NI 43-101 Technical Report
Preliminary Economic Assessment and Mineral Resource Estimate for the Cerro de Oro Project
Zacatecas State, Mexico

Report Prepared for:

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Effective Date: September 28, 2022

Report Date: January 5, 2023

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1 SUMMARY

1.1 Project Overview

The Cerro de Oro project (Cerro de Oro or the Project) is in the Concepción del Oro mining district, 3 kilometres (km) from the town of Melchor Ocampo in the State of Zacatecas, Mexico. The Project is near the Zacatecas–Coahuila state line at 24.84° north latitude, 101.62° west longitude or in Universal Transverse Mercator (UTM) coordinates, Zone 14N, 234837 east, 2749794 north (NAD 27). The state's capital is Zacatecas City (population 369,000 in 2020), 310 km south. The Project can be accessed by road from Saltillo, the state capital of Coahuila (population 984,000 in 2020), 165 km northeast. The City of Monterrey (population 4,874,000 in 2020) is 242 km northeast and is a major urban centre with an international airport.

The climate is semi-arid, with warm to hot summers and mild, dry winters. Average annual rainfall is about 338 millimetres (mm), with the heaviest rains occurring between June and September—the rainy season. Exploration, development, and operations can be conducted year-round, although the rainy season has the potential to create some short-term difficulties with respect to accessibility.

Over the last decade, small miners and/or prospectors (known locally as gambusinos) have been drawn to the area by the presence of high-grade gold mineralization. While the presence of their activities is visible from the surface, there are no records that document how long these activities have been occurring, nor any record of metal production.

There have not been any recent development activities or any commercial-scale operations conducted on the Property.

Exploration and small-scale development activities are believed to have occurred in the early 1900s. These initial activities primarily included a series of exploration pits, shafts, and adits around the Cerro de Oro hill that lies in the centre of the concession area. Two adits were developed into the Cerro de Oro hill. The longest of these, the Zacatecas adit, was developed 156 metres (m) and shown possibly to connect to irregular shafts that follow mineralized chimneys. The second adit, denoted Occidental, is approximately 119 m long and has no internal workings. Detailed surveys and sampling from these early works were not completed until the second half of the 1900s.

Minerales Noranda S.A. de C.V. completed exploration activities on the property in the 1990s. Noranda completed mapping, trenching, and a series of drill programs that included reverse circulation (RC) and diamond drilling. Following the completion of Noranda's programs, only a limited amount of sampling, mapping, and data compilation was completed on the property until 2017, when Minera Mexico Pacific optioned the property. Between 2017 and 2018, Minera Mexico Pacific completed additional trench sampling and two RC drilling programs totalling 4,272 m. On August 4, 2020, Minera Alamos Inc. (Minera Alamos or the Company) acquired the property.

This report represents the first Preliminary Economic Study (PEA) for the Project. The PEA envisages a conventional truck and front-end loader open pit operation that uses 100-t trucks and approximately 11.5 m^3 front-end loaders. All mining activities will be completed by a contractor under the supervision of Company staff, who will be responsible for mine planning, grade control and other technical aspects of the Project. The process design for the Project includes crushing of higher grade material to less than ¾–7/8" (30% to 35% of the total with the remaining low grade sent to the leach pad directly as run-of-mine [ROM]), a heap leach pad, solution ponds and carbon recovery of gold from pregnant leach solutions. The current design excludes carbon desorption and gold refining facilities, as gold-loaded carbon will be shipped off-site for final doré production.

1.2 Geology and Mineralization

Cerro de Oro is in the Sierra Madre Oriental and lies within the geological province of the Mexican Fold and Thrust Belt (Ortega-Gutierrez, 1992). This region is characterized by synclines and anticlines with east-to-west orientations and north-northeast vergence, composed of Mesozoic sedimentary marine sequences that were cut by late Eocene to mid-Oligocene intrusive rocks.

Mineralization at the Project occurs within a granodioritic porphyritic stock and within its enclosing sedimentary country rocks. The sedimentary rocks that host mineralization mostly belong to the Indidura and Caracol Formations, and include calcareous siltstone and shale, sandstone, and limestone. Much of the mineralization is hosted by the metamorphosed equivalents of these sedimentary rocks, hornfels and skarn that have been uplifted by the intrusion of the granodiorite stock. Mineralization consists dominantly of pyrite that is widely disseminated throughout the porphyritic granodiorite, and in hornfels and skarns developed at contact with the predominately limestone sedimentary rock units.

The Cerro de Oro deposit is typical of a porphyry system and is characterized by the development of magnetite and quartz veins (A and B veins). These veins developed during an early potassic alteration phase and were later overprinted by silica and sericite (phyllic overprinting) within the inter-mineral porphyritic intrusive phases. These phases form part of the overall intrusive complex, with the gold resources at the Project primarily hosted by the porphyritic granodiorite.

1.3 Exploration Status

Minera Alamos has not carried out exploration activities at Cerro de Oro since acquiring the rights to the Project. The Company has completed the required surface rights agreements for the Project and is in the process of planning and initiating an exploration campaign.

1.4 Mineral Resource Estimates

1.4.1 Data

Extensive quality assurance and quality control (QA/QC) and data validation were performed to thoroughly verify the data from the Noranda drilling campaigns in the 1990s and the drilling campaigns completed by Minera Mexico Pacific in 2017 and 2018. Sample certificates from these programs were reviewed in their entirety, and data comparisons were conducted to verify the results. The Noranda drilling campaign used appropriate methods at the time, including QA/QC procedures. The Minera Mexico Pacific drilling campaigns used modern techniques and QA/QC procedures. The author finds that the data are reliable for the purposes of this Technical Report.

1.4.2 Resource Estimate

This Technical Report represents the second Mineral Resource estimate for the Cerro de Oro Property. The estimate has been prepared with the assistance of Leonardo de Souza, MAusIMM (CP) and has been reviewed and verified by Scott Zelligan, P.Geo., an independent Qualified Person (QP) as defined in NI 43-101. Mr. Zelligan is the QP for the estimate of the Mineral Resource contained in this Report, which has an effective date of September 28, 2022.

The Resource was classified according to the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) *CIM Definition Standards for Mineral Resources & Mineral Reserves* (CIM Definition Standards). The classification considered the drill and sample spacing, QA/QC, deposit type, the absence of representative density measurements, and the need to develop a lithological model. The estimate used an indicator model and the inverse distance squared (ID^2) method to interpolate gold grades. The density used for the oxide zone is 2.55 tonnes per cubic metre (t/m^3).

The model for Cerro de Oro was prepared using Leapfrog GEO (version 5.1.0) and Datamine Studio RM (version 1.6.87.0). Leapfrog was used for the mineralized solid modelling via gold-grade indicator interpolation. Datamine was used for the grade estimation, which consisted of three-dimensional (3-D) block modelling and the ID^2 interpolation method.

As part of the review and verification process, Mr. Zelligan was provided with the original or raw data set that included all collar, survey, and assay files, as well as the Leapfrog Project and Datamine files created by Mr. de Souza for estimation purposes. This information was used to confirm the selection of composite length, the approach to grade capping, parameters used to create the indicator model, the approach to density modelling, the interpolation, and to recreate the resource model and estimation. Further verification work included the creation of a declustered data set from the drill hole files to check the impacts of grade smearing, additional model runs to evaluate the sensitivity to changes to input parameters, and visual validation by review of plan and vertical sections (on 25 m spacing) against the original drill holes, composites, the declustered data set, and the final model. Mr. Zelligan's review confirmed the estimate of Mineral Resources provided by Leonardo de Souza and satisfies the QP requirements of NI 43-101 and the CIM Definition Standards.

The Inferred Mineral Resource estimate for Cerro de Oro is shown in Table 1-1.

Table 1-1: Cerro de Oro Project, Estimate of Mineral Resources

Resource Category	Material Type	Tonnage (Mt)	Au (g/t)	Au (oz 000s)
Inferred	Oxide	67	0.37	790

Notes:

- The independent QP for the Mineral Resource estimate, as defined by NI 43-101, is Scott Zelligan, P.Geo. The effective date of the Mineral Resource estimate is September 28, 2022.
- A gold price of $1,700/oz was used in the calculation of the Mineral Resource.
- The estimate is reported for a potential open pit/heap leach scenario.
- The limits of the Resource-constraining pit shell assumed a mining cut-off based on a total operating cost (OPEX) (mining, milling, and general and administrative [G&A]) of $8.80/t stacked, a metallurgical recovery of 70%, and a constant open pit slope angle of 45°. This constraining pit shell contained a total volume of 84 million tonnes (Mt). Inferred Mineral Resources are too speculative geologically to have economic considerations applied to them.
- The gold cutoff grade applied to oxide mineralized material is 0.15 grams per tonne (g/t) Au.

- The Mineral Resource are not Mineral Reserves, as they do not have demonstrated economic viability.
- The Mineral Resource estimate follows CIM Definition Standards.
- Results are presented in situ. Calculations use SI units: metres, grams, tonnes.
- The number of tonnes has been rounded to the nearest million.
- The QPs of this Report are not aware of any known environmental, permitting, legal, title-related, taxation, sociopolitical, marketing, or other relevant issues that could materially affect the Mineral Resource estimate other than those disclosed in this NI 43-101 compliant Technical Report.

1.5 Mining Methods

The Cerro de Oro project is planned as a conventional open pit mine. The mine will consist of two open pits denoted the north and south pits. Mining will initially commence in the south pit and will expand into the north pit as the mine plan progresses. It has been assumed that a mining contractor will be used for all drilling/blasting/ loading and hauling activities. The Company will oversee mining activities, planning, grade control, and other technical-related services.

A fleet of 100-t haul trucks and front-end loaders in the 11.5 m^3 range have been used for this Technical Report. This mining equipment size is common in Mexico, and contractor availability is currently high, yielding competitive rates.

Mine plan phases have been developed to bring higher-grade material forward and minimize strip ratios earlier in the mine life.

Table 1-2: Cerro de Ore Annual Mine Schedule

Year	Mineralized Tonnes	Au (g/t)	Contained Gold (oz)	Waste Tonnes	Total Tonnes	Strip Ratio
1	6,536,612	0.44	93,435	693,394	7,230,006	0.11
2	6,645,988	0.41	87,254	1,849,643	8,495,631	0.28
3	7,499,879	0.41	98,986	2,496,696	9,996,575	0.33
4	7,508,224	0.42	100,773	3,223,998	10,732,222	0.43
5	7,202,634	0.32	73,815	3,301,171	10,503,805	0.46
6	7,737,702	0.37	91,261	2,778,248	10,515,951	0.36
7	7,500,015	0.32	76,940	3,237,229	10,737,244	0.43
8	7,500,678	0.27	65,015	302,195	7,802,873	0.04
9	1,164,176	0.36	13,418	254	1,164,430	0.00
Total	**59,295,909**	**0.37**	**700,897**	**17,882,828**	**77,178,737**	**0.30**

Note: The production schedule uses an average density of 2.55, consistent with the density used for resource estimation.

Table 1-3: Process Schedule

Year	Total	1	2	3	4	5	6	7	8	9
Contained Ounces	700,897	93,435	87,254	98,986	100,773	73,815	91,261	76,940	65,015	13,418
Recovered Ounces	476,610	63,536	59,333	67,310	68,526	50,194	62,057	52,319	44,210	9,124

Note: The recovered ounces have been estimated using a flat life-of-mine (LOM) Metallurgical Recovery of 68%.

1.6 Metallurgy

1.6.1 Historical Testwork

Minera Mexico Pacific completed the majority of the metallurgical testwork at the Cerro de Oro project from 2016 to 2018. This testwork consisted predominantly of standard bottle roll cyanidation studies on RC exploration chips (<2 mm particle size). A few coarse rock bottle and column tests were also completed on surface materials. Samples were taken from the main mineralized lithological units (endoskarns and hornfels), predominately from the oxide zone. A limited number of sulphide transition zone samples were tested.

1.6.2 Metallurgical Testwork Programs

The main findings of the metallurgical studies to date can be summarized as follows:

- Gold mineralization appears to be well disseminated through the host rock, with little correlation to rock particle size distributions.
- Oxide gold mineralization responds positively to gold cyanidation, with residual gold contents (unrecovered gold) typically in the range of 0.10 g/t Au or lower, regardless of variations in sample head grades.
- Bottle roll test samples (RC drill chips) had an average head grade of 0.42 g/t Au (similar for oxide and mixed sulphide transition material), corresponding to a metallurgical recovery in excess of 75%.
- Bottle roll-test leach recovery kinetics were generally rapid (majority of gold extracted from RC chips in less than 24 hours).
- Bottle roll tests using coarse particle sizes (minus 2" material) produced gold recoveries similar to those observed with RC chip samples.
- Three column samples (minus 2" material) resulted in leach extractions consistent with those performed using coarse bottle roll methods.
- Reagent consumptions were consistently in the low to moderate range expected for heap leach gold projects.
- While the majority of the historical testwork focused on the oxide mineralization, the results from a limited number of mixed/sulphide transition samples did not appear significantly different from what was observed with the oxide material.
- LOM recovery of 68% has been assumed for the PEA.

1.7 Mineral Processing

The Cerro de Oro gold recovery facilities will consist of the following unit operations:

- Low-grade ROM material leach pad loading via direct truck dump.

- Two-stage crushing (jaw and cone) and screening operations for higher grade mine material with conveyor/stacker transport to leach pad.
- Lined heap leach pad area sufficient to handle current LOM resource (40%–50% constructed initially as the first phase with subsequent expansions).
- Lined leach solution ponds adjacent to the leach pad–barren, pregnant and emergency overflow solution capacity.
- Four trains of four-stage carbon in columns with an area to expand to six trains.
- All required process pumping and loaded and barren carbon handling.
- Reagent preparation and storage facilities.
- Metallurgical laboratory (necessary production samples only).
- Utilities including water supply system (surface wells) and diesel power generation.

1.8 Environmental and Permitting

There are no known existing environmental liabilities associated with the Cerro de Oro Project. The Project is in a region of Zacatecas State where mining has been carried out in the past (small-scale underground mines) and where it is currently being pursued on an adjacent claim.

In June 2022, Minera Alamos announced the formal conclusion of agreements to rent a total of 833 ha (656 ha in the municipality area and 177 ha in the Ejido area, which is immediately adjacent and to the east of the municipality) following a final general meeting held with the Ejido. Both agreements are for a period of 25 years and cover all activities necessary for the permitting and development of a mining operation. As part of the process, the Company committed to make annual rent payments, conduct a program of limited social works in both communities and that qualified residents of these communities would have preference for employment once the mine is in operation.

The Company will continue to work with its consultants on the preparation of two permit applications for submission to the federal government's Secretariat of Environment and Natural Resources (SEMARNAT), namely the Environmental Impact Statement (Manifestación de Impacto Ambiental or MIA), and the Technical Justification Study (Estudio Técnico Justificativo or ETJ), which also includes the Change of Land Use (Cambio de Uso de Suelo or CUS).

1.9 Capital Costs

The capital cost estimate was divided into initial capital and production "sustaining" capital. Pre-production capital includes all mine and process costs up to the initiation of commercial mining operations. Total pre-production costs at the Cerro de Oro project are estimated at $28.1 million. Sustaining capital costs over the LOM are estimated at $14.7 million for a total Project capital cost of $42.8 million. A breakdown of the Project capital costs is summarized in Table 21-1.

The Company decided that the following strategies would be incorporated into the Project design to reduce the initial capital requirements:

- All open pit mining operations and associated capital costs would be the responsibility of an independent mining contractor (including installation of mine maintenance facilities).

- An existing crushing plant purchased previously by the Company will be used for site crushing operations.
- Personnel will stay in the local municipality eliminating the requirement for mine site camp facilities.

The Company's management has been involved with constructing multiple gold heap leach operations with similar designs as proposed for the Cerro de Oro project; this includes the recent Santana gold project that commenced production in 2021. The capital cost data from these projects has been compiled and made available as a reference for the Cerro de Oro project estimates.

Table 1-4 Project Capital Costs

Area	Initial ($)	Sustaining ($)	Total ($)
Preproduction Technical Work and Engineering (geotechnical drilling, etc.)	1,500,000	1,500,000	3,000,000
Infrastructure and Miscellaneous Construction (excluding crushing)	3,000,000	-	3,000,000
Process Plant	3,400,000	-	3,400,000
Pad Construction	7,000,000	13,200,000	20,200,000
Pond Construction	2,700,000	-	2,700,000
Crushing and Stacking Refurbishment	2,000,000	-	2,000,000
Substation, Miscellaneous Power	2,000,000	-	2,000,000
Contingency (30%)	6,480,000	-	6,480,000
Total Project	**28,080,000**	**14,700,000**	**42,780,000**

The pre-production capital cost estimate of $28.1 million includes the construction of stand-alone gold recovery facilities, Phase 1 of the heap leach pad construction and all necessary site infrastructure to bring the mine into production. A conservative 30% contingency has been included to account for capital requirements that are not detailed in the current study.

1.10 Operating Costs

The total unit operating cost (OPEX) for the Project is estimated at $6.66/t of mineralized material, including provision for general and administrative (G&A) expenses. Operating costs were developed based on first principles where possible, including estimated staffing levels, reagent consumptions, and power requirements. Unit cost allowances for items such as maintenance and supplies are based on information from Minera Alamos's Santana Gold Project and similar heap leach operations in Mexico. Power requirements for the process operation were estimated based on operating equipment motor sizes, and plant availability. The cost of diesel fuel that was used in the estimate is $1.10/litre (L). Power for the crushing system is assumed to be supplied by the nearby power grid at a price of $0.13/kWh. An overall contingency of 20% was applied to the OPEX totals to account for additional cost items such as outside contractors, laboratory consumables, vehicle fuel, and other items.

All mine operating activities are assumed to be the responsibility of a third-party mining contractor. Contractor rates include drilling, blasting, loading and transportation of the waste/mineralization. Costs for the Company mine services group were prepared separately and are included in the G&A. LOM OPEX is summarized in Table 1-5. Annual operating expenditures in the economic model for the Project (See Section 22) vary based on the proposed annual mine schedule and the unit costs provided below.

Table 1-5: Project Operating Cost Summary

Area	Cost ($/a)	Mineralized Material[1] ($/t)	Mined[2] ($/t)
Open Pit Mining[3]	20,300,000	2.90	2.23
Crushing[4]	3,658,000	0.52	0.40
Processing	16,038,000	2.29	1.76
G&A	2,259,000	0.32	0.25
Contingency (20%)[5]	4,391,000	0.63	0.48
All-in Operating Costs	45,646,000	6.66	5.13

Notes:
[1] "Mineralized Material" represents mined material estimated to generate positive cash flows.
[2] "Mined" means total tonnes mined (mineralized + waste).
[3] Open pit mining cost is $2.00/t for waste and $2.30/t for mineralization. A cost of $0.30/t mineralization has been included in the base case mining cost for mineralization to account for longer haulage routes to the leach pad.
[4] Crushing costs are calculated per tonne of mineralized material to leach pad (or mined), assuming 30% of mineralized material is crushed (crushing unit cost is estimated at $1.74/t of crusher feed material).
[5] Contingency is applied to OPEX, excluding current mining contractor rates.

1.11 Economic Analysis

Using a gold price of $1,600/oz, the production schedules and operating and capital costs developed as part of this PEA, an estimate of the Project after tax-free cash flow has been made. The underlying assumptions and parameters that have been used are as follows:

- All units of measurement are metric unless otherwise stated.
- All values are United States dollars unless otherwise stated.
- No inflation is assumed (all dollars are real dollars).
- The gold price ($1,600/oz) is based on the conservative end of a review of recent consensus long-term pricing studies reviewed by the author.
- Overall life-of-mine (LOM) average gold recovery of 68%.
- The model allows for a one-year pre-production period from the point of a construction decision; this should be more than sufficient time to complete pre-production activities and to finish the Project construction and start-up.
- The model assumes an 8.2-year mine life.
- The processing plant produces a gold "loaded carbon" product sent off-site for final gold doré production. Transportation and processing costs for the loaded carbon are based on current Company costs for loaded carbon produced at its Santana mine in Sonora, Mexico.
- Operating cost estimates:

  - Mining costs are based on typical rates for similar gold open pit operations in Mexico, including the Company's Santana mine.
  - An additional allowance was included to compensate for extra haulage distances from the open pit to the heap leach pad over the LOM.
  - Processing costs as developed for the Project are based on metallurgical testwork completed to date, along with data from other gold projects that have similar unit operations.
  - Labour costs are based on the Projected workforce summary for the Project.
  - G&A costs estimated from other Minera Alamos operations appear reasonable in the author's opinion.
- Capital costs are relatively low and are based on the recent (2020/2021) construction costs from the Company's Santana project and adapted as necessary based on the preliminary engineering work completed for Cerro de Oro. The Company has already purchased a used crushing plant which can be adapted to the Project. There are no provisions for mining capital, as all mining will be performed by a Mexican-based contractor.
- Sustaining capital estimated (starting in Year 2) at a rate of $0.25/t of material stacked on the leach pad as additional pad area will be constructed in phases. Total sustaining capital for the LOM is consistent with the ultimate area of new leach pad to be constructed after Phase 1 with an additional allowance for other related ancillaries.
- The economic model assumes 100% equity-based financing.
- The model calculates book depreciation using both the Units of Production (UOP) and straight-line methods.
- Taxes and government royalties deducted by the economic model include:
  - Special Mining Duty—7.5% of earnings before income tax, depreciation and amortization. The Special Mining Duty is deductible for corporate taxes (see below).
  - Extraordinary Mining Duty—0.5% of gold and silver net smelter return (NSR). Also deductible before calculating Mexican Corporate Taxes.
  - Mexican Corporate Taxes—30% of net income where net income is defined as cash operating profit less the above duties and any opening tax pools and depreciation.
- FCF is calculated as NSR less:
  - Operating costs
  - Mining duties and taxes
  - Capital investment
  - Net changes in working capital.

On an after-tax basis, the Project returns an internal rate of return (IRR) of 111% and a payback period of 11 months from the start of mine production. In addition, the total undiscounted free cash flow is $200 million and the NPV at various discount rates are:

- 5%—$150.5 million
- 8%—$128.1 million
- 10%—$115.5 million.

Table 1-6 presents a summary table that contains a list of the inputs and the results of the economic analysis of the Cerro de Oro project.

Table 1-6: Summary of Model Inputs and Results

Item	Unit	
Production and Revenue		
Preproduction Period	years	1
Mine Life	years	8.2
Preproduction Waste Stripping		None
Production Waste Stripping	Mt	17.9
Total Waste Mined	**Mt**	**17.9**
Mineralized Material to Leach Pad Directly (ROM)	Mt	41.5
Gold Grade	g/t	0.27
Mineralized Material to Crushing	Mt	17.8
Gold Grade	g/t	0.61
Total Material to Leach Pads	**Mt**	**59.3**
Gold Grade	g/t	0.37
Gold Recovered in Loaded Carbon/Doré		
Gold	oz	476,610
Metal Prices		
Gold	$/oz	1,600
Total Revenue	**$ million**	**762.6**
Operating Costs		
Waste Mining (waste)	$/t	2.00
Mineral Mining (mineral)	$/t	2.00
Additional Haulage (LOM) (mineral)	$/t	0.30
Crushing (crushed)	$/t	1.74
Processing (mineral on leach pad)	$/t	2.29
General and Administration (mineral)	/t	0.32
Contingency (mineral)	$/t	0.63
Waste Mining (Total)	$ million	35.8
Mineral Mining (Total)	$	118.6
Additional Haulage (LOM)	$	17.8
Crushing (Total)	$	31.0
Processing (Total)	$	173.1
General and Administration (Total)	$	19.0
Doré Production, Refining, Selling (Total)	$	6.2
Total Operating Cost	**$**	**401.5**

Item	Unit	
Economic Results		
Operating Cash Flow	$ millions	361.1
Less:		
Expansion Capital	$	28.1
Sustaining Capital	$	14.7
Special Mining Duty	$	27.1
Extraordinary Mining Duty		3.8
Mexican Corporate Taxes		87.5
Free Cash Flow		200.0
After Tax Results		
Free Cash Flow to Project	$ millions	200.0
Project IRR	%	111
NPV		
Discounted at 5%	$	150.5
Discounted at 8%	$	128.1
Discounted at 10%	$	115.5
Payback Period (from start of production)	months	10.4
Operating Costs per ounces Gold Sold	$/oz	842
All-in Sustaining Costs per ounces Gold Sold	$/oz	873
Breakeven Gold Price	$/oz	953

Note: The author has used the World Gold Council definitions of Operating Costs and All-In-Sustaining Costs. In the current project, All-In-Sustaining Costs include OPEX plus sustaining capital less by-product credits.

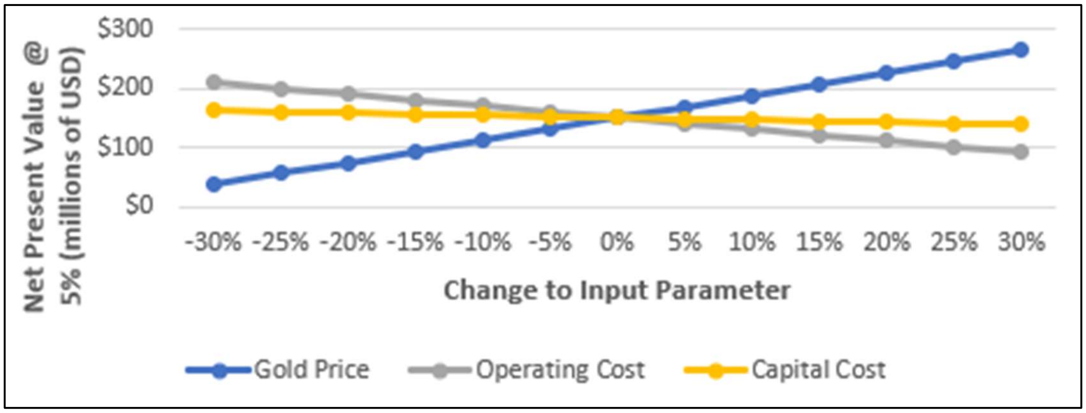
1.11.1 Sensitivity Analysis

A sensitivity analysis was conducted on the base case (after-tax) NPV for the Project using the following variables: metal price/recovery, initial capital costs and total operating costs. Table 1-7 and Figure 1-1 summarize the sensitivity analysis results. As illustrated, the Project NPV is most sensitive to changes in metal price/recovery and less sensitive to initial capital and operating costs.

Table 1-7: Sensitivity Analysis (5% discount/after-tax)

NPV ($ million)	Input Factor						
Input	-30%	-20%	-10%	Base	+10%	+20%	+30%
Metal Prices/Recovery	37	75	113	151	188	226	264
OPEX	209	189	170	151	131	112	92
CAPEX	162	158	154	151	147	143	139

Figure 1-1: Sensitivity Analysis of Project NPV (5% discount/after-tax)



1.12 Interpretation and Conclusions

The authors of this Technical Report conclude the following:

1.12.1 Geology

- Mineralization at the Cerro de Oro deposit is typical of a porphyry system and is characterized by the development of A and B veins. These veins developed during an early potassic alteration phase and were later overprinted by silica, sericite, and pyrite (phyllic overprinting), within the inter-mineral porphyritic intrusive phases. These phases form part of the overall intrusive complex.
- The porphyry system at Cerro de Oro, according to Sillitoe (1979), can be defined as a gold-rich system because it has a typical gold content of ≥0.40 g/t Au.
- The mineralization remains open beyond the areas tested by exploration drilling, including at depth and along the strike of the deposit. These areas will be the focus of upcoming exploration campaigns.

1.12.2 Mineral Resource

- The Cerro de Oro project has an Inferred Mineral Resource of 790,000 oz of contained gold (67 Mt grading 0.37 g/t Au).
- The cut-off grade used for resource reporting is 0.15 g/t Au ($1,700/oz Au, mining, milling and G&A costs of $8.80/t stacked, 70% recovery, 45-degree constant open pit slope angle).
- Grade interpolations for gold were carried out using conventional methods commonly used in the industry and applied with reasonable geological inference and controls.
- The existing sample data have been collected using protocols consistent with industry best practices. The sampling that has been completed on the Project to date has been appropriate for the mineralization type, and the samples are representative of the deposit.
- All samples collected were transported in a secure manner, and a chain of custody was followed.

- Assays were carried out in a well-managed facility using conventional methods commonly used in the industry. During previous drilling campaigns, suitable levels of independent QA/QC samples were submitted to the laboratory to ensure reasonable results were returned.
- The QP is of the opinion that the analytical work performed by the various laboratories was suitable for use in Mineral Resource estimation.
- The assumptions, parameters, and methodology are appropriate for the Mineral Resource estimation, are consistent with the style of mineralization, and are applicable for an open pit heap leach operation.
- The QP has classified the current Mineral Resource estimation as Inferred for the oxidized portion of the Cerro de Oro deposit. Although drill spacing is locally sufficient for Indicated classification, there remain necessary revisions and updates to the geological logs, better definition of the limit between the oxides and fresh rock, understanding of mineralization controls and bulk density measurements. The reported Inferred Mineral Resources are estimated with an average drilling grid of 85 m by 85 m.

1.12.3 Mining Methods

- The mineralization at the Cerro de Oro project will be mined from two open pits.
- Conventional open pit methods will be undertaken by a mining contractor using 11.5m^3 front-end loaders and 100-t trucks.
- The ultimate open pit configurations are based on the economic parameters in Table 14-5 and the $1,500/oz constraining pit shell that was used as a guide.
- The cut-off grade for mine planning purposes was decreased from 0.15 g/t Au (the cut-off used for resource estimation) to 0.12 g/t Au, which reflects a gold price of $1,600/oz and the estimated OPEX developed as part of this PEA.
- The mine plan is based solely on an inferred resource.
- The parameters used in the current report generated a production schedule that estimates mining of 59.3 Mt of mineralization grading 0.37 g/t Au and 17.9 Mt of waste for a strip ratio of 0.30:1 (waste to ore).

1.12.4 Metallurgical Recovery

- Metallurgical testwork demonstrated the amenability of oxide mineralization to gold recovery using cyanidation.
- Gold mineralization appears to be well disseminated through the host rock, with little correlation to rock particle-size distributions.
- Oxide gold mineralization responded positively to gold cyanidation, with residual gold content (unrecovered gold) typically in the range of 0.1 g/t Au or lower, regardless of variations in sample head grades.
- Bottle roll test samples (RC chips) had an average head grade of 0.42 g/t Au (similar for oxide and mixed sulphide transition material) corresponding to a metallurgical recovery of in excess of 75%.

- Leach recovery kinetics were generally rapid (majority of gold extracted from RC chips in less than 24 h).
- Bottle roll tests using coarse particle sizes (minus 2" material) produced gold recoveries similar to those observed with RC chip samples.
- Three column samples (minus 2" material) resulted in leach extractions consistent with those performed using coarse bottle roll methods.
- Reagent consumptions were consistently in the low to moderate range expected for heap leach gold projects.
- A limited number of positive metallurgical tests completed on samples of transition/sulphide material indicated that additional testing of this type of mineralization is warranted.

1.12.5 Mineral Processing

- Processing facilities will include two-stage crushing of high-grade material (currently estimated at 30%–35% of total mined mineralization), a heap leach pad, solution ponds and carbon column recovery of gold from pregnant leach solution.
- Loaded carbon will be transported off-site and refined to doré at a suitable facility.
- Overall plant design was based on a nominal 7,000,000 t/a of mineralized material placed on the leach pad with average grades of 0.40 g/t Au.
- Allowances were made in the process plant and solution storage pond designs/layouts to accommodate expansions should future increases in production rates be considered.
- Make-up water for processing operations (leaching and reagent preparation) will be provided by surface wells and will be pumped to the process plant/ponds for use and storage as required.

1.12.6 Infrastructure

- A full evaluation of the required upgrades to existing roads around the Project needs to be completed to ensure two-way traffic can be accommodated. Reasonable initial assumptions have been included as part of this PEA study.
- Crushing plant operations have an allowance for a grid connected load of approximately 1.5 MW to power all major equipment unit operations. The Company needs to confirm the availability of the grid power requirement. The Company has purchased a 2 MW diesel generator for backup requirements.
- All power requirements required for leaching and recovery plant operations will be generated at site using diesel generators. Diesel consumption for power generation is estimated to be equivalent to an electric power cost in the range of $0.30/kWh.
- Water will be available via a series of wells and pumped to the process plant.
- A preliminary plant layout has been completed and incorporated into the overall site plan. Maintenance areas required by the mining contractor will be the responsibility of the contractor; however, suitable areas for use have been designated in the site plan.

1.12.7 Economic Analysis

An economic analysis was completed for the Project incorporating the following basic parameters:

- A gold price of $1600/oz (no allowance for recovered silver).
- In-pit cut-off grade of 0.12 g/t Au for ROM material from mine operations.
- Crushing of higher grade mineralization (crushing cut-off of 0.40–0.45 g/t Au) prior to heap leach stacking.
- Existing crushing/screening equipment owned by the Company will be retrofitted to meet the requirements of Cerro de Oro operations.
- Gold recovery from heap leach operations onto "loaded" carbon which will be processed off-site for final gold doré production and sale.
- 400,000 m^2 of Phase 1 leach pad construction (and related solution storage ponds) included in initial CAPEX followed by additional sustaining capital investments to expand the leach pad area as mining operations advance.
- Overall average gold recovery of 68% estimated based on a combination of preliminary metallurgical testwork and other similar heap leach operations in Mexico.
- Site operations and contractor personnel will be housed in the nearby town of Melchor Ocampo limiting requirements for site facilities.
- Operating cost estimates were prepared and validated using a combination of first principles, recent operating data from the Company's existing operations and from other active projects and mines in Mexico.
- Capital cost estimates were prepared using both current and historical data gained from Company assets constructed in Mexico. These costs were benchmarked against other recent CAPEX estimates for similar heap leach projects.
- A surface mine production schedule was completed for the PEA incorporating conventional surface mining methods and equipment. Production highlights include:
    - Eight-year mine life (partial production in Year 9, 8.2 years) based on a mineable inferred resource with 59 Mt of mineralization (0.37 g/t Au) processed at a rate of 19,000 to 22,000 t/d to the heap leach pad operations.
    - Average annual contained metal mined of approximately 60,000 oz (~60,000 to 70,000 oz in years 1 through 4).
    - 477 koz of gold extracted from leaching operations and recovered as loaded carbon concentrate to be shipped for final gold doré production and sale.

Highlights from the economic modelling and analysis of the Project include:

- Robust economics at a gold price of $1,600/oz:
    - All-in sustaining cost (AISC) of $873/oz ($763/oz average in years 1 to 4)
    - After-tax NPV at 5% of $150.5 million and an IRR of 111%
- Low CAPEX and rapid payback
    - Pre-production CAPEX of $28.1
    - Payback period of 11 months.

In the QP's opinion, the Cerro de Oro project is potentially very robust and warrants the Company's continued advancement towards a construction decision.

The reader is cautioned that this PEA is preliminary in nature and includes Inferred Mineral Resources that are too speculative geologically to have economic considerations applied to them. There is no certainty that the PEA will be realized.

1.13 Project Risks

- The Mineral Resource estimate is based on the results of previous drilling by Noranda and Minera Mexico Pacific. It is recommended that additional drilling and testing be undertaken to further delineate the known zones of mineralization.
- The open pit, waste dump and heap leach pad designs are based on assumed configurations and do not include the results of a geotechnical investigation. If conditions differ from those currently assumed, changes to the designs will be required that could have an adverse impact on the economics of the Project.
- Metallurgical work completed to date for the Project remains limited. Additional studies are required to better evaluate the particle size/gold recovery relationships for the different zones of mineralization.
- Environmental, permitting, legal, title, taxation, socioeconomic, marketing, political, or other relevant issues have the potential to materially affect access, title, or the right or ability to perform the work recommend in this Report. At the present time the QPs are unaware of any such potential issues affecting the Project.
- Potential challenges and risks are related to the low-grade nature of the deposit. Follow-up programs to improve the confidence of resource estimates and projected metallurgical performance can reduce these risks.
- A permit application (MIA/ETJ) has not yet been submitted for the Project. The project evaluation uses generic year numbers as the exact timing of the permit submission and approval cannot be guaranteed.
- The cost estimations used as part of this PEA are based on both first principles and bench marking and are not based on firm quotations or detailed engineering. Earthworks estimates for road, leach pad and dump constructions are based on historical unit rates and modelled quantities. Changes to the unit rates assumed could have a negative impact on project economics.

1.14 Project Opportunities

Opportunities that could enhance the Project include:

- The known zones of gold mineralization appear to remain open both laterally and at depth.
- Potential for the presence of skarn mineralization at the contact of the porphyry and surrounding sedimentary rocks.
- Additional metallurgical testwork should allow for a more complete understanding of the gold recovery versus crush size relationships for different areas of the deposit and could result in

potential improvements in overall gold extraction via optimization of the processing parameters.

- There appears to be potential to leach transition/sulphide mineralization. Further metallurgical work should continue to evaluate the amenability of leaching this material, followed by additional drilling to better delineate the extents of these zones if warranted.
- Additional mine planning studies to evaluate opportunities to expand annual production rates, optimize production phasing and haul road optimization to attempt to reduce distances to the planned leach pads.

1.15 Recommendations

To continue to advance the Cerro de Oro project toward a potential development decision, the QPs responsible for this Technical Report make the following recommendations:

1.16 Exploration and Geology

- An exploration program for the Cerro de Oro project area involving drilling (infill and step-out); further mapping and rock outcrop sampling; soil sampling (100 m grid); soil spectral analysis (with Terraspec); and possible geophysical studies (i.e., magnetic and electromagnetic/induced polarization surveys) to delineate the shape of the porphyry at depth.
- Topographic work to provide additional accurate positions and directional details for historical holes.
- Preparation of plans for an additional phase of exploration drilling aimed at defining disseminated sulphide extensions below the known oxide mineralization.
- Infill drilling program (Phase 1) for resource modelling purposes and to collect samples for additional metallurgical test work as well as in-situ rock density studies.
- Plan for a second phase of drilling (Phase 2) that is based on additional geologic work and the results of Phase 1 (step-out drilling).
- Continue regional geological studies to identify other areas with mineralization similar to Cerro de Oro

1.17 Mineral Resources

- Compile new exploration results into a more advanced geological model for the Project, to increase the confidence level in the current resources (Inferred) and potential extensions of the known mineralization along strike and at depth.
- Incorporate data from in-situ rock density into the resource model to better define the densities of each of the main rock types.
- Evaluate the potential of the silver mineralization at the Project, and if warranted establish a compliant silver resource estimate.
- Expand the Project geological model to include lithological information and other details that may impact engineering studies, including metallurgical evaluations.

