewis due to travel limitations created by the COVID-19 pandemic. Prior to the site visit, a Skype meeting was held between William J. Lewis and Rodrigo Calles-Montijo, in order to discuss the objectives to be achieved during the site visit. Mr. Calles-Montijo visited the different areas of the property, as well as the old coreshack and sample storage facility located at the Project and the newest core shack and sample storage facility located in the village of Saric, Sonora. During the site visit, Mr. Calles-Montijo was accompanied by Juan F. Rosas-Arellano, as a representative of Silver One who was the owner at the time of the site visit.

2.3 UNITS AND ABBREVIATIONS

In this report, all currency amounts are stated in US dollars (US$). Quantities are generally stated in metric units, the standard Canadian, Mexican and international practice, including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, grams (g) and grams per metric tonne (g/t) for gold and silver grades (g/t Au, g/t Ag). Wherever applicable, Imperial units have been converted to Système International d'Unités (SI) units for reporting consistency. Precious metal grades may be expressed in parts per million (ppm) or parts per billion (ppb) and their quantities may also be reported in troy ounces (ounces, oz), a common practice in the mining industry. A list of abbreviations is provided in Table 2.2. Appendix 1 contains a glossary of mining and other related terms.

Table 2.2
List of the Abbreviations

Name	Abbreviation	Name	Abbreviation
Accurassay Laboratories	Accurassay	Mexican peso	peso
Acme Analytical Laboratories Ltd.	ACME	Micon International Limited	Micon
ALS-Chemex Laboratories	ALS-Chemex	Million tonnes	Mt
Canadian Institute of Mining, Metallurgy and Petroleum	CIM	Million ounces	Moz
Canadian National Instrument 43-101	NI 43-101	Million years	Ma
Canadian Standards Association	CSA	Million metric tonnes per year	Mt/y
Carbon in leach	CIL	Milligram(s)	mg
CDN Resources Laboratories Ltd.,	CDN Resources	Millimetre(s)	mm
Centimetre(s)	cm	Minera Terra Plata, S.A. de C.V.	Terra Plata
Compañia Minera Cerro de Plata S.A. de C.V.	Cerrro de Plata	Natural source audio magnetotellurics	NSAMT
Complex resistivity	CRIP	Net present value	NPV
Controlled-Source Audio-Frequency Magnetotellurics	CSAMT	Net smelter return	NSR
Construccion, Arrendamiento de Maquinaria y Mineria, S.A. ce C.V.	CAMMSA	North American Datum	NAD
Cubic feet per minute	cfm	North American Free Trade Agreement	NAFTA
Dateline Internacional S.A. de C.V.	Dateline	Not available/applicable	n.a.
Day	d	Ounces	oz
Degree(s)	o	Ounces per year	oz/y
Degrees Celsius	oC	Parts per billion	ppb
Digital elevation model	DEM	Parts per million	ppm
Dirección General de Minas	DGM	Peñasco Quemado Silver Project	Peñasco Quemado Project or the Project
Diversified Drilling S.A. de C.V.	Diversified	Percent(age)	%
Dollar(s), Canadian and US	$, Cdn $ and US$	Plymouth Realty Capital Corp.	Plymouth
First Majestic Silver Corp.	First Majestic	Quality Assurance/Quality Control	QA/QC
First Mining Finance Corp.	First Mining	Reverse takeover	RTO
Genco Resources Ltd.	Genco	Second	s
Gram(s)	g	Securities and Exchange Commission	SEC
Grams per metric tonne	g/t	SGS Mineral Services	SGS
Greater than	>	Silver One Resources Inc.	Silver One
Hectare(s)	ha	Silvermex Resources Limited	Silvermex
Induced polarization	IP	Silvermex Resources Inc.	Silvermex
Insituto Nacional de Estadistica, Geografia e Informatica	INEGI	Silver Standard Resources Inc.	Silver Standard
InterGeografica de Mexico, S.A. de C.V.	InterGeografica	Silverton Metals Corp.	Silverton
Internal rate of return	IRR	Specific gravity	SG
KCP Minerals Inc.	KCP Minerals	Sundance Minerals Ltd.	Sundance

Name	Abbreviation	Name	Abbreviation
Kilogram(s)	kg	System for Electronic Document Analysis and Retrieval	SEDAR
Kilometre(s)	km	Système International d'Unités	SI
Less than	<	Three-dimension	3D
Litre(s)	l	Tonne (metric)	t
Loadstar Battery Metals Corp.	Loadstar	Tonnes (metric) per day	t/d
Magdalena de Kino (City of)	Magdalena	TSL Laboratories Inc.	TSL
Metre(s)	m	Universal Transverse Mercator	UTM
Metres above sea level	masl	Year	y

2.4 INFORMATION SOURCES

2.4.1 General Information

The information in this report was derived from published material, as well as data, professional opinions and unpublished material submitted by the professional staff of Loadstar or its consultants, supplemented by Micon's and its QP's independent observations and analysis. Much of these data came from 2005 and 2007 Micon reports which had been prepared for Silvermex Resources Limited (Silvermex) and subsequent Technical Reports as well as information researched by Micon and its QPs.

The descriptions of geology, mineralization and exploration used in this report are taken from reports prepared by various organizations and companies or their contracted consultants, as well as from various government and academic publications. In part, the conclusions of this report are based in part on data available in published and unpublished reports supplied by the companies which have conducted exploration on the property, and information supplied by Loadstar. The information provided to Loadstar was supplied by reputable companies. Micon and its QPs have no reason to doubt its validity and has used the information where it has been verified through their own review and discussions.

Micon and its QPs are pleased to acknowledge the helpful cooperation of Loadstar management and consulting field staff, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

Some of the figures and tables for this report were reproduced or derived from historical reports written on the property by various individuals and supplied to Micon and its QPs by the prior operators for the previous Micon Technical Reports or by Loadstar for this current report. Most of the photographs were taken by Mr. Lewis during his previous site visits or by Mr. Calles-Montijo during his recent site visit. In the cases where photographs, figures or tables were supplied by others, they are referenced below the inserted item.

2.4.2 Previous Technical Reports

Micon has completed a number of Technical Reports for the Peñasco Quemado Project, as follows:

- Lewis, W.J., (2005), Technical Report on the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District Sonora, Mexico.

- Lewis, W.J. and McCrea, J.A., (2006), Updated NI 43-101 Technical Report and Resource Estimate for the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District Sonora, Mexico.
- Lewis, W.J., (2016), NI 43-101 Technical Report for the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District, Sonora, Mexico" dated September 20, 2016, with an effective date of September 20, 2016 and as amended on January 6, 2017.
- Lewis, W.J. and Calles-Montijo, Rodrigo, (2020), NI 43-101 Technical Report for the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District, Sonora, Mexico" dated November 20, 2020, with an effective date of November 20, 2020.

2.4.3 Geographic Datums

This report uses two datum systems to describe the geographic co-ordinates for various locations. The property coordinates are provided using NAD 27 as the datum, while the drill hole collar coordinates use the datum WGS84.

WGS 84 is the reference coordinate system used by the Global Positioning System. NAD 27 are the coordinates according to the Geographic Names Information System database using the North American Datum of 1927 (NAD 27). Reliance on Other Experts

3.0 RELIANCE ON OTHER EXPERTS

In this report, discussions in Sections 1.0 and 4.0 regarding royalties, permitting, taxation and environmental matters are based on material provided by Loadstar. Micon and its QPs are not qualified to comment on such matters and have relied on the representations and documentation provided by Loadstar for such discussions.

All data used in this report were originally provided by Loadstar. Micon and its QPS have reviewed and analyzed these data and have drawn their own conclusions therefrom, augmented by direct field examinations. The reports and other documentation provided by Loadstar are listed in Section 28.0, References, of this report.

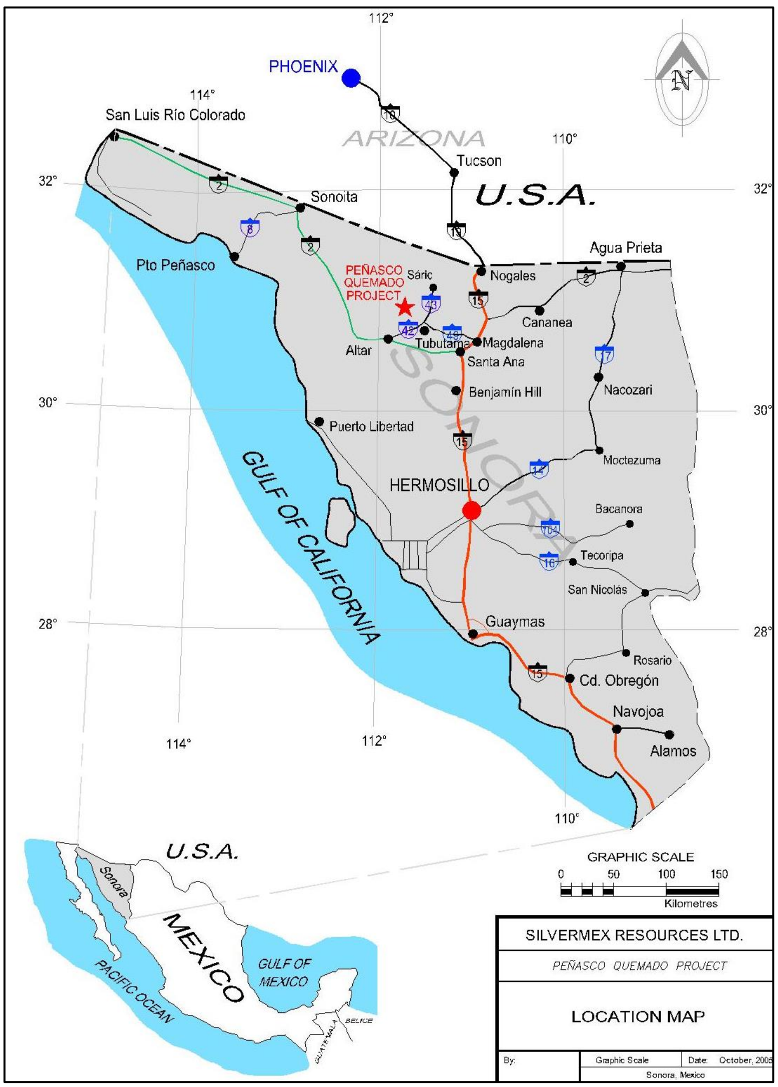
Micon and its QPs offer no legal opinion as to the validity of the title to the mineral concessions claimed by Loadstar and its wholly owned Mexican subsidiary and have relied on information provided by Loadstar. A 2019 legal opinion regarding title to the mineral concessions was provided to Micon and its QPs by Silver One for the previous 2020 Technical Report. The 2019 legal opinion was dated March 26, 2019, and was prepared and executed by the law firm of Todd y Asociados, S.C.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 GENERAL INFORMATION

The Peñasco Quemado Project is located in the Mexican state of Sonora, south of the American state of Arizona. Specifically, the Project is located within the north central portion of Sonora, approximately 14.5 km northwest of the town of Tubutama and in the Magdalena-Tubutama mining district. The longitude and latitude for the Project site are approximately 30°58'36.9" N, 111°33'36.85" W. The UTM coordinates for the Project are 3,426,995 N, 446,502 E and the datum used was NAD 27 Mexico. The location of the Peñasco Quemado Project is shown in Figure 4.1.

Figure 4.1
Peñasco Quemado Project Location Map



Map originally provided by Minera Terra Plata, SA de CV. For the 2007, Micon Technical Report.

4.2 PROPERTY DESCRIPTION AND OWNERSHIP

Loadstar advises that it holds 100% of the Peñasco Quemado Project through its Mexican subsidiary Terra Plata. The property consists of seven exploitation concessions.

The main mineral concessions are contiguous and vary in size for a total property area of 3,746.18 ha. The fractional claims are not contiguous and there is a small mineral concession (San Luis 2) contained within the main Terra Plata mineral concession that is owned by another individual, but this does not impact the main mineralized area on the property. The concessions are subject to a bi-annual fee and the filing of reports in May of each year, covering the work accomplished on the property between January and December of the preceding year.

Table 4.1 summarizes the mining concessions owned of controlled by Loadstar, along with the bi-annual payments to the government for the concessions. Figure 4.2 is a map showing the location of the mineral concessions that comprise the Peñasco Quemado property.

4.2.1 Ownership History

On May 26, 2005, Silvermex Resources Limited (Silvermex), through its then Mexican subsidiary Minera Terra Plata S.A. de C.V, (Terra Plata), acquired the rights to explore the exploitation concessions for four years along with the option to purchase the concessions from Santos Jaime Castillo Romo. Santos Jaime Castillo Romo had previously optioned the concessions from Francisca Adelina Salgado Valle on October 29, 2004, for US$600,000 payable over 48 months. Silvermex agreed to pay US$50,000 and 500,000 shares of Silvermex to Santos Jaime Castillo Romo and committed to pay the remainder of the US$600,000 (US$565,000) due to Francisca Adelina Salgado Valle. Silvermex also agreed to reimburse Santos Jaime Castillo Romo the US$35,000 that he had previously paid on the option. Terra Plata staked exploration concessions in July and September, 2005 and staked further concessions intermittently between January, 2006 and January, 2007.

Silvermex also had obtained a surface access agreement with the owner of the ranch at Peñasco Quemado, for a monthly payment.

Silvermex and Silver Standard entered into a funding agreement dated April 28, 2005 (the Funding Agreement). Pursuant to the Funding Agreement, Silver Standard agreed to provide US$150,000 in seed capital financing to Silvermex. As part of the Funding Agreement, Silver Standard was granted a back-in right on the Peñasco Quemado property. The general terms of the back-in right included Silvermex providing Silver Standard with a resource estimate described as:

> *"an estimate of the measured, indicated and inferred resources of silver, in ounces, for Peñasco Quemado property based on a silver cut-off grade of 50 grams per tonne prepared by an independent qualified person in accordance with NI 43-101. No mineral other than silver shall be included for the purpose of preparing such estimate."*

In addition, the resource threshold which triggered the back-in right was described as meaning:

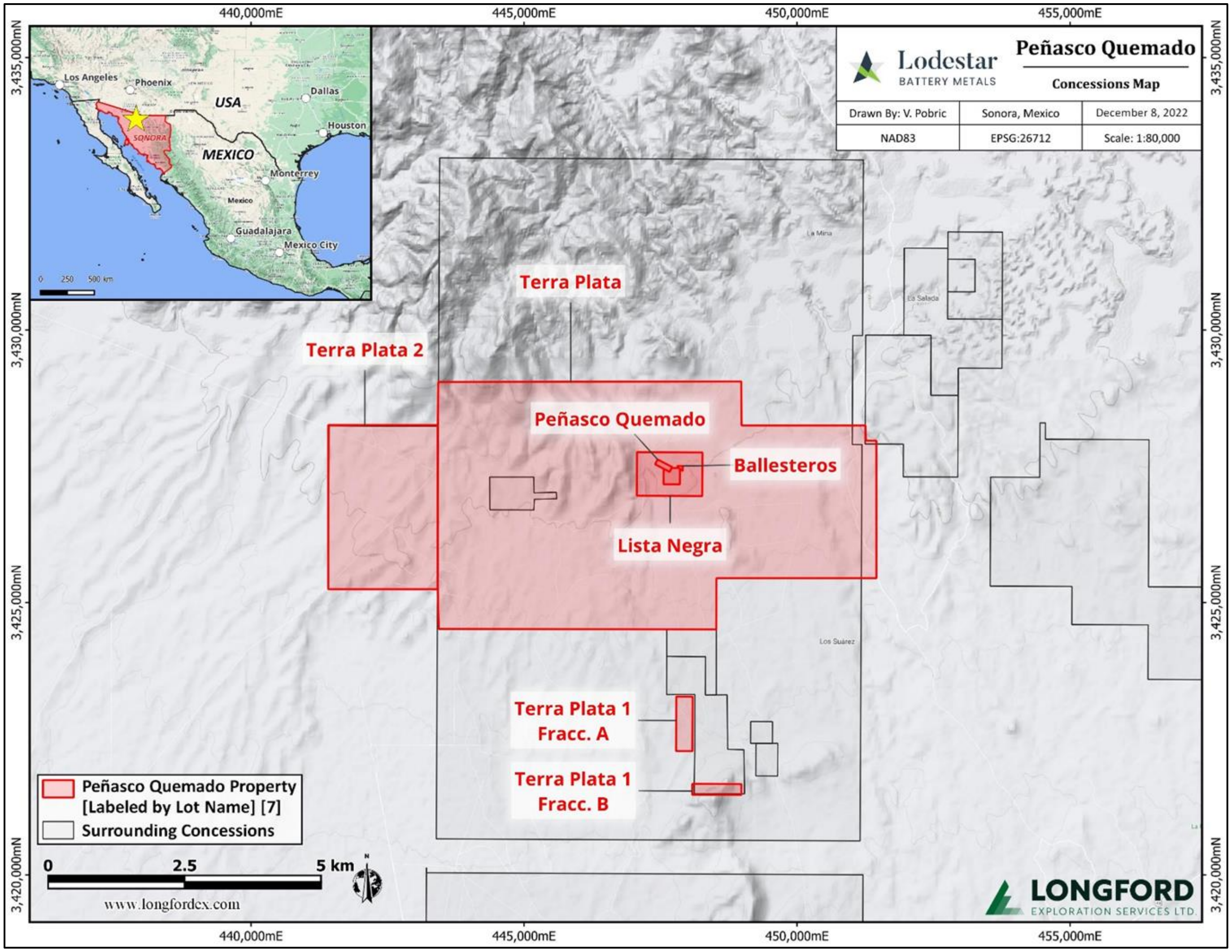
> *"an aggregate of 30 million ounces of silver in the measured, indicated and inferred mineral resource categories set out in a Resource Estimate."*

Table 4.1
Summary of the Mineral Concession Information for the Peñasco Quemado Project

Claim Name	Title Number	Location (UTM Nad 27 Mex)	Area (hectares)	Location Date	Expiry Date	Bi-Annual Tax (MX$)	Bi-Annual Fee (MX$)
Lista Negra	182272	447,450.0111 E 3,427,563.2111 N	84.1161	May 31, 1988	May 30, 2038	$17,157.16	$953.18
Peñasco Quemado	163593	447,450.0111 E 3,427,563.2111 N	3.0000	Oct 30, 1978	Oct. 29, 2028	$611.91	$34.00
Ballesteros	215202	447,425.184 E 3,427,635.530 N	8.8838	Feb 14, 2002	Feb. 13, 2052	$1,812.03	$100.67
Terra Plata R1*	245260	447,420.647 E 3,427,638.877 N	3,002.1824	Oct. 25, 2005	Oct. 24, 2066	$173,976.47	$9,665.36
Terra Plata 1 Fracción A	225836	447,787.362 E 3,423,971.820 N	30.0000	Oct. 27, 2005	Oct. 26, 2055	$6,119.10	$339.95
Terra Plata 1 Fracción B	225837	447,787.362 E 3,423,971.820 N	18.0000	Oct. 27, 2005	Oct. 26, 2055	$3,671.46	$203.97
Terra Plata 2	227947	446,123.106 E 3,427,717.9980 N	600.0000	Sept. 15, 2006	Sept. 14, 2056	$122,382.00	$6,799.00
TOTAL	-	-	**3,746.18**			**$325,730.13**	**$18,096.12**

Note: *This concession was formerly Concession number 225795, prior to it being the subject of a reduction process.
All of the claims are owned by Minera Terra Plata, S.A. de C.V. (Terra Plata).

Figure 4.2
Peñasco Quemado Property Mineral Concession Map



Map supplied by Lodestar, April 2023.

Under this agreement, Silver Standard could elect to enter into a joint venture by expending the greater of double the expenditures incurred to that date by Silvermex or US$1,000,000. Silver Standard would acquire a 51% interest and would be the operator of the project. Silver Standard would also be responsible for reimbursing Silvermex for all property payments made to that date. Silver Standard could increase its interest to 70% by paying all costs required to complete a feasibility study and increase its interest to 90% by paying all costs required to place the property into commercial production. The Silver Standard agreement was terminated, and no further obligations survive.

Other parties controlled a number of mineral concessions which were either contained within the area of the mineral concessions owned by Silvermex and Terra Plata or occurred alongside the concession boundaries, but none of these concessions impacted the main area of the Peñasco Quemado Project.

In September, 2010, Silvermex and Genco Resources Ltd. (Genco) agreed to merge their respective businesses in an all-share transaction. As part of the merger, the new company became known as Silvermex Resources Inc.

On April 3, 2012, First Majestic announced a friendly acquisition of Silvermex for Cdn $175 million. On July 3, 2012, First Majestic completed its acquisition of all of the issued and outstanding shares of Silvermex, pursuant to a court-approved plan of arrangement. As a result, First Majestic became the owner of Silvermex and all of it's subsidiaries, including Terra Plata.

On July 1, 2014, First Majestic spun-out Terra Plata (which was a wholly-owned subsidiary at that time), to Sundance Minerals Ltd., (Sundance) a private exploration company focused on precious metal and base metal projects in Mexico and the United States, which subsequently changed its name to KCP Minerals Inc.

On March 30, 2015, First Mining (named Albion Petroleum Ltd. at the time) completed the acquisition of all of the issued and outstanding shares of KCP Minerals, through a reverse takeover arrangement (RTO), constituting its Qualifying Transaction under the applicable policies of the Toronto stock exchange. As a result of the RTO, KCP Minerals became a wholly-owned subsidiary of First Mining, and all of the assets and subsidiaries of KCP Minerals, such as Terra Plata, became indirectly owned by First Mining.

On August 22, 2016, Silver One Resources Inc. (named BRS Ventures Ltd, at the time), KCP Minerals and Terra Plata entered into a share purchase agreement (Purchase Agreement) whereby Silver One agreed to purchase all of the issued and outstanding shares of KCP Minerals in exchange for 2 million shares in the capital of Silver One and a 2.5% net smelter return royalty (NSR) granted by Silver One in favour of First Mining. Silver One could buy back 1.5% of the NSR by paying US$1 million to First Mining.

On September 1, 2016, BRS Ventures Ltd. changed its name to Silver One Resources Inc. and, as a result, First Mining or its nominee received 6 million shares of Silver One, on a post-split basis, pursuant to the terms of the Purchase Agreement. This transaction was completed on September 27, 2016.

On December 27, 2018, Silver One entered into agreements with First Mining regarding the restructuring of the NSR associated with the Peñasco Quemado, La Frazada and Pluton properties that were acquired from First Mining in 2016. The new agreement granted a 1.5% NSR for each property with a buyback of

1% for US$500,000. Silver One issued 250,000 common shares in the capital of Silver One as consideration for this reduction of the NSR agreements.

On November 19, 2020, Plymouth Realty Capital Corp. (Plymouth) entered into the Share Purchase Agreement, as amended on January 4, 2020 and February 1, 2021, with Silver One and KCP Minerals, whereby Silver One agreed to sell to Plymouth all of the issued and outstanding shares of KCP Minerals. Under the terms of the Share Purchase Agreement, Plymouth was to (a) pay Cdn $1,250,000 in cash to Silver One; (b) issue to Silver One Cdn $3,500,000 of Common Shares of Plymouth (the "Consideration Shares"); (c) pay Cdn $750,000 in cash to Silver One within eighteen months of closing of the Transaction; and (d) pay Cdn $500,000 in cash to Silver One within twenty-four months of closing of the Transaction. The total number of Consideration Shares to be issued to Silver One will be determined by dividing Cdn $3,500,000 by the Offering Price. Plymouth has also granted Silver One a 1.5% Net Smelter Return Royalty (the "Royalty") on each of the Silver Properties. At the option of the Company, Plymouth may repurchase two-thirds (2/3) of the Royalty for a payment equal to US $500,000 for each of the Silver Properties.

On March 3, 2021, Plymouth announced it had completed its qualifying transaction and changed its name to Silverton Metals Corp. (Silverton).

On November 10, 2022, Silverton announced its name change to Lodestar Battery Metals Corp. (Lodestar).

4.3 OBLIGATIONS, ENCUMBRANCES, ENVIRONMENTAL LIABILITIES AND PERMITTING

4.3.1 Mexican Mining Law

When the Mexican mining law was amended in 2006, all mineral concessions granted by the Dirección General de Minas (DGM) became simple mining concessions and there was no longer a distinction between mineral exploration or exploitation concessions. A second change to the mining law resulted in all mining concessions being granted for a period of 50 years, providing that the concessions remained in good standing. As part of the second change, all former exploration concessions which were previously granted for a period of six years became eligible for the 50-year term.

For any concession to remain valid, the bi-annual fees must be paid, and a report has to be filed during the month of May of each year, covering the work conducted during the preceding year. Concessions are extendable, providing that the application is made within the five-year period prior to the expiry of the concession and the bi-annual fee and work requirements are in good standing.

All mineral concessions must have their boundaries orientated astronomically north-south and east-west and the lengths of the sides must be one hundred metres or multiples thereof, except where these conditions cannot be satisfied because they border on other mineral concessions. The locations of the concessions are determined on the basis of a fixed point on the land, called the starting point, which is either linked to the perimeter of the concession or located thereupon. Prior to being granted a concession, a company must present a topographic survey to the DGM within 60 days of staking. Once this is completed, the DGM will usually grant the concession. The exception to the concession boundaries being oriented astronomically north-south and east-west is also applicable to some historical concessions.

4.3.2 Obligations, Encumbrances and Royalties

4.3.2.1 Obligations

Micon and its QPs are not aware of any obligations that Loadstar has that may be associated with the Peñasco Quemado property, beyond those stated in this Technical Report.

However, should further surface exploration be undertaken, Loadstar may be obliged to pay a monthly payment to the property owner in order to secure surface access, in much the same way that Silver One did previously.

4.3.2.2 Encumbrances

Micon and its QPs are not aware of any encumbrances on the Peñasco Quemado property beyond those stated in this Technical Report.

4.3.2.3 Royalties

Micon and its QPs are not aware of any royalties that would be payable to third parties should economic mineralization be extracted on the Peñasco Quemado property, beyond those stated elsewhere in this report. Mexico does levy taxes on mineral production by mines, but this is part of the Mexican tax system and third-party royalties are additional to the taxes due the government.

4.3.3 Private Concessions and Surface Rights

There is a private mineral concession (San Luis 2) located within the main mineral concession, but it does not interfere with the mineralization outlined previously by Silvermex.

The owner of the ranch upon which the Peñasco Quemado mineralization is located controls the surface rights. If an economic discovery were to be made, negotiations with the owner would need to be conducted to acquire the surface rights. At this time, the owner of the ranch maintains locked gates across the access roads, but Loadstar has obtained access rights. Should further exploration work be conducted by Loadstar, the owner may require a monthly fee to be paid to conduct the exploration work, as was the case previously when exploration programs were conducted.

4.3.4 Water Rights

Although water wells exist on the property, Micon has not investigated Loadstar's ability to acquire water use rights for the Project in the long term, should a commercial mining operation be developed. Despite the existing wells on the Peñasco Quemado property, Silvermex previously obtained the water for its drilling program from a well located close to the river in Tubutama, that is owned by a who supplies water for numerous purposes.

4.3.5 Environmental Permitting

In order to begin an exploration program on a concession upon which no substantial mining has been conducted, prior operators were required to file a "Notice of Initiation of Exploration Activities (NOM-

120)" with the federal environmental authorities, to inform them of the scope and environmental impact of the exploration work. Also, a permit to use the local municipal garbage dump in the village of Tubutama was required for garbage disposal. Loadstar will need to have these permits in place or apply for them again if they have expired.

Micon is unaware of any outstanding environmental liabilities attached to the Peñasco Quemado Project and is unable to comment on any remediation that may have been undertaken by previous companies.

4.4 MICON QP COMMENTS

Micon and its QPs are not aware of any significant factors or risks, other than those discussed in this report, that may affect access, title or right or ability to perform work on the property by Loadstar. It is Micon's and its QP's understanding that further permitting and environmental studies should be required if sufficient mineralization was discovered and further economic studies were conducted that demonstrated that the mineralization was sufficient to host a mining operation.

The northern portion of the state of Sonora is very open to mining activity, which has seen significant economic development in recent years. Nevertheless, this area is considered to have some safety and security issues which may affect the development of new mining activities in the future. Security issues in the area will need to be continually monitored by Loadstar. Loadstar will also need to establish ongoing relationships and communication channels with the local population and landowners, as they constitute the best source of information related to non-normal situations.

The Peñasco Quemado property is large enough to be able to locate and accommodate the infrastructure necessary to host any future mining operations, should sufficient economic mineralization be identified on the property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The Peñasco Quemado Project is accessible from Hermosillo, the state capital of Sonora, via both paved and good quality dirt roads. Access is primarily via the Mexican State Highway 15 north from Hermosillo to the junction of State Highway 49, just before the city of Magdalena. From the junction it is approximately 69 km to the village of Tubutama and, thence, by 14.5 km of dirt road to the property.

The dirt road access to the Project was in drivable condition during the 2020 site visit. However, several internal dirt roads that provide access to various portions of the property are generally in poor condition. All of the dirt roads should be improved and repaired before future exploration/evaluation programs are undertaken.

5.2 LOCAL RESOURCES AND INFRASTRUCTURE

The closest population centres are the villages of Tubutama and Sáric situated along Sonora Hwy 43, with the village of Tubutama the closest and Sáric situated to the northeast of Tubutama.

The major population centres for the region are Magdalena to the east of Tubutama and Caborca, 50 km west. With populations of over 50,000 inhabitants, these cities are the supply centres for the region. An airstrip is located on the property but is presently unusable. The closest accommodations are located in Altar, to the southwest of Tubutama, but a camp could be situated on site, as there is an adequate water source and an electric generator for lighting.

The owner of the ranch upon which the Peñasco Quemado mineralization is located controls the surface rights, but prior operators have obtained access rights and Loadstar should be able to obtain these as well.

Water wells exist on the property, but Micon has not investigated the issues regarding Loadstar's ability to acquire water use rights for the Project in the long term, should a commercial mining operation be developed.

5.3 CLIMATE AND PHYSIOGRAPHY

The Project is located in the Arizona-Sonora desert and the climate at the Project site ranges from semi-arid to arid. The average ambient temperature is 21 degrees Celsius (°C), with minimum and maximum temperatures of -5°C and 50°C, respectively. The average annual rainfall for the area is 330 millimetres (mm) with a maximum of 880 mm. The wet season or desert "monsoon" season occurs between the months of July and September and heavy rainfall can hamper exploration at times. However, exploration work can generally be conducted year-round in the desert.

The Peñasco Quemado Project is situated within the southern basin and range physiographic province, which is characterized by elongate, northwest-trending ranges separated by wide alluvial valleys. The Peñasco Quemado property is located in a relatively flat area of the desert with the topography ranging between 700 and 800 metres above sea level (masl).

Figure 5.1 is a view of the Peñasco Quemado property looking north. The main ranch house is located on the West mineralized zone, to the south of this photograph.

Figure 5.1
Peñasco Quemado Property Looking North

Figure derived from the 2007 Micon Technical Report.

The desert vegetation surrounding the Peñasco Quemado Project is composed of low-lying scrub, thickets, and various types of cacti, with the vegetation type classified as Microphyllus Desertic Thicket. The state of Sonora is well known for its mining and cattle industries, although US manufacturing firms have established operations in the larger centres as a result of Mexico's entry into the North American Free Trade Agreement (NAFTA) on January 1, 1994. The trade agreements have greatly benefited Sonora and its population has grown as a result.

5.4 Micon QP Comments

Micon and its QPs believe that, to the extent relevant to the Peñasco Quemado Project, Loadstar should be able to obtain the surface access, environmental sign-off, power, water, and exploration personnel to conduct an exploration program on the property.

6.0 HISTORY

6.1 GENERAL PROPERTY AND EXPLORATION HISTORY TO 2005

Mining in the northern part of the state of Sonora dates back to the precolonial period and both Father Kino and, later, Father Alvaro mentioned the mineral wealth of the surrounding countryside during their missionary travels through this area. The newspaper, Daily Alta California, in its August 6, 1860, edition ran an article on the mineral wealth of Sonora and the Los Angeles Herald, on November 6, 1904, commented on interest in the valuable properties that had been neglected in the Magdalena Mining District.

In the 1700s and 1800s, a number of mineral properties were operated on various scales, but most were abandoned due to the raids conducted on them by the native American tribes in the area, with the most prominent being the Apache's.

The Peñasco Quemado property was mined on a small scale many years ago, most likely prior to the 1910 revolution; however, no details are available regarding this early activity. Foundations of an old foundry or mill and a slag pile remain about 200 m west of the present pit. The shafts located on the property, one in the centre and one to the east of the present pit, as well as one which doubles as a water well in the arroyo west of the pit, are all most likely from this early period. Figure 6.1 shows a view of the old foundry or mill foundations, as seen from across the arroyo. Figure 6.2 is a view of one of the old headframes located on the property in 2007, with Figure 6.3 being a view of the same headframe that had been destroyed by a fire between the 2007 and 2016 site visits.

Figure 6.1
Foundations of the Old Foundry or Mill

Figure derived from the 2007 Micon Technical Report.

Figure 6.2
Old Headframe East of the Open Pit in 2007

Figure derived from the 2007 Micon Technical Report.

Figure 6.3
Old Headframe East of the Open Pit in 2016 after a Fire

2016, Micon site visit photograph.

Modern exploration activity on the property dates from the early 1960s, when Asarco Mexicana (Asarco) reportedly optioned the property as a copper-silver prospect and drilled a total of 531 m of core in 12 holes. Incomplete reports regarding the Asarco exploration indicate that the core recoveries averaged less than 50%. Intercepts of silver were encountered in several drill holes, but the average grades as indicated by drilling (0.04% copper and 56 g/t silver) were uneconomic (according to the 1982 Cerro de Plata report). None of the Asarco reports has survived and Micon and its QPs have been unable to independently confirm the Asarco data.

Small scale mining was carried out intermittently at Peñasco Quemado by Adalberto Ballesteros, beginning in the late 1970s. Silver ore with a grade averaging approximately 225 g/t was mined from a small open pit and the material was shipped as flux ore to the Phelps Dodge smelter in Douglas, Arizona. A total of approximately 10,000 tons was mined from the pit. Figure 6.4 shows the small open pit located on the Peñasco Quemado property.

Figure 6.4
Small Open Pit at Peñasco Quemado

Photograph taken during the 2016 Micon site visit.

6.1.1 Cerro de Plata Exploration 1980's (Known Data)

Cerro de Plata optioned the Peñasco Quemado property in early 1981 from Adalberto Ballesteros Duran and Bartolome Lugo Lopez. Cerro de Plata completed the initial geological mapping and surface sampling by March, 1981, and that was immediately followed by a drilling program. During the Phase 1 drilling program in April and May, 1981, 12 vertical percussion holes totalling 469 m were drilled in a rectangular grid pattern of 30 m by 20 m, extending 200 m west of the pit. In 10 of the 12 holes, significant grades were encountered over good widths. Subsequently, 13 additional holes totalling 814 m were drilled between December, 1981 and February, 1982. During both phases of drilling, the average depth of the holes was 51 m. In addition to the extra drill holes, the geological mapping program and geochemical sampling program were extended over the entire mineralized area. The exploration results delineated shallow silver mineralization in the West zone. Figure 6.5 is a view of a cement marker placed to denote the location of drill hole No. 5.

Figure 6.5
Site Location of Cerro de Plata Drill Hole No. 5

Figure derived from the 2007 Micon Technical Report.

All 25 holes drilled by Cerro de Plata were percussion holes, using a Mission down-the-hole-hammer and a 6.5-inch diameter bit. Phase I drilling was contracted to Pozos Republicos and Phase II was contracted to Proyectos y Perforaciones Hidraulicas del Noroeste. An 8-inch diameter collar pipe, a minimum of 1 m long, was set in each hole and holes collared in poorly consolidated alluvium were drilled to bedrock using a 10-inch diameter rotary tricone bit. Eight-inch diameter PVC pipe was set as casing through the alluvium and drill cuttings were collected after passing through a cyclone. Bedrock samples were collected over 1-m intervals for each of the drill holes and the samples averaged approximately 10 kg each. Each sample was thoroughly mixed, then split, with one quarter of the sample sent for assay and the remainder were retained and stored on site. Pulps from the assays were retained.

All of the drill samples were analyzed at the Jacobs Assay Office in Tucson, Arizona, for silver and gold by fire assay, and for copper and manganese by atomic adsorption. Sample splits for the Phase I drilling were fire assayed for silver and gold by Valenzuela Laboratories (Santa Ana, Sonora). Phase II sample splits were fire assayed for silver and gold by Metales Santa Ana (Santa Ana, Sonora). Check assays on the sample splits and pulps were conducted by Rochin Assay Laboratories, of Douglas, Arizona. Sample preparation, analysis and security details are not available for the historical work conducted by Cerro de Plata on the property in the 1980s. All of the laboratories used were independent of Cerro de Plata but, as it was prior to the advent of certification, it is not known if these laboratories were certified at the time the samples were processed.

Detailed lithologic logs of the 25 drill holes were not prepared because of the small size of the drill cuttings. Recoveries from the percussion material were believed to be good, with better than 90% being recovered.

The following summary of Cerro de Plata's exploration program was provided by Silvermex for Micon's 2007 Technical Report:

- 1981: Prior to March, 1981, geological mapping and surface sampling were completed.
- 1981: During the months of April and May, 12 vertical percussion holes were completed, totalling 469 m, in a rectangular grid pattern measuring 30 m by 20 m, and extending 200 m west of the pit. Significant grades over good widths were noted in 10 of the 12 holes and an additional 13 holes totalling 814 m were drilled from December, 1981 through February, 1982.
- 1982-1983: The option was dropped.

Table 6.1 and Table 6.2 provide a summary of the historical 1982 drilling data at Peñasco Quemado. The data were provided by Silvermex and Terra Plata for the 2007 Technical Report.

From 1983 to 2004 there was no major exploration conducted on the property.

Table 6.1
Summary of Percussion Drill Hole Statistics from the 1982 Drill Program

Drill Hole Number	Drill Collar UTM Co-ordinates (Datum WGS84)			Section Line	Azimuth	Angle	Total Depth (m)
	Easting	Northing	Elevation				
B-1	447,336.160	3,427,758.583	813.886	0	0˚	-90˚	35.00
B-2	447,358.779	3,427,738.444	813.086	30-SE	0˚	-90˚	81.00
B-3	447,383.684	3,427,715.592	812.633	60-SE	0˚	-90˚	30.00
B-4	447,463.832	3,427,672.541	813.585	150-SE	0˚	-90˚	43.00
B-5	447,478.226	3,427,687.645	816.083	150-SE	0˚	-90˚	38.00
B-6	447,418.348	3,427,712.064	814.327	90-SE	0˚	-90˚	25.00
B-7	447,397.240	3,427,731.766	815.708	60-SE	0˚	-90˚	38.00
B-8	447,404.083	3,427,697.195	813.028	90-SE	0˚	-90˚	43.00
B-9	447,428.096	3,427,676.235	812.293	120-SE	0˚	-90˚	32.00
B-10	447,450.984	3,427,656.660	812.004	150-SE	0˚	-90˚	44.00
B-11	447,488.335	3,427,651.373	812.054	180-SE	0˚	-90˚	42.00
B-12A	447,442.130	3,427,691.475	813.554	120-SE	0˚	-90˚	32.00
B-13	447,523.577	3,427,644.506	811.263	210-SE	0˚	-90˚	50.00
B-14	447,472.505	3,427,635.749	810.985	180-SE	0˚	-90˚	57.00
B-15	447,567.811	3,427,604.704	811.763	270-SE	0˚	-90˚	44.00
B-16	447,613.618	3,427,564.222	811.087	330-SE	0˚	-90˚	57.00
B-17	447,563.892	3,427,554.561	809.086	300-SE	0˚	-90˚	67.00
B-18	447,518.193	3,427,595.217	810.219	240-SE	0˚	-90˚	70.00
B-19	447,567.042	3,427,646.607	813.868	240-SE	0˚	-90˚	69.00
B-21	447,415.853	3,427,661.912	811.752	120-SE	0˚	-90˚	80.00
B-22	447,427.032	3,427,623.497	811.070	150-SE	0˚	-90˚	80.00
B-23	447,461.211	3,427,620.980	810.720	180-SE	0˚	-90˚	80.00
B-24	447,465.560	3,427,582.342	810.103	210-SE	0˚	-90˚	85.00
B-25	447,674.450	3,427,449.450	810.130	450-SE	0˚	-90˚	80.00

Notes: The above table excludes Cerro de Plata drill holes B-9A (which was not drilled), B-12 (for which the information has been lost) and B-20 (which could not be located). All existing information for these holes was noted in the December, 2005, Technical Report.
Table supplied by Minera Terra Plata, SA de CV., for the 2007 Micon Technical Report.

Table 6.2
Summary of Significant Percussion Drill Hole Intervals from the 1982 Drill Program

Drill Hole No.	Total Depth (m)	Angle	Cross Sections	Mineralized Intersections (m)			Significant Assays				Comments
				From	To	Thick	Ag g/t	Cu %	Au g/t	Mn %	
B-4	43.00	-90°	-120 SE	2.00	15.00	13.00	232	0.45	0.03	3.10	
				15.00	22.00	7.00	117	0.12	0.01	3.40	
B-6	25.00	-90°	-90 SE	1.00	18.00	17.00	110	0.11	0.05	3.16	
		Including		1.00	4.00	3.00	185	0.09	0.02	3.54	
		Include		11.00	14.00	3.00	202	0.16	-	3.28	
B-7	38.00	-90°	-60 SE	-	16.00	16.00	117	0.12	0.07	2.74	
		Including		-	11.00	11.00	139	-	-	-	
B-9	32.00	-90°	-120 SE	2.00	22.00	20.00	288	0.40	0.48	3.85	
		Including		2.00	12.00	10.00	235	-	-	-	
		Including		12.00	20.00	8.00	411	-	-	-	
		-90°	-120 SE	22.00	32.00	10.00	48	0.01	0.23	4.81	
B-10	44.00	-90°	-150 SE	3.00	23.00	20.00	228	0.33	0.13	2.69	
		Including		13.00	23.00	10.00	259	-	-	-	
		-90°	-150 SE	23.00	44.00	21.00	54	0.02	0.29	4.24	Low silver grade, open at depth.
B-11	42.00	-90°	-180 SE	1.00	24.00	23.00	303	0.38	0.23	1.47	
B-13	50.00	-90°	-210 SE	7.00	26.00	19.00	114	0.30	0.33	4.34	
				26.00	41.00	15.00	133	0.31	0.79	7.59	
B-14	57.00	-90°	-180 SE	9.00	29.00	20.00	200	0.21	0.57	3.69	
				56.00	57.00	1.00	394	0.04	0.51	0.85	Silver mineral zone open at depth.
B-18	70.00	-90°	-240 SE	5.00	37.00	32.00	125	0.14	0.09	1.54	
				66.00	70.00	4.00	410	0.44	0.28	1.00	Silver mineral zone open at depth.
B-21	80.00	-90°	-120 SE	12.00	22.00	10.00	186	0.32	0.07	1.54	
				22.00	30.00	8.00	48	0.21	0.20	6.17	
B-22	80.00	-90°	-150 SE	29.00	34.00	5.00	155	0.10	0.76	2.67	
				34.00	39.00	5.00	73	0.02	0.06	2.32	
				39.00	49.00	10.00	84	0.08	0.07	2.16	
B-23	80.00	-90°	-180 SE	18.00	64.00	46.00	203	0.30	0.11	1.85	
		Including		27.00	42.00	15.00	397	-	-	-	
B-24	85.00	-90°	-210 SE	27.00	53.00	26.00	233	0.33	0.04	0.53	
		Including		25.00	39.00	14.00	302	-	-	-	
		Including		41.00	47.00	6.00	348	-	-	-	

Table originally supplied by Minera Terra Plata, SA de CV. for the 2007 Micon Technical Report.

In 2004, exploration work was carried out by geologists Julio Cesar Esquer and Jaime Castillo. They conducted field mapping and sampling on the brecciated zones and successfully delineated a continuous 1,500 m by 150 m mineralized zone. A total of 21 chip samples were collected at this time; 14 samples were collected from the brecciated zone to confirm the continuity of the West and East zones and 7 samples were collected from the granitic intrusive within previously identified strongly fractured and oxidized zones.

6.2 EXPLORATION HISTORY 2005 TO 2020

The information in this section of the report has been obtained and, in some cases, summarized from previous Micon NI 43-101 Technical Reports authored or coauthored by William Lewis for owners of the property, prior to Lodestar.

6.2.1 Silvermex Exploration Programs at Peñasco Quemado 2005

After acquiring the property, Silvermex initiated a review of the available geological data for the Project and compiled all information into a comprehensive database. Based upon the database, Silvermex identified a number of immediate exploration targets in and around the old pit and in the surrounding West and East zones which warranted further work.

In September, 2005, Silvermex conducted its first exploration program on the Peñasco Quemado property which was comprised of 15 reverse circulation drill holes, and totalling 1,449.35 m. The objective of the exploration program was two-fold: first, to confirm the results of the previous drilling programs conducted by Cerro de Plata on the West zone and, secondly, to progressively extend the drilling to the southwest to explore and to expand the limits of the known silver mineralization on the West zone, and to begin to explore the mineral potential of the East zone.

The drilling was conducted by Dateline Internacional S.A. de C.V. (Dateline), which is based in the city of Hermosillo, Sonora. Dateline is an independent drilling contractor and has no interest in Silvermex or its subsidiary Terra Plata.

The RC program was conducted by using a single-track mounted RC drill, equipped with a 750/900 cubic feet per minute (cfm) compressor. The diameter of the RC drill bit was 12.5 centimetres (cm, five inches) and the drilling pipe was 10.0 cm (four inches).

The drilling program was designed by Silvermex personnel and a new grid was laid out over the West and East zones, using a reference line at an azimuth of 134° and using historical drill hole B-1 as the initial point for the grid. The reference line was the support line for a grid in which the cross-sections are situated 30 m apart and strike south 44˚ east and north 46˚ west.

The initial drill hole collar locations were measured from the reference line using a Brunton compass and chain and marked prior to drilling with wooden stakes denoting the drill hole collar location, plus a front sight. The individual cross-cutting grid lines along the reference line were spaced out along the line at 30-m intervals by inserting a metal pin into the ground. These metal pins were flagged and spray painted for ease of location. After the drill hole was completed, the collar locations were marked with cement markers denoting the drill hole number. The collar location was also measured using a hand-held GPS instrument (Garmin model 12XL). The WGS84 (Mexico) World Geodetic System co-ordinate system was adopted for this drilling program. Silvermex also re-measured the collar locations of the 1982 Cerro de Plata drill holes, using the GPS instrument, in order to tie in both programs to a common survey.

Contour lines and other features, such as roads, creeks, limit fences et cetera, were positioned by approximation using a government map of the area in digital format and, in most cases, were originally surveyed by the Instituto Nacional de Estadistica Geografia e Informatica (INEGI).

The lithologies and alteration features encountered by the RC drill holes were described on hand-written logs and sampled as they were in progress. A portion of the material generated for each sample interval was retained in a plastic specimen tray. Each compartment in the specimen tray was marked with both the sample interval and sample number. Blank compartments within the trays were left for the locations at which both blank samples and standard samples were inserted into the sample stream. Compartments within the trays were also designated for duplicate samples.

The RC drilling was primarily confined to the West zone, with 13 of the total 15 drill holes concentrated in this area. The remaining two holes were drilled on the East zone, close to the silicified manganese copper mineralized outcrops located at the southeastern extent of the mineralized trend.

The previous percussion drilling program conducted by Cerro de Plata in the early 1980s indicated that the West zone of silver mineralization dips at a shallow angle to the southwest. Cerro de Plata drilled all holes vertically, whereas Silvermex drilled perpendicular to the apparent strike of the mineralization. The dip of the holes was set at -60° to account for the shallow dip and attempted to crosscut the mineralization perpendicular to its dip. The azimuth of the holes was 46°. The depth of the drill holes was based on a preliminary outline of the mineralized zone, as indicated by the original Cerro de Plata drilling. The recovery of the material appeared to be good, with an estimated better than 90% of the material recovered from the RC holes.

At the northwestern extent of the mineralization (West zone) the holes were drilled to a maximum depth of 121.92 m, with an average depth of 94 m. At the southeastern extent of the mineralization, drill hole PQ 12 was drilled to a depth of 83.83 m and drill hole PQ 13 was drilled to a depth of 134.11 m.

Silvermex's fall 2005 drilling program was successful in confirming the nature of the mineralization which Cerro de Plata had encountered during its exploration programs in the early 1980s. Silvermex also began to extend the mineralization in both the southeast direction, towards what Cerro de Plata referred to as the East zone, and in the southwest direction towards the arroyo (creek). The drilling program also started to explore the nature and extent of the silver mineralization in the East zone. All 15 of the RC drill holes encountered some degree of silver, copper, manganese and lead mineralization.

Table 6.3 provides a summary of Silvermex's 2005 drilling program on the property.

Table 6.4 is a summary of the depth of the alluvial material encountered in each hole on the Peñasco Quemado property.

Table 6.3
Summary of Reverse Circulation Drill Hole Statistics from the 2005 Drill Program

Drill Hole Number	Drill Collar UTM Co-ordinates (Datum WGS84)			Section Line	Azimuth	Angle	Total Depth (m)
	Easting	Northing	Elevation				
PQ-01	447,426.200	3,427,677.011	812.138	120-SE	44.000	-60.00	67.05
PQ-02	447,390.692	3,427,642.206	811.580	120-SE	44.000	-60.00	91.44
PQ-03	447,421.457	3,427,588.171	810.385	180-SE	44.000	-60.00	100.58
PQ-04	447,457.141	3,427,624.647	810.897	180-SE	44.000	-60.00	91.44
PQ-05	447,488.970	3,427,659.043	812.548	180-SE	44.000	-60.00	60.96
PQ-06	447,451.876	3,427,534.226	809.336	240-SE	44.000	-60.00	114.30
PQ-07	447,488.501	3,427,571.424	809.596	240-SE	44.000	-60.00	94.48
PQ-08	447,525.232	3,427,606.431	810.335	240-SE	44.000	-60.00	64.01
PQ-09	447,507.899	3,427,506.589	808.327	300-SE	44.000	-60.00	121.92
PQ-10	447,564.228	3,427,478.492	807.038	360-SE	44.000	-60.00	121.92
PQ-11	447,608.048	3,427,390.856	805.259	450-SE	44.000	-60.00	115.82
PQ-12	447,843.457	3,427,274.840	799.513	700-SE	44.000	-60.00	85.34
PQ-13	447,980.569	3,427,130.127	795.688	900-SE	44.000	-60.00	134.11
PQ-14	447,360.964	3,427,698.263	812.384	60-SE	44.000	-60.00	73.15
PQ-15	447,430.654	3,427,554.417	809.779	210-SE	44.000	-60.00	109.78

Table extracted from 2005 Silvermex Technical Report.

Table 6.4
Depth of Alluvial Material Encountered in the 2005 Drill Holes at Peñasco Quemado

Drill Hole Number	Drill Hole Angle	Section Line	Depth of Alluvial in Drill Hole (m)	
			Drilling Distance	Vertical Distance
PQ-01	-60°	120-S	0.00	0.00
PQ-02	-60°	120-S	18.29	15.83
PQ-03	-60°	180-S	24.38	21.12
PQ-04	-60°	180-S	10.67	9.24
PQ-05	-60°	180-S	0.00	0.00
PQ-06	-60°	240-S	21.34	18.48
PQ-07	-60°	240-S	15.24	13.19
PQ-08	-60°	240-S	3.05	2.64
PQ-09	-60°	300-S	24.38	21.13
PQ-10	-60°	360-S	19.81	17.16
PQ-11	-60°	450-S	19.81	17.16
PQ-12	-60°	700-S	13.72	11.87
PQ-13	-60°	900-S	3.05	2.64
PQ-14	-60°	060-S	9.14	7.92
PQ-15	-60°	150-S	19.81	17.15

Table extracted from 2005 Silvermex Technical Report.

Table 6.5 is a summary of the significant assay results of Silvermex's 2005 exploration drilling program.

Table 6.5
Summary of Significant Reverse Circulation Drill Hole Intervals from the 2005 Drill Program

Drill Hole No.	Total Depth (m)	Angle	Azimuth	Cross Sections	Mineralized Intersections (m)				Significant Assays			Comments
					From	To	Interval	True Width	Ag g/t	Cu %	Mn %	
PQ-01	67.05	-60°	44°	120-S	0.00	36.58	36.58	36.58	182	0.228	3.245	Includes values above 30 g/t silver
				Including	12.19	19.81	7.62	7.62	445	0.554	0.440	
PQ-02	91.44	-60°	44°	120-S	18.29	39.62	21.34	21.34	76	0.048	2.871	
				Including	22.86	27.43	4.57	4.57	151	0.136	1.803	
PQ-03	100.58	-60°	44°	180-S	35.05	68.58	33.53	33.53	239	0.295	1.231	
				Including	35.05	54.86	19.81	19.81	279			
				Including	56.39	68.58	12.19	12.19	377			
PQ-04	91.44	-60°	44°	180-S	9.14	60.96	51.82	51.82	125	0.164	2.884	
				Including	9.14	28.96	19.81	19.81	163			
				Including	45.72	60.96	15.24	15.24	154			
PQ-05	60.96	-60°	44°	180-S	0.00	30.48	30.48	30.48	207	0.424	4.960	
PQ-06	115.82	-60°	44°	240-S	51.82	79.25	27.43	27.43	73	0.078	1.871	
				Including	62.48	65.53	3.05	3.05	242			
PQ-07	94.49	-60°	44°	240-S	15.24	44.20	28.96	28.96	220	0.273	2.295	Hole terminated in high grade silver
				Including	15.24	19.81	4.57	4.57	319			
				Including	25.91	38.10	12.19	12.19	299			
				And	91.44	94.49	3.05	3.05	151			
PQ-08	64.01	-60°	44°	240-S	3.05	18.29	15.24	15.24	87	0.197	2.481	
				Including	6.10	10.67	4.57	4.57	153			
PQ-09	121.92	-60°	44°	300-S	41.15	54.86	13.71	13.71	44	0.117	0.283	
				And	65.53	70.10	4.57	4.57	61			
PQ-10	121.92	-60°	44°	360-S	62.48	64.01	1.53	1.53	21	0.018	3.100	From 62.48 m to the end of the hole are anomalous silver values above 10-15 ppm
				And	80.77	83.82	3.05	3.05	27			
				And	108.20	121.92	13.71	13.71	25			
PQ-11	115.82	-60°	44°	450-S	77.72	82.3	4.58	4.58	30	0.017	2.743	
PQ-12	85.34	-60°	44°	700-S	45.72	47.24	1.52	1.52	33	0.022	7.310	
PQ-13	134.11	-60°	44°	900-S	109.73	111.25	1.52	1.52	40	0/072	0.350	Very separated anomalous silver values
PQ-14	73.15	-60°	44°	060-S	7.62	15.24	7.62	7.62	48	0.052	1.914	
PQ-15	109.78	-60°	44°	150-S	50.29	70.72	20.43	20.43	117	0.170	1.781	
				Including	51.82	67.06	15.24	15.24	168			

Table extracted from 2005 Silvermex Technical Report.