1.18 Open Pit Mining

- Complete geotechnical and hydrology site investigations to obtain a better understanding of existing ground conditions for open pit slope, waste dump and leach pad design purposes.
- Further pit design optimization to examine access road development alternatives, open pit phasing to maximize mineralization release and further smoothing of the production profile later in the mine life.
- Complete haulage optimization studies to better determine the cost of the overhaul of mineralized material to the leach pads and to estimate the equipment fleet that will be required more accurately.
- Completed additional pit design work to determine the impact of changing the open pit layout to include a double lane road up to the last two benches of the ultimate pit depth. The PEA uses a single lane for the last six benches to maximize mined mineralization.

1.19 Metallurgy and Processing

- Coarse bottle roll (and possibly column) optimization studies to examine crush size/gold recovery relationships and variability for primary lithological zones within the Project mineralization.
- Leach variability studies to specifically examine areas of reduced rock permeability and elevated copper contents.
- Leach studies on sulphide mineralization materials.
- Hardness/abrasion studies for major rock lithologies.
- Evaluate the potential silver recoveries.

1.20 Infrastructure

- Complete a site audit of the exiting site roads and evaluate the potential and associated costs to expand them to accommodate two-way traffic.
- Evaluate the potential to connect the planned crushing operations to the power line running from the Project to the town of Melchor Ocampo.
- Continue to advance work towards identifying suitable water well locations to supply the plant.
- Identify suitable accommodations in the town of Melchor Ocampo for site management and third-party consultants.

1.21 Environmental and Permitting

- Complete environmental baseline studies for the preparation of the MIA/ETJ permit application.
- Complete a hydrogeological survey of the concession area to prioritize locations for process water sources and permit applications.
- Advance basic engineering studies required for permitting a heap leach gold recovery facility.

- Work proactively with government agencies to submit all necessary permit and license applications to advance the Project toward a construction decision.

1.22 Preliminary Budget for Work Activities

A preliminary budget to cover the work activities that will be initiated and completed prior to a construction decision is presented in Table 1-8.

Table 1-8: Preliminary Budget for Recommended Work Activities

Work Activity	Budget ($)
Road Cleaning, Mapping, and Sampling	170,000
Hydrological Studies (inc. water test wells)	350,000
Phase 1 Drilling (Infill: 5,000–6,000 m)	1,000,000
Phase 2 Drilling (Step-Out: 5,000–6,000 m)	1,000,000
Geotechnical Studies	500,000
Geophysical Studies	150,000
Metallurgical Studies	200,000
Engineering Studies	150,000
Environmental and Permits	100,000
Contingency (15%)	540,000
Total	**4,160,000**

2 INTRODUCTION

2.1 Issuer

The Qualified Persons (QP) of this Report were retained to update the Mineral Resource estimate and prepare a Preliminary Economic Assessment for the Cerro de Oro Gold Project (Cerro de Oro or the Project) in the form of a Technical Report. Minera Alamos Inc. (Minera Alamos or the Company) is a publicly-traded company listed on the TSX Venture Exchange under the symbol MAI. The Company is focused on acquiring, exploring, and developing base and precious metals projects in Mexico. The Cerro de Oro property that is the subject matter of this Report was acquired by Minera Alamos under the terms of an option agreement on August 4, 2020.

Minera Alamos' current and principal place of business is 55 York Street, Suite 402, Toronto, Ontario, M5J 1R7.

2.2 Terms of Reference

This Technical Report has an effective date of September 28th, 2022, and was prepared by the QPs listed in Section 2.4 to support the disclosure of the Project's Mineral Resource estimate and the results of the Preliminary Economic Assessment (PEA). This Technical Report provides a full description of the study work that has been completed in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) *CIM Definition Standards for Mineral Resources & Mineral Reserves* (CIM Definition Standards), referred to in *NI 43-101 Standards of Disclosure for Mineral Projects*. This Technical Report has been prepared in accordance with the requirements of Form 43-101F1 and Companion Policy 43-101CP.

Minera Alamos's technical staff have reviewed draft copies of this Report for factual errors. Any changes made because of these reviews did not include alterations to the interpretations and conclusions made by the authors. The statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading as of the date of this Report.

2.3 Sources of Information

This Report has been prepared by the Independent QPs through discussions with Minera Alamos employees and by review of the existing drill-hole database; geologic reports; available maps and cross sections; metallurgical test data; government reports; miscellaneous documentation (reports and scientific papers); and other public and private information.

Table 2-1 shows the Minera Alamos employees who provided information to the Independent QPs responsible for this Report. The QPs have taken reasonable steps to verify the information provided where possible. The QPs have reviewed the land tenure but have not independently verified the mineral title status or compliance of the underlying inter-company agreements and title transfers with Mexican laws and regulations (see Section 3, Reliance on Other Experts).

Table 2-1: Minera Alamos

Minera Alamos	Information Provided for Report Section
Miguel Cardona	7, 8, 9, 10, 11, 12, 25, and 26
Chris Sharpe, P.Eng. (Non-Independent QP)	1, 3, 4, 5, 6,16,21,22, 25, and 26
Darren Koningen, P.Eng. (Non-Independent QP)	13,17, 20, 21, 22, 25, and 26

The authors consider that they have seen the most relevant reports and data. A list of the documents reviewed, and other sources of information, can be found in Section 27 of this Report.

2.4 Qualified Persons and Property Inspections

This Technical Report has been prepared under the supervision of Independent QPs as defined by the Canadian Securities Administrator's National Instrument 43-101 (NI 43-101). Table 2-2 provides details regarding each QP and their respective sections of responsibility.

Table 2-2: List of Qualified Persons and Section Responsibility

Qualified Person	Report Section Responsibility
Scott Zelligan, P.Geo.	1, 2, 3, 14, and parts of 25 and 26
Lawrence Segerstrom, M.Sc. (Geology), CPG	4, 5, 6, 7, 8, 9, 10, 11, 12, and parts of 25 and 26
Peimeng Ling, P.Eng.	13,17, 20 and parts of 21, 25 and 26
Toren Olson, PG	16 and parts of 25 and 26
Alex Dugan, P.Eng.	19, 21, 22 and parts of 25 and 26

Mr. Lawrence Segerstrom, CPG (Certified Professional Geologist #11557 American Institute of Professional Geologists), who is independent of the Company and a QP of this Technical Report, visited the Cerro de Oro project site from Tuesday, October 20 to Thursday, October 22, 2020. Mr. Segerstrom was accompanied during his site visit by Minera Alamos personnel Miguel Cardona (Vice President Exploration), Chris Sharpe, P.Eng. (Vice President Project Development), and Darren Koningen, P.Eng. (Chief Executive Officer). The authors of this Report consider the site visit to be current under Section 6.2 of NI 43-101.

2.5 Currency, Abbreviations, and Units of Measurement

A list of the abbreviations used in this Technical Report is provided in Table 2-3 and Table 2-4. Unless otherwise specified, all currency units are stated in US dollars ($). Quantities are generally expressed in the International System (SI) of units (metric system), including tonne (t), kilogram (kg), and gram (g) for weight; kilometre (km), metre (m), centimetre (cm), and millimetre (mm) for length; hectare (ha) for area; and grams per tonne (g/t) for gold grades. Metal grades may also be reported in parts per million (ppm), and gold grades in parts per billion (ppb). Quantities of gold may be expressed in troy ounces (oz).

Table 2-3: Mexican Acronyms and Abbreviations

Abbreviation	Definition
CRM-SGM	Consejo de Recursos Minerales-Servicio Geológico Mexicano
CUS	Cambio de Uso de Suelo
ETJ	Estudio Técnico Justificativo (Technical Justification Study) includes the Change of Land Use (CUS)
IMMSA	Industrial Minera Mexico S.A. de C.V.
MIA	Manifiesto de Impacto Ambiental (Environmental Impact Statement)
SGM	Servicio Geológico Mexicano
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales (Ministry of the Environment and Natural Resources)
TNM	Tierra Nueva Minería S.A. de C.V.

Table 2-4: List of Abbreviations

Abbreviation	Description
%	percent
>,<	greater than, less than
±	Plus or minus
°	degree
°C	degree Celsius
3-D	three-dimensional
a	annum (year)
AA	atomic absorption
A and B veins	magnetite and quartz veins
AAS	atomic absorption spectrophotometer
ADS	Advanced Drainage Systems
AES	atomic emission spectrometry
Ag	silver
ARD	aqua regia digestion
Au	gold
BKGD	background correction
Cerro de Oro or the Project	Cerro de Oro project
CIM	Canadian Institute of Mine, Metallurgy and Petroleum
cm	centimetre
Company	Minera Alamos Inc.
CPG	Certified Professional Geologist (American Institute of Professional Geologists)
Cu	copper
DDH	diamond drill hole
E	east
F_{80}	Feed, 80% passing
FCF	Free Cash Flow
g	gram

Abbreviation	Description
G&A	general and administrative
g/t	grams per tonne
g/t Au	grams per tonne gold
Geo.	geologist
GPS	Global Positioning System
h	hour
HDPE	High-density polyethylene
ha	hectare
ICP	inductively coupled plasma
ID^2	inverse distance squared
IRR	Internal Rate of Return
kg	kilogram
km	kilometre(s)
kV	kilovolt
LLD	lower limit of detection
LLDPE	Linear Low Density Polyethylene
m	metre
m^3	cubic metre
Ma	million years
MAI	Minera Alamos Inc. trading symbol
min	minute
Minera Alamos	Minera Alamos Inc.
mm	millimetre
Moz	millions of troy ounces
Mt	million tonnes
N	north
NI 43-101	Canadian National Instrument 43-101
NPV	Net Present Value
NSR	Net Smelter Return
oz	troy ounce
P.Eng.	Professional Engineer (Canada)
P.Geo.	Professional Geologist (Canada)
PEA	Preliminary Economic Assessment
ppb	parts per billion
ppm	parts per million
OEE	Overall Equipment Effectiveness
QA/QC	quality assurance/quality control
QP	Qualified Person
RC	reverse circulation
s	second
S	south
SGS	Société Générale de Surveillance

Abbreviation	Description
t	tonne
t/m^3	tonnes per cubic metre
$	United States dollar
UTM	Universal Transverse Mercator
W	west

3 RELIANCE ON OTHER EXPERTS

The authors of this Technical Report have not independently verified the ownership or mineral title with respect to the Project's concessions and/or mining claims. The Property description presented in this Report (Section 4) is not intended to represent a legal or any other, opinion as to the title. The QPs have relied upon an October 6, 2022, audit prepared by Mr. Carlos Galvan Pastoriza (Mexican attorney) on behalf of Minera Alamos for information concerning the Cerro de Oro mining concessions.

Mr. Pastoriza obtained information on the title and concessions based on a search conducted at the General Bureau of Mines and the Public Registry of Mining, a division within the Mexican Ministry of Economy. The authors of this Report have reviewed the information provided by Mr. Pastoriza, and believe it to be reasonable and reliable.

Except for the purposes legislated under provincial securities laws, any use of this Report by any third-party is at that party's sole risk.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Project Location

The Cerro de Oro project is in the State of Zacatecas, Mexico (Figure 4-1).

The Project area is approximately 3 km northeast of the town of Melchor Ocampo, and approximately 90 km southwest of the city of Saltillo, the state capital of Coahuila. The Project coordinates in decimal degrees are latitude 24.84° N, longitude 101.62° W, or in Universal Transverse Mercator (UTM) Zone 14, 234837 N, 2749794 E (NAD 27).

Figure 4-1: Property Location

4.2 Mineral Tenure and Area of Property

The Cerro de Oro project consists of five mining concessions that total over 6,500 ha (Table 4-1). Three mining concessions totalling 6,423 ha were acquired by Minera Alamos as part of the business combination with Corex Gold Corporation that closed on April 13, 2018. These concessions are shown as red outlines on Figure 4-2 and surround the recently acquired core concessions of Zacatecas and

Zacatecas II (shown in red) to the north and south. The total package of five concessions provides all the necessary land that would be required to facilitate development of the deposit.

Figure 4-2: Cerro de Oro Concessions Map

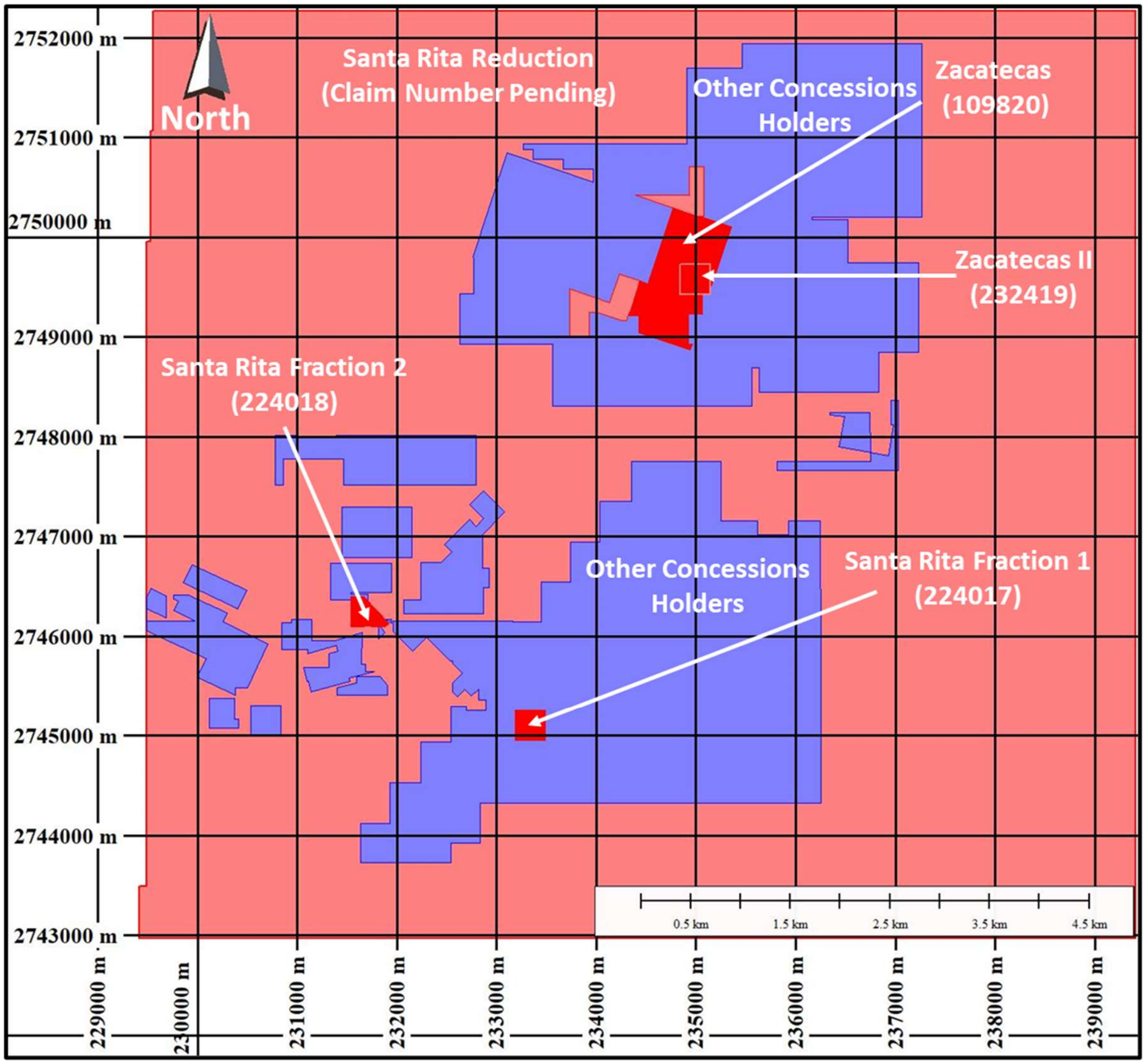


Table 4-1: Summary of Current Cerro de Oro Project Mining Concessions

Title Name	Title Number	Surface (ha)	Date of Application	Validity		Current Holder	Municipality	State
				Start	End			
Santa Rita Fraction 1	224017	9.00	04/22/2004	03/23/2005	02/22/2055	Corex Global	Melchor Ocampo	Zacatecas
Santa Rita Fraction 2	224018	7.96	04/22/2004	03/23/2005	02/22/2055	Corex Global	Melchor Ocampo	Zacatecas
Zacatecas	109820	9.00	03/30/1946	12/19/1961	12/18/2061	Minera Placor[1]	Melchor Ocampo	Zacatecas
Zacatecas II	232419	69.92	11/24/1997	08/08/2008	07/08/2058	Minera Placor[1]	Melchor Ocampo	Zacatecas
Santa Rita Reduction[2]	Pending	6,406	05/09/2013	03/23/2005	03/22/2055	Corex Global	Melchor Ocampo	Zacatecas
Total		**6,502**						

Notes: [1] The Zacatecas and Zacatecas II titles are in the process of having the registered ownership transferred from Minera Placor to Minera Mirlos, a subsidiary of Minera Alamos.
[2] The Santa Rita Reduction title represents a claim adjustment from an original Santa Rita title (title# 224016) that had an original size of 19,610 ha.

4.3 Tenure Agreements and Encumbrances

4.3.1 Agreements and Royalties

On August 4, 2020, Minera Alamos announced the finalization of definitive agreements to acquire 100% of the Cerro de Oro project, comprising the Zacatecas and Zacatecas II concessions.

As part of the definitive agreement, Minera Alamos and the Vendor established a schedule of payments to acquire the property (Table 4-2). In addition to the earn-in commitments in Table 4-2, a final bonus payment of $1 million will be payable to the Vendor upon the production of the first 50,000 oz of gold from the Project.

The Company is in good standing with the obligations provided in the transaction terms. As of the date of this Technical Report, there are two more schedule payments remaining that total $800,000 and 1,000,000 shares of the Company.

Table 4-2: Transaction Terms

Amount ($)	Instalment Due Date
400,000 cash + 2,000,000 MAI shares[2]	Closing (paid in full)
300,000 cash[1] + 500,000 MAI shares[2]	12 months from Closing
400,000 cash[1] + 500,000 MAI shares[2]	24 months from Closing
400,000 cash[1] + 500,000 MAI shares[2]	36 months from Closing
400,000 cash[1] + 500,000 MAI shares[2]	48 months from Closing

Notes: [1] Instalment payments will be in the form of cash. Alternatively, should both parties agree, a portion or all of the cash amount can be replaced with the issuance of an equivalent dollar value of shares; shares, if issued, will be priced at the 20-day VWAP on the Exchange, ending on the instalment date listed in this table, and in accordance with the rules and requirements of securities laws and the TSX Venture Exchange.
[2] There are no royalties associated with the agreement discussed above, nor are there any other existing royalties or encumbrances on the Project, or on the land surrounding the Cerro de Oro project that is already owned by the Company.

4.3.2 Surface Rights

Surface rights in the Project area are primarily controlled by the municipality of Melchor Ocampo and in the adjacent areas to the north and east by local Ejido groups.

The Company has two existing agreements that will permit the Company to explore, mine and process mineralization at the Project. These agreements comprise:

- An agreement with the municipality of Melchor Ocampo for the rental of 656 ha over a term of 25 years.
- An agreement with the Ejido for the rental of 177 ha to the immediate east of the border with the municipality for a term of 25 years.

There are private owners that have parcels of land that lie within the Company's surface rights area both within the Municipal and Ejido areas. The Company continues to negotiate with the private owners for use of these lands.

4.3.3 Permits

No permits have been granted for the development of the Cerro de Oro project. The primary applications that are required to advance the Project to production include:

- The Environmental Impact Statement (Manifestación de Impacto Ambiental, MIA).
- The Technical Justification Study (Estudio Técnico Justificativo, ETJ). The ETJ includes the Change of Land Use (Cambio de Uso de Suelo, CUS).

The Company intends to advance efforts related to these permit applications prior to a construction decision for the Project. The applications will be submitted to the applicable government agencies that includes the Secretariat of Environment and Natural Resources (SEMARNAT). A prerequisite for these submissions is the completion of surface access agreement(s) that cover the development areas of interest. The Company has finalized the surface access agreements in 2022 (see Section 4.3.2) and work is underway to prepare the MIA/ETJ application documents.

4.4 Environmental Liabilities

The Project is in northeastern Zacatecas State, where limited small-scale underground mining has been carried out in the past. There are no known existing environmental liabilities associated with the Cerro de Oro project.

4.5 Other

To the QPs' knowledge there are no other significant factors or risks that may affect access, title, or the right or ability to advance the Project at this time.

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

5.1 Accessibility

The Cerro de Oro project is accessible by road from the city of Saltillo in neighbouring Coahuila State, a driving distance of approximately 165 km, about a two-hour drive (Figure 5-1). The exit to Melchor Ocampo is off Federal Highway 54 approximately 5 km northeast of the town of Concepción del Oro. After taking the exit, the Project is accessible via the paved Bonanza and Terminal–Matamoros roads toward the town of Melchor Ocampo. The site access road is approximately 2.5 km east of Melchor Ocampo, and itself is a 3 km gravel road that provides access to the Project site. All roads to the town are paved and in good condition.

Monterrey (Nuevo Leon State) has a large regional airport that has regularly scheduled commercial flights to Mexico City and direct flights to the United States of America and Canada. Monterrey is also accessible via paved highway from Saltillo, and approximately 242 km from Melchor Ocampo, about a three-hour drive.

Figure 5-1: Cerro de Oro Project Location

Source: Google Maps

5.2 Climate

This region of Zacatecas State around Melchor Ocampo is classified as an upland desert. The climate is semi-arid, with warm to hot summers and mild, dry winters. The mean temperature in the summer is 27°C, with typical temperatures ranging between 20°C and 30°C. The mean temperature in the winter months is 17°C, with temperatures ranging from 0°C to 20°C. On occasion in the winter months, temperatures can hover around or drop below 0°C. The average annual rainfall in the area is approximately 338 mm according to the San Jeronimo Weather Station (00032179). The heaviest rainfall occurs during the rainy season (June to September), with maximal rain events affected by tropical storms or hurricanes. Exploration, development, and operations can be conducted year-round, although the rainy season can create some difficulties with respect to accessibility.

5.3 Local Resources and Infrastructure

The municipality of Melchor Ocampo is in the prolific Concepción del Oro mining district and serves as the local administrative centre to the Project. While the town itself has a small population (569 in 2010) it is well supported by the surrounding municipality (population 2,662 in 2010) and regional centres that can provide skilled labour, fuel, and other supply requirements that are specific to the mining industry.

Nearby regional centres include the town of Concepción del Oro (population 7,210 in 2020) that is 40 km southeast of the Project; Saltillo, the state capital of Coahuila (population 984,000 in 2020), 165 km northeast; Monterrey (population 4,874,000 in 2020), 242 km northeast; and the capital of Zacatecas, Zacatecas City (population 369,000 in 2020), 310 km south.

Reasonable accommodation and basic services can be obtained in Concepción del Oro, a 50-minute (min) drive from the Property. A 3.2 kilovolt (kV) transmission line carried into Melchor Ocampo is operated by CFE electric service (part of the national power grid), with the nearest tie-in point about 2 km away from the Project. Rail service also exist near the Project with a north–south line passing about 40 km west.

The Project area is believed to have sufficient water for exploration and mining purposes. While water supply in the immediate Project area is underdeveloped, water will be obtained primarily from the operation of a series of wells.

There is currently no significant existing infrastructure in the Project area. Additional facilities will be required in the future to accommodate site personal during construction and future operations.

5.4 Physiography

The Project and town of Melchor Ocampo are in the synclinal valley between the Sierra de Zuloaga and Sierra Sombreretillo (Figure 5-2). Total relief within the Project area is about 150 m, with a mean elevation of about 2,000 metres above sea level. The topography is gentle to moderate, and characterized by a series of small basins, low-relief hills, and small ridges incised by dry arroyos.

Vegetation in the Project area is scrub consisting of mesquite, lechugilla (an agave-like plant), small cacti, barretas (a type of yucca known as Spanish bayonet), magueys, ashen (also called Texas sage), and guayule.

Figure 5-2: Typical Project Area Physiography and Vegetation

Source: Minera Alamos Inc., 2020, Looking East, photo taken from Cerro de Oro.

6 HISTORY

North Central Mexico, including the area around the Cerro de Oro Property, is famous for its mineral production. Within the Concepción del Oro mining district and the municipality of Melchor Ocampo it is believed that some of the mineral occurrences were originally discovered in the 1530s, with production in the district beginning in 1861 and occurring continuously until today. Production was notably from high-grade copper–gold veins and lower-grade disseminations in porphyry stock.

The Cerro de Oro Property contains a few historical pits, trenches, adits, and various types of other underground workings. Some site activity appears to be from more than 75 years ago. The most significant period of recorded activity was the early 1900s, including completion of a series of exploration pits, shafts, and adits around the Cerro de Oro hill, which lies in the centre of the concession area. Two areas of high-grade underground structures were mined in this area using adits from surface. The Zacatecas adit is the longest underground development, measuring about 156 m long, and has been shown to connect to irregular shafts that follow mineralized chimneys based on available historical information. These shafts extend up and down from the adit using a series of internal raises and cross-cuts. The maximum depth of these shafts is estimated to be 160 m below surface. The second adit, denoted Occidental, is approximately 119 m long and does not have any associated internal workings.

More recently, the Property was explored by Minerales Noranda S.A. de C.V. in the 1990s. During this time Noranda completed mapping, trenching, and a series of drill programs to further advance the Property. Following completion of Noranda's work in 1998, only a limited amount of sampling, mapping and data compilation was completed on the Property. Structured exploration works restarted on the Property in 2017, when Minera Mexico Pacific completed trenching and drilling programs that continued into 2018.

The general history of the Project is not well documented. Based on information available, the Project history and ownership status can be summarized as follows:

- 1531: Mineral occurrences are discovered in the Melchor Ocampo and Cerro de Oro mining district.
- 1946: Mr. Ernesto Estrada (Zacatecas Claim) stakes the first mineral claim in the district.
- 1954: John Barry undertakes geological mapping and sampling from the existing underground developments at Cerro de Oro (Andrade, 1981).
- 1993: Noranda options the Property and completes trench sampling, RC and diamond drilling programs, and a new geologic interpretation.
- 2001: Industrial Minera Mexico S.A. de C.V. (IMMSA), a wholly owned subsidiary of Grupo Mexico, carries out a detailed mapping and sampling program on a large block of ground adjacent to the Cerro de Oro Property. A total of 201 surface and underground samples are collected.
- 2010: Tierra Nueva Mineria S.A. de C.V. (TNM) completes a report on the Property that discusses the geologic setting and outlines the exploration potential of the Property.
- 2012: Minera Placor SA de CV buys the concessions from Juan Manuel Gonzalez Ferrara through an option-to-purchase agreement.

- 2016: Minera Mexico Pacific options the Property from Minera Placor, and completes a data review, confirmatory trench sampling, and a two-phase RC drilling program (total of 4,272 m) to expand mineralization in the North and South zones of the Property. Minera Mexico Pacific also initiates a series of metallurgical test programs.
- 2020: Minera Alamos Inc. enters into an agreement to purchase the Project from Minera Placor S.A. de C.V.

6.1 Early Exploration of the Cerro de Oro Project (1950s to 1980s)

There are few technical reports detailing the results of previous work on the Cerro de Oro Property. The earliest documentation is John Barry's 1954 short report, summarized in Andrade (1981). Barry was prepared for Minera Bonanza S.A. and discusses the results of mapping and sampling work he carried out in November and December 1954. Barry's work included a simple surface plan of the main workings around Cerro de Oro, as well as sketch maps of the underground development completed on the Zacatecas and Occidental adit zones. Figure 6-1 shows the locations of these adits.

The existing information for the Project does not reveal when this underground development was undertaken or finished, but Barry described and sampled it in the 1950s (Andrade, 1981); it was probably constructed 30 years or more prior to Barry's description (Herdrick, 2015).

Underground maps of the tunnels and some internal levels were included in Andrade's (1981) descriptive report based on Barry's work, published in the Consejo de Recursos Minerales-Servicio Geológico Mexicano (CRM-SGM) archives. Figure 6-2 shows a cross section Barry prepared for the Zacatecas adit. The total development is noted to be approximately 550 m.

Andrade (1981) notes sampling for gold, silver, lead, zinc, and copper, as well as the following description of the two principal zones that were developed in the Zacatecas adit:

1. A narrow sub-vertical, hydrothermal breccia exposed at the end of the adit was mined by a steep decline from surface to a vertical depth of 160 m (94 m below the adit level).
2. A northwest-trending, silica-rich, friable, breccia/shear zone about 100 m from the portal; the zone was traced by a series of raises, declines, and cross-cuts over a vertical range of 50 m and strike length of about 60 m.

Figure 6-1: Zacatecas and Occidental Adit Locations

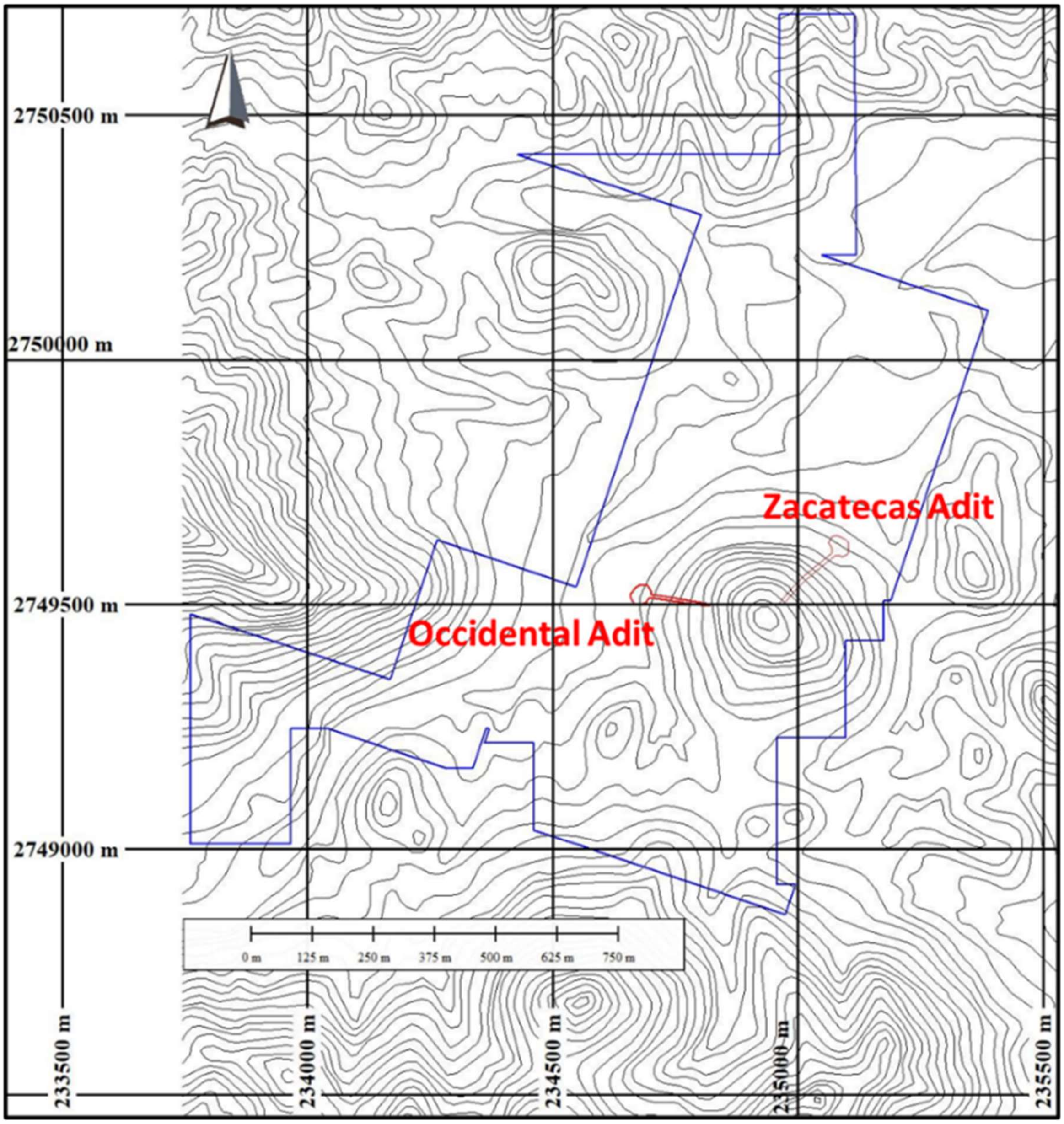
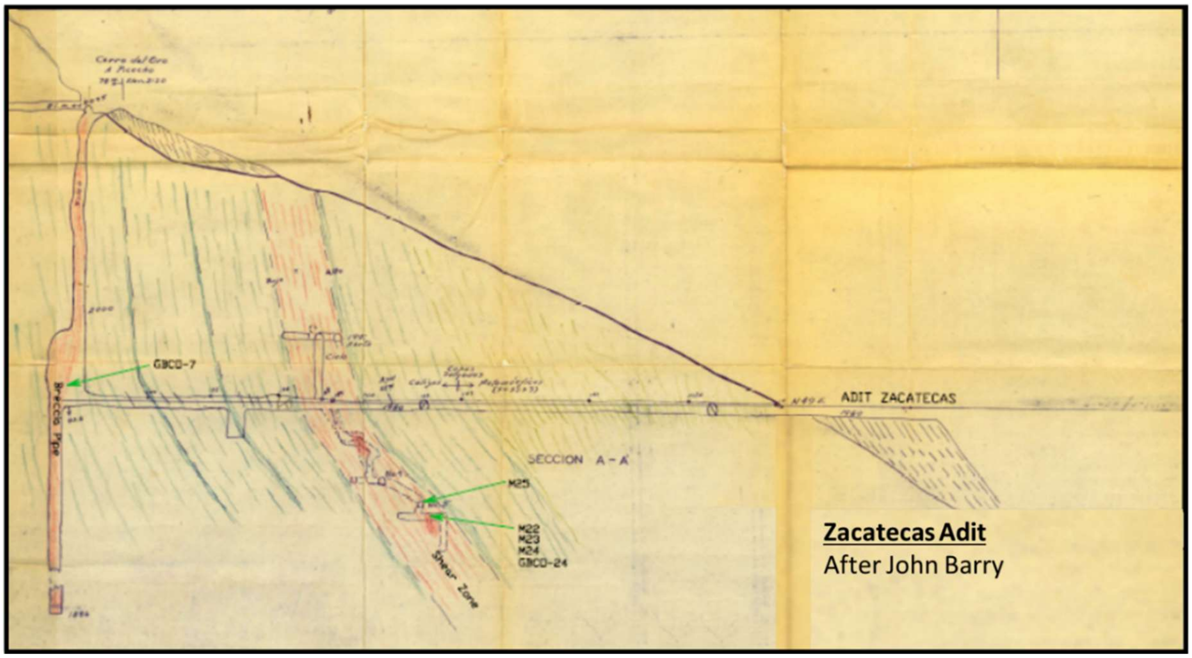


Figure 6-2: Zacatecas Adit Section



The breccia pipe-like body was described to be composed of coarse angular clasts of skarn with a sulphide (sphalerite-rich) matrix. The width of the pipe ranges from a few metres to about 10 m. The pipe appears to have been largely mined out, as no assay data were provided in Barry's report.

A shear zone that was exposed in the Zacatecas adit is up to 12 m wide and dips about 45° to the northeast. A series of 34 samples Barry collected from the zone returned values ranging up to 31 ppm Au and 1,631 ppm Ag. Most values ranged from 1 ppm Au to 4 ppm Au, and 20 ppm Ag to 200 ppm Ag.

The portal of the Occidental adit is about 400 m southwest of the Zacatecas adit portal and was driven 119 m on a bearing of S82E (Figure 6-1). There is no internal development, and the adit appears to have been driven purely for exploration purposes. Barry mapped the adit, but did not collect any samples.

Barry concluded the silica structure exposed in the Zacatecas adit is, overall, too low-grade to be economically viable, and did not recommend further work to be completed on the Property. Following Barry's report, no further work appears to have been carried out in either adit or on the Property until Andrade's work in 1981.

In 1981, CRM mapped and sampled the Occidental adit. Belik (2010) noted that the results from a series of channel samples ranged from trace to 1.1 g/t Au (1,210 ppb) with an overall average of about 0.05 g/t (55 ppb), which is considerably lower than the results IMMSA, TNM, and Belik obtained later in the 2000s, which ranged from 0.277 g/t (a random sample collect at the end of the adit) to 0.868 g/t (weighted average of nine samples collected from the end of the portal). TNM, which sampled the entire length of the adit in 2009, reported a weighted-average gold grade of 0.751 g/t. Belik (2010) noted that the reasons for the discrepancy were unclear, but concluded that the analytical technique may have been unsuitable for accurate determinations of gold values in the 0.1 g/t to 1.0 g/t range, as the assay work was principally focused on base metal mineralization at that time.

No other documentation of further work or development within the Property area occurred until 1993, when Minerales Noranda, S.A. de C.V. obtained an option on the Property.

6.2 Minerales Noranda S.A. de C.V. (1993–1998)

Minerales Noranda S.A. de C.V., a subsidiary of former Noranda Mines Inc., optioned the concessions on and surrounding the Cerro de Oro project from 1993 to 1998. During this time, exploration activities included geological mapping, trenching, and both RC and diamond drilling. The RC drilling campaigns generally penetrated to shallow depths that ranged between 60 m and 100 m because they were targeting the north and south oxide zones. Deeper diamond drill holes (DDH) were completed up to about 645 m that showed widespread, variable gold mineralization from surface to depth.

The diamond drill program comprised 14 holes in the area, of which 12 were drilled on the Cerro de Oro concessions. The remaining holes were drilled to the immediate west and east of the Property. The following sections highlight the results from the trenching and drilling programs.