Subsequent to the initial 2005 drilling program, prospecting, geological mapping and sampling were carried out on the Peñasco Quemado property and this information was combined with the 2005 drilling results to identify further exploration and in-fill drilling targets.

6.2.2 Silvermex Exploration Programs at Peñasco Quemado 2006

The 2006 drilling program conducted by Silvermex at the Peñasco Quemado Project was comprised of 19 drill holes totalling 2,248.61 m, of which 12 holes (1,639.03 m) were diamond drilling and seven holes (609.58 m) were reverse circulation. The core drilling was distributed as follows: four holes were drilled in the Peñasco Quemado area (West zone), four holes were drilled in the southeastern portion of the Peñasco Quemado area (East zone) and the remaining four holes were drilled at the San Luis-Pink Breccia area, west of the Peñasco Quemado area. The reverse circulation drilling was distributed as follows: two in-fill holes were drilled in Peñasco Quemado (West zone), two holes in the Stockwork area and three holes were drilled in the Low Angle area, which lies to the west of the Peñasco Quemado area.

The drilling contractor chosen by Silvermex to conduct the diamond drilling was Construccion, Arrendamiento de Maquinaria y Mineria, S.A. de C.V. (CAMMSA), which is based in the city of Guanajuato, Guanajuato, in central Mexico. Diversified Drilling S.A. de C.V. (Diversified), formerly Dateline Internacional S.A. de C.V. (Dateline), based in the city of Hermosillo, Sonora, was the drilling contractor chosen by Silvermex to conduct the reverse circulation drilling. Both drilling contractors are independent contractors with no interest in Silvermex or its subsidiary Terra Plata.

The diamond drilling portion of the program was conducted by using one drilling rig mounted on skids, model LY-38. The diameter of the diamond drill core was either NQ or HQ, with the size determined by the hardness and conditions of the bedrock encountered during the drilling.

The reverse circulation program was conducted using a single-track mounted drill, equipped with a 750/900 cubic feet per minute (cfm) compressor. The diameter of the reverse circulation drill bit was 12.5 centimetres (cm, five inches) and the drilling pipe was 10.0 cm (four inches).

The locations of new drill holes in the main Peñasco Quemado area (West zone) were selected based on the drill holes of the 2005 program. The drill hole locations in the southeastern portion of the Peñasco Quemado area (East zone) and for the targets in the western area of the property were selected based on the geology and the combined interpretation of the geology-alteration and assay results. The initial drill hole collars were located using a hand-held Garmin GPS Map model 60CSx and marked prior to drilling with wooden stakes denoting the drill hole collar, plus a front sight line to indicate the azimuth of the hole. After a drill hole was completed, the collar location was marked with a cement marker denoting the drill hole number.

The first area covered by the 2006 drilling program was the immediate area southeast of the old pit, in-order to extend the trend of the high-grade mineralization exposed in the pit. The 2006 drill holes confirmed the presence of high-grade silver mineralization in the lower conglomerates and breccias, for at least 300 m along strike to the southeast and extended the mineral deposit 50 m to the southwest down dip. The step out drilling program provided valuable information regarding the structural history and orientation of the mineral deposit. While the mineralization is consistent along the entire 750 m of strike length, its general southeast trend has been offset by north-south faulting approximately 450 m southeast of the old pit.

The drilling program for the Peñasco Quemado area once again used the original Cerro de Plata grid laid out over the Project area in 1982. The section lines are orientated at a 46° azimuth and systematically separated a distance of 30 m, with the reference line orientated at an azimuth of 134°.

Upon completion of the 2006 drilling program, all drill hole collars, including those of the 2005 drill program and the 1982 program that had a reliable position, were surveyed by an independent contractor, InterGeografica de Mexico, S.A. de C.V. (InterGeografica), using a GPS Total Station Trimble 5700 movil and 4700 rover (base), and then linked to the drilling of the 1982 program completed by Cerro de Plata. A detailed survey map was also generated for the Peñasco Quemado West zone, which covered approximately 45 hectares, with contour lines every 0.50 m.

For the other target areas, the contour lines and other features such as roads, creeks, limit fences, etcetera were positioned by approximation, using a government map in digital format, and, in most cases, these were originally surveyed by the Insituto Nacional de Estadistica, Geografia e Informatica (INEGI).

Table 6.6 provides a summary of Silvermex's 2006 drilling program on the property.

Table 6.6
2006 Diamond and Reverse Circulation Drilling Program at Peñasco Quemado

Drill Hole Number	Drill Hole Depth (m)	Drill Hole Angle (°)	Azimuth (°)	Section Line	Drill Collar UTM Coordinates (Datum WGS84)		
					Easting	Northing	Elevation
PQ-16	109.73	-90	-----	210-SE	447,4270.183	3,427,550.460	808.999
PQ-17	109.73	-90	-----	270-SE	477,527.681	3,427,561.567	809.130
PQD-01	164.25	-60	45	240-SE	447,485.195	3,427,568.144	809.685
PQD-02	150.05	-60	45	150-SE	447,417.972	3,427,632.365	811.399
PQD-03	160.60	-60	45	180-SE	447,387.204	3,427,560.413	809.538
PQD-04	208.15	-60	45	450-SE	447,664.294	3,427,448.094	808.312
PQD-05	250.45	-50	45	720-SE	447,888.987	3,427,293.098	801.624
PQD-06	288.25	-50	75	960-SE	448,091.312	3,427,154.581	794.831
PQD-07	69.45	-60	75	1080-SE	448,179.974	3,427,068.187	792.316
PQD-08	69.45	-90	-----	150-SE	447,400.076	3,427,614.770	811.016
SLD-07 *	78	-70	60	SLD-07-08	445,978.125	3,427,291.745	831.462
SLD-08 *	51.6	-70	60	SLD-07-08	445,931.741	3,427,260.601	836.775
SLD-09 *	52.25	-70	60	SLD-09	445,950.864	3,427,317.520	838.694
SLD-10 *	55.68	-70	60	SLD-10	445,968.788	3,427,245.915	833.208
STW-01	79.24	-90	-----	STW-01	445,371.910	3,427,200.795	832.553
STW-02	100.58	-90	-----	STW-02	445,521.130	3,427,435.585	870.409
LA-01	42.67	-90	-----	LA-01	446,572.155	3,426,810.500	811.290
LA-02	42.67	-90	-----	LA-02	446,410.590	3,426,693.843	796.489
LA-03	100.58	-90	-----	LA-03	446,708.969	3,426,855.180	810.406
Total Drilling	**2,183.38**						

Note: PQD prefix means diamond drilling.
* Diamond Drilling.
Table extracted from the 2007 Micon Technical Report.

Table 6.7 is a summary of the depth of the alluvial material encountered in each hole during the 2006 drilling on the Peñasco Quemado Project.

Table 6.7
Depth of Alluvial Material Encountered in the 2006 Drill Holes at Peñasco Quemado

Drill Hole Number	Drill Hole Angle	Section Line	Depth of Alluvial in Drill Hole (m)	
			Drilling Distance	Vertical Distance
PQ-16	-90°	210-SE	12.19	12.19
PQ-17	-90°	270-SE	4.57	4.57
PQD-01	-60°	240-SE	22.70	19.65
PQD-02	-60°	150-SE	18.40	15.93
PQD-03	-60°	180-SE	18.80	16.28
PQD-04	-60°	450-SE	1.60	1.38
PQD-05	-50°	720-SE	0.00	0.00
PQD-06	-50°	960-SE	1.00	0.76
PQD-07	-60°	1080-SE	0.95	0.82
PQD-08	-90°	150-SE	21.50	21.50
SLD-07	-70°	Sec SLD-07	0.85	0.79
SLD-08	-70°	Sec SLD-08	1.30	1.22
SLD-09	-70°	Sec SLD-09	1.40	1.31
SLD-10	-70°	Sec SLD-10	0.65	0.61
STW-01	-70°	STW-01	0.00	0.00
STW-02	-70°	STW-02	0.00	0.00
LA-01	-90°	LA-01	0.00	0.00
LA-02	-90°	LA-02	0.00	0.00
LA-03	-90°	LA-03	0.00	0.00

Table extracted from the 2007 Micon Technical Report.

Table 6.8 is a summary of the significant assay results of Silvermex's 2006 exploration drilling program for the Peñasco Quemado area (West zone) and Southeastern Trend (East zone).

Figure 6.6 is a geological map of the Peñasco Quemado area, showing the locations of the drill holes in the West and East zones.

Figure 6.7 and Figure 6.8 show the locations of the 2006 drill holes in relationship to the previous drilling on the West zone at the Peñasco Quemado Project for Sections 240-SE and 150-SE, respectively.

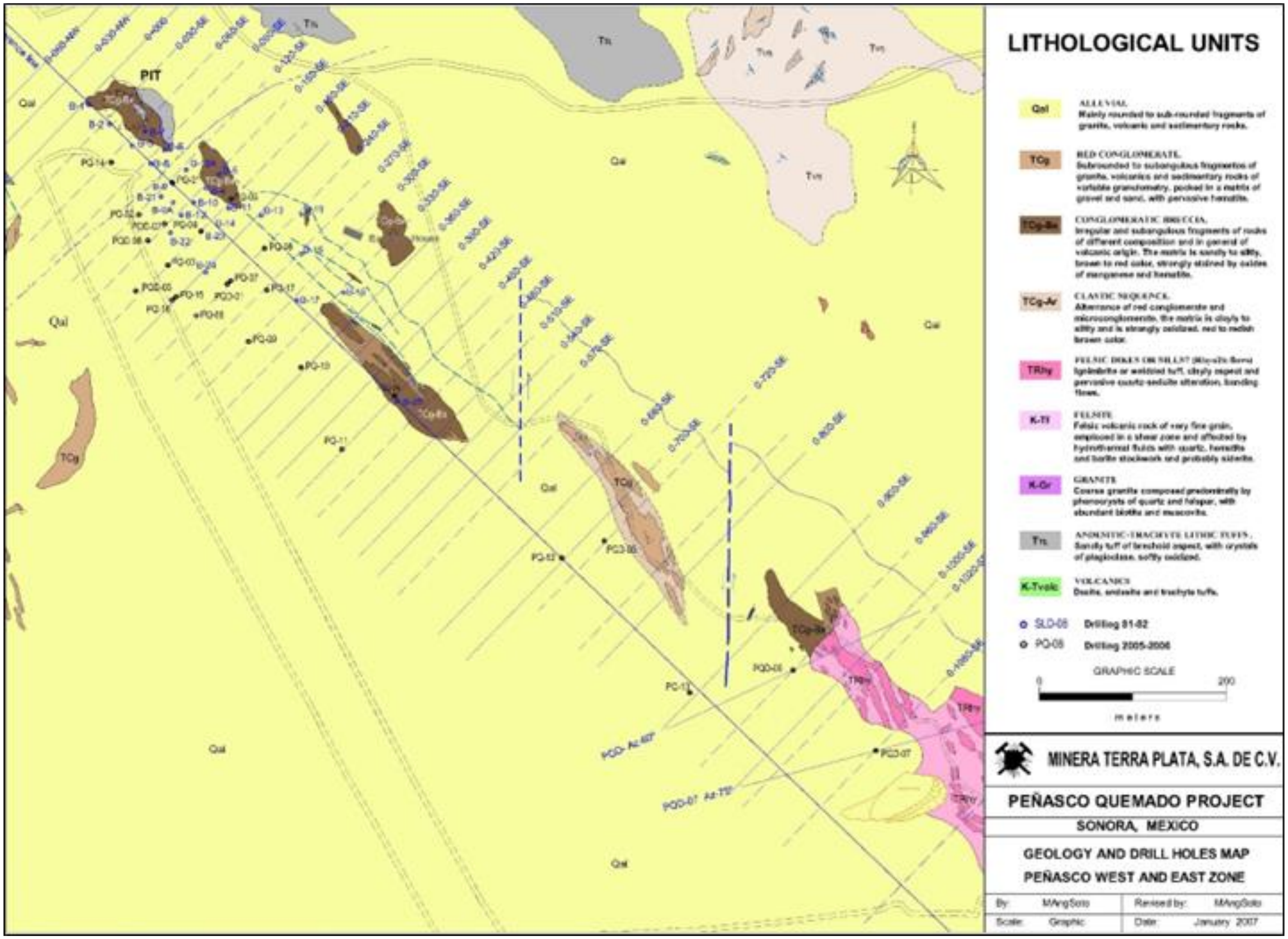
Figure 6.9 and Figure 6.10 show the locations of the 2006 drill holes in relationship to the previous drilling on the East zone at the Peñasco Quemado project for Sections 450-SE and 720-SE, respectively.

Table 6.8
Summary of Significant Assay Results for the 2006 Drilling Program Peñasco Quemado Area (West Zone) and Southeastern Trend (East Zone)

Drill Hole Number	Drill Hole Depth (m)	Drill Hole Angle (°)	Azimuth (°)	Cross-Section	Mineralization Interval (m)				Drill Hole Assay Results			Comments
					From	To	Core Length	True Width	Silver (g/t)	Copper (%)	Manganese (%)	
PQD-01	164.25	-60	46	240-SE	22.70	43.60	20.90	20.90	99	0.215	0.674	This hole is a twin for hole PQ-07 drilled during the 2005 reverse circulation program. Hole drilled for geological data.
				including	22.70	35.00	12.30	12.30	117			
PQD-02	150.05	-60	46	150-SE	19.60	49.10	29.50	29.50	168	1.143	1.66	In-fill drilling for geological data to support resource estimate.
				including	19.60	38.40	18.80	18.80	229			
PQD-03	160.60	-60	46	180-SE	56.90	66.05	9.15	9.15	268	0.228	1.24	Exploration and in-fill drilling to test continuity of mineralization to the southwest of the known limit and confirm extension.
PQD-04	208.15	-60	45	450-SE	-----	-----	-----	-----	-----	-----	-----	Low silver values were encountered from surface to a depth of 60 m, more drilling is needed to check its relationship to values in PQD-05
PQD-05	250.45	-50	45	720-SE	55.50	69.50	14.00	14.00	79			The assay results open-up possibilities in the East zone. The mineralization is open at depth and in the direction of the leached outcrop, in the inverse direction of the dip, confirming the displacement of the mineralized structure by north-south faulting.
				Includes	62.00	69.50	7.50	7.50	110			
PQD-06	288.25	-50	75	960-SE	-----	-----	-----	-----	-----	-----	-----	Located 900 m south of the present pit, with no significant assay results encountered.
PQD-07	69.45	-60	75	1080-SE	-----	-----	-----	-----	-----	-----	-----	Located 1,080 m south of the present pit, done to explore the projection in the south of the mineral trend. No significant assays were encountered
PQD-08	110.30	-90	----	150-SE	34.25	46.70	12.35	12.35	321	0.160	0.980	Confirm the extension to the west of the Peñasco Quemado silver deposit
				including	35.85	45.20	9.35	9.35	392			
PQ-16	134.11	-90	----	210-SE	47.24	60.96	13.72	13.72	113			Confirm the extension on the western extreme of cross-section 210 SE
				including	54.86	60.96	6.10	6.10	146			
PQ-17	109.72	-90	----	270-SE	4.57	15.24	10.67	10.67	112			Confirm the extension on the western extreme of cross-section 270 SE
				including	4.57	10.67	6.12	6.12	146			
				And	24.38	39.62	15.24	15.24	127			
				including	25.91	35.05	9.14	9.14	182			
Total Drilling	**1,645.33**											

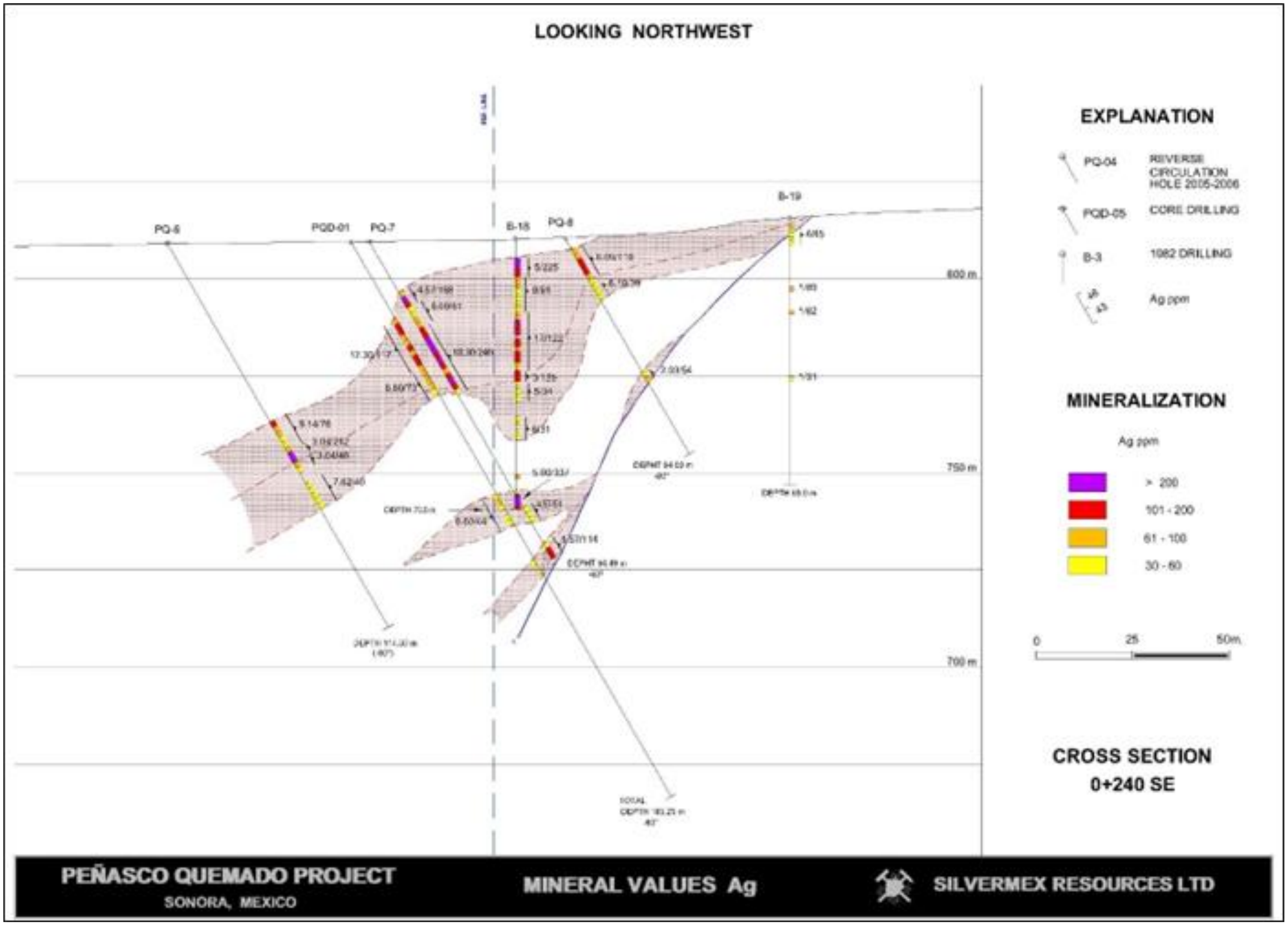
Note: Considering that the general dip of the mineralized zones is in the order of 20° to 25° southwest, in the drill holes completed with an angle of 70° to the northeast, the intervals shown in this table correspond to the true intercepted thick. For the vertical drill holes the true thickness was calculated after receiving the assays.
Table extracted from the 2007 Micon Technical Report.

Figure 6.6
Geology and Drill Hole Locations for the Peñasco Quemado West and East Zones



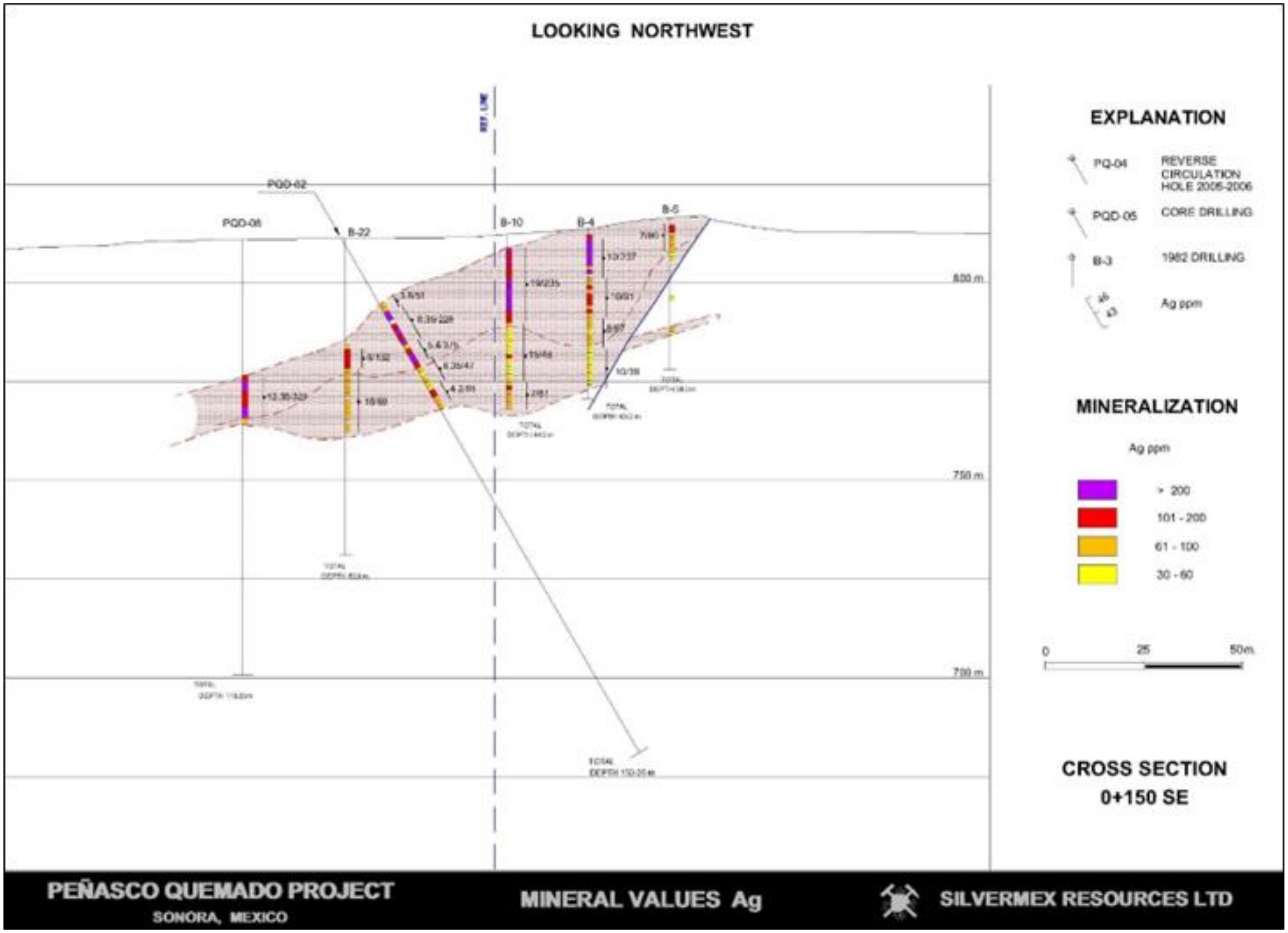
Map provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the 2007 Micon Technical Report.

Figure 6.7
Section 240-SE Drill Hole Intersections on the Peñasco Quemado West Zone



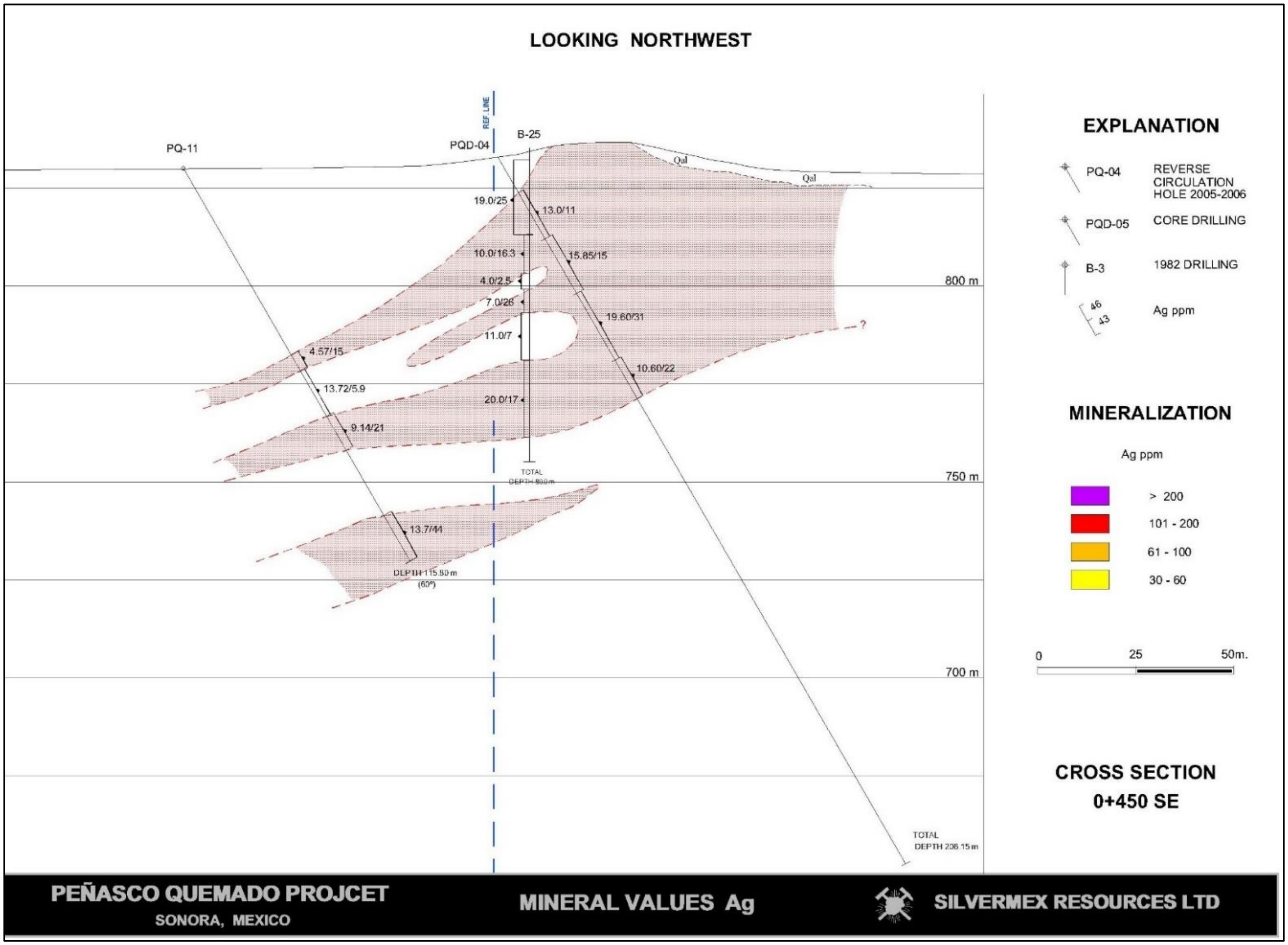
Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the 2007 Micon Technical Report.

Figure 6.8
Section 150-SE Drill Hole Intersections on the Peñasco Quemado West Zone



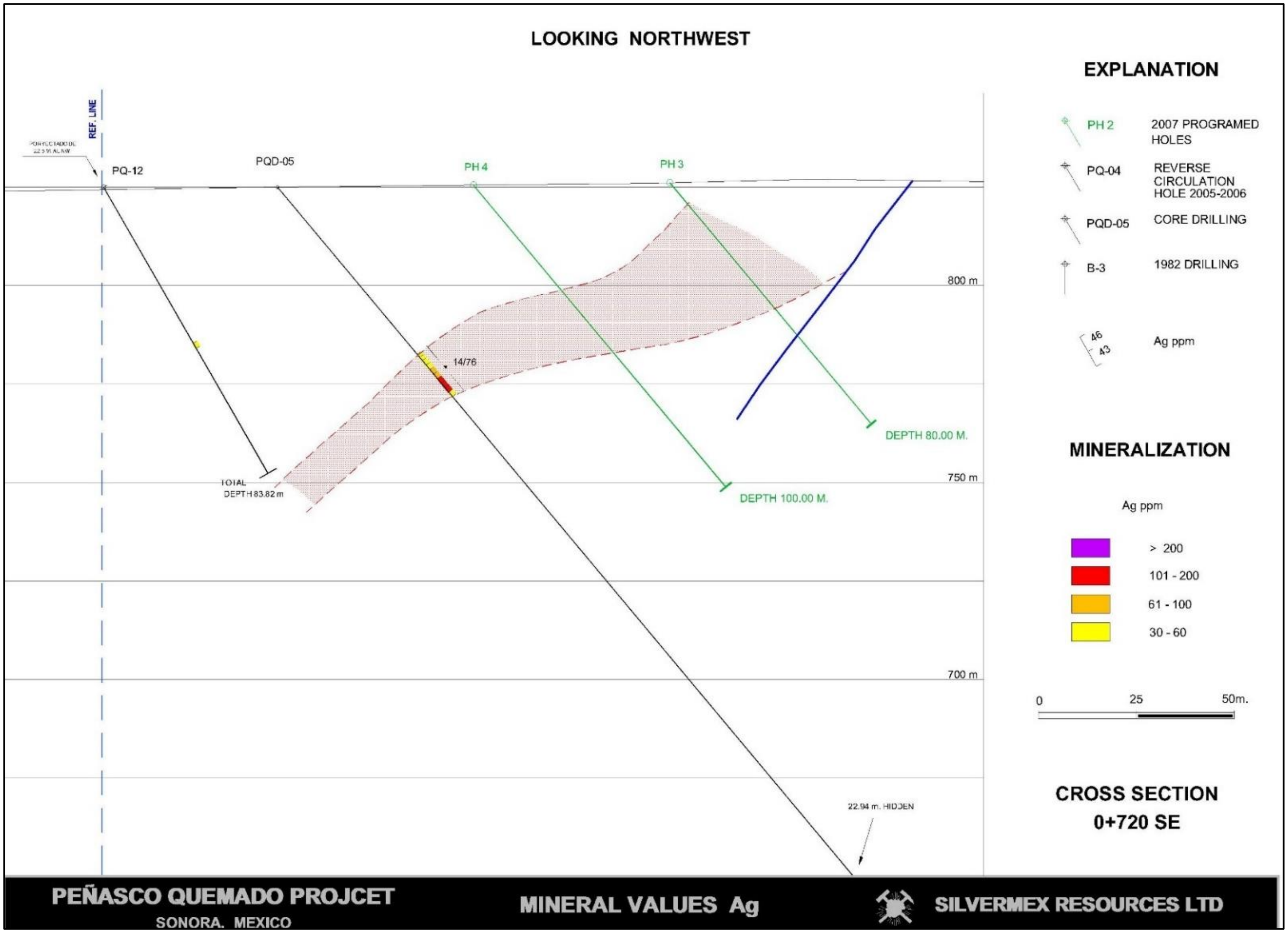
Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the 2007 Micon Technical Report.

Figure 6.9
Section 450-SE Drill Hole Intersections on the Peñasco Quemado East Zone



Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the 2007 Micon Technical Report.

Figure 6.10
Section 720-SE Drill Hole Intersections on the Peñasco Quemado East Zone



Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the 2007 Micon Technical Report.

Other areas in which drilling was performed in 2006 are described below.

The San Luis/Red Breccia area consists of a series of outcrops, which show the Pit (Volcaniclastic) Conglomerate overlying a volcanic unit of andesitic composition exhibiting a brecciated aspect and gray to reddish brown in colour. The volcanic unit is in turn resting on a felsite unit that is covering the gneissic granite. The important lithological unit is the brecciated andesite that contains silver and copper values, is strongly oxidized and contains a stockwork of malachite and chrysocolla. It was not possible to identify the silver mineral, but the grades in separate samples ranged from a low of 10 g/t silver to a high of 758 g/t silver.

The geological sequence found at the San Luis/Red Breccia area outcrops over a strike length of 100 m or more, has a thickness of 15 m to 25 m and dips an average 20° along an azimuth of 225°. Once geological mapping and sampling was completed, four diamond drill holes were laid out in the immediate area of the mineralized outcrops to explore the continuity, at depth, of the silver and copper mineralization encountered on surface.

Table 6.9 is a summary of the significant assay results of Silvermex's 2006 exploration drilling program for the Stockwork and San Luis/Red Breccia area of the Peñasco Quemado Project. Figure 6.11 is a geological map of the Peñasco Quemado Project, showing the locations of the drill holes in the Stockwork and San Luis/Red Breccia areas.

Figure 6.12 is a cross-section through Section P-P' showing drill holes SLD 07 and SLD-08. Figure 6.13 is a cross-section through Section P-2 to P-2', showing drill hole SLD-10.

Silvermex considered that the core drilling in the San Luis/Red Breccia area was successful. However, further interpretation regarding the mineral intersections needed to be conducted. It was originally assumed that the control mechanism for the mineralization was stratigraphic but the results of drill hole SLD-08 demonstrated that other control mechanisms exist. Further exploration comprised of additional geological mapping and sampling, needs be conducted and then analyzed to identify the other possible control mechanisms of the mineralization which then can be tested by additional drilling.

Two reverse circulation holes were drilled in what Silvermex termed the Stockwork area to explore, at depth, the silver, copper and gold values detected on surface in veins, breccias and a stockwork system along a strike length of 600 m. The mineralization values are associated with a quartz-hematite stockwork and with a breccia comprised of large fragments developed within a mylonitic rock that corresponds originally to the gneissic intrusive and lenses of the fine-grained felsite. The reverse circulation holes drilled were STW-01 and STW-02, but no mineral values were detected in either of the drill holes and further assessment of the available data for this area should be conducted to identify a reason for the discrepancy between the surface exploration results and the drilling results.

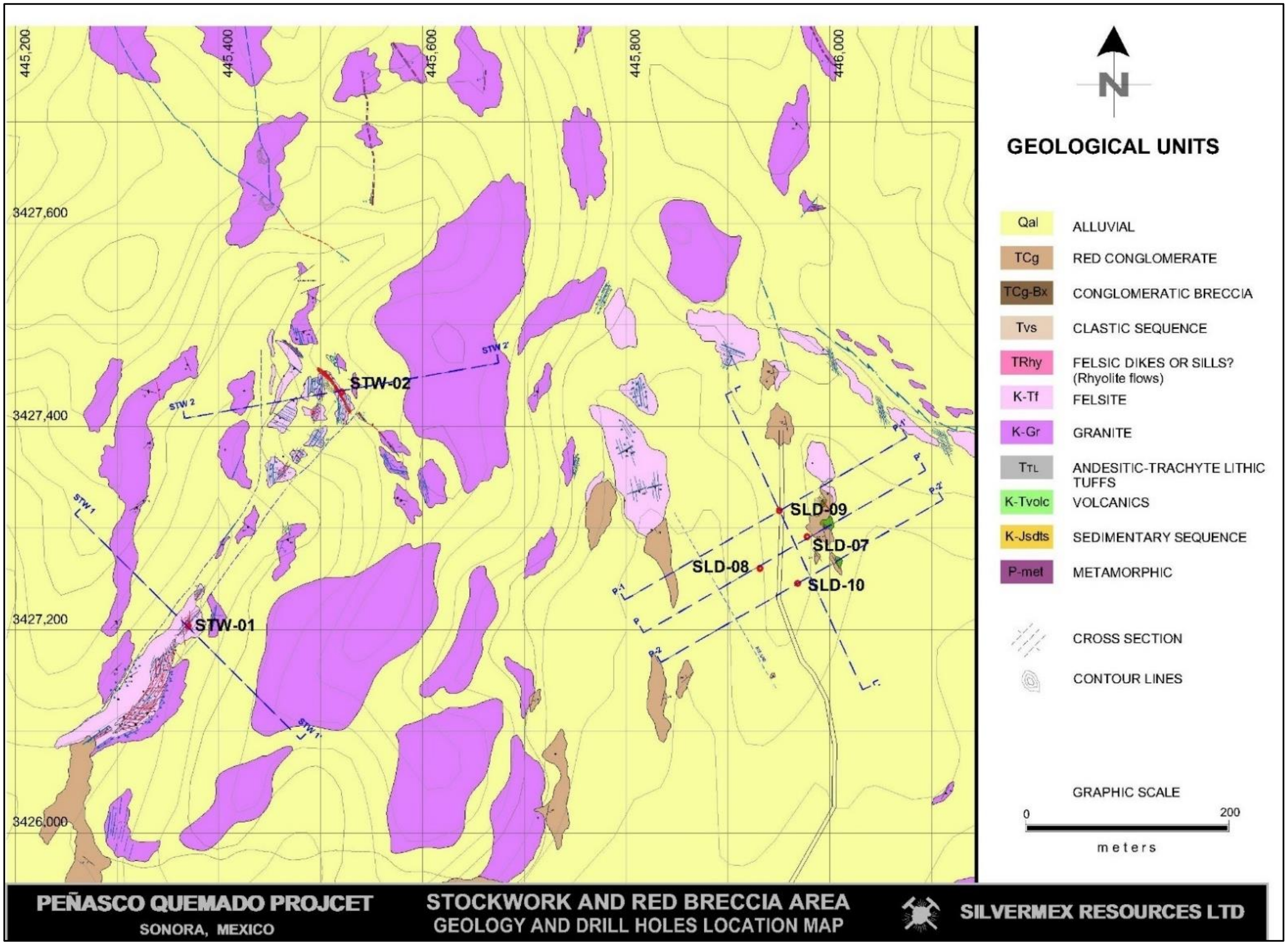
See Figure 6.14 and Figure 6.15 for cross-sectional views through Sections STW-1 to STW-1' and STW-2 to STW-2', showing drill holes STW-01 and STW-02 in the Stockwork Area.

Table 6.9
Summary of Significant Assay Results for the 2006 Drilling Program San Luis/Red Breccia Area

Drill Hole Number	Drill Hole Depth (m)	Drill Hole Angle (°)	Azimuth (°)	Cross-Section	Mineralization Interval (m)				Drill Hole Assay Results			Comments
					From	To	Core Length	True Width	Silver (g/t)	Copper (%)	Manganese (%)	
SLD-07	78.0	-70	60	P-P’	0.85	11.30	10.45	10.45	727.7	0.259	0.218	The silver mineralization is hosted by an andesitic breccia, very oxidized.
SLD-08	51.60	-70	60	P-P’								No important silver values were detected at the upper conglomerate.
SLD-09	52.25	-70	60	P-1-P-1’	11.85	21.35	9.50	9.50	560.9	0.249	0.758	Lead and zinc anomalous values were detected at the upper conglomerate.
SLD-10	55.68	-70	60	P-2-P-2’	18.00	18.40	0.40	0.40	148	0.079	0.160	The hole was drilled at the eastern limit of the mineralized zone and it is narrow. More drilling is needed to explore the continuity of the silver values intersected by the holes SLD-07, 09 and their relationship with hole SLD-10
Total Drilling	**237.53**											

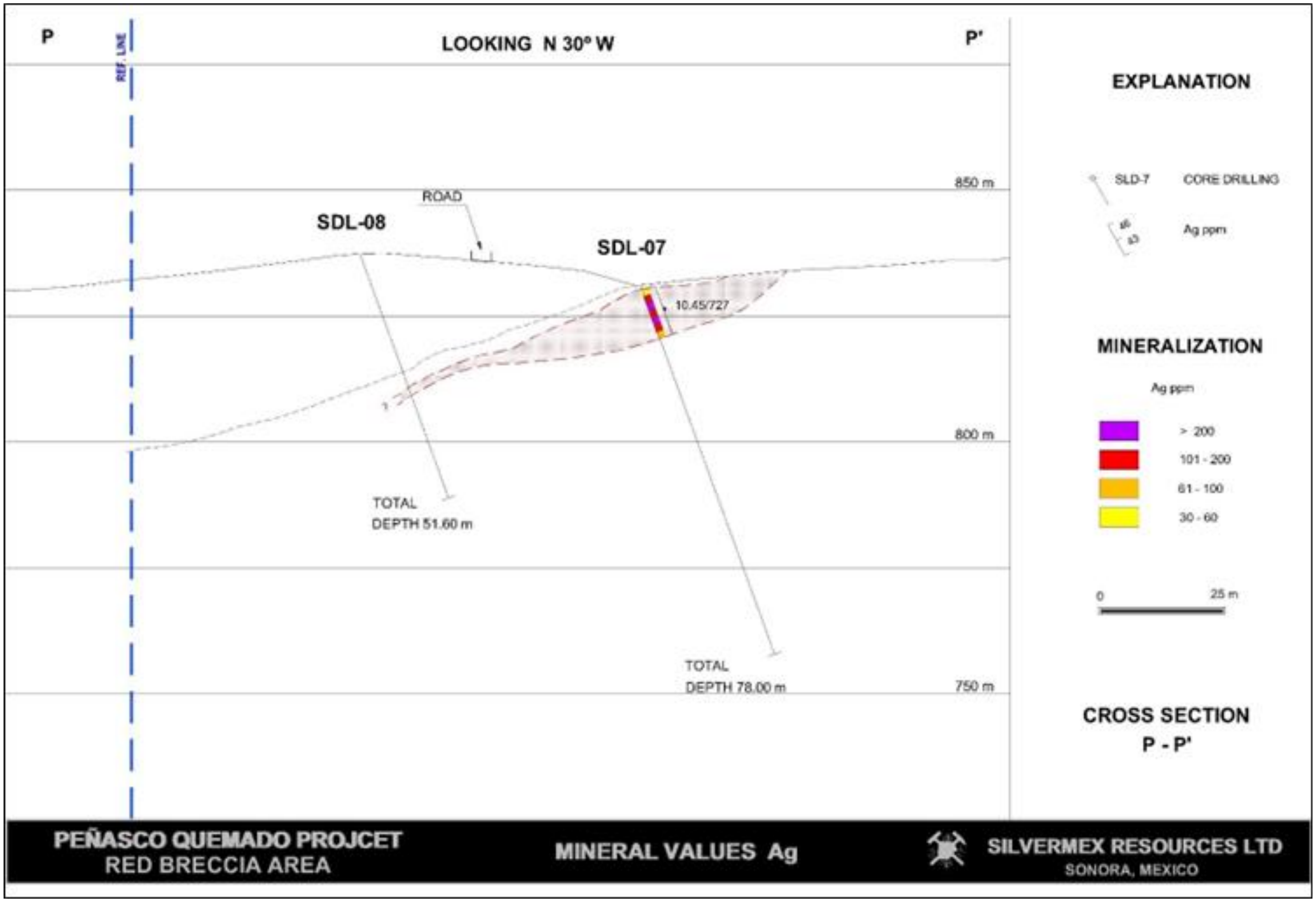
Table provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V.

Figure 6.11
Geology and Drill Hole Locations for the Stockwork and San Luis/Red Breccia Areas



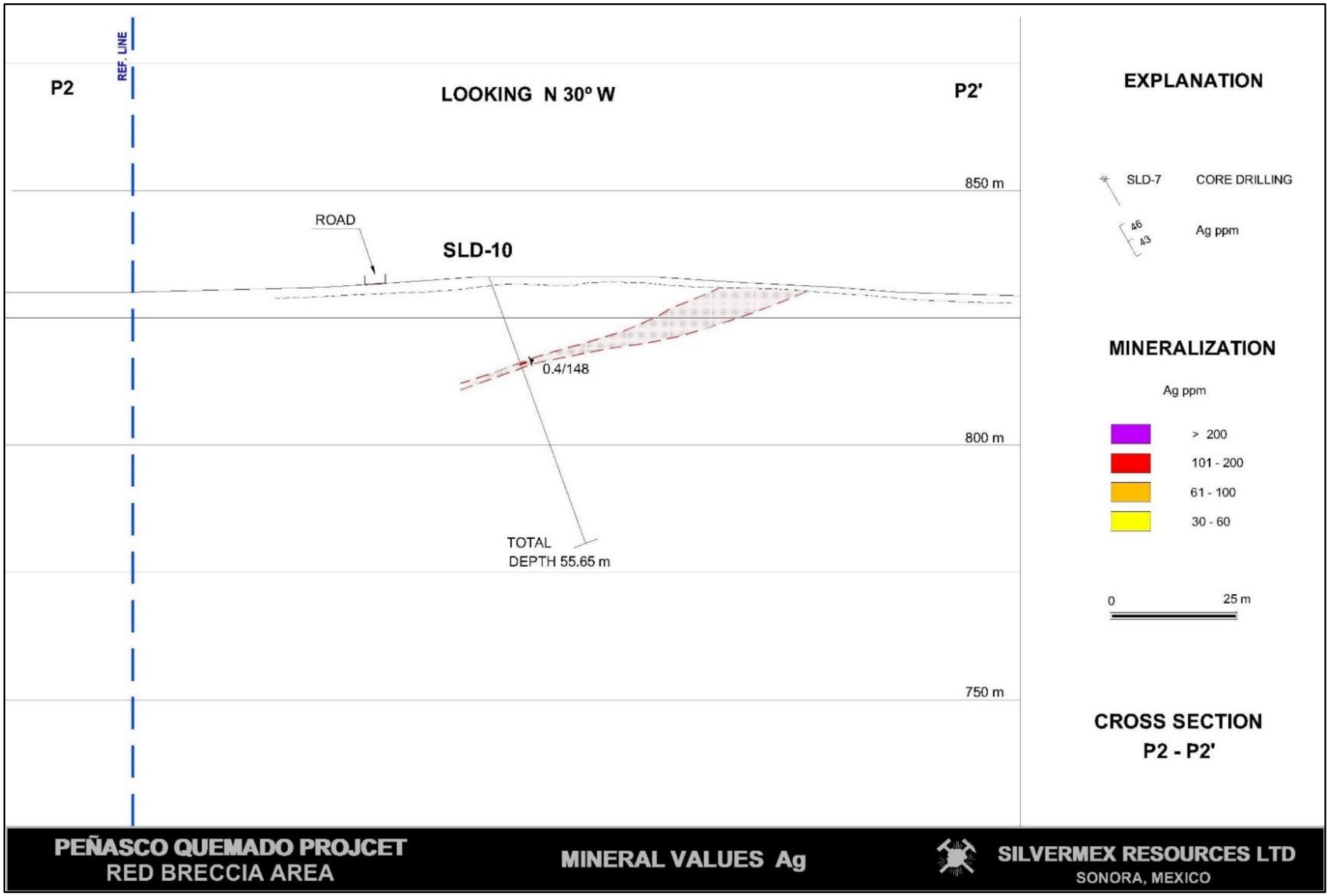
Map provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the Silvermex 2007 Technical Report.

Figure 6.12
Section P to P' Drill Hole SDL-07 and SDL-08 Intersections within the San Luis/Red Breccia Area



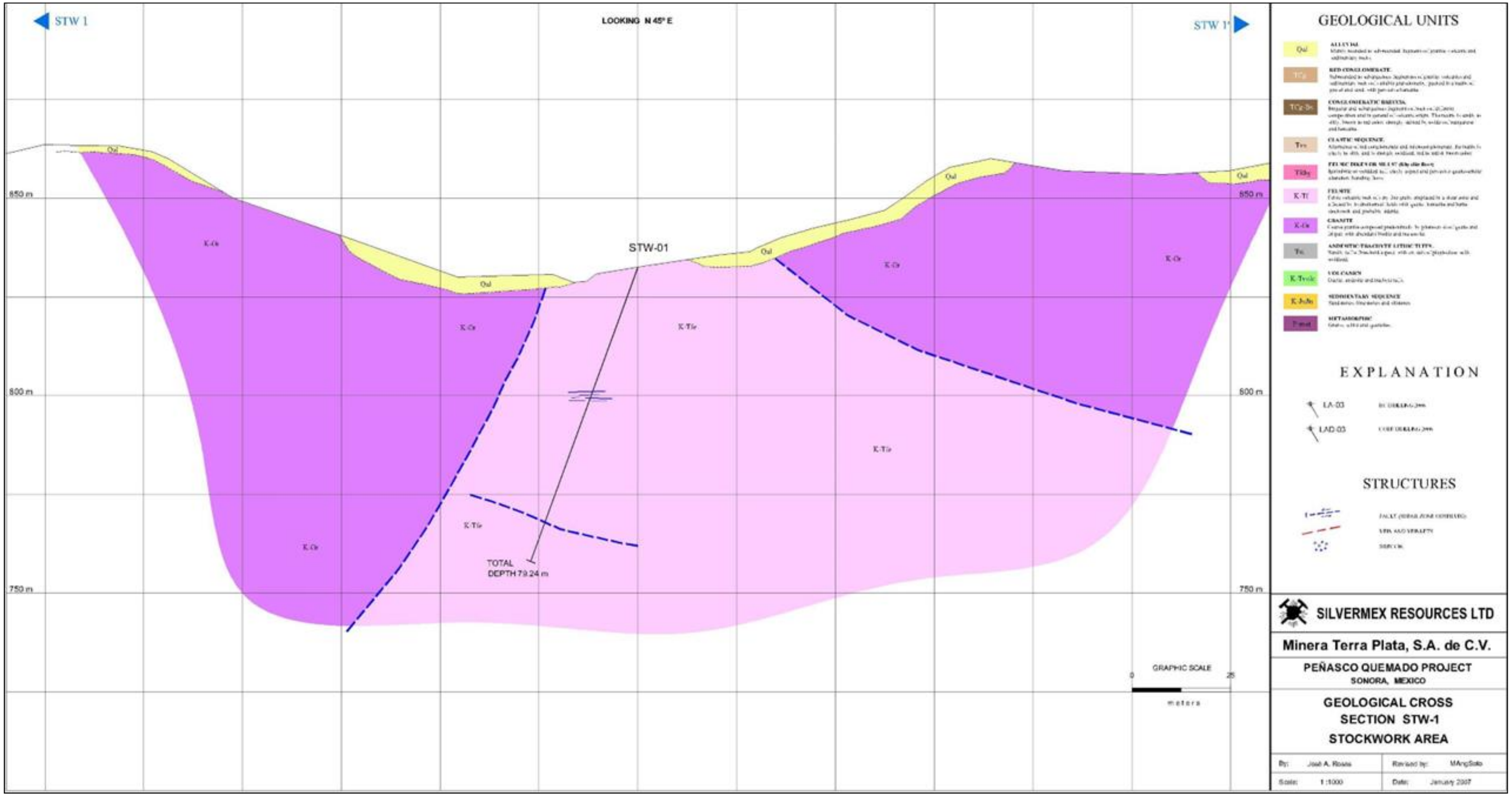
Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the Silvermex 2007 Technical Report.

Figure 6.13
Section P-2 to P-2’ Drill Hole SDL-10 Intersections within the San Luis/Red Breccia Area



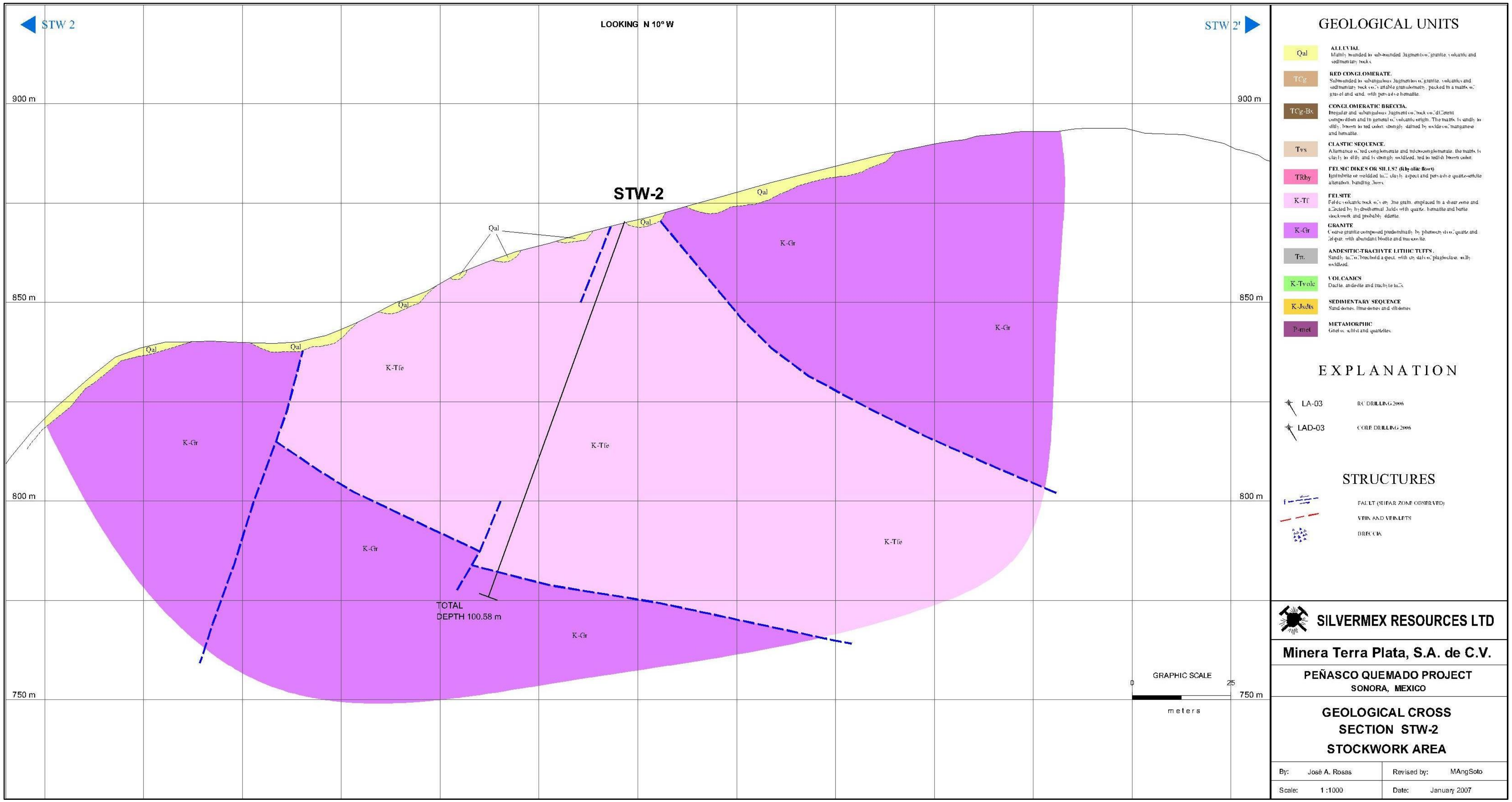
Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the Silvermex 2007 Technical Report.

Figure 6.14
Section STW-1 to STW-1' Drill Hole STW-01 Intersections within the Stockwork Area



Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the Silvermex 2007 Technical Report.

Figure 6.15
Section STW-2 to STW-2' Drill Hole STW-02 Intersections within the Stockwork Area



Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the Silvermex 2007 Technical Report.

Three reverse circulation holes were drilled by Silvermex in the area termed the Low Angle area to test the gold, copper and silver anomalies detected on surface during the previous stage of prospecting and geological mapping and sampling. The mineral anomalies are associated with a rock unit emplaced within a shear zone, which consists of a very fine-grained unit that Silvermex called a felsite. The felsite is located in the contact zone between a younger upper lithological sequence, which includes the Pit (Volcaniclastic) Conglomerate, volcanic and sedimentary rocks, and the gneissic granite of the basement lithology. The felsite is strongly silicified and affected by a strong stockwork of hematite, which has been shown in a mineralogical study to be associated with silver sulphosalts. The reverse circulation holes drilled in the Low Angle area were LA-01, LA-02 and LA-03 and totalled 185.92 m. None of drill holes intersected mineral values and the maximum intersected thickness of the felsite unit was 75 m, before penetrating the gneissic intrusive. Like the Stockwork area, an assessment of the available data should be conducted to identify a reason for the discrepancy between the surface results and the drilling results.

Figure 6.16 is a geological map of the Peñasco Quemado Project showing the locations of the drill holes in the Low Angle area. Figure 6.17 is a view through Long Section L to L' showing drill holes LA-01 to LA-03.

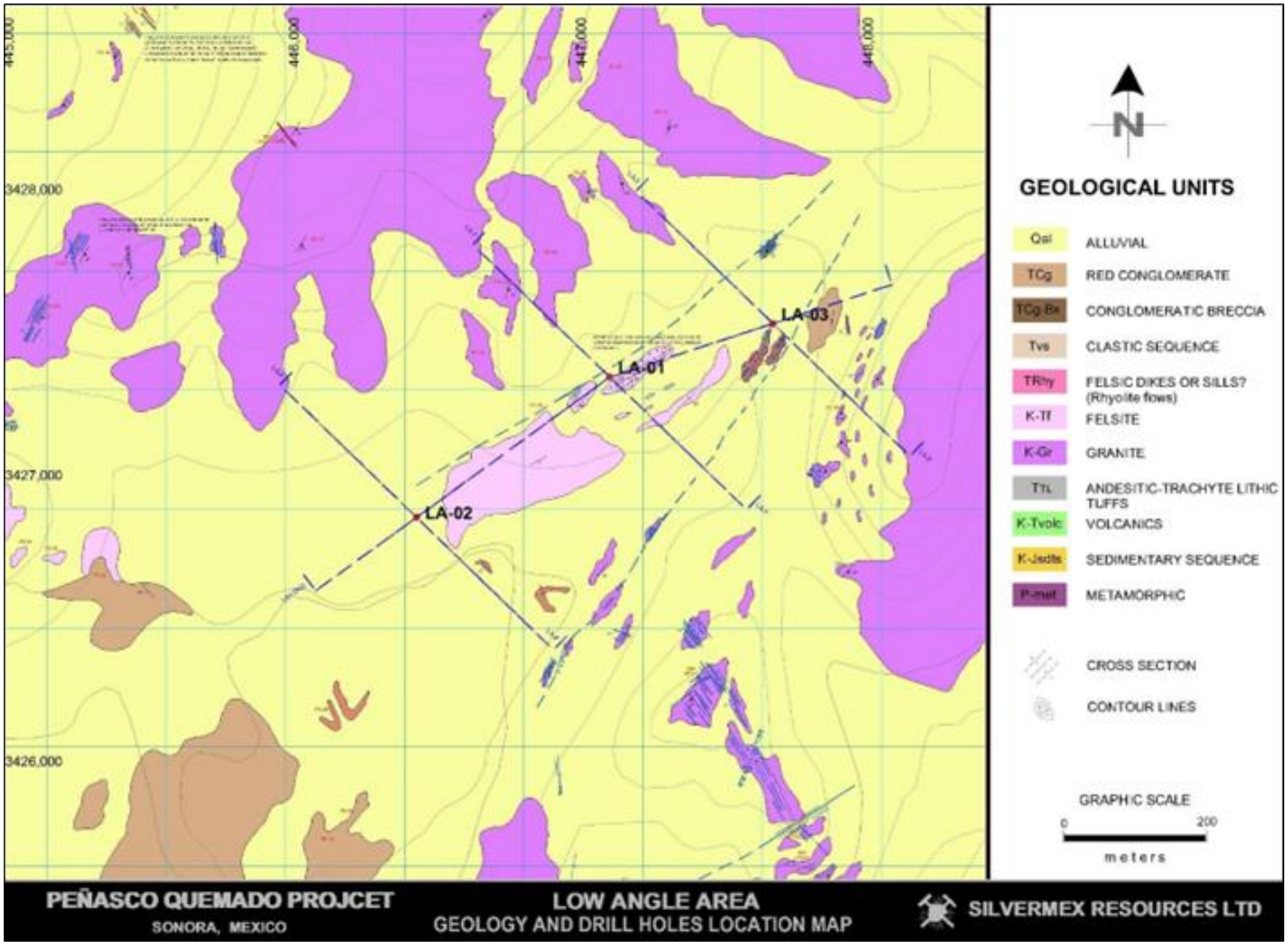
6.2.3 Silvermex Sampling and QA/QC Program

Silvermex, through Terra Plata, conducted its initial exploration drilling program on the project in September, 2005 and instituted sampling procedures for the reverse circulation drilling program. During the August to October, 2006 drilling program, Silvermex continued to use the reverse circulation sampling procedures instituted for the 2005 program, while instituting a further set of sampling procedures to cover the diamond drilling program. Micon examined both sets of drilling procedures during the site visit in September, 2006 and was satisfied that they had been accurately carried out. The following discussion has been extracted from Sections 12 and 13 of the 2007 Silvermex Technical Report.

6.2.3.1 Reverse Circulation Drilling

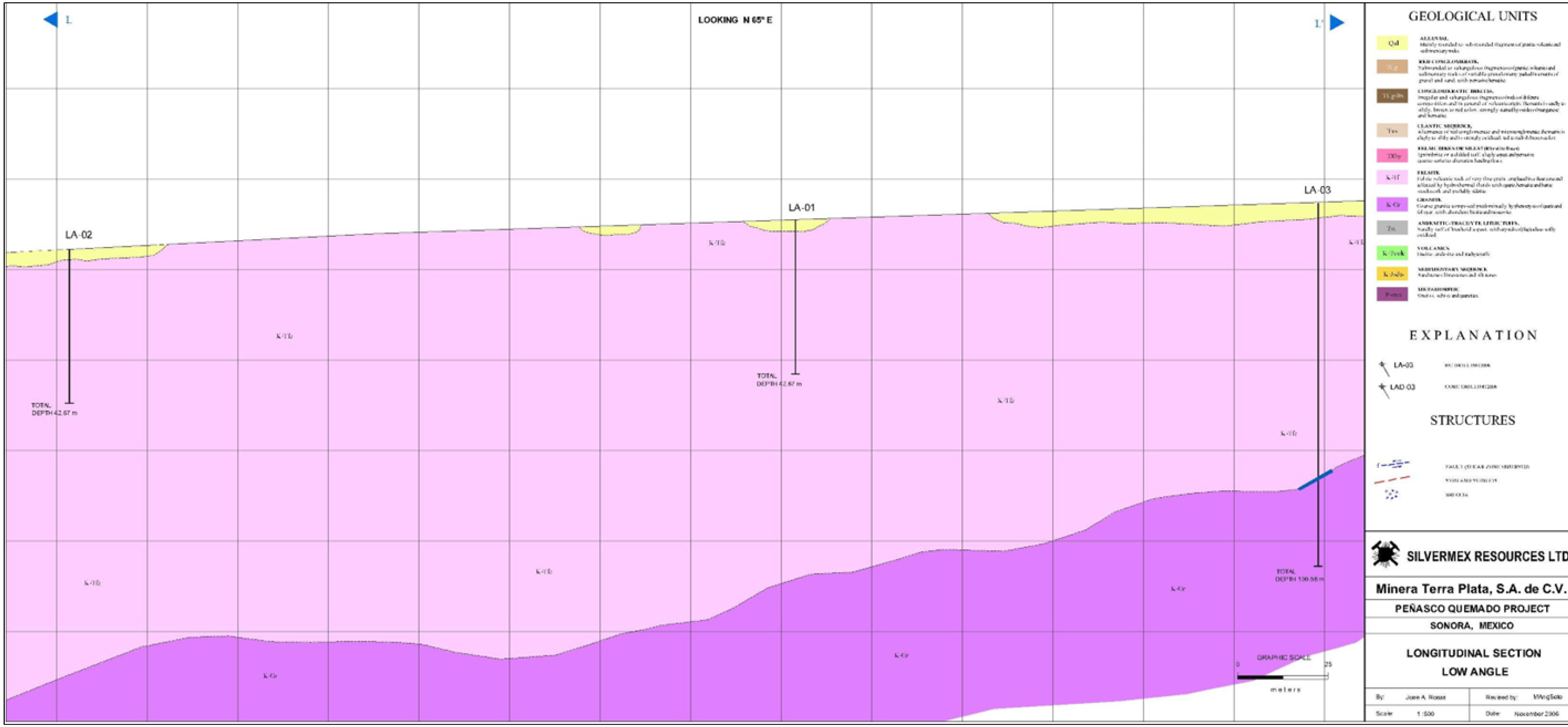
For the reverse circulation drilling, a portion of the material generated for each sample interval was retained in a plastic specimen tray created specifically for the purpose. The plastic specimen tray constitutes the primary reference for the hole, in much the same way as the core does for the diamond drilling. The specimen tray was marked with the drill hole number and each compartment within the tray was marked with both the interval and number for the respective sequential sample it contained. Empty compartments were left for the locations in which both blank and standard samples were inserted into the sequential sample stream and two compartments were filled and identified for each duplicate sample.

Figure 6.16
Geology and Drill Hole Locations for the Low Angle Area



Map provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the Silvermex 2007 Technical Report.

Figure 6.17
Long Section STW-2 to STW-2' Drill Hole STW-02 Intersections within the Stockwork Area



Section provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V. for the Silvermex 2007 Technical Report.

Due to the nature of the reverse circulation drilling, only rock chip fragments are produced and these range from a very fine-grained powder up to coarse chips 2 cm in size. Since the stratigraphic contact between the different rock units cannot be identified exactly, the holes were sampled on equal 1.52 to 1.53 m (5 ft) intervals from the collar to the toe of the hole. The sample interval was chosen because it represented two samples per drill rod (3.04 m or 10 ft). In general, this is considered to be the standard sampling length within the industry, as it is not too large a sample or sampling interval to dramatically skew the assay results for a drill hole.

Samples of the reverse circulation drilling were taken in the overlying alluvium as well within the underlying rock units. The alluvium samples were subject to random assaying, whereas every sample originating from the underlying rock units was assayed. The recovery of the material during the drilling program was excellent, in the order of 90% to 95%.

6.2.3.2 Diamond Drilling (Core)

Where core drilling was conducted the sampling controls started after a run had been completed and the rods were pulled out of the drill hole. Once the core was removed from the core barrel it was placed in core boxes, with the length of each box depending on the type of core stored in it (2.40 m for HQ diameter or 3.00 m for NQ diameter). This follows standard procedures developed for core placement in the core boxes.

Small wooden tags marked the distance drilled in metres at the end of each run. In the case of the Peñasco Quemado drilling, the drilling rods were measured in Imperial units, while the tags placed in the boxes and the core logging were measured in metric units. The drill hole number and box number were marked on each filled core box by the drill helper and checked by the geologist. Once the core box was filled at the drill site, the box was covered with a lid to protect the core and the box was sent to the core logging facility for further processing.

For diamond drilling where core is produced, a unique record of the exact stratigraphic contact can be identified. Since identification of the exact stratigraphic contact between the different rock units can be established, the stratigraphic contacts were used as the primary basis for separation of the sampling intervals, with the maximum sampling length within a stratigraphic unit restricted to approximately 1.0 m or 2.0 m and with no minimum size restriction. The 1.0 m or 2.0 m maximum sampling interval was chosen because it is generally regarded as the standard sampling length within the industry and, in general, it is not too large an interval to dramatically skew the assay results. However, in addition to the stratigraphic restrictions on the length of the core interval, the size of the sample may have been restricted because of the content or type of mineralization encountered in the drill hole. In general, the core recovery for the diamond drill holes in the Peñasco Quemado project was better than 98% and no core loss due to poor drilling methods or procedures was experienced.

A common feature in the sampling process for each type of the drilling is that a unique sample tag was inserted into the sample bag with each sample and each sample bag was marked with its individual sample number. The bags containing the blank and standard samples were added into the sequential numbering system prior to being shipped to the assay preparation facilities of Acme Analytical Laboratories Ltd (ACME) in Hermosillo. ACME used the Sonora Sampling Preparation-IPL (SSP) facility in Hermosillo to prepare samples for them. SSP is a subsidiary of International Plasma Laboratories

(IPL) of Vancouver, Canada. Samples identified as field-duplicate samples during the reverse circulation drilling were split into two separate sequentially numbered samples during the sampling process at the drill. In the case of the diamond drilling, the duplicate samples were identified during core logging and the half of the sawn core chosen as the sample portion was quartered and sequentially numbered in the sampling process. ACME, SSP and IPL are all independent laboratories which conduct testing on samples for a fee and all are independent of Silvermex.

ACME's quality system is compliant with the International Standards Organization (ISO) 9001 Model for Quality Assurance and ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories.

IPL is officially registered and certified with the BC Ministry of Environment, Land and Parks and the Canadian Association for Environmental Analytical Laboratories. IPL also takes part in regular CEAL performance evaluation programs. Since October, 1997, it has participated in the Proficiency Testing Program for Mineral Analysis Laboratories (PTP-MAL) which is offered by CANMET. KPMG Quality Registrar Inc. (KPMG.QRI) approved IPL's quality system (ISO 9002:1994) in November, 1997. Intertek Testing Services NA Ltd. approved IPL's quality system (ISO 9001:2000) in November, 2003.

While Sonora Sampling preparation did not have its own ISO certification, it operated under the IPL ISO certification and full-time supervision of the Sonora Sampling facilities was reportedly conducted by IPL personal.

6.2.3.3 Sample Collection

The diamond drilling and reverse circulation sampling was conducted by a team of two or three geological assistants, under the close supervision of the Silvermex/Terra Plata staff geologists in charge of the program on site.

Reverse Circulation Drilling

Reverse circulation samples collected at the drill site were discharged from the drill hole through a hose, into a cyclone and then collected in a plastic pail. Sample preparation of the material generated during the reverse circulation drilling was conducted at the drill rig, using a stainless riffle splitter if the material was dry and a rotary splitter situated below the cyclone if the material was wet. The cyclone and splitters were cleaned between samples and, in the case of wet samples, the cyclone and splitters were blown out using compressed air and also washed out between each sample, using clean water. Using a 12.5 cm drill bit and a sample length of 1.52 m, it is estimated that the mass of the recovered sample varied between 42 and 45 kilograms (kg) which represents a recovery of between 90% and 95%.

The method of splitting the samples derived from the reverse circulation drilling was as follows:

1. If the sample was dry, the entire sample interval was collected in a bucket and then passed through the riffle splitter twice before the final sample of 21- to 23-kg was collected, with the remaining 21- to 23-kg rejected. The 21- to 23-kg sample was subjected to a second split to obtain two samples of 10- to 12-kg (an original and a witness sample). The geologist or a helper (under supervision) had previously marked the drill hole number and sample number on the plastic sample bag and inserted the sample tag in the sample bag for the

original sample. Both bags were closed and sealed with plastic tie wraps at the drill site and transported to the camp facilities.

2. If the sample was wet, it was discharged to a cyclone and then passed through a rotary cone splitter to divide the sample into two equal portions, one of which was automatically rejected, with the other half collected and simultaneously split into two equal halves by means of a mechanism designed for this purpose and installed in the lower portion of the rotary splitter. The two samples were collected in fabrine sample (micropore) bags to allow retention of the solids and the slow dissipation of the drilling water through the pores in the sample bags without sample loss. In all cases a flocculent was used to settle the solids, including the fine portion, prior to tying the fabrine bag. The outside of each sample bag was marked with the sample's individual number which corresponded to the number on the sample tag which was inserted into the sample bag.

All samples from the reverse circulation drilling were prepared at the drill site by the Silvermex/Terra Plata staff geologists and their assistants. Several times per day, a truck was dispatched to take the samples to the secure camp storage facilities located in the city of Magdalena.

A truck was dispatched twice a week to deliver the samples to the Hermosillo assay preparation laboratory of ACME, which is the SSP facility.

Sample bags containing the blank and standard samples were added into the sequential numbering system prior to being shipped to the assay preparation facility in Hermosillo. Samples selected as duplicates were split into two separate sequentially numbered samples during the sampling process at the drill.

Diamond Drilling (Core)

For the core drilling, a truck went to each drill site to collect the core boxes at regular intervals during the day. The boxes were loaded into the truck and placed in a criss-cross pattern and then secured to the truck by ropes to prevent movement on the short drive back to the on-site core logging facilities.

Once the core boxes arrived at the logging facility, the boxes were laid out in order, the lids were removed and the core was washed to remove any grease and dirt which may have entered the boxes. The depth markers were checked by the geologist and the depth "from" and "to" for each box was noted on both the top and the bottom covers of each core box, to ensure that the boxes were correctly recorded.

For the 2006 drilling program, the entire length of the drill hole was sampled, from where the hole first intersected bedrock to the toe of the hole. The standard sample intervals varied from 1 m to 2 m, in conjunction with the geological and mineral features observed during the logging. Some samples were limited to geological boundaries that were less than 1 m, but this was only an occasional occurrence. The geologist who was logging the core would begin by examining the core to ensure it was intact. During the core logging process, the geologist would define the sample contacts and designate the axis along which to cut the core, with special attention paid to the mineralized zones to ensure representative splits. The sample limits were marked on the core as well as on the side of the core box and the sample numbers were marked on the core box, next to the sample limits at the beginning and end of each sample interval, or at the centre. The sample limits were input into an Excel spreadsheet, which defined the sample number and intervals.

Once the core was logged and the samples marked, the core boxes were brought to an area at which a diesel diamond saw had been set up to cut the samples. At the sampling area, two core splitters and their helpers processed the samples by using the diamond saw to cut the core in half. Once the core was sawn in half, one half of the core was placed into a plastic sample bag and the other half was returned to the core box. The geologist or an assistant had previously marked the sample bags with the sample number and inserted the individually numbered sample tag into the plastic bag. A geologist supervised the core sawing, to ensure that the quality of the core sample remained high and that no mistakes were introduced into the system due to sloppy practices. The boxes containing the remaining half core were stacked, with lower numbers at the bottom and the higher numbers at the top and stored on site in a secure core storage facility.

The samples bags were placed into large canvas sacks with generally 7 to 10 plastic sample bags per sack. These sacks were secured and then shipped to the laboratory. A truck was dispatched twice a week to deliver the samples to the SSP assay preparation facility in Hermosillo.

6.2.3.4 Historical Silvermex QA/QC

As part of Silvermex's QA/QC procedures, a set of samples comprised of a blank sample, a standard reference sample and a field duplicate sample were inserted randomly into the sample sequence. The insertion rate for the blank, standard and duplicate samples was one in twenty-five.

Sample bags containing the blank and standard samples were added into the sequential numbering system prior to being shipped to the assay preparation facility in Hermosillo. Samples selected as duplicate samples were split into two separate sequentially numbered samples during the sampling process at the drill for the reverse circulation drilling and in the logging facilities for the drill core samples.

Blank Samples

The blank sample used for the Peñasco Quemado Project drilling program was obtained from sampling a barren tonalite dike which outcrops at the southwestern extent of Timmins Goldcorp's San Francisco pit located at the San Francisco mine, 2 km west of the town of Estacion Llano. Once the rock was washed, it was dried and crushed to obtain material minus 1 inch in size. The material was homogenized in a gyratory tank for 12 hours and finally passed through a splitter to be distributed in 1-kg lots in sample bags that were sealed with tie wraps.

Five of the one-kilogram samples were randomly selected and sent to different laboratories to be assayed for gold using the fire assay method, and also by the multi-element method, using multi-acid digestion. All five laboratories were given a sample which corresponded to number 636741. All samples were prepared using the same procedure and the selected laboratories to which the samples were sent for assaying were ALS-Chemex, ACME, Accurassay Laboratories (Accurassay), TSL Laboratories Inc. (TSL), and SGS Mineral Services (SGS), all of which are certified laboratories based in Canada and all of which are independent of Silvermex. Accurassay conforms with requirements of CAN P–4E ISO/IEC

17025, and CAN–P–1579. TSL quality system conforms to requirements of ISO/IEC Standard 17025 guidelines.

SGS meets the requirements of the ISO/IEC 17025 standard for 67 specific registered tests for the minerals industry.

The assay results obtained from the five separate independent laboratories all show a very low to negligible content for silver, and it is apparent that the material from the tonalite dyke can be used as a local blank for the drilling program.

Standard Samples

The standard reference sample used at the start of the 2006 Peñasco Quemado drilling program was an in-house standard reference sample prepared for Silvermex. Later in the program, a package of standard reference samples was purchased from CDN Resource Laboratories Ltd. of Delta, British Columbia, Canada, which is independent of Silvermex.

To obtain an In-House Standard Reference Material sample (IHSRM) for the Peñasco Quemado drilling program, Silvermex chose three (a low, medium and high-grade silver) samples from among the retained mineralized witness samples generated during the 2005 Peñasco Quemado drilling program and originally assayed by ALS-Chemex. Silvermex engaged six different qualified laboratories to assay the prepared samples to determine the average grade of the sample and a total of 18 randomly selected samples were sent to these six laboratories.

The IHSRM's preparation was contracted with SSP, which supplies preparation services to ACME, International Plasma Lab. Ltd. (IPL) and Jacobs Laboratories. All samples were prepared using the same procedure and the selected laboratories to which the samples were sent for assaying were ALS-Chemex, ACME, IPL, Accurassay, TSL, and SGS, all of which are certified laboratories based in Canada and all are independent of Silvermex.

However, a commercial standard reference material was later used because of the high standard deviations reported in the in-house standard reference material. Two commercial standards were purchased from CDN Resources Laboratories Ltd., (CDN Resources) of Delta, British Columbia. CDN Resources distributes standard reference material samples prepared by themselves. The samples purchased came from the High Lake West Zone deposit, which is an Archean aged Volcanogenic Massive Sulphide (VMS) deposit in the Slave structural province of Canada. The samples contain both high and low silver values, within massive to semi-massive sulphides. These samples are labeled as HLLC for the sample grading 65.1 g/t silver and HLHZ for the sample grading 101.2 g/t silver. These samples were included as reference samples to check the assay preparation and assaying procedures.

Duplicate Samples

For the reverse circulation drilling, samples which were identified for duplication (i.e., field-duplicates) were processed and split in the same way as the regular samples taken on either side of them. The final 21- to 23-kg sample was then subjected to a further split in the field which yielded two 10.5- to 11.5-kg samples in the case of dry samples. Wet samples were dried and then passed through the riffle splitter to obtain a second (duplicate) sample of approximately the same mass as the original sample. During the August to October, 2006 drilling program, all samples produced during the reverse circulation drilling were dry. The duplicate samples were given sequential numbers and submitted as two separate samples for the purpose of assaying, so that the receiving laboratory did not know it was receiving duplicate samples.

For the diamond drilling, samples which were identified as the duplicate samples were sawn in half as the regular samples were, and then the half which was identified as the portion which was to be sent for assaying was further sawn to obtain two quarter samples. The quarter samples were each individually placed in a separate plastic bag. One of the quarter samples was identified as the original sample and a tag with the sample number was placed in the bag with the sample. The second quarter core sample was identified as the duplicate and a sample tag with the consecutive sample number after the sample number identifying the original sample was placed in the sample bag for the duplicate sample.

Sample Preparation

All sample preparation for ACME was conducted through the SSP preparation facilities in Hermosillo and, while SSP did not have its own ISO certification, it operated under ACME's ISO certification. The ACME Vancouver assay laboratory was the first assaying laboratory in North America to be accredited under ISO 9002.

The ACME assaying procedure chosen by Silvermex for analyzing the drilling samples for the Peñasco Quemado project was the Group 7 Multi-element assay by ICP-MS and specifically the method variation G7TD which corresponds to a hot 4-acid digestion and conventional Inductively Coupled Plasma Mass Spectrometry (ICP-MS) analysis.

In this procedure, a sample of 0.5 g is digested with nitric, perchloric, hydrofluoric and hydrochloric acids, and the evaporated to incipient dryness. Hydrochloric acid and demineralized water are added for further digestion, and the sample heated for an additional allotted time, cooled and transferred to a 100-millilitre (ml) volumetric flask. The resulting solution is diluted to volume with demineralized water, homogenized and the solution is analyzed by ICP-MS. The results are corrected for spectral interelement interferences.

Check assays were done by ALS-Chemex using the methods ME-OG62, ore grade elements by four acid digestion, and ME-MS61, four acid "near total" digestion procedure. The four acid "near total" digestion is conducted for 47 elements by HF-HNO_3-$HClO_4$ acid digestion, HCl leach and a combination of ICP-MS and ICP-AES.

6.2.3.5 Results of Silvermex's Historical QA/QC Program

Check Sampling

A total of 135 pulp samples were chosen and sent to a second laboratory, in order to check the assays against those obtained from ACME. The samples were comprised of mineralized material, as well as samples which were derived from the zone of influence surrounding the mineralized zone, either above or below the zone. The laboratory chosen to conduct the check assaying was ALS-Chemex in Vancouver, BC.

Table 6.10 shows the correlation between the mean grade for ACME assays and ALS-Chemex assays for the 96 regular duplicate pulps, for both the reverse circulation and the diamond drilling.

Table 6.10
Regular Check Assaying Results for the 2006 Peñasco Quemado Drilling

Description	ACME Versus ALS-Chemex Results
Number of Samples	96
Acme Analytical Mean Grade	156.8 g/t silver
ALS-Chemex Mean Grade	151.7 g/t silver
Difference Between Means	-5.1
Mean Difference %	-3.4
Correlation Factor	0.9823

Table provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V.

Standards

As noted above, Silvermex created three of its own IHSRM samples and used these for the first portion of the drilling program, before discontinuing their use. For the latter portion of the drilling program Silvermex obtained two commercially available standard reference material samples from CDN Resources.

The commercial samples were labeled as HLLC for the sample grading 65.1 g/t silver and HLHZ for the sample grading 101.2 g/t silver. These samples were included as a reference sample to check the assay preparation and assaying procedures and accuracy. The insertion rate for the standard samples was one for every set of twenty-five samples.

Table 6.11 shows the results of all the silver assaying conducted by ACME on the standard reference material samples used during the 2006 drilling program on the Peñasco Quemado Project.

Table 6.11
Results of ACME Assaying on all of the Standard Reference Material Samples

Standard Id.	CDN -HLLC	CDN-HLHZ	IHSRM Low Grade	IHSRM Medium Grade	IHSRM High Grade	Total
Number of Samples	21	33	6	8	7	75
Standard Grade (g/t)	65.1	101.2	75	150.0	269.0	109.9
Average Grade (g/t)	67.0	102.4	78.8	154.1	301.6	114.7
Absolute Difference	1.9	1.2	3.8	4.1	32.6	4.83
% Difference	2.9	1.1	4.9	2.7	10.8	4.21
Correlation Factor						0.9885

Table provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V.

Blanks

The insertion rate for the blank samples was one for every set of twenty-five samples.

During the 2006 drilling program, a total of 63 blank samples were added into the sample sequence generated at Peñasco Quemado. Of the total of 63 blank samples, 39 were generated for the diamond drilling portion of the program and 24 were generated for the reverse circulation drilling. In the case of the assaying for the blank samples, both gold and silver assays are reported because of the source of the blank sample.

Table 6.12 summarizes the overall assay results for the blank assays.

Table 6.12
Summary of Blank Assay Data for the 2006 Peñasco Quemado Project Drilling

Description	Gold (ppb)	Silver (g/t)
Samples	63	63
Mean Grade	4.16	0.767
Maximum Grade	17	2
Minimum Grade	<2	<0.002

Table provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V.

Duplicates

Duplicate samples were taken during the 2006 drilling program at the rate of one duplicate for every 25 samples.

The duplicate samples were assigned sequential numbers in the sample numbering sequence so that the laboratory did not know it was receiving duplicate samples. These samples were submitted in the same shipment as their matching original samples but were not necessarily placed in the same furnace load as the matching original sample.

The total number of duplicates assayed for silver by ACME was 63. All sample pairs were assayed systematically for silver and some of them for copper, manganese and gold.

Table 6.13 summarizes the results of the comparison between the duplicate sample assays for silver, as well as for copper and manganese.

Table 6.13
Summary of Duplicate Assay Data for the 2006 Peñasco Quemado Project Drilling

Description	Silver Assays (g/t)		Copper Assays (ppm)		Manganese Assays (ppm)	
	Original	Duplicate	Original	Duplicate	Original	Duplicate
No of Pairs	62	56	23	23	22	22
Average Grade	29.6	29.7	293.8	326.4	475.6	479.0
Maximum Grade	993.0	729.0	4,950.0	2,000.0	2,000.0	1,700.0
Minimum Grade	0.090	0.090	4.50	28.00	28.00	30.00
Absolute Difference between Average Grades		0.03		32.53		3.41
Difference %		0.10		9.97		0.71
Correlation Factor		0.9836		0.9709		0.9585

Table provided by Silvermex Resources Limited/Minera Terra Plata, S.A. de C.V.

It was Micon's opinion, in 2007, based on a general and specific assessment of the drill sample data, that the quality for the drilling samples met accepted industry standards and that the sampling was representative of the areas examined.

6.2.4 Silver One Exploration Programs 2016 to 2017 Programs

In October, 2016, Silver One announced in a press release that it was commencing exploration of the Peñasco Quemado Project. The initial work included geological and geochemical surveys to help select drill targets. This was followed up by a press release dated March 1, 2017, which outlined the results of the geochemical soil survey.

6.2.4.1 Geochemical Survey

The geochemical survey consisted of 1,930 soil samples collected on a regular grid, with east-west lines 200 m apart and sample spacing of 100 m, covering the entire property. Sampling was completed in December, 2016 and XRF assays in January, 2017. A total of 320 QA/QC samples were analyzed at Skyline Assayers & Laboratories (Skyline) in Tucson, AZ. The Skyline results correlated well with the XRF assays and confirmed the values obtained by Silver One's XRF analyses. Thirty-three elements were analyzed, which allowed for the identification of significant anomalies of the elements associated with silver.

Figure 6.18 shows the geochemical sample locations of the December, 2016 program for the Peñasco Quemado property.

The Peñasco Quemado geochemical anomalies matched well with known mineralized structures. The main anomaly reflects the known mineralized body containing the historical resources and extensions to that mineralized trend. The most relevant elements include manganese (with anomalous values between 0.17% and 1.1%) and barium (0.15%-0.88%), which form a 3,000 m long envelope that wraps around the known mineralized body located in the northwestern end of the anomaly. Zinc (400-3500 ppm) and lead (135-800 ppm) highlight certain sectors of the trend delineated by the manganese and barium halo. A second, oval-shaped 2,000 m long by 1,000 m wide zinc, lead, barium and manganese anomaly, located in the western part of the property, was also identified. The second geochemical anomaly occurs in a conglomerate unit, in an area that had not been mapped or tested previously in detail. This area represented a new target that had never been drilled.

Figure 6.19 shows the results for the lead soil geochemical anomalies, with the first anomaly shown southeast of the PQ pit and resource area and the second anomaly in the western portion of the property. Figure 6.20, Figure 6.21 and Figure 6.22 show the corresponding soil anomalies for zinc, manganese and barite, respectively.

Figure 6.18
Location of the December, 2016 Geochemical Sampling Program on the Peñasco Quemado Project

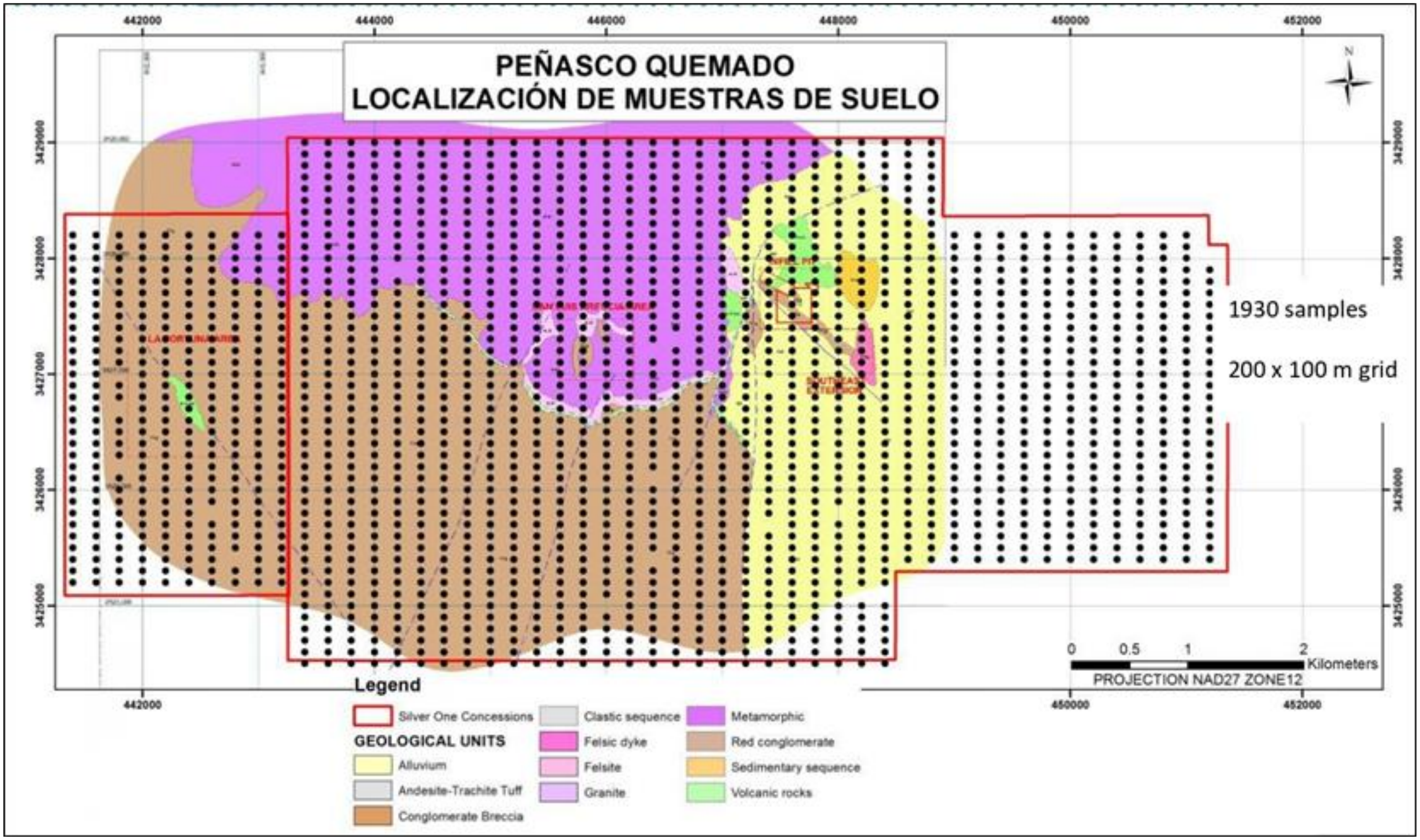


Figure extracted from the 2020 Micon Technical Report.

Figure 6.19

Results of the Lead Soil Geochemical Sampling showing the Location of the Two Secondary Soil Anomalies Identified by the Ovals

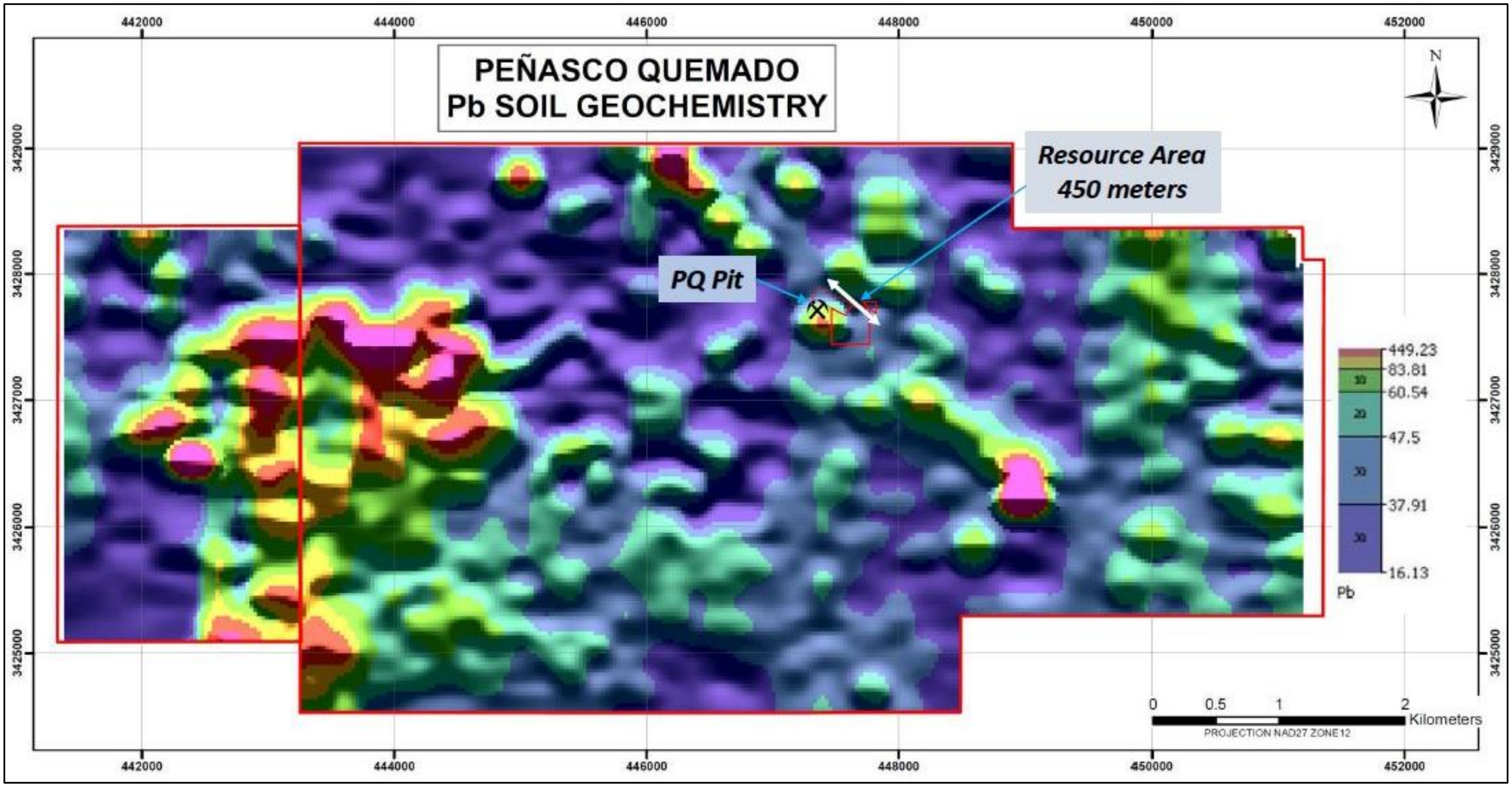


Figure extracted from the 2020 Micon Technical Report.

Figure 6.20
Results of the Zinc Soil Geochemical Sampling

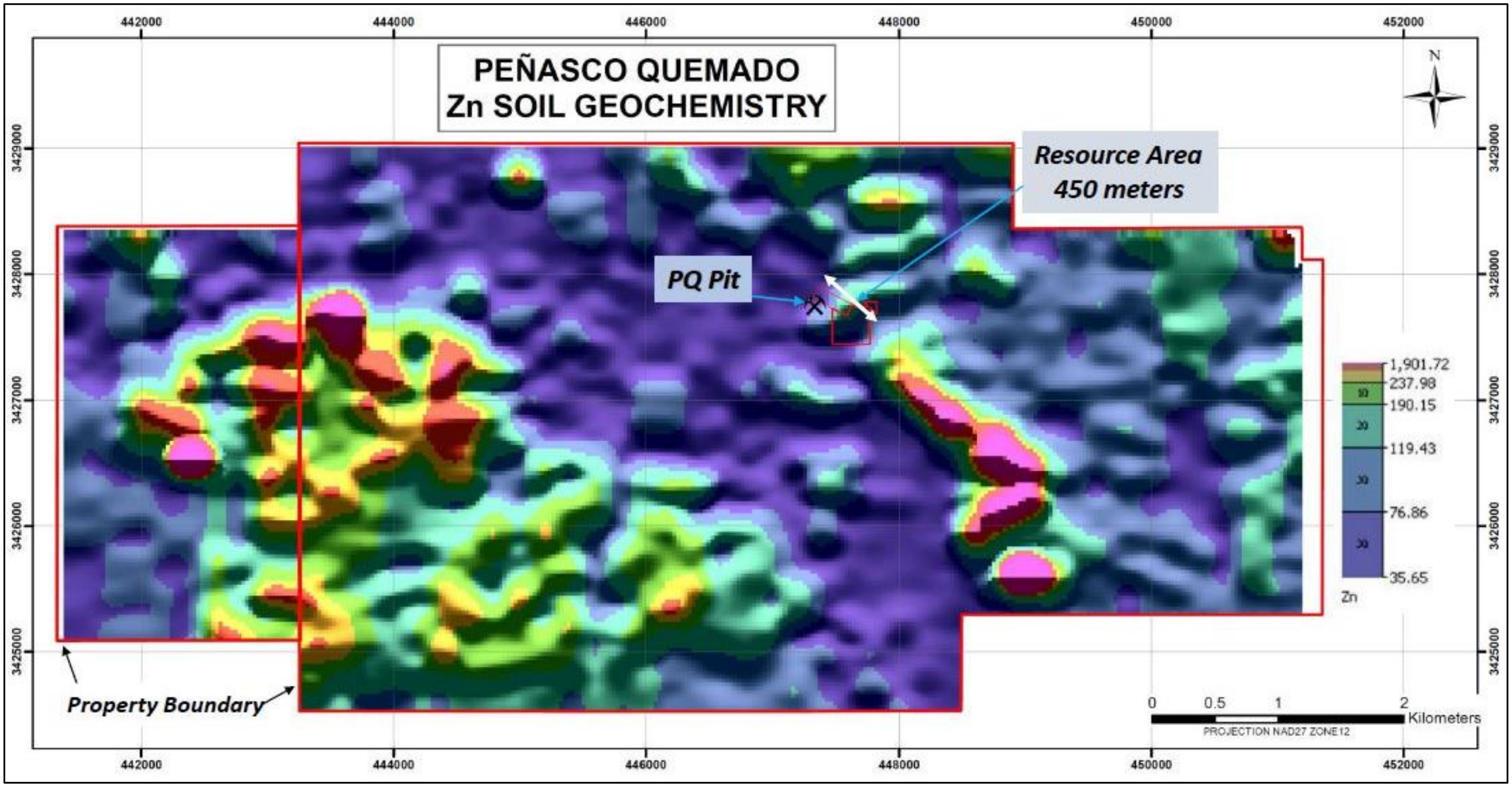


Figure extracted from the 2020 Micon Technical Report.

Figure 6.21
Results of the Manganese Soil Geochemical Sampling

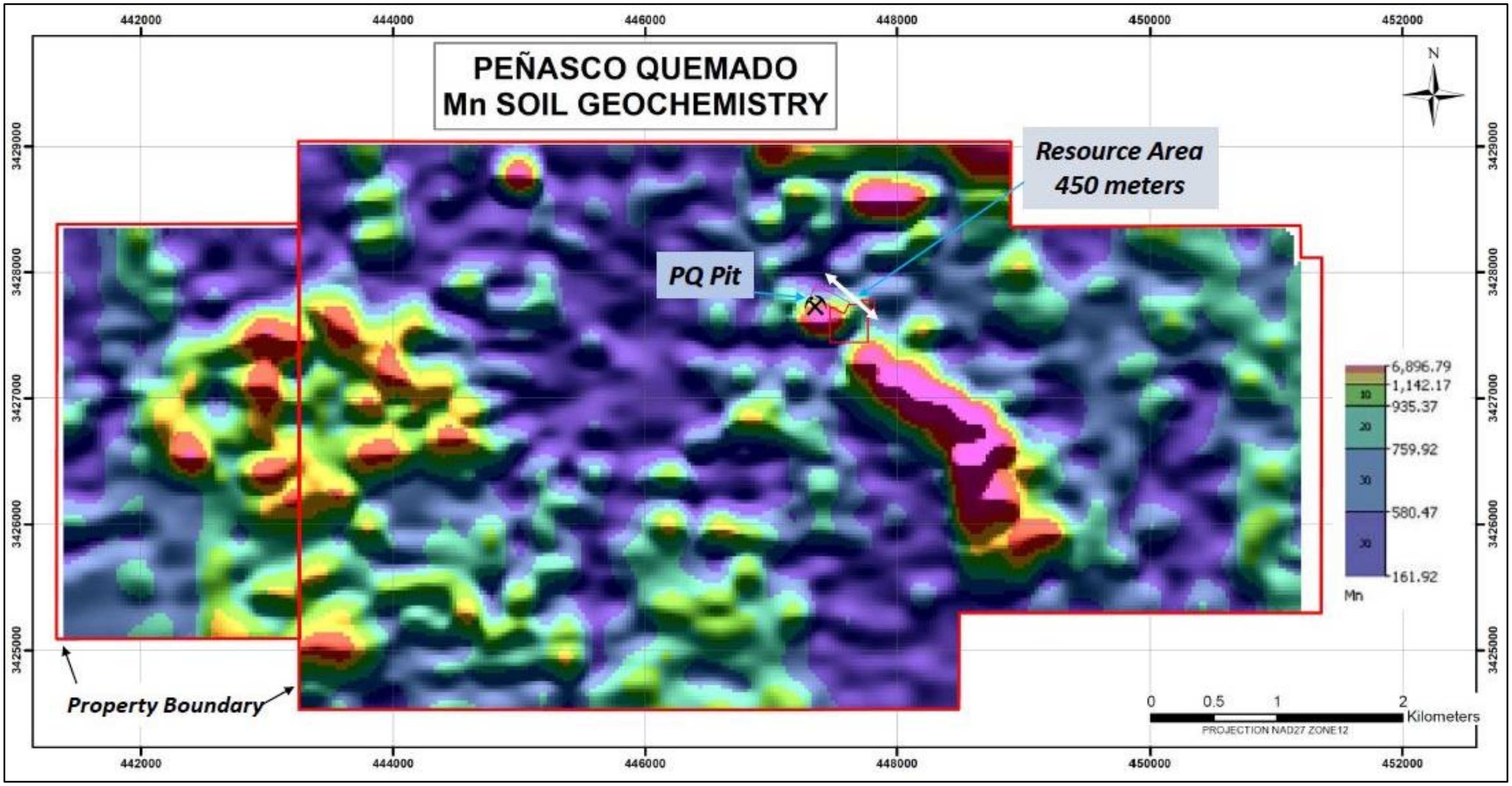


Figure extracted from the 2020 Micon Technical Report.

Figure 6.22
Results of the Barite Soil Geochemical Sampling

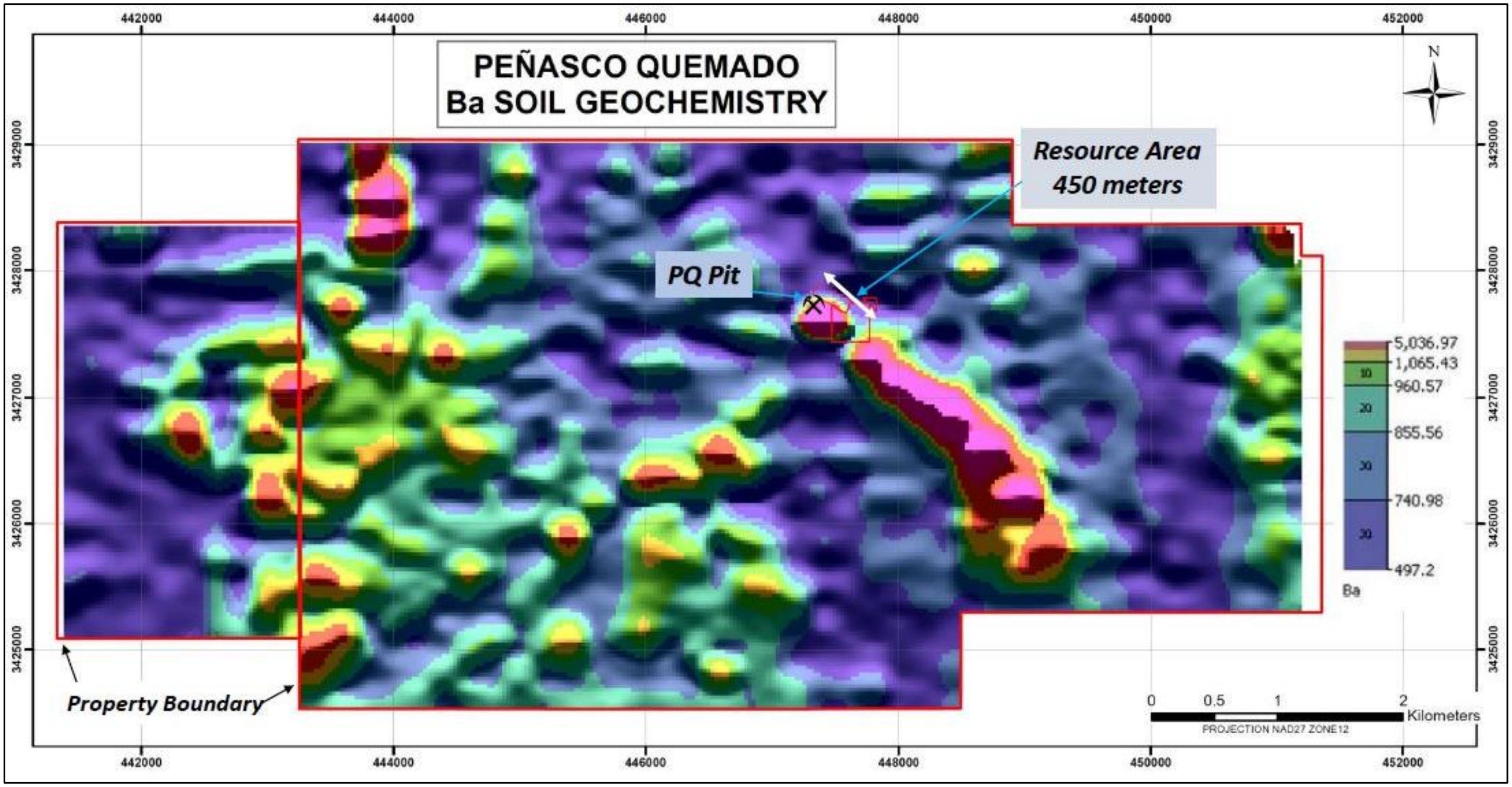


Figure extracted from the 2020 Micon Technical Report.