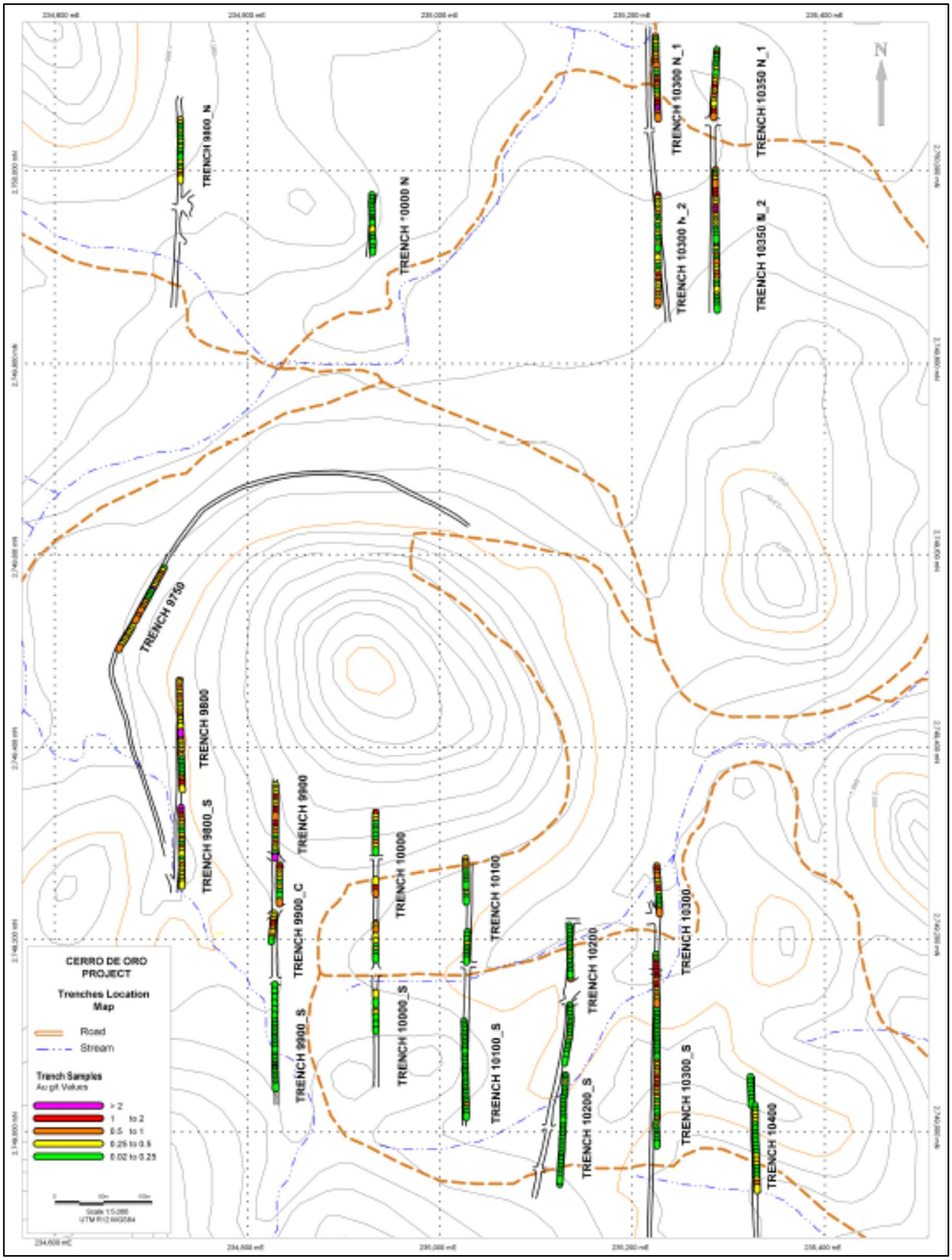
6.2.1 Trenching

During their holding period, Noranda excavated twelve trenches, for a total of 1,961 m, and collected and tested 605 samples. The trench locations are shown on Figure 6-3 (*overleaf*), and the sample results are shown in Table 6-1 as a weighted-average gold grade from all samples collected from each trench.

Table 6-1: Noranda Trench Results (1993–1994)

Trench ID	UTM Zone 14N Coordinates (NAD 27)		Azimuth (°)	Length (m)	No. of Samples	Avg. Gold Grade (g/t)
	East	North				
10400	235290.86	2749260.25	180	118.66	29	0.18
10300	235195.41	2749479.82	180	249.43	80	0.51
10200	235104.38	2749417.85	180	231.14	73	0.11
10100	234999.12	2749466.56	180	178.13	56	0.16
10000	234901.28	2749534.91	180	119.45	31	0.36
9900	234797.40	2749563.85	180	238.14	76	0.49
9800	234699.09	2749674.70	180	196.95	63	0.54
Road	234680.89	2749790.00	203	90.85	29	0.47
P-10300	235184.48	2750344.75	180	200.95	63	0.52
P-10350	235251.51	2750059.19	180	216.52	68	0.49
P-10000	234899.90	2750178.67	180	56.99	17	0.17
P-9800	234698.64	2750256.62	180	63.51	20	0.28

Figure 6-3: Trench Locations



6.2.2 Reverse Circulation Drilling

Thirty-four RC drill holes were completed, for a total of 2,840 m. The locations of the RC holes are shown on Figure 6-4, and a summary of the drill-hole program is highlighted in Table 6-2.

Sample quality for this program is typical of the early 1990s, and the drills that were available during this period had interchange-type downhole percussion bits that operated at much lower air volumes and pressures in comparison to today's equipment. This earlier equipment is noted to have often downgraded supergene oxidized zones of gold mineralization by between 20% and 50%. Modern face-centred bits have less gold separation and loss in an air column due to the faster and shorter distance traveled for entry of the drill sample material into the inner tube, where it is then lifted by air pressure to the surface. In Section 12.2.4 a table compares three holes from this program against three nearby holes that were completed in 2017. The results are reasonably comparable, indicating that the differences due to changes in RC drill technology for the Cerro de Oro project seem insignificant.

The original drill-hole and trench surveys were completed in the 1990s, and used a local grid coordinate system. The trench data and the drill-hole collars were converted later to the NAD 27 UTM system and reported in the historical documentation. While the drill-hole collar data sets and plots of the trenches are available in both coordinate systems, the process of how they were converted from the local coordinate system was not documented. One historical image that is available indicates a simple XY translation, with the grid N–S axis appearing to be exactly parallel to the NAD 27 UTM axis. After acquiring a new satellite survey from PhotoSat in April 2020 it became apparent that there were discrepancies between the translated NAD 27 locations used to report the trench and drill-hole locations from the Noranda programs.

Minera Alamos has corrected the coordinates represented in this section (shown in the tables). The reasoning, methodology, and adjusted coordinates are discussed and reported in Section 12.

Figure 6-4: Noranda RC and Diamond Drill Hole Map

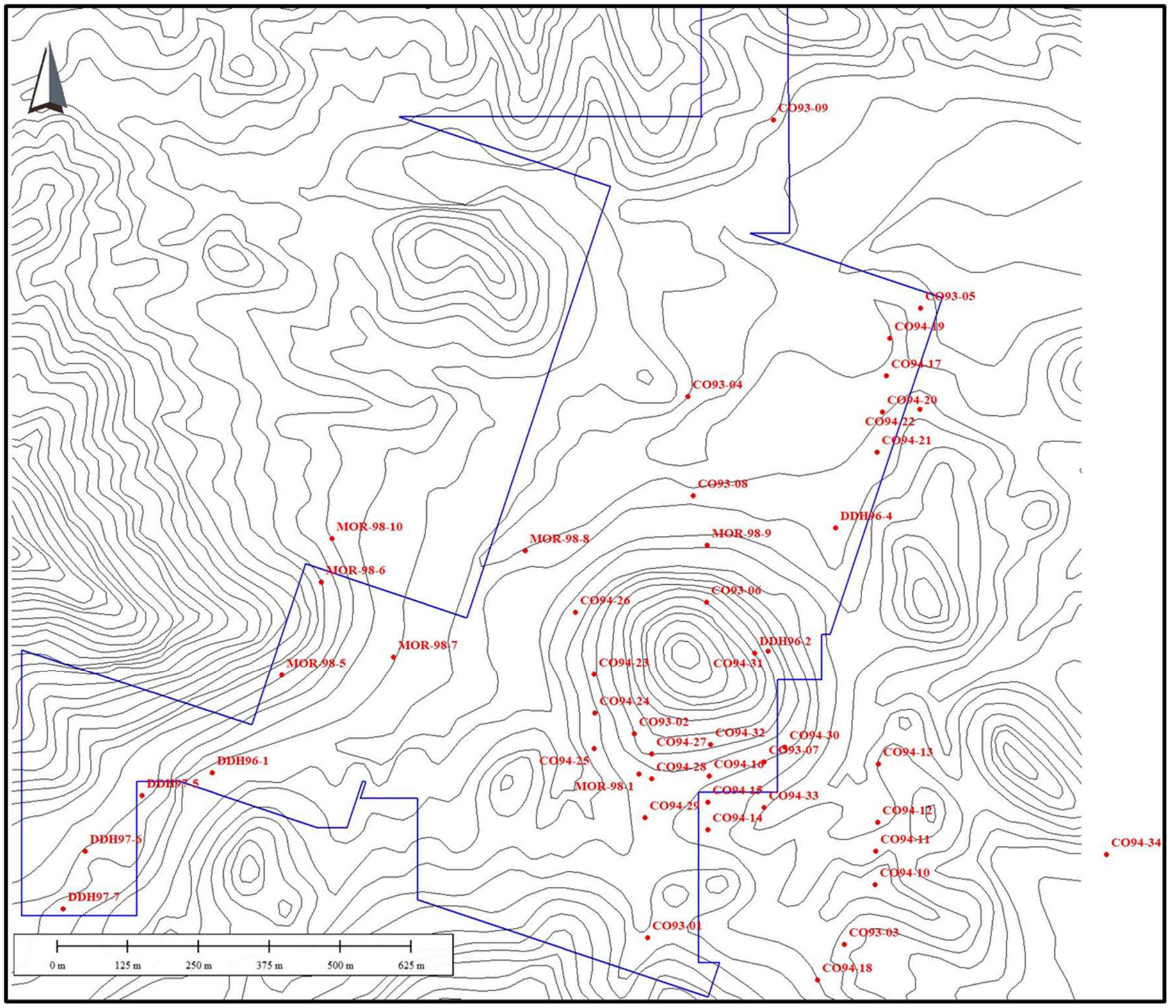


Table 6-2: Noranda RC Drilling (Corrected Coordinates from Local Grid)

Hole ID	UTM Coordinates (NAD 27)			Azimuth (°)	Dip (°)	Total Depth (m)	Sampled (m)	No. Samples	Avg. Gold Grade (g/t)
	East	North	Elev.						
CO93-01	234868	2748971	2026	180	-60	98	98	49	0.04
CO93-02	234845	2749330	2030	20	-45	150	150	75	0.35
CO93-03	235216	2748959	1992	20	-45	150	150	75	0.47
CO93-04	234939	2749926	1962	160	-60	80	80	40	0.31
CO93-05	235350	2750081	1944	160	-60	150	150	75	0.10
CO93-06	234972	2749563	2038	180	-60	120	120	60	0.28
CO93-07	235073	2749280	2008	20	-60	70	70	35	0.28
CO93-08	234949	2749750	1960	180	-60	134	134	67	0.08
CO93-09	235090	2750413	1970	0	-60	96	96	48	0.28
CO94-10	235270	2749064	2010	0	-45	70	69	45	0.32
CO94-11	235271	2749123	1995	0	-45	70	70	46	0.35
CO94-12	235274	2749173	1985	0	-45	70	70	46	0.19
CO94-13	235276	2749277	1991	180	-45	70	70	46	0.05
CO94-14	234974	2749161	1999	0	-45	70	70	46	0.25
CO94-15	234975	2749209	2002	0	-45	70	70	46	0.79
CO94-16	234978	2749255	2011	0	-45	70	70	46	0.56
CO94-17	235290	2749962	1951	0	-45	101	101	66	1.01
CO94-18	235169	2748896	2005	0	-45	101	85	56	0.14
CO94-19	235296	2750027	1948	0	-45	70	70	46	0.44
CO94-20	235282	2749898	1956	0	-45	70	69	45	0.31
CO94-21	235273	2749827	1961	0	-45	78	78	51	0.29
CO94-22	235349	2749902	1964	0	-45	64	64	42	0.53
CO94-23	234774	2749435	2015	0	-45	70	70	46	0.76
CO94-24	234775	2749366	2005	0	-45	70	70	46	0.34
CO94-25	234773	2749304	2002	0	-45	70	70	46	0.41
CO94-26	234741	2749545	1996	0	-45	52	52	34	0.21
CO94-27	234876	2749294	2029	0	-45	70	70	46	0.28
CO94-28	234875	2749251	2017	0	-45	70	70	46	0.39
CO94-29	234864	2749182	2011	0	-45	70	70	46	0.32
CO94-30	235111	2749306	2010	0	-45	72	70	46	0.53
CO94-31	235081	2749476	2029	180	-45	70	67	44	0.40
CO94-32	234979	2749311	2032	0	-45	102	102	67	0.24
CO94-33	235073	2749200	1991	0	-45	70	70	46	0.39
CO94-34	235678	2749118	1956	0	-30	32	32	21	0.17

6.2.3 Diamond Drilling

Noranda completed diamond drilling in 1996, 1997, and 1998 as a follow-up to the RC program. The program included a total of fourteen holes, of which eleven (3,324 m) were drilled within the concession boundary, and three—DDH96-3, DDH97-5, and MOR-98-10—that were drilled outside the current concession area. Information available for DDH96-3 is limited to around 40 m of assay intervals. The locations of the DDHs are shown on Figure 6-4 and a summary of the DDH program is shown in Table 6-3.

Table 6-3: Noranda Diamond Drill Holes (Corrected from Local Grid)

Hole ID	UTM Coordinates (NAD 27)			Azimuth (°)	Dip	Total Depth	Sampled (m)	No. of Samples	Avg. Gold Grade (g/t)
	East	North	Elev.						
DDH96-1	234099	2749261	1990	80	-55	270.1	232.3	131	0.21
DDH96-2	235058	2749473	2058	350	-80	81.7	75.0	50	0.35
DDH96-3	This hole was drilled outside of the claim area; limited results available								
DDH96-4	235200	2749694	1965	255	-55	433.5	254.1	159	0.27
DDH97-5	233976	2749222	1992	90	-60	461.9	200.6	93	0.04
DDH97-6	233876	2749123	1994	90	-60	645.8	410.7	176	0.03
DDH97-7	233836	2749022	1986	180	-60	598.8	241.4	81	0.02
MOR-98-1	234853	2749259	2014	15	-45	264	264	101	0.12
MOR-98-5	234221	2749433	1997	270	-45	280	284	140	0.16
MOR-98-6	234291	2749598	2019	260	-45	202	202	73	0.06
MOR-98-7	234419	2749465	1977	270	-50	152	140	59	0.13
MOR-98-8	234651	2749653	1968	123	-45	198	198	33	0.06
MOR-98-9	234974	2749662	1988	180	-45	198	198	43	0.17
MOR-98-10	This hole was drilled outside of the claim area and there are limited results available								

Note: DDH96-3 was drilled approximately 1,900 m northwest of the claim area. Most of the results from this hole are not available. MOR-98-10 was drilled outside the claim area and there are limited results available for this hole. DDH97-5 was drilled outside the claim area.

6.3 Exploration Activities 1998 to 2016

Exploration activities from 1998 to 2001 were limited in scope and did not include any additional trenching or drilling. The fieldwork that was conducted generally comprised only random rock sampling from either outcrop around the Property or from the underground workings. Most of the work completed during this time was summarized in unpublished reports, except for *The Barahona Report, Cerro de Oro, April 10, 2010*, prepared for TNM (Belik, 2010). The following summary for the remainder of this subsection has been extracted from Belik (2010).

IMMSA, a wholly owned subsidiary of Grupo Mexico, holds claims adjoining the Cerro de Oro Property to the east and south (Ocampo 1 to 7 claims). During 2001 and 2004 IMMSA carried out detailed mapping and sampling over most of the surface showings and underground workings in the area. In total, IMMSA collected 201 surface and underground rock samples during this time from the Cerro de Oro Property as part of their program. Results are summarized in a brief report (IMMSA dated May

2004). The report included a recommendation that IMMSA option the Zacatecas claims, but apparently this was never carried out.

An IMMSA compilation map dated September 2001 shows 27 drill holes within the Cerro de Oro claim area. None of the holes appear to have been drilled by IMMSA (no mention of drilling in their summary reports). Most, if not all, are probably Noranda holes, but this has not been confirmed. Belik was able to locate most of the drill sites in the field during his visit to the Property.

No systematic exploration work has been carried out on the Property since 2004. J. M. Dawson carried out relatively minor rock sampling on some of the surface showings and underground workings in 2005 (6 samples); Porthorin and Barahona in 2007 (6 samples); and Barahona (for TNM) in 2005 and 2009 (32 samples).

Belik (2010) collected 26 samples on a site visit comprising grab and chip samples from surface and both underground adits. The samples were sent to ALS Chemex Hermosillo. At the time of his report, it appears that Belik did not have access to all the Noranda drill-hole database, as he noted in his report that the results were largely unavailable. Belik identified five zones on the Property that include Zones A and B, which are associated with copper-gold-porphyry intrusions; Zone C, which is copper-gold skarn mineralization; the Occidental adit zone; and the Zacatecas adit one. Zones A and B, the Occidental adit zone, and the Zacatecas adit zone, combine to form the North and South zones referred to in this Report. Zone C falls outside of the claim area, to the southwest. A summary of these zones, taken from Belik's report are as follows:

- Zones A and B are associated with late-stage granodiorite porphyry stocks, pervasively altered (quartz-clay-sericite-pyrite with and without biotite), and contain strong quartz stockwork veining. Rock samples from Zone A returned copper-gold-silver grades from 26 ppb to a high of 1,860 ppb. Rock samples from Zone B returned assays of 0.04% to 4.37% Cu, 52 ppb to 13,720 ppb Au, and up to 18.1 ppm Ag. Belik noted that 70% of the samples collected from Zone B assayed greater than 300 ppb Au.
- The Zacatecas adit zone hosts several styles of mineralization that included a breccia pipe, polymetallic-skarn, and gold skarn-type mineralization, as well as a silica-rich breccia/shear/vein zone that has epithermal characteristics. Grab samples from the breccia pipe (exposed at the end of the adit) contained up to 9.79% Zn, 1.77 g/t Au, and 81 g/t Ag. The silica-rich zone is cross-cut near the middle of the adit, and is about 12 m wide, dipping 45° to the northeast. This zone has been cross-cut by historical workings, and noted by Belik to appear to remain open in all directions. Historical samples from this zone have returned values up to 31 g/t Au and 1,631 g/t Ag. A sample collected by Belik in a cross-cut at the deepest level returned assay results of 3.44 g/t Au and 292 g/t Ag. A skarn zone exposed near the opening of the adit assayed 0.44 g/t Au, 23.4 g/t Ag, 0.21% Cu, and 0.08% Zn over an apparent width of 30 m. A 10 m chip sample collected by Belik 60 m from the audit portal assayed 7.28% Zn, 0.92 g/t Au, 6.9 g/t Ag, and 0.31% Cu.
- IMMSA sampled the full length of the Occidental adit (119 m), which returned a weighted average gold grade of 0.87 g/t.

Belik recommended further exploration work in the form of a two-phase drilling program. The first phase was to include 2,320 m of drilling, or 10 holes, and was designed to target each of the five zones of interest identified in his report. This work was never undertaken.

6.4 Minera Mexico Pacific (2017–2018)

Minera Mexico Pacific optioned the Property in 2016 and conducted exploration activities on the Property until 2018. Over this period Minera Mexico Pacific initiated and undertook the largest exploration campaign since Noranda in the 1990s. The field campaigns were completed in 2017 and 2018, and comprised 4,272 of m of shallow RC drilling that targeted the oxide zones; this served to infill and confirm drilling in the South zone, and to further exploration in the North zone that expanded known extensions. Highlights of the work completed in this period include:

- 2017:
  - Mapping and sampling program to further define the North gold zone.
  - Revised North gold zone geological map (May 2017).
  - Collected 50 rock samples from the North zone. Sampling showed widespread gold values connected with strong silicification, brecciation and FeOx oxides related to an intrusive epithermal gold system over an area of 700 m east–west by 400 m north–south, with gold values ranging from 0.11 g/t to 2 g/t.
  - Investigated areas that could potentially provide sources of water.
  - Completed a surface use agreement.
  - Planned and started drilling the first phase that focused on the North zone.
- 2018:
  - Completed the first phase of drilling in February. The program included 30 RC holes (2,500 m) on the North gold zone.
  - Planned a second phase of drilling on the South zone.
  - Submitted 32 drill samples for bottle roll testing and three 600 kg surface samples for metallurgical testing.
  - Confirmed disseminated gold values in the southern area of the Project.
  - Exploration showed the continuation of gold mineralization in the North zone (north of the structural break between the two zones) that is like the South zone, with mineralization largely beginning at/near surface with many of the holes ending in mineralization.

The trench sampling conducted by Minera Mexico Pacific is shown in Table 6-4, and the location of the RC drill holes that were drilled are shown in blue on Figure 6-5. For comparison purposes, the Noranda RC drill holes are in red. Trench sampling and drill-hole results are shown in Table 6-4 to Table 6-6.

Table 6-4: Minera Mexico Pacific 2017 Trench Sampling

Trench ID	UTM Coordinates (NAD 27)		Azimuth (°)	Length (m)	No. of Samples	Avg. Gold Grade (g/t)	Zone
	East	North					
CT-18-01	234720	2749266	220	8	4	0.17	South
CT-18-02	234718	2749312	180	12	6	0.10	South
CT-18-03	234719	2749318	0	2	1	0.07	South
CT-18-04	234701	2749361	170	20	10	0.25	South
CT-18-05	234667	2749377	110	4	2	0.18	South
CT-18-06	234710	2749195	170	6	12	0.30	South
CT-18-07	234675	2749229	180	6	3	0.17	South
CT-18-08	234714	2749257	225	16	8	0.20	South
CT-18-09	234685	2749226	180	18	9	0.45	South
CT-18-10	234639	2749111	170	16	4	0.53	South
CT-18-11	234586	2749209	170	46	23	0.22	South

Figure 6-5: Drill Hole Location Map (Noranda and Minera Mexico Pacific)

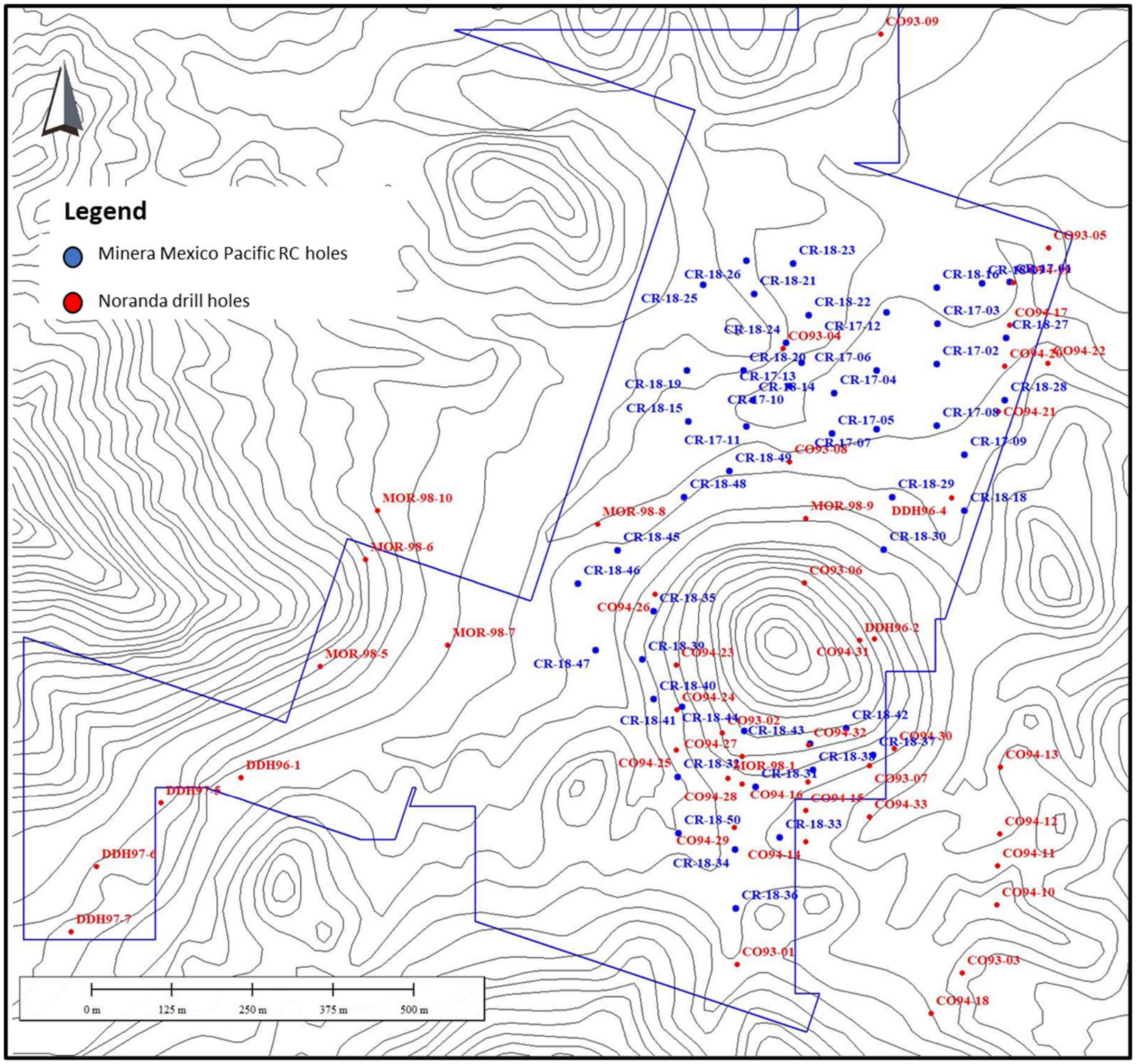


Table 6-5: Minera Mexico Pacific 2017 RC Drilling Program

Hole ID	UTM Coordinates NAD 27			Azimuth (°)	Dip (°)	Total Depth (m)	From (m)	To (m)	Interval (m)	Au Grade (g/t)	Zone
	East	North	Elev.								
CR-17-01	235290	2750029	1947	0	-70	54	6	54	48	0.70	North
CR-17-02	235177	2749902	1951	0	-70	102	10	102	92	0.13	North
CR-17-03	235178	2749964	1949	0	-70	70	6	70	64	0.15	North
CR-17-04	235018	2749856	1956	0	-70	122	10	122	112	0.42	North
CR-17-05	235014	2749794	1957	0	-70	132	12	132	120	0.28	North
Including							92	132	40	0.51	
CR-17-06	235084	2749891	1954	0	-70	158	10	158	148	0.18	North
CR-17-07	235084	2749801	1955	0	-70	114	10	114	104	0.16	North
CR-17-08	235177	2749806	1957	0	-70	78	4	78	74	0.18	North
CR-17-09	235220	2749761	1961	0	-70	90	6	90	84	0.28	North
CR-17-10	234949	2749867	1949	0	-70	66	2	66	64	0.38	North
CR-17-11	234882	2749804	1953	0	-70	96	8	96	88	0.23	North
Including							40	82	42	0.42	
CR-17-12	235100	2749982	1952	0	-70	84	8	84	76	0.12	North
CR-17-13	234968	2749904	1948	0	-70	102	2	102	100	0.42	North
Including							2	68	66	0.53	

Table 6-6: Minera Mexico Pacific 2018 Diamond Drilling Program

Hole ID	UTM Coordinates (NAD 27)			Azimuth (°)	Dip (°)	Total Depth (m)	From (m)	To (m)	Interval (m)	Au Grade (g/t)	Zone
	East	North	Elev.								
CR-18-14	234892	2749845	1950	0	-70	60	2	60	58	0.18	North
CR-18-15	234793	2749812	1954	0	-70	102	6	102	96	0.06	North
CR-18-16	235177	2750020	1947	0	-70	72	6	72	66	0.14	North
CR-18-17	235248	2750026	1946	0	-70	66	12	66	54	0.76	North
CR-18-18	235219	2749674	1967	0	-70	78	0	78	78	0.14	North
CR-18-19	234790	2749892	1963	180	-60	24	4	24	20	0.08	North
CR-18-20	234878	2749892	1965	0	-70	60	0	60	60	0.19	North
CR-18-21	234894	2750010	1962	0	-70	102	0	102	102	0.38	North
Including							0	70	70	0.44	
CR-18-22	234979	2749977	1954	0	-70	108	2	108	106	0.26	North
CR-18-23	234955	2750057	1955	0	-70	78	2	78	76	0.15	North
CR-18-24	234944	2749934	1960	0	-70	96	0	96	96	0.34	North
CR-18-25	234815	2750024	1973	0	-70	102	0	102	102	0.31	North
CR-18-26	234882	2750061	1962	0	-70	84	0	84	84	0.23	North
Including							0	34	34	0.35	
CR-18-27	235284	2749942	1951	0	-70	54	0	54	54	0.31	North
CR-18-28	235282	2749846	1964	0	-70	150	0	150	150	0.26	North

Hole ID	UTM Coordinates (NAD 27)			Azimuth (°)	Dip (°)	Total Depth (m)	From (m)	To (m)	Interval (m)	Au Grade (g/t)	Zone
	East	North	Elev.								
Including							2	40	38	0.38	
CR-18-29	235108	2749695	1969	0	-70	138	0	138	138	0.16	North
CR-18-30	235094	2749614	1989	0	-70	24	0	24	24	0.10	North
CR-18-31	234896	2749247	2018	0	-65	126	0	126	126	0.15	South
Including							0	24	24	0.29	South
CR-18-32	234776	2749262	1996	0	-65	72	0	72	72	0.47	South
Including							0	32	32	0.67	South
CR-18-33	234933	2749167	2004	0	-65	72	2	72	70	0.09	South
CR-18-34	234864	2749149	2009	0	-65	78	0	78	78	0.17	South
CR-18-35	234739	2749519	1998	0	-65	72	0	72	72	0.14	South
CR-18-36	234865	2749058	2018	0	-65	66	0	66	66	0.10	South
CR-18-37	235079	2749296	2012	0	-65	78	0	78	78	0.18	South
Including							38	60	22	0.29	
CR-18-38	234985	2749273	2016	0	-65	78	0	78	78	0.38	South
Including							2	58	56	0.47	
CR-18-39	234721	2749444	1994	0	-65	90	0	90	90	0.19	South
Including							0	28	28	0.42	
CR-18-40	234738	2749382	1993	0	-65	66	0	66	66	0.33	South
Including							0	24	24	0.62	
CR-18-41	234783	2749370	2008	0	-65	114	0	114	114	0.24	South
Including							2	58	56	0.30	
CR-18-42	235037	2749337	2036	0	-65	96	0	96	96	1.10	South
Including							0	64	64	1.33	
CR-18-43	234981	2749314	2032	0	-65	78	0	74	74	0.37	South
Including							0	42	42	0.50	
CR-18-44	234879	2749333	2039	0	-65	66	0	66	66	0.24	South
Including							0	26	26	0.38	
CR-18-45	234683	2749613	1968	0	-65	60	0	60	60	0.09	South
CR-18-46	234621	2749561	1970	0	-65	72	0	72	72	0.18	South
CR-18-47	234649	2749458	1977	0	-65	90	0	90	90	0.06	South
CR-18-48	234786	2749695	1965	0	-65	66	0	66	66	0.12	South
CR-18-49	234856	2749736	1962	0	-65	54	0	54	54	0.04	South
CR-18-50	234777	2749175	1999	0	-65	112	0	112	112	0.20	South

6.5 Minera Alamos Inc.

Minera Alamos acquired the Cerro de Oro Property on August 4, 2020 from Minera Placor, a private owner, through its Mexican subsidiary Minera Mirlos. Since the time of the acquisition Minera Alamos has not completed any new exploration activities on the Property.

6.6 Production History

While the Cerro de Oro Property hosts numerous historical pits, trenches, and underground workings, there are no existing records that document any metal production from the Property.

Over the last decade small miner and/or prospectors (known locally as gambusinos) have been drawn to the area by the presence of high-grade gold mineralization. While their activities are visible from surface, there are no existing records that document how long these activities have been occurring, nor any record of metal production.

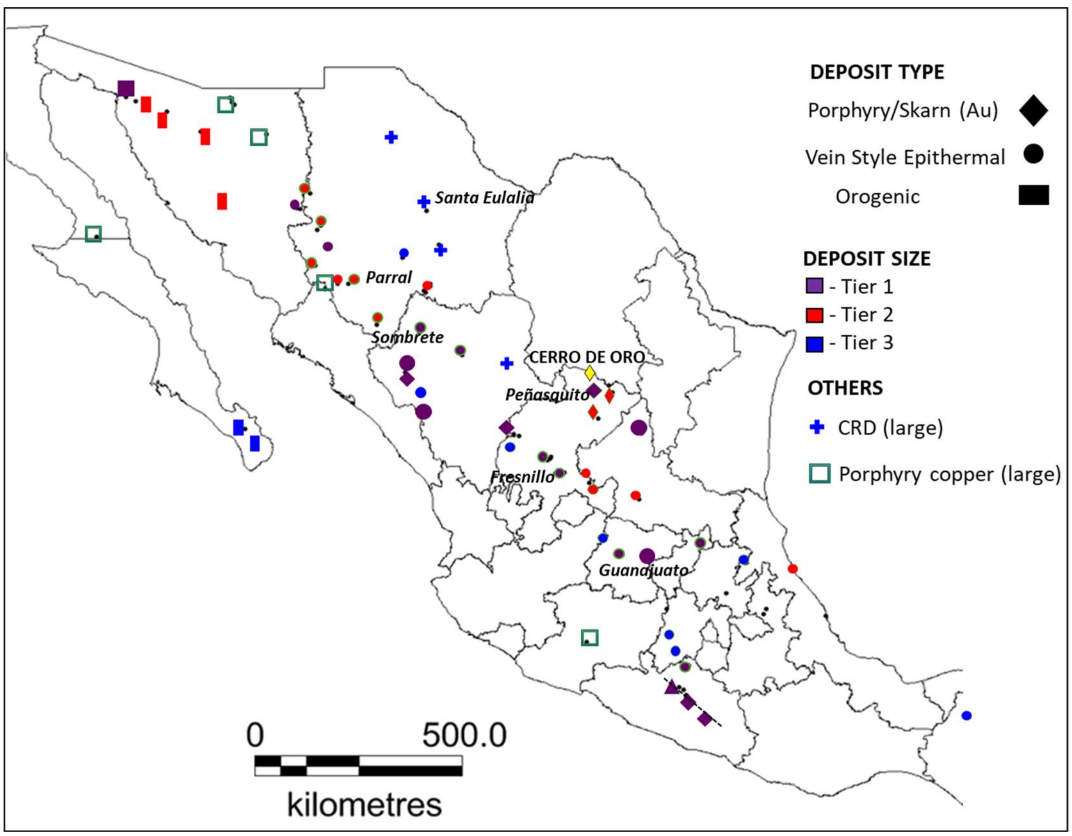
7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Geologic Setting

The Cerro de Oro project lies along the northern border of Zacatecas state and the southern limits of Coahuila state in the mining district of Melchor Ocampo. This region is well known for a prolific late Eocene to mid-Oligocene magmatic-hydrothermal metallo-tectonic event. Historically, mining in the immediate area has been focused on high-grade gold-copper-lead-zinc skarn replacement type mineralization that includes both mantos and chimneys. The Melchor Ocampo area also falls within the larger Concepción del Oro "Mega-District," which includes similar intrusive-related gold polymetallic mines and mineral deposits, such as Peñasquito, Noche Buena, Macocazac, and Salaverna.

The Cerro de Oro project is in the physiographic province of the Sierra Madre Oriental, within the geological province of the Mexican Fold and Thrust Belt (Ortega-Gutierrez, 1992), which is characterized by synclines and anticlines with east-to-west orientations and north-northeast vergence, composed of Mesozoic sedimentary marine sequences that were cut by late Eocene to mid-Oligocene intrusive rocks. Figure 7-1 shows the location of the Cerro de Oro project in relation to some of the known deposits of Mexico.

Figure 7-1: Location of the Cerro de Oro Project and Other Deposits of Mexico



7.2 Regional Geology

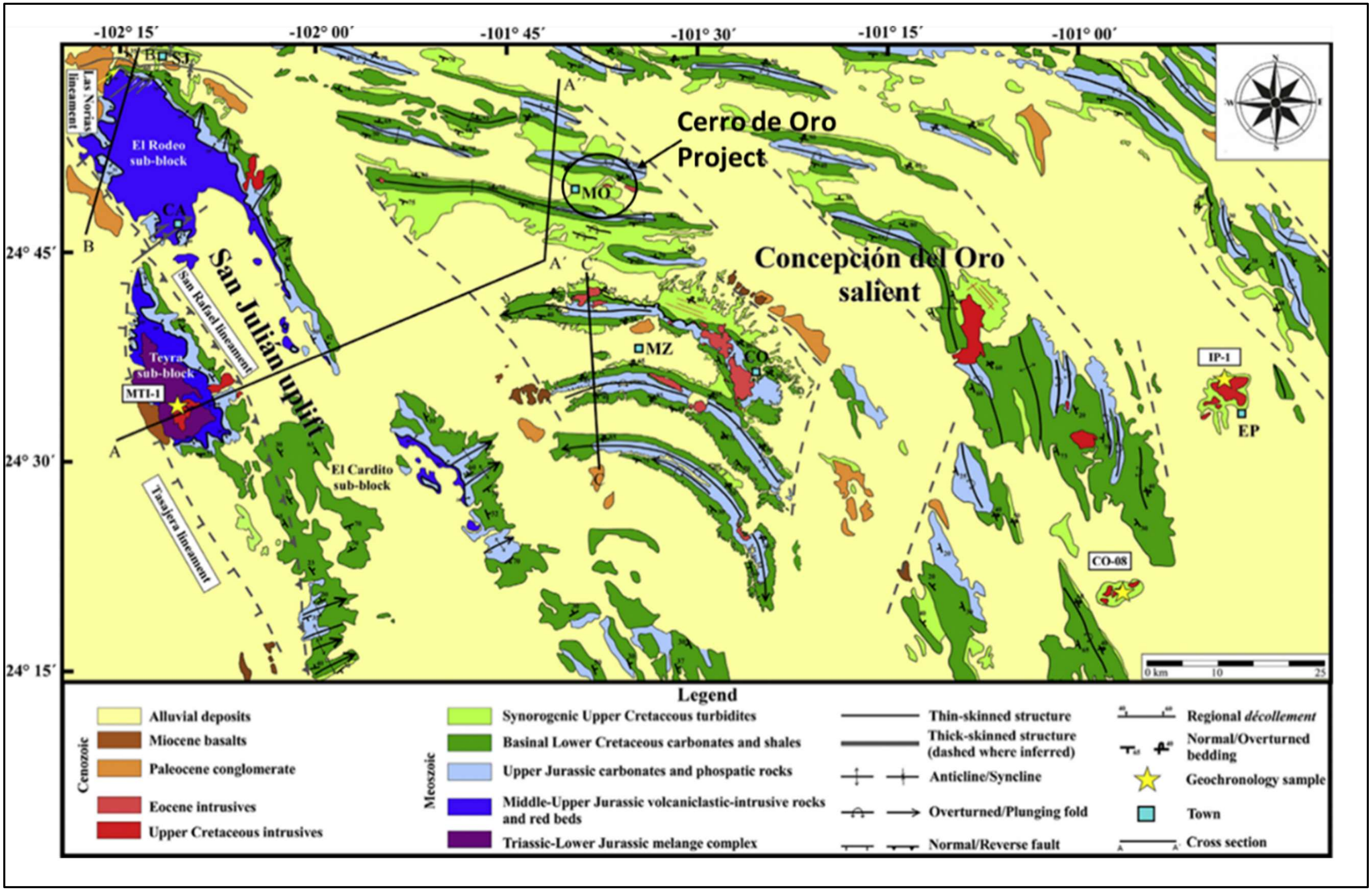
The regional geology is dominated by Mesozoic sedimentary rocks deposited during the Jurassic and Cretaceous periods and are characterized by a 2,000 m thick sequence of carbonaceous and calcareous turbiditic siltstones and interbedded sandstones. This unit is subsequently underlain by a 1,500 m to 2,000 m thick limestone sequence.