6.2.4.2 Soil Sampling and Assay Procedures

All soil samples were analyzed by qualified Silver One personnel with a pXRF instrument and verified by Skyline. Skyline is accredited and conforms with the requirements of ISO/IEC 17025:2005. Skyline is a commercial laboratory which is fully independent of Silver One.

The samples were collected with a plastic spoon in the C-horizon of soil, typically at the bottom of 20 to 40 cm deep pre-dug pits, and then sieved at 10 mesh in the field before placing approximately 300 grams in pre-labeled Ziplock bags. pXRF assays were conducted with an Olympus Delta-Premium 50kV analyzer mounted in a test stand, reading through the Ziploc bag in soil mode (2 beam 30 sec each). Duplicates and resplits were performed every 25 samples, A blank and two standards were analyzed every 100 samples. QA/QC was conducted periodically at the end each shift by the XRF operator. A total of 320 verification samples were assayed by Skyline (ISO/IEC 17025:2005). Skyline further prepared the samples (dry and sieve at -80 mesh) and analyzed 32 elements by ICP/OES. The laboratory includes routine Canadian Certified Reference Materials (CCRM), in-house standards and blank samples with each sample submission. Silver One ensured that chain-of-custody was maintained at all times from point of collection to delivery to the assay laboratory. Silver One did not insert any standards into the set of verification samples sent to Skyline.

6.2.5 Silver One Exploration Programs 2017 to 2018 Programs

On December 5, 2017, Silver One announced that it had commenced a geophysical survey on the Peñasco Quemado Project, with the intention to develop a 3D quality map of the lithologies identified as high-priority target areas with strong zinc and lead geochemical anomalies, to better delineate future drill targets. Silver One believed that the geophysical survey would be extremely useful, since the previous geophysical surveys successfully identified lithologies and mineralization associated with the historical resource area. However, the previous surveys were conducted in specific areas of the property and did not test all of the areas outlined in Silver One's geochemical soil surveys.

Additionally, Silver One noted that the Controlled-Source Audio-Frequency Magnetotellurics (CSAMT) being used would probe deeper with higher resolution than previous surveys, allowing Silver One to explore the possibility of a zinc-lead-silver mineralized system with geological similarities to the Hermosa-Taylor deposits located approximately 125 km northwest of the Peñasco Quemado Project. These deposits were being developed by Arizona Mining Inc. (Arizona Mining).

On April 12, 2018, Silver One announced the results of the geophysical survey conducted on the Peñasco Quemado Project. Figure 6.23 is a map showing the locations of the geophysical grids.

Figure 6.23
Location of the 2016-2017 Geophysical Survey Grid on the Peñasco Quemado Project

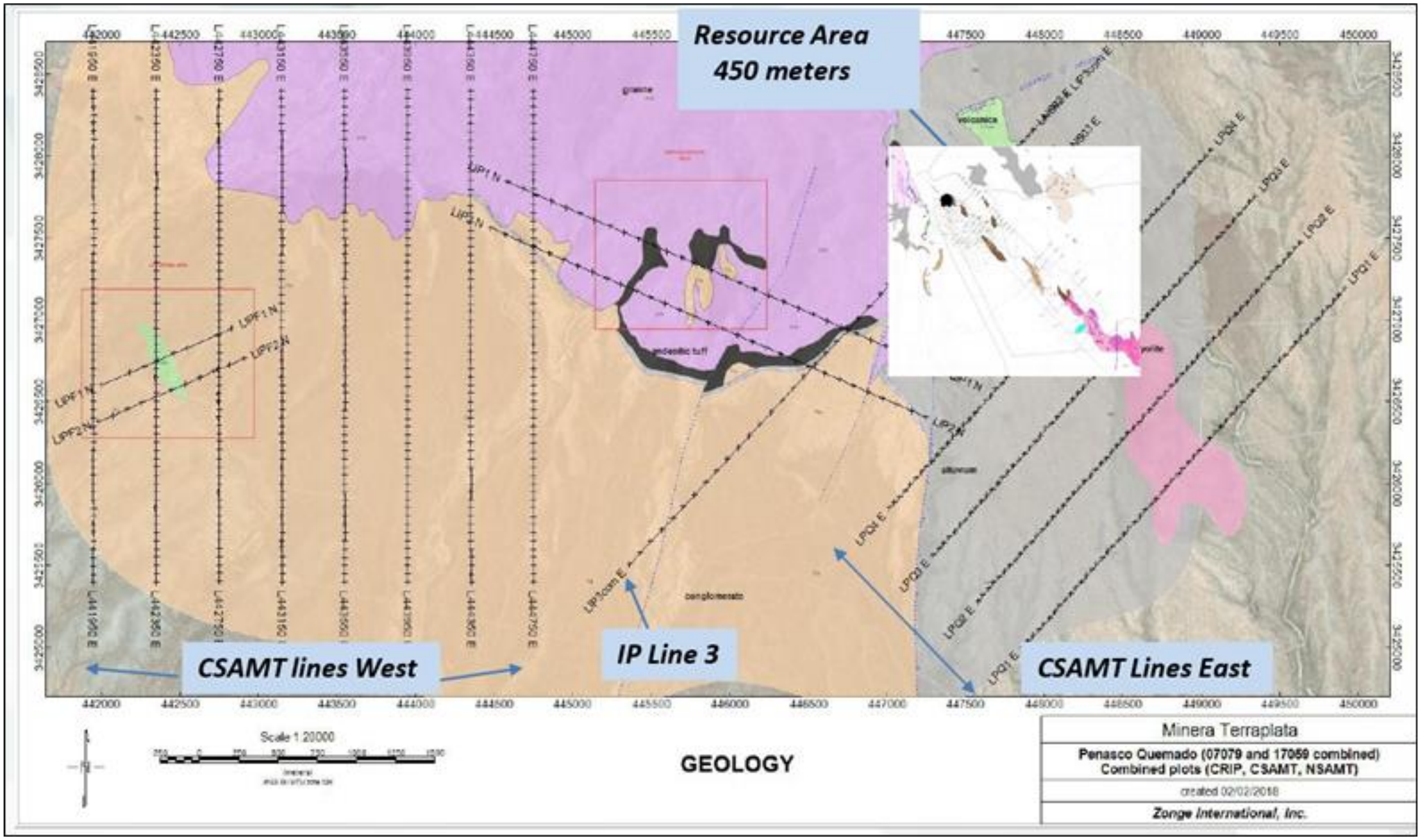


Figure extracted from the 2020 Micon Technical Report.

6.2.5.1 Geophysical Survey Details

The geophysical work consisted of a 36-kilometre CSAMT survey completed in December 2017, which was integrated with data of a 14-km induced polarization (IP), complex resistivity (CRIP) and natural source audio magnetotellurics (NSAMT) survey done in 2007. Zonge International Inc., a geophysical services company based in Tucson, Arizona, conducted both surveys. In addition, Zonge International consolidated and reinterpreted the 2007 geophysical data and completed new petrophysical testing of drill core samples performed concurrently with the CSAMT survey.

The new CSAMT survey was separated into two areas called Western Area (8 lines) and Eastern (4 lines), with each line being three kilometres in length. The lines traversed strong soil geochemical zinc, lead, copper, manganese and barium anomalies.

The prior 2007 survey consisted of nine lines of variable length which covered mainly the resource area, as well as surficial geological targets located in the central part of the property, over areas devoid of anomalous geochemical values. The 2007 survey also included two IP lines over the La Fortuna area, located in the western side of the property. The La Fortuna area is in the westernmost portion of the soil geochemical anomalies of the Western Area.

6.2.5.2 Geophysical Survey Results

Silver One noted that four main CSAMT low resistivity anomalies had been delineated, expanding the exploration potential beyond the historic resource area previously outlined. Two of the four target areas are characterized by strong zinc (values to 3,500 ppm Zn), lead (values to 800 ppm Pb), and copper (values to 1,200 ppm Cu) with barium, manganese, and moderate silver geochemical anomalies. Two additional geophysical anomalies are associated with medium level geochemical anomalies.

The four targets outlined by the geophysical survey are as follows:

- Target 1 is a 1,000 m long x 500 m wide, northeast-southwest oriented zone, characterized by low resistivities (13-90 ohm-m). This potentially represents the down-dip continuation of the Peñasco Quemado replacement manto (occurring within a conglomerate horizon) that hosts the historic mineral resource.
- Target 2 is also a low resistivity zone (20-120 ohm-m) that is coincidental with highly anomalous soil geochemistry in the western portion of the property. The three-dimensional (3D) geophysical signature suggests that the anomaly extends to depths greater than 400 m.
- Target 3 is a low resistivity area that is associated with moderately elevated geochemistry. It is anomalous in that it is an area underlain by granite, which should yield a high resistivity signature. The interpretation is that the low resistivity is represented by something other than unaltered granite at depth.
- Target 4 lies just to the east of the very strong zinc-lead geochemical signature that occurs along strike to the southeast of the historic resource associated with the Peñasco Quemado replacement manto. It, too, is characterized by low resistivity and appears to continue to depths greater than 300 m.

The four target areas are shown in Figure 6.24, superimposed on Silver One's zinc soil geochemistry map.

Figure 6.25 is a cross-section along IP Line 3, through the Peñasco Quemado deposit.

Figure 6.26 to Figure 6.32 are plan views of the geophysical results from 750 m down to 450 m.

Figure 6.33 is cross-section and 3D model of the east side voxel for CSAMT, and resistivity/IP lines as viewed from the southeast area. The oval in the voxel represents Target 1.

Figure 6.34 is a model of sections comprised of the eastern IP and CSAMT lines, as well as the voxel model clipped from 14 ohm-m to 100 ohm-m. The oval in the sectional model represents Target 4.

Figure 6.35 is an interpretation of the geophysics on the west side, with a voxel plot of the 2D inversion of the 8 CSAMT lines and 2 resistivity/IP lines, as well as other related voxel plots.

6.2.6 Silver One 2019 Drilling Program

On February 14, 2019, Silver One announced that it has commenced a drilling program on the Peñasco Quemado Project. The drilling was initiated to test three targets in two separate areas of the property. Silver One selected the targets based on coincidental geochemical and geophysical anomalies, previously identified by its 2017 and 2018 exploration programs.

Drill holes in the eastern part of the property targeted the interpreted southwest, down-dip extension of the drill defined historic silver resources, which has been interpreted as a shallow, southwest-dipping replacement manto. This anomaly was outlined by geophysics (area of low-intermediate resistivity). Additional drilling tested the interpreted along-strike extensions to this historic resource area, as identified by strong, 3+ km long, southeast trending zinc, lead, barium and manganese in soil anomalies, which are in part associated with geophysical anomalies.

In the western part of the Peñasco Quemado property, drilling tested strong zinc, lead and copper soil anomalies with coincidental geophysics, in an area drilled by Silvermex in 2008, in which significant silver values were intersected in drill hole PQRC51 (340 g/t Ag over 4.5 m, 88 m from surface).

Silver One's Mexican subsidiary, Terra Plata, contracted Globexplore, S.A. de C.V. (Globexplore) to conduct the 2019 drilling at Peñasco Quemado.

Figure 6.24
Zinc Soil Geochemistry with the CSAMT Targets Overlain

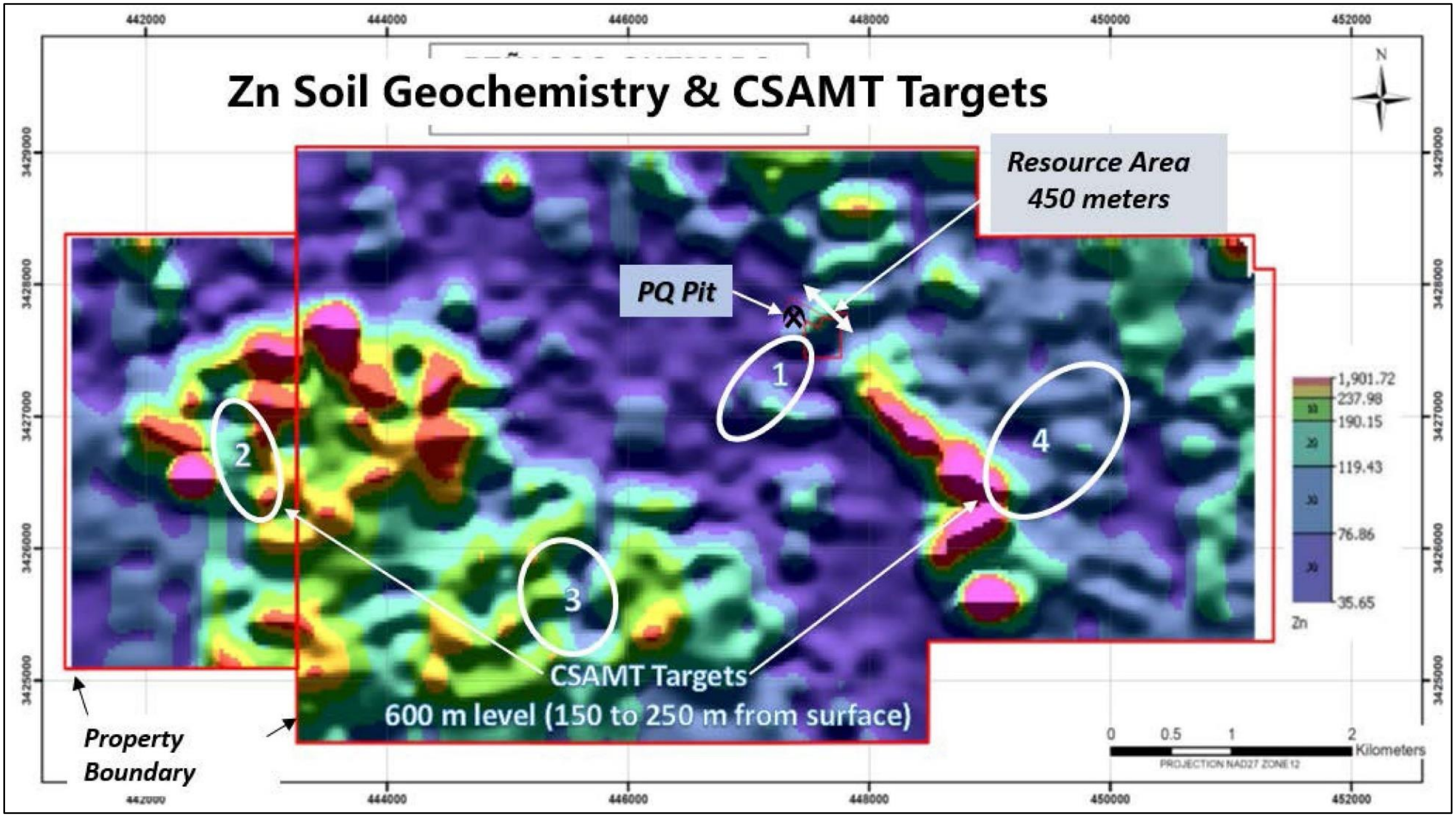


Figure extracted from the 2020 Micon Technical Report.

Figure 6.25
Cross-Section along IP Line 3 through the Peñasco Quemado Deposit

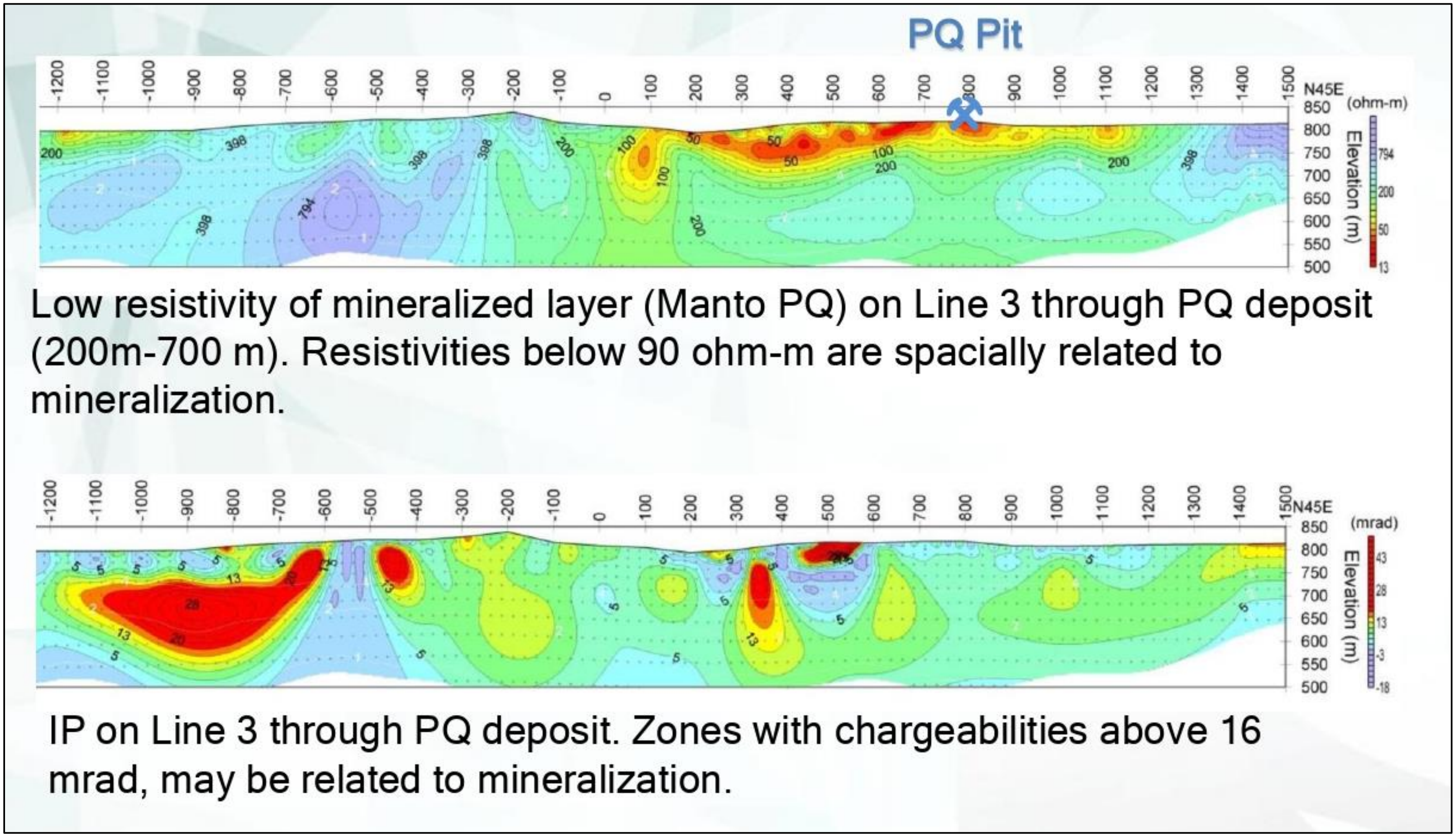


Figure extracted from the 2020 Micon Technical Report.

Figure 6.26
Plan View of the Geophysical Results for the 750 m Level

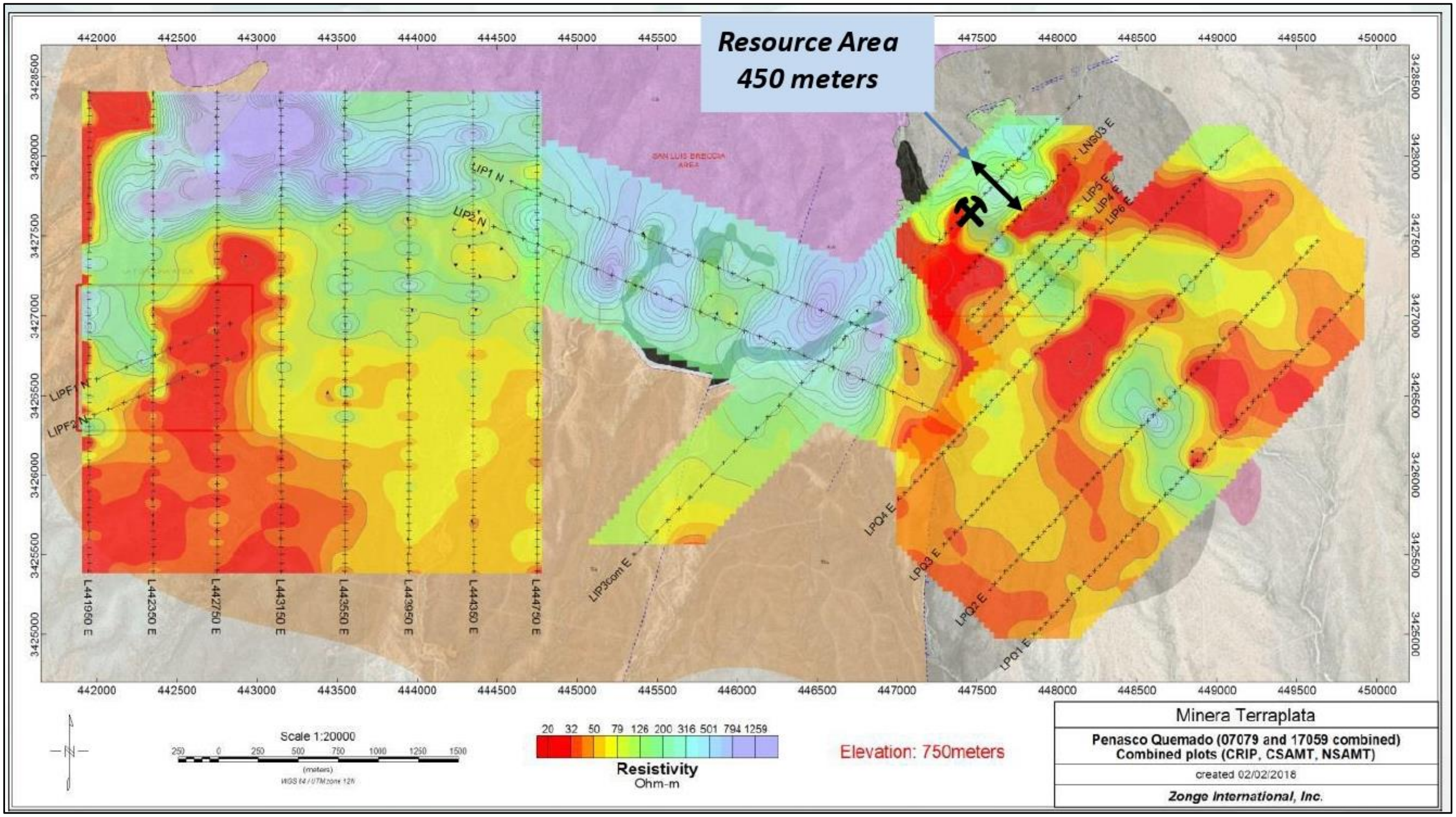


Figure extracted from the 2020 Micon Technical Report.

Figure 6.27
Plan View of the Geophysical Results for the 700 m Leve

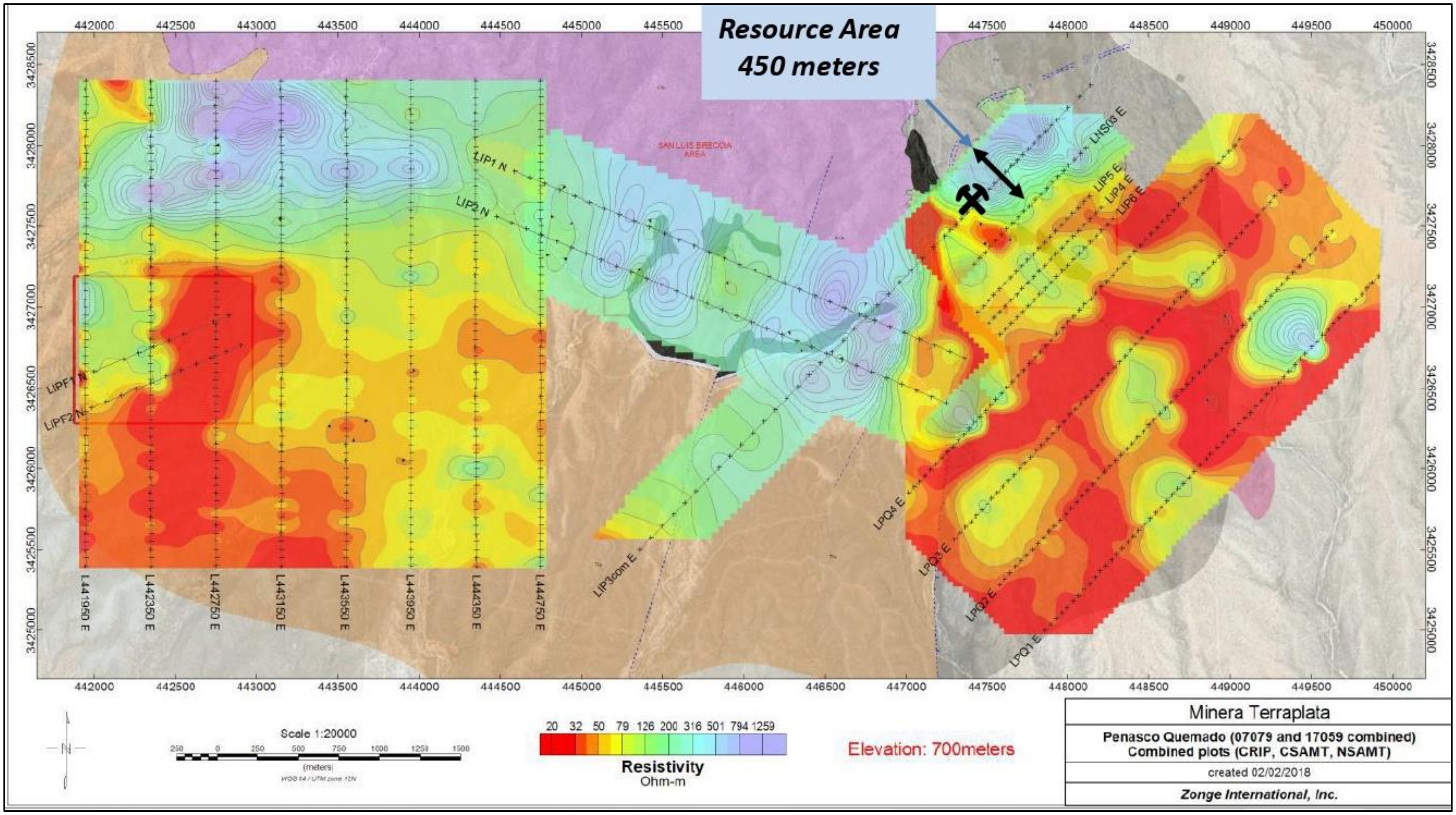


Figure extracted from the 2020 Micon Technical Report.

Figure 6.28
Plan View of the Geophysical Results for the 650 m Level

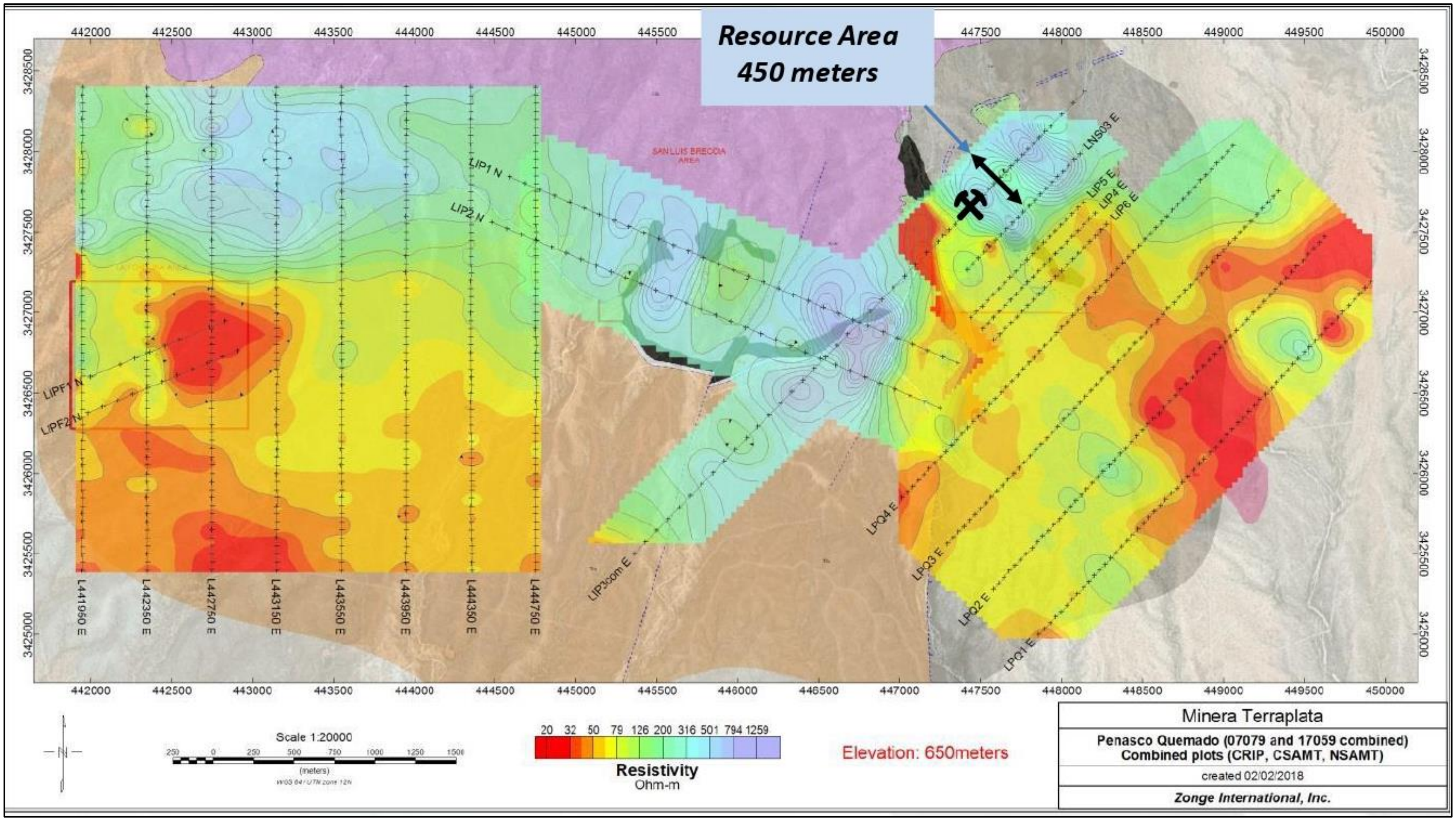


Figure extracted from the 2020 Micon Technical Report.

Figure 6.29
Plan View of the Geophysical Results for the 600 m Level

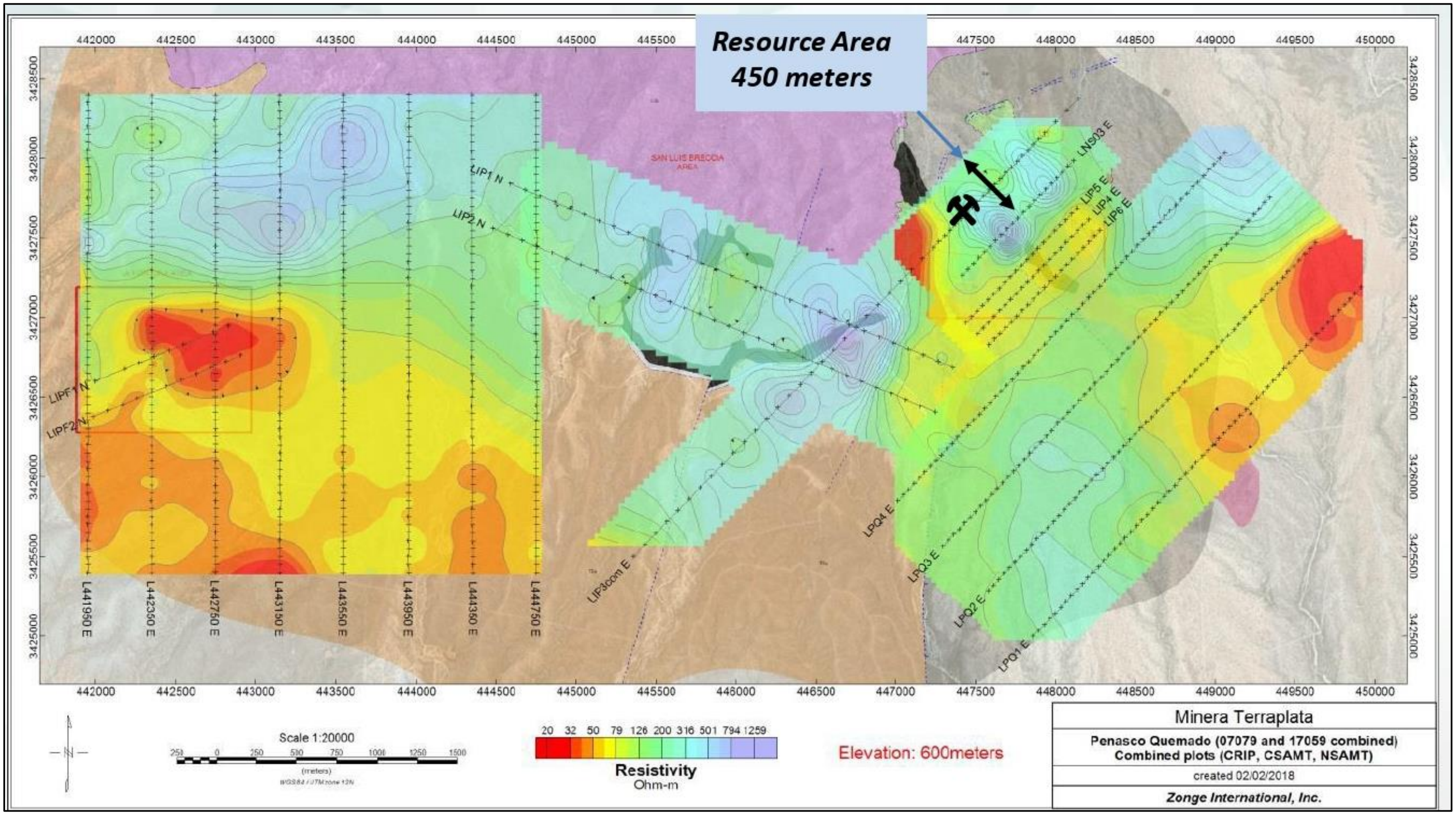


Figure extracted from the 2020 Micon Technical Report.

Figure 6.30
Plan View of the Geophysical Results for the 550 m Level

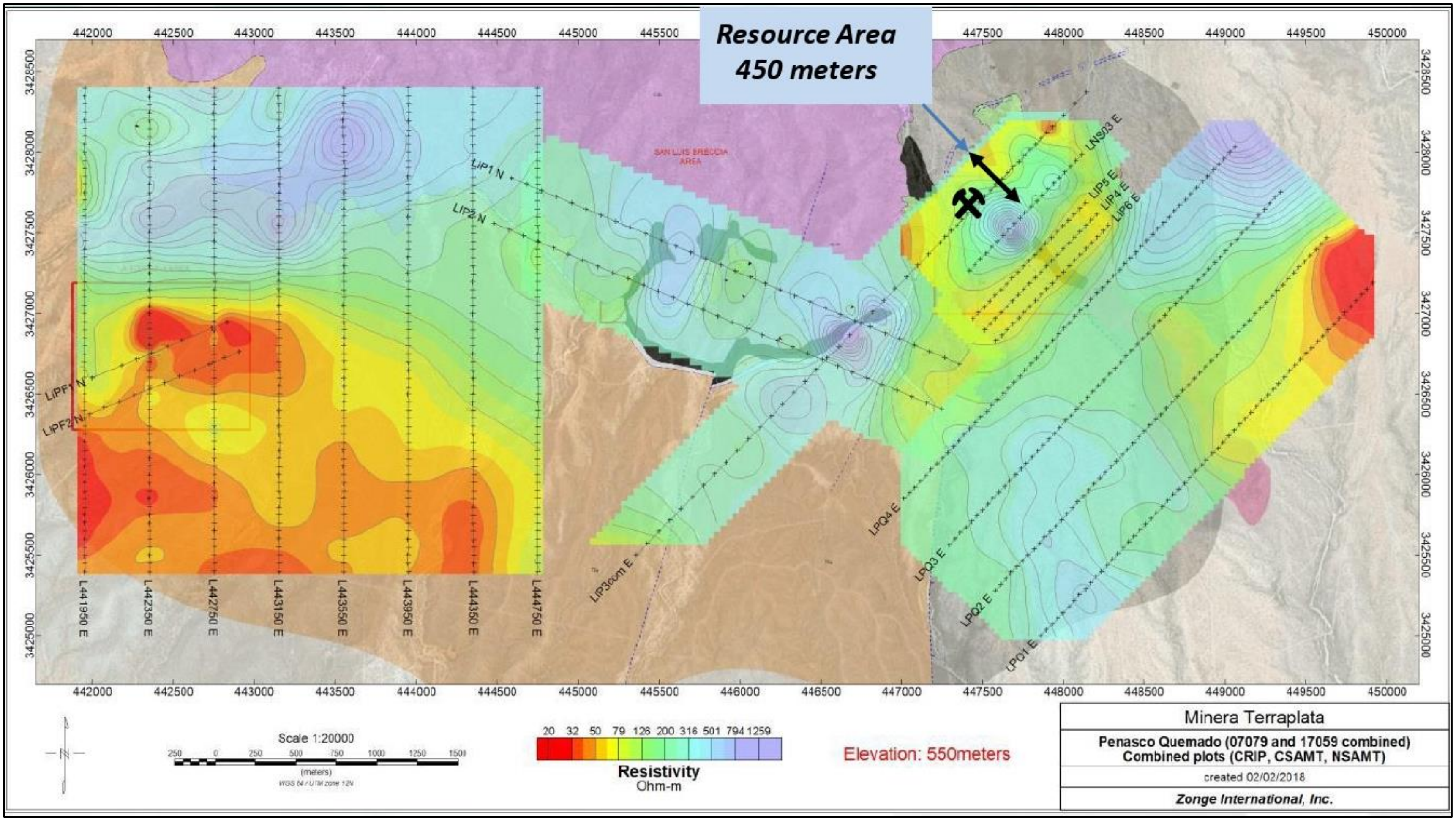


Figure extracted from the 2020 Micon Technical Report.

Figure 6.31
Plan View of the Geophysical Results for the 500 m Level

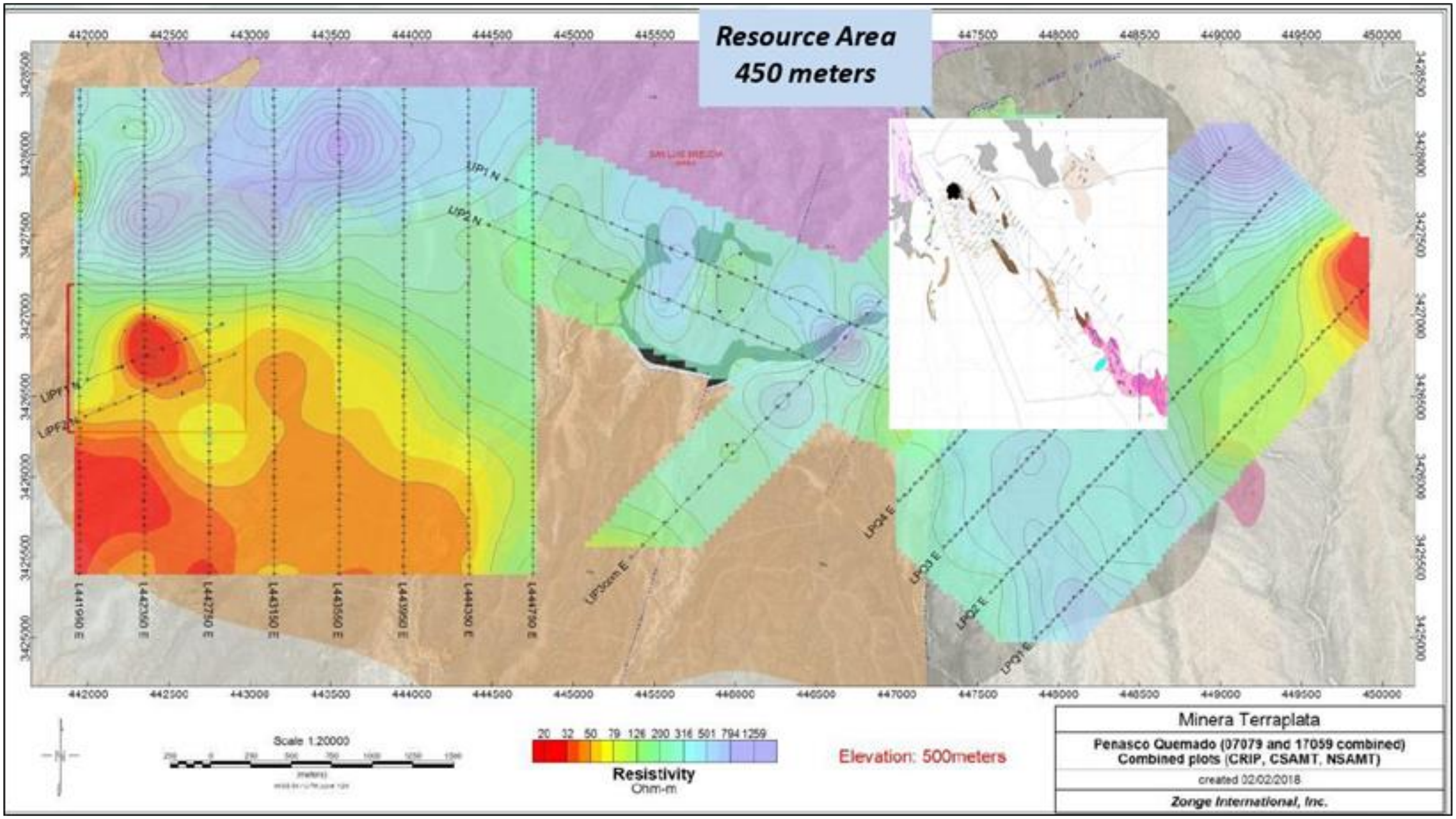


Figure extracted from the 2020 Micon Technical Report.

Figure 6.32
Plan View of the Geophysical Results for the 450 m Level

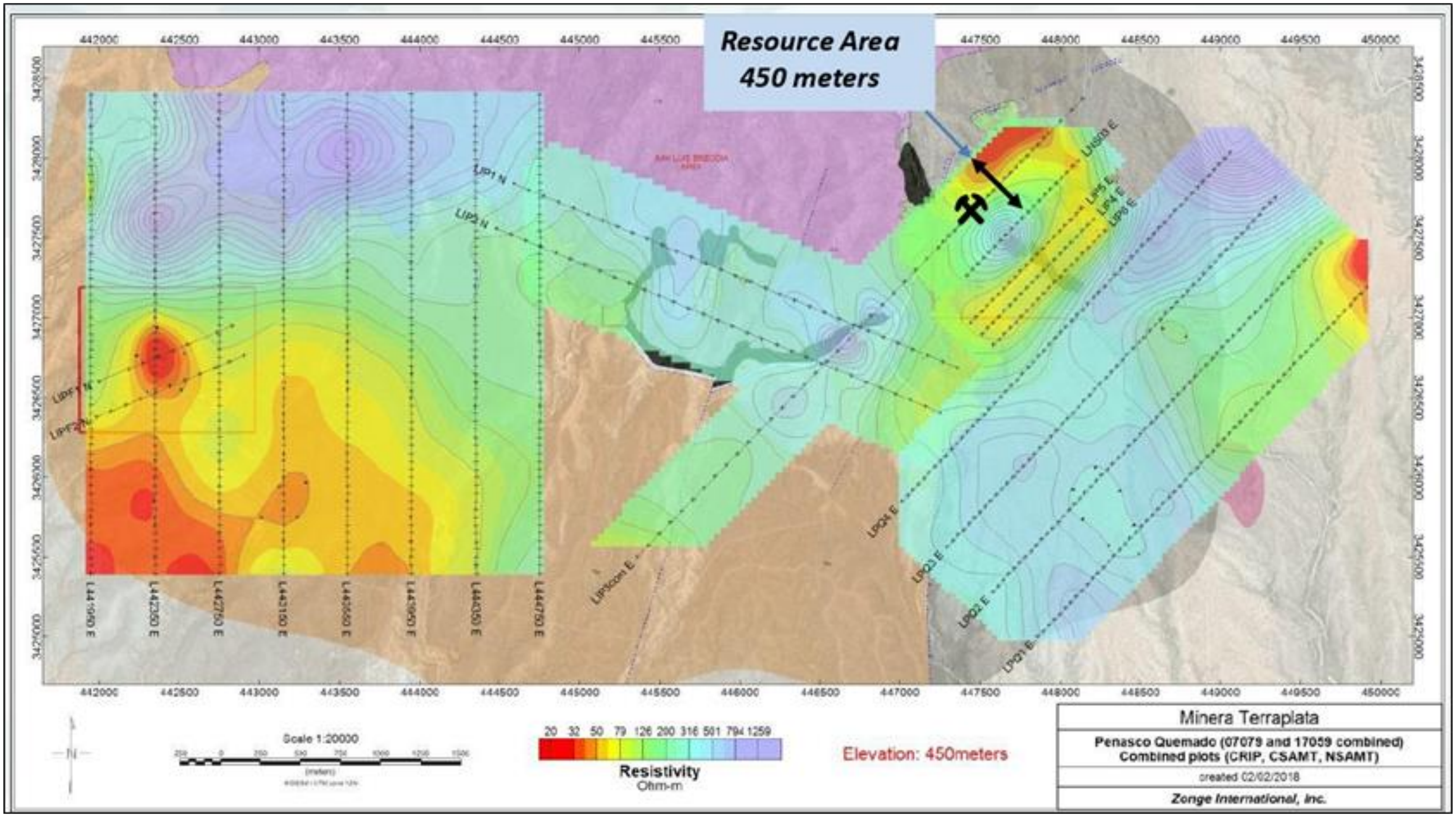


Figure extracted from the 2020 Micon Technical Report.

Figure 6.33

Cross-Section and 3D Model of the East Side Voxel for CSAMT and Resistivity/IP lines as Viewed from the Southeast

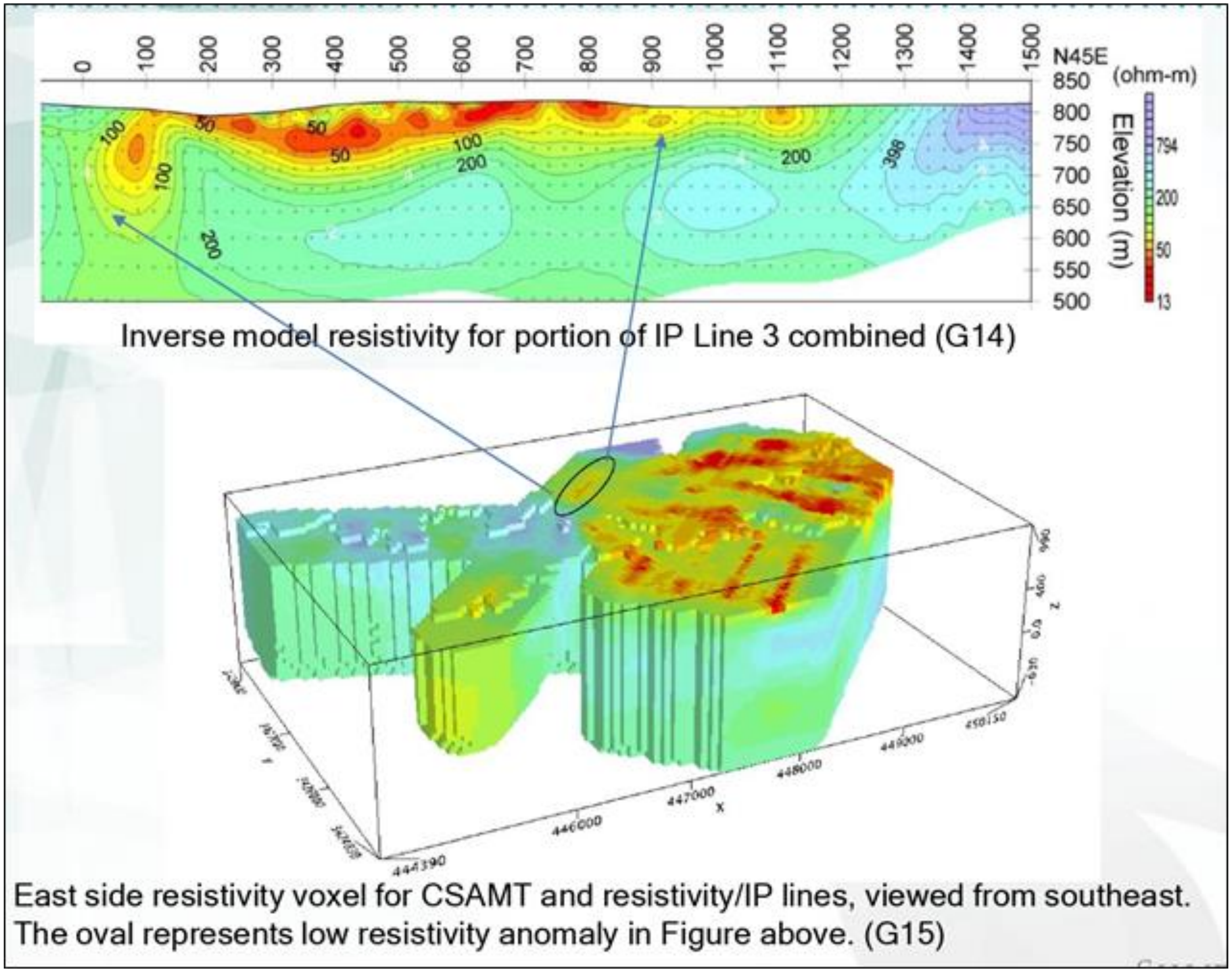


Figure extracted from the 2020 Micon Technical Report.

Figure 6.34
Model of Sections Comprised of the Eastern IP and CSAMT Lines as well as the Voxel Model clipped from 14 Ohm-m to 100 Ohm-m

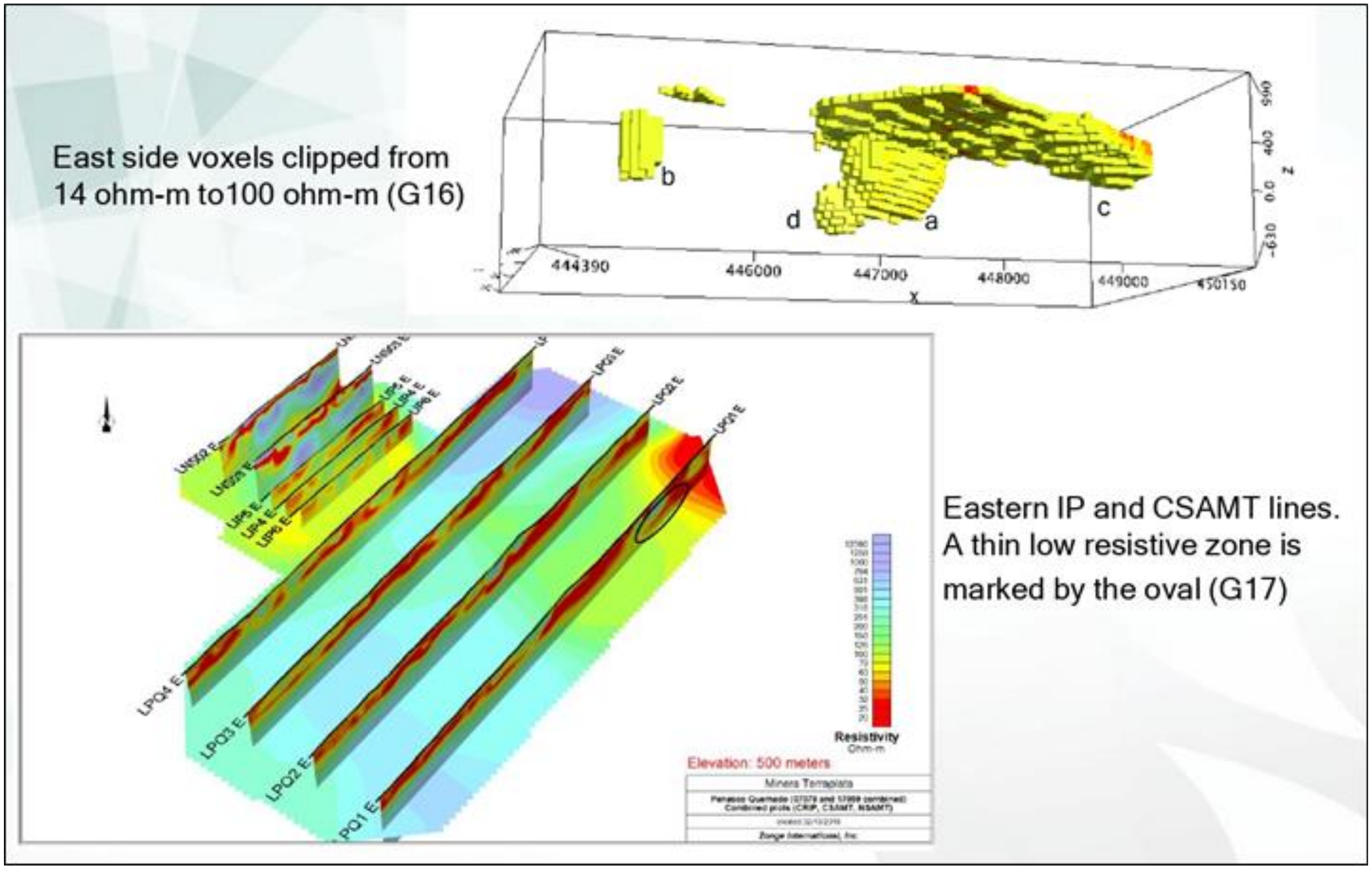


Figure extracted from the 2020 Micon Technical Report.

Figure 6.35
Interpretation of the Geophysics on the West Side with a Voxel Plot of the 2D inversion of the 8 CSAMT Lines and 2 Resistivity/IP Lines including Related Voxel Plots

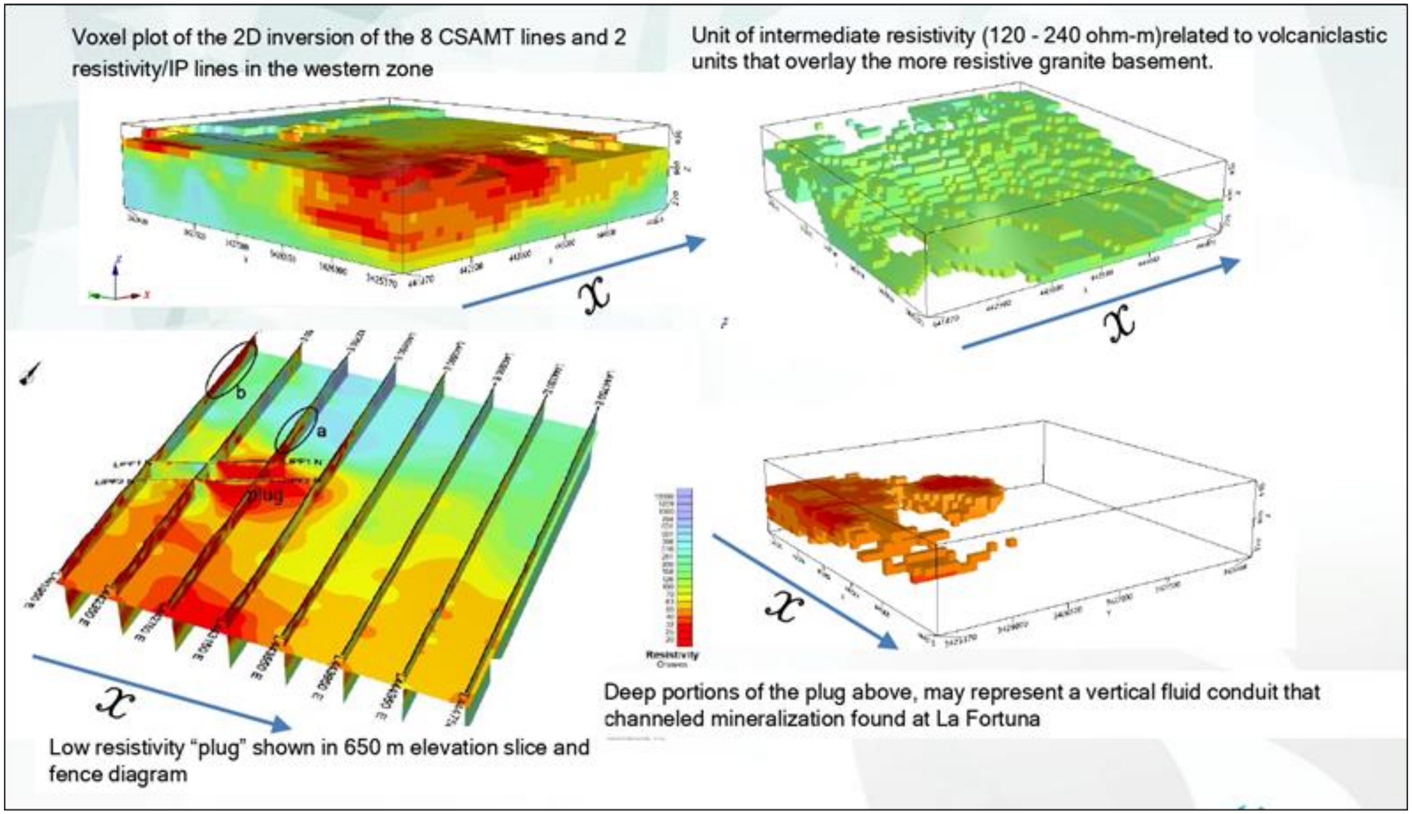


Figure extracted from the 2020 Micon Technical Report.

Table 6.14 summarizes the details of the 2019 drilling program and Figure 6.36 shows the location of the 2019 drilling.

Table 6.14
Summary of the 2019 Drill Holes on the Peñasco Quemado Project

Drill Hole	Coordinates WGS84			Elevation (masl)	Azimuth (°)	Dip (°)	Length (m)
	Zone	Easting	Northing				
PQ19-1	12	442,514	3,426,633	810	249	-70	320.25
PQ19-2	12	447,148	3,427,241	807	0	0	83.85
PQ19-3	12	447,275	3,427,353	780	0	0	132.65
PQ19-4	12	448,609	3,426,665	803	30	-60	207.40
PQ19-5	12	448,744	3,425,857	777	30	-60	230.25
Total							**974.40**

Table supplied by Silver One for 2020 Micon Technical Report.

The drilling was conducted using HQ drill rods which results in a core size of 63.5 mm (2.5 in). Core recoveries were generally good, averaging between 96% to 99% in all holes, except drill hole PQ19-2, adjacent to a fault zone, which recovered an average of 81% of the core. The core was logged, photographed and sampled by Silver One personnel at a core facility located in Saric, Sonora, 20 km from the Project area. The core continues to be stored at this facility.

The sampling procedure involved splitting the core in half with a diamond saw; one half was bagged and tagged for assay, and the other half was returned to the core box for storage.

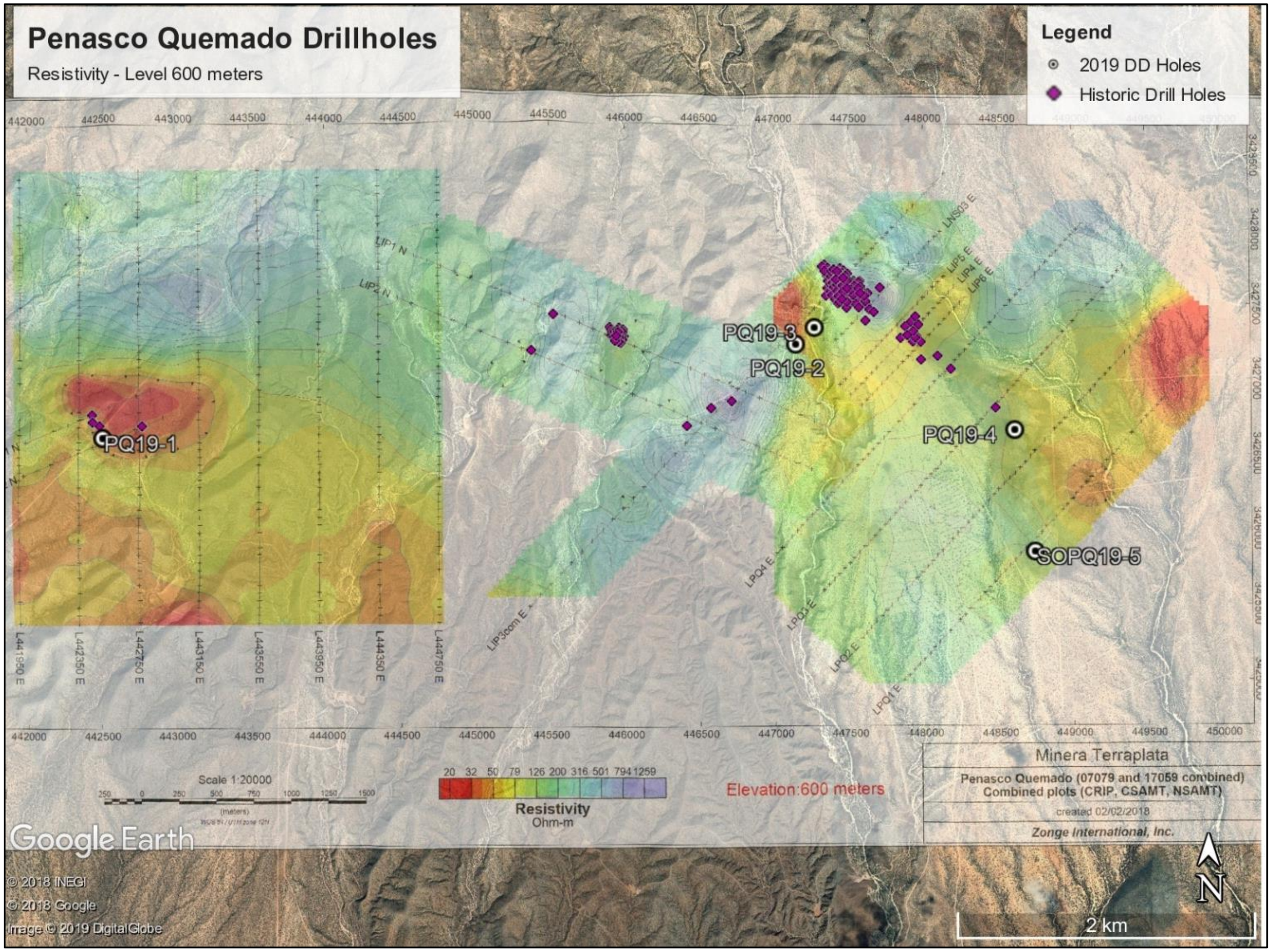
Silver One's personnel oversaw chain of custody and inserted certified standards, duplicates and blanks into all sample streams submitted to the laboratory. All samples collected were dried and split by Bureau Veritas Laboratories, (Bureau Veritas), in Hermosillo. Gold was assayed in Bureau Veritas's Hermosillo laboratory (assay code FA430), using a 30-gram sample, while silver and multi-element analysis (ICP_ES/MS assay code AQ270) were conducted in the Vancouver laboratory.

Bureau Veritas, as part of its standard operating procedures, also inserts its own blanks, standards and includes duplicate analyses. Bureau Veritas is an independent certified (ISO9001, ISO14001) laboratory and is independent of Silver One.

6.2.6.1 Silver One 2019 Drilling Program Results

Hole PQ19-1, in the western part of the property, tested strong zinc, lead and copper soil anomalies with coincidental geophysical anomalies in an area drilled by Silvermex in 2008. Significant silver values were intersected by Silvermex in hole PQRC51 (340g/t Ag over 4.5 m, 88 m from surface). The goal of Silver One's hole PQ19-1 was to intersect the continuity of the silver mineralization in the footwall of a felsic dyke 40 m, below the intersection of hole PQRC51. Hole PQ19-1 was drilled to a depth of 320.25 m without exiting the dyke and did not reach the target.

Figure 6.36
Location Plan for the 2019 Drill Holes



Map supplied by Silver One for 2020 Micon Technical Report.

Drill holes PQ19-2 and PQ19-3, in the eastern part of the property, targeted the southwest, down-dip extension of the drill-defined historic silver resources, interpreted as a shallow, southwest-dipping replacement manto. This anomaly was outlined by geophysics. Drill hole PQ19-3, located 400 m down dip from the Peñasco Quemado pit at the resource area, intersected 13 m of anomalous values of Mn, Zn and Pb (up to 0.13%, 0.15%, and 882 ppm, respectively) in a volcanic succession at the base of a red conglomerate. Hole PQ19-2, located 500 m down dip from the resource area, reached the gneissic basement without intersecting mineralization of interest.

Drill holes PQ19-4 and PQ19-5, located 1.5 km and 2 km southeast of the resource area, tested the interpreted along-strike extensions to the historic resource area, as identified by strong, 3+ km-long, southeast trending zinc, lead, barium and manganese in soil anomalies, with coincidental geophysical anomalies. Both holes intersected zones between 11 m and 24 m wide with Mn, Zn, Pb, and local Cu anomalies (up to 3%, 0.24%, 515 ppm and 370 ppm, respectively). For example, hole PQ19-4 intersected 7.5 m with 3% Mn (from 18.5 to 26 metres) and 12 m with 2% Mn (from 136.75 to 148.75 m). Hole PQ19-5 reported 1.3% Mn over 23.55 m from a depth of 163.6 to 187.15 m.

Table 6.15 summarizes the significant assay intersections obtained during the 2019 drilling program.

Table 6.15
Summary of the Significant Assays for the 2019 Drilling Program

Drill Hole	Assay Intersection				Assay Results		
		From (m)	To (m)	Width (m)	Pb (ppm)	Zn (ppm)	Mn (ppm)
PQ19-03		92.0	105.0	13.0		392.85	
	including	96.0	105.0	9.0	494.80		1,055.56
PQ19-04		18.5	26.0	7.5	65.65	631.33	31,902.33
		95.5	107.0	11.5		155.61	
		136.75	148.75	12.0			1,904.79
		140.75	147.25	6.5	75.95		
PQ19-05		163.60	187.15	23.55			1,363.13
	including	167.15	187.15	20.00	156.37		
	including	173.15	187.15	14.00		742.25	

Table supplied by Silver One for 2020 Micon Technical Report.

Figure 6.37 to Figure 6.40 show the drill hole cross-sections for Silver One's 2019 drill program.

The goal of the 2019 drilling program was 3-fold:

- First was to test the potential down-dip and along strike continuity of the silver-manganese mineralization identified in the area of the historic resource that was outlined by Silvermex in 2006.
- Second was to investigate the source of the very high zinc and lead in soil anomalies located along strike to the southeast of the historic resource area.
- Third was to test geochemical and geophysical anomalies in the west central part of the property.

Figure 6.37
Cross-Section for Silver One Drill Hole SOPQ-01

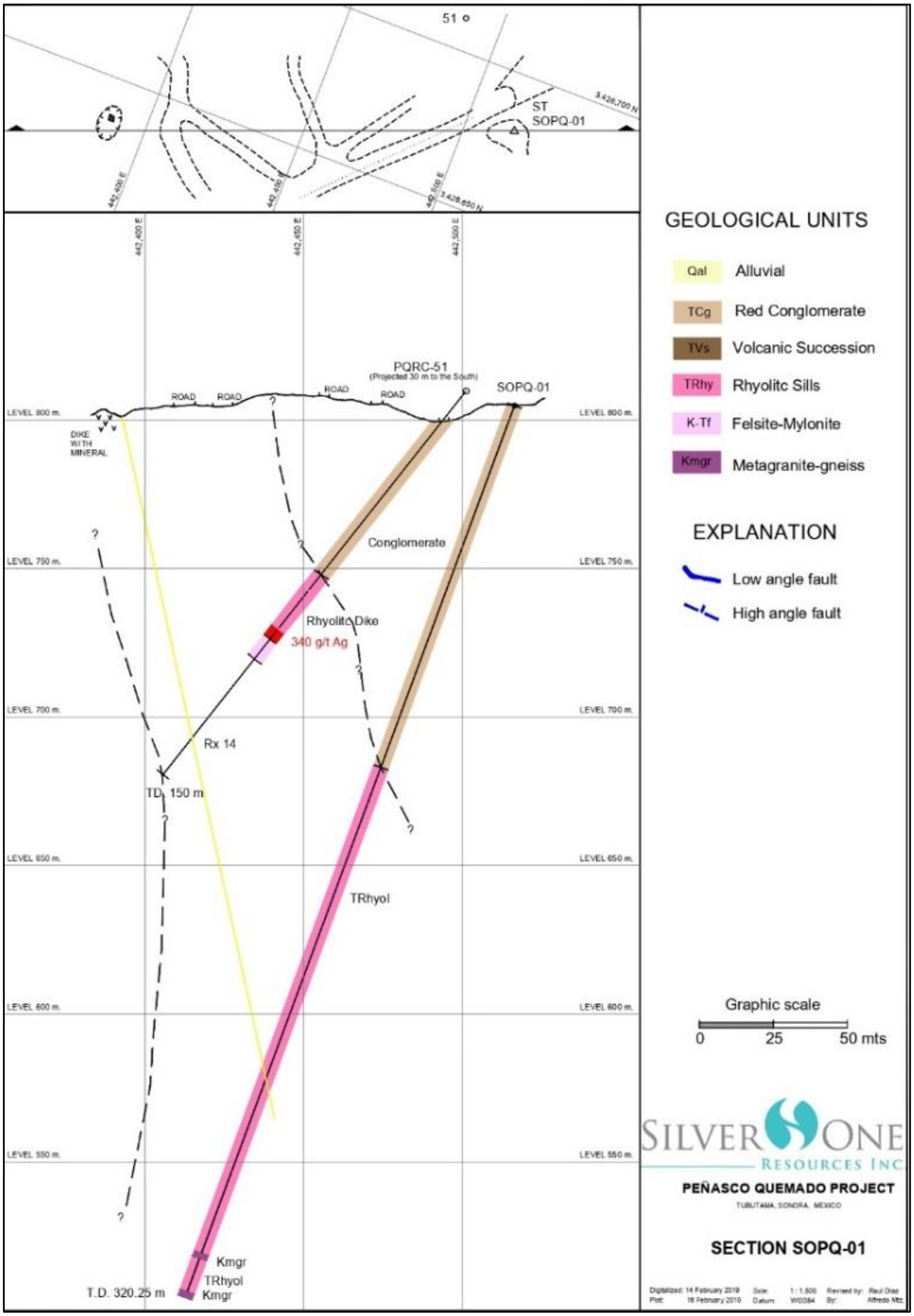


Figure supplied by Silver One for 2020 Micon Technical Report.

Figure 6.38
Cross-Section for Silver One Drill Holes SOPQ18-02 and SOPQ18-03

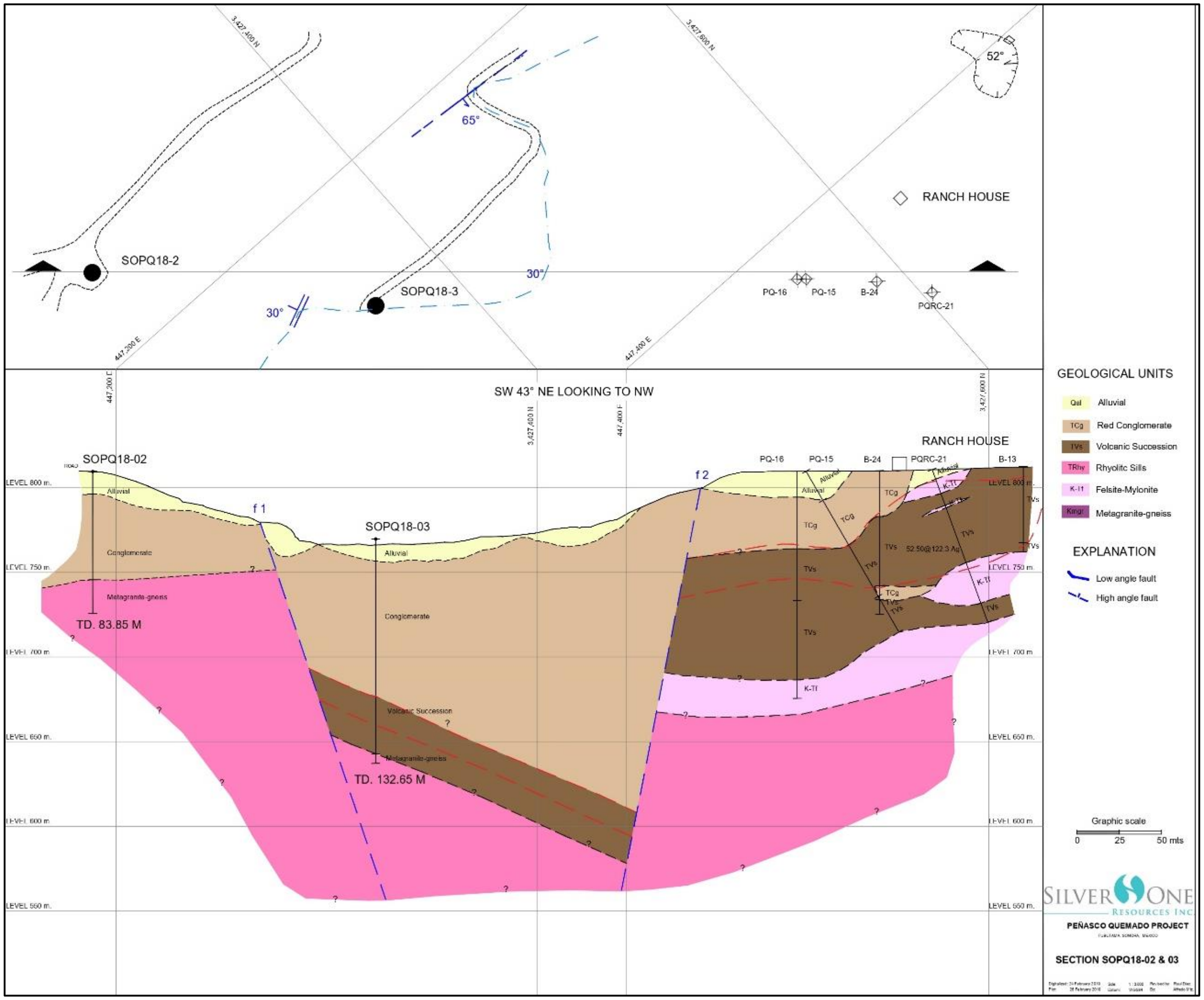


Figure supplied by Silver One for 2020 Micon Technical Report.

Figure 6.39
Cross-Section for Silver One Drill Holes SOPQ19-04

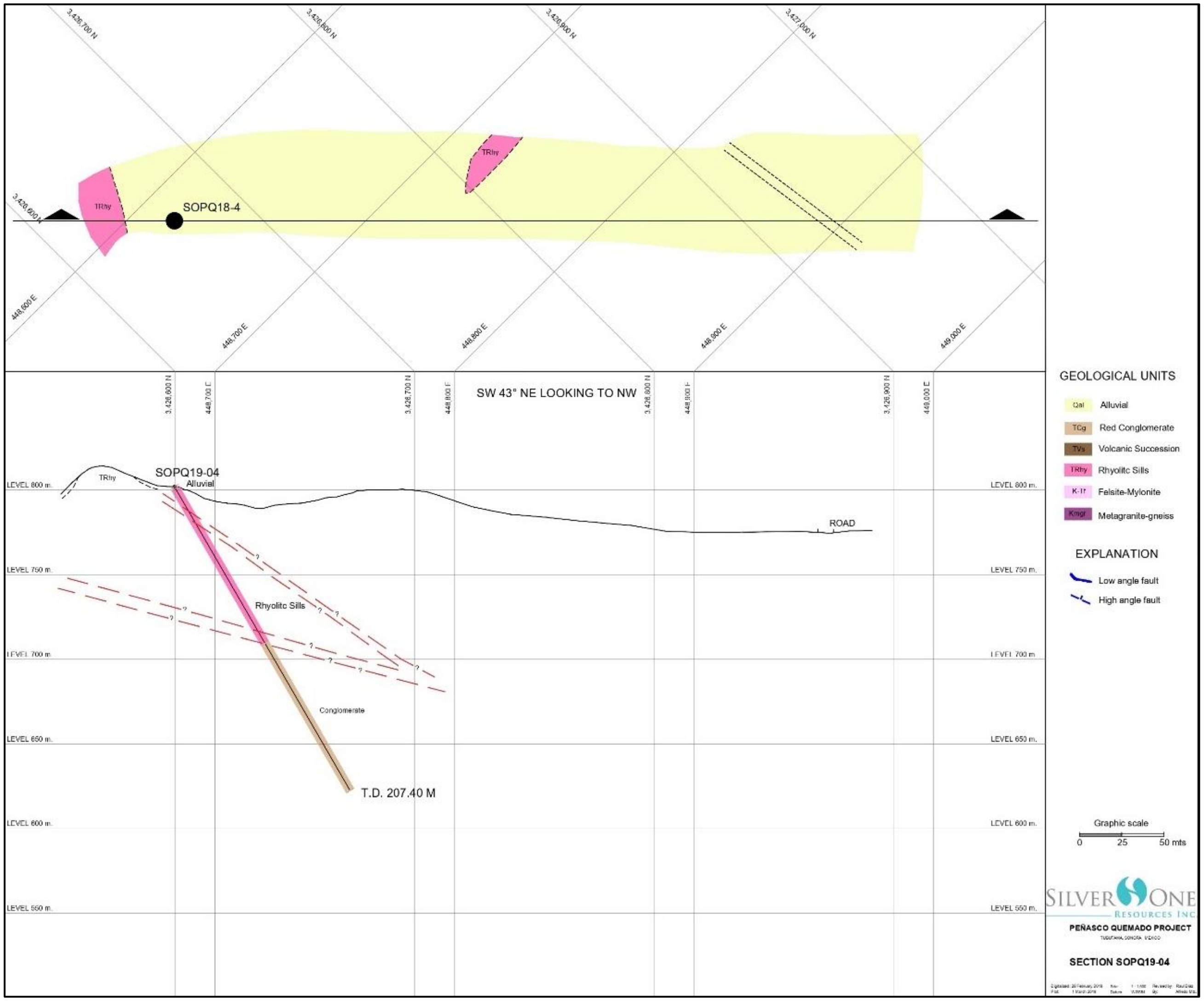


Figure supplied by Silver One for 2020 Micon Technical Report.

Figure 6.40
Cross-Section for Silver One Drill Holes SOPQ19-05

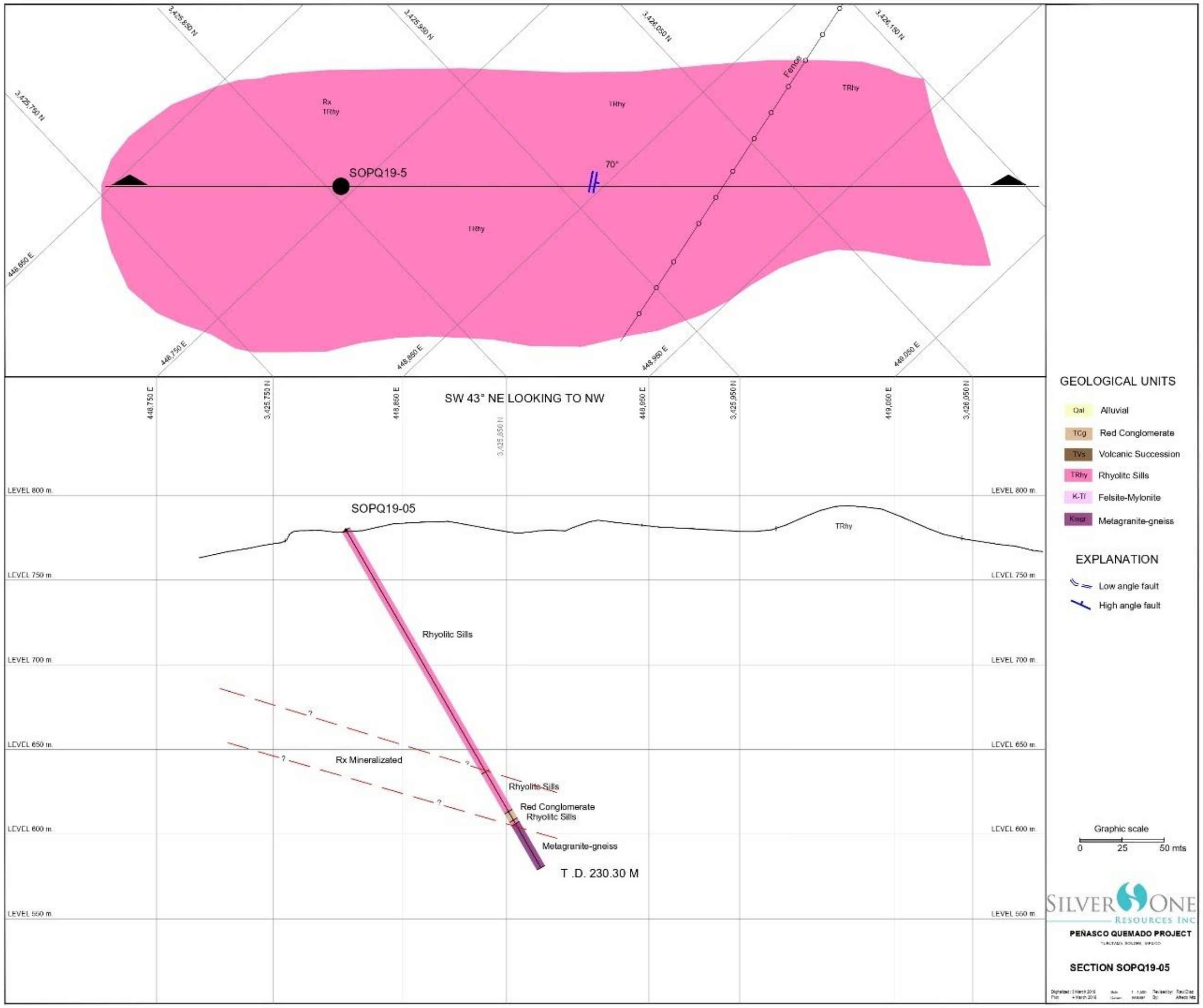


Figure supplied by Silver One for 2020 Micon Technical Report.

Assay results indicate that the mineralized silver-manganese system does extend outside the area of the historic resource. Manganese, zinc and lead values up to 3% Mn, 0.24% Zn and 0.09% Pb were encountered in hole PQ19-03 (located down dip from the centre of the historic resource area). Drill holes PQ19-04 and PQ19-05, located to the southeast of the same resource area, along an area of strong zinc and lead in soil anomalies, also encountered significant manganese, zinc and lead values. However, as Silver One noted; “the limited drilling program was not enough to fully test all the areas of interest” and further work remains to identify the true extent of the mineralization at the Peñasco Quemado Project.

6.2.6.2 2020 Micon QP Comments

Silver One’s 2019 drilling results indicated that further work is needed to understand the true extent of the mineralization located at the Peñasco Quemado Project. A careful review all of the available data from the previous exploration drilling programs is recommended, to assist in outlining further drill programs on the property.

6.2.7 Silver One Sample Preparation, Analysis and Security

6.2.7.1 2017 and 2018 Exploration Soil Sampling and Assay Procedures/Results

All soil samples were analyzed by qualified Silver One personnel with a pXRF instrument and verified by Skyline. Skyline is fully independent of Silver One.

Duplicates and resplits were performed every 25 samples, A blank and two standards were analyzed every 100 samples. QA/QC was conducted periodically at the end each shift by the XRF operator.

A total of 320 verification samples were assayed by Skyline. Skyline further prepared the samples (dry and sieve at -80 mesh) and analyzed 32 elements by ICP/OES. The laboratory includes routine Canadian Certified Reference Materials (CCRM), in-house standards and blank samples with each sample submission. Silver One did not insert any standards into the set of verification samples it sent to Skyline.

The verification samples covered both the area around the Peñasco Quemado pit, as well as the geochemical anomaly identified around the mine with the portable XRF Spectrometer (pXRF).

The correlation of the Skyline assaying results with the pXRF results are as follows:

- Good correlation: Mn. Fe, Cu, Zn, Ag, Sb and Pb.
- Medium correlation: As and Sr.
- Low correlation: Ba, Cr, Hg, Mo, Ni, Ti, V and Zr.
- Not plotted due to low detection limit of both the laboratory and pXRF: Bi, Cd, Co, La and W.

Figure 6.41 and Figure 6.42 show the correlation between the Skyline assays and pXRF results.

Figure 6.41
Correlation Between the Skyline Assays and pXRF Results for Ag, Zn, Pb, Cu, Mn and Fe

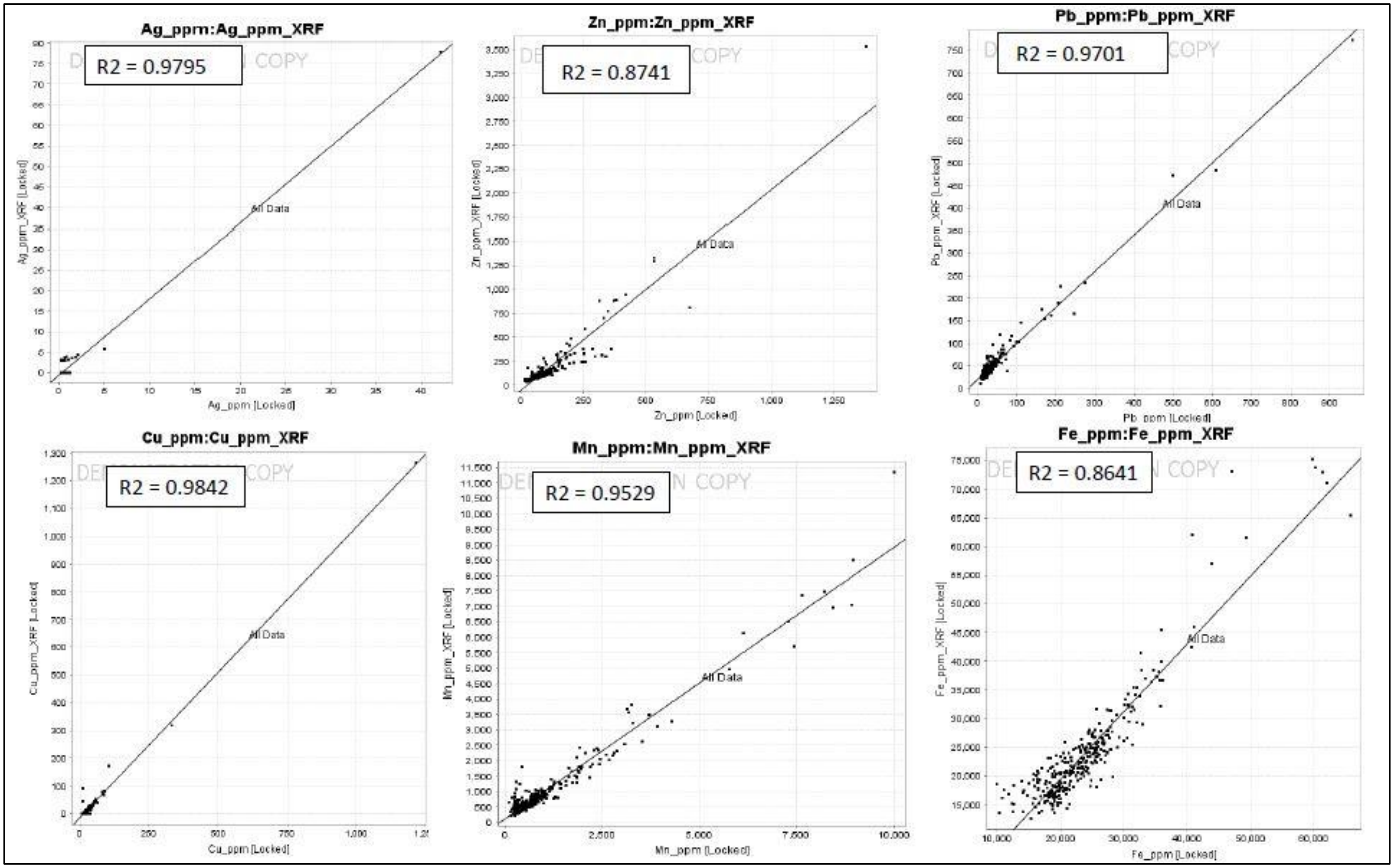


Figure supplied by Silver One for 2020 Micon Technical Report.

Figure 6.42
Correlation Between the Skyline Assays and pXRF Results for Sb, Ba, As, Sr, Mo and Ni

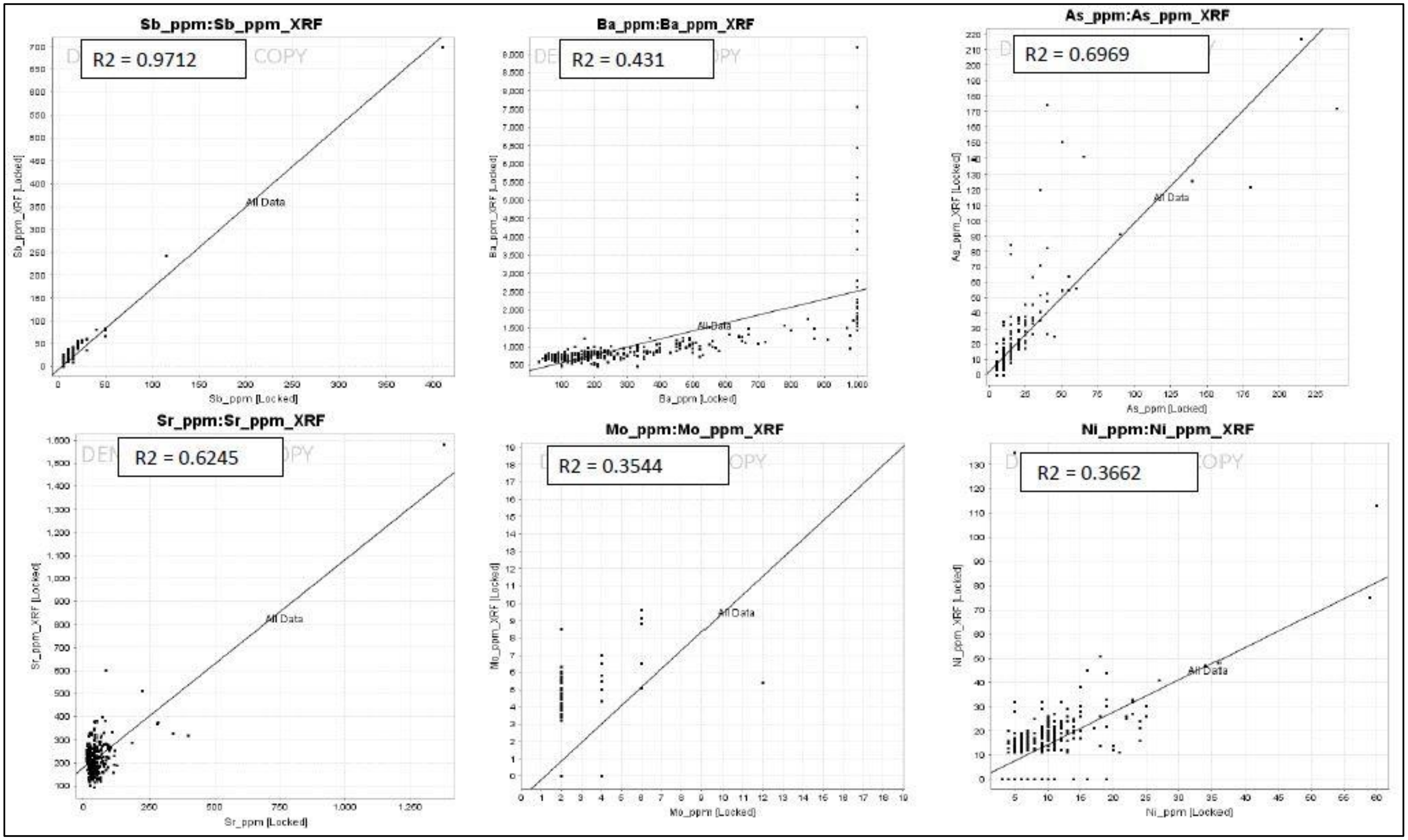


Figure supplied by Silver One for 2020 Micon Technical Report.

6.2.7.2 2019 Drilling Program

The drilling program was conducted under the supervision of Silver One's project geologist, in order to ensure that the integrity and security of the samples generated by the exploration program started with the drill setup and ended with the delivery of the samples to the assay laboratory.

Core Logging and Sampling Program

The 2019 core was logged, photographed and sampled by Silver One personnel at a core facility located in Saric, Sonora. The 2019 core continues to be stored at this facility.

The samples were saw cut, tagged, bagged on site at the company's core facilities in Saric and hand delivered by Silver One personnel, under supervision of the project's geologist, to the Bureau Veritas facilities, in Hermosillo. This insured the integrity and safety of the samples prior to transferring the samples into the care of the assay laboratory.

All samples collected were dried and split by Bureau Veritas. Gold was assayed in Bureau Veritas's Hermosillo laboratory (assay code FA430), using 30-gram sample, while silver and multi-element analysis (ICP_ES/MS assay code AQ270) were conducted in the Vancouver laboratory.

As part of its standard operating procedures, Bureau Veritas also inserts its own blanks, standards and includes duplicate analyses. Bureau Veritas is a certified laboratory, independent of Silver One.

6.2.7.3 2020 Silver One Micon QP Comments

Micon's QP reviewed the QA/QC program conducted by Silver One and finds that it generally followed best practice guidelines for an exploration program, although more blanks, certified standards and duplicate samples could have been added to the sample stream. However, due to the limited number of samples sent out for independent assaying during the drilling program, the QA/QC was sufficient. Micon's QP has reviewed Silver One's sample preparation, security, and analytical procedures and found that they followed standard industry practices.

6.3 HISTORICAL MINERAL RESOURCE ESTIMATES

6.3.1 Historical 1982 Mineral Resource Estimate

In the June, 1982, report of Cerro de Plata, there is a reference to an uneconomic resource estimate completed by ASARCO of 4 million tons grading 0.4 % copper and 56 g/t silver. Cerro de Plata completed drill indicated resource estimates and described these in its June, 1982 project report. For the West zone, the drill indicated resources were estimated to be 976,270 tons with a weighted average grade of 163 g/t silver, with an additional 345,000 tons likely to average 170 g/t silver projected to adjoin the drill indicated mineralization to the south and southeast. Cerro de Plata also reported that there was geological potential for 1 million tons or more grading 170 g/t silver in the East zone.

Micon briefly reviewed the results of the previously published generalized estimate of the resource potential on the Project. In Cerro de Plata's 1982 report, it provided a generalized estimate of the resource potential for the property. The resource estimates stated in the 1982 report were conducted prior to the initial implementation of the CIM resource definitions and the terms drill indicated resources or geological potential do not conform to current definitions for indicated resources. In the case of drill indicated resources, this was most likely related to the resources identified by the extent of the drilling and unrelated to economics, as opposed to the current 2014 CIM definition of indicated resources. As for the geological potential, the 1982 report does not conform to the current definition of geological potential, which states that the figures must be stated as a range. Since the key parameters or the models used by ASARCO and Cerro de Plata are unavailable, these estimates will always remain categorized as historical, and no amount of work will be able to bring them in line with the current definitions.

Micon's QP was unable assess the underlying data related to either the ASARCO or Cerro de Plata resources noted in the June, 1982 report and, therefore, was unable to conduct sufficient work to classify the resource estimates stated in the report as a current estimates. Loadstar is not treating the resource estimates stated in the June, 1982 report as current estimates.

The previous 1982 historical estimate for the Peñasco Quemado property were superseded by Silvermex's January, 2007, mineral resource estimate by James A. McCrea, P.Geo.

6.3.2 Historical Silvermex January 2007 Mineral Resource Estimate

In 2006, Mr. McCrea was asked by Silvermex to estimate the mineral resources for the Peñasco Quemado property, using the historical data, along with the results of Silvermex's 2005 and 2006 exploration drilling programs. The resource estimate for the Peñasco Quemado property was completed by Mr. McCrea in January, 2007, and was included as part of Micon's March, 2007, Technical Report.

Mr. McCrea constructed a drill hole database in Gemcom, using all available data for the West zone at the time of the resource estimate. The database contains surveyed drill collars for 24 reverse circulation holes from the 1981/82 program, 17 reverse circulation holes from the 2005 program and 8 diamond drill holes from the 2006 drill program. Assay data were available for all 49 of the drill holes and for 12 trenches.

The database contained 3,195 assays for silver. The drill holes were sampled on 1-metre intervals for the 1982/82 reverse circulation drilling, 1.52 to 1.53 m intervals for the 2005 drilling and 1.1 to 1.6 m intervals for the 2006 diamond drilling. Drill hole sections were produced with displayed assays and lithology to allow domaining.

Sectional interpretations were produced for the Peñasco Quemado property and were entered into Gemcom as 3D polylines. The polylines were stitched together to produce a 3D solid model for the West zone of the Peñasco Quemado property. The solid model was used to code the rock type in the block model, control the interpolation and to filter the composites for statistics and geostatistics.

The sample intervals were composited to 1.5 m for the early drilling but used the existing 1.1 to 1.6 m sample intervals for the 2005/2006 drilling with the majority of the composites in the 1.5 to 1.6 m range. The trenches were composited to 1.5 m.

A 3D block model was laid out to cover the zone of interest on the West zone of the Peñasco Quemado property. The solid model was used to code the rock type model, the percent model and to control the interpolation. The block model was coded for air (above topography), background and the mineralized zone by coding the block models with a rock type and percent of the block inside of the solid. Blocks with more then 1% of the block inside the solid were given the code of the solid and the percent of the block inside the solid was written to the percent model. The model was interpolated in one pass.

The block model was interpolated using inverse distance to the second power, where a minimum of three composites was required to interpolate a block, with a maximum of 18 composites. No restriction was placed on the number of holes per block because of the areas of widely spaced data in the model.

Grades were capped for the Peñasco Quemado resource, with capping based on histograms, probability plots and the coefficient of variation for the assays. Peñasco Quemado assays were capped at 700 g/t silver before compositing.

Capping of Peñasco Quemado assays at 700 g/t silver is equivalent to the 99.3 percentile.

The Peñasco Quemado model was classified as measured, indicated and inferred, based on distance. Only blocks inside the solid model were classified and all other blocks were not interpolated or classified. Blocks were classified as follows: measured resources ranged of 0 m to 25 m from the trenches (the drill holes alone did not classify as measured resources), indicated resource ranged from 25 m to 45 m from the data points and inferred resources ranged from of 45 m to 68 m. The trenches controlled the classification of measured resources and, away from the trenches, the effective indicated range would be 0 m to 45 m based only on drilling. Blocks outside these ranges were not reported in the classified table. Resources are reported in Table 6.16.

Table 6.16
Peñasco Quemado Historical 2007 Resource Estimate, Based on a 30 g/t Silver Cut-off Grade

Category	Tonnes (Millions)	Silver Grade (g/t)	Silver Grade (oz/t)	Silver (Millions of ounces)
Measured	0.123	151.9	4.88	0.599
Indicated	2.442	115.0	3.70	9.032
Measured + Indicated Total	**2.565**	**116.8**	**3.76**	**9.631**
Inferred	0.001	41.4	1.32	0.001

Table provided by James McCrea for the March, 2007 Micon Technical Report.

The stated historical January, 2007 resources were not materially affected by any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues, unless stated in this report, to the best knowledge of the author. There was no known mining, metallurgical, infrastructure, or other factors that materially affected the resource, at the time the resource was compiled.

The historical January, 2007, resource estimate by Mr. McCrea was compliant with the CIM standards and definitions required by NI 43-101 at the time of their original reporting. However, as the previous operators did not have the block model in their possession at the time that their previous Technical Reports were written Micon's QP was unable to review the model and was unable to conduct sufficient work to classify the historical January, 2007, estimate as a current resource estimate. Loadstar is not treating the 2007 estimate as a current resource estimate nor is it relying on the estimate.

Silver One was able to acquire the database and Loadstar acquired it as part of the purchase. Therefore, as part of this Technical Report, Micon's QPs have been able to review the data and construct a simple mineral resource block model Peñasco Quemado, upon which to base a current mineral resource estimate. The current 2023 mineral resource estimate is discussed in Section 14.0 of this report.

There are no known resource estimates for any of the other portions of the Peñasco Quemado property.

6.3.3 Differences in Historical 2005 and 2010 CIM Resource Definitions Versus Current 2014 CIM Resource Definitions

The CIM Definition Standards for Mineral Resource and Mineral Reserve estimates were updated in 2014 to harmonize Canadian definitions with other members of the Committee for Mineral Reserve International Reporting Standards (CRIRSCO). The revised Canadian standard also requests for clarification and guidance.

The previous 2005 and 2010 definitions of a mineral resource differed from the definitions of other CRIRSCO members in two key aspects: the inclusion of "solid material" and the exclusion of the word "eventual" from the phrase "reasonable prospects for eventual economic extraction".

The Canadian definition always included the word "solid material" but, until 2011, other CRIRSCO members omitted it. In 2011, the term "solid material" was adopted by the other CRIRSCO members to address the recent reporting of lithium brines as mineral resources**.** CRIRSCO members concluded that the nature of lithium brines would be better captured by probabilistic definitions, considering porosity and permeability than the more deterministic CRIRSCO definitions. In a similar fashion, the CIM definitions historically excluded the word "eventual" from the phrase "reasonable prospects for eventual economic extraction" which the other members of CRIRSCO had adopted. The CIM committee added the word "eventual" to the 2014 Standards, with guidance regarding its interpretation. The committee acknowledged that the word "eventual" relaxed the definition by extending project timing beyond the moment of reporting, however it believed the new wording was reasonable and reflected industry practices. The guidance was inserted to limit the timeframe that should be considered when the QP was preparing the mineral resource estimates.

6.4 HISTORICAL PRODUCTION

Some historical production has occurred on the Peñasco Quemado property. In the late 1970s, Adalberto Ballesteros conducted intermittent small-scale mining from a small open pit. Approximately 10,000 tons averaging 225 g/t silver were shipped as flux ore to a Phelps Dodge smelter at Douglas, Arizona during this period. There is also evidence of small-scale mining, probably conducted prior to the 1910 revolution, as there are remains of the foundations of an old foundry or mill, a small slag pile, and a number of shafts on the property. However, no records remain of the previous mining at Peñasco Quemado.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The Peñasco Quemado property is situated in the Sonora desert morphotectonic province, which has undergone a complex depositional and tectonic history dating back to the Precambrian period. Basement rocks of the region include Precambrian gneisses, metamorphosed andesites and granites. Proterozoic quartzites and limestones, Paleozoic and Mesozoic carbonate rocks and Mesozoic volcanic, clastic and carbonate sedimentary rocks overlie the Precambrian units. Mesozoic plutonic rocks, and Tertiary extrusive and intrusive rocks related to the volcanism of the Sierra Madre Occidental Physiographic Province, are broadly distributed in the region. Wide areas are underlain by volcanics and associated intrusives of the Sonora-Sinaloa batholith of Cretaceous to early Tertiary age. Figure 7.1 is a regional geology map of the area surrounding the Peñasco Quemado property.

Multiple phases of deformation and metamorphism occurred during the Precambrian period, followed by three separate phases of compressional deformation during the Paleozoic period (Roldan and Clark, 1992). These tectonic events were followed by a period of extensional deformation, resulting in continental rifts at the onset of the Mesozoic (late Triassic). The Mojave-Sonora megashear formed during the late Jurassic and is located roughly 100 km west of the Peñasco Quemado area. During the Cretaceous, there were two periods of compressional deformation. During the Cenozoic, the deformation was extensional and probably coincided with the faulting and period of mineralization at Peñasco Quemado.

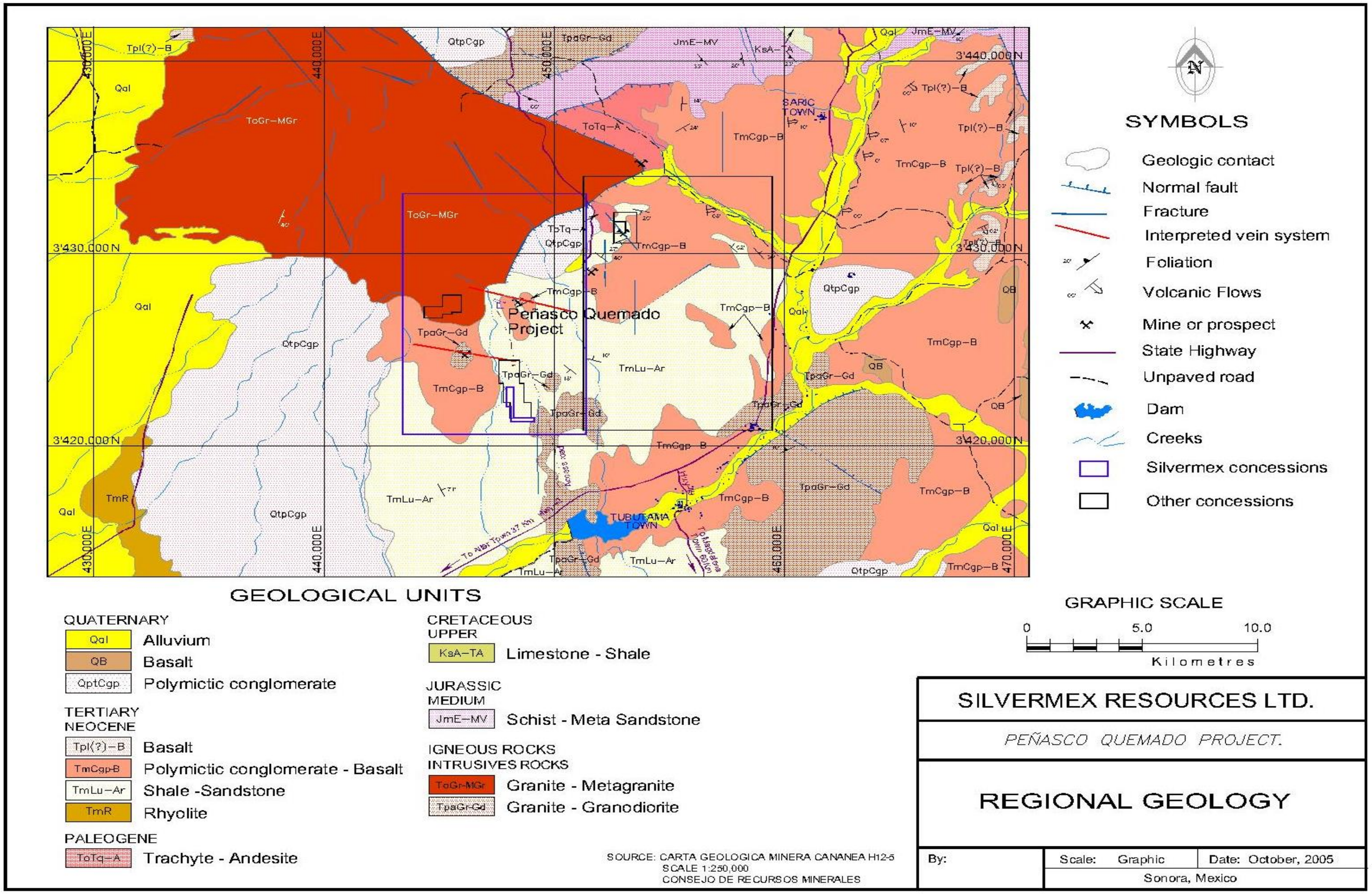
The Project area is part of the Tubutama-Mezquital Metamorphic Core Complex (Nurse, et al., 1992). This type of structures has been described in the northwest of Mexico and corresponds to the period of maximum extension that occurred during the Miocene. The structures are characterized by a lower plate, mainly conformed by mylonitic rocks (ductile deformation) that has been dated as Miocene in age, which is in contact, through a low angle-detachment fault, with the volcanic and sedimentary rocks of the upper plate. The upper plate shows feature of fragile deformation, usually in the form of normal linstric faults, which create structural blocks along the zone. These blocks created continental basins which have been filled with coarse-clastic and lacustrine-evaporitic sediments.