The oldest rocks in the area are the Upper Jurassic limestones and cherts of the Zuloaga Formation. These units have a low clastic content indicative of deposition in a shallow epicontinental sea. The Zuloaga Formation is overlain by the La Caja Formation. The La Caja is a variably fossiliferous series of thinly bedded phosphatic cherts and silty to sandy limestones that have potentially recorded periods of fluctuating sea levels. The La Caja Formation is in turn overlain by limestones and argillaceous limestones of the Taraises Formation. The Taraises Formation has increasing chert and disseminated pyrite near its top at the transition to the Cupido Formation. The Cupido Formation is overlain by the cherty limestones of the La Peña Formation deposited during the transition from the lower to upper Cretaceous Period. The La Peña Formation is in turn overlain by the thickly bedded limestones of the Cuesta del Cura Formation.

Notably, there is an abrupt change in sedimentation style at the base of the Indidura Formation that comprises a series of shales, calcareous siltstones, and argillaceous limestones that indicate a shallow marine depositional environment. Upper Cretaceous rocks of the overlying Caracol Formation consist primarily of interbedded shales and sandstones, and represent a change to dominantly clastic sediments within the depositional basin. Following a period of compressional deformation, uplift, and subsequent erosion, the Mesozoic marine sediments were overlain by the Tertiary Mazapil Conglomerate. The folded and faulted sedimentary units are cut by multiple intrusions that have been interpreted to be emplaced from the late Eocene to mid-Oligocene and dated at 33 million years (Ma) ago to 45 Ma.

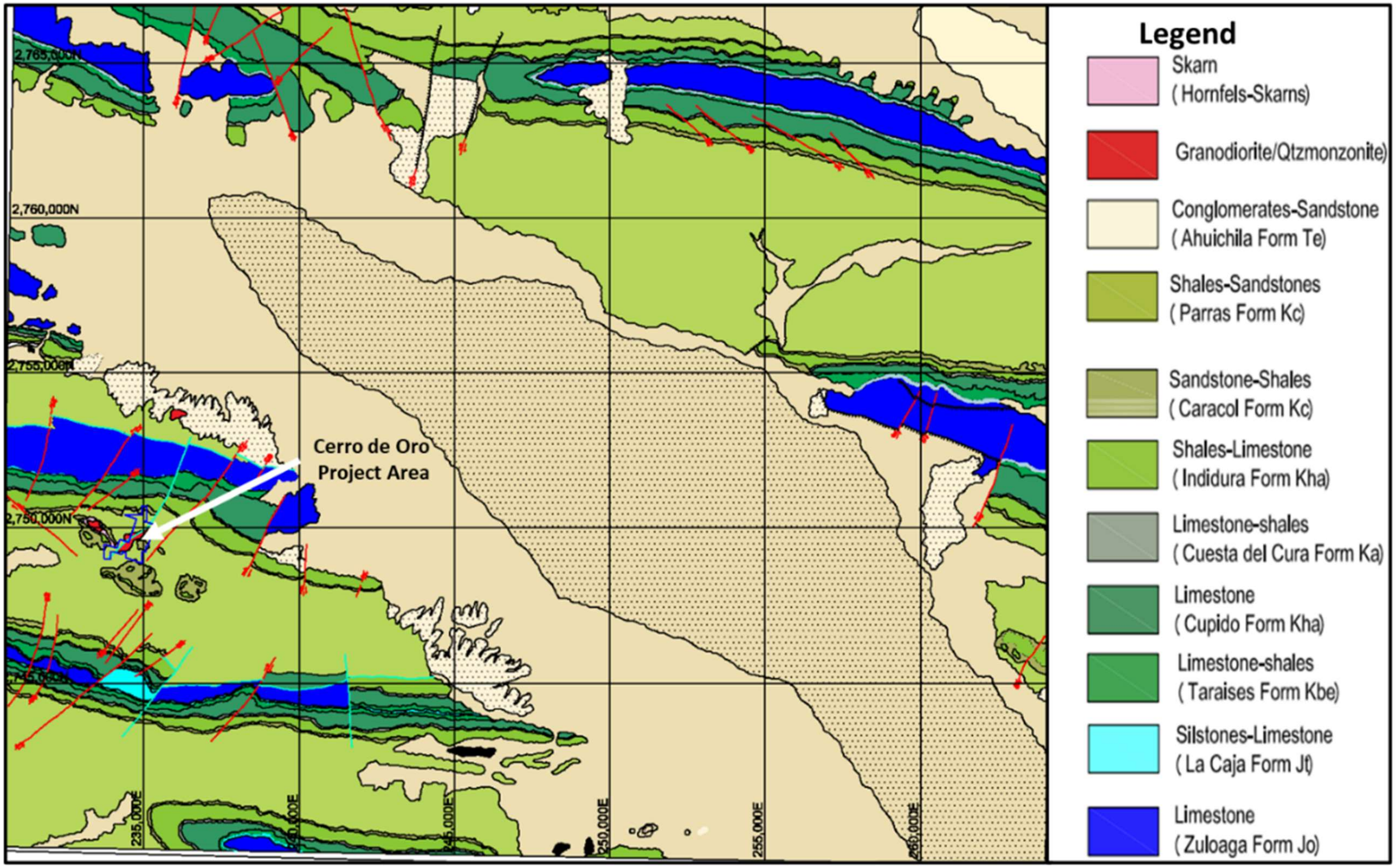
Figure 7-2 and Figure 7-3 show the regional geology maps on two district scales, namely the broader Concepción del Oro Mining District and Melchor Ocampo scales.

Figure 7-2: Generalized Regional Geological Map Concepción del Oro Mining District



Notes: Modified from Ramírez and Chaves, 2017. CO denotes Concepción del Oro, MO denotes Melchor Ocampo, and MZ denotes Mazapil.

Figure 7-3: Regional Geological Map Melchor Ocampo District



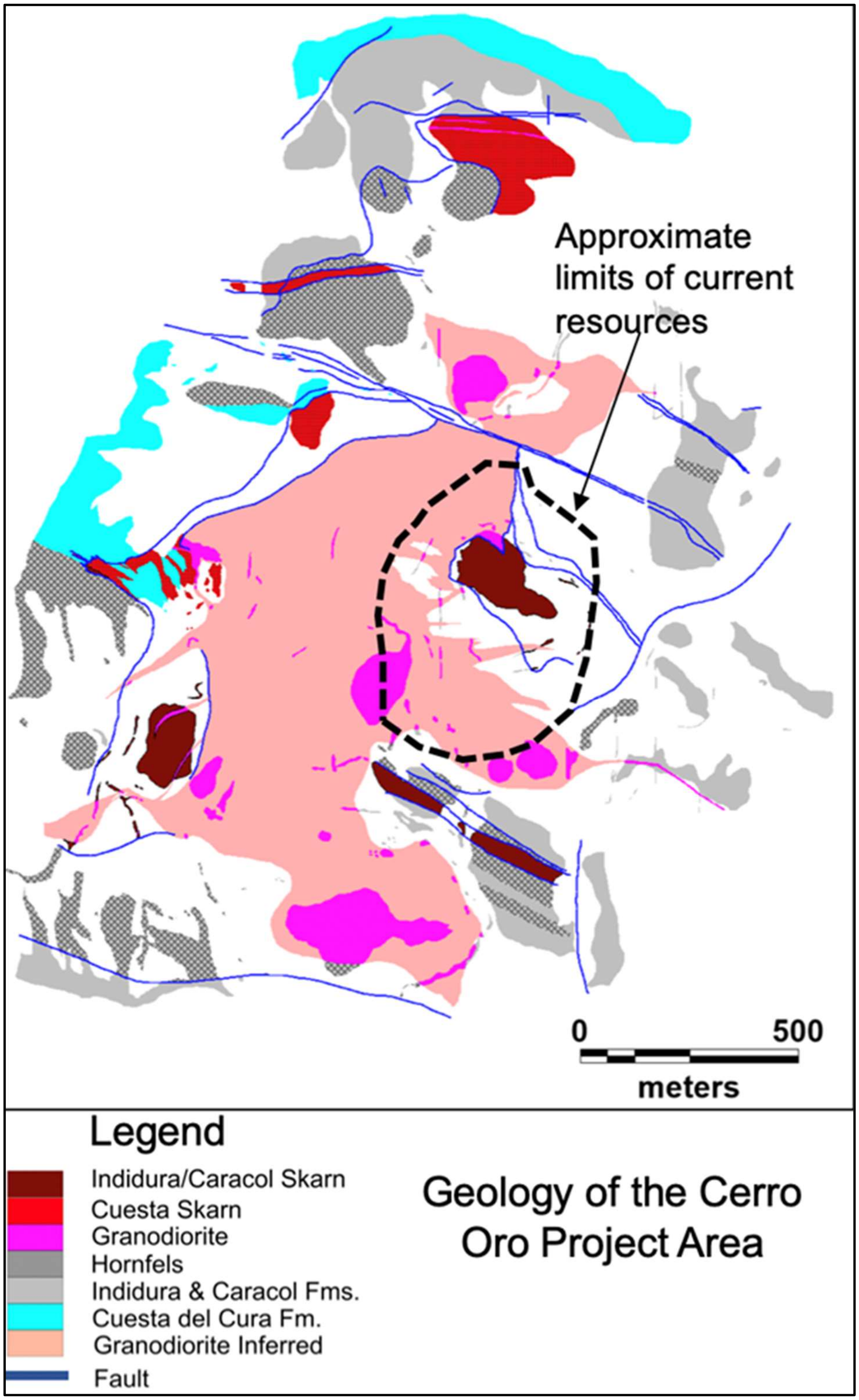
7.3 Local Geology

The rock formations covering most of the Cerro de Oro project area are sedimentary rocks of Cretaceous age consisting of the Caracol and Indidura Formations. The Caracol Formation is mainly thinly bedded calcareous shale with locally fine interbedded limestone units and fine sandstone units. Older sedimentary rock units are present further to the north towards the axis of an east–west trending anticlinal structure. Conformably beneath the Caracol Formation is the Indidura Formation. All layered rock units in the area are steeply dipping to near vertical. Significant amounts of thicker bedded limestone are present in the Cerro de Oro area and further west, suggesting the Indidura Limestone is present possibly as rafted blocks that have been uplifted by the intrusive granodiorite porphyry, which has a diapiric form of emplacement. The Indidura Formation outcrops continuously nearby to the north of the Cerro de Oro mineralized zone, along the strike of the exposed units.

Rock units of the Melchor Ocampo area are seen to be folded into a large-scale set of anticlines and synclines that trend around N70NW, with bedding attitudes that are steeply dipping. A large syncline passes approximately through the Melchor Ocampo town site, parallel to the anticline located about 3 km north of the Project area. The Cerro de Oro mineralized zone is approximately midway between these two axial planes.

Figure 7-4 shows the geology of the Cerro de Oro project area.

Figure 7-4: Geology of the Cerro de Oro Project Area



7.4 Project Geology

Mineralization at the Project scale occurs within a granodioritic porphyritic stock and within its calcareous host rocks (Figure 7-5). Within the calcareous host rock zone are blocks of highly garnetized limestone that are part of the Indidura Formation. These sedimentary rocks have been uplifted by the intrusion of the granodiorite stock.

Figure 7-5: Caracol Formation

The porphyry granodiorite outcrops in the central parts of the mineralized zone and in the creek beds that cut the concession area. The porphyry granodiorite can be described as light grey in colour, fine grained, with abundant plagioclase, and smaller, but about equal, amounts of quartz and orthoclase. Biotite is commonly present between 5% and 10% and appears as thick books. The biotite has been largely altered to the sericite pseudomorph, with plagioclase and much of the orthoclase also altered to sericite. These primary minerals are contained within a fine to microcrystalline matrix.

The age of the granodiorite porphyry at Cerro de Oro has been extrapolated to be the same as other granodiorite stocks in the Concepción del Oro district. Potassium–argon (K–Ar) radiometric ages published by Montanez and Torres-Duran (2003) for a similar intrusive rock 20 km to the south of the Project reported an estimate age of 41 Ma ± 3 Ma.

A series of faults is observed cutting the mineralized granodiorite porphyry on its southern side. These faults trend approximately N75W, are steeply dipping, and are infilled with wide zones of gouge and breccia. A second fault series crosses the eastern side of the concession area trending around N15E.

The area between these two fault-series appears to be down-dropped on the northern side of the first fault series (N75W), hiding part of the mineralized zone beneath strongly altered shale and intrusive rock, and a large area of gravel cover.

The granodiorite intrusive rock typically occurs in areas of lower elevation due to its altered and fractured character. The porphyritic intrusive stock is semi-elliptical in plan view, with a maximum axis oriented to the NNE. The intrusion is around 1,500 m long and between 400 m and 700 m wide.

7.4.1 Mineralization

The current Mineral Resources are contained within a semicircular zone of about 1 km diameter; within this mineralized envelope the ore zones are mixed, with some lower-grade or barren zones. Most of the drilling is shallow, with an average depth of 100 m, roughly corresponding to the depth of supergene oxidation. The upper 70 m to 120 m of the mineralization has been oxidized with pyrite altered to hematite, goethite, and jarosite. The hypogene sulphide mineralization is open at depth, and along all directions.

Mineralization at Cerro de Oro consists dominantly of pyrite that is widely disseminated throughout the porphyritic granodiorite, and in hornfels and skarns developed at the contact with the sedimentary rocks. Occasionally the presence of chalcopyrite has been noted, but its presence is typically minor and erratic. Lead and zinc are associated in varying amounts with the pyritic mineralization and may correlate with gold mineralization within the skarn zones. In areas where gold is hosted within the porphyritic granodiorite, only pyrite is associated with gold mineralization. There are a few multi-element analyses available in the Project database that show anomalous amounts of bismuth, arsenic, antimony, silver, lead, zinc, copper, and molybdenum.

Gold resources reported in this document are primarily hosted by the porphyritic granodiorite, which is characterized by various forms of stockwork-controlled mineralization associated with the development of early potassic alteration that was later overprinted by a sericitic event. The observed veins are typical of porphyry systems including magnetite vein; magnetite and quartz veins (A and B veins) developed with potassic alteration; and later D veins associated with sericitic alteration. Figure 7-6 and Figure 7-7 show examples of stockwork quartz veining in the granodiorite intrusive.

The specimen on Figure 7-7 is altered porphyritic granodiorite with formerly high sulphide content evidenced by the jarosite-limonite filled veinlet. The porphyry is altered, with strong pervasive silicification and sericite. Fracturing is common, as is seen in the specimen. Minor quartz occurs as vein filling.

The mineralization at Cerro de Oro also occurs in the thinly bedded calcareous shale of the Caracol Formation and in its hornfels equivalent. It comprises iron sulphides like pyrite, now oxidized down to 70 m to 120 m from surface. The mineralization in the Caracol sediments and hornfels is partially disseminated, but is mostly distributed along bedding planes, fractures, and occasional veinlets and veins where it is often accompanied by quartz (Figure 7-8 and Figure 7-9). The vein-controlled sulphide mineralization was in places so intense and thick (up to at least 10 cm), that iron sulphides were oxidized to gossan (Figure 7-10).

Figure 7-6: Examples of Stockwork Quartz Veining in the Porphyritic Granodiorite Intrusive

Note: Collected from the southern end of Trench 9900 on the south side of the Cerro de Oro concessions.

Figure 7-7: Altered Porphyritic Granodiorite with High Sulphide Content

Figure 7-8: Mineralized Caracol Formation (Road Cut)

Figure 7-9: Caracol Formation with Goethite-Hematite

Note: After pyrite and bedding planes and fractures.

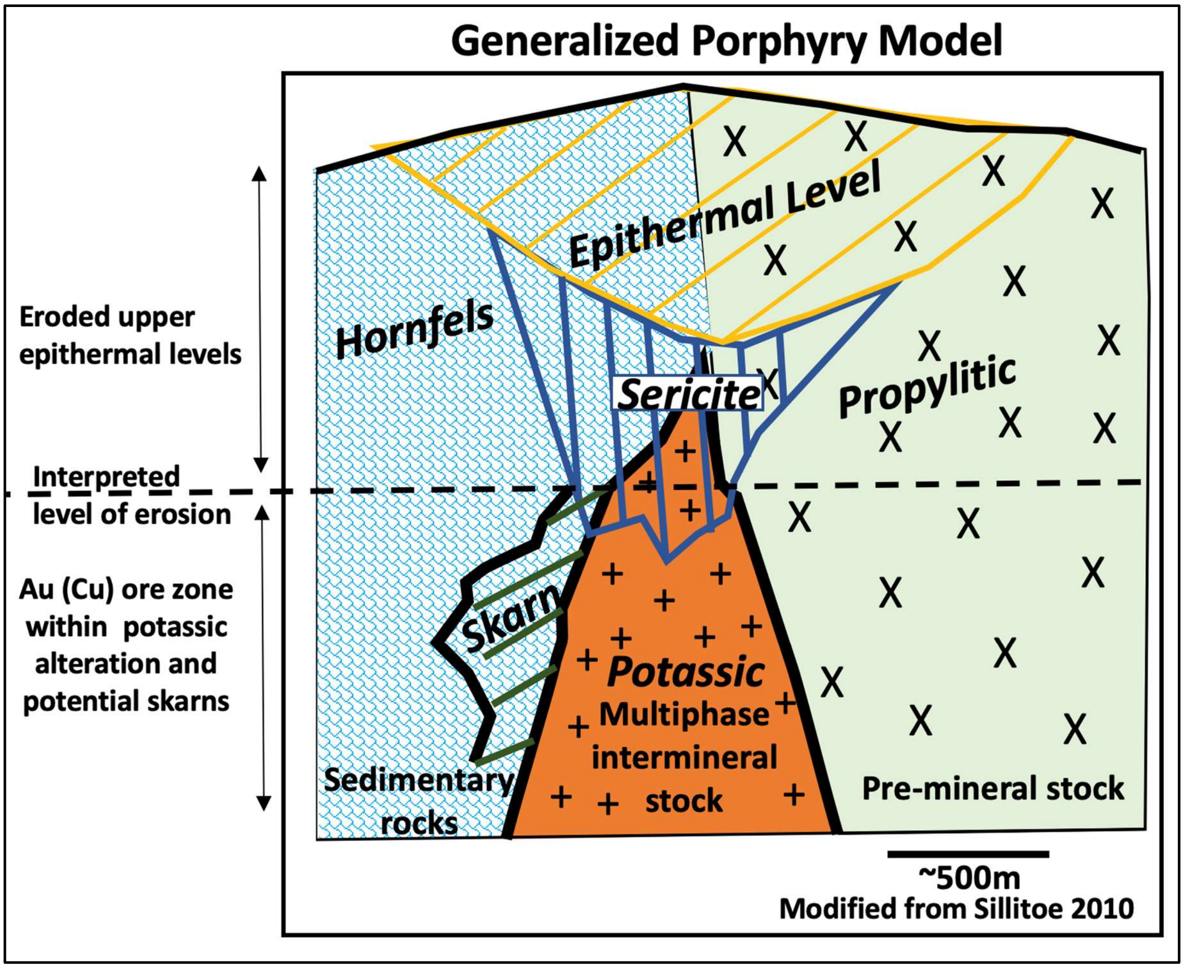
Figure 7-10: Sericitically Altered and Silicified Calcareous Siltstone of Caracol Formation

Note: With originally high pyrite now oxidized to goethite, hematite, and jarosite.

8 DEPOSIT TYPES

Mineralization at the Cerro de Oro deposit is typical of a porphyry system and is characterized by the development of A and B veins. These veins developed during an early potassic alteration phase and were later overprinted by silica and sericite (phyllic overprinting) within the inter-mineral porphyritic intrusive phases. These phases form part of the overall intrusive complex. Figure 8-1 shows a generalized porphyry model that has been modified from Sillitoe (2010) for the Cerro de Oro deposit.

Figure 8-1: Generalized Porphyry Model Cerro de Oro



Sillitoe's model describes a number of geological attributes to be expected in association with gold-rich porphyry systems that are linked to the emplacement and crystallization of a deep magma chamber; the segregation of more water-rich dikes that are emplaced at the upper crustal level; and the final focused release of metalliferous fluids from the crystallizing magma chamber. Within the porphyry system the intrusive centres are often composed of pre-mineral, inter-mineral, and post-mineral intrusive phases. Seven types of alterations are described, including at deeper levels calcic-sodic;

potassic; propylitic; intermediate argillic; sericitic or phyllic alterations; and at shallower levels argillic and advanced argillic alteration mineral assemblages.

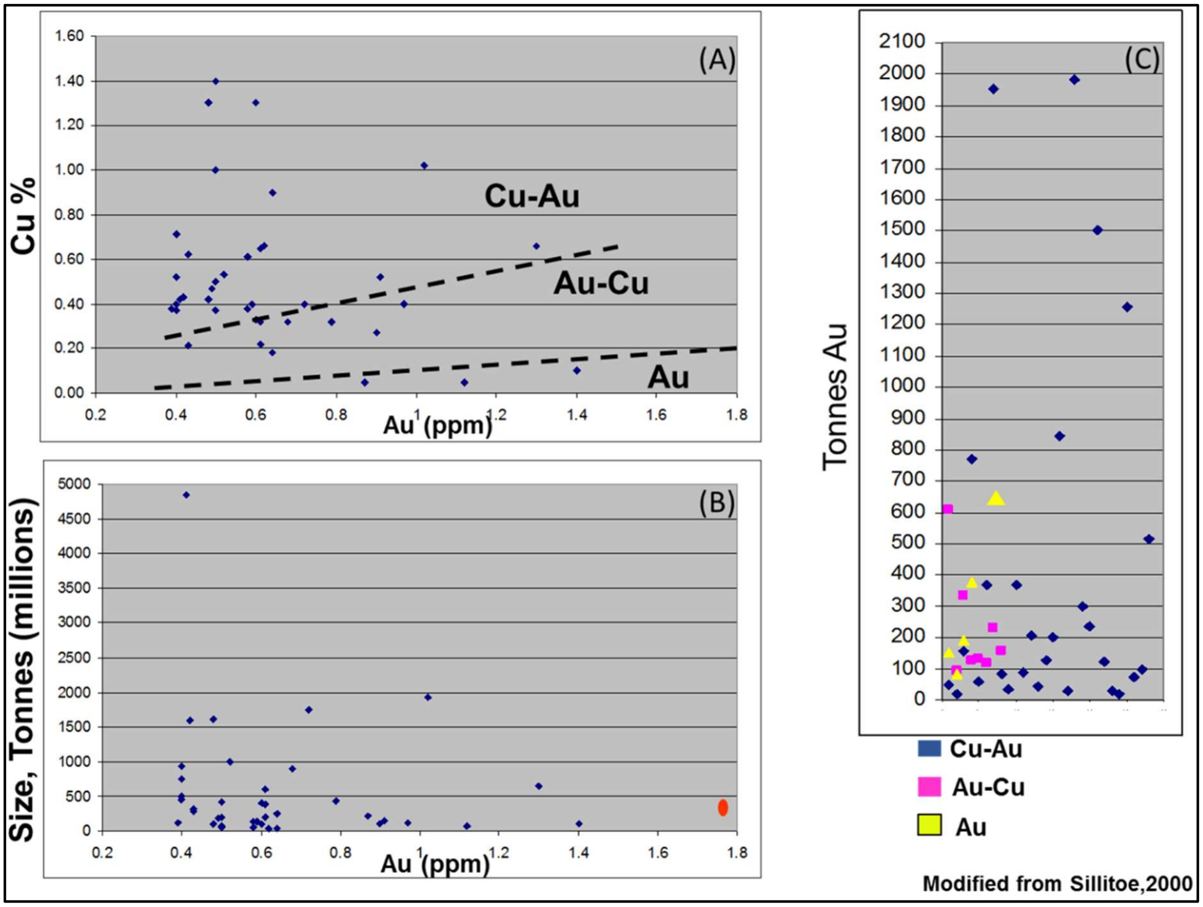
Alteration and mineralization occur in veins, within vein salvages, and can also be pervasive. There are some exceptions, but the best gold grades often occur within the potassic core, with gold contents commonly showing good correlation with the intensity of A and B veining. In many deposits, there is more than one inter-mineral intrusive phase, often with different average gold grades. The evaluation of the size and grades of the entire porphyry system requires detailed mapping of the intrusive stock—the granodioritic stocks in the case of Cerro de Oro—to separate the different intrusive phases, as they represent the main ore control.

The porphyry system at Cerro de Oro according to Sillitoe (1979) can be defined as a gold-rich system because it has a typical gold content of ≥0.40 g/t. Sillitoe (2000) provides examples of gold-rich porphyry deposits from around the world, and includes a description of the individual deposits and their respective genetic models. According to this work, porphyry deposits that have an average grade of ≥0.40 g/t Au can be further subdivided as either copper-rich or copper-deficient, and described within one of three main subgroups, defined as follows:

- Cu-Au porphyry provided average Cu grades are ≥0.40%
- Au-Cu porphyry for deposits where the Cu grade ranges between 0.10% and 0.40%
- Au-rich/Cu-deficient porphyry for all deposits with average Cu grades of less <0.10%.

There are not enough data currently available in the Cerro de Oro database to accurately estimate the copper contents of the hypogene sulphides, because most of the drilling completed at the Project has focused primarily on the near-surface oxide zone. Nevertheless, it is more likely that the copper grades average below 1,000 ppm based on the grades that have been reported in some of the drill holes that were sampled in the hypogene sulphide zone, and the very low copper grades reported in the transition zone. If significant copper grades occurred in the oxide zone (near surface) that has been subsequently leached, it would be expected that copper grades in the transition zone would be over 0.30% or 0.50% where the dissolved copper would be redeposited as secondary copper sulphide. Furthermore, metallurgical bulk samples that have been tested to date have copper grades that range up to 1,000 ppm, with a small group of grades reaching up to 3,000 and 4,000 ppm. For this reason, the Cerro de Oro deposit has been defined as a copper-deficient, gold-rich porphyry deposit. Figure 8-2 shows the classification system of the three gold-rich porphyry systems based on copper and gold grade.

Figure 8-2: Classification of the Three Gold-Rich Porphyry Systems



Source: Sillitoe, 2000.
Notes: A: shows the separation of the three subgroups of gold-rich porphyry systems based on copper and gold content.
B&C: show the size and grade of some of the known gold-rich porphyry deposits around the world on the basis of production plus reserves versus gold content defined by Sillitoe for systems with ≥0.4 g/t Au.

Examples of Cu-deficient gold-rich porphyry deposits include: Marte, Lobo, Refugio, and Cerro Casale, which are all within the Maricunga belt of northern Chile, and Colosa in Central Colombia. These deposits typically have average gold grades of ≤1 g/t, but often contain between 1 and 8 million ounces (Moz) of gold, with the exception of Colosa, which has more than 30 Moz in resources. A large number of these deposit types have good metallurgical recovery within the oxide and sulphide zones, except for the cases where the upper high-sulphide level overprints the potassic core. These gold-rich porphyries typically comprise fine-grained gold that is commonly less than 20 µm, but typically less than 100 µm, and present as high-fineness (>800 µm) native metal. Small amounts of coarse gold are also present and are recoverable within a gravity circuit in some deposits.

Unlike Cerro de Oro, the gold-rich porphyry deposits in the Maricunga belt in Chile are largely hosted in coeval volcanic sequences. Rather, Cerro de Oro is emplaced in the basement rocks similar to Colosa in Colombia, implying deeper crustal emplacement and a different local tectonic environment within the larger convergent plate boundaries typical of the western cordillera of the Americas.

9 EXPLORATION

Minera Alamos has not completed any exploration work on the Cerro de Oro project since acquiring the Property on August 4, 2020.

10 DRILLING

Minera Alamos has not completed any drilling programs on the Project since acquiring the Property on August 4, 2020.

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

As of the effective date of this Report, Minera Alamos has conducted limited field exploration at the Cerro de Oro project. Mineral exploration conducted by previous operators within the Property area is discussed in Section 6, and their sample collection, handling, preparation, and analytical procedures are described below. A summary of the amount of sampling and type of analyses that were organized by previous operators is shown in Table 11-1.

Table 11-1: Summary of Sampling Activities

Company & Laboratory	Number of Samples				
	Gold FA	Silver ICP	Copper ICP	Lead ICP	Zinc ICP
Mineral Mexico Pacific (2017/2018) ALS Chemex	2,068	2,068	2,068	2,068	2,068
Noranda (1993/1998)	2,941	1,256	2,941	1,162	2,941
Total	**5,009**	**3,324**	**5,009**	**3,230**	**5,009**

Notes: FA denotes fire assay; ICP denotes inductively coupled plasma.

11.1 Noranda Drill Programs 1993–1998

11.1.1 Method

Noranda conducted three drilling programs as part of their exploration activities at the Cerro de Oro project. These programs can be summarized as follows:

- The first program, or phase, began in 1993 and focused on the main zones of the Project known as the North and South zones. The program included 34 RC drill holes for a total of 2,840 m. These holes had an average length of around 84 m and a maximum depth of 150 m because the program was designed to target the near-surface low-grade disseminated oxide zone.
- The second program was finished during 1997 and comprised seven DDHs (core holes) that were designed to explore for deeper zones of mineralization. The seven holes totalled 2,750 m of drilling, with the deepest hole having a total length of 646 m. Of the seven DDHs completed, only two (DDH96-3 and DDH97-5) were drilled outside of the current Cerro de Oro claim area. Excluding DDH96-3 and DDH97-5, a total of 2,030 m was drilled on the claim area.
- Noranda completed the final phase of drilling in 1998 (MOR series of holes). This program was also completed by diamond drilling, and totalled 1,800 m. Excluding MOR98-10, which was drilled off the claim, the program totalled 1,294 m. The holes in this program were to the west of the Cerro de Oro claim and designed to investigate the deep base-metal skarn mineralization and the low-grade disseminated gold potential in this area. In general, the average sample widths were 2 m, with a few composite samples of 6 m.
- Detailed descriptions of the sample preparation, analysis, and security protocols and procedures that were used by Noranda were not available to the author of this section of this Report.

11.1.2 Sample Security

Information related to the security protocols and procedures that Noranda used were not available to the author of this section. The Noranda exploration programs were completed prior to the adoption of NI 43-101 in February 2001. Based on the available information, Noranda collected and stored all samples at the Cerro de Oro project until they were shipped in various size allotments to ALS Chemex in Hermosillo for sample preparation.

11.1.3 Sample Preparation and Analysis

Noranda used ALS Chemex exclusively during each drilling campaign. Samples were shipped from the Project to ALS Chemex Hermosillo for sample preparation. The pulps were then shipped to ALS Vancouver, British Columbia, for analysis. Details of the sample preparation and analytical procedures and analyses are as follows:

- Sample Preparation:
  - Crushing to 70% <2 mm
  - Riffle splitting and pulverization to 85% <75 mesh
  - Preparation of 30 g pulp samples.
- Analytical Procedures:
  - Gold: 983 fire assay (FA)-atomic absorption spectrophotometer (AAS) in 30 g samples
  - Silver: AAS-BKGD HNO_3-aqua regia digest
  - Copper: AAS HNO_3-aqua regia digest
  - Lead: AAS-BKGD HNO_3-aqua regia digest
  - Zinc: AAS HNO_3-aqua regia
  - Re-assay over limits of Ag >100 ppm, Cu, Pb and Zn >10,000 ppm.
- Analyses:
  - Gold analyses were completed by FA-AAS on 30 g samples
  - Aqua regia digestion (ARD) followed by inductively coupled plasma (ICP) analyses were completed to determine the quantities of the secondary metals (copper and silver)
  - Copies of the assay results were stored at the Project site in each drill-hole file while the original assay certificates (paper and PDF formats) were kept at Noranda's Hermosillo office.

During the period of this analysis work, the ALS laboratories were not ISO 9001 certified. ALS Chemex was not certified until 2015.

It is the author's opinion that Noranda's sampling programs were conducted to industry standards applicable at the time the work was conducted.

11.1.4 Quality Assurance and Quality Control

Detailed descriptions of Noranda's quality assurance and quality control (QA/QC) program are not available, and therefore could not be provided to the author. Nevertheless, the QA/QC program that ALS Chemex used in 1998 remains very similar to the one that is in place today.

At the time of the Noranda work, ALS Chemex, as part of its routine analysis work, incorporated reference materials or standards for assay control purposes. All data generated from these standards were used to ensure that the analytical processes were in control. Statistically 99.7% of all the data generated for an individual element in a particular standard must fall within the "3-sigma" limits—3 standard deviations—if the analytical process is in control. ALS Chemex labs ensured that the results from the standards fell within a 2-sigma limit of the normal distribution, or to a higher standard.

From the records that are available, ALS Chemex analytical procedures comprised the following:

- A duplicate was added every 15^{th} to 20^{th} sample
- The use of three Au standards (low, high, and an ALS Chemex CRM) per batch
- One to three analytical blanks for Au, Ag, Cu, Pb, and Zn per batch.

The author believes that Noranda's QA/QC programs conducted at the time of testing were carried out to industry standards.

11.2 Minera Mexico Pacific Drill Programs (2017–2018)

11.2.1 Method

The geologist collected samples from RC drilling at the drill site. Rock chips from the drill interval were collected by a riffle splitter if dry and by a rotary hummed splitter if wet. Two bags were collected for every 1.52 m (5 feet), one for the lab and the second as a witness sample. When drilling dry, the secondary splitter was air cleaned between every sample run. During wet drilling (just a few holes hit water), the sample technicians cleaned the secondary splitter with water. To avoid any potential contamination problem, the drillers were instructed to diligently perform a thorough air/water wash of the rods and the rotary splitter at the end of each run.

Plastic samples bags with sample numbers written on the bag were prepared ahead of drilling to avoid numbering errors. Duplicate samples, when required, were collected at the drill site. When drilling dry, the collected samples were immediately sealed using a plastic tie-wrap to avoid losses and to prevent tampering during transport.

The witness samples that were used for logging were collected every 1.52 m of drill run and were stored in specially made RC chip trays labelled with the interval (From–To) and the corresponding sample numbers for each run. The drill-hole and chip-tray numbers were written on the top of each box. Each chip-tray box was collected and brought to the exploration office daily for geological logging.

A geologist supervised sampling, although the drilling crew and Minera Mexico Pacific technicians were jointly responsible for ensuring proper QA/QC procedures were followed at the drill site.

Standard and blank samples were inserted in the sampling stream before shipping. No recovery measurements were calculated for the RC samples, but they can be calculated by the sample weights recorded at the ALS Chemex preparation lab in Zacatecas.

11.2.2 Sample Security

Established sample security procedures began at the drill and can be summarized as follows:

- Two plastic bags were labelled with the same sample number; one was used to send a sample to the lab, and the other was used to store the witness sample (stored at the camp).
- The two bags were filled directly from the RC cyclone, which split the sample in half (50%) for each bag. The bags were filled under a geologist's supervision.
- The chip tray was filled with one small sample from the witness bag at the drill, and was logged at the camp.
- When a hole was finished, the entire sample set was sent from the drill site to the camp.
- A chain-of-custody document was filled out and signed by the geologist, and the samples were tracked back to the camp.
- All samples were delivered to the storage facility in Melchor Ocampo, Zacatecas. A chain-of-custody document was used for shipping purposes, and reviewed and signed upon delivery.
- The chips trays were logged geologically and photographed.
- A geologist inserted blanks and standards as part of the sample-checking process.
- The geologists followed an established protocol to decide on the sample to be split for shipment to the laboratory. To split the sample the geologist used a riffle splitter to make a representative sample.
- Larger bags were used to bundle together groups of samples and were labelled appropriately.
- Shipment log sheets were generated to track each larger bag.
- The geologist signed the chain-of-custody document with a respected courier.
- When the courier arrived at the ALS Chemex lab in Zacatecas, the lab signed the chain-of-custody document.
- All samples tested were sent to the ALS Chemex laboratory in Zacatecas, Mexico.

11.2.3 Sample Preparation and Analysis

The 2017/2018 drill program was typically sampled at intervals of 1.52 m (5 feet). All samples were sent to ALS Chemex Zacatecas for preparation by crushing (70% <2 mm), splitting (by riffle splitter), and pulverization (85% <75 mesh). Samples were then shipped to ALS in Vancouver, British Columbia, for analysis. Gold was analyzed using 30 g FA with AA measurement. Further analysis was also completed using ARD, followed by 35-element ICP analysis, to determine the quantities of the secondary metals, including silver and copper.

Test results were provided in digital format for data merging, while the original certified assay certificates were forwarded with invoices.

The ALS Chemex assaying package used by Minera Mexico Pacific can be summarized as follows:

- Gold: AA23-FA-AAS for results >10 g/t Au; second assay performed using gravimetric finish.
- Silver: AA45-ARD-AAS aqua regia digestion, atomic absorption spectrometry, for results >100 g/t, second assay performed using gravimetric finish.
- All other elements: ICP41-ARD-ICP-Atomic Emission Spectrometry (AES).

During the period of analysis, the ALS laboratory held the ISO 9001 certification (certified in 2015).

It is author's opinion that the 2017/2018 sampling programs were conducted to industry standards that were applicable at the time the work was conducted.

11.2.4 Quality Assurance and Quality Control

Three control samples were inserted in the sampling stream for each drill hole as follows:

- The 21st sample in the batch was a duplicate, taken as half of the 20th sample.
- The 6th sample in the sampling stream was one standard or blank (certified standards pre-prepared in a small paper envelope). This was repeated in the next 6th sample.

The geologist and the technicians were responsible for ensuring proper insertion of the control samples. Two different standards (0.45 g/t and 0.61 g/t) were used during Minera Mexico Pacific's drill programs that corresponded closely to the expected assayed grades (Figure 11-1 to Figure 11-4).