These high-extensional events pre-date the high angle normal faulting which characterizes the Basin and Range Province, and which provides the most prominent morphological feature in the region.

The rocks exposed in the Magdalena district range in age from Jurassic to Quaternary. The Jurassic rocks consist of black shale, siltstone, sandstone and conglomerate with interbedded volcanics which outcrop southwest of Magdalena and are not exposed on the Peñasco Quemado property.

The Lower Cretaceous rocks consist of a detrital carbonate sequence of shale, siltstone, limestone and conglomerate belonging to the Bisbee Group. The Upper Cretaceous rocks consist of sandstone, shale, conglomerate, minor limestones and coal beds and belong to the Cubullona Group.

Figure 7.1
Peñasco Quemado Regional Geology Map



Map provided by Minera Terra Plata, SA de C.V., taken from the Micon Technical Report dated March 9, 2007.

The Lower Volcanic Series of Late Cretaceous to Tertiary age unconformably overlies the preceding rocks and consists of andesite flows and tuffs, with intercalated sediments and some rhyolitic tuffs. This period of volcanism was accompanied and followed by the intrusion of a northwest-trending belt of plutonic rocks of the Sonora batholith complex.

The Upper Volcanic Series overlies the Lower Volcanic Series and consists of rhyolites and rhyodacites, and related ash-flow tuff breccias. These rocks were deposited during the Oligocene to Miocene epochs.

During the Late Tertiary, fault troughs were filled with thick sequences of alluvium, forming the conglomerates belonging to the Baucarit Formation. Unconsolidated fluvial sands and gravels comprise the extensive deposits formed during the Quaternary.

7.2 PROPERTY GEOLOGY

The area of Peñasco Quemado is located along the flank of the Tubutama-Mezquital Core Complex. The area represents a structural and stratigraphic complexity, due to the different extensional events that occurred during the Miocene.

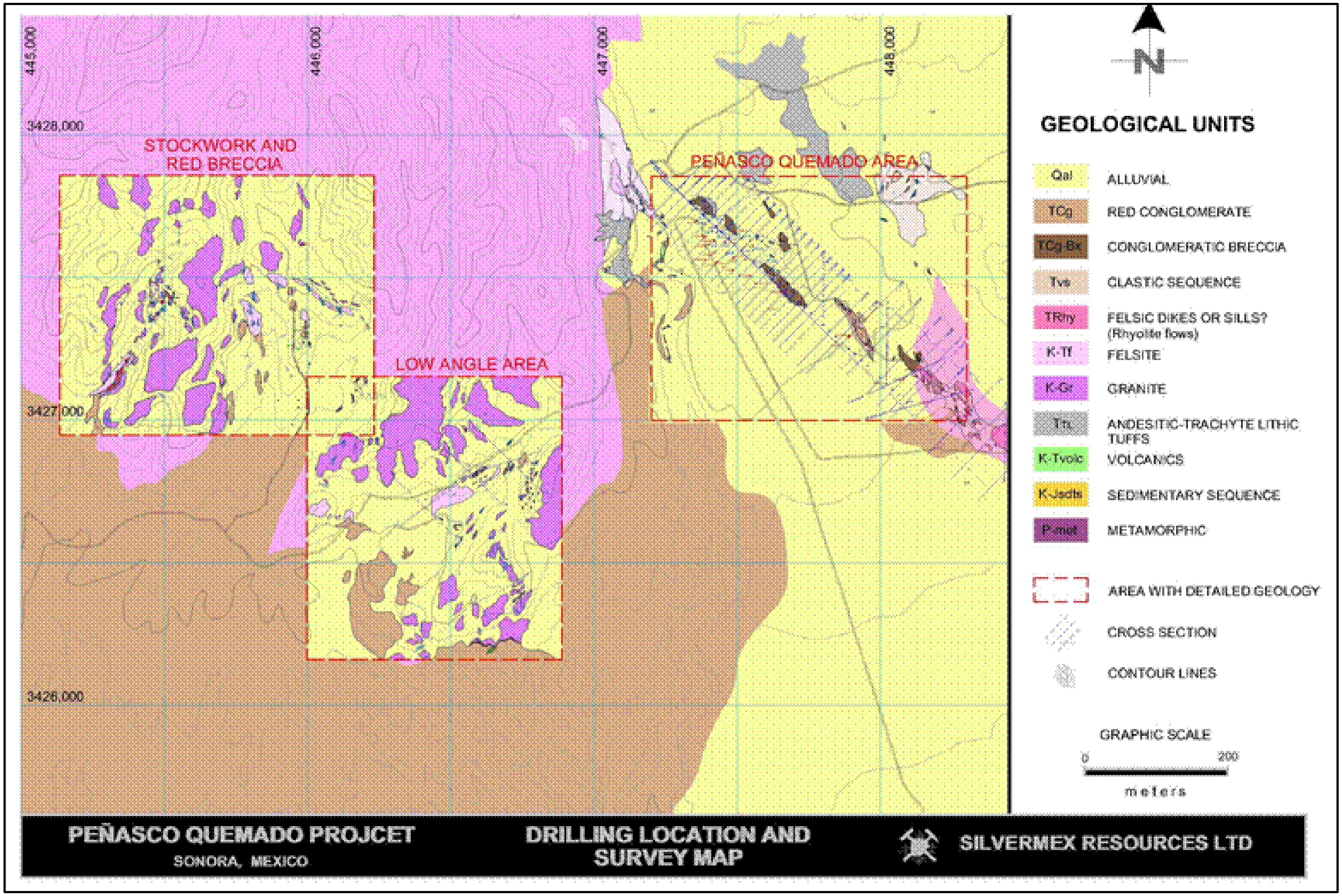
The structural geology of the area is defined, first and foremost, by a detachment fault that pulled the hanging wall Oligocene and younger(?) volcanosedimentary rocks off the top of the mylonitic granitoids that form the core of the mountain range to the north and west (Price, 2017).

The following description of the Peñasco Quemado property geology is based on the geological mapping originally conducted in 1982 and has been modified and updated with the geological mapping and drilling information from the 2005 and 2006 Silvermex exploration programs. Micon obtained this information from the Silvermex/Terra Plata staff, through both written and verbal communication during the writing of its 2006 Technical Report.

In 2017, Jason B. Price conducted a short field mapping campaign. An internal report prepared for Silver One describes several of the structural and lithological relationships in the Project area, and their possible relationship with the mineralization. Price noted that the silver mineralization is related to a lower conglomerate unit, formerly described in previous work as the “Red Conglomerate”. Based on the possible volcanic component of this unit, Price suggested using a different nomenclature to properly differentiate this clastic unit from other, upper-section, non mineralized conglomerates which outcrop in the area. The name Pit (Volcaniclastic) Conglomerate suggested by Price is used in this report.

The focus of exploration and geological mapping has been on three areas of the Peñasco Quemado property: the Peñasco Quemado area (West and East zones), the Stockwork and Red Breccia area and the Low Angle area. The geology of these areas and their relationship to each other are shown in Figure 7.2. The insets in Figure 7.2 show the local geology for these areas.

Figure 7.2
Peñasco Quemado Project Geology Map



Map provided by Minera Terra Plata, SA de C.V., taken from the Micon Technical Report dated March 9, 2007.

In general, the Peñasco Quemado property is extensively covered by a cap of alluvium and valley fill which varies from 0 to 40 m thick. The alluvium and fill overlie the Pit (Volcaniclastic) Conglomerate and Upper Conglomerate which is up to 200 m thick, as evidenced from drill hole intersections. The Pit (Volcaniclastic) Conglomerate is in a high angle fault contact with a volcanic sequence that includes andesite tuffs, andesite breccia and andesite flows. The entire upper lithological column is unconformably overlying a basement of gneissic granite and between the two units, there exists a complex unit that has been described by the geologists of Silvermex/Terra Plata as felsite. The felsite is associated with a mylonite zone that has been identified along a strike distance of several kilometres from the west portion of the property, where it outcrops in the areas called the Low Angle, the Pink Breccia and the Stockwork. In the Peñasco pit area, the mylonite has been encountered up to 130 m to 150 m deep in the drill holes.

In the eastern portion of the property, there are scant outcrops of sandstones, limestones, jaspers and siltstones. These outcrops have been explored for borates along the locally named Tubutama Basin where the borates appear to be contained in the middle lacustrine portion of the Tubutama Formation, interbedded in a succession of sandstone and tuffaceous shale. The lower portion of the Tubutama formation is a red-brownish, polymictic conglomerate (which can correlate with the Pit (Volcaniclastic) Conglomerate, described by Price, 1992), supported in a sandy matrix. The lacustrine sequence of the Tubutama formation is overlain by the Upper Conglomerate, with similar features to those previously described. The main feature to differentiate between both conglomerates is the lack of mylonitic fragments in the lower units, while these types of fragments are abundant in the upper clastic member.

The main rock units underlying the Peñasco Quemado property are described below and their importance in relationship to the silver mineralization, are described below.

7.2.1 Gneissic Granite

The Gneissic Granite is defined as the basement rock unit at the Peñasco Quemado property and has been encountered at the base of geology mapping and within the drill holes in the Peñasco pit area. The Gneissic Granitic is described as a foliated to massive, fine to medium grained granite that has been affected by low grade metamorphism. Some portions of this rock unit appear gneiss-like or like a fresh granite.

This rock unit has not been dated but the deformation related with this unit is reported as Miocene (Nurse, et al, 1994).

7.2.2 Sedimentary Rocks

Sandstone, siltstone and limestone outcrop on the eastern portion of the property. This unit is correlated with the middle portion of the Tubutama Formation which was deposited in a basin developed in the upper plate of the Tubutama metamorphic core complex. The upper rock succession is largely composed of lacustrine fine grained clastic sedimentary rocks of mid-Tertiary age which are interbedded with high potassium basaltic andesitic flows dated at 22.3 Ma. (Miranda-Gasca et al, 1998). The Tubutama Formation consists of sandstone and tuffaceous shale units, locally intercalated with gypsum and borate deposits, while the upper portion contains more siltstone and limestone. The lower portion of the Tubutama Formation is a red-brownish, polymictic conglomerate (Lower Conglomerate), supported in a sandy matrix.

7.2.3 Felsite

A complex lithological unit has been defined at the base of the upper plate of rocks on the property, which corresponds to a rock unit called felsite. This rock unit outcrops in the areas known as the Low Angle and the Stockwork areas and has been found at depth in the Peñasco Quemado open pit area and along the southeastern trend of the Peñasco Quemado area. The rock is pale grey to light brown and sometimes white or pink in colour, very fine grained, strongly foliated and composed mainly of quartz and feldspar. Chlorite and sericite are present in minor amounts. The rock in the outcrops and in the core is marked by a dense stockwork of quartz, specularite, barite and probably siderite microveins. It is defined as a typical rock formed within a shear zone, by dynamic deformation; the original rock type (unit) is uncertain. The presence of specular hematite and the low content of silver mineralization are probably related to the silver enrichment of the Pit (Volcaniclastic) Conglomerate of the upper plate, but this relationship is uncertain at this time.

7.2.4 Volcanic Rocks

7.2.4.1 Andesite Tuffs and Breccias

The immediate area to the east of the Peñasco Quemado pit is dominated by tuffs, flows and breccias of andesitic composition, in contact with the Pit (Volcaniclastic) Conglomerate via a high angle fault which can be observed at the present pit. The unit rock situated at the footwall of the fault contact in the present pit has been described as a tuffaceous sandstone, reddish brown in colour, brecciated with abundant fragments of plagioclase, fragments of rock in a matrix of iron oxides and probably silica.

Microscopic observations determined that this unit was deposited in a water environment.

7.2.4.2 Andesitic Flows

This rock unit outcrops to the east of the Peñasco Quemado pit, in a small area, and is massive fine grained, brown to yellowish brown in colour. Intensively fractured flows of andesitic composition were found at the base of the Pit (Volcaniclastic) Conglomerate in the drill holes. These flows are no more than 10 m thick and are strongly brecciated, due to the emplacement of a sill of granite or felsite at the contact, producing a mylonitic zone.

An andesitic unit outcrops in the Red Breccia or San Luis Area, and is brecciated, reddish brown in colour, has a thickness of 10 m to 15 m and appears to be a lens running northwest-southeast and dipping slightly to the southwest. The andesitic unit is also an important lithological unit, at least in this area, because it is the host rock of a high-grade silver mineralized zone with associated copper values.

7.2.4.3 Rhyolite

At the southeastern extremity of the Peñasco Quemado area, along the trend of red conglomerate outcrops, the rock changes abruptly to rhyolite, pink in colour, massive, fine-grained and quartzfeldspathic in composition. The rhyolite contains phenocrysts of quartz and unaltered biotite along with flow banding textures. As indicated by two holes drilled at the southeastern extremity, the rhyolitic unit is interbedded with the Pit (Volcaniclastic) Conglomerate. This unit is strongly fractured, forming wide zones of brecciation that make the unit look like a breccia formed by large fragments. There is a high manganese oxide content within the unit, which stains the rock. Fracture refills of chalcedony and botryoidal manganese were encountered in the outcrops of the Loma Negra area to the south of the area investigated.

A number of events have been identified microscopically which can be associated with hydrothermal processes. These include quartz and feldspar replacement by carbonates, disseminated biotite altered to sericite, ghosts of amphiboles transformed to carbonates, clays and opaque minerals and eutaxitic banding.

7.2.4.4 Pit (Volcaniclastic) Conglomerate (Formerly Red Conglomerate)

This unit outcrops in the Peñasco Quemado pit and is the unit of main economic interest. Previous workers have called the hanging wall unit a conglomerate, because it contains matrix-supported rounded to subangular clasts sitting in a gritty grey matrix. Clast sizes are generally less than 2 cm in long axis, although a minor proportion (c. 10%) of the clasts are cobbles up to about 15 cm in long dimension. Pebble sized clasts are nearly all angular or subangular, whereas cobbles tend to be subrounded to subangular. Clast composition is polymictic and includes a noteworthy proportion (c. 40%) of reworked intraclasts of crystallithic ash tuff, a composition nearly identical to that of the matrix. The remainder of the clasts are dark hypabyssal feldspar porphyries (c. 40%), phaneritic granitoids (c.10%, but none observed to be mylonitic), and, of significance, highly friable pumiceous or glassy or argillized volcanics (less than 10%) (Price, 2017).

This unit, which could be related to the Lower Conglomerate of the Tubutama Formation. needs to be properly differentiated from the Upper Conglomerate, which is also outcropping in the area, that is younger and largely unmineralized. One of the distinctive features between these two conglomeratic units is the presence of abundant mylonitic fragments, a feature that applies only the upper, younger, unmineralized conglomerate.

7.2.4.5 Alluvium

An estimated 80% of the property is covered by Quaternary fluvial alluvium. The alluvium consists of unconsolidated sands and soils covering flat lying areas and poorly consolidated sandstones and conglomerates exposed in arroyo banks and beds.

7.3 STRUCTURAL GEOLOGY

The structural geology of the area is defined, first and foremost, by a detachment fault that pulled hanging wall Oligocene and younger(?) volcanosedimentary rocks off the top of the mylonitic granitoids that form the core of the mountain range to the north and west.

Two structural features can be recognized within the exploration area on the property:

1. A shear zone with dynamic metamorphism, as evidenced by the felsite, a sheared rock emplaced in the contact between the gneissic granite and the upper sequence of volcanics and the Pit (Volcaniclastic) Conglomerate. Both the volcanics and Pit (Volcaniclastic) Conglomerate are believed to be of the Tertiary period and in contact with the gneissic granite, a probable Cretaceous intrusive. Due to the movement along the shear zone, both mylonitic foliation and stretching lineation were developed in the upper Cretaceous rocks (gneissic granite) and within the lower portion of the Tertiary volcanics and sedimentary rocks, forming zones structurally prepared to host mineralization or, at least, the movement and remobilization of hydrothermal fluids.
2. Normal faulting developed along northwest, northeast and west-east striking structures, with lateral displacement that formed a basin and range morphology, which has suffered erosion and re-depositional filling of the basins with recent materials. The shape of the Pit (Volcaniclastic) Conglomerate is very characteristic of this faulting style, as it is aligned along a north-south trend in the western portion of the property, apparently controlled by normal faults. At the northern border of the conglomerate, there is strong evidence on the surface of copper, silver and gold mineralization associated with the detachment zone, and in the rock unit immediately above the detachment zone there is an indication that normal faulting, or at least high angle faulting, played an important role in the mineral deposition.

In the Peñasco Quemado open pit area, the Pit (Volcaniclastic) Conglomerate is seen in a high angle fault contact with the underlying andesite pyroclastics. The silver mineralization is disseminated in the Pit (Volcaniclastic) Conglomerate of the hanging wall up to a distance of 300 m, while there is poor silver mineralization along the andesite in the footwall (only in the first 2 m or 3 m). This suggests that the silver and copper mineralization was emplaced through the fault contact into the Pit (Volcaniclastic) Conglomerate and migrated laterally through the clastic rock, along a zone which was probably sheared or at least had better structural preparation than the remainder of the conglomerate.

7.4 Mineralization

The current view of the mineralization at Peñasco Quemado is based not only on the historical Cerro de Plata work conducted in the early 1980s but also on geological and sampling data collected during the 2005 and 2006 exploration and drilling programs by Silvermex and Terra Plata.

The Peñasco Quemado property lies within the Sierra Madre Occidental metallogenic province which extends along western Mexico from the border of the Mexican and American states of Sonora and Arizona, south to the state of Jalisco. In the early to mid 2000s, exploration for silver in the region intensified, due to the high silver prices on the world market, as well as the geological re-definition of important silver targets within the old mining districts in northwestern Sonora, which had been ignored previously because of the presence of large deposits of copper and gold discovered several decades ago. The silver occurrences within the region normally were defined as smaller and of lower geological potential, because the silver was associated with quartz veins in volcanic rocks or as it occurred as a by-product of the known gold or copper mineral deposits.

The deposit mineralization consists essentially of silver with minor amounts of copper. To date, the specific silver minerals have not been identified, although a preliminary petrography and mineralogical study done on samples from drill holes PQD-01, PQD-03 and SLD-7 interpreted that the silver mineralization is in the form of cerargyrite and/or argentojarosite. The preliminary study also found that the silver-copper mineralization at Peñasco Quemado corresponds to an enrichment, which created a concentration within the clastic sequence deformed by shearing. More investigation is needed to determine more accurately the silver mineral species present within the deposit and other mineral associations.

Other exploration targets in the region are associated with similar geological features, where silver and copper are found in an upper conglomerate, which is overlying a sequence of volcanic rocks affected by high angle faulting.

7.5 SILVER ONE 2017 AND 2018 PROGRAMS

7.5.1 2017 Geological Mapping

In September, 2017, Silver One engaged Jason B. Price to undertake a 5,000-scale geological mapping over the Peñasco Quemado Project. His observations have resulted in further defining the possible geological sequence along with the potential geological controls and extent of the mineralization at the Project. It is recommended that this work be reviewed along with the other Silver One exploration results and the previous Silvermex work, to assist in gaining a better understanding of the geology and mineralization located on the Project. The report entitled Geologic Observations at Peñasco Quemado, Sonora, by Jason B. Price, is contained in Appendix II of this report.

The structural and lithological complexity of the zone is well described by Price (2017). As suggested in his report, it is recommended that adequate and detailed mapping be undertaken along the entire zone, focussing on the differentiation of the different conglomeratic units and their structural relationship, due the importance of these units to the potential economic mineralization.

During the 2020 site visit, it was noticed that hole PQ19-03 apparently targeted a red conglomerate that occurs upstream. An inspection of the outcrops indicated that this conglomerate is polymictic, supported in reddish-brown matrix. The presence of abundant granitic and mylonitic fragments suggests that this unit corresponds to the unmineralized upper conglomerate, as described by Price (1992). However, further work will be needed to verify this observation.

7.5.2 2018 Geophysical Survey Program

Silver One has noted that the geophysical surveying was very successful in identifying the potential for down-dip, westward extensions to the historic resource area that have never been drilled. The survey also outlined new areas of low resistivity that are associated with strong to moderate zinc, lead and/or copper in soil geochemical signatures. The CSAMT survey further identified deep zones of low resistivity which suggest wide channelways for potential mineralizing solutions. The silver manganese oxide resource area, in combination with the zinc-lead-silver system, as identified in the soils geochemistry, has geological similarities to the Hermosa-Taylor deposits being developed by Arizona Mining, located approximately 125 kilometres to the northeast of Peñasco Quemado."

8.0 DEPOSIT TYPES

This description of the Peñasco Quemado deposit type has been taken from the previous Micon Technical Reports for various owners. The description is based on the historical geological mapping and sampling conducted in 1982, as modified by the geological and sampling data collected by Silvermex during its 2005 and 2006 exploration and drilling programs and by Silver One through its 2016 to 2018 geochemical and geophysical programs.

The Peñasco Quemado deposit seems to be structurally and lithological related to the development of the Metamorphic Core Complex. Others economic deposits with similar features occur nearby, in the Magdalena Core Complex. These deposits (disseminated gold) are located at or near the intersections of northeasterly-trending structures and low angle faults that separate the metamorphic basement rocks from the overlying sediments. The deposits appear to be structurally controlled in a mesothermal environment, hosted by pervasive fractured, faulted and brecciated sandstones and siltstone sediments (Gow, N.N, and Koningen, D., 2014).

The disseminated silver mineralization at Peñasco Quemado is believed to have been deposited by oxidizing, relatively low-temperature hydrothermal fluids that were undersaturated in silica and carbonates. The chemical nature of the original fluids is deduced because of the abundance of iron and manganese oxides and the lack of quartz and/or carbonate veining in the mineralized rock.

The geometry of the mineralization suggests that the fluids which introduced the silver and copper into the breccia-conglomerate migrated laterally through the clastic rock. The silver deposit, as it presently exists, is believed to be secondary mineralization, that was the product of remobilization and deposition of silver and copper from a deeper lying zone of sulphide mineralization, which could be related to a felsic porphyry intrusion. The envisioned genetic deposit model has deep circulating meteoric fluids being drawn downwards along normal faults into a zone of hypogene (primary) sulphide mineralization, where sulphides such as chalcopyrite and tetrahedrite were oxidized and silver and copper ions dissolved into the solution. At this point, the heated and metal-enriched fluids are envisaged to have circulated back towards surface, channelled along steeply inclined zones of densely spaced fracturing related to, or coincident with, the high angle normal faults. As the fluids cooled, the mineralization was deposited within the porous zones prepared structurally, probably by the same process of shearing which created the main shear zone known at depth, as the deposit appears to be parallel to the shear zone.

9.0 EXPLORATION

Loadstar is in the process of reviewing the information from the previous exploration programs. Once Loadstar has completed its review, it will outline an exploration program for the Peñasco Quemado Project.

10.0 DRILLING

Loadstar is in the process of reviewing the information from the previous drilling programs. Once Loadstar has completed its review, it will outline a drilling program for the Peñasco Quemado Project.

Micon's QP notes that the drilling program will need to include the following:

- Twin a number of historical drill holes to assist in upgrading the classification of the mineral resources by confirming the historical drill results.
- Expand the mineralization by conducting step-out drilling from the known mineralization.
- Allow for the collection of density data for each of the rock types.
- Allow for the construction of a more complete geological model of the deposit and various intrusive bodies.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Once Loadstar has completed its review of the previous exploration and drilling programs and has outlined its own exploration and drilling programs, it will need to institute a thorough QA/QC program.

Loadstar will need to record all procedures related to its QA/QC program in a manual so that everyone is following the same procedures. This will also allow Loadstar to review its procedures as the programs progress and make any necessary changes, so that it remains within industry best practices as outlined by organizations such as CIM or JORC.

12.0 DATA VERIFICATION

12.1 2020 Site Visit

The drill core and sample storage facilities for the Project were visited on September 4, 2020. There are currently two coreshack facilities, one located on the property, which stores the core and some samples from the historical drilling, and new coreshack facilities located in the village of Saric. The coreshack located on the property was found to be in reasonable shape, with some of the walls in poor condition, exposing sections of the core boxes to extreme weather conditions. The core boxes were still in good shape, since all of them had been replaced recently (Figure 12.1). The newer coreshack facilities, located in the village of Saric (Figure 12.2) are in good shape, and the core boxes adequately organized. The coreshack facilities are also used for storage of other items, and these should be removed and stored elsewhere, if possible.

Figure 12.1
On Site Coreshack and Sample Storage Exterior

Photographs extracted from the 2020 Micon Technical Report.

Figure 12.2
Coreshack and Sample Storage Interior Located in the Village of Saric

Photographs extracted from the 2020 Micon Technical Report.

Several of the hole collars from previous drill campaigns in the area that includes the historical resource estimation were verified in the field (Figure 12.3), using a handheld GPS. Six out of eight old-drill collars where properly identified in the field. The collars are identified with a cement plate, in different sizes that correspond to the different campaign and drill hole types. The cement plates on these old holes do not contain a PVC pipe to indicate hole direction.

Figure 12.3
2020 Field Identification of Old Drill Hole Collars

Photographs extracted from the 2020 Micon Technical Report.

Four out the five locations drilled in 2019 were visited during the 2020 site visit (Figure 12.4). Collar coordinates are coincident with the coordinates reported, and remain properly identified in the field, with a cement plate and 4” PVC pipe. Hole ID was engraved in the cement plate at each collar.

Figure 12.4
Field Identification of Holes Drilled in 2019

Photographs extracted from the 2020 Micon Technical Report.

There are some inconsistencies between the drill hole ID as identified in the field and the nomenclature used in the database.

No samples were collected during the site visit completed in 2020, since no new or additional drilling had been performed within the area of the historical resources. However, Mr. Calles-Montijo reviewed the sampling procedures followed in the drill campaign in 2019 and they are consistent with normal practices in the industry at the time.

It is recommended that the condition of the core shack facilities on site be improved, and that permanent maintenance of the facility be initiated, so that the integrity of the core boxes is not compromised. Both core shacks require additional cleaning and ordering of their contents, so that safe access to the storage places is available. Access to the core storage facilities needs to be more controlled and restricted, as well.

Neither sample rejects nor sample pulps from the sampled core were observed during the site visit to the core shack facilities. The representative of Silver One during the site visit was not aware of the current location of that material. It is recommended that the pulps be retrieved from the assay laboratory and kept safely stored with the core, as this material may be used for future investigations or for data verification.

12.2 2016 Micon Site Visit

Micon's 2016 site visit to the Peñasco Quemado Project was conducted on August 30, 2016, by William Lewis. Mr. Lewis was accompanied by Raul Diaz from Silver One. The core shack on site was visited, as well as a number of drill sites, the open pit area and one of the old shafts near the farmhouse.

No samples of the mineralization were taken during the 2016 site visit, as Micon' QP had taken a number of grab and drill samples to independently verify the mineralization on the property during the 2005 site visit. The Micon samples verified the mineralization at the property in 2005 and a full discussion of the results is contained in the December 20, 2005, Micon Technical Report for Silvermex. Silvermex filed the 2005 Technical Report on SEDAR on April 28, 2006.

In 2016, the drill core and sample storage areas were visited and was in found to be in reasonable shape, given that it has not been used since Silvermex completed its exploration programs on the property.

12.3 2005 and 2006 Micon Site Visits

Micon's QP conducted a site visit to the Peñasco Quemado Project on September 9, 2006. Micon also conducted two site visits to the property in 2005 (July 22, 2005, and September 13, 2005). All of the Micon site visits were conducted by Mr. Lewis. The 2005 and 2006 site visits were conducted in relation to Silvermex's 2005 and 2006 exploration programs.

During the first site visit in 2005, several of the historical Cerro de Plata drill holes to the southeast of the pit were located and identified. Also, during the first 2005 site visit, six samples were taken from outcrops of the West and East zones to independently verify the presence of mineralization on the property. Micon's QP was satisfied that its sampling of the outcrops confirmed the presence of silver mineralization at similar tenor to that reported previously by Cerro de Plata and Silvermex.

During the second site visit in 2005, seven samples were randomly collected by Micon's QP from amongst the drill samples taken by Silvermex and, again, these confirmed the presence of silver mineralization at similar tenor to that reported by Silvermex for its drilling program.

No samples were taken during Micon's site visit in 2006, although Micon's QP reviewed the procedures and observed the drilling being conducted by Silvermex, as he had previously during the second 2005 site visit. In both cases, the drilling procedures and sampling observed by Micon' QP were consistent with the normal practices in the industry at the time.

It is Micon QP's opinion that the data collected during the earlier 2005 and 2006 programs by Silvermex continue to be adequate for use in this report. However, Loadstar should conduct further verification of the data, both for its own purposes and to improve the resource classification of inferred, that has been down-graded from the historical classification, pending verification of the data and the geological model. Verification of the historical data will help ensure that, when using this information in the future, there are no questions raised as to the quality of the historical work and that current standards and guidelines have been used in acquiring and interpreting the data.

12.4 Geological Database Data Verification and Micon QP Comments

In general, the Micon's QP's review of the material provided by Lodestar, found that the data provided were adequate for the purposes of preparing an initial mineral resource estimate for the Peñasco Quemado Project and a Technical Report for disclosing that estimate.

The drill hole data and associated information were provided by Loadstar in Excel spreadsheet format, which was compiled into collar, survey, geology and assay data format. No collar data could be verified as there is no local scale topographic survey. No survey data could be verified as no downhole survey data are available. Assay data were verified from the available drill hole information. Original laboratory certificates are only available for the core drilling which took place during 2019.

Twining of the drill holes and statistical comparison of the results will be necessary in order to increase the confidence in the mineral resources, when using the historical data for future resource estimates. Surface sampling is recommended to verify the historical geological maps and to strengthen the resource database. The lack of downhole survey data, collar location uncertainty, and lack of official assay certificates limit the degree of confidence in using the information generated from the past drilling campaigns for more advanced stages of the Project.

To standardize the data collection process, it is recommended that a Standard Operating Procedure (SOP) manual is generated that is specific to the Peñasco Quemado Project. This document should include detailed procedures for data collection planning, field activities, sampling and QA/QC criteria and procedures. Lodestar needs to institute a data repository to properly control the data generated and to ensure the integrity of the information prior to using it in further studies.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Loadstar acquired the Peñasco Quemado Project from Silver One and has yet to decide when it will conduct further metallurgical testwork on the mineralization at the property.

None of the companies which have held the Peñasco Quemado Project since Silvermex (First Mining and Silver One) have performed metallurgical testwork on the mineralization.

13.1 SILVERMEX 2012 METALLURGICAL TESTWORK

Prior to First Mining acquiring the property, Silvermex's focus, through Terra Plata, concentrated on further exploration and evaluation of the known silver mineralization at Peñasco Quemado, in addition to prospecting and exploring the remaining portions of the property for other areas of mineralization.

On February 12, 2012, Silvermex announced, that it had sent samples of drill core from the Peñasco Quemado Project to Hazen Research, Inc. (Hazen) to conduct a metallurgical testwork program. The results of this testwork program are discussed in Section 13.1.1 Hazen is a metallurgical testing facility, fully independent of Silvermex. Hazen is accredited in accordance with the. National Environmental Laboratory Accreditation Program (NELAP), which is a national accreditation program developed by the NELAC institute. NELAC standards for laboratories are modeled after similar ISO standards.

13.1.1 2012 to 2013 Metallurgical Testwork

Silvermex contacted Hazen to conduct metallurgical testwork on a sample of the Peñasco Quemado mineralization in February, 2012. Previous testwork, according to Hazen's report, had shown low silver recoveries from this mineralization by direct cyanidation. Therefore, Hazen evaluated other options to improve silver extraction.

The head analysis of the 20-kg sample received by Hazen is summarized in Table 13.1.

Table 13.1
Analysis of the Metallurgical Sample

Met Sample	g/t		%							
	Ag	Au	Ca	Cu	Fe	Mg	Mn	Pb	Zn	S
53042	156	<0.2	0.40	0.16	2.27	0.31	1.35	0.06	0.03	0.13

Hazen noted that, based on previous experience and published literature, silver mineralization containing manganese oxides requires that the manganese be solubilized before silver can be recovered by cyanidation. Manganese solubilization requires a reductant in an H_2SO_4 leach, which leaves the silver retained in the solid residue. After neutralization, the solids can then be leached in cyanide to solubilize the silver for subsequent recovery using conventional technology. Previous work involved dissolving the MnO_2 directly in H_2SO_4, in the presence of H_2O_2. The residue from this reduction step advanced to cyanidation for silver extraction. These laboratory experiments recovered up to 70% of the silver in the cyanide leach, but at a very high H_2O_2 consumption. Other research and work previously performed at Hazen on similar silver–manganese deposits have used SO_2, which is a strong reductant, and this was recommended by Hazen for further study on the Peñasco Quemado mineralization.

Based on the data generated from Hazen's experimental program, approximately 96 to 98% of Mn in the Peñasco Quemado mineralization can be extracted using a combination of concentrated H_2SO_4 and SO_2 as a reductant. Peñasco Quemado mineralization containing 1.35% Mn required approximately 33 to 49 kg SO_2/t of mineralization and 23 to 38 kg of 96% concentrated H_2SO_4/t of mineralization to leach the manganese.

When the cyanidation step followed the SO_2 leach, 67% Ag extraction was achieved on both grind sizes tested, 65% passing (P_{65}) 200 mesh and 95% passing (P_{95}) 200 mesh. The NaCN consumption was 3 to 4 kg/t, and CaO consumption was 1.4 to 1.5 kg/t. These silver extraction results are in agreement with previous research, using H_2SO_4 and H_2O_2. Without a reduction–leach step, only 14 to 16% of the silver was recovered from the Peñasco Quemado sample at these particle grind sizes.

When the SO_2 leach slurry was directly neutralized without a solid–liquid separation step prior to cyanidation, 100% of the Fe was precipitated from solution. This step required 23 to 27 kg/t of CaO, in addition to 75 to 85 kg/t $CaCO_3$ to neutralize the slurries prior to cyanidation. Subsequent cyanide leaching extracted 68 to 69% of the silver with a 5 to 7 kg/t NaCN consumption. Silver extraction increased slightly when the solid–liquid separation step was bypassed with direct neutralization.

Microprobe analysis on a cyanide leach residue sample confirmed that the remaining silver within the cyanide leach residue was locked as small inclusions (less than 3 µm) within quartz particles. Hazen recommended that current grinding operations should be evaluated to determine if ultra-fine grinding of the Peñasco Quemado mineralization is economically feasible.

Hazen also recommended additional economic analyses to compare the reagent costs of using H_2O_2 versus SO_2 as a reductant.

14.0 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

Micon has compiled the drilling data and constructed a preliminary database and block model using the available geological and assay information and has completed a mineral resource estimate that is compliant with current CIM guidelines.

14.2 CIM RESOURCE DEFINITIONS AND CLASSIFICATIONS

All resources and reserves presented in a Technical Report must follow the current CIM Definitions and Standards for mineral resources and reserves or a similar standard, such as the Australasian JORC Code. The latest edition of the CIM Definitions and Standards was adopted by the CIM council on May 10, 2014, and includes the following resource definitions:

> *"Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource."*
>
> *"A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction."*
>
> *"The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling."*
>
> *"Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals."*
>
> *"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 Modifying Factors."*
>
> *"Inferred Mineral Resource"*
>
> *"An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity."*
>
> *"An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration."*
>
> *"An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and*

drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life-of-mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101."

"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 are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit."

"Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation."

"An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve."

"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 Pre-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 estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit."

"Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve."

"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 or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit."

14.3 CIM ESTIMATION OF MINERAL RESOURCES BEST PRACTICES GUIDELINES

When reviewing the geological modelling and estimating the Peñasco Quemado Project mineral resource, Micon's QPs have used the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines which were adopted by the CIM Council on November 29, 2019.

14.4 MINERAL RESOURCE DATABASE AND SUPPORTING DATA

The mineral resource estimate discussed in this report covers the Peñasco Quemado Project. The mineralization is associated with conglomerate and exhibits a northwest-southeast trend, based on the existing drill-hole data. The database contains no surface sampling data.

14.4.1 Methodology

The main steps in the resource estimation methodology were as follows:

- Construction and validation of Peñasco Quemado Project database.
- Preparation of the geological model and delineating the mineralized zones.
- Statistical analysis of the drill hole intercepts, compositing and grade capping for the purposes of estimation.
- Defining the parameters of the block model and silver grade interpolation.
- Validation of the estimate.
- Generation of a mineral resource statement.

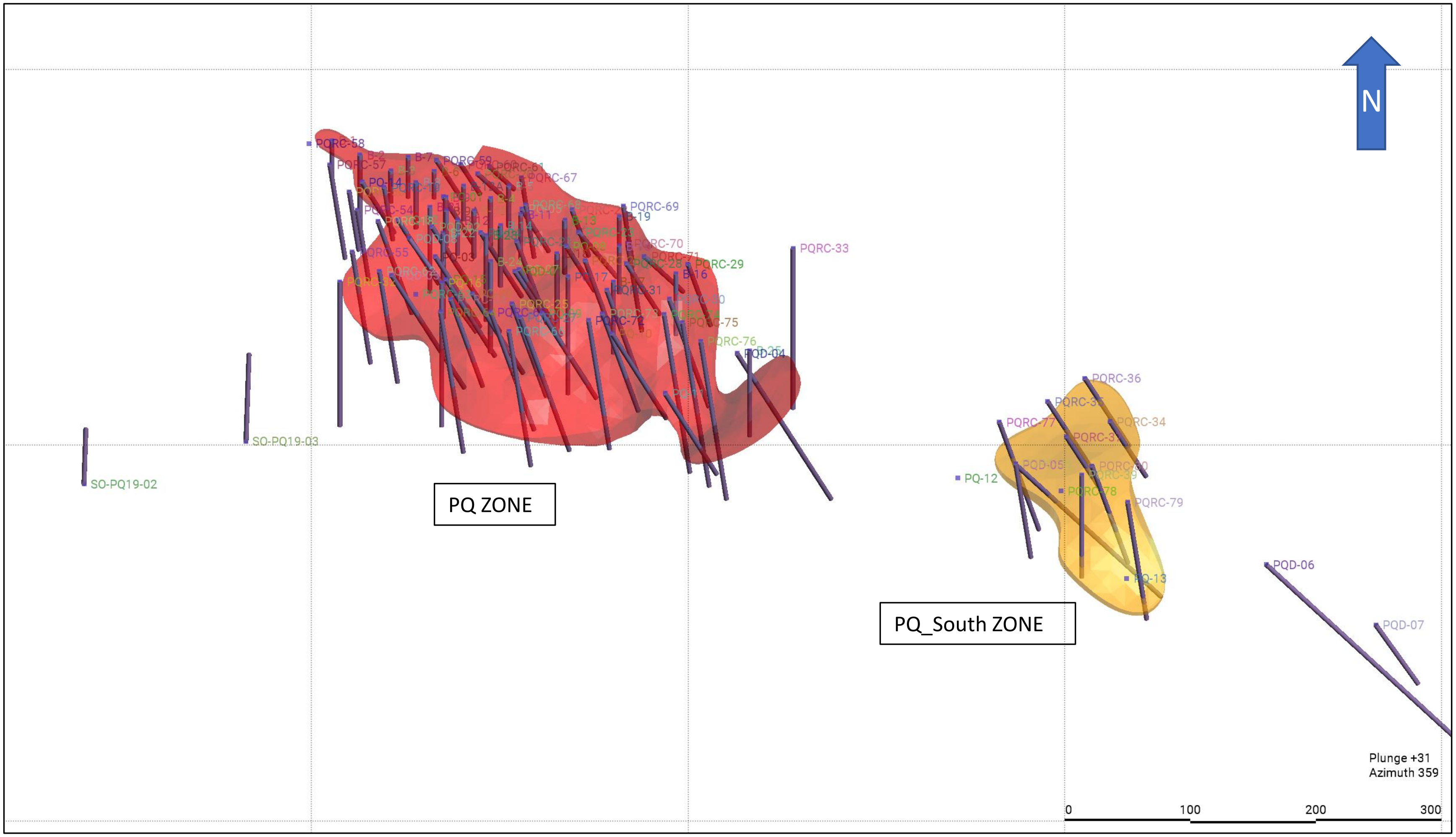
14.4.2 Database

The Project database includes a total of 138 drill holes. Micon's QP received the drill hole information in Excel spreadsheet format. All the available information was collated to form a Project database including assay, collar, survey and lithology information in .csv format. Assay values below the detection limit have been replaced by the numeric value of half the detection limit for the relevant element. The detailed information still needs to be verified from any available original copies. The 138 holes have been drilled throughout the mineral concessions comprising the overall property. However, for the purpose of mineral resource estimate, only the drill holes falling inside the Peñasco Quemado mineral concession has been used for to interpret the mineralized zones.

14.4.3 Wireframes

Micon has prepared the mineralized wireframe models to be used for the mineral resource estimate and has applied a 25 g/t silver cut-off grade to the available assay data for the Project, in order to generate the wireframes for the deposits. Two mineralized zones have been interpreted. Both have a trend of northwest-southeast and gently dip towards southwest. In addition to considering the silver assays, the lithology data also have been interpretated. Micon found that, according to the drill logs, the mineralized zones are congruous with the conglomerate/red conglomerate lithology. The two mineralized zones have been identified as the PQ zone and the PQ_South zone. The locations of these two mineralized zones are shown in Figure 14.1.

Figure 14.1
3D Perspective of the Peñasco Quemado Project Drill Hole Locations and the Two Mineralized Envelopes



Source: Micon, 2023.

14.4.4 Topography

Topographic survey data were provided by Loadstar in .dem format and have been converted into a shape file format, for use in Leapfrog Geo software. The topography used for the Project area has a contour interval of 5 m. A more detailed topographic survey is recommended for the concession area, in order to be able to capture any existing historic pits and other workings on the Project.

14.5 DATA ANALYSIS

14.5.1 Statistical Analysis

Basic statistics for the interval length and silver assays for the raw data are summarized in Table 14.1.

Table 14.1
Basic Statistics for Silver for All Mineralized Zones

Description	Silver assay (g/t)		Interval Length (m)	
	PQ Zone	PQ_South Zone	PQ Zone	PQ_South Zone
Count	1,548	57	1,548	57
Length (m)	1,956	84.5	-	-
Mean (g/t Ag)	90.06	81.76	1.26	1.48
Standard deviation	111.80	88.45	0.26	0.09
Coefficient of variation	1.24	1.08	0.20	0.06
Variance	12,499.1	7,823.4	0.1	0.0
Minimum (g/t Ag)	0.00	6.90	0.75	1.00
Lower quartile (g/t Ag)	25.90	28.50	1.00	1.50
Median (g/t Ag)	49.90	59.40	1.50	1.50
Upper quartile (g/t Ag)	108.00	96.60	1.50	1.50
Maximum (g/t Ag)	991.00	437.40	1.85	1.50

Source: Micon, 2023.

14.5.2 Compositing

Micon's QPs have performed compositing on all of the available sample intervals intercepted by the mineralized zones. A compositing length of 1.5 m has been chosen, based on the average sample interval. The residual lengths (25% of the actual composite length) have been distributed equally within the previous intervals. Table 14.2 summarises the comparison statistics for the raw and composited data.

Table 14.2
Global Statistics for the Silver Raw Assays versus Composite Assays for all Mineralized Zones

Description	PQ Zone		PQ_South Zone	
	Raw	Composited	Raw	Composited
Count	1,548	1,314	57	57
Length (m)	1,956	1,956	84.5	84.5
Mean (g/t Ag)	90.1	87.8	81.8	81.8
Standard deviation	111.8	103.3	88.5	88.3
Coefficient of variation	1.2	1.2	1.1	1.1
Variance	12,499.1	10,666.9	7,823.4	7,797.0
Minimum	0.0	0.25	6.9	6.9
Lower quartile (g/t Ag)	25.9	26.28	28.5	28.5
Median (g/t Ag)	49.9	49.15	59.4	59.4
Upper quartile (g/t Ag)	108.0	110.55	96.6	96.6
Maximum (g/t Ag)	991.0	794.14	437.4	437.4

Source: Micon, 2023.

14.5.3 Grade Capping

After compositing, all outlier values for silver were capped to minimize the influence of extreme high grades within the wireframe. Capping was carried out by analyzing the information contained in histograms and log probability plots. A grade cap of 460 g/t silver was applied to the PQ zone and 120 g/t silver for PQ_South zone. Table 14.3 summarizes the statistical comparison between the uncapped raw and capped composite data.

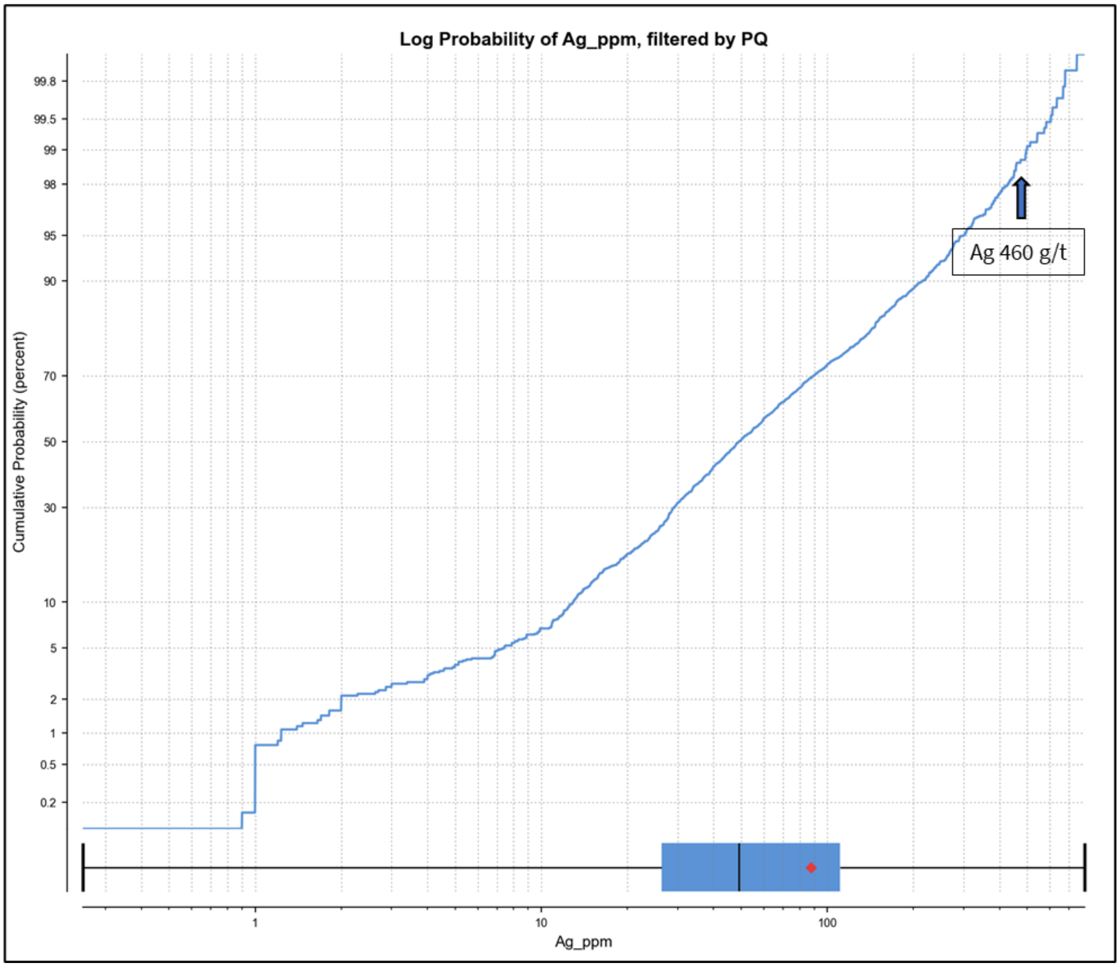
Table 14.3
Statistical Comparison of Uncapped vs Capped Silver Composites for all Mineralized Zones

Description	PQ Zone		PQ_South Zone	
	Uncapped Composites	Capped Composites	Uncapped Composites	Capped Composites
Count	1314	1314	57	57
Length (m)	1956	1955.536	84.5	84.5
Mean (g/t Ag)	87.80	86.16	81.76	63.04
Standard deviation	103.28	95.55	88.30	38.81
Coefficient of variation	1.18	1.11	1.08	0.62
Variance	10666.9	9130.7	7797.0	1506.3
Minimum	0.25	0.25	6.90	6.90
Lower quartile (g/t Ag)	26.28	26.28	28.50	28.50
Median (g/t Ag)	49.15	49.15	59.40	59.40
Upper quartile (g/t Ag)	110.55	110.55	96.60	96.60
Maximum (g/t Ag)	794.14	460	437.40	120

Source: Micon, 2023.

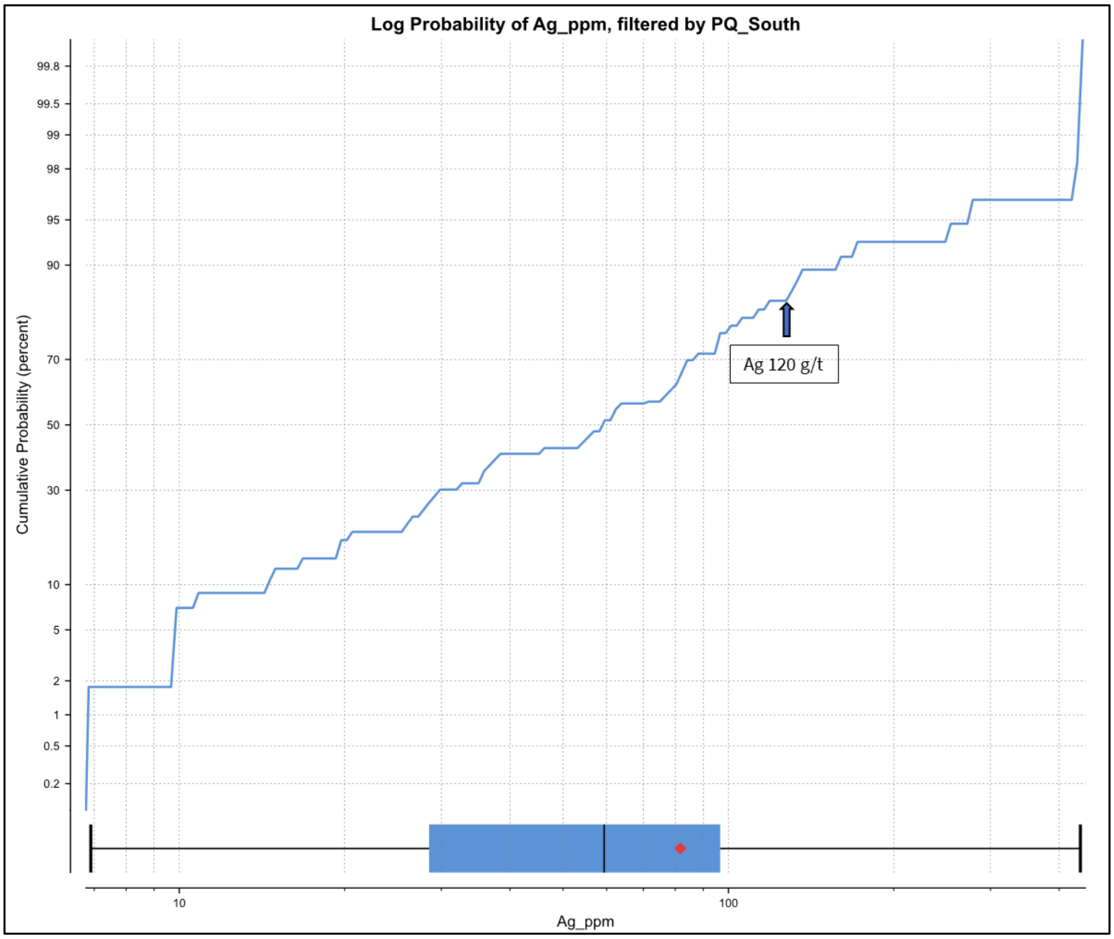
Figure 14.2 and Figure 14.3 show the log-probability plots used to determine the silver capping for the PQ and PQ_South mineralized zones, respectively.

Figure 14.2
Log Probability Plot of the Silver Values for the PQ Mineralized Zone



Source: Micon, 2023.

Figure 14.3
Log Probability Plot of the Silver Values for the PQ_South Mineralized Zone

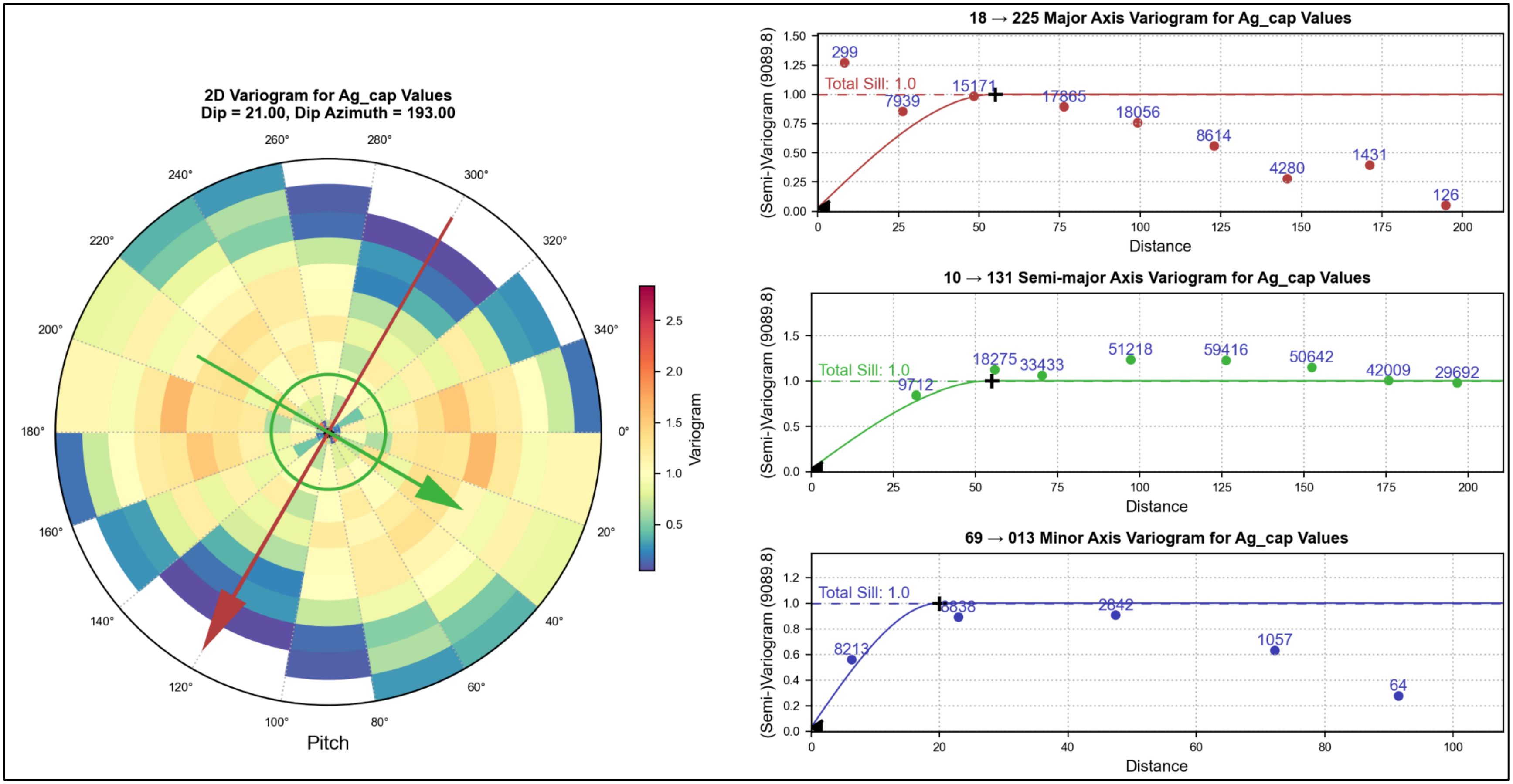


Source: Micon, 2023.

14.5.4 Variography

Variography analyzes the spatial continuity of grade for the commodity of interest within a deposit. In the case of the Peñasco Quemado Project, the analysis was conducted primarily on the PQ mineralized envelope. Down-the-hole variograms and 3D variographic analysis was performed to define the directions of maximum grade continuity. Variography must be carried out on regular coherent shapes with established geological continuity. First, down-the-hole variograms were constructed for silver, to establish the nugget effect (0.03) to be used to model the 3D variograms. Next, the direction with the minimum sample variation was identified to be modelled into variography. Figure 14.4 shows the results of the variographic analysis, with the most reasonable variogram chosen to support the Ordinary Kriging interpolation method. The results of the variographic analysis were used to aid in establishing the search ranges and anisotropic directions. However, for the PQ_South zone no reasonable variography could be performed due to limited sample data.

Figure 14.4
Axis Aligned Variogram for Capped Silver Values for the PQ Mineralized Zone



Source: Micon, 2023.

14.5.5 Continuity and Trends

The mineralized zones exhibit a stable strike direction, with variable dip directions. The PQ zone strikes northwest-southeast and gently dips towards southwest. The PQ_South zone shares the same mineralization trend but is nearly flat lying. For the purpose of estimation of PQ_South zone the same continuity as PQ zone has been used.

14.6 Mineral Resource Estimation

The grade and tonnage of silver assay have been estimated for the PQ and PQ_South mineralized envelopes or zones at the Peñasco Quemado Project, with all steps performed using Leapfrog Geo/Edge software.

14.6.1 Block Model

A single block model has been created to contain the geological model, silver assays and open pit mining scenario parameters. The estimation has been performed only using the silver assay data. Elements such as copper and manganese are contained within the Project database, but they have not been included in the estimation process at this time. Table 14.4 summarizes the parameters for the block model for the Peñasco Quemado Project. Sub-blocking has been used to ensure that every part of the mineralized envelopes have been captured. Child blocks have dimensions that are half the dimensions of the parent block. A 3D perspective of the block model for the PQ zone is presented in Figure 14.5, which also shows area of the pit constrained resources.

Table 14.4
Block Model Parameters for Peñasco Quemado Project

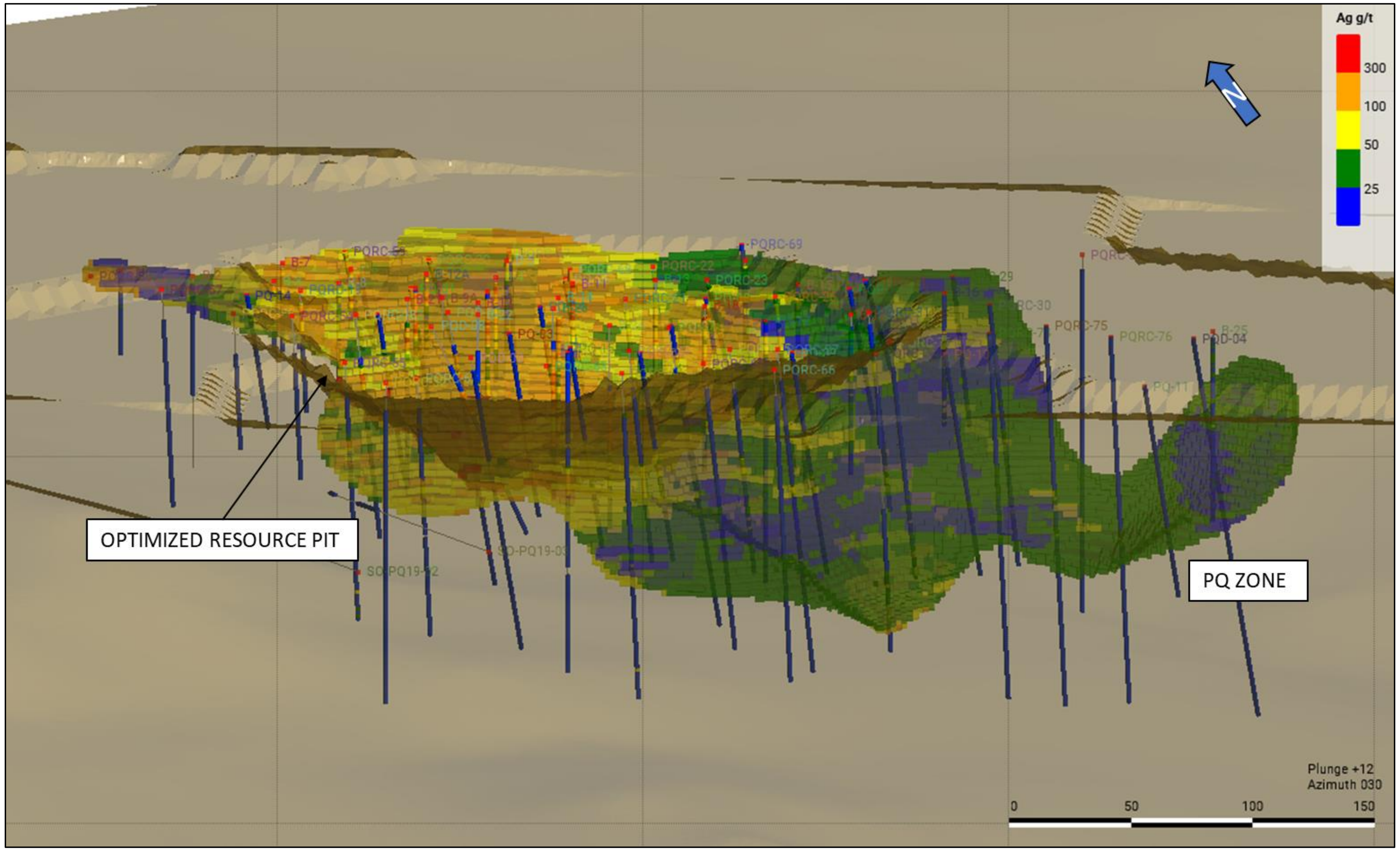
Description	Block Model Parameters
Minimum X (Easting)	447,123
Minimum Y (Northing)	342,732
Minimum Z (Elev.)	869
Model Dimension X (Easting)	990
Model Dimension Y (Northing)	395
Model Dimension Z (Elev.)	200
Rotation (°)	35
Block Size X (m) - Easting	10
Block Size Y (m) - Northing	5
Block Size Z (m) - Elevation	5

Source: Micon, 2023.

14.6.2 Search Strategy and Interpolation

A set of search parameters, derived from the variography, have been used to interpolate the composite grades into the created blocks. The interpolation has been performed using the Ordinary Kriging method. Table 14.5 summarizes the ordinary kriging interpolation parameters.

Figure 14.5
3D Perspective of the PQ Mineralized Zone Block Model, also showing the area of Pit -Constrained Resources



Source: Micon, 2023.

Table 14.5
Ordinary Kriging Interpolation Parameters for the Peñasco Quemado Project

General			Ellipsoid Ranges (m)			Ellipsoid Directions			Variable Orientation	Number of Samples		Drill Hole Limit	
Passes	Domain	Numeric Values	Maximum	Intermediate	Minimum	Dip	Dip Azimuth	Pitch	-	Minimum	Maximum	Max Samples per Hole	Apply Drill Hole Limit per Sector
P1	PQ Zone	Ag_cap (g/t)	55	55	20	-	-		REFERENCE SURFACE	8	16	2	TRUE
P1	PQ_South Zone		50	50	15	28	176	162	FALSE	9	18	3	TRUE
P2	PQ Zone		100	100	40	-	-		REFERENCE SURFACE	4	12	2	TRUE
P2	PQ_South Zone		100	100	30	28	176	162	FALSE	6	12	3	TRUE

Source: Micon, 2023.

14.6.3 Rock Density Data

There is no rock density study available for the Peñasco Quemado Project. Micon has analyzed the available lithological information and found that there is a considerable depth of alluvium (up to 22 m) present at the Project. Densities of 2.5 g/cm^3 for the alluvium and 2.75 g/cm^3 for the remainder of the lithologies (conglomerate, intrusive and basement) have been used for the resource estimate discussed herein. For future advancement of the Project, Micon recommends carrying out a density study for all of the lithological units present.

14.6.4 Prospects for Economic Extraction

The CIM standards require that a mineral resource must have reasonable prospects for eventual economic extraction. Since no economic parameters were received from Loadstar, Micon's QPs have estimated appropriate the parameters, based on similar projects in Northern Mexico. The silver price used was the average price for the prior twelve months. Operating costs were based on other projects in the State of Sonora. Metallurgical recovery was based upon the results of Silvermex's testwork program. In Micon QP's opinion, the parameters are suitable for the current resource estimate but will need to be revaluated prior to undertaking future mineral resource estimates. A bench slope of 30° was used for the overlying alluvium, and a slope of 45° was used for all other lithologies.

The cost and recovery parameters are summarized in Table 14.6. Using these parameters, the calculated breakeven cut-off grade (COG) is 84.75 g/t silver. The COG has been rounded to 85 g/t Ag for resource reporting purpose.

Table 14.6
Summary of the Economic Assumptions for the Conceptual Open Pit Mining Scenario

Description	Units	Value Used
Silver Price	USD/oz	25.00
Mining Cost	USD/t	2.00
Processing Cost	USD/t	40.00
General & Administration	USD/t	5.00
Silver Recovery (Metallurgical)	%	69

Source: Micon, 2023.

14.6.5 Mineral Resource Classification

Although the drill holes are reasonably closely spaced, Micon's QPs have classified the entire mineral resource estimate in the inferred category, for the following reasons:

- The database is historic in nature and consists of principally of reverse circulation/percussion drill holes.
- The assay results need to be validated against the original assay certificate.
- The historic drill hole assays need to be verified with twin core drill holes.
- No density measurements are available for the deposit.

All mineralized blocks not contained within the pit shell have not been classified and are not considered to be part of the mineral resource estimate.

14.7 MINERAL RESOURCE ESTIMATE

The mineral resource estimation was conducted based on a calculated cut-off grade of 85 g/t silver and an open pit mining scenario. Pit optimization was conducted using Datamine Software, based on the economic parameters shown in Table 14.6. Although, separate pits were generated for the two mineralized zones, the ultimate pit for the PQ_South zone does not meet the requirement for being potentially economic, as it generated a negative net present value. Thus, a pit constrained mineral resource could only be reported for the PQ mineralized zone. A 3D perspective of the pit constrained mineral resources for the PQ zone was presented previously in Figure 14.5.

The mineral resource estimate for the Peñasco Quemado Project is summarized in Table 14.7, with an effective date of March 21, 2023.

Table 14.7
Mineral Resource Estimate for the Peñasco Quemado Project at 85 g/t Ag Cut-off as of March 21, 2023

Pitshell	Resource Category	Zone	Stripping Ratio	Tonnage (Mt)	Average Grade	Metal Content
					Ag (g/t)	Ag (Million oz)
Inpit	Inferred	PQ	2.25	1.1	168.6	6.2

Notes:
1. The effective date for the Peñasco Quemado Project mineral resource estimate is March 21, 2023.
2. The mineral resources are reported based on open pit mining method scenarios.
3. The pit was constrained based on bench slope of 30° for the overlying alluvium and 45° for the remaining lithologies.
4. The mineralized wireframes (PQ zone) within which the resources are contained were modelled on a cut-off silver grade of 25 g/t.
5. Grade capping was applied to reduce the influence of outlier samples, a cap of 460 g/t silver was applied for PQ zone.
6. The economic parameters used to define mineral resources are a metal price of USD25 per troy ounce silver, a mining cost USD2/t, a processing cost of USD40/t and a G&A cost of USD5/t, for a total of USD47/t mined and processed. The silver recovery was estimated at 69%.
7. The resource is estimated for silver only, as manganese is not recoverable into a salable product for Peñasco Quemado Project.
8. The entire mineral resource has been categorized in the Inferred category.
9. The mineral resources presented here were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council May 10, 2014.
10. Mineral resources which are not mineral reserves do not have demonstrated economic viability. The QP believes that, at this time, the mineral resource estimate is not materially affected by environmental, permitting, legal, title, socio-political, marketing, or other relevant issues. However, as the Peñasco Quemado Project advances, further required studies in these areas or other socio-political factors may affect the resource estimate.
11. The mineral resource estimate has been prepared without reference to surface rights or the potential presence of overlying infrastructure.
12. Figures may not total due to rounding.

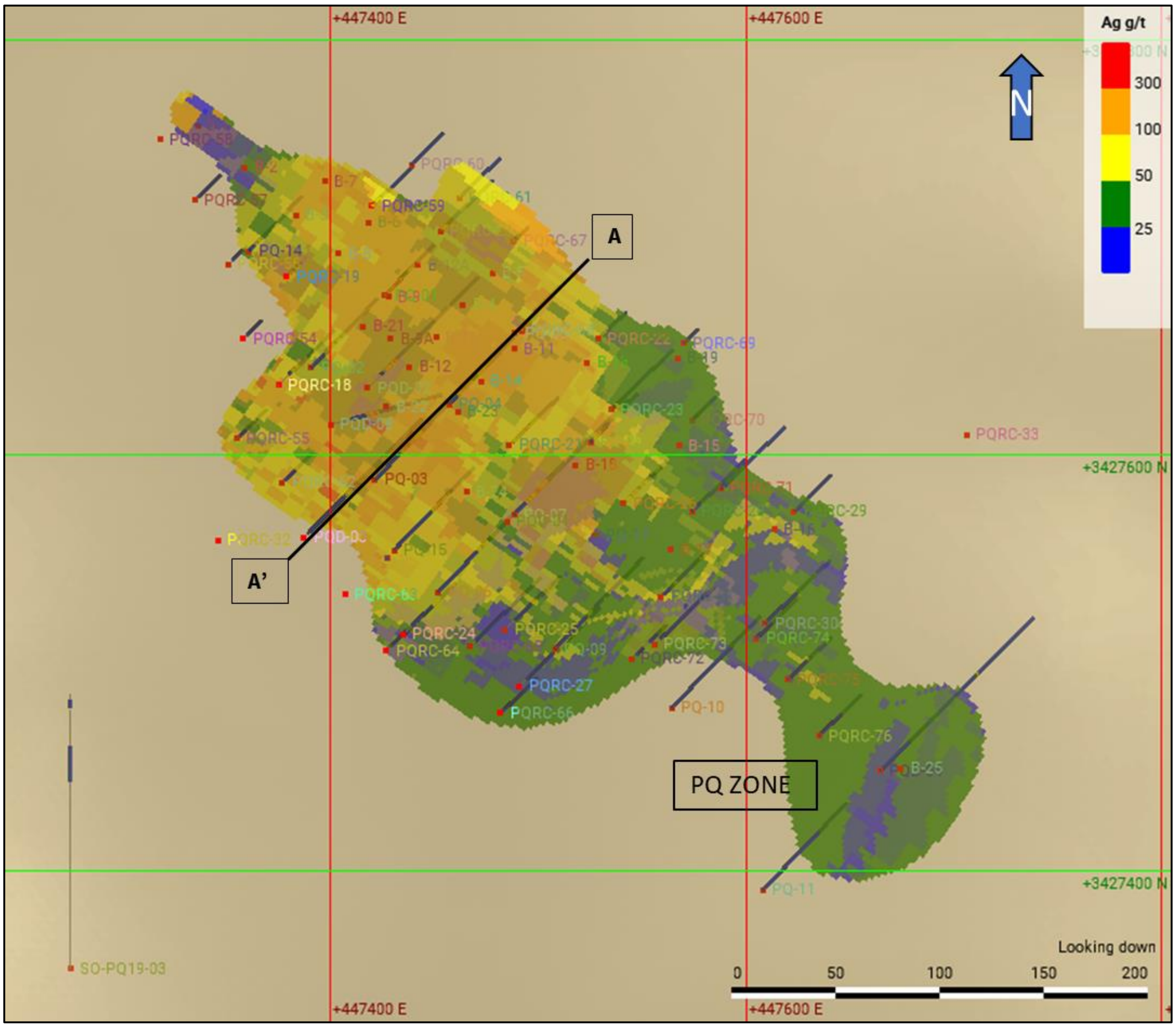
14.8 MINERAL RESOURCE VALIDATION

Micon's QPs have validated the block model by both visual inspection, and trend analysis.

14.8.1 Visual Check

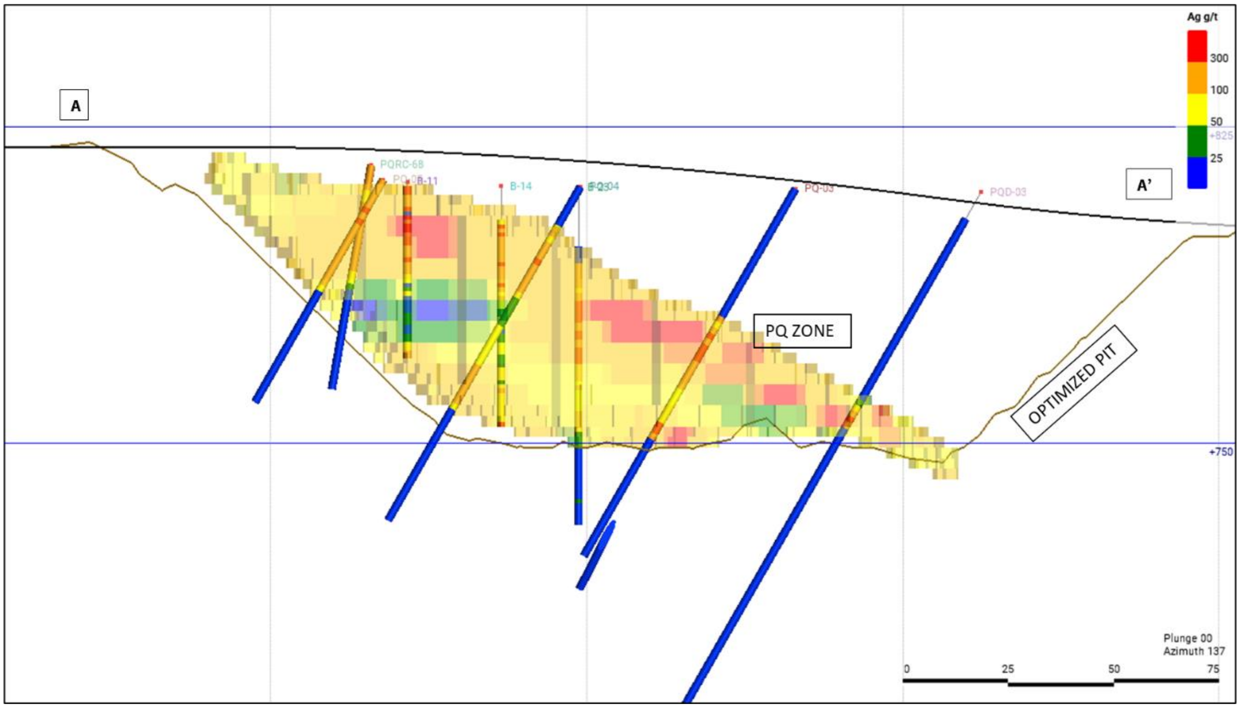
The model block and the drill hole intercepts were viewed in section to ensure that the grade distribution in the blocks was honouring the drill hole data. Figure 14.6 is a plan view of the location of the typical cross-section line AA ' chosen for this comparison. Figure 14.7 shows the drill intercepts and the block model grades for a typical section through the PQ zone. The degree of agreement between the block grades and the drill intercepts is reasonable.

Figure 14.6
Plan View of the Peñasco Quemado Project Showing the Location of the Typical Section Line AA'



Source: Micon, 2023.

Figure 14.7
AA' Vertical Section (Looking south-east) for the PQ zone showing the Silver Grades for the Estimated Blocks and the Drill Intercepts

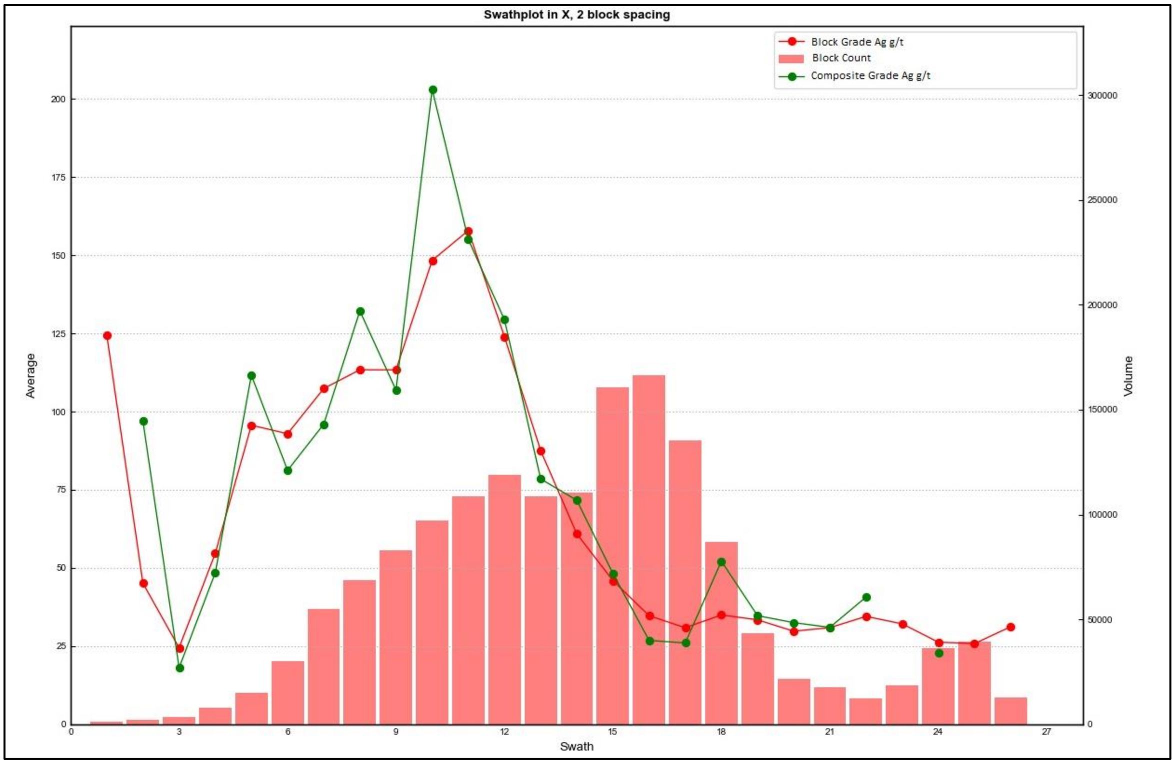


Source: Micon, 2023.

14.8.2 Swath Plots

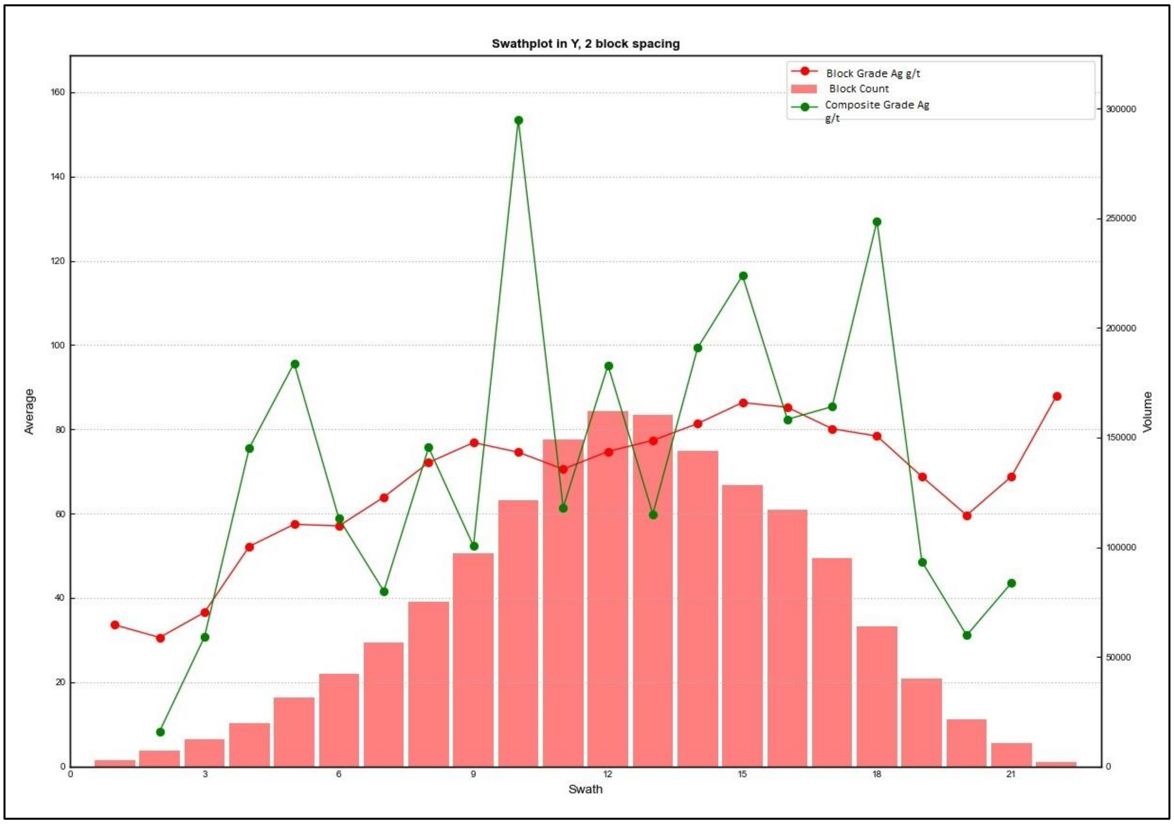
The block model grade and the grades of the informing composites were compared using swath plots, both along and across the strike direction, at an interval of 20 m and a 10 m spacing in the respective directions. Examples of the swath plots for PQ zone are shown in Figure 14.8 and Figure 14.9, respectively. The analysis shows a reasonable agreement.

Figure 14.8
Swath plot for the PQ Mineralized Zone Along the Strike Direction



Source: Micon, 2023.

Figure 14.9
Swath Plot for the PQ Mineralized Zone Across the Strike Direction



Source: Micon, 2023.

14.9 MINERAL RESOURCE SENSITIVITY ANALYSIS

Micon's QPs have performed a resource sensitivity analysis for the PQ zone, based on a silver price range from 15 USD/oz to 30 USD/oz, with an increment of every 5USD. Different silver prices correspond to different cut-off grades. Other economic parameters (mining and processing cost, G&A cost and silver metallurgical recovery) remain unchanged. Table 14.8 summarizes the price sensitive grade and tonnage scenario. summarizes the result of this analysis. The reader is cautioned that the figures provided in Table 14.18 should not be interpreted as a mineral resource statement. The reported quantities and grade estimates at different silver price and cut-off grades are presented for the sole purpose of demonstrating the sensitivity of the mineral resource to variations in the price of silver. Micon's QP has reviewed the sensitivity study and believes that the results meet the requirements needed to demonstrate potential economic extraction, at the silver prices used.

Table 14.8
Silver Price-based Mineral Resource Sensitivity for the Peñasco Quemado Project

Pitshell	Silver Price	Cut-off Grade Ag (g/t)	Stripping	Resource Category	Tonnage (Mt)	Average Grade	Metal Content
	USD/oz		Ratio			Ag (g/t)	Ag (Million oz)
Inpit	15	141	2.96	Inferred	0.6	217.6	4.0
	20	106	2.35		0.9	189.2	5.2
	25*	**85**	**2.25**		**1.1**	**168.6**	**6.2**
	30	71	2.07		1.3	155.3	6.7

Source: Micon, 2023.
*Peñasco Quemado 2023 base case Mineral Resource Estimate.

14.10 RESPONSIBILITY FOR MINERAL RESOURCE ESTIMATION

The updated mineral resource estimated discussed in this Technical Report has been prepared under the supervision of William J. Lewis, P.Geo., of Micon. Mr. Lewis is independent of Loadstar and is a QP within the meaning of NI 43-101.

TECHNICAL REPORT SECTIONS NOT REQUIRED

The following sections which form part of the NI 43-101 reporting requirements for advanced projects or properties are not relevant to the current Technical Report:

15.0 MINERAL RESERVE ESTIMATES

16.0 MINING METHODS

17.0 RECOVERY METHODS

18.0 PROJECT INFRASTRUCTURE

19.0 MARKET STUDIES AND CONTRACTS

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

21.0 CAPITAL AND OPERATING COSTS

22.0 ECONOMIC ANALYSIS

23.0 ADJACENT PROPERTIES

The Peñasco Quemado property exists within the Sierra Madre Occidental Metallogenic Province and is known to host at least two separate zones of anomalous silver mineralization. There are other metallic mineral deposits in the area, but very little information is available on those properties. There are no immediately adjacent properties which directly affect the interpretation and evaluation of the mineralization, deposits or anomalies found at Peñasco Quemado.

Mining has occurred for manganese within the Magdalena-Tubutama mining district at the Las Antillas mine. Approximately 5,000 tons, grading 45% manganese, were extracted from the Las Antillas mine, near Magdalena, during a ten-month term in 1918. When the demand for manganese ceased, operations at the mine were completely suspended. (Vargas, J.C., et al, 1994)

The Magdalena-Tubutama mining district is primarily known for its non-metallic mineral deposits, mainly borate, gypsum and limestone. Also, gold placers have been worked within the district in a number of streams such as Carreno, La Máquina, San Juan and others (Vargas, J.C., et al, 1994).

Information regarding the Magdalena-Tubutama mining district has been compiled from private and public reports which are noted in Section 28 of this report. However, the Micon QPs have been unable to verify the information in the private and public reports and the information is not necessarily indicative of the mineralization on the Peñasco Quemado property that is the subject of this report.

24.0 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information regarding the Peñasco Quemado Project are included in other sections of this Technical Report.

Micon and its QPs are not aware of any other data that would make a material difference to the quality of this Technical Report or make it more understandable, or without which the report would be incomplete or misleading.

The northern portion of the state of Sonora, Mexico, is very open to mining activity, which has provided significant economic development in recent years. This area, however, is considered to have some safety and security issues which may affect the development of new mining activities in the future. Security issues in the area will need to be continually monitored by Loadstar. Loadstar will also need to establish ongoing relationships and communication channels with the local population and landowners, as they constitute the best source of information related to unusual situations.

25.0 INTERPRETATION AND CONCLUSIONS

25.1 General Information

Loadstar is in the process of assessing all of the information it has acquired relating to the Peñasco Quemado Project. As part of this assessment, Loadstar asked Micon to use the available drilling data and to construct a block model with which to complete an initial mineral resource estimate that is compliant with current CIM guidelines and to disclose this resource estimate in a NI 43-101 Technical Report.

25.2 Mineral Resource Estimate

The mineral resource estimate discussed in this report covers the Peñasco Quemado Project area. The mineralization is associated with conglomerate and exhibits a northwest-southeast trend. The database contains no surface sampling data.

25.2.1 Methodology

The main steps in the resource estimation methodology were as follows:

- Construction and validation of Peñasco Quemado Project database.
- Preparation of the geological model and delineation of the mineralized zones.
- Statistical analysis of the drill hole intercepts, compositing, and grade capping for the purposes of estimation.
- Defining the parameters of the block model and silver grade interpolation.
- Validation of the estimate.
- Generation of a mineral resource statement.

25.2.2 Database

The Project database includes a total of 138 drill holes. Micon's QP received the drill hole information in Excel spreadsheet format. All of the available information was collated to form a Project database including assay, collar, survey and lithology information in .csv format. Assay values below the detection limit have been replaced by the numeric value of half the detection limit for the relevant element. The 138 holes have been drilled throughout the mineral concessions comprising the overall property. However, for the purpose of mineral resource estimate, only the drill holes falling inside the Peñasco Quemado mineral concession has been used to interpret the mineralized zones.

25.2.3 Wireframes

Micon prepared the mineralized wireframe models to be used for the mineral resource estimate. A 25 g/t silver cut-off grade within the available assay data for the Project has been used to generate the wireframes for the deposits. Two mineralized zones have been interpreted, both having a trend of northwest-southeast and a gentle dip towards southwest. In addition to considering the silver assays, the lithology data also has been interpretated. Micon found that the mineralized zone is congruous with the conglomerate/red conglomerate lithology, according to the drill logs. The two mineralized zones have been identified as the PQ zone and PQ_South zone.

25.2.4 Topography

Topographic survey data were provided by Loadstar in .dem format and have been converted into a shape file format to be used in Leapfrog Geo software. The topography used for the Project area has a contour interval of 5 m. A more detailed topographic survey is required for the concession area, in order to be able to capture any existing historic pits and other workings.

25.2.5 Data Analysis

25.2.5.1 Compositing

Micon's QPs have performed compositing on all of the available sample intervals intercepted by the mineralized zones. A compositing length of 1.5 m was chosen, based on the average sample interval. The residual lengths (25% of the actual composite length) have been distributed equally within the previous intervals.

25.2.5.2 Grade Capping

After compositing, all outlier values for silver were capped to minimize the influence of extreme high grade within the wireframe. This was carried out by analyzing histograms and log probability plots. A grade cap of 460 g/t silver was applied to the PQ zone and 120 g/t silver for PQ_South zone.

25.2.5.3 Variography

Variography analyzes the spatial continuity of grade for the commodity of interest within a deposit. In the case of the Peñasco Quemado Project, the analysis was conducted primarily on the PQ mineralized envelope. Down-the-hole variograms and 3D variographic analysis was performed to define the directions of maximum grade continuity. First, down-the-hole variograms were constructed for silver, to establish the nugget effect (0.03) to be used to model the 3D variograms. Next, the direction with the minimum sample variation was identified to be modelled into variography. Based on the results of the variographic analysis the most reasonable variogram chosen to support the Ordinary Kriging interpolation method. The results of the variographic analysis were used to aid in establishing the search ranges and anisotropic directions. However, for the PQ_South zone, no reasonable variography could be performed due to limited sample data.

25.2.5.4 Continuity and Trends

The mineralized zones exhibit a stable strike direction, with variable dip directions. The PQ zone strikes northwest-southeast and gently dips towards southwest. The PQ_South zone shares the same mineralization trend but is nearly flat lying. For the purpose of estimation of the PQ_South zone, the same continuity as the PQ zone has been used.

The grade and tonnage of silver have been estimated for the PQ and PQ_South mineralized envelopes or zones at the Peñasco Quemado Project, with all steps performed using Leapfrog Geo/Edge software.

25.2.5.5 Rock Density Data

There is no rock density study available for the Peñasco Quemado Project. Micon has analyzed the available lithological information and found that there is a considerable depth of alluvium (up to 22 m) present at the Project. Densities of 2.5 g/cm^3 for the alluvium and 2.75 g/cm^3 for the remainder of the lithologies (conglomerate, intrusive and basement) have been used for the resource estimate discussed herein. For future advancement of the Project, Micon recommends carrying out a density study for all of the lithological units present.

25.2.6 Block Model

A single block model has been created to contain the geological model, silver assays and open pit mining parameters. The estimation has been performed using only the silver assay data. Elements such as copper and manganese are contained within the Project database, but they have not been included in the estimation process at this time. Sub-blocking has been used to ensure that every part of the mineralized envelopes have been captured. Child blocks have dimensions that are half the dimensions of the parent block.

25.2.6.1 Search Strategy and Interpretation

Parameters derived from the variography have been used to interpolate the composite grades into the blocks. The interpolation has been performed by the Ordinary Kriging method.

25.2.7 Prospects for Economic Extraction

The CIM standards require that a mineral resource must have reasonable prospects for eventual economic extraction. Since no economic parameters were received from Loadstar, Micon's QPs have estimated appropriate the parameters, based on similar projects in Northern Mexico. The silver price used was the average price for the prior twelve months. Operating costs were based on other projects in the State of Sonora. Metallurgical recovery was based upon the results of Silvermex's testwork program. In Micon QP's opinion, the parameters are suitable for the current resource estimate but will need to be revaluated prior to undertaking future mineral resource estimates. A bench slope of 30° was used for the overlying alluvium, and a slope of 45° was used for all other lithologies.

The cost and recovery parameters are summarized in Table 25.1. Using these parameters, the calculated breakeven cut-off grade (COG) is 84.75 g/t silver. The COG has been rounded to 85 g/t Ag for resource reporting purpose.

Table 25.1
Summary of the Economic Assumptions for the Conceptual Open Pit Mining Scenario

Description	Units	Value Used
Silver Price	USD/oz	25.00
Mining Cost	USD/t	2.00
Processing Cost	USD/t	40.00
General & Administration	USD/t	5.00
Silver Recovery (Metallurgical)	%	69

Source: Micon, 2023.

25.2.8 Mineral Resource Classification

Although the drill holes are reasonably closely spaced, Micon's QPs have classified the entire mineral resource estimate in the inferred category, for the following reasons:

- The database is historic in nature and consists of principally of reverse circulation/percussion drill holes.
- The assay results need to be validated against the original assay certificate.
- The historic drill hole assays need to be verified with twin core drill holes.
- No density measurements are available for the deposit.

All mineralized blocks not contained within the pit shell have not been classified and are not considered to be part of the mineral resource estimate.

25.2.9 Mineral Resource Estimation

The mineral resource estimation was conducted based on a calculated cut-off grade of 85 g/t silver and an open pit mining scenario. Pit optimization was conducted using Datamine Software, based on the economic parameters shown in Table 25.1. Although, separate pits were generated for the two mineralized zones, the ultimate pit for the PQ_South zone does not meet the requirement for being potentially economic, as it generated a negative net present value. Thus, a pit constrained mineral resource could only be reported for the PQ mineralized zone.

The mineral resource estimate for the Peñasco Quemado Project is summarized in Table 25.2, with an effective date of March 21, 2023.

Table 25.2
Mineral Resource Estimate for the Peñasco Quemado Project at 85 g/t Ag Cut-off as of March 21, 2023

Pitshell	Resource Category	Zone	Stripping Ratio	Tonnage (Mt)	Average Grade	Metal Content
					Ag (g/t)	Ag (Million oz)
Inpit	Inferred	PQ	2.25	1.1	168.6	6.2

Notes:
1. The effective date for the Peñasco Quemado Project mineral resource estimate is March 21, 2023.
2. The mineral resources are reported based on open pit mining method scenarios.

3. The pit was constrained based on bench slope of 30° for the overlying alluvium and 45° for the remaining lithologies.
4. The mineralized wireframes (PQ zone) within which the resources are contained were modelled on a cut-off silver grade of 25 g/t.
5. Grade capping was applied to reduce the influence of outlier samples, a cap of 460 g/t silver was applied for PQ zone.
6. The economic parameters used to define mineral resources are a metal price of USD25 per troy ounce silver, a mining cost USD2/t, a processing cost of USD40/t and a G&A cost of USD5/t, for a total of USD47/t mined and processed. The silver recovery was estimated at 69%.
7. The resource is estimated for silver only, as manganese is not recoverable into a salable product for Peñasco Quemado Project.
8. The entire mineral resource has been categorized in the Inferred category.
9. The mineral resources presented here were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council May 10, 2014.
10. Mineral resources which are not mineral reserves do not have demonstrated economic viability. The QP believes that, at this time, the mineral resource estimate is not materially affected by environmental, permitting, legal, title, socio-political, marketing, or other relevant issues. However, as the Peñasco Quemado Project advances, further required studies in these areas or other socio-political factors may affect the resource estimate.
11. The mineral resource estimate has been prepared without reference to surface rights or the potential presence of overlying infrastructure.
12. Figures may not total due to rounding.

25.2.10 Mineral Resource Sensitivity Analysis

Micon's QPs have performed a resource sensitivity analysis for the PQ zone, based on a silver price range from 15 USD/oz to 30 USD/oz, with an increment of every 5USD. Different silver prices correspond to different cut-off grades. Other economic parameters (mining and processing cost, G&A cost and silver metallurgical recovery) remain unchanged. Table 25.3 summarizes the result of this analysis. The reader is cautioned that the figures provided in Table 25.3 should not be interpreted as a mineral resource statement. The reported quantities and grade estimates at different silver price and cut-off grades are presented for the sole purpose of demonstrating the sensitivity of the mineral resource to variations in the price of silver. Micon's QP has reviewed the sensitivity study and believes that the results meet the requirements needed to demonstrate potential economic extraction, at the silver prices used.

Table 25.3
Silver Price-based Mineral Resource Sensitivity for the Peñasco Quemado Project

Pitshell	Silver Price	Cut-off Grade Ag (g/t)	Stripping	Resource Category	Tonnage (Mt)	Average Grade	Metal Content
	USD/oz		Ratio			Ag (g/t)	Ag (Million oz)
Inpit	15	141	2.96	Inferred	0.6	217.6	4.0
	20	106	2.35		0.9	189.2	5.2
	25*	**85**	**2.25**		**1.1**	**168.6**	**6.2**
	30	71	2.07		1.3	155.3	6.7

Source: Micon, 2023.
*Peñasco Quemado 2023 base case Mineral Resource Estimate.

25.3 CONCLUSIONS

Micon's QPs have compiled a mineral resource estimate that takes into account the historical Silvermex drilling on the Peñasco Quemado Project, as well as drilling information obtained by other companies that have owned the Project. It is the opinion of Micon's QPs that the quality of the available data requires that the resources be classified entirely as inferred, based on current CIM best practice guidelines and CIM definition standards for mineral resources and mineral reserves.

However, given the close spaced nature of the historical drilling, Micon's QPs are also of the opinion that, with a program of dedicated drill hole twinning and data compilation and verification Lodestar could easily increase the classification of the existing resources to the measured and indicated categories.

The pit optimization study does not generate a potentially economic pit for the PQ_South zone, so, the reported resource is restricted entirely to the PQ mineralized zone. Further drilling in and around this area may be able to enlarge the existing PQ mineral resource and this would assist in potentially bridging the gap between the two detached mineralized zones and increasing the resource potential beyond the extent of the current pit shell.

Micon's QPs believe that further exploration to increase mineral resources at the Peñasco Quemado Project is warranted.

25.3.1 Exploration Potential

Micon's QPs have conducted an independent review of the exploration potential the Peñasco Quemado Project, using historically available information, as well as through discussions with Loadstar personnel. Micon's QPs have performed a study to estimate the global inventory of the PQ zone and have concluded that the Peñasco Quemado Project could potentially host an additional 2.3 to 3.9 million oz Ag.

25.3.2 Risks and Opportunities at the Peñasco Quemado Project

Table 25.4 identifies significant internal risks, potential impacts and possible risk mitigation measures that could affect the economic outcome of the Project. This excludes the external risks that apply to all mining projects, such as changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc. Significant opportunities that could improve the economics, timing and permitting of the Project are also identified in this table.

Table 25.4
Risks and Opportunities at the Peñasco Quemado Project

Risk	Potential Impact	Possible Risk Mitigation
Mineral Resource expansion	Closely spaced historical drilling in some areas and few or wide spaced drilling in others.	Conduct twin holes to verify the historical assays and geology. Continue exploration drilling to both increase the mineral resources to and expand on the silver ounces.
Distance from major settlements with cartel activities in the area	Possibility that the cartels may interfere with the Project.	Maintain a pro-active and transparent strategy to identify all potential risks to the project and work to mitigate the risks.

Risk	Potential Impact	Possible Risk Mitigation
Difficulty in attracting experienced professionals	The ability to attract and retain competent, experienced professionals is a key success factor.	An early search for professionals will help identify and attract appropriate personnel. It may be necessary to provide accommodation for key people (not included in project costs).
Water and electrical availability at the Project	Potential lack of water and access to electrical facilities at the Project .	Examine the potential to acquire water rights and construction of renewable energy facilities at the Project.
Opportunities	**Explanation**	**Potential Benefit**
Mineral Resource Continuity	Closely spaced historical drilling in some areas.	Conduct twin holes to verify the historical assays and geology and if verified use the historical drill holes to achieve measured and indicated resources.
Surface definition diamond drilling	Potential to upgrade inferred resources to the indicated category.	Adding indicated resources increases the economic value of the Project.
Surface exploration drilling	Potential to identify additional inferred resources.	Adding inferred resources increases the economic value of the Project.
Recovery of the Manganese	Potential to identify additional economic benefits if the Manganese were to be recoverable	Conducting additional metallurgical testwork to determine whether or not the Manganese can be recovered into a salable product.

26.0 RECOMMENDATIONS

26.1 EXPLORATION BUDGET AND PROPOSED EXPENDITURES

A two-phase exploration and resource validation program is proposed for the Peñasco Quemado Project.

Phase 1 consists of further project data compilation and digitization, detailed Remote Sensing over the property to define and expand local areas potential mineral anomalies, and a lithological-structural interpretation of the known deposit, focusing on defining structural controls to mineralization and property-wide assessment of fundamental controlling structures over the entire Peñasco Quemado Project.

Data Compilation: Based on a review of the existing geophysical information, as well as abundant government data packages containing surface rock, mapping, geochemical and drilling data are available, the following tasks should be performed:

- Detailed validation of historical drilling and logging information.
- Digitization of geochemical surface surveys, and property wide geological mapping.
- Development of a preliminary 2D/3D data set over the entire property.

Synthetic aperture radar data, multispectral Sentinel and Aster data: A property wide survey should be completed, the scope of which will include acquisition, processing and analysis of synthetic aperture radar data and multispectral Sentinel & Aster data, over the Peñasco Quemado Property. In addition to providing a property wide digital elevation model, remote sensing can further determine property scale prospectivity and identify and prioritize target areas elsewhere on the property.

Litho-structural Interpretation: the available 2D/3D data will be evaluated and interpreted to develop a comprehensive lithological and structural model suitable for exploration planning and targeting. The model will identify knowledge gaps, resource deficiencies, and potential geochemical trends and ultimately increase the project prospectivity.

Contingent upon the success of Phase 1, and successful delineation of drilling targets, Phase 2 will consist of a program of drilling optimization. This is to include 5,000 m of RC drilling focusing on the following tasks:

1. A number of drill holes will be twinned to verify the historical geological information and assays.
2. Additional relogging and onsite confirmation of the historical information will be undertaken to provide greater confidence in the mineral resource classification.
3. Determination of the specific gravity for each rock type.
4. Future diamond drilling and reverse circulation drilling, to better define the extent of the geological units and to confirm structural controls on mineralization more tightly.

Loadstar's proposed two-phase budget expenditures to complete the asks outlined above is summarized in Table 26.1.

Micon and its QPs agree with the direction of Loadstar's further studies and regard the work plan and expenditures as appropriate. Micon and its QPs appreciate that the nature of the programs and expenditures may change as the further studies advance, and that the final expenditures and results may vary from those originally proposed.

Table 26.1
Loadstar 2023 Budget Expenditures

Phase	Description	Amount	Unit Cost	Units	Total USD	Total Cdn*
Phase 1	Regional property wide lithostructural interpretation and 3D geo modelling	1	50,000	lump	$50,000	$62,500
	Remote sensing	1	25,000	lump	$25,000	$31,250
	Subtotal:				**$75,000**	**$93,750**
Phase 2	RC Drilling (all in)	5,000	92	$/metre	$460,000	$613,333
	Assays	1,200	52	$/assay	$62,400	$83,200
	Roads, pads and remediation	1	20,000	lump	$20,000	$26,667
	Geological labour (geo-month)	6	10,000	$/month	$60,000	$80,000
	Field Assistants (assistant-month)	240	100	$/day	$24,000	$32,000
	Per diem geologists	180	110	$/day	$19,800	$26,400
	Truck Rentals (180 days = 2 trucks 3 months)	120	90	$/day	$10,800	$14,400
	3-ton Truck rental	45	150	$/day	$6,750	$9,000
	Materials	1	5,000	lot	$5,000	$6,667
	Field & Travel	1	5,000	lump	$5,000	$6,667
	Subtotal:				**$673,750**	**$898,333**
	Contingency	1	67,375	lump	$67,375	
	Drilling Total				**$741,125**	**$988,167**
	Reporting					
	Resource & engineering (includes 43-101)	1	100,000	lump	$100,000	$133,333
	Grand Total				**$916,125**	**$1,215,250**

* Forex Cdn/US$0.75.
Table provided by Loadstar.

27.0 DATE AND SIGNATURE PAGE

MICON INTERNATIONAL LIMITED

"William J. Lewis" {signed and sealed as of the amended report date}

William J. Lewis, B.Sc., P.Geo. — Report Date: April 17, 20223
Senior Geologist — Effective Date: March 21, 2023

"Chitrali Sarkar" {signed and sealed as of the report date}

Chitrali Sarkar, M.Sc. P.Geo. — Report Date: April 17, 20223
Geologist — Effective Date: March 21, 2023

SERVICIOS GEOLÓGICOS IMEX, S.C.

"Rodrigo Calles-Montijo" {signed and sealed as of the report date}

Rodrigo Calles-Montijo, CPG. — Report Date: April 17, 20223
General Administrator and Principal Consultant — Effective Date: March 21, 2023

28.0 REFERENCES

28.1 TECHNICAL REPORTS, PAPERS AND OTHER PUBLICATIONS

Banks, Paul, (2015), An Update on harmonization of 2014 CIM Definition Standards, CIM Magazine, Vol. 10, No. 3, May, 2015, pp 44 to 46.

Banks, Paul, (2015), Implementation of 2014 CIM Definition Standards, CIM Magazine, Vol. 10, No. 5, August, 2015, pp 32 to 34.

Burk, R., (2006), Report of a Field Examination of the Peñasco Quemado Mineral Property, Sonora, Mexico. 14 p

CIM Council, (2019), CIM Estimation of Mineral Resources and Mineral Reserves Best Practices Guidelines, 74 p.

CIM Council, (2014), CIM Definition Standards for Mineral Resources and Mineral Reserves, 9 p.

CIM Council, (2010), CIM Definition Standards for Mineral Resources and Mineral Reserves, 9 p.

CIM Council, (2005), CIM Definition Standards for Mineral Resources and Mineral Reserves, 9 p.

Esquer, J.C. and Castillo, J., (2005), Peñasco Quemado Silver Property Geological Update Report, 11 p.