Figure 11-1: Standard Assay Results (0.45 g/t Au)

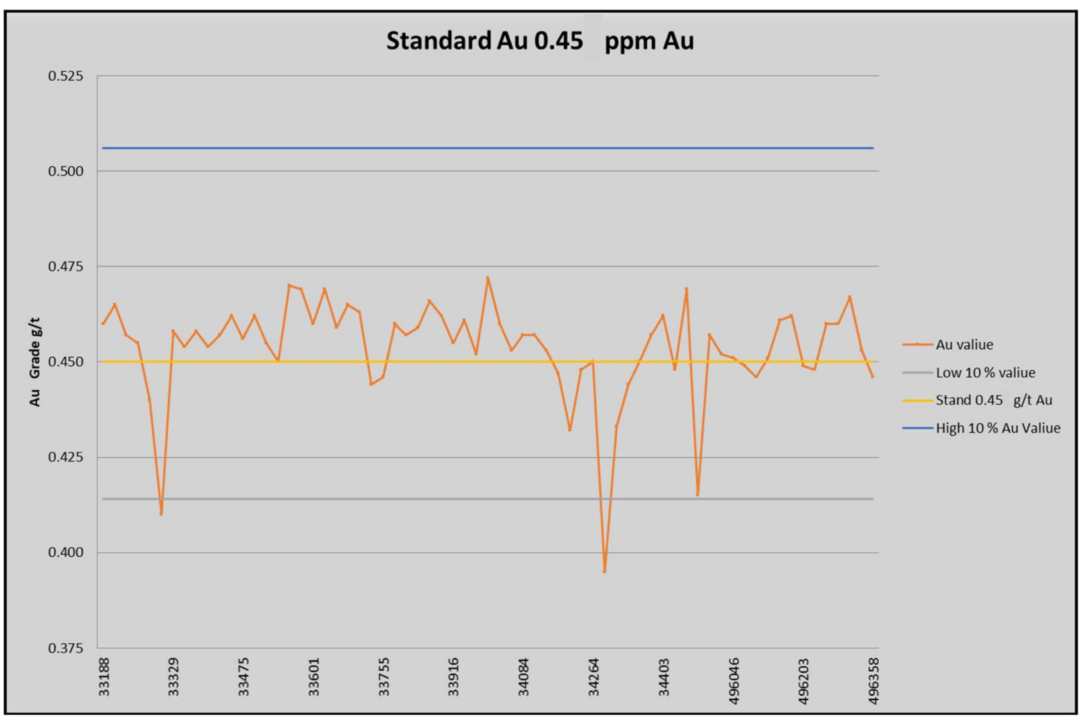


Figure 11-2: Standard Assay Results (0.61 g/t Au)

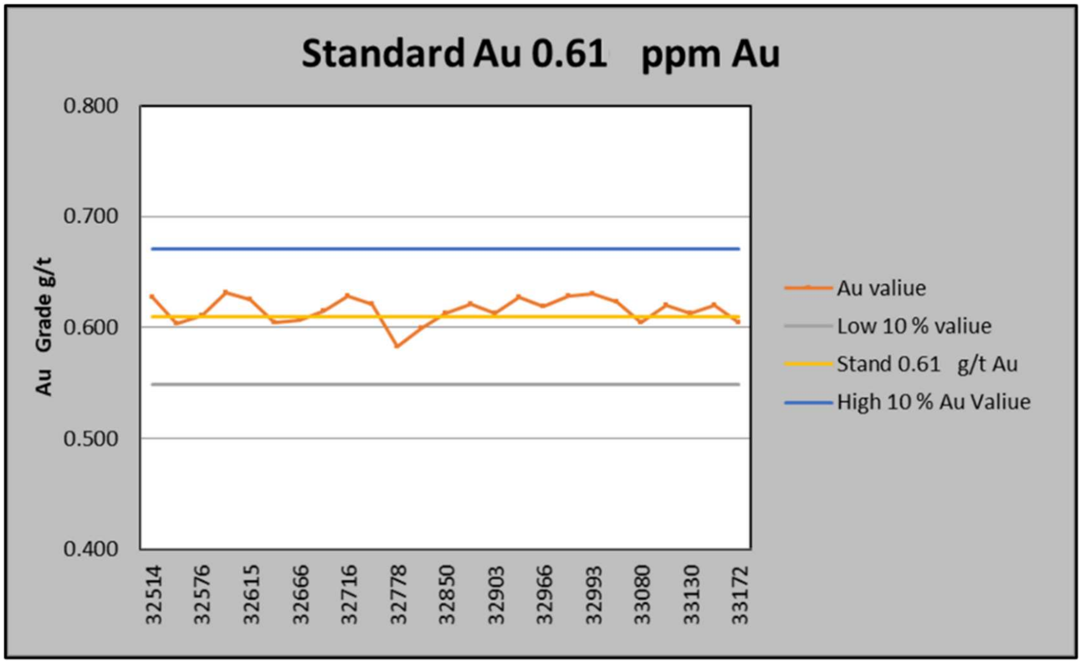


Figure 11-3: Field Blank Samples

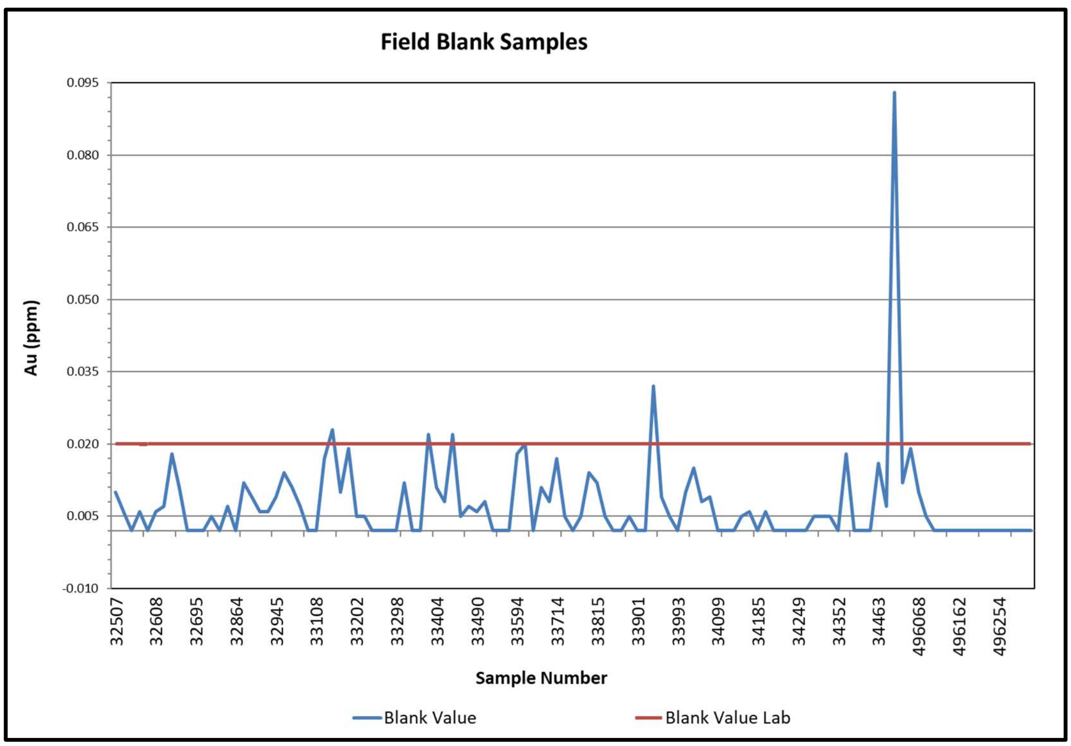
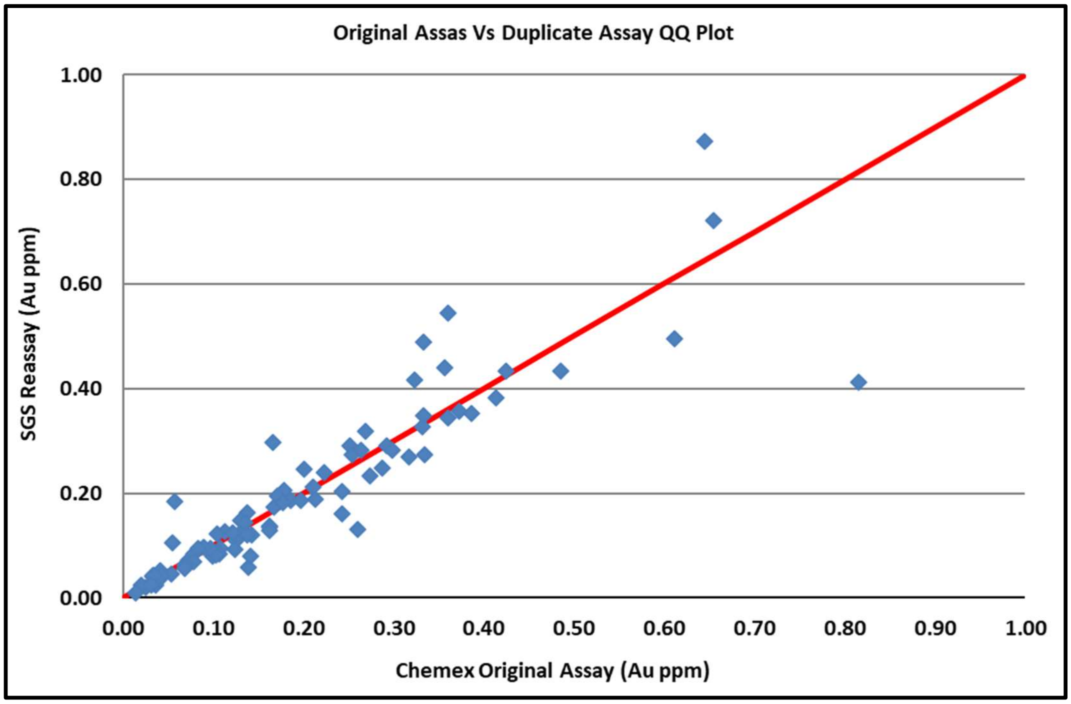


Figure 11-4: Original Gold Assays vs. Duplicate Assays QQ Plot



The ALS standards and blanks performed within acceptable ranges. The failures from the standards and blanks are not significant. The Pearson coefficient for the duplicated samples was 0.94 for gold (Figure 11-4), which confirms the results were within acceptable ranges on the aggregate. In the author's opinion, these data are therefore reliable for use in the Mineral Resource estimation that has been completed as part of this Technical Report.

11.3 Conclusions

The author finds that, despite small discrepancies, the data discussed in this section are reliable for Mineral Resource estimation and the purposes of this Report. The Minera Mexico Pacific protocols were thorough and fall within the exploration guidelines as laid out by *CIM Mineral Exploration Best Practice Guidelines* (CIM, 2000).

12 DATA VERIFICATION

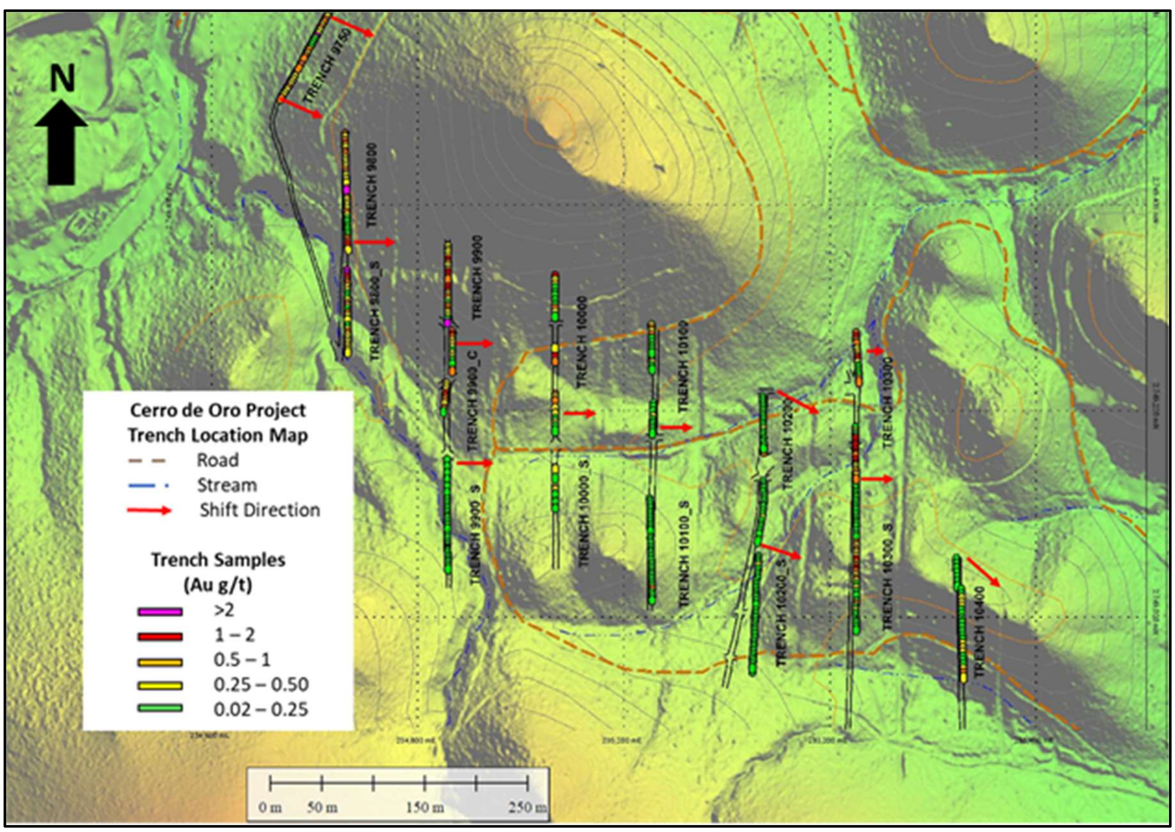
12.1 Noranda Drill Programs Data Verification

12.1.1 Collar Locations

The surveys Noranda completed in the 1990s used a local grid network that was subsequently converted to UTM (NAD 27). However, the simple translation applied after the drilling programs was incorrect, and Minera Alamos has amended it based on the location of Noranda's historical trenches and a new topographical data set purchased from PhotoSat (Vancouver). The trenches Noranda excavated can be identified both in the field and in the purchased topographical data set.

As part of the review process, the trench and drill-hole locations were converted to UTM NAD 27 coordinates using a relatively simple three-point rectification to match obvious trench locations visible on both the PhotoSat survey and the old trench/drill plan maps that used Noranda's local coordinate system. Figure 12-1 shows the location of the uncorrected trench locations versus the location of the trenches in the PhotoSat imagery; the red arrows show the direction of the shift that was applied to correct the Noranda trench and drill hole locations.

Figure 12-1: Noranda Trench Location Corrections



The overall translation was an adjustment of 40 m to 60 m in the east–west direction and −5 m to 25 m in the north–south direction. Following the translation, the drill holes that are located along trench lines were spot checked to confirm the location agreed with the location in the old plots/images in Noranda's local grid. This check showed all trenches and drill holes to be reasonably well positioned.

At the end of the correction process the drill holes and trench locations from the historical Noranda work appeared to be correctly located, with an overall accuracy of ±5 m to 10 m in the horizontal direction. Following this adjustment, the Noranda collars were moved vertically to match topography. Minera Mexico Pacific drill-hole collars that were surveyed using high-precession Global Positioning System (GPS) were used as ground control-points to correct the elevations in the topographical surface provided by PhotoSat.

12.1.2 Quality Assurance/Quality Control

The analytical data from the corrected drill-hole collars (see Section 12.1.1) that included survey and assay data were evaluated for anomalies and atypical results. Both visual and geostatistical comparisons of the data were performed to verify the results and to identify any data that appeared erroneous. Any points that were outliers, or questionable, were compared back to the original laboratory assay certificates.

12.2 Data Verification Minera Mexico Pacific Drill Programs (2017, 2018)

12.2.1 Collar Locations

Data verification began with a check of the collar coordinates of a few randomly selected drill holes against the coordinates reported for each hole in the database. The drill-hole collars were surveyed by high-precision GPS during the drill campaigns, and the coordinates have been found to be reliable in the field and in the database.

The author checked a few collars in the field and found them to be well marked by a cement monument that surrounded each drill-hole casing, with the respective hole number engraved. The actual recorded locations of the collars were checked in the field using a handheld GPS unit. The collars checked were found to be reasonably close, as the results were within 5 m to 8 m of the collar coordinates recorded by Minera Mexico Pacific using high-precision GPS at the time of drilling (see Section 12.3).

12.2.2 Electronic Database Verification

The analytical data (collars, surveys, and assays) were evaluated for anomalies and atypical results (visually and geostatistically), and were checked to see if they appeared erroneous against the original laboratory certificates. Table 12-1 provides a summary of the assay verification for both the Noranda and the Minera Mexico Pacific exploration programs.

Table 12-1: Cerro de Oro Summary of Assay Verification

Program	No. of Drill Holes	No. of Intervals	Metres	Percentage of Program
Minera Mexico Pacific (2017/2018)	50	2,075	4,272	100
Noranda (1993/1998)	49	1,579	7,400	100
Total	**99**	**3,654**	**11,672**	

The full database was also checked for overlapping assay intervals and abnormally high or unexplained negative values. No errors were found during this review.

12.2.3 Quality Assurance/Quality Control

As part of its QA/QC activities, Minera Mexico Pacific's metallurgical test program re-assayed some of the RC witness samples. The re-assayed results are shown in Table 12-2. Figure 12-2 and Figure 12-3 show duplicate comparisons for gold and copper, respectively. The duplicate assays from ALS Chemex are compared against those received from Société Générale de Surveillance (SGS).

Table 12-2: Summary of Re-Assay Results

ALS Chemex			SGS (Re-Assay)		
Drill Hole No.	Au Assay (g/t)	Cu Assay (ppm)	Sample No.	Au Assay (g/t)	Cu Assay (ppm)
CR-17-01	0.55	267	32504	0.68	310
CR-17-02	0.29	481	32570	0.28	497
CR-17-04	0.60	370	32625	0.68	424
CR-17-04	0.39	1,130	32650	0.41	1,140
CR-17-05	0.33	433	32707	0.34	515
CR-17-05	0.46	1,195	32735	0.48	1,150
CR-17-06	0.18	626	32779	0.19	632
CR-17-07	0.29	292	32841	0.31	296
CR-17-09	0.40	115	32956	0.39	126
CR-17-10	0.54	183	33008	0.36	200
CR-17-12	0.23	279	33096	0.21	279
CR-17-13	0.54	695	33149	0.55	692
CR-18-16	0.19	242	33281	0.14	250
CR-18-17	0.44	381	33308	0.38	330
CR-18-17	0.62	190	33316	0.73	190
CR-18-18	0.16	49	33347	0.17	60
CR-18-20	0.12	129	33395	0.15	10
CR-18-21	0.51	424	33432	0.51	440
CR-18-21	0.63	527	33462	0.59	480
CR-18-22	0.24	617	33489	0.34	57

ALS Chemex			SGS (Re-Assay)		
CR-18-22	0.64	436	33510	0.71	420
CR-18-23	0.45	232	33572	0.44	230
CR-18-24	0.55	519	33610	0.55	550
CR-18-25	0.73	583	33651	0.66	730
CR-18-25	0.30	457	33667	0.33	500
CR-18-26	0.39	1,390	33712	0.37	1,330
CR-18-26	0.26	322	33734	0.29	340
CR-18-27	0.38	63	33760	0.35	70
CR-18-28	0.61	29	33787	0.61	30
CR-18-28	0.45	43	33810	0.36	40
CR-18-28	0.48	206	33838	0.48	220
CR-18-29	0.23	136	33878	0.18	150
CR-18-32	0.40	913	34037	0.35	880
CR-18-32	0.33	2,520	34056	0.29	1,870
CR-18-34	0.24	894	34126	0.23	1,000
CR-18-34	0.23	3,030	34141	0.22	2,240
CR-18-37	0.31	371	34245	0.29	400
CR-18-37	0.45	2,120	34261	0.65	3,070
CR-18-38	0.27	576	34295	0.20	600
CR-18-38	0.60	821	34310	0.59	740
CR-18-39	0.31	1,255	34335	0.28	1,230
CR-18-39	0.09	438	34362	0.10	560
CR-18-41	0.32	805	34427	0.28	660
CR-18-41	0.34	1,655	34430	0.31	1,540
CR-18-42	0.44	1,080	34483	0.31	920
CR-18-42	2.27	4,270	496003	2.62	4,820
CR-18-42	0.79	956	496019	0.47	930
CR-18-43	0.89	1,209	496045	0.88	1,160
CR-18-43	0.64	569	496056	0.39	440
CR-18-44	0.37	1,450	496082	0.35	970
CR-18-45	0.16	380	496141	0.16	350
CR-18-48	0.31	484	496259	0.21	450
CR-18-50	0.28	1,105	496309	0.19	1,080
CR-18-50	0.22	719	496317	0.20	740
CR-18-50	0.29	776	496330	0.23	800
CR-18-50	0.48	3,170	496352	0.44	3,110

Figure 12-2: Gold Q–Q Plot of ALS Chemex Assay vs. SGS Duplicate Assays

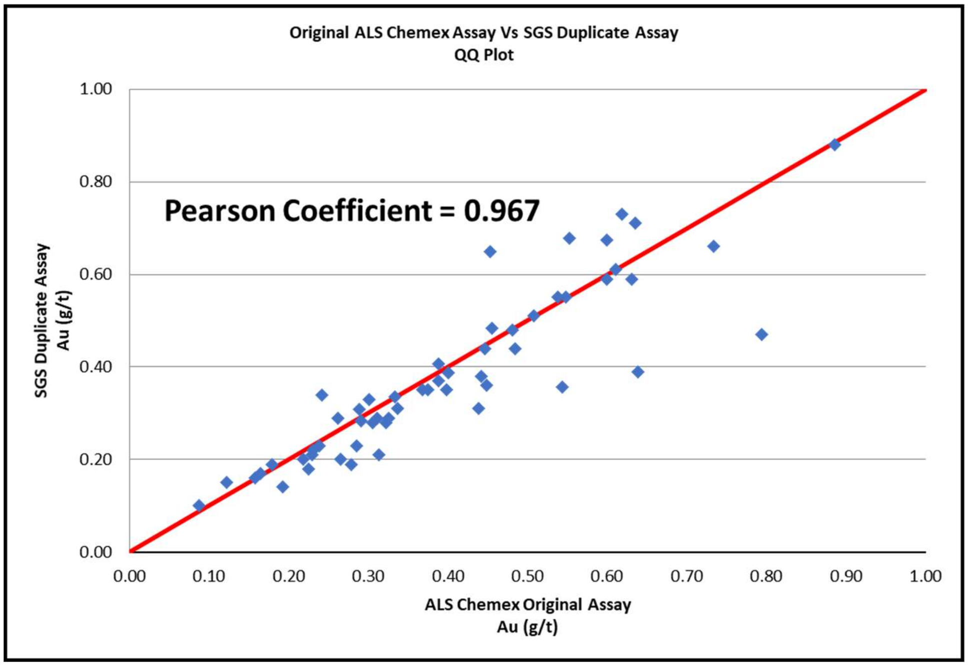
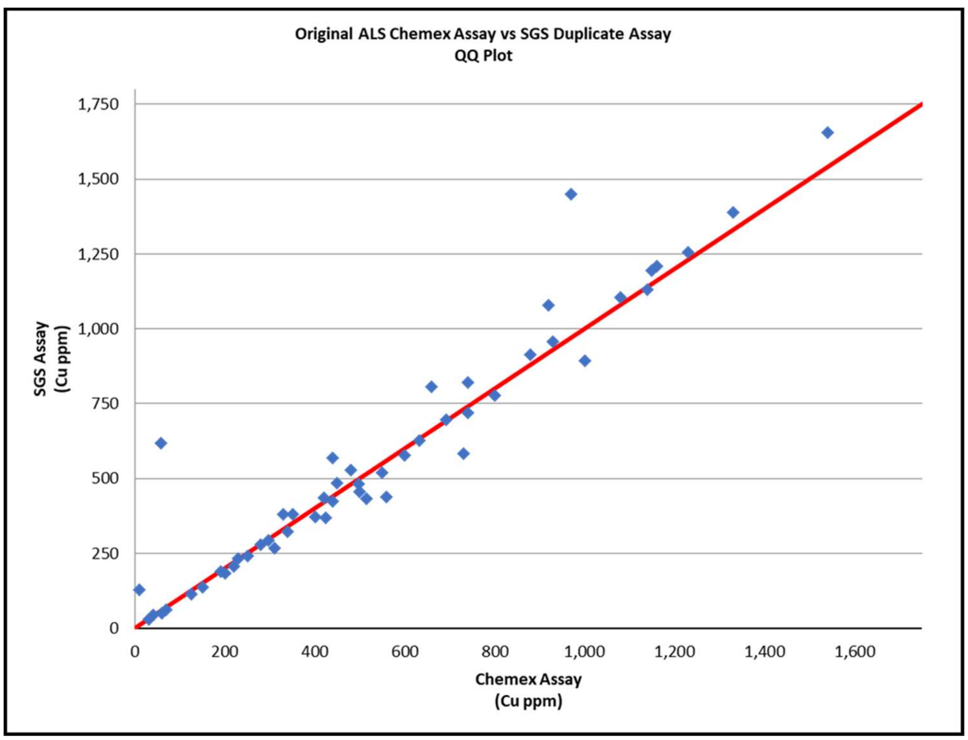


Figure 12-3: Copper Q–Q Plot ALS Chemex Assay vs. SGS Duplicate Assays



The author has reviewed the protocols and results of the Minera Mexico Pacific QA/QC program. Based on that review, it is evident that the QA/QC program was designed and completed to acceptable industry standard practices and that the results demonstrate the assays are reproducible and suitable for the estimation of Mineral Resources. The number of outliers on Figure 12-2's Q–Q plot for gold are not significant, which shows that the duplicated sample assays are close to the original assay results, having a Pearson coefficient of 0.97.

12.2.4 Reference Drilled Holes

During the Minera Mexico Pacific drilling programs three RC holes were drilled close to three Noranda RC holes. Minera Alamos has treated these as reference holes; they are compared in Table 12-3 through Table 12-5. The author notes that these holes are not twin holes by definition, because of differences in dip, the distance between the reference holes and the Noranda holes, and the total depth drilled.

Table 12-3 shows the location of the Noranda holes, and includes the hole depth, dip, and azimuth. Table 12-4 provides the location, depth, dip, and azimuth of the Minera Mexico Pacific reference holes and provides a variance in the hole locations relative to the corrected Noranda hole locations. For clarity, the comparison in Table 12-4 has been done in sequential order; for example, Noranda hole number CO-94-19 should be compared to Minera Mexico Pacific hole number CR-17-01, and so forth.

Table 12-3: Noranda RC Drill Holes

Noranda	Easting (m)	Northing (m)	Elevation (m)	Depth (m)	Dip (°)	Azimuth (°)
CO-94-19	235296	2750027	1,948	70	−45	0
CO-94-24	234775	2749366	2,005	70	−45	0
CO-94-32	234979	2749311	2,032	102	−45	0

Table 12-4: Minera Mexico Pacific RC Drill Holes

Minera Mexico Pacific	Easting (m)	Northing (m)	Elevation (m)	Depth (m)	Dip (°)	Azimuth (°)	Variance (E, N)	
CR-17-01	235290	2750029	1,947	54	−70	0	6.2	(1.2)
CR-18-41	234783	2749370	2,008	114	−70	0	(7.8)	(4.1)
CR-18-43	234981	2749314	2,032	78	−70	0	(2.3)	(2.5)

Based on the hole coordinates and the variances shown in Table 12-4, the reference holes lie within 2 m to 8 m of the Noranda holes. The Minera Mexico Pacific holes were drilled at an angle of 70°, whereas the Noranda holes were drilled using an angle of 45°.

Within the three reference holes, 203 m of mineralized intercepts were compared to the corresponding intercepts of the original Noranda holes. Based on this comparison, there is a reasonably close comparison between the cumulative grade thicknesses of the reference holes (Table 12-5).

Table 12-5: Minera Mexico Pacific RC Drill Holes

Drill Hole ID	Minera Mexico Pacific Reference Holes				Drill Hole ID	Original Holes Noranda				Variance	
	Interval (m)		Sample Length (m)	Au ppm		Interval (m)		Sample Length (m)	Au ppm	Sample Length (m)	Au ppm
	From	To				From	To				
CR-17-01	0	48.0	48.0	0.70	CO-94-19	0	48.8	48.8	0.58	(2%)	23%
CR-18-41	0	64.0	64.0	0.29	CO-94-24	0	70.1	70.1	0.34	(9%)	(17%)
CR-18-43	0	48.0	48.0	0.45	CO-94-32	0	30.5	30.5	0.45	57%	-

12.3 Site Visit

Mr. Lawrence Segerstrom, C.P.G. (M.Sc. Geology) visited the Project site from October 20 to 22, 2020. Mr. Segerstrom was accompanied during his site visit by Minera Alamos employees Miguel Cardona (Vice President Exploration), Chris Sharpe, P.Eng. (Vice President Project Development), and Darren Koningen, P.Eng. (Chief Executive Officer). Messrs. Sharpe and Koningen are non-independent QPs.

The site visit included visual inspections of some of the Noranda trenches and a series of drill-hole collars from the Minera Mexico Pacific RC drill programs that were conducted in 2017 and 2018. During the site visit the locations of three Minera Mexico Pacific RC drill holes were inspected using a Garmin handheld GPS unit or Global Mapper Mobile Pro App. Table 12-6 shows the locations measured during the site visit versus the locations in the drill-hole database that are based on high precision GPS. Based on this comparison, the locations of the selected holes compare well given the accuracy of the hand-held units used during the site visit.

Table 12-6: Minera Mexico Pacific RC Drill-Hole Validation

Drill Hole Number/ Survey Device	Site Visit Measurement (Easting, Northing, Elevation [m])	Drill-Hole Database (Easting, Northing, Elevation [m])
CR18-29 (Hand-Held GPS)	235116, 2749695, 1,957	235108, 2749695,1,969
CR18-24 (Global Mapper)	234946, 2749937, 1,948	234944, 2749934,1,960
CR18-40 (Global Mapper)	234743, 2749385, 1,985	234738, 2749382,1,993

Figure 12-4 shows a photograph of one of the drill-hole collars that was checked in the field.

Figure 12-4: Minera Mexico Pacific RC Drill Collar (CR18-24)

12.4 Conclusion

In the QP's opinion, the various steps taken by Minera Alamos and Minera Mexico Pacific to ensure the integrity of analytical data are consistent with standard industry practice. The sampling procedures are appropriate for the style of mineralization and structural controls for the Cerro de Oro project, and are adequate for the estimation of Mineral Resources.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

The majority of metallurgical studies completed to date on samples from the Cerro de Oro project were performed from 2016 to 2019, when the Project was under option to a private group. The work consisted of a series of bottle roll tests followed later by some limited column leach testwork. The results of all the available testwork programs have been reviewed, including a single recent test completed in 2020; these are discussed in more detail in this section.

13.1 Historical Testwork

To the QP's knowledge, no material testwork was completed on the Cerro de Oro property prior to the 2016 program.

13.2 Testwork Program (2016)

Summary information was available from a series of preliminary bottle roll leach tests that were completed in 2016 on samples of coarse mineralized material. Data related to the testwork program are extremely limited and include the following:

- Eight standard bottle roll tests with an ultimate leach time of 72 hours (h).
- Samples were leached at sizes of −1".
- Results from the testwork indicated average recoveries of 63% in 3 h and 83% over 72 h.

The samples taken as part of this program were from undisclosed locations, and for this reason no gold head grades were available for review. Given the state of the Project development at the time of the testwork it appears likely that the samples were taken from existing trenches that are exposed on the Cerro de Oro site.

Due to the extremely limited information available regarding this early program the results are included for basic reference purposes only and should not be relied upon.

13.3 Bottle Roll Test Program (2018 and 2019)

Three bottle roll test campaigns were completed at SGS Durango using chip samples from the RC drilling exploration completed on the Project. The first two programs (March/July 2018) consisted of 32 samples taken from the North zone of mineralization at the Project. The final program (January 2019) was performed using 16 samples from the South zone of mineralization. The samples were primarily oxide material, with a few containing mixed (sulphide/oxide) material. Samples were taken to cover both of the major mineralized lithological units—endoskarns and hornfels. The overall summary of the samples used for testing is summarized in Table 13-1. With the exception of a wider variation in gold assays seen with the larger number of oxide samples, the overall average gold content in the oxide and mixed samples was quite similar.

Table 13-1: 2018 and 2019 Test Campaign Sample Summary

	Oxide	Mixed
Number of Samples	56	7
Average (g/t Au)	0.42	0.41
Minimum (g/t Au)	0.10	0.16
Maximum (g/t Au)	2.62	0.65

The basic testwork program for each campaign was similar, and consisted of the following stages:

- The selection of a subsample suitable for head analysis (gold, copper)
- Size and gold/copper distribution analysis prior to leaching
- Leaching in 4 L bottle rolls for 96 h with intermittent solution samples removed for the evaluation of leach kinetics (750 ppm NaCN/pH 10.5–11).

13.3.1 2018 Bottle Roll Test Program (SGS Durango, March 2018)

Standard bottle roll tests were completed on 12 samples consisting of RC drill chips that were collected as part of a 2018 drill program. Results from this phase of testwork are summarized as follows:

- Gold content in the samples ranged from 0.2 g/t to 0.7 g/t Au, and from 200 ppm to 1,000 ppm Cu.
- Leach sample d_{80} (80% passing) size of approximately 2 mm (ranging from 1.4 mm–2.7 mm).
- Gold content appears to be relatively evenly disseminated, with no obvious concentration correlation to size fractions in the samples.
- Typical gold recoveries in the range of 85% to 95%, with less than 10% copper leached.
- Rapid leach kinetics with majority of recovery in less than 24 h.
- Gold content in leach residues typically less than 0.1 g/t (the majority of the residues ranges from 0.02 g/t Au to 0.05 g/t Au).

Results from this phase of testwork are shown in Table 13-2 and Figure 13-1 and Figure 13-2.

Table 13-2: Leach Sample Head Grades (SGS—March 2018)

Sample Number	Sample ID	Assay (g/t Au)	Assay (g/t Cu)
1	32504	0.678	310
2	32570	0.283	497
3	32625	0.675	424
4	32650	0.407	1140
5	32707	0.336	515
6	32735	0.484	1150
7	32779	0.189	632
8	32841	0.309	296
9	32956	0.388	126
10	33008	0.356	200
11	33096	0.210	279
12	33149	0.550	692

Figure 13-1: Gold Leaching Kinetics, Sample Numbers 1 to 6 (SGS—March 2018)

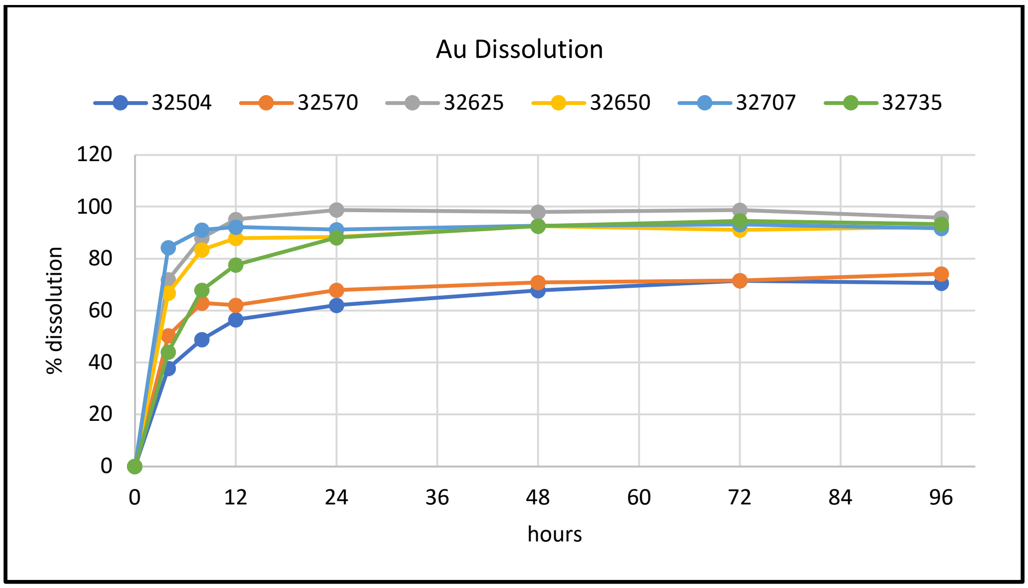
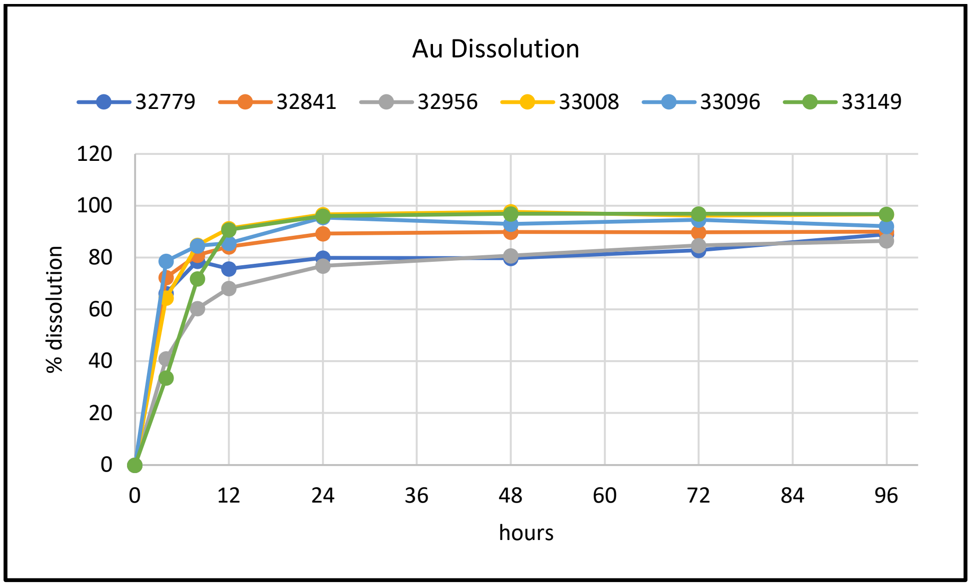


Figure 13-2: Gold Leaching Kinetics, Sample Numbers 7 to 12 (SGS—March 2018)



13.3.2 2018 Bottle Roll Test Program (SGS Durango, July 2018)

Standard bottle roll tests were completed on 20 samples consisting of RC drill chips that were collected as part of the 2018 drill program. Results from this phase of testwork can be summarized as follows:

- Gold content in the samples ranging from 0.2 g/t Au to 0.7 g/t Au, and copper content from as low as 10 ppm to 700 ppm (one sample at 1,300 ppm).
- Leach sample F_{80} approximately 2 mm.
- Gold content appears to be relatively evenly disseminated, with no obvious concentration correlation to size fractions in the samples.
- Typical gold recoveries are in the range of 80% to 90%, with less than 10% Cu leached.
- Gold content in leach residues is typically less than 0.1 g/t (most of the residues range from 0.02 g/t Au–0.08 g/t Au).
- 0.5 kg/t to 1.2 kg/t NaCN consumed, average at 1.1 kg/t
- Rapid leach kinetics with the majority of recovery in less than 24 h.