Gow, N.N., Koningen, D. 1994, Updated Technical report and mineral resources Statement, Lluvia de Oro Property, Sonora State, Mexico. NI 43-101 Report prepared for NWM Mining.

Hazen Research Inc., (2013), Silver Recovery for the Peñasco Quemado Deposit, 34 p.

Lewis, W.J., (2005), Technical Report on the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District Sonora, Mexico, 67 p.

Lewis, W.J. and McCrea, J.A., (2006), Updated NI 43-101 Technical Report and Resource Estimate for the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District Sonora, Mexico, 152 p.

Lewis, W.J., (2016), NI 43-101 Technical Report for the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District, Sonora, Mexico" dated September 20, 2016, with an effective date of September 20, 2016 and as amended on January 6, 2017, 107 p.

Lewis, W.J. and Calles-Montijo, Rodrigo, (2020), NI 43-101 Technical Report for the Peñasco Quemado Silver Property, Magdalena – Tubutama Mining District, Sonora, Mexico" dated November 20, 2020, with an effective date of November 20, 2020, 164 p.

Los Angeles Herald, (1904), The Magdalena Mining District of Northern Sonora, Mexico; Capitalists are Now Interested in the Rapid Development of Valuable Properties That Have Been Neglected, Number 36, November 6, 1904.

Miranda-Gasca, M.A. et al, (1998), Borate deposits of Northern Sonora, Mexico., Stratigraphy, Tectonics, Stable Isotopes, and Fluid Inclusions, Economic Geology Vol. 93, 510 – 523 p.

McAnulty Jr., W. Noel and Nasser, Ing. Abraham, (1982), Peñasco Quemado Project, Sonora, Mexico Final Report, prepared for Minera Cerro De Plata S.A. de C.V., 16 p.

Mowry, Sylvester, (1864) Arizona and Sonora: The Geography, History, and Resources of the Silver Region of North America, Third Edition, 251 p.

Nurse, J.A, Anderson, T.H., Silver, L.T., 1994, Tertiary Metamorphic Core Complexes in Sonora, northwestern Mexico, Tectonic, Vol. 13, No. 5, pp 1161-1182.

Perez-Segura, E., (2006), Pertrographic Studies of 15 Rock Samples of the Peñasco Quemado Property sent by Miguel Angel Soto of Minera Terra Plata, S.A. de C.V., 27 p.

Retes, Don Manuel, (1860), Notes on the Mineral Wealth of the State of Sonora, Daily Alta California, Volume 12, Number 217, August 6, 1860.

Salas, G.P., et al, (1991), Economic Geology, Mexico, Volume P-3 of the Geology of North America, in The Decade of North American Geology Project series by The Geological Society of America, Inc., 438 p.

Vargas, J.C., et al, (1994), Geological – Mining Monograph of the State of Sonora, M-8E, published by the Consejo de Recursos Minerales, 220 p.

28.2 WEBSITES

https://lodestarbatterymetals.ca

29.0 CERTIFICATES OF AUTHORS

CERTIFICATE OF WILLIAM J. LEWIS, B.SC., P.GEO.

As the co-author of the report for Lodestar Battery Metals Corp. entitled "NI 43-101 Technical Report for the 2023 Mineral Resource Estimate on the Peñasco Quemado Project, Sonora, Mexico" dated April 17, 2023, with an effective date of March 21, 2023, I, William J. Lewis do hereby certify that:

1. I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, 601 – 90 Eglinton Ave East, Toronto, ON, Canada, M4P 2Y3, tel. (416) 362-5135, e-mail wlewis@micon-international.com.
2. This certificate applies to the Technical Report titled "NI 43-101 Technical Report for the 2023 Mineral Resource Estimate on the Peñasco Quemado Project, Sonora, Mexico" dated April 17, 2023, with an effective date of March 21, 2023.
3. I hold the following academic qualifications:
   - B.Sc. (Geology) University of British Columbia 1985
4. I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba (membership # 20480); as well, I am a member in good standing of several other technical associations and societies, including:
   - Association of Professional Engineers and Geoscientists of British Columbia (Membership # 20333).
   - Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (Membership # 1450).
   - Professional Association of Geoscientists of Ontario (Membership # 1522).
   - The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 94758).
5. I have worked as a geologist in the minerals industry for 35 years.
6. I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an exploration geologist looking for gold and base metal deposits, more than 11 years as a mine geologist in underground mines estimating mineral resources and reserves and 20 years as a surficial geologist and consulting geologist on precious and base metals and industrial minerals.
7. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument.
8. I visited the Peñasco Quemado Project for one day on August 30, 2016 and have visited the property previously for one day on July 22, 2005, September 13, 2005, and September 9, 2006.
9. I have written or co-authored four previous Technical Reports for the mineral property that is the subject of this Technical Report.
10. I am independent of Lodestar Battery Metals Corp. and its subsidiary according to the definition described in NI 43-101 and the Companion Policy 43-101 CP.
11. I am responsible for all Sections, except for Sections 7, 8, 12.1, 12.4, 14.4 to 14.6.3, 14.8 and 14.9 within this Technical Report.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Report Dated this 17th day of April, 2023 with an effective date of March 21, 2023.

"William J. Lewis" {signed and sealed as of the report date}

William J. Lewis, B.Sc., P.Geo.
Senior Geologist, Micon International Limited

CERTIFICATE OF CHITRALI SARKAR, M.SC. P.GEO.

As the co-author of this report for Lodestar Battery Metals Corp. entitled "NI 43-101 Technical Report for the 2023 Mineral Resource Estimate on the Peñasco Quemado Project, Sonora, Mexico" dated April 17, 2023, with an effective date of March 21, 2023, I, Chitrali Sarkar do hereby certify that:

1. I am employed as a Geologist by, and carried out this assignment for, Micon International Limited, 601 – 90 Eglinton Ave East, Toronto, ON, Canada, M4P 2Y3. tel: +1 416 362-5135, e-mail csarkar@micon-international.com.
2. This certificate applies to the Technical Report titled "NI 43-101 Technical Report for the 2023 Mineral Resource Estimate on the Peñasco Quemado Project, Sonora, Mexico" dated April 17, 2023, with an effective date of March 21, 2023.
3. I hold a Master's Degree in Applied Geology from Indian School of Mines (IIT), India, 2012.
4. I am a Registered Professional Geoscientist of Ontario (membership # 3584) also a member in good standing of the Canadian Institute of Mining, Metallurgy and Petroleum.
5. I am familiar with NI 43-101 and by reason of education, experience and professional registration, fulfil the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 10 years in the metal mining industry, including more than 5 years as an exploration and production geologist in open pit and underground mines and more than 4 years as a resource geologist.
6. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument.
7. I have not visited the Peñasco Quemado Project.
8. This is the first report I have co-authored for the mineral property that is the subject of this Technical Report.
9. I am independent Lodestar Battery Metals Corp. and its subsidiary according to the definition described in NI 43-101 and the Companion Policy 43-101 CP.
10. I am responsible for Sections 12.4, 14.4 to 14.6.3, 14.8 and 14.9 of this Technical Report with Sections 15 through 22 not applicable to this Technical Report.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this technical report not misleading.

Report Dated this 17th day of April 2023 with an effective date of March 21, 2023.

"Chitrali Sarkar" {signed and sealed as of the report date}

Chitrali Sarkar, M.Sc. P.Geo.
Geologist, Micon International Limited

CERTIFICATE OF RODRIGO CALLES-MONTIJO, MSC., CPG.

As the co-author of the report for Lodestar Battery Metals Corp. entitled "NI 43-101 Technical Report for the 2023 Mineral Resource Estimate on the Peñasco Quemado Project, Sonora, Mexico" dated April 17, 2023 with an effective date of March 21, 2023, I, Rodrigo Calles-Montijo do hereby certify that:

1. I am General Administrator and Principal Consultant of the firm Servicios Geológicos IMEx, S.C, located at Blvd. Morelos No. 639, Locales 13 y 14, Hermosillo, Sonora, Mexico, C.P. 83148, Email: rodrigo.calles@sgimex.mx;
2. This certificate applies to the Technical Report titled "NI 43-101 Technical Report for the 2023 Mineral Resource Estimate on the Peñasco Quemado Project, Sonora, Mexico" dated April 17, 2023 with an effective date of March 21, 2023.
3. I hold the following academic qualifications:
   - B.Sc. (Geologust Engineer) Autonomous University of Chihuahua 1986.
   - M.Sc. (Economic Geology) University of Sonora 1999.
4. I am a Certified Professional Geologist in a good standing with American Institute of Professional Geologist with certificate number 11567 and member of the Association of Mining Engineers, Metallurgist and Geologist of Mexico, A.C., Membership 556.
5. I have 35 years of experience in exploration and evaluation of mineral deposits, including metallic and non-metallic deposits in several countries around the world; I have experience in evaluation of diverse types of gold and silver deposits, including placer, skarn, disseminated and replacement deposits.
6. I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 20 years as an exploration geologist looking for base metal and industrial mineral deposits and more than 11 years as consulting geologist on precious, base metals and industrial minerals and operative mines.
7. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument.
8. I visited the Peñasco Quemado Project for one day on September 14, 2020 to assess current Project site and infrastructure conditions.
9. I am independent Lodestar Battery Metals Corp. and its subsidiary according to the definition described in NI 43-101 and the Companion Policy 43-101 CP.
10. I am responsible for the site visit as described in Section 12.1 of this Technical Report with Sections 15 through 22 not applicable to this Technical Report.
11. I am responsible for Sections 7, 8 and 12.1 within this Technical Report.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Report Dated this 17th day of April, 2023 with an effective date of March 21, 2023.

"Rodrigo Calles-Montijo" {signed and sealed as of the report date}

Rodrigo Calles-Montijo, M.Sc., CPG.
General Administrator and Principal Consultant, Servicios Geológicos IMEx, S.C.

APPENDIX I

GLOSSARY OF MINING AND OTHER RELATED TERMS

POTENTIALLY MENTIONED IN THIS TECHNICAL REPORT

The following is a glossary of general mining terms that may be used in this Technical Report.

A

Ag	Symbol for the element silver.
Assay	A test performed on a mineralized sample or ore to determine its ingredients or quality of the minerals contained.
Au	Symbol for the element gold.

B

Base metal	Any industrial non-ferrous metals excluding precious metals (e.g., copper, lead, zinc, nickel, etc.).
Bulk mining	Any large-scale, mechanized method of mining involving many thousands of tonnes of ore being brought to surface per day.
Bulk sample	A large sample of mineralized rock, frequently hundreds of tonnes, selected in such a manner as to be representative of the potential orebody being sampled. The sample is usually used to determine metallurgical characteristics.
Bullion	Physical gold and silver of high purity that is often kept in the form of bars, ingots, or coins.
By-product	A secondary metal or mineral product recovered in the processing stage of mining.

C

Channel sample	A sample composed of pieces of vein or mineral deposit that have been cut out of a small trench or channel, usually about 10 cm wide and 2 cm deep.
Chip sample	A method of sampling a rock exposure whereby a regular series of small chips of rock is broken off along a line across the face.
CIM Standards	The CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council from time to time. The most recent update adopted by the CIM Council is effective as of November 27, 2010.
CIM	The Canadian Institute of Mining, Metallurgy and Petroleum.
Contact	A geological term used to describe the line or plane along which two different rock formations meet.
Core	The long cylindrical piece of rock, about an inch in diameter, brought to surface by diamond drilling.
Core sample	One or several pieces of whole or split parts of core selected as a sample for analysis or assay.
Cross-cut	A horizontal opening driven from a shaft and (or near) right angles to the strike of a vein or other orebody. The term is also used to signify that a drill hole is crossing the mineralization at or near right angles to it.

Cu Symbol for the element copper.

Cut-off grade The lowest grade of mineralized rock that qualifies as ore grade in a given deposit, and is also used as the lowest grade below which the mineralized rock currently cannot be profitably exploited. Cut-off grades vary between deposits depending upon the amenability of ore to gold extraction and upon costs of production.

D

Dacite The extrusive (volcanic) equivalent of quartz diorite.

Deposit An informal term for an accumulation of mineralization or other valuable earth material of any origin.

Development drilling

Drilling to establish accurate estimates of mineral resources or reserves usually in an operating mine or advanced project.

Dilution Rock that is, by necessity, removed along with the ore in the mining process, subsequently lowering the grade of the ore.

Dip The angle at which a vein, structure or rock bed is inclined from the horizontal as measured at right angles to the strike.

Doré A semi refined alloy containing sufficient precious metal to make recovery profitable. Crude precious metal bars, ingots or comparable masses produced at a mine which are then sold or shipped to a refinery for further processing.

E

Epithermal Hydrothermal mineral deposit formed within one kilometre of the earth’s surface, in the temperature range of 50 to 200°C.

Epithermal deposit

A mineral deposit consisting of veins and replacement bodies, usually in volcanic or sedimentary rocks, containing precious metals or, more rarely, base metals.

Exploration Prospecting, sampling, mapping, diamond drilling and other work involved in searching for ore.

F

Face The end of a drift, cross-cut or stope in which work is taking place.

Fault A break in the Earth's crust caused by tectonic forces which have moved the rock on one side with respect to the other.

Fold Any bending or wrinkling of rock strata.

Footwall The rock on the underside of a vein or mineralized structure or deposit.

Fracture — A break in the rock, the opening of which allows mineral-bearing solutions to enter. A "cross-fracture" is a minor break extending at more-or-less right angles to the direction of the principal fractures.

G

g/t — Abbreviation for gram(s) per metric tonne.

g/t — Abbreviation for gram(s) per tonne.

Grade — Term used to indicate the concentration of an economically desirable mineral or element in its host rock as a function of its relative mass. With gold, this term may be expressed as grams per tonne (g/t) or ounces per tonne (opt).

Gram — One gram is equal to 0.0321507 troy ounces.

H

Hanging wall — The rock on the upper side of a vein or mineral deposit.

High grade — Rich mineralization or ore. As a verb, it refers to selective mining of the best ore in a deposit.

Host rock — The rock surrounding an ore deposit.

Hydrothermal — Processes associated with heated or superheated water, especially mineralization or alteration.

I

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 are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred

	Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.”
Intrusive	A body of igneous rock formed by the consolidation of magma intruded into other

K

km	Abbreviation for kilometre(s). One kilometre is equal to 0.62 miles.

L

Leaching	The separation, selective removal or dissolving-out of soluble constituents from a rock or ore body by the natural actions of percolating solutions.
Level	The horizontal openings on a working horizon in a mine; it is customary to work mines from a shaft, establishing levels at regular intervals, generally about 50 m or more apart.
Loadstar	Loadstar Battery Metals Corp., including, unless the context otherwise requires, the Company's subsidiaries.

M

m	Abbreviation for metre(s). One metre is equal to 3.28 feet.
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 estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.
Metallurgy	The science and art of separating metals and metallic minerals from their ores by mechanical and chemical processes.
Metamorphic	Affected by physical, chemical, and structural processes imposed by depth in the earth’s crust.
Mill	A plant in which ore is treated and metals are recovered or prepared for smelting; also a revolving drum used for the grinding of ores in preparation for treatment.
Mine	An excavation beneath the surface of the ground from which mineral matter of value is extracted.

Mineral — A naturally occurring homogeneous substance having definite physical properties and chemical composition and, if formed under favourable conditions, a definite crystal form.

Mineral Concession

That portion of public mineral lands which a party has staked or marked out in accordance with federal or state mining laws to acquire the right to explore for and exploit the minerals under the surface.

Mineralization — The process or processes by which mineral or minerals are introduced into a rock, resulting in a valuable or potentially valuable deposit.

Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource. The term mineral resource used in this report is a Canadian mining term as defined in accordance with NI 43-101 – Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM), Standards on Mineral Resource and Mineral Reserves Definitions and guidelines adopted by the CIM Council on December 11, 2005, updated as of November 27, 2010 and more recently updated as of May 10, 2014(the CIM Standards).

N

Net Smelter Return

A payment made by a producer of metals based on the value of the gross metal production from the property, less deduction of certain limited costs including smelting, refining, transportation and insurance costs.

NI 43-101

National Instrument 43-101 is a national instrument for the Standards of Disclosure for Mineral Projects within Canada. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. This includes foreign-owned mining entities who trade on stock exchanges overseen by the Canadian Securities Administrators (CSA), even if they

	only trade on Over the Counter (OTC) derivatives or other instrumented securities. The NI 43-101 rules and guidelines were updated as of June 30, 2011.

O

Open Pit/Cut	A form of mining operation designed to extract minerals that lie near the surface. Waste or overburden is first removed, and the mineral is broken and loaded for processing. The mining of metalliferous ores by surface-mining methods is commonly designated as open-pit mining as distinguished from strip mining of coal and the quarrying of other non-metallic materials, such as limestone and building stone.
Outcrop	An exposure of rock or mineral deposit that can be seen on surface that is, not covered by soil or water.
Oxidation	A chemical reaction caused by exposure to oxygen that result in a change in the chemical composition of a mineral.
Ounce	A measure of weight in gold and other precious metals, correctly troy ounces, which weigh 31.2 grams as distinct from an imperial ounce which weigh 28.4 grams.
oz	Abbreviation for ounce.

P

Plant	A building or group of buildings in which a process or function is carried out; at a mine site it will include warehouses, hoisting equipment, compressors, maintenance shops, offices and the mill or concentrator.
Pyrite	A common, pale-bronze or brass-yellow, mineral composed of iron and sulphur. Pyrite has a brilliant metallic luster and has been mistaken for gold. Pyrite is the most wide-spread and abundant of the sulphide minerals and occurs in all kinds of rocks.

Q

Qualified Person	Conforms to that definition under NI 43-101 for an individual: (a) to be an engineer or geoscientist with a university degree, or equivalent accreditation, in an area of geoscience, or engineering, related to mineral exploration or mining; (b) has at least five years' experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these, that is relevant to his or her professional degree or area of practice; (c) to have experience relevant to the subject matter of the mineral project and the technical report; (d) is in good standing with a professional association; and (e) in the case of a professional association in a foreign jurisdiction, has a membership designation that (i) requires attainment of a position of responsibility in their profession that requires the exercise of independent judgement; and (ii) requires (A.) a favourable confidential peer evaluation of the individual’s character, professional judgement, experience, and ethical fitness; or (B.) a recommendation for membership by at least two peers, and demonstrated prominence or expertise in the field of mineral exploration or mining.

R

Reclamation	The restoration of a site after mining or exploration activity is completed.

S

Shoot	A concentration of mineral values; that part of a vein or zone carrying values of ore grade.
Strike	The direction, or bearing from true north, of a vein or rock formation measure on a horizontal surface.
Stringer	A narrow vein or irregular filament of a mineral or minerals traversing a rock mass.
Sulphides	A group of minerals which contains sulphur and other metallic elements such as copper and zinc. Gold and silver are usually associated with sulphide enrichment in mineral deposits.

T

Tonne	A metric ton of 1,000 kilograms (2,205 pounds).

V

Vein	A fissure, fault or crack in a rock filled by minerals that have travelled upwards from some deep source.

W

Wall rocks	Rock units on either side of an orebody. The hanging wall and footwall rocks of a mineral deposit or orebody.
Waste	Unmineralized, or sometimes mineralized, rock that is not minable at a profit.
Working(s)	May be a shaft, quarry, level, open-cut, open pit, or stope etc. Usually noted in the plural.

Z

Zone	An area of distinct mineralization.

APPENDIX II

GEOLOGIC OBSERVATIONS AT PEÑASCO QUEMADO, SONORA

BY

JASON B. PRICE, Ph.D. CPG

DATED: OCTOBER, 2017

Geologic observations at Peñasco Quemado, Sonora

Jason B. Price, Ph.D., CPG; Oct. 2017

The following observations are based on seven days of 5000-scale field mapping at Peñasco Quemado (PQ) in mid September, 2017.

1. PQ pit. (30.982308°N, 111.551104°W)

The main PQ pit near the ranch house hosts Mn-Ag-Pb mineralization in the form of black oxide crusts and whitish chlorides (cerargyrite/chlorargyrite) on clasts and in matrix in two host rock units that are separated by a moderate-angle normal fault marked by a 10 to 20-cm-thick cemented fault breccia. Given that this is the heart of the mineralized zone, I spent a little time here studying the rock units, which I describe more below.

Previous workers have called the hanging wall unit a conglomerate because it contains matrix-supported rounded to subangular clasts sitting in a gritty grey matrix. Clast sizes are generally <2 cm in long axis, although a minor proportion (c. 10%) of the clasts are cobbles up to about 15 cm in its long dimension. Pebble-sized clasts are nearly all angular or subangular, whereas cobbles tend to be subrounded to subangular. Clast composition is polymictic and includes a noteworthy proportion (c. 40%) of reworked intraclasts of crystal-lithic ash tuff, a composition nearly identical to that of the matrix. The rest of the clasts are dark hypabyssal feldspar porphyries (c. 40%), phaneritic granitoids (c.10%, but none observed to be mylonitic), and, of significance, highly friable pumiceous or glassy or argillized volcanics (<10%). The phaneritic granitoids show evidence for partial rounding via fluival transport or surface weathering, but the highly friable clasts almost certainly would not survive any appreciable transport distance or period of weathering. The conglomerate has a matrix of ash tuff or highly immature sandstone, and it is massive and exhibits no discernible bedding. In addition, the 20 cm of rock directly above the normal fault appears to be a highly immature sandstone or ash tuff and not a conglomerate at all. Given the tuffaceous matrix, the tuffaceous intraclasts, the small but important percentage of highly friable volcanic (pumiceous?) clasts, and the scant to absent bedding, I interpret this unit to be of volcanic origin that has been slightly reworked by water, and thus, I call this unit a lithic lapilli to block tuff, indicated by xllt on my field sheets. I note that minor reworking by water does not negate the use of volcanic terminology for the rock unit.

One possible explanation for the coexistence of highly resistant (granitoid) and highly friable (pumiceous?) clasts is that subrounded granitoid clasts may have already been sitting on the surface during eruption such that their rounding and weathering predated the volcanism responsible for the pumice This would necessitate that volcanism occurred on or near subaerially-exposed granitoids covered by weathered regolith, a tectonic scenario similar to one I have mapped in the Lava Hills, Mojave desert, California, in which small-volume OligoMiocene volcanic edifices are built directly upon a floor of earlier exhumed Cretaceous quartz monzonite.

To this point in the project, designating the PQ pit hanging wall as “conglomerate” has been misleading because there is another, younger, red bed pebble to cobble (to locally boulder, especially near the range front) conglomerate (essentially molasse) that is a decidedly younger, and largely unmineralized, unit. Careful study makes it impossible to confuse the two units, but a casual kicking about of the term "conglomerate" can make it hard to pinpiont drill targets. Thus, to reduce confusion the "pit conglomerate" should never be termed simply "conglomerate" as it is really a grey "reworked lithic block tuff," or "volcaniclastic conglomerate" that also contains local immature sandstone or reworked crystal ash tuff.

In the center of the PQ pit, the footwall unit is a reworked crystal-lithic ash tuff or possibly a localized highly immature sandstone that preserves some semblance of bedding, somewhat similar to a unit observed in the Smelter arroyo (Fig. 3H). However, a few meters away, on the west side of the PQ pit, the rock is so brecciated that it is hard to determine if the unit was originally bedded. Regardless, I am confident that the hanging wall and footwall are members of the same basal volcanic succession and therefore, throw on the fault must be limited to 10s of meters (likely ≤25 meters).

2. Suaréz Formation and its implications for tectonic history.

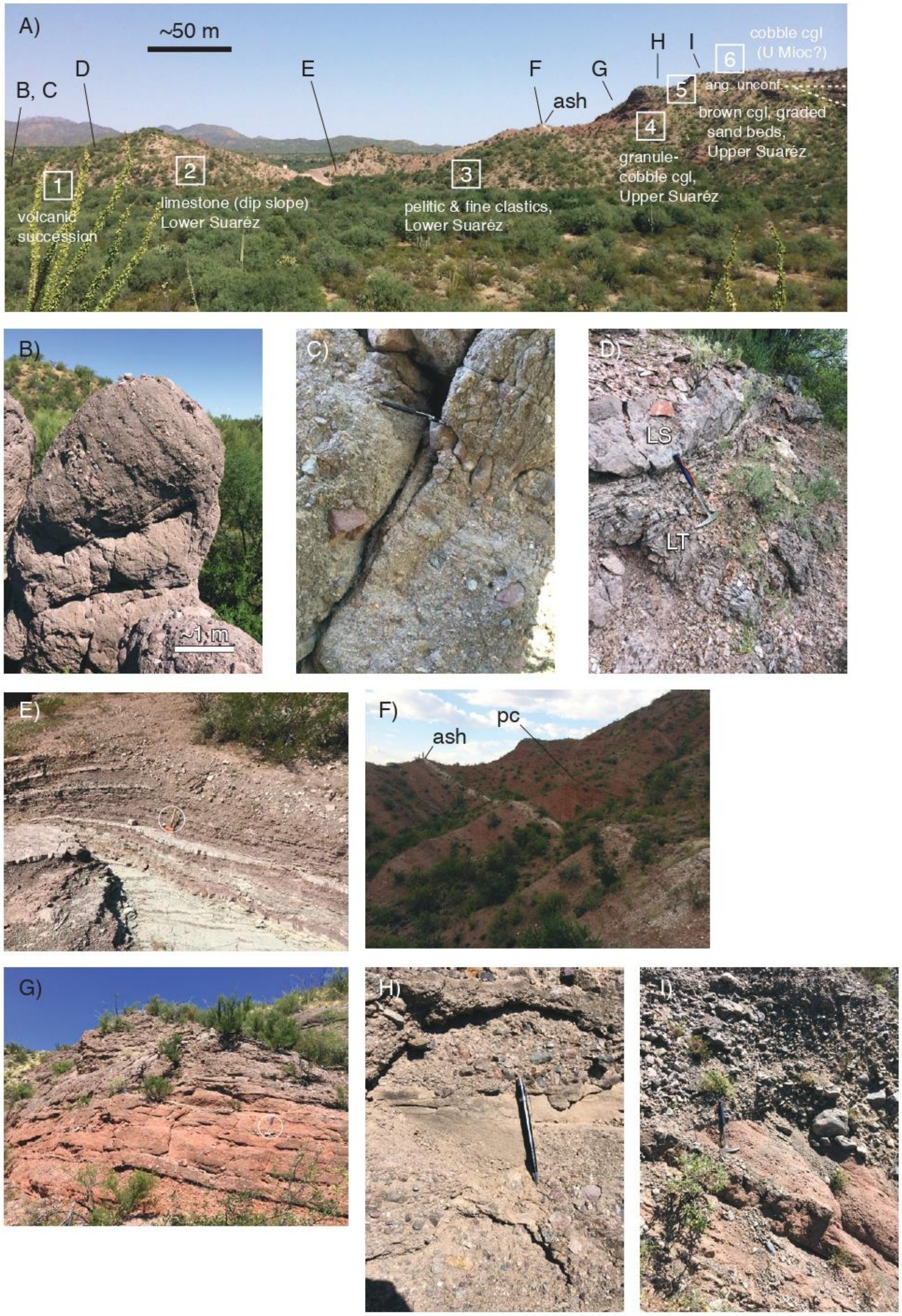
The hanging wall stratigraphy above the detachment fault has needed to be better documented in order to understand which sedimentary units are mineralized, how much throw exists on faults, and which units are the most prospective for a future drill project. To this end, the best exposures of the hanging wall stratigraphy occur about 3 km east of the PQ pit adjacent to the Suaréz arroyo (as named on the INEGI 1:250,000-scale topo sheet; near 30.986894°N, 111.514224°W), but the base of the section is not exposed there (or, at least, I have not found it there yet), and so I take the bottom stratigraphic units from the "Smelter arroyo" located about 250 meters southwest of the PQ pit (near 30.980572°N, 111.552604°W). I am reasonably confident but not positive that the dacite porphyry at the 'top' of the exposed section in the Smelter arroyo is the same unit as the dacite porphyry at the 'bottom' of the exposed section in the Suaréz arroyo, although it is possible that there are additional units between those two that have not been found in outcrop. Additional mapping will confirm this likelihood. Scraps of the lowest volcanic units are also found as boudins and "smeared blobs" in the San Luis breccia zone, but exposures there are not continuous enough to make confident stratigraphic picks.

Taking the Smelter and Suaréz arroyo sections together, a continuous and complete hanging wall stratigraphy can be defined as follows (Figs. 1, 2): 1. Volcanic and volcaniclastic succession (possibly marked by a disconformity at its top), 2. Lacustrine limestone capped by a discontinuous chert bed (or possibly a silicified zone), 3. Greyish-red, calcite-cemented, pelitic to psammitic sequence with a discontinuous white water-lain ash tuff near its top, 4. Red, coarse-grained, calcite-cemented gritstone and pebble to local cobble conglomerate with clasts that are commonly elongate and imbricated, 5. Brownish braided-stream system with non-imbricated subangular pebble to cobble conglomerate and graded overbank sandstone beds; all of which is capped by an angular unconformity of approximately 20-30°. Above the unconformity, 6. Yellowish cobble conglomerate with abundant granitoid clasts, some of which are mylonitic. This general sequence up to the angular unconformity is likely Oligo-Miocene in age and is believed (without having any isotopic or

Fig. 1. Measured (estimated) stratigraphic section of the hanging wall rocks exposed in the Smelter and Suaréz arroyos, near the PQ pit and at the east end of the property near the main access road and shrine, respectively. Boxed numbers in left column are distinctive lithostratigraphic subdivisions mentioned in the text. Starred dacite porphyry is probably the unit shared in common between the two localities.

name	description	unit thickness (m)	cumulative thickness (m)
6	gy pebble to cobble cgl, nearly clast-supported, first unit with definitive mylonitic cobbles; deposited post-detachment faulting	>20	> 20
	angular unconformity		
5	gy pebble to cobble cgl, clasts are subangular and not imbricated, local graded beds with gy-brn overbank sands; bedding is wavy and much less planar compared to the cgl below; probable braided stream system	~10	c. 70-80
UPPER SUAREZ 4	red pebble cgl, clasts v angular and imbricated; two different 1-m-thick beds of massive clast-supported pebble cgl	10-12	
	thin-bedded lt brown sandstone with a thin, chalky unit w strong fizz that may be another ash bed?	5	
	gritstone with calcite cement	5-8	
	pebble to cobble cgl, 10-20% of clasts are granitoids or quartz veins, also a distinctive chloritic schist not seen in rocks below; remainder of clasts are hypabyssal porphyritic rocks	10-15	
	white water-lain ash tuff, very local??	0.3	
	very coarse grained sandstone-gritstone-pebble cgl, color is more red, less grey; gritstone is calcite-cemented; clasts include greenschist and slickensided white quartz vein	30	
LOWER SUAREZ 3	red-grey-brown siltstone to coarse-grained sandstone	5-6	c. 106-112
	white water-lain ash tuff	<1	
	siltstone or fine-grained sandstone with interbedded arkosic gritstone in beds 10-20 cm thick	~20	
	red-grey-brown mudstone w 5-10 cm thick limestone beds; slope former	~25	
	arkosic gritstone interbeds to 10 cm thick in finer grained siltstone-sandstone sequence; calcite cement	~30	← *shrine*
2	lacustrine limestone to limey mudstone w thin cm-scale bedding; some 5-10 cm beds are arkosic marls	25-30	
VOLCANIC SUCCESSION 1	lithic-crystal ash tuff or immature sandstone(?) grades into lapilli to block tuff and tuffaceous conglomerate, cgl clasts ~90% porphyritic lithologies	lapilli-block-cgl, 25-30 m ash (ss?), 1-2 m	← *"pit cgl"?*
Suaréz arroyo	greenish-grey aphanitic andesitic lava	2-4	c. 85-109
	calcite-cemented arkosic pebble cgl, clasts to 1 cm dia.	10-12	← *"pit cgl"?*
	thin reddish siltstone or water-lain tuff	1-2	
	cream-buff colored limestone, not well bedded, local lens?	~2	
	v. friable dark gy lithic ash tuff with andesitic clasts to 8 cm across; when weathered, looks like dark grey mud	3-4	
	*grey dacite porphyry lava or welded tuff with some crystal fragments	>5	
Smelter arroyo	*grey dacite porphyry lava	>4	
	pale white ash tuff	3-6	
	greenish-grey andesite, commonly brecciated and cut by brown limonite-calcite veins	8-10	
	grey pumiceous crystal lithic lapilli to block tuff, poorly bedded, locally reworked by water	c. 25-30	← *"pit cgl"*

4


A)
~50 m
B, C
D
E
F
G
H
I
ash
cobble cgl
(U Mioc?)
6
5
ang. unconf.
4
brown cgl, graded
sand beds,
Upper Suaréz
1
volcanic
succession
2
limestone (dip slope)
Lower Suaréz
3
pelitic & fine clastics,
Lower Suaréz
granule-
cobble cgl,
Upper Suaréz
B)
~1 m
C)
D)
LS
LT
E)
F)
ash
pc
G)
H)
I)

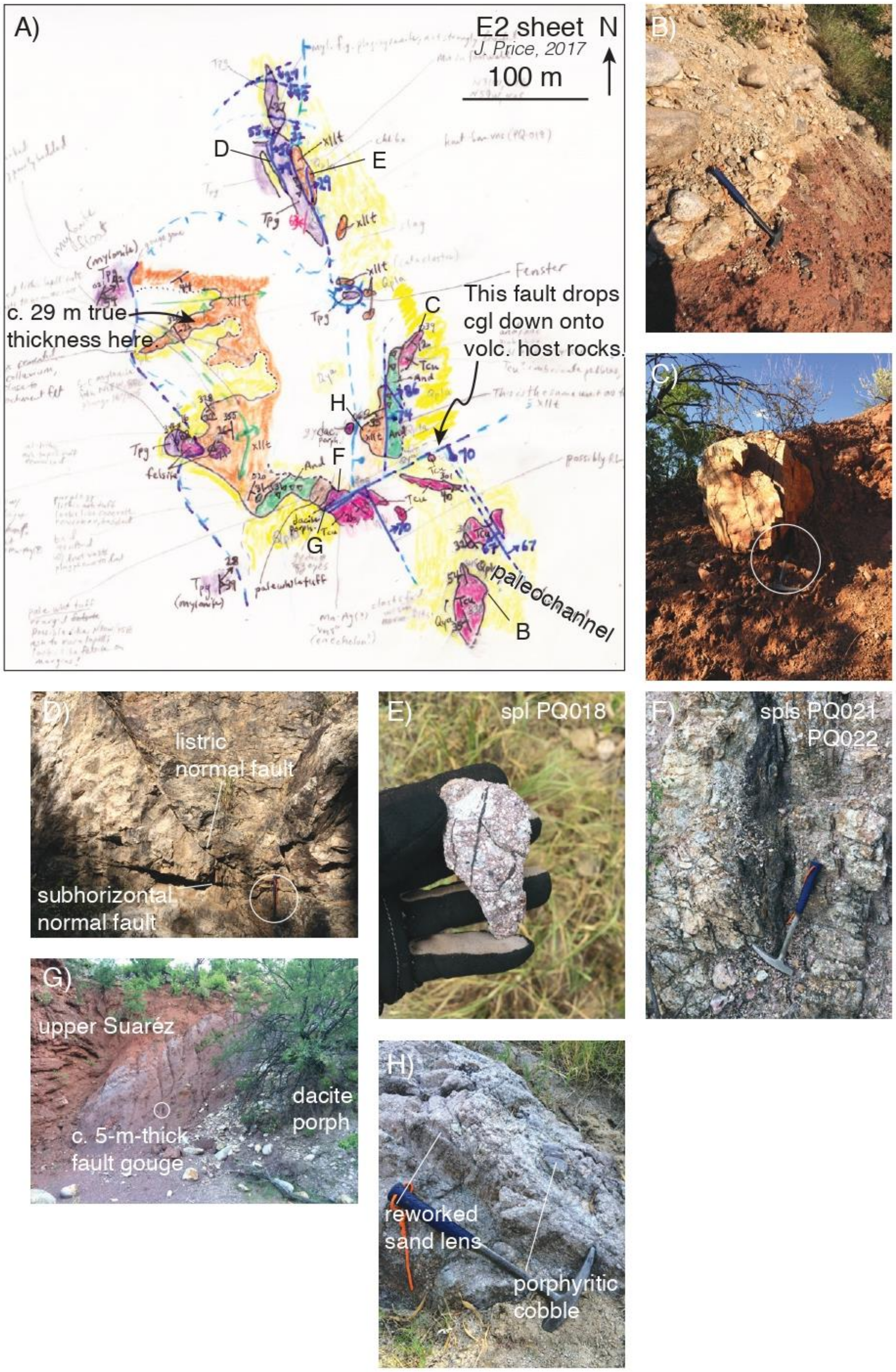
biostratigraphic constraints) to have been deposited mostly pre-detachment faulting. Because of the dramatic difference in character between the volcanic rocks (#1 above) and the quiet water carbonates and siliciclastics (#2 to #5 above), I distinguish the unnamed volcanic succession from the overlying lacustrine and fluviatile sedimentary rocks, which I call here "Suaréz Formation" and roughly divide as grey limestone and fine-grained siliciclastics in lower Suaréz and red coarse-grained siliciclastics (molasse) in upper Suaréz. Where deposited, the prominent ash layer (Fig. 2F) conveniently lies near the top of the lower Suaréz as an approximate marker horizon. The estimated aggregate thickness of the combined hanging wall units is 261-301 m, of which c. 100 m is represented by the volcanic succession alone (Fig. 1). Owing to its importance for hosting mineralization, the volcanic succession has been painstakingly subdivided during field mapping, so that units greater than c. 3 m thick are represented on the map. But in the heretofore unfavorable Suaréz formation, we lump some of the units, and the contacts are mapped as follows: 1. The immediate change from the volcanic succession to limestone (Fig. 2D), 2., The gradational change from limestone to carbonate-cemented pelitic rocks, marked by a silicified and/or chert bed (not observed in place), 3. The first red pebble conglomerate of appreciable thickness (e.g., greater than c. 30 cm) above the white ash bed ("pc" in Fig. 2F), and 4. The angular unconformity. Unfortunately, the entire Suaréz Formation from bottom to top contains calcite cement (strong fizz by dilute HCl found throughout the traverse), and so cement composition cannot be used to distinguish any of the units.

Of note, upper Suaréz contains only porphyritic and phaneritic clasts, and none were observed to be mylonitic. This fact suggests that upper Suaréz captured the rise and increased denudation of granitoids at the earth's surface, but mylonitic rocks were still not exposed until during or after the formation of the angular unconformity and deposition of the overlying yellow cobble conglomerate of probable middle to upper Miocene age.

Above the angular unconformity, the middle to upper Miocene(?) yellow cobble conglomerate is moderately cemented and forms cliffs to c. 5 m in height. The conglomerate is clast-supported, and clast composition overwhelmingly comprises phaneritic granitoids, some of which are mylonitized, with exceedingly few clasts of volcanic, metamorphic (e.g., schist), or sedimentary provenance. The maximum observed thickness of this unit is about 20 meters in paleocanyon-type channels close to the range front (Fig. 3A), but the unit is still preserved in a broad sheet >15 m thick near the Suaréz arroyo. Except for "Rhyolite Ridge", this unit covers all the older hangingwall rocks in the area, but since it is dominantly sourced from the detachment fault foot-

Fig. 2. Photos of the volcanosedimentary rocks in Suaréz arroyo as listed in the stratigraphic column in Fig. 1. A) Overview photo looking north of transect containing measured section. Letters indicate subsequent photos of each location. Boxed numbers correspond to those shown in Fig. 1. Main access road and shrine are visible in western third of photo. B) Rounded spire or hoodoo of pebble to cobble conglomerate with clasts of majority (~90%) porphyritic and minority (~10%) granitoid lithologies corresponds to the top of the Volcanic Succession shown in Fig. 1. C) Close-up of B. D) Steep (~60°) contact between limestone (LS; base of Lower Suaréz Formation) and poorly bedded lithic lapilli tuff (LT; top of the Volcanic Succession). E) Grey rhythmic layering of siltstone and fine-grained sandstone of the Lower Suaréz Formation. Hammer for scale. F) View north of distinctive water-lain ash tuff ("ash") that occurs near the top of the Lower Suaréz Formation. Base of Upper Suaréz Formation occurs at the first significant pebble conglomerate bed ("pc") above the ash. Ash bed approx 80 cm thick for scale. G) Upper Suaréz Formation showing the contact between red planar-bedded pebble to cobble conglomerate with imbricate clasts (below) and grey-brown wavy-bedded pebble to cobble conglomerate with non-imbricate clasts and graded sandstone beds (above) that indicates a slight reduction in depositional energy and change in bed geometry. Hammer (circled) for scale. H) Close up of graded gritstone to sandstone bed in upper brown unit shown in G. I) Angular unconformity at the top of the Suaréz Formation in which tilted brown or red pebble conglomerate is overlain unconformably by matrix-poor (almost clast-supported) pebble to cobble conglomerate dominated by granitoid lithologies (some of which are mylonitized). Development of angular unconformity is probably coeval with detachment faulting.

6


A)
E2 sheet
J. Price, 2017
100 m
N
D
E
C
H
F
G
B
c. 29 m true thickness here
This fault drops cgl down onto volc. host rocks.
paleochannel
B)
C)
D)
listric normal fault
subhorizontal normal fault
E)
spl PQ018
F)
spls PQ021 PQ022
G)
upper Suaréz
dacite porph
c. 5-m-thick fault gouge
H)
reworked sand lens
porphyritic cobble

wall (e.g., core of the range), it has not been observed to overlie the footwall; nor does it cover Rhyolite Ridge which means Rhyolite Ridge is either younger than the yellow cobble conglomerate (unlikely), or Rhyolite Ridge represents a significant paleotopographic barrier that prevented cobble deposition upon it (more likely). Near the Smelter arroyo and Rhyolite Ridge, the yellow cobble conglomerate is responsible for the ubiquitous granitic sand readily evident in aerial imagery.

Following the broad deposition of the yellow cobble conglomerate, there has been at least 60 m of incision by post-Miocene rivers all across the map area (e.g., the difference in elevation between the active stream channel in Suaréz arroyo and the capping yellow cobble conglomerate unit at the top of the measured section, Fig. 2I).

Finally, it should be noted that rocks in the hanging wall appear to be locally-derived, locally deposited, and discontinuous along strike, except perhaps for the upper Suaréz red conglomerate, which seems to occur in a broad apron on the south and east flanks of the range at least 10 km outward from the detachment fault. Even so, the thickest and best-preserved section of the sedimentary package thus far observed occurs several km away from the range front in and around Suaréz arroyo, and the section thins as one moves closer to the detachment fault at the range front, although it is unclear at present if this is because of structural thinning during detachment faulting or an actual decrease in depositional thickness. Clast size and degree of clast support, particularly for the Upper Suaréz conglomerate, increases with proximity to the range front. During formation of the volcanic succession, local paleotopography likely influenced the thicknesses and extents of individual volcanic units. By the time of lower Suaréz deposition, accommodation space was well away from the range front, and this space was filled by quiet water deposits--gentle streams and lakes punctuated by small floods. At the time of upper Suaréz deposition, fluvial energy and gravitational potential increased dramatically resulting in deposition of boulder conglomerates near the range front and broad bajada-type pebble- and cobble-bearing alluvial fans 10s of km outwards from the core of the range. Faulting (and tilting) occurred to form the angular unconformity, and then the yellow cobble conglomerate filled small paleocanyons in the Suaréz Formation and continued to be deposited as planar sheets well outward from the range front. In contrast to the upper Suaréz red conglomerate, the later yellow cobble conglomerate appears to have a much more uniform size distribution relative to the location of the modern range front compared to upper Suaréz; that is, upper Suaréz has its coarsest clasts adjacent to the range front and grades to smaller clasts outward from the range front, whereas yellow cobble conglomerate has similar sized clasts both adjacent to and distal from the range front (compare the clast

Fig. 3. Observations from the Smelter Arroyo. A) 1:5000 field sheet (E2) with locations of subsequent outcrop photographs labeled in capital letters. B) Angular unconformity between subhorizontal yellow cobble conglomerate that forms paleochannels (above) and tilted red cobble to boulder conglomerate of the Upper Suaréz formation (below). C) Boulder approx 65 cm in diameter in Upper Suaréz formation. Boulders are only observed near the range front; 41-cm-long hammer (circled) for scale. D) Listric normal fault joins a "flat fault" with 9° dip. These faults cut granitic basement. Hammer (circled) for scale. E) Black Mn-(Ag-Pb) veinlets cutting lithic lapilli tuff. F) Meter-scale tension-gash-type vein that is otherwise identical to E. This vein cuts altered dacite porphyry, which is 20-30 m higher in the stratigraphic section than the tuffaceous wallrock shown in E, and indicates the high probability that any of the basal Volcanic Succession may be mineralized. G) Impressive fault gouge in an approx. 70°-dip normal fault that drops Upper Suaréz conglomerate down onto dacite of the Volcanic Succession, a throw that could be between c. 20 and 200 m, down to the SSE. 66-cm-long hammer with tassel (circled) for scale. H) Partially reworked lithic ash to lapilli to block tuff exhibits local lenses of sandstone and overall crude bedding that has, in places, a measureable attitude. This lithology is consistent with that found in the PQ pit, although it is not a perfect match for either the hanging wall or footwall.

sizes of yellow cobble conglomerate in Figs. 2I and 3B: In fact, an argument could be made that a coarser size fraction occurs away from, rather than adjacent to, the range front for the yellow cobble conglomerate).

3. Detachment faulting and general structural geometry.

The structural geology of the area is defined, first and foremost, by a detachment fault that pulled hanging wall Oligocene and younger(?) volcanosedimentary rocks off the top of the mylonitic granitoids that core the mountain range to the north and west. As with other metamorphic core complexes I have examined in California, Arizona, and Sonora, the puzzle is how unmetamorphosed volcanosedimentary rocks sit, in some places, directly on mylonitized granite and in other places are separated from mylonite by a younger syndeformational felsite (fine-grained leucogranite) sill. The mystery of course lies in the fact that several km of crust are missing between the granitoids and the sedimentary cover rocks, and yet the deformation in the sedimentary hanging wall does not come close to matching the deformation and metamorphism observed in the footwall. Specifically, textures in the granitoid footwall include a fine grained leucocratic felsite-like body with wispy greyish quartz bands (possibly high-temperature ductile veins) in a plagioclase matrix and a classic L-S tectonite of leucocratic granite with a well-developed stretching lineation. In both the "wispy felsite" and the L-S tectonite, there are prominent muscovite flakes that comprise about five modal % of the rock. The muscovite, I believe, is a late Barrovian-like overgrowth on the mylonite, essentially a thermal overprint that post-dates penetrative stretching (also observed in the Lepontine dome of the Alps). Muscovite grains could prove highly useful for measuring an Ar/Ar cooling age for these rocks. The felsite sill lacks the conspicuous muscovite overprint, and I interpret the sill to be syn- to late-kinematic in age. Deformation in the felsite is brittle, not penetrative-ductile, in nature. Since the muscovite appears to be metamorphic in origin, its presence or absence is a key discriminant when determining if a fine-grained sheared rock is mylonitic plagiogranite or non-penetratively deformed felsite.

Whereas regional mylonitic fabric in Sonora and Arizona tends to have a SSW-trending stretching lineation (e.g., Nourse et al., 1994), I observed stretching lineations in the L-S tectonite that trend both SSW and NNE as well as a few that trend NE. I interpret the SSW-NNE lineations to be part of a nearly horizontally-plunging cylindrical fold in the basement that post-dates the formation of mylonite, but I do not know how to interpret the sparse NE-trending lineations; perhaps as a refolding of the cylindrical fold (a corrugation, like a culmination or depression). In any event, the lineations suggest a multigenerational deformational history for the basement that likely spans Late Cretaceous to Miocene time, and the formation of corrugations may be the product of relaxation of the lithosphere subsequent to the substantial stretching and shearing that occurred during mylonite formation (corrugations like this are also observed in the Alps at orogen-scale). Of note, the mylonitic footwall is unaltered, although there are small workings in the footwall where favorable late, high-angle faults and fractures striking N30W to N60W have been weakly mineralized, e.g., in the "STW arroyo" (30.978466°N, 111.571278°W; STW being the names of the drillholes there) just west of San Luis breccia and c. 300 m east of San Luis breccia on a neighboring hillside (where sample PQ005 was collected)--both of these locations host barite-specular hematite-"copper oxide" mineralization.

Reinforcing the "corrugation" idea is the observation that the San Luis breccia zone and the main PQ pit are stranded klippe of hanging wall rocks that are now separated by a topographic ridge of mylonitic basement. The angles of the contacts, particularly at the San Luis zone, are such that they did not fault downward into that position (since there is no evidence for them being grabens bound by high-angle faults). More likely, and somewhat enigmatically, the surrounding granitic floor uplifted in epeirogenic fashion thereby stranding the two zones (which were probably originally interconnected and most likely already mineralized). An alternative, though perhaps related, possibility is that the two klippe sit in the troughs of large fault mullions, and this is indicated by the general map pattern of the hanging wall units at San Luis that are elongate in a southerly direction, apparently stretched approximately S. An important implication is that there could be another mineralized zone similar to the PQ pit to the east or northeast of the PQ pit in a hidden or covered mullion trough. I note that southeast of the PQ pit there is an old trench in the andesite (near where PQ008 was collected, 30.982841°N, 111.543443°W), that (assuming it is not floored by the detachment fault) sits above the favorable tuffaceous host rocks. It is possible that up-dip from this trench area, additional favorably mineralized zones may be found.

It must be stated here that the San Luis breccia zone is not a high-angle breccia zone and has no continuity with the underlying mylonitic granitoids. In addition, the favorable volcanic succession at San Luis breccia was highly attenuated during detachment faulting, and therefore it is not even a moderately prospective zone. The same is true for the PQ pit: No high-angle fault exists on the north-northwest side of the mineralized exposure, and there is very little depth continuity beneath the pit. Total depth of the mineralized zone is probably <30 m where the units undoubtedly get cut off by the fault, and towards the range front (trace of the detachment fault) these units taper to zero-thickness. On the north side of the PQ pit, the contact--a change from mineralized outcrop to yellow cobble conglomerate--is the approximate trace of the detachment fault. Therefore, there is no reason to drill north of the PQ pit unless the company wants to explore the mylonitic footwall.

Mapping in the Smelter arroyo (Fig. 3A) revealed a high-angle thick (gouge to c. 5 m), ~N70E-striking fault that drops Upper Suaréz red pebble conglomerate down onto the favorable volcanic succession (Fig. 3G). Near the fault in the volcanic footwall, several irregular "burnt" black veins (Fig. 3F) were observed (and sampled: PQ021, 022), which, presumably, are mineralized with Mn-(Ag-Pb). Given the proximity to the fault, it is highly likely that favorable mineralization continues underneath Upper Suaréz cover in the down-thrown block. This area must be drilled. This fault appears to offset the granitic basement, although I have not yet documented that via mapping. If it does offset the basement, it is a post-detachment normal fault; if it does not offset basement, it is a syn-detachment tear fault in the hanging wall. Also, a word of caution: the volcanic units in the San Luis breccia area are boudinaged fragments of what used to be a coherent stratigraphy. It is quite possible that in the down-thrown block underneath upper Suaréz cover, drilling will find the same thing, namely, in one hole there would only be a very thin veneer of favorable host lithology and in another hole there would be a thicker section. Drilling then, may encounter 3-D boudinaged forms of the volcanic succession, and that must be anticipated going into the drill program. If this is in fact the case, expect to find approximately S-trending thickened zones (or thoroughly attenuated zones) that mimic the overall mullion-like geometry as indicated by the San Luis and PQ pit klippe. But, emphatically, the drill program must not be stopped if the first few holes drill out of Upper Suaréz red conglomerate straight into mylonitic basement. Perhaps, in that case, you have drilled into an attenuated zone and need to step west or east to find a thickened zone of volcanics.

4. On the possibility of an important late, brittle overprint.

The current property-scale geologic map shows the La Fortuna area as an elongate NNW-striking dike-like body, somewhat similar to the NNW-strike geometry of Rhyolite Ridge, which also appears to be a dike. The fact that those two bodies are elongate and essentially parallel to each other leads me to believe that they could be part of a large zone of *en echelon* tension gashes that runs across the south end of the range and post-dates the detachment fault. If either of these zones provide favorable assay results, a model should be considered wherein several of these 100-m-scale bodies could step their way across the southern flank of the range in a large left-stepping dextral shear sense. Such a structural zone would also cut the basement, and that could provide depth continuity needed for a large orebody. Generally speaking, the Peñasco Quemado area lacks depth continuity, and with only a few exceptions, "what you see (at surface) is what you get."

Related to this idea, but at an order of magnitude smaller scale, are veins that I mapped in the STW arroyo, which are left-stepping *en echelon* veins that suggest the presence of a NW-striking dextral shear zone that is restricted to the footwall (not evident in the hanging wall). Additional mapping will help to determine the size and strike-length of this shear zone, but at this point, it is likely that the small structure mapped at sample PQ005 is related to the STW shear zone (where PQ009 was collected).

5. Timing and continuity of mineralization.

The only indication I have found for the timing of mineralization is the high likelihood that the San Luis breccia zone and the PQ pit are laterally continuous ore zones that were originally connected in space. This suggests that mineralization predates the epeirogenesis that brought the intervening basement ridge up between the two zones. Mineralization may, therefore, be synchronous with the inception of detachment faulting: Presumably the upward motion of the granitic basement forced fluids out into the favorable volcanic succession which originally rested unconformably upon the granitic basement (in some other location obviously; perhaps in the center, or even north side, of the mountain range). Mineralization could also predate detachment faulting, although it cannot be older than the volcanic succession host rock, which is presumably Late Oligocene (c. 25-22 Ma) in age.