Table 13-3 and Figure 13-3 to Figure 13-7 show the results of this test program.

Table 13-3: Leach Sample Head Grades (SGS—July 2018)

Sample Number	Sample ID	Au (g/t)	Cu (%)
1	33281	0.14	0.03
2	33308	0.38	0.03
3	33316	0.73	0.02
4	33347	0.17	0.01
5	33395	0.15	0.00
6	33432	0.51	0.04
7	33462	0.59	0.05
8	33489	0.34	0.06
9	33510	0.71	0.04
10	33572	0.44	0.02
11	33610	0.55	0.06
12	33651	0.66	0.07
13	33667	0.33	0.05
14	33712	0.37	0.13
15	33734	0.29	0.03
16	33760	0.35	0.01
17	33787	0.61	0.00
18	33810	0.36	0.00
19	33838	0.48	0.02
20	33878	0.18	0.02

Figure 13-3: Gold Leaching Kinetics, Sample Numbers 1 to 5 (SGS—July 2018)

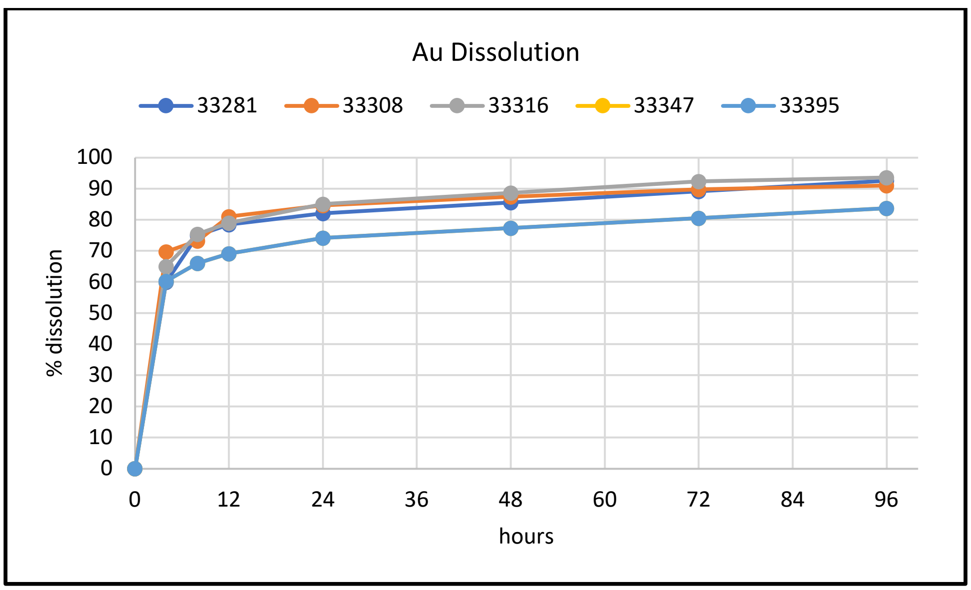


Figure 13-4: Gold Leaching Kinetics, Sample Numbers 6 to 10 (SGS—July 2018)

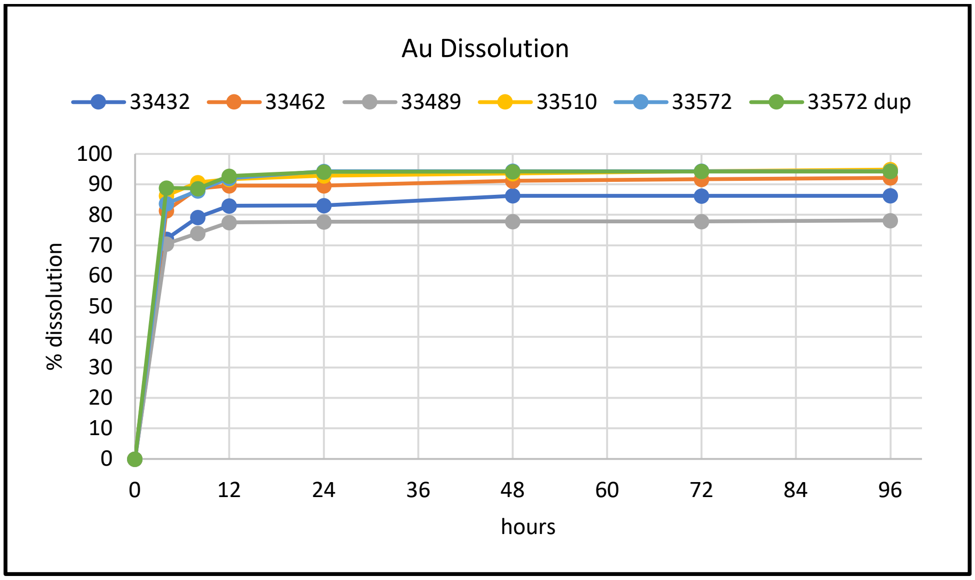


Figure 13-5: Gold Leaching Kinetics, Sample Numbers 11 to 16 (SGS—July 2018)

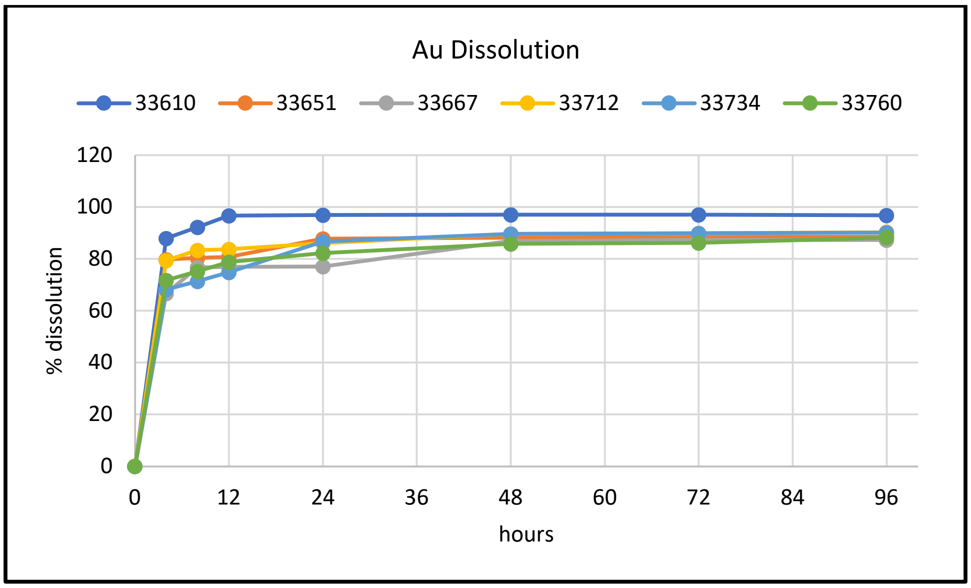


Figure 13-6: Gold Leaching Kinetics, Sample Numbers 17 to 20 (SGS—July 2018)

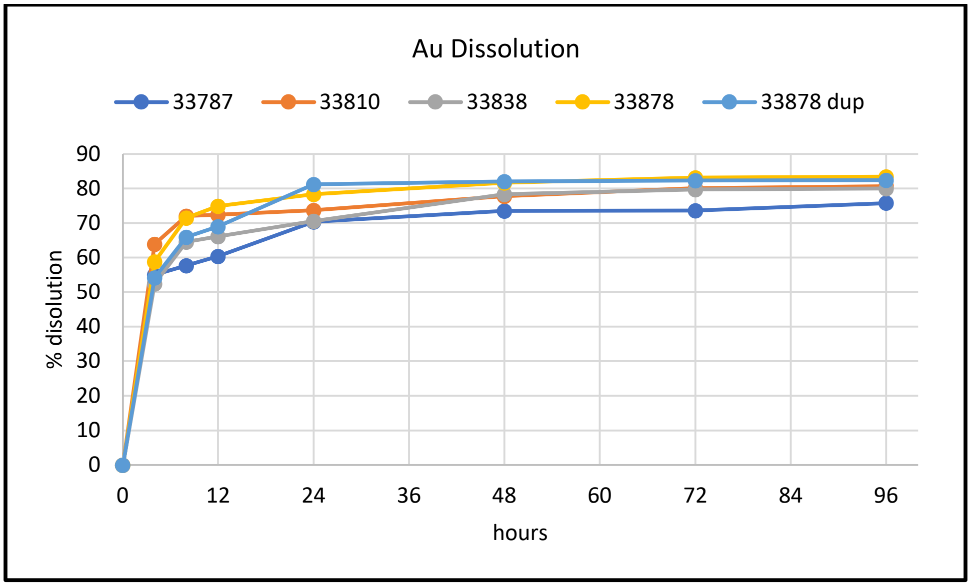
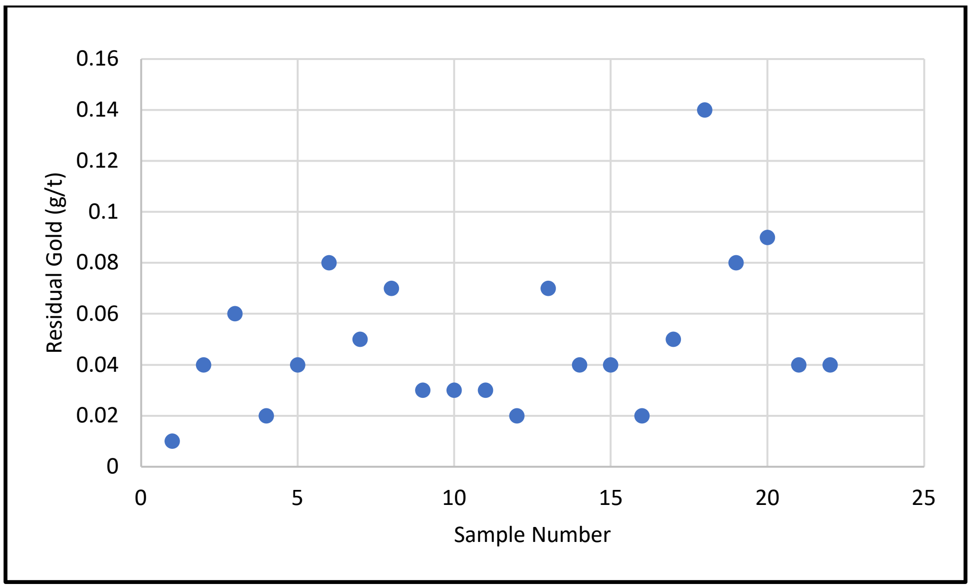


Figure 13-7: Gold Content in Leach Test Residues (SGS—July 2018)



13.3.3 2019 Bottle Roll Test Program (SGS Durango, January 2019)

Standard bottle roll tests were completed on 24 samples consisting of RC drill chips that were collected as part of the 2018 drilling campaign. Results from this phase of testwork can be summarized as follows and are illustrated in Table 13-4 and Figure 13-8 to Figure 13-12:

- Gold content in the samples ranged from 0.2 g/t Au to 0.9 g/t Au (one sample at 2.6 g/t Au). Copper contents in the samples used for this program were generally higher than in previous studies and ranged up to 3,000 ppm, (one sample at ,4800 ppm).
- Leach sample F_{80} of approximately 2 mm.
- Gold content appears to be relatively evenly disseminated, with no obvious concentration correlation to size fractions in the samples.
- Typical gold recoveries in the range of 70% to 85%, although more variation is present than in previous campaigns.
- Copper dissolution typically in the range of 3% to 20%, although some values up to 40% to 60% were present.
- Gold content in leach residues typically averaging around 0.10 g/t or lower (few values up to 0.20 g/t or higher).
- 0.5 kg/t to 1.3 kg/t NaCN consumed, average at 1.1 kg/t.
- Although some samples exhibited rapid leach kinetics (<24 h), many samples displayed slower dissolution than with previous campaigns. Possible explanations include less porous host rock for the mineralization and/or free cyanide deficiency due to the presence of significant soluble copper in some of the samples (interferes with free cyanide determination in the lab).

Table 13-4: Leach Sample Head Grades (SGS—January 2019)

Sample Number	Sample ID	Au (g/t)	Cu (%)
1	34037	0.35	0.09
2	34056	0.29	0.19
3	34126	0.23	0.10
4	34141	0.22	0.22
5	34245	0.29	0.04
6	34261	0.65	0.31
7	34295	0.20	0.06
8	34310	0.59	0.07
9	34335	0.28	0.12
10	34362	0.10	0.05
11	34427	0.28	0.07
12	34430	0.31	0.15
13	34483	0.31	0.09
14	496003	2.62	0.48
15	496019	0.47	0.09

Sample Number	Sample ID	Au (g/t)	Cu (%)
16	496045	0.88	0.12
17	496056	0.39	0.04
18	496082	0.35	0.10
19	496141	0.16	0.04
20	496259	0.21	0.05
21	496309	0.19	0.11
22	496317	0.20	0.07
23	496330	0.23	0.08
24	496352	0.44	0.31

Figure 13-8: Gold Leaching Kinetics, Samples 1 to 6 (SGS—January 2019)

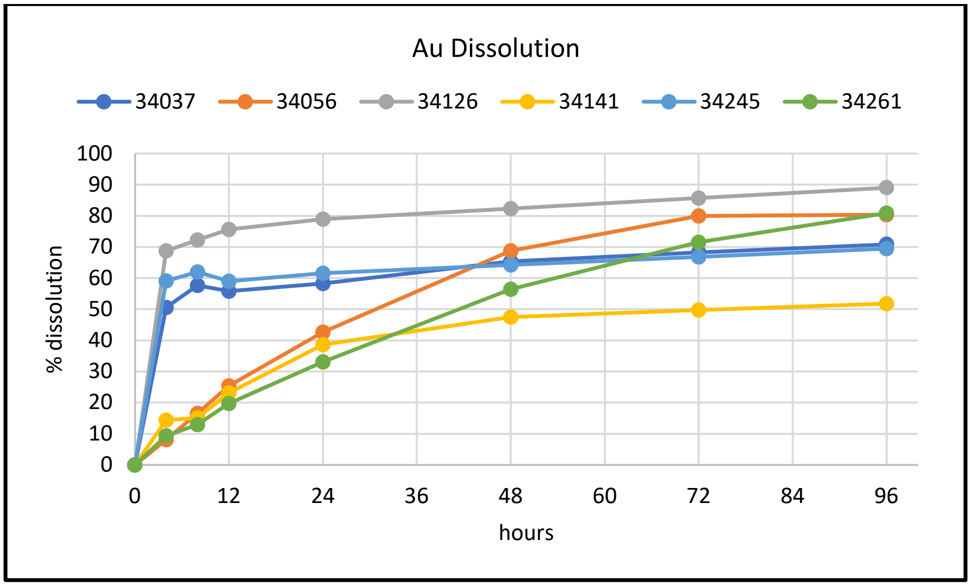


Figure 13-9: Gold Leaching Kinetics, Samples 7 to 12 (SGS—January 2019)

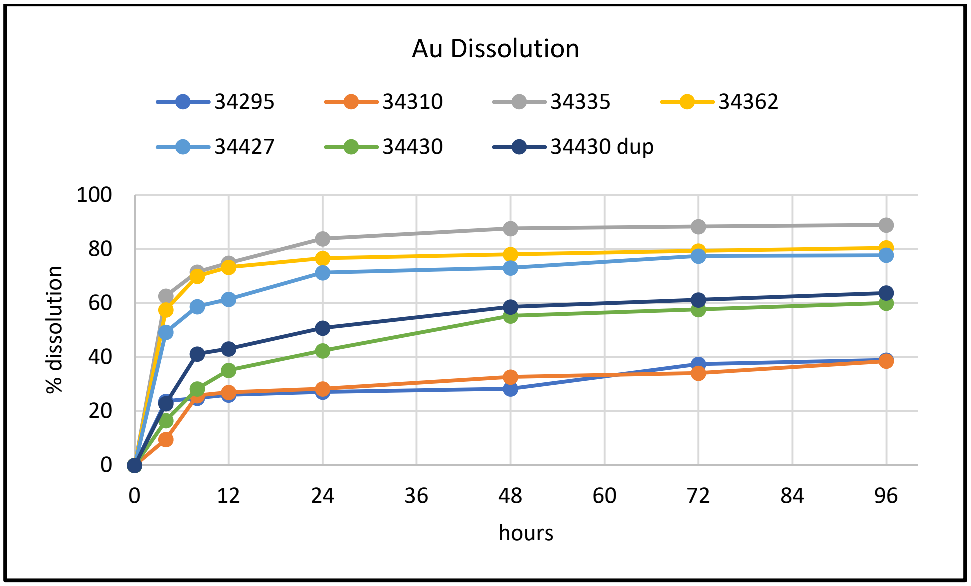


Figure 13-10: Gold Leaching Kinetics, Samples 13 to 18 (SGS—January 2019)

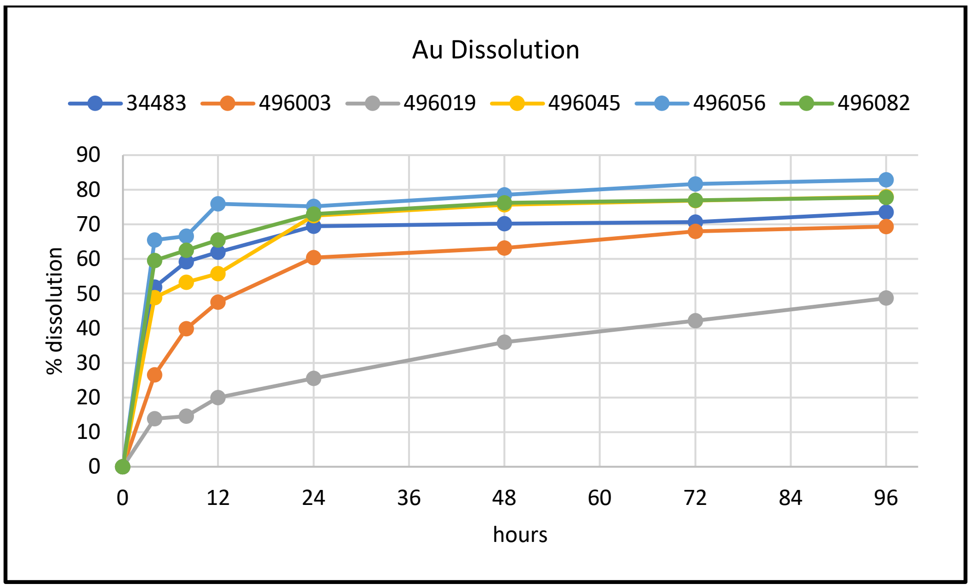


Figure 13-11: Gold Leaching Kinetics, Samples 19 to 24 (SGS—January 2019)

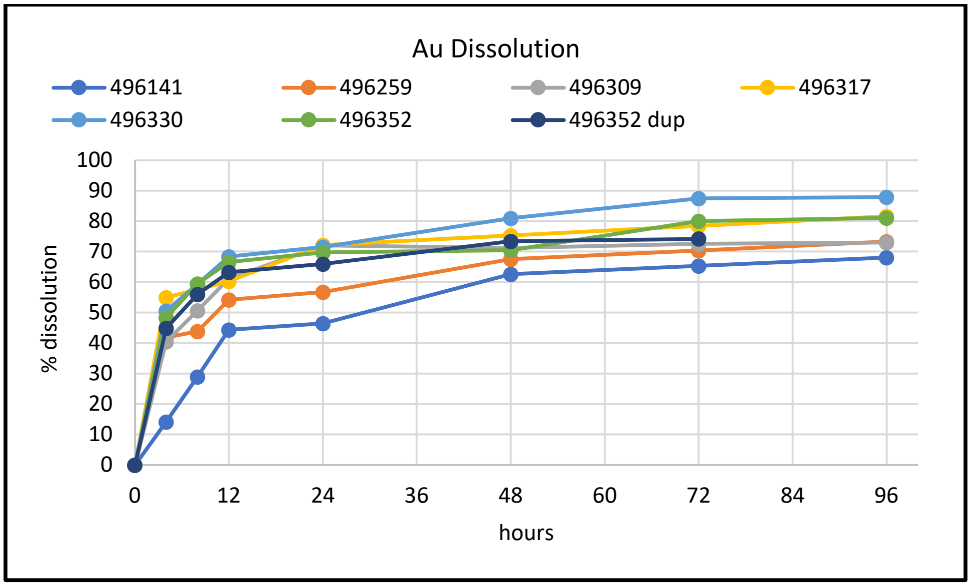
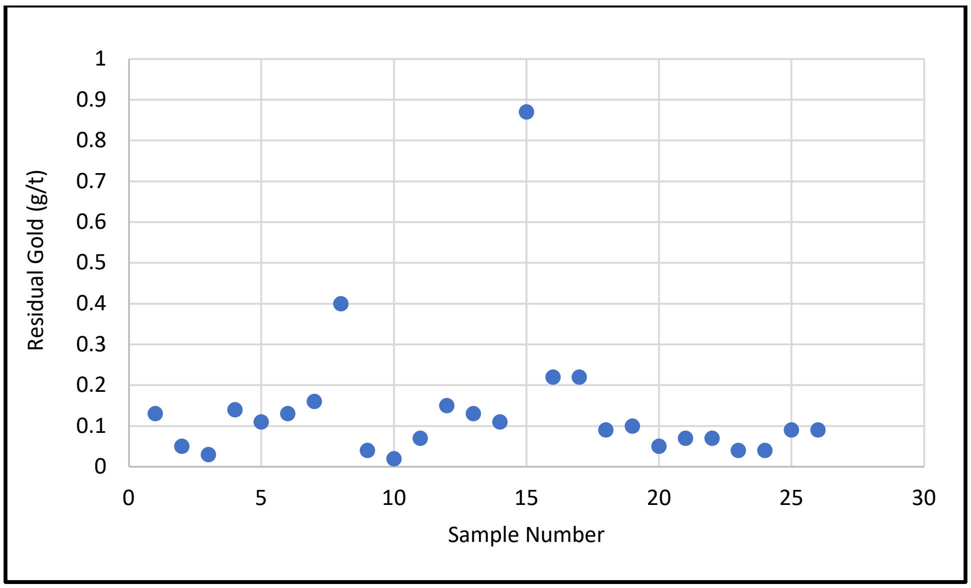


Figure 13-12: Gold Content in Leach Test Residues (SGS—January 2019)



13.4 Column Test Program (SGS Durango, February 2019)

Three 300 kg surface samples were taken from the Cerro de Oro project for a series of preliminary column tests. The testwork program stages were somewhat unconventional and consisted of the following:

- Screening of sample to remove −10 mesh fines that were rejected (30%–40% of original sample).
- Crush remaining coarse sample material to minus 2" top size.
- Size and gold distribution analysis of crushed test feed material.
- Coarse bottle tests on 10 kg of minus 2" to +1¾" material from each of the samples to examine gold dissolution via bottle roll (500 ppm NaCN/144 h/pH 10.5–11.5) for comparison to column test results.
- Column leach tests on 200 kg of crushed material (−2" to +1¾") for up to 80 days (d) (500 ppm NaCN).
- Size and gold distribution of leach residues.

Due to the fact that the fine material (<10 mesh) in the original samples from the Project were removed prior to the preparation of bottle/column leach samples, it is likely that the leach results are conservative. The fines would typically experience rapid leach kinetics versus the coarser crushed material. A significant fraction of the original samples (30%–40%) was represented by the fine material, and if it had been included in the leaching tests (as with more standard procedures) the ultimate recoveries would be expected to be higher than those achieved in this limited program. The sample head grades that comprised the 2019 leach samples are shown in Table 13-5.

Table 13-5: Leach Sample Head Grades (SGS—February 2019)

Sample Number	MMP-1		MMP-2		MMP-3	
	Au (g/t)	Cu (ppm)	Au (g/t)	Cu (ppm)	Au (g/t)	Cu (ppm)
Assay Head	0.50	387	0.35	59	0.34	91
Calculated Head	0.55	401	0.29	63	0.32	99

Note: Calculated head assays are from coarse bottle roll tests.

The results from the coarse bottle roll phase of testwork can be summarized as follows:

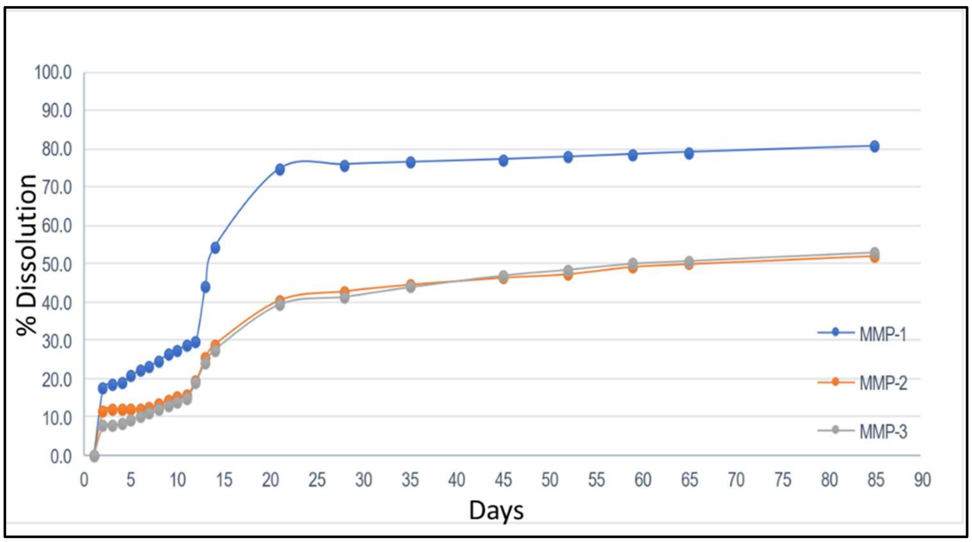
- Gold dissolution of 91% for MMP-1, 57% for MMP-2, and 52% for MMP-3
- Copper dissolution of 2% to 3% for all samples
- Rapid leach kinetics for MMP-1 (majority of recovery in less than 24 h)
- Slower leach kinetics for samples MMP-2 and MMP-3, with gold recovery still increasing at 144 h.

Results from the column leach testwork phase can be summarized as follows:

- Gold dissolution at 80 days of 86%, 67%, and 53% (based on calculated sample head grades) for samples MMP-1, MMP-2, and MMP -3, slowly increasing at the end of the tests.
- Excellent correlation between gold dissolutions in column tests and bottle roll tests.
- Rapid leach kinetics (bulk of gold recovery in 30 d to 45 d).
- Approximately 10% to 15% Cu dissolution.
- Copper dissolved slowly over time (likely controllable by limiting free CN concentration in leach solutions).
- 0.5 kg/t to 0.8 kg/t NaCN consumed (low consumptions compared to bottle roll tests).
- Gold recoveries relatively consistent across range of sizes up to 2", except for one sample where recovery dropped for 1" to 2".
- Gold content in leach residues approximately 0.1 g/t or lower.

Figure 13-13 shows the results of the column leach test kinetics.

Figure 13-13: Column Leach Test Kinetics (SGS—February 2019)



Note: Dissolution calculated using an assayed head grade from grab sample from the column feed material.

13.5 2020 Bottle Roll Leach Test on Sulphide Mineralization (LTM, August 2020)

A single sample of transition/sulphide mineralization was selected and sent to LTM laboratories in Hermosillo, Mexico, for standard bottle roll testwork to examine the potential for gold dissolution in August 2020. The sample consisted of RC chips taken from drill hole CR18-40, in the South zone of Project area. This testwork program consisted of the following:

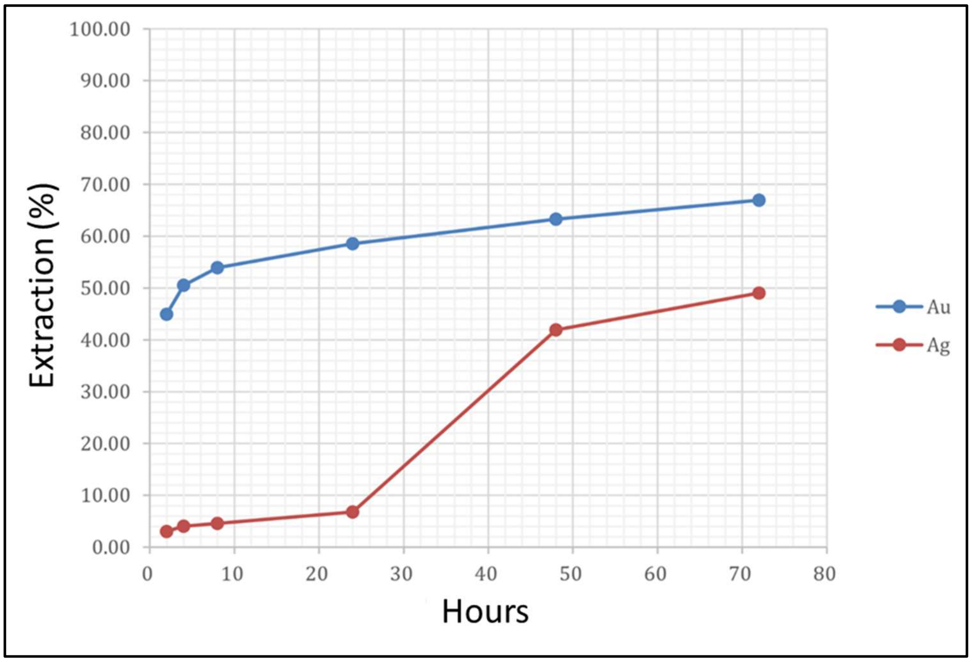
- Size distribution <2 mm (as received)
- 1,000 ppm NaCN/pH 10.5–11.0
- 72 h leach time.

The results from this testwork are shown on Figure 13-14, and can be summarized as follows:

- Sample head grade of 0.16 g/t Au (low grade)
- Gold dissolution of 67% at 72 h and still increasing.

Although positive results were achieved, additional testwork will be required to better understand the leachability characteristics of sulphide mineralization.

Figure 13-14: Gold Leaching Kinetics from Cerro de Oro Sulphide Sample (LTM, August 2020)



13.6 Metallurgical Results Summary and Conclusions

Most of the metallurgical testwork completed to date has been performed using RC chips (~2 mm and finer) from the exploration drilling at the Cerro de Oro project. This has been supplemented by limited work on coarser surface/trench samples. The key observations from these preliminary programs include:

- Gold mineralization appears to be well disseminated, with little correlation to rock particle-size distributions. Soluble copper content was low in the majority of test samples, although some outliers were present and warrant further investigation.
- Gold mineralization in the deposit responds positively to gold cyanidation.
- Gold dissolution appears to be independent of dissolution of associated copper mineralization (where present).
- Leach kinetics from the majority of RC chip samples tested were rapid, with most of gold dissolution occurring in less than 24 h.

- Where slower leach kinetics were observed, gold recoveries were typically still increasing at the end of the test period, indicating possibly reduced host rock permeability and/or free cyanide deficiency due to elevated copper contents in solution.
- Residual gold contents following all types of leaching were typically around 0.1 g/t Au or lower and did not appear to correlate significantly with sample head grades or copper contents.
- Limited coarse sample bottle tests (minus 2" material) produced leach recoveries similar to those observed with RC chip samples.
- Column testwork (minus 2" material) confirmed recoveries consistent with those performed using coarse bottle test methods.
- Reagent consumptions observed with all the test programs were consistently in the low to moderate range for cyanidation of gold mineralization.
- A single leach test performed on RC chip samples of low-grade sulphide mineralization demonstrated that the gold mineralization was recoverable via cyanidation (follow-up work required with additional samples).

Overall, the following general conclusions can be derived from the preliminary test programs completed to date:

- Oxide gold mineralization in the deposit is amenable to heap leach cyanidation techniques.
- Overall average gold recoveries of approximately 70% or greater appear possible (<0.1 g/t Au in leach residues), although only limited testwork has been completed on coarse material (size greater than 2 mm RC chip samples).
- Gold mineralization is largely independent of copper mineralization (where present), allowing for copper control in leach solutions via optimization of free cyanide levels.
- Leach kinetics are rapid to moderate.
- Reagent consumptions (NaCN) appear to be low to moderate.
- Sulphide gold mineralization may be leachable, in addition to oxide material.

Additional metallurgical programs are recommended for the Cerro de Oro project. These would include:

- Coarse bottle roll (and possibly column) optimization studies to examine crush size versus gold recovery relationships
- Leach studies to specifically examine areas of reduced rock permeability and elevated copper contents
- Sulphide mineralization leach studies
- Hardness/abrasion studies for major rock lithologies
- Density testing on representative rock core samples.

14 MINERAL RESOURCE ESTIMATES

This Technical Report represents the second Mineral Resource estimate for the Cerro de Oro Property (2022 MRE). The estimate has been prepared with the assistance of Leonardo de Souza, MAusIMM (CP), and has been reviewed and verified by Scott Zelligan, P.Geo., an independent QP as defined in NI 43-101, using all available information to the effective date of this Technical Report (September 28, 2022).

The Resource was classified according to the CIM Definition Standards. The classification considered the drill and sample spacing, QA/QC, deposit type, the absence of representative density measurements, and the need to develop a lithological model. The estimate used an indicator model and the inverse distance squared (ID^2) method to interpolate gold grades. The density used for the oxide zone is 2.55 tonnes per cubic metre (t/m^3), based on reference to the El Castillo mine.

As part of the review and verification process, Mr. Zelligan was provided with the original or raw data set that included all collar, survey, and assay files, as well as the Leapfrog Project and Datamine files created by Mr. de Souza for estimation purposes. This information was used to confirm the selection of composite length, approach to grade capping, parameters used to create the indicator model, the approach to density modelling, the interpolation, and to recreate the resource model and estimation. Further verification work included the creation of a de-clustered data set from the drill-hole files to check the impacts of grade smearing, additional model runs to evaluate the sensitivity to changes to input parameters, and visual validation by review of plan and vertical sections (on 25 m spacing) against the original drill holes, composites, de-clustered data set, and the final model. Mr. Zelligan's review confirmed the estimate of Mineral Resources provided by Leonardo de Souza and satisfies the QP requirements of NI 43-101.

The Inferred Mineral Resource estimate discussed in this section considers only the oxidized portion of the deposit. This boundary will continue to be further defined as the Project advances.

14.1 Methodology

The 2022 MRE covers the deposits of Cerro de Oro with a strike length of about 1.0 km and a width of approximately 600 m, down to a vertical depth of 190 m below surface.

The model for the Cerro de Oro deposit was prepared using Leapfrog GEO (version 5.1.0) and Datamine Studio RM (version 1.6.87.0). Leapfrog was used for the mineralized solid modelling via gold-grade indicator interpolation. Datamine was used for the grade estimation, which consisted of three-dimensional (3-D) block modelling and the ID^2 interpolation method. Statistical studies were completed using Datamine and Excel. Capping and validations were carried out in Datamine and Microsoft Excel.

The main steps in the methodology were as follows:

- Compile and validate the drill-hole databases used for the Mineral Resource estimation.
- Validate the geological model and interpretation of the mineralized zones, guided primarily by gold grade.

- Validate the drill-hole intercepts database, compositing database, and gold capping values for the purpose of geostatistical analysis.
- Perform and validate the block model and gold grade interpolation.
- Validate the classification of the block model.
- Assess the resources with “reasonable prospects for economic extraction” via open pit mining.
- Generate a Mineral Resource statement.

14.2 Database

The author was provided with the complete drill-hole database in comma-separated values (CSV) files and Microsoft Excel spreadsheet format (XLSX) that contained the collar, assay, and downhole survey data. Topography was provided by Minera Alamos as a wireframe in AutoCAD Drawing Exchange Format (DXF). The topography surface was produced by PhotoSat in 2020.

The drilling database that was used for resource estimation comprises diamond drill holes (DDH) and RC drill holes that were drilled from 1993 to 1998 and 2017 to 2018 (Figure 14-1). There are 15 DDHs containing 1,256 samples (25% of the total database), and 84 RC holes containing 3,753 samples (75% of the database). Table 4-1 shows the summary statistics of the assay database by type.

Table 14-1: Summary Statistics of the Assay Database by Drill hole Type

Drill Hole Type	Number of Samples	Max. (g/t Au)	Mean (g/t Au)	Standard Deviation (g/t Au)	COV
RC	3,753	27.5	0.30	0.68	2.29
DDH	1,256	14.6	0.13	0.50	3.75
ALL	5,009	27.5	0.26	0.65	2.52

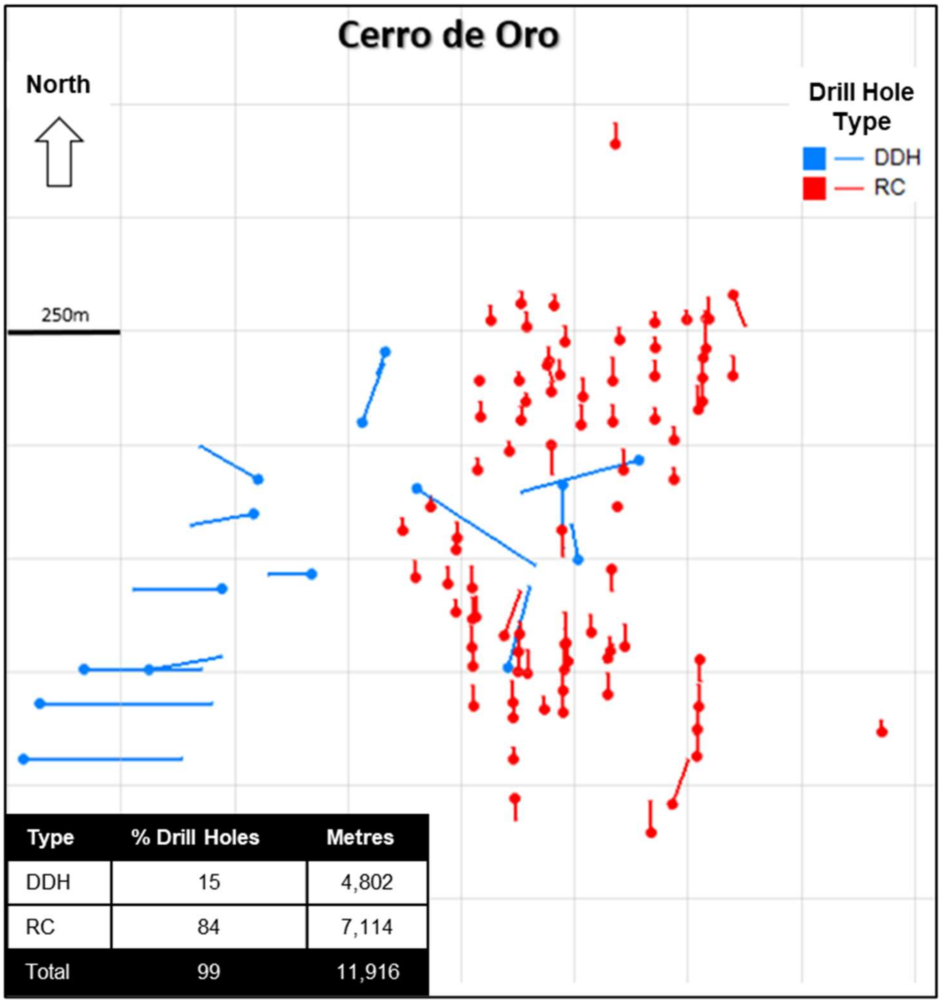
Note: Not all sampled intervals were used in the estimate of the mineral resource.

The drilling database includes gold assays for the Cerro de Oro deposit, but the lithological descriptions are not available. The database covers the length of the resource area at variable drill spacing, ranging from 50 m to 200 m for the deposit.

Previous reports and descriptions of the drill-hole programs indicated that most of the RC holes were stopped once they started to encounter the presence of some visible fresh rocks. Using this information, an estimated boundary was set to model the potential oxide to fresh-rock transition zone, from approximately the maximum depths of the RC holes to a depth 50 m below this contact surface.

Thus, the limit between oxides and fresh rock was defined 50 m below the depths of the RC holes, assuming that this vertical panel of 50 m contains a mix of oxide and/or transition material. Minera Alamos will be conducting additional drilling programs in the future to better delineate the contact between the current oxide and fresh-rock zones.

Figure 14-1: Drill Holes Used for 2020 Mineral Resource Estimation



Type	% Drill Holes	Metres
DDH	15	4,802
RC	84	7,114
Total	99	11,916

14.2.1 Comments on Drill-Hole Database

The absence of the lithological descriptions in the drill holes prevents a better geometric control of the spatial distribution of the gold grades, and the limit between oxides and fresh rock is not clearly defined. These inconsistencies in the drilling database should be reviewed and repaired.

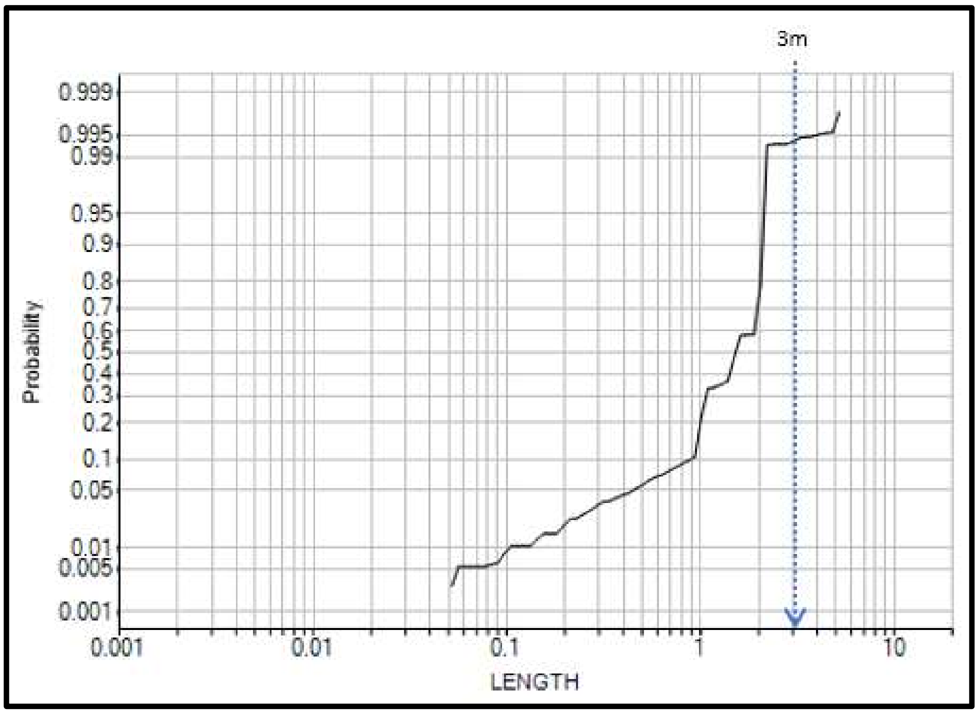
14.3 Geological Model

Cerro de Oro is being explored and drilled as a broad zone of porphyry-style mineralization, including gold-bearing disseminations, as well as quartz and fracture stockwork related to a granodiorite intrusive stock. Exploration has been focused on gold mineralization within the oxidized zone near surface, which is the focus of this estimation.

The domains used for this estimation were primarily driven by the gold grade distribution. This is due to the lack of reliable geological data, preventing the inclusion of geological limits in the geometric definition of mineralization.

Composites were created to support the estimation of gold indicators in Leapfrog and the length of 3 m was selected using a probability plot, using all the holes forming the resource estimation of the Cerro de Oro deposit (Figure 14-2).

Figure 14-2: Probability Plot Defining 3 m Length for Compositing



The geometric definition of the mineralized volume was carried out via gold indicator interpolation with the cut-off of 0.1 g/t Au in Leapfrog, using 3 m long composites. Mineralized zones were defined with probability equal to or greater than 50% to be above 0.1 g/t. The anisotropy directions considered a bulk mineralized volume guided by a theoretical porphyry gold system, with a search of up to 100 m laterally and 70 m vertically to avoid extending too far down within the fresh-rock zone (not considered in this resource estimation).

Figure 14-3 is the probability graph of the gold grades in 3 m composites. The cut-off grade of 0.1 g/t (used in this estimate to define the current mineralized volume) shows that about 40% of the composites are below this cut-off grade.

Figure 14-3: Gold Grade Probability Plot on 3 m Composites

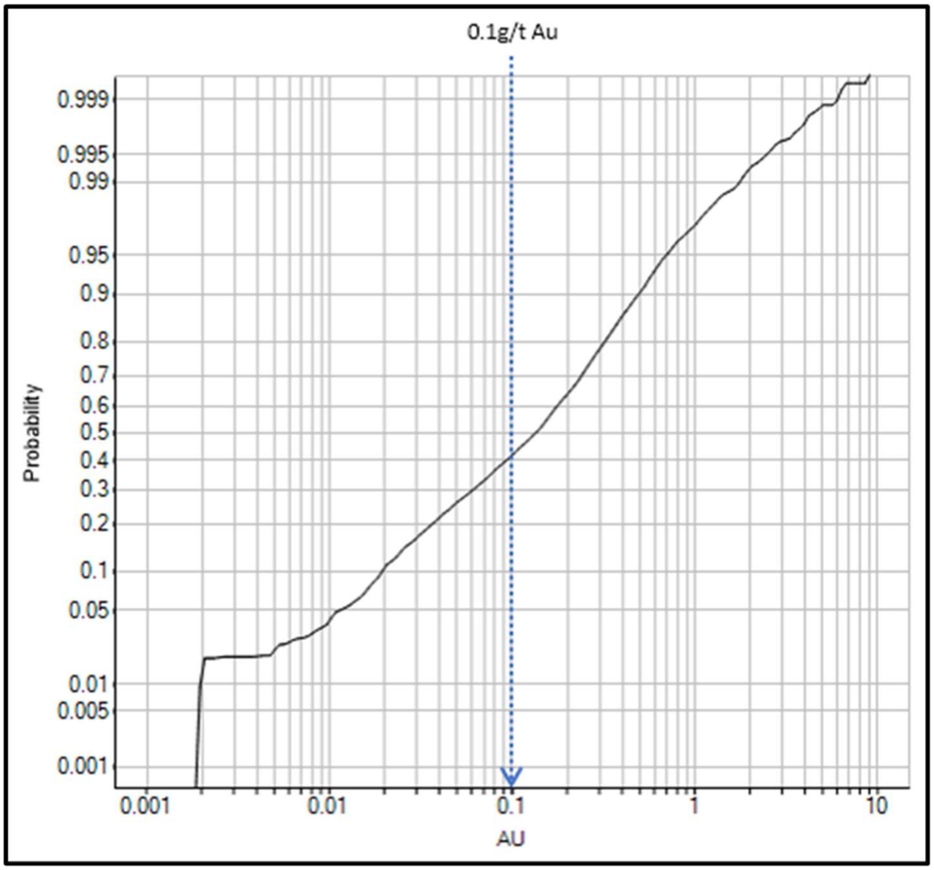
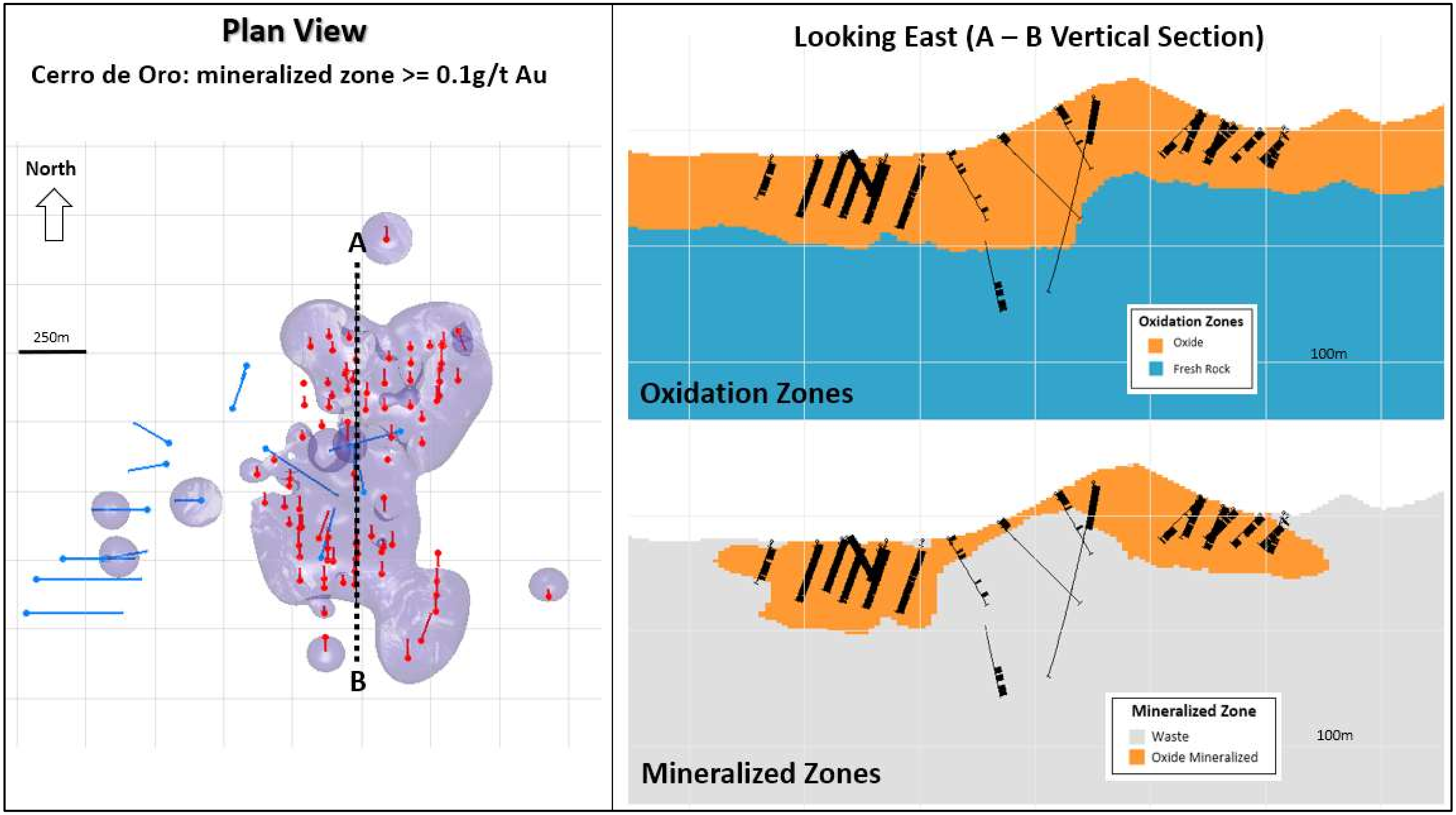


Figure 14-4 shows the mineralized volumes in plan, and cross sections of the oxidation zone and oxide-mineralized zone (with grade ≥0.1 g/t Au); in this Report, there is no definition of mineralized zone in fresh rock. Black bars in the drill holes illustrate intervals with gold grades ≥0.1 g/t.

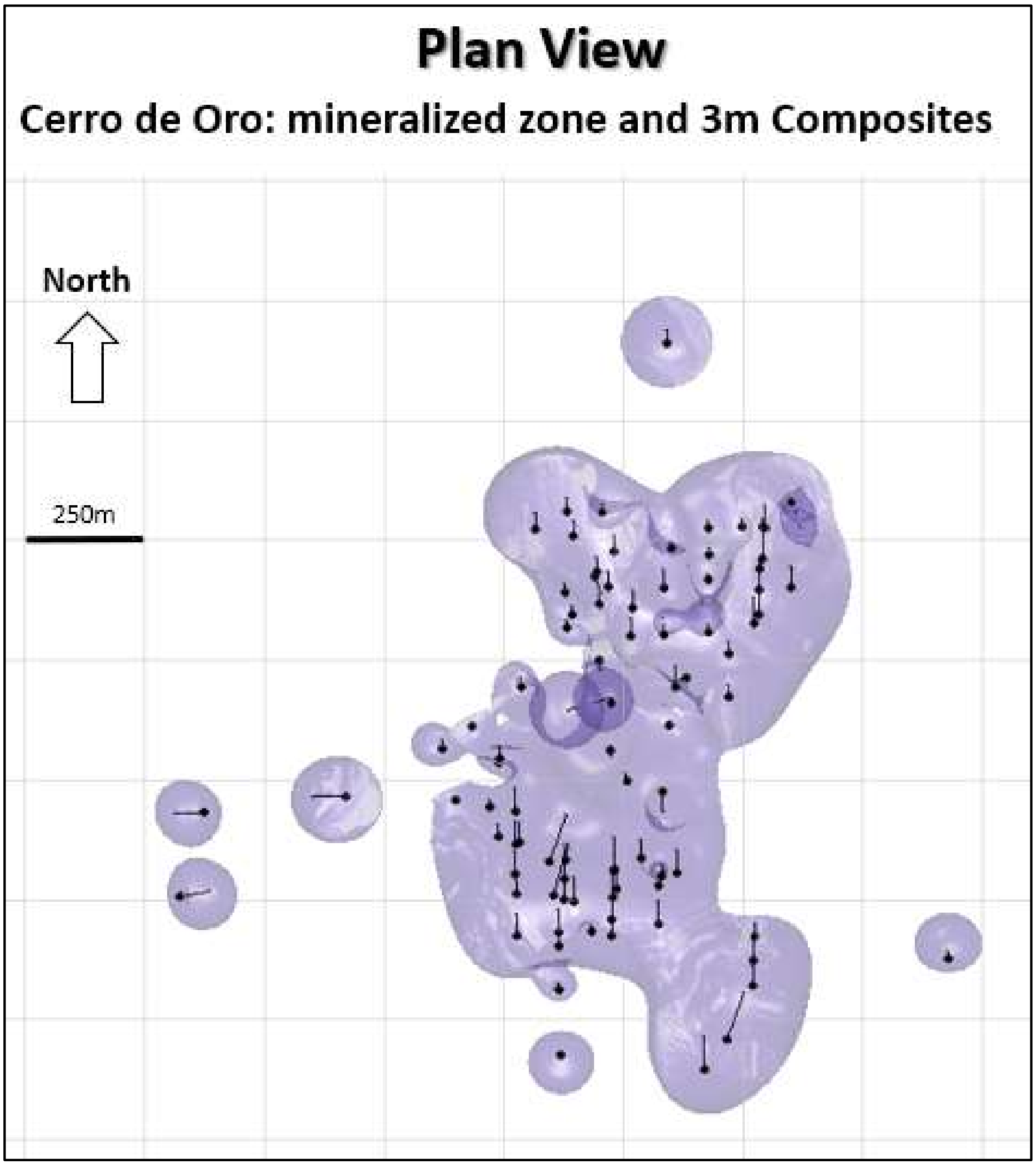
Figure 14-4: Mineralized Volumes Cerro de Oro Deposit



14.4 Composites for Resource Estimation

The 3 m composites selected to estimate the mineralized blocks are those contained within the mineralized zone, defined in Leapfrog from the indicator interpolation. These composites were then capped to limit the impact of local extreme grades. Missing sample intervals were replaced with zero grade for gold. Figure 14-5 shows a plan view of the mineralized zone with drill composites displayed.

Figure 14-5: Plan View of Mineralized Volumes Cerro de Oro Deposit



Codes were automatically attributed from the drill-hole assay intervals that were composited in 3 m lengths and intersect the mineralized volume defined from the indicator interpolation. These composites were then capped to limit the impact of local extreme grades.

Table 14-2 shows the Cerro de Oro deposit summary statistics for gold, using 3 m length composites before capping. Note that the coefficient of variance value for gold is below 2.0 for uncapped composites; this is relatively low and speaks for the well-behaved statistical grade distribution. Compositing has reduced the higher coefficient of variance (2.5) seen in the raw data, which may have been due to high-grade sampling bias.

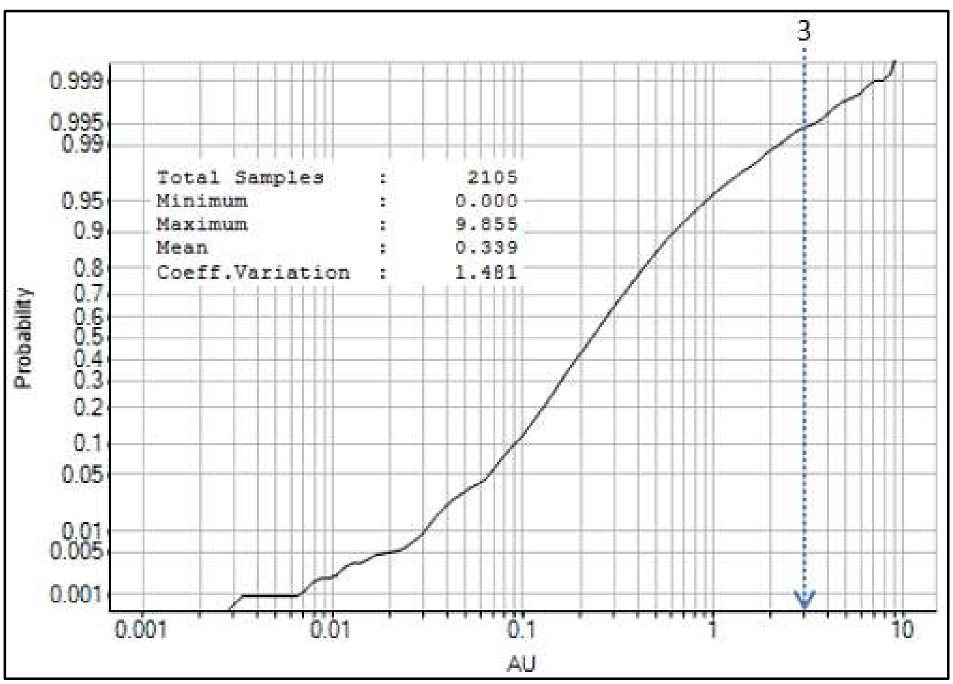
Table 14-2: Summary Statistics for Gold Composited Prior to Capping

Number of Composites	Maximum (Au g/t)	Mean (Au g/t)	Standard Deviation (Au g/t)	Coefficient of Variation
2,105	9.86	0.33	0.47	1.43

14.5 High-Grade Capping

After compositing, grade capping was investigated for gold, by oxidation zone. It was observed that capping at 3 g/t for Au is appropriate for all oxidation states. This grade also represents approximately 99.5% in probability plots. This capping value may vary by oxidation zone following collection of additional data. Figure 14-6 shows the probability plot for gold in the Cerro de Oro deposit. The similarity of grade distribution by oxidation state supports the decision to use a soft boundary between the different oxidation zones during the grade interpolation phase.

Figure 14-6: Gold Probability Plot Cerro de Oro Deposit



14.6 Density

The Company reported that there are no density measurements in the drill-hole cores, the available density is measured only on surface samples, which are not representative of the deposit. The author used average values of 2.55 t/m^3 for oxides and 2.70 t/m^3 for fresh rock, which are acceptable values considering average values obtained in similar deposits, such as Castle Gold's El Castillo mine.

The author emphasizes the need for measurements of bulk density to be taken in the deposit—well distributed spatially, and considering the different types of oxidation. The absence of density measurements is an additional contributing factor to limit the estimation of Mineral Resources to the Inferred category.

14.7 Block Model

A non-rotated block model was created for the Cerro de Oro deposit. No sub-blocks were used.

The origin of the block model is the lower-left corner. Block dimensions reflect the sizes of mineralized zones and plausible mining method (open pit). Table 14-3 shows the block model origin and block size.

Table 14-3: Cerro de Oro Block Model Origin and Block Size

Direction (m)	Origin	Block Size (m)	Number of Blocks
Easting	233,750	10	210
Northing	2,748,580	10	210
Elevation	1,500	5	140

Note: UTM Zone 14N (NAD 27).

14.8 Grade Interpolation

For the Cerro de Oro deposit, the mineralized blocks were estimated with an anisotropic three-pass search using capped composites to estimate all blocks within the mineralized zone. The directions of anisotropic searches for the gold grade interpolation used the dynamic anisotropy process of Datamine, guided by the mineralized volume carried out via gold indicator interpolation with a cut-off of 0.1 g/t Au in Leapfrog, representing the gold spatial grade connectivity.

The ID^2 method was selected for the final gold resource estimation for the Cerro de Oro deposit. The grade estimation parameters are summarized in Table 14-4.

Table 14-4: Gold Grade Estimation Parameters

Pass	Minimum Composites	Maximum Composites	Minimum Drill Holes	Orientation		
				X (m)	Y (m)	Z (m)
1	4	12	2	25	25	12.5
2	4	12	2	75	75	37.5
3	4	12	2	125	125	62.5

14.9 Model Validation

The block model was validated visually and statistically. Visual validation confirmed that the block model honours the drill-hole composite data. Figure 14-7 illustrates the search process in the grade interpolation via dynamic anisotropy in Datamine, which uses locally the dip and the dip azimuth of the nearby triangles of the mineralized zone created in Leapfrog.

The ID^2 model was validated against the conditioning composites to check for local bias (Figure 14-8). The differences for gold grades are acceptable, with the expected smoothing in the ID^2 model characterizing well the change of support from composites to blocks. The trend and local variation of the estimated ID^2 versus composite data were compared using swath plots in three directions (east, north, and elevation) for gold (Figure 14-9).

Figure 14-7: Visual Validation of the Gold Grade Interpolation Search Process

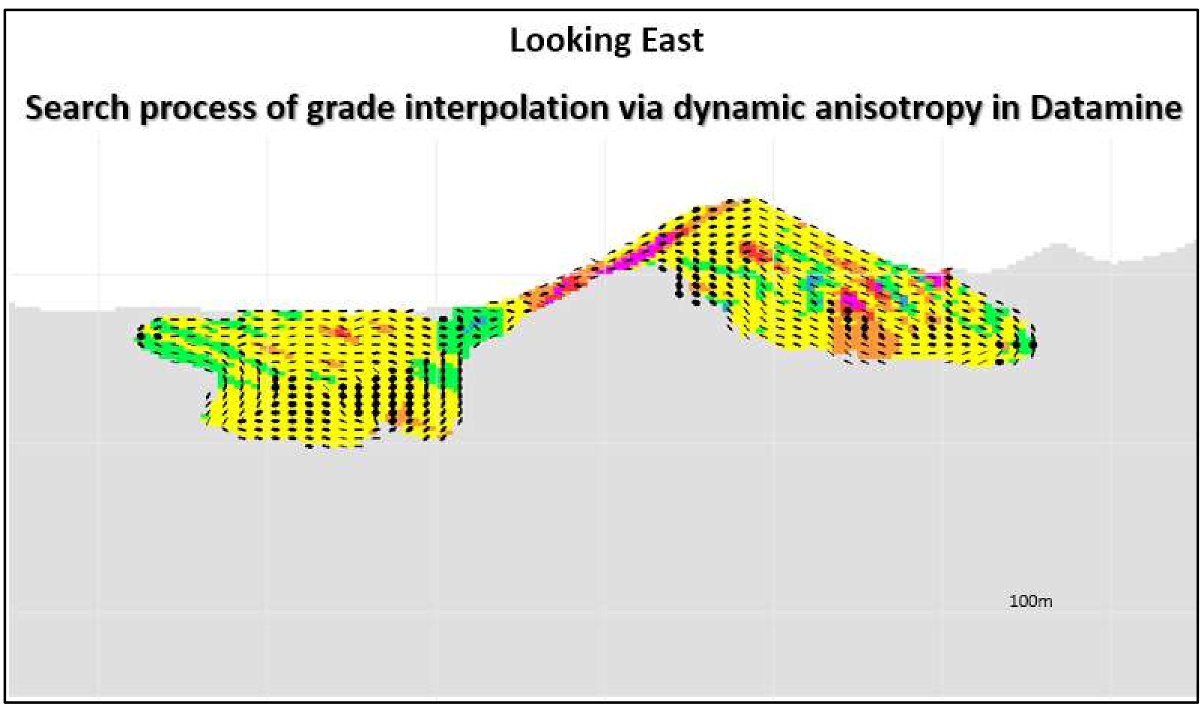


Figure 14-8: Visual Gold Grade Validation (ID^2) For Cerro de Oro

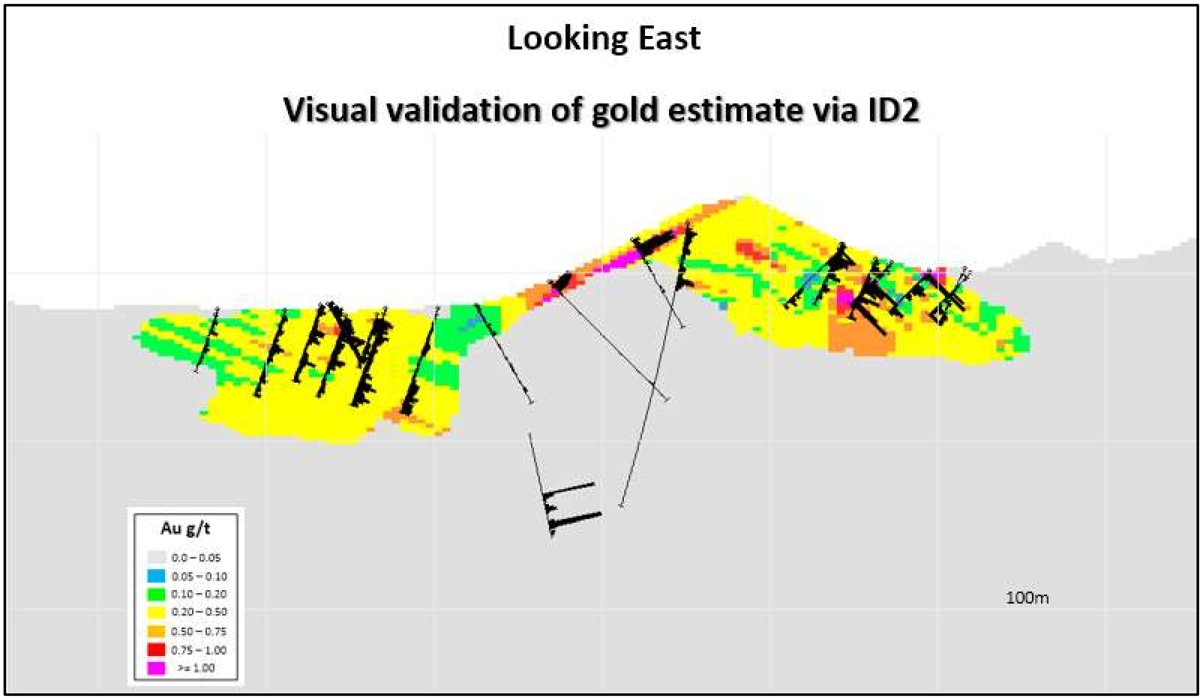
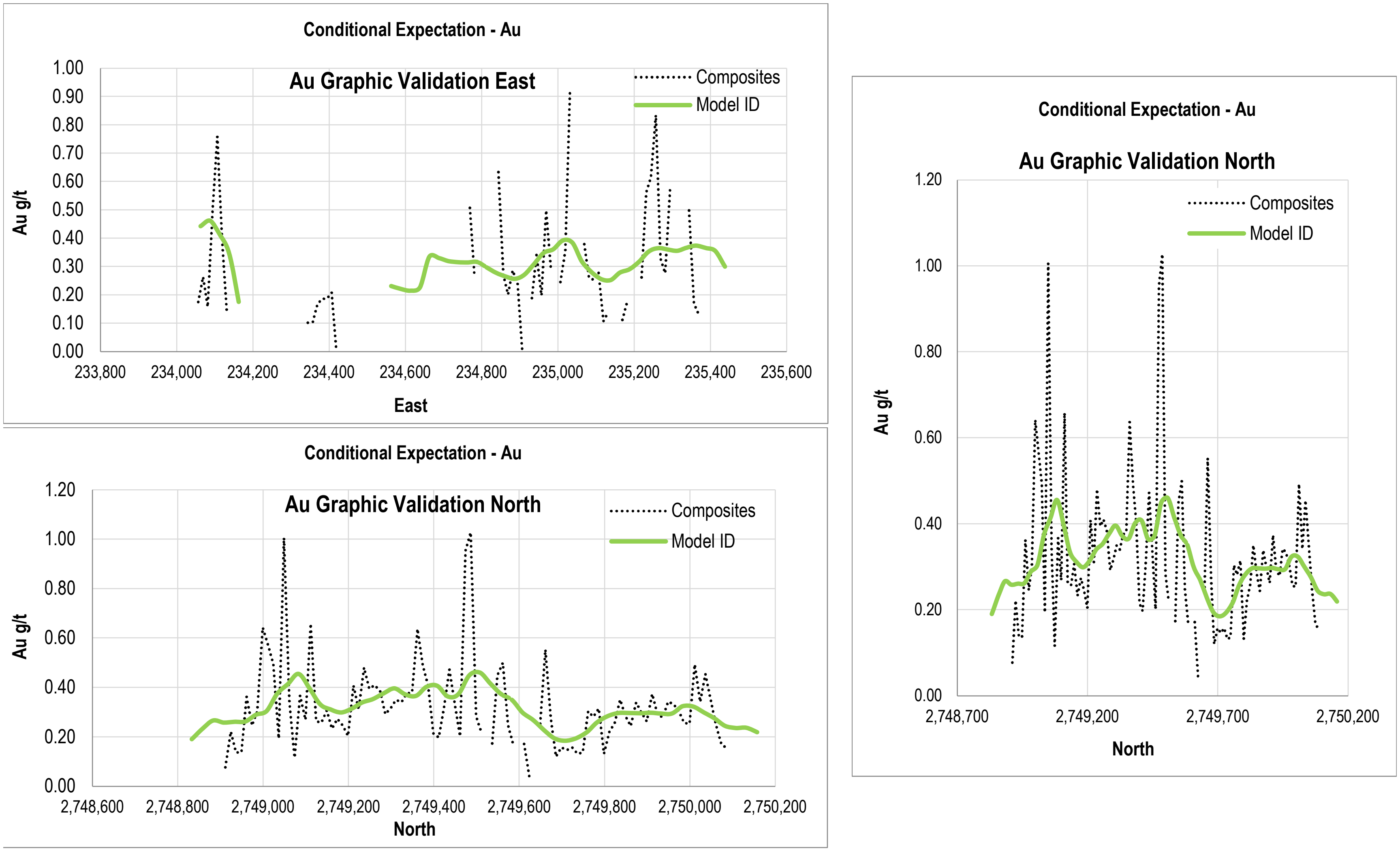


Figure 14-9: Gold Model Validation (Three-Direction Swath Plots)



Note: Gold model validation using three-direction swath plots comparing the different interpolation methods to the DDH composites.

14.10 Mineral Resource Classification

Mineral resource classification is the application of Measured, Indicated, and Inferred categories, in order of decreasing geological confidence to the resource block model. These are CIM Definition Standards, which are incorporated, by reference, in NI 43-101.

14.10.1 Measured 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.

14.10.2 Indicated 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.

14.10.3 Inferred Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade (or quality) are estimated based on limited geological evidence and sampling. Geological evidence is sufficient to imply, but not verify geological and grade (or quality) continuity.

The author of this section has classified the current Mineral Resource estimation as Inferred for the oxidized portion of the Cerro de Oro deposit. Although drill spacing is locally sufficient for Indicated classification, there remain necessary revisions and updates to the geological logs; better definition of the limit between the oxides and fresh rock; understanding of mineralization controls; and bulk density measurements. The reported Inferred Mineral Resources are estimated with an average drilling grid of 85 m by 85 m.

14.11 Mineral Resource Estimate

To determine the quantities of materials with “reasonable prospects for eventual economic extraction,” the author determined economic pit constraining limits using the Lerchs–Grossmann algorithm for the oxidized portion of the Cerro de Oro deposit, considering heap leach processing. The result defines an economic pit shell that has the highest possible total value, while honoring the required surface mine slope and economic parameters.

The resources potentially mineable via open pit were defined using NPV Scheduler (version 4.30.145.0). Economic parameters used in the analysis are listed in Table 14-5.

Table 14-5: Parameters for Economic Pit Generation

Parameter	Unit	Oxide Mineralization
Gold Price	$/oz	1,700
Refining Cost	$/oz	5
Process Cost	$/t stacked	5
Metallurgical Recovery	%	70
General & Administrative	$/t stacked	0.75
Mining Cost	$/oz	2.50
Gold Cut-Off Grade	g/t Au	0.15
Pit Slope Angle	degrees	45

Notes: Dilution and mining losses were not applied to the economic pits, and the economic pits are undiscounted.

The parameters listed in Table 14-5 define a realistic basis to estimate the Mineral Resources for the Project. The processing scenario assumes heap leaching of the mineralized material source from open pit mining. The Mineral Resource has been limited to mineralized material that occurs within the economic pit shells. All other material within the defined pit shells was characterized as non-mineralized material.

Table 14-6 provides the Mineral Resource estimate for the Cerro de Oro project.

Table 14-6: Estimate of Mineral Resources, Cerro de Oro

Oxidation Zone	Category	Tonnes (Mt)	Gold Grade (g/t)	Contained Ounces ('000s)
Oxide	Inferred	67	0.37	790

Notes:

- The independent and QP for the mineral resource estimates, as defined by NI 43-101, is Scott Zelligan, P.Geo. The effective date of the Mineral Resource estimate is September 28, 2022.
- A gold price of $1,700/oz was used in calculating the Mineral Resource.
- The estimate is reported for a potential open pit/heap leach scenario.
- The limits of the Resource-constraining pit shell assumed a mining cut-off based on a total OPEX (mining, milling, and general and administrative [G&A]) of $8.80/t stacked, a metallurgical recovery of 70%, and a constant open pit slope angle of 45°. This constraining pit shell contained a total volume of 84 Mt. Inferred Mineral Resources are too speculative geologically to have economic considerations applied to them.
- The gold cut-off grade applied to oxide mineralized material is 0.15 g/t Au
- These Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability.
- The Mineral Resource estimate follows CIM Definition Standards.
- Results are presented in-situ. Ounce (troy) = metric tonnes x grade / 31.103. Calculations used metric units (metres, tonnes, g/t). Rounding followed the recommendations as per NI 43-101.
- The number of tonnes has been rounded to the nearest million.
- The QPs of this Report are not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, marketing, or other relevant issues that could materially affect the Mineral Resource estimate other than those disclosed in this NI 43-101 compliant Technical Report.

Table 14-7 shows the open pit constrained Mineral Resource sensitivity to the gold price. **The reader should be cautioned that the figures provided in Table 14-7 should not be interpreted as a Mineral Resource statement**. The reported quantities and grade estimates at different gold prices are presented for the sole purpose of demonstrating the sensitivity of the resource model to the selection of a reporting gold price. The gold price of $1,700/oz that was used to report the Mineral Resources (the base case) for Cerro de Oro is highlighted in bold. **Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.**

Table 14-7: Sensitivity of the Mineral Resource to Gold Price

Gold Price ($/oz)	Category		Tonnes (Mt)	Gold Grade (g/t)	Contained Ounces ('000s)
1,500	Inferred		54	0.40	690
1,600	Inferred		60	0.38	740
1,700	**Inferred**		**67**	**0.37**	**790**
1,800	Inferred		73	0.36	833
1,900	Inferred		78	0.35	865

Note: Mineral Resource is shown in bold.

The author is not aware of any known environment, permitting, legal, title, taxation, socioeconomic, marketing, political, or other factors that could materially affect the economics of this Mineral Resource, beyond those presented in this Report.

15 MINERAL RESERVE ESTIMATES

The Cerro de Oro project is not an advanced property. No Mineral Reserves have been determined for the Project.

16 MINING METHODS

The Cerro de Oro project is planned as a conventional open pit operation that will use haul trucks and front-end loaders. Material will be drilled and blasted, before being loaded and hauled to the waste dump, crusher, or direct to the heap leach pad. Mining activities will be completed by a contractor who will supply all the required mine equipment and personnel working under the supervision of the Company's technical staff.

16.1 Mine Planning

The Cerro de Oro project will be mined using primarily rigid frame 100-ton haul trucks and front-end loaders with a bucket capacity in the 11.5 m^3 range. Mined materials from the open pits, depending on the classification (mineral or waste), will be hauled either to a waste dump, to the crusher or placed directly on a heap leach pad.

The Project will have one leach pad along the eastern project boundary (see Figure 18-1) with future expansion potential to the immediate west of the planned pad. There will be two waste dumps to the south of the open pits denoted waste dump #1 and waste dump #2.

16.1.1 Geotechnical and Hydrological Assumptions

There have not been any geotechnical or hydrological studies completed at the Project for open pit or waste dump design purposes. Pit bench heights are assumed to be 5 m in order to provide operational flexibility and good mineralization/waste selectivity, although larger bench heights on final walls and in zones consisting predominantly of waste should be considered as part of future studies to increase planned bench widths.

For the purposes of this preliminary economic assessment, inter-ramp pit slope angles have been assumed to be 45° around the full circumference and to depth at both open pits. Overall average pit slopes with haulage ramps in place range between 30° to 43° in the north pit and 34° to 38° in the south pit. Table 16-1 shows the pit wall configuration used for pit design purposes.

Table 16-1: Open Pit Configuration

Parameter	Parameter Assumption
Bench Height (m)	5
Bench Face Angle (°)	75
Bench Width (m)	3.7
Inter-ramp Slope Angle (°)	45

The mine design will incorporate two in valley waste dumps that are located to the south of the open pits. These waste dumps are confined by the natural topography on three sides with the north face open to the valley. The waste dumps will be constructed using a bottom-up approach using the parameters shown in Table 16-2. All required haul roads to reach the maximum planned dump height will be built into each dump face (north face). The overall slope angle has been limited to a maximum of 25° after accounting for placement of required haul roads.

Table 16-2: Waste Dump Configuration

Parameter	Waste Dump #1	Waste Dump #2
Bench Height (m)	15	15
Bench Face Angle (°)	36	36
Bench Width (m)	5.3	5.3
Inter-ramp Slope Angle (°)	30	30
Haul Road Width (m)	25	25
Overall Slope Angle (°)	25	23
Dump Height (m)	170	115

Appropriate monitoring of the open pit and waste dump slopes will be done using prisms to monitor for any accelerations of the slopes. Daily inspections will also be completed by qualified staff who will complete a daily inspection log.

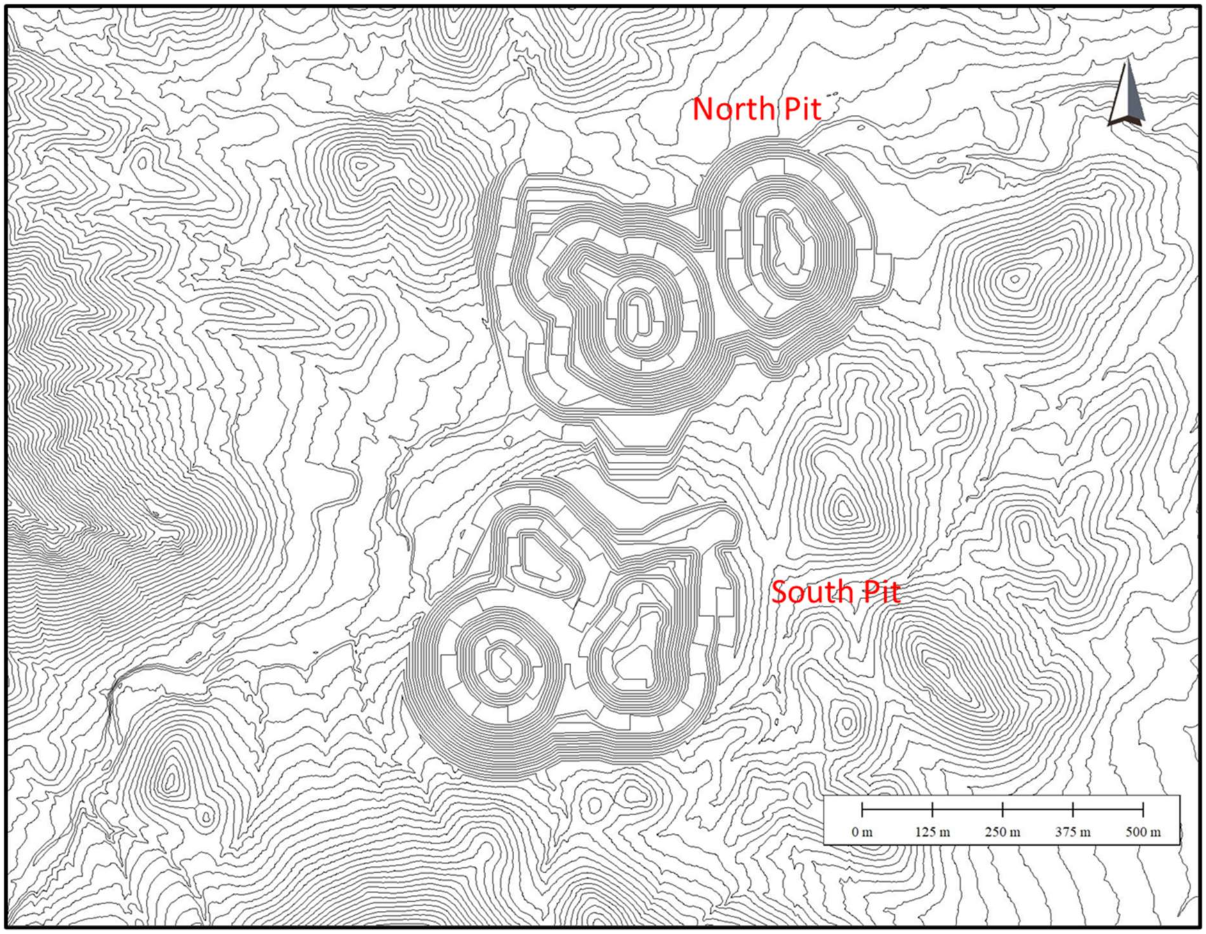
16.1.2 Surface Roads

A series of haul roads will be constructed as each open pit area is developed. These roads will be constructed to allow access into the mine site, to planned facilities and to transport mined material to either a waste dump or to the leach pad area. The initial road requirements are estimated to be 11 km and will require approximately 397,000 m^3 of cutting and 420,000 m^3 of fill material. The surface roads are shown in the site plan on Figure 18-1.

16.1.3 Open Pit Design

The open pit designs include pit ramps sized to accommodate 100-t haul trucks that are likely to be used for the Project. The pit ramp will have a width of 25 m (3.5X the operating width of a 100-t truck), which is large enough to accommodate two-way traffic, a drainage ditch and safety berm at the road edge. The ramp width of the final six benches will be reduced to 15 m (single lane) to improve overall mineral recoveries related to mining in the bottom portions of the pit. All open pit ramps will have a maximum gradient of 10%. The wall configuration for the pit areas is based on the parameters in Table 16-1. Figure 16-1 shows the arrangement of the ultimate pit designs.

Figure 16-1: Ultimate Open Pit Design



16.1.4 Open Pit Phase Designs

Using a nested pit shell that is based on a gold price of $1,500/oz and the economic parameters applied to the resource estimate as a guide, ultimate open pit designs were completed. These designs were split in to a series of phases or pushbacks to decrease stripping requirements and to bring higher grade material forward in the production schedule. As a result, the south pit area has been divided into three phases (SP1, SP2, and SP3) and the north pit area has been divided into four phases (NP1, NP2, NP3, and NP4).

The open pit physicals have been calculated based on an internal cut-off grade of 0.12 g/t Au. Based on available metallurgical data for the Project and an evaluation of host rock lithologies, it was assumed that most of the mineralization mined will be placed directly on the heap leach as run-of-mine (ROM) with approximately 30% of the mineralization reporting to the crusher for size reduction (equivalent to a crushing cut-off grade of approximately 0.40 to 0.45 g/t Au).

The cut-off grade uses a gold price of $1,600/oz and the OPEX developed in Section 21 of this Technical Report (excludes operating contingency). On this basis the operating costs used are $2.29/t processed for direct stacking on the heap leach (ROM), $0.52/t for crushing ($1.74/t of crushed material), $0.32/t for G&A expenses, $0.30 for mineral over-haulage to the leached pad. A fee of $13/oz for transportation of loaded carbon as well as stripping and refining has also been included.

The metallurgical recovery for the ROM material cut-off grade has been estimated at a conservative value of 50% for mine planning purposes. This adjustment reflects an expected reduction in the marginal recovery of gold as the mineralized grade approaches the in-pit cut-off (<0.20 g/t Au) only and is not a reflection on the overall average recovery rate from ROM material. The estimated overall LOM metallurgical recovery (ROM plus crushed material) is 68%.

Table 16-3: Cut-Off Grade ROM

Parameter	Unit	
Gold Price	$/oz	1,600
Mining Cost[1]	$/t mined	2.23
Process Cost[2]	$/t processed	2.81
G&A	$/t processed	0.32
Transportation, Refining, and Sales	$/oz	13
Metallurgical Recovery	(%)	50
Cut-Off Grade	(g/t Au)	0.12

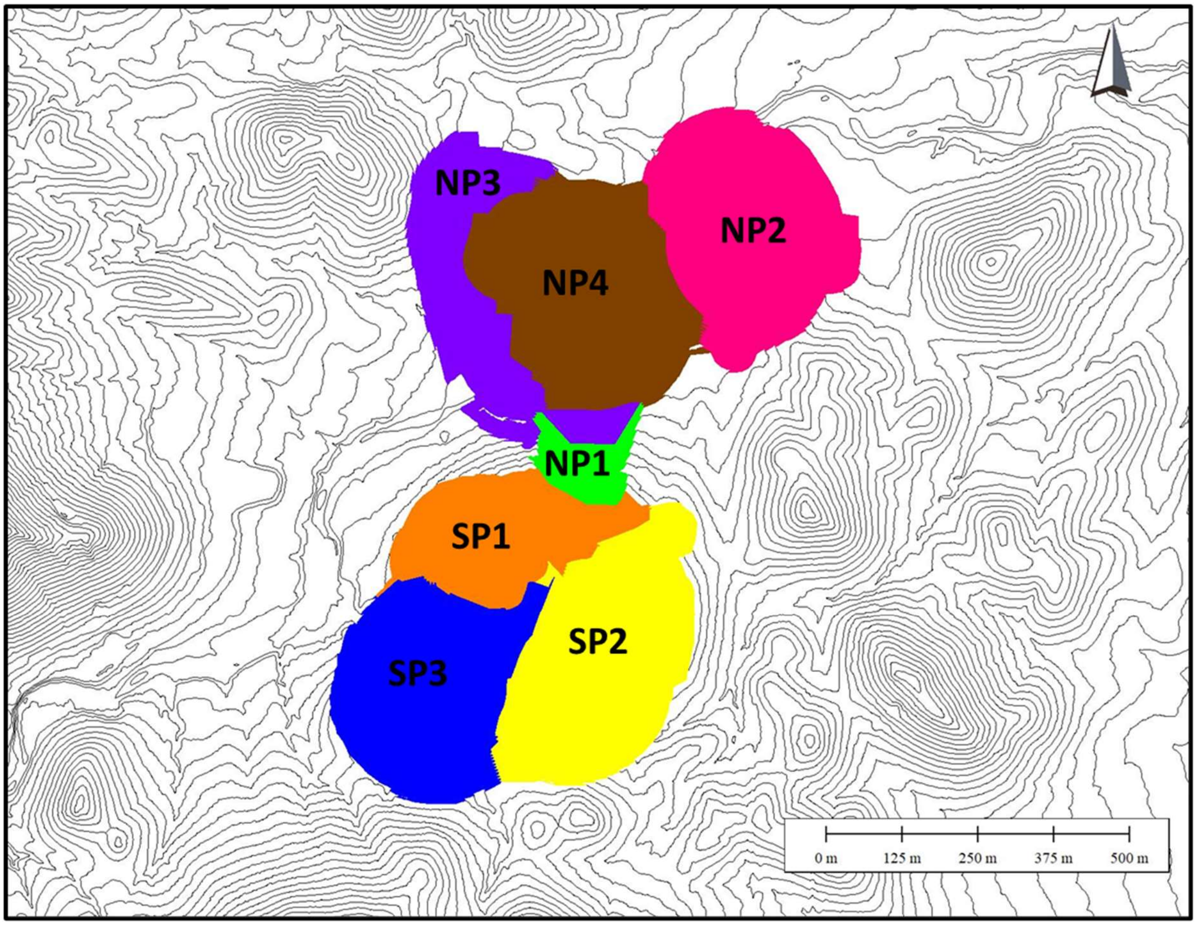
Notes: [1] Open pit mining cost is $2.00/t for waste and $2.30/t for mineralization. A cost of $0.30/t mineralization has been included in the base case mining cost to account for a longer haulage route to the leach pad in comparison to the waste dumps.
[2] The process cost is $2.29/t and includes a crushing cost of $0.52/t on the total material processed. This PEA assumes 30% of the mineralized material is crushed (crushing unit cost is estimated at $1.74/t of crusher feed material.

Given the low stripping ratio (LOM 0.30:1) and the extents of the mineralization, the PEA did not adjust the planned mining physicals to account for mining losses or dilution. Table 16-4 summarizes the physicals for each mine phase and **Figure** 16-2 shows the locations of each phase in plan view.

Table 16-4: Phase Summary

	South Pit			North Pit				
	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3	Phase 4	Total
Feed (kt)	16,421	9,220	8,969	654	7,875	4,352	11,805	**59,296**
Au (g/t)	0.41	0.44	0.33	0.53	0.37	0.34	0.28	**0.37**
Waste (kt)	2,242	4,844	2,320	97	4,840	1,908	1,631	**17,883**
Total (kt)	18,664	14,064	11,289	751	12,714	6,260	13,437	**77,179**
Strip Ratio	0.14	0.53	0.26	0.15	0.62	0.44	0.14	**0.30**
Contained Au (koz)	216	130	95	11	94	48	106	**701**

Figure 16-2: Open Pit Phases



16.1.5 Production Schedule

The mine production schedule anticipates that mining starts at the beginning of Year 1 following the completion of all required earthworks activities such as road, dump and starter leach pad construction. The mine plan targets a total of 7.5 Mt of mineralization per year and ramps up to this rate over the first two years of operation. The target production rate is then held steady for the following six years before ramping down later in Year 8 and into early Year 9 for a total LOM of 8.2 years. The Production schedule is summarized in Table 16-5 and Table 16-6 and Figure 16-3. The phase development sequence is shown on Figure 16-4.

Table 16-5: Cerro de Ore Annual Mine Schedule

Year	Mineralized Tonnes	Au (g/t)	Contained Gold (oz)	Waste Tonnes	Total Tonnes	Strip Ratio
1	6,536,612	0.44	93,435	693,394	7,230,006	0.11
2	6,645,988	0.41	87,254	1,849,643	8,495,631	0.28
3	7,499,879	0.41	98,986	2,496,696	9,996,575	0.33
4	7,508,224	0.42	100,773	3,223,998	10,732,222	0.43
5	7,202,634	0.32	73,815	3,301,171	10,503,805	0.46
6	7,737,702	0.37	91,261	2,778,248	10,515,951	0.36
7	7,500,015	0.32	76,940	3,237,229	10,737,244	0.43
8	7,500,678	0.27	65,015	302,195	7,802,873	0.04
9	1,164,176	0.36	13,418	254	1,164,430	0.00
Total	**59,295,909**	**0.37**	**700,897**	**17,882,828**	**77,178,737**	0.30

Note: The production schedule uses an average density of 2.55, which is consistent with the density used for resource estimation.

Figure 16-3: Mine Production Schedule

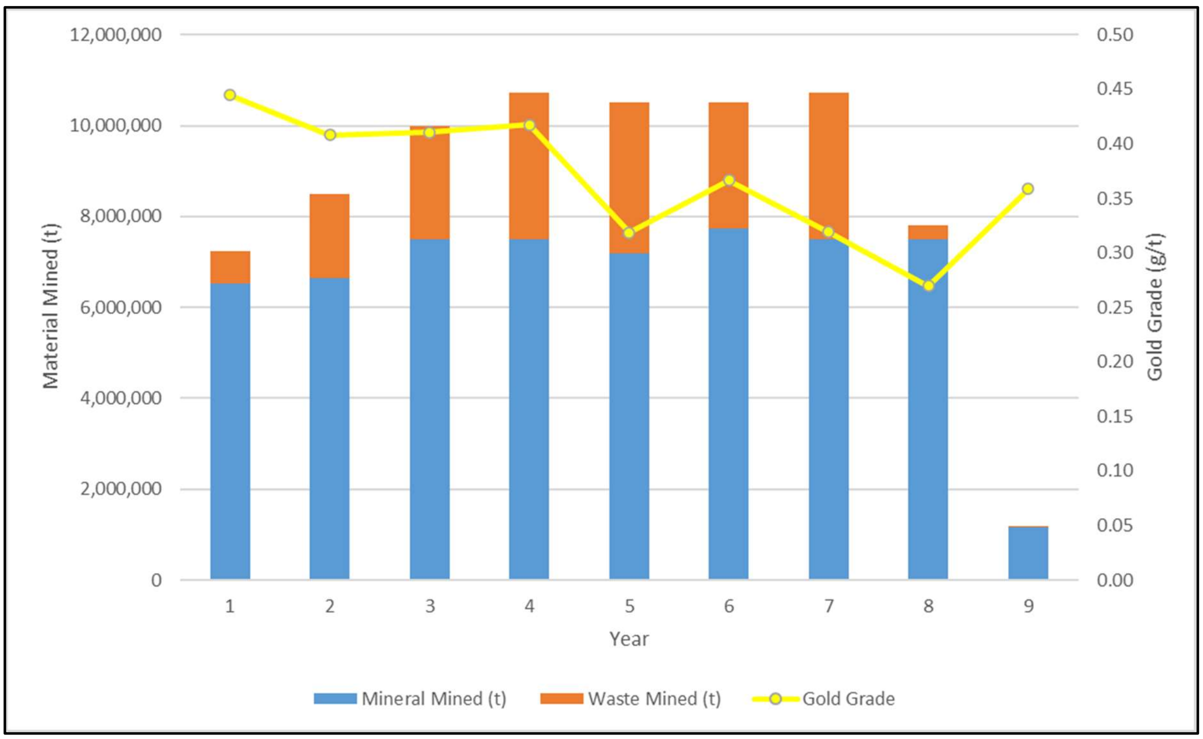
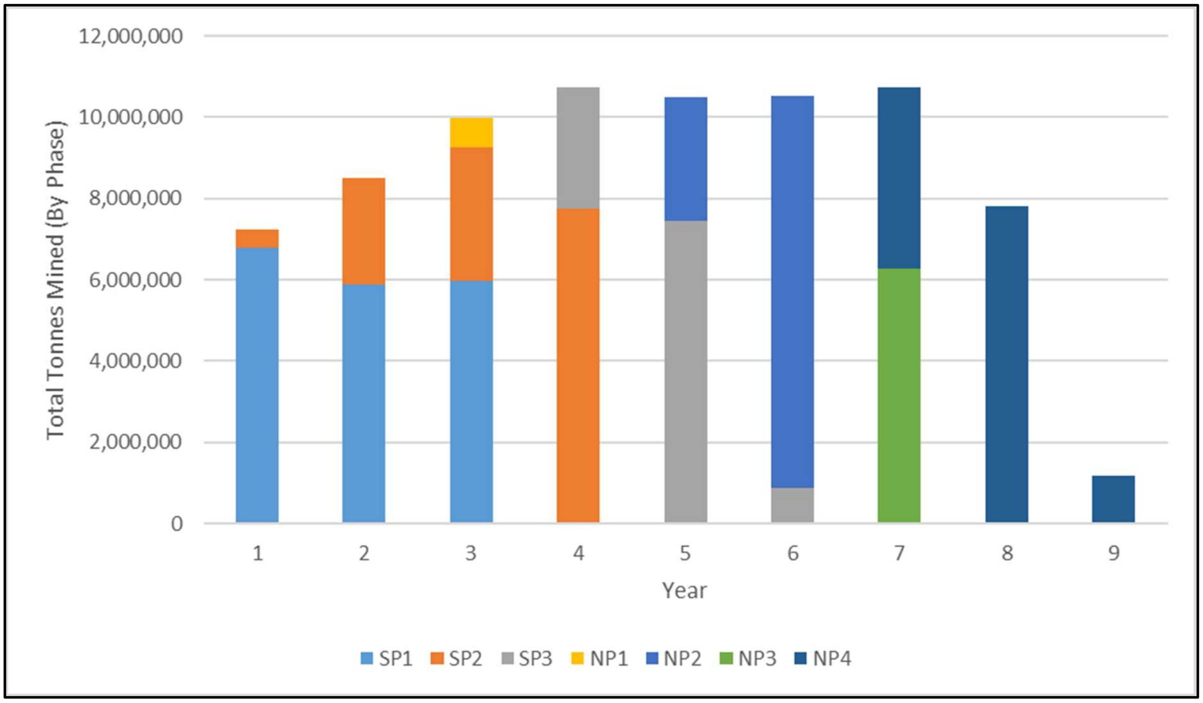


Table 16-6: Process Schedule

Year	Total	1	2	3	4	5	6	7	8	9
Contained Ounces	700,897	93,435	87,254	98,986	100,773	73,815	91,261	76,940	65,015	13,418
Recovered Ounces	476,610	63,536	59,333	67,310	68,526	50,194	62,057	52,319	44,210	9,124

Note: The recovered ounces have been estimated using a flat LOM Metallurgical Recovery of 68%.

Figure 16-4: Material Mined by Phase



The production schedule is based solely on an inferred resource. The reader is therefore reminded that this PEA is preliminary in nature and includes Inferred Mineral Resources in the production schedule that are too speculative geologically to have economic considerations applied to them. There is no certainty that the PEA will be realized.

16.2 Mining Contractor and Equipment

Mineral Alamos will employ a mining contractor to undertake open pit mining activities at the Project. While the contractor will select the final equipment fleet, for the purposes of this PEA, it has been assumed that haul trucks in the 100-t range will be loaded by front-end loaders with a bucket capacity of around 11.5 m^3.

The mining contractor in addition to load and haul activities will also be responsible for drill and blast and road and dump maintenance. The contractor will employ and supervise its own personnel. The Company will undertake all mine planning, surveying, and mineral control activities.

The mining contractor will be paid on either a cubic metre or dollar per tonne basis. The PEA assumes a base mining cost of $2.00/t mined with a provision of $0.30/t for overhauls of mineralized material to the crusher or leach pad over the course of the mine life.

Equipment fleet requirements have not been completed by a contractor, but have been estimated herein using first principals. Along with the production fleet the contractor will also supply the required support equipment such as dozers, graders and light vehicles.

Table 16-7 shows the estimate fleet required to achieve the Cerro de Oro production schedule.

Table 16-7: Estimated Production Fleet

	Front-End Loaders	Haul Trucks	Production Drills
Hour per Year	8,640	8,640	8,640
Availability	85%	85%	85%
Use of Availability	85%	85%	85%
Utilization	72.3%	72.3%	68.0%
Effectiveness	85%	85%	85%
OEE	61.4%	61.4%	51.0%
Schedule Hours/Year	8,520	8,520	8,520
Effective Hours/Year	5,232	5,232	4,345
Units Required (Peak)	2	15	5

Notes: Production drill requirements estimated based on a hole diameter of 171 mm (6.7"), 6 m hole length, burden and spacing of 4 m x 4 m in ore and 4.50 m x 4.5 m in waste. ANFO assumed as the explosive that will be used having an explosive density of 0.82 g/cm^3. Powder factor in ore of 0.31 kg/t and 0.27 kg/t in waste.
Hours per year based on 360 days per year.
Scheduled hours per year assume two 12-hour shifts per day and five down days per year due to weather.

A spare unit has been added to the number of drills and haul trucks as a contingency.

17 RECOVERY METHODS

The recovery methods used for the design of the Cerro de Oro processing facilities are summarized below. Preliminary test work presented in Section 13 serves as the basis for the gold recovery design criteria. The project processing facilities consist of two-stage crushing of high-grade material (low grade will be sent to leach pad as ROM), a heap leach pad, solution ponds and carbon column recovery of gold from pregnant leach solution. The current design excludes carbon desorption and gold refining facilities as gold-loaded carbon will be shipped off-site for final doré production.

The overall plant design was based on a nominal 7,000,000 t/a of mineralized material placed on the leach pad with an average grade of 0.4 g/t Au. Sufficient excess area is included in the design to allow for increases in production rates later in the current mine plan (after Year 4). A base case leach solution flow rate of 800 m^3/hour to the carbon column recovery area has been estimated with allowances to expand to 1,200 m^3/h to accommodate increases in annual production rates and/or as the overall project resources expand.

Make-up water for process operations (leaching and reagent preparation) will be provided via surface wells and will be pumped to the process plant/ponds for use and storage as required.

The overall Cerro de Oro gold recovery facilities consist of the following unit operations and support facilities:

- Low-grade ROM material leach pad loading via direct truck dump.
- Two-stage crushing (jaw and cone) and screening operations for higher grade mine material with conveyor/stacker transport to leach pad.
- Lined heap leach pads are sufficient to handle the current LOM resource (40% to 50% constructed initially as Phase 1 with subsequent expansions).
- Lined leach solution ponds adjacent to the leach pad—barren, pregnant, and emergency overflow solution capacity.
- Four trains of 4-stage carbon in columns with area to expand to six trains.
- All required process pumping and loaded and barren carbon handling.
- Reagent preparation and storage facilities.
- Metallurgical laboratory (necessary production samples only).
- Utilities including a water supply system and diesel power generation.

A block diagram for the processing facilities is shown in Figure 17-1, the process plant layout is shown on Figure 17-2 and the key process design criteria are summarized in Table 17-1. Details for each recovery area are provided in the following sections.

Table 17-1 Key Process Design Parameters

Criteria	Unit	Value
Total Feed to Leach Pads[1]	t/a	7,000,000
Crushing Feed[1, 2]	% of feed to leach pad	30%–35%
Crushing Circuit Utilization	%	65
Leaching and Carbon Loading Utilization	%	95
Mineralized Material Loose Bulk Density	t/m^3	1.7–1.8
Carbon Loading Circuit Solution Feed Rate	m^3/h	800
Average Grade of Mineralized Material	g/t Au	0.4
Au Recovery	%	70
Carbon Loading	g/t Au	6,000

Notes: [1] Mineralized material (both crushed and ROM)
[2] Higher grade material (remainder of mineralized material sent to leach pad as ROM).

Figure 17-1: Process Flow Diagram

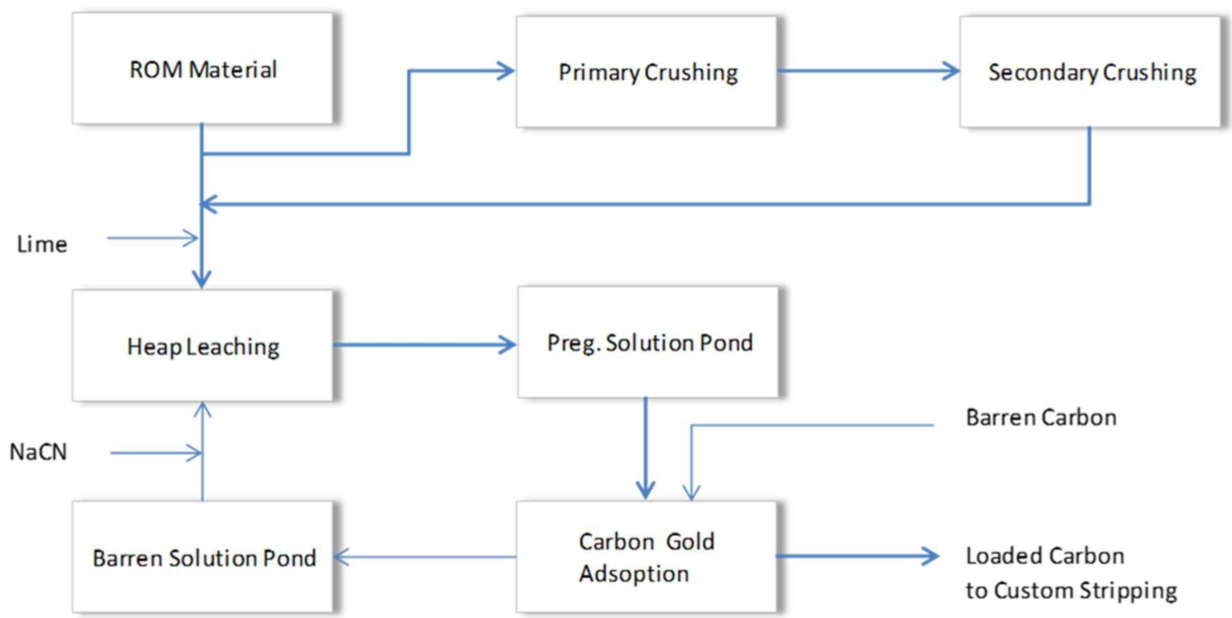
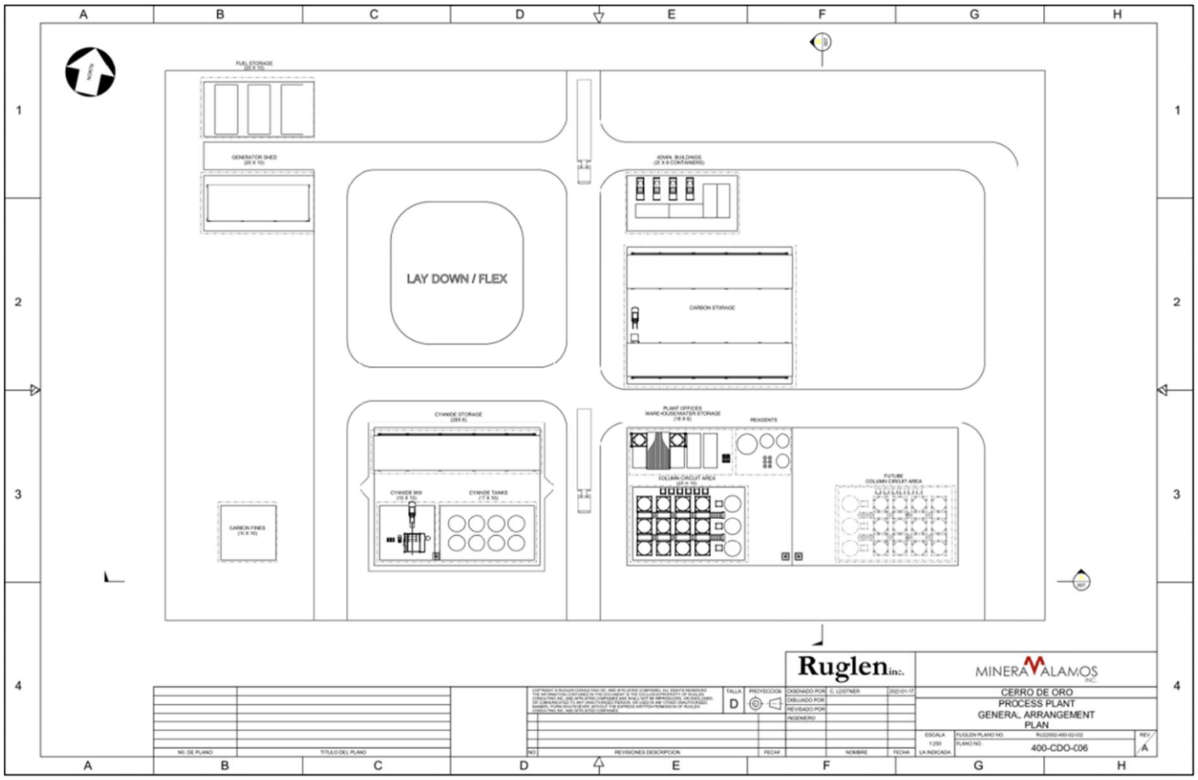


Figure 17-2: Process Plant Layout (Load Carbon)



17.1 Crushing and Stockpiling

It is estimated that 30% to 35% of the total mineralized production from the Cerro de Oro mine will be sent for crushing based on the data available currently. This corresponds to a crushing cut-off grade of approximately 0.40 to 0.45 g/t Au and a feed rate to the crushing/screening operations of 6,500 t/d to 7,000 t/d. Mineralized material identified in the open pit that is below this grade will be sent directly to the leach pad as ROM. It is expected that blasting patterns in the mine will be optimized to provide optimal fragmentation of the crushing and ROM materials.

The crushing circuit consists of the following:

- Truck dump hopper and feeder.
- ROM stockpile.
- Primary jaw crusher.
- Secondary cone crushers with associated material feed screens and conveyors.
- Crushed material transfer conveyors ("grasshoppers") and leach pad stacker for final placement.

During day time material is delivered to the crushing area by haul trucks and directly dumped into the feed hopper of the jaw crusher. A surge stockpile is located near the jaw crusher to receive materials when the crushing circuit is not in operation in the evening (crushing circuit will operate 16 hours per day) or down for non-scheduled maintenance. The materials will be reclaimed from the stockpile by a front-end loader.

Feed with maximum lump size of 400 mm is crushed in the first stage jaw crusher. Discharge from the jaw crusher is transferred to the second stage cone crushers where the material is further crushed to a size of minus 3/4" to 7/8". Vibrating screens are operated in closed circuit with the crushing operations to remove fines and lime is added to the final product transfer conveyors.

A hydraulic breaker can be considered if big rocks are anticipated following more detailed fragmentation studies.

17.2 Heap Leach

Mineralized material is delivered to the leach pad area by truck (ROM) and transfer conveyors (crushed) and stacked on an impermeable plastic and clay lined leach pad being. The heap will be irrigated with a dilute alkaline cyanide solution. The solution percolates through the heap and extracts the gold and silver. Solution containing the dissolved precious metals (pregnant solution) reaches the liner at the bottom of the leach pad where it drains into a storage (pregnant solution) pond.

The leach pads for the Cerro de Oro operations are to be constructed in phases as mining advances. The initial Phase 1 consists of 400,000 m^2 of 80 mil (2 mm) thick LLDPE liner placed above a compacted clay base. A layer of “gravel” style material or overliner is placed over the LLDPE to protect the membrane from damage. A series of perforated solution collection pipes are contained within the gravel overliner to aid in overall drainage and permeability of the leach solution by allowing it to flow by gravity along the base of the sloped pad and into the pregnant solution pond.

17.3 Solution Ponds

The design for solution storage considers a single pond which is divided into multiple compartments. A berm/weir at the base of the pond separates areas that can store both pregnant solution and barren solutions respectively. Additional volume is provided in the upper part of the pond above the top of the preg/barren berm to contain liquid during a precipitation “event” situation. The total maximum contained solution volume for the current design is approximately 180,000 m^3. Approximately 100,000 m^3 of pond volume is distributed between the pregnant and barren storage areas with the remaining 80,000 m^3 available for an event situation. The design is based on site data as is currently available but may be modified/optimized going forth based on additional modelling of available site precipitation information.

The pond design consists of impermeable plastic membranes installed above a compacted clay underliner. A double plastic membrane has been used (min. 60 mil HDPE for each layer) with leak detection monitoring sumps installed between the two plastic membranes. Additional site area is also available adjacent to the current ponds should it be necessary to add increased storage capacity as the mine life expands.

Pregnant solution is pumped from the storage pond to the nearby processing plant where it is processed through a series of carbon columns to recover precious metals. Upon exiting the carbon columns, the solution with the gold removed (barren solution) is discharged by gravity into the barren storage pond. Solution from the barren pond is recirculated to the leach pad for the next cycle of recovering precious metals. Cyanide make-up solution is injected into the barren solution stream prior to its return to the leach pad.

17.4 Carbon Column Gold Recovery

Pregnant leach solution containing the dissolved precious metals is pumped to the process plant to recover gold and silver using carbon column equipment.

Four carbon column trains operating in parallel are considered to process a total of at least 800 m^3/h of solution. Each train can treat 200 m^3/h of solution with four columns installed in series. Solution pumped from the pregnant solution pond is divided into four streams and fed to the first column of each train. Soluble gold and silver cyanide complexes are adsorbed onto the activated carbon in the columns.

Solution overflows by gravity between the carbon columns in series. When carbon in a column reaches the desired gold loading capacity, solution feed to that train will be stopped. The column will be isolated and the loaded carbon containing the precious metals is removed from the column to bulk bags supported on column drainage frames. Once a column is empty the carbon in the downstream columns will be advanced in a counter-current direction to the solution flow and new (barren) carbon will be added to the final column in the train. Solution flow can then recommence for additional gold recovery. A carbon safety screen is installed at the end of each train to catch any carbon fines entrained in the overflow solution during normal operations.

Woven polypropylene bulk bags are provided beneath the drainage frames to collect the loaded carbon. Solution drained from the bags is collected and drains back to the barren pond. Loaded carbon bags will be temporarily stored at the mine site and then transported to an offsite refinery for final metal recovery.

After precious metals are removed, the dilute cyanide solution (now called “barren solution”) is discharged to the barren pond and re-used in the heap leach process. Make-up cyanide as 15% NaCN solution is added to the barren solution before it is recirculated to the heap leach pad.

Anti-scalant is added to both pregnant solution and barren solution to control scale build-up in order to operate heap leach irrigation and gold recovery systems efficiently.

17.5 Reagents and Fuel

The following primary reagent and fuel systems are included:

- Cyanide storage and mixing.
- Lime and carbon storage.
- Anti-scalant addition and dosing.
- Diesel storage for mobile equipment and power generation.

17.5.1 Cyanide Storage and Mixing

Cyanide is delivered to the plant site as solids in 1 t bulk bags. A two-tonne cyanide solution preparation system is used to prepare 15% NaCN solution which is then transferred to storage tanks. The solution is pumped via a dosing system which adds the necessary quantities to the barren solution being returned to the leach pad.

The solution storage tanks in the cyanide mixing area provide at least four to five days of normal operating requirements for the process. A minimum of two weeks of storage is available at site for the new cyanide bulk bags/boxes.

17.5.2 Carbon Storage

Activated carbon is usually provided in 1 m^3 bulk bags similar to those used for cyanide. Since the operation will be shipping loaded carbon off site for final process (prior to returning it to site) a significant inventory of carbon storage is required. The design incorporates a minimum of seven weeks storage at normal loaded carbon production rates which should be sufficient to cover all the material that will be in transit and being processed off site.

17.5.3 Antiscalant

Antiscalant is added to both barren solution and pregnant solution to prevent scaling problems while solution is circulated in the leach and carbon loading operations. The solution is provided in 1 m^3 tote bins and metering pumps are provided for distribution to the appropriate areas of the process.

17.5.4 Diesel Storage

Above ground diesel storage tanks will be installed with a minimum total capacity of one week of supply to power the diesel generators located near the plant.

An additional fuel storage tank is provided for plant mobile equipment and other site vehicles.

17.6 Metallurgical Laboratory

A basic laboratory is included as part of this PEA study. On-site capabilities will be primarily focused on the analysis of daily production samples from the mine (blastholes) and gold recovery (solutions) operations. Due to the close proximity of the Project to population centers with facilities suitable for metallurgical testwork and analysis it is anticipated that further activities (exploration analysis, metallurgical studies, etc.) will at least initially be performed by third parties. As operations at Cerro de Oro progress, it would be expected that the capabilities of the on-site laboratory would be expanded contingent on the availability of suitable personnel.

18 INFRASTRUCTURE

Given the early stage of development, there is limited infrastructure at the Cerro de Oro project site. The following subsections describe existing and planned infrastructure works.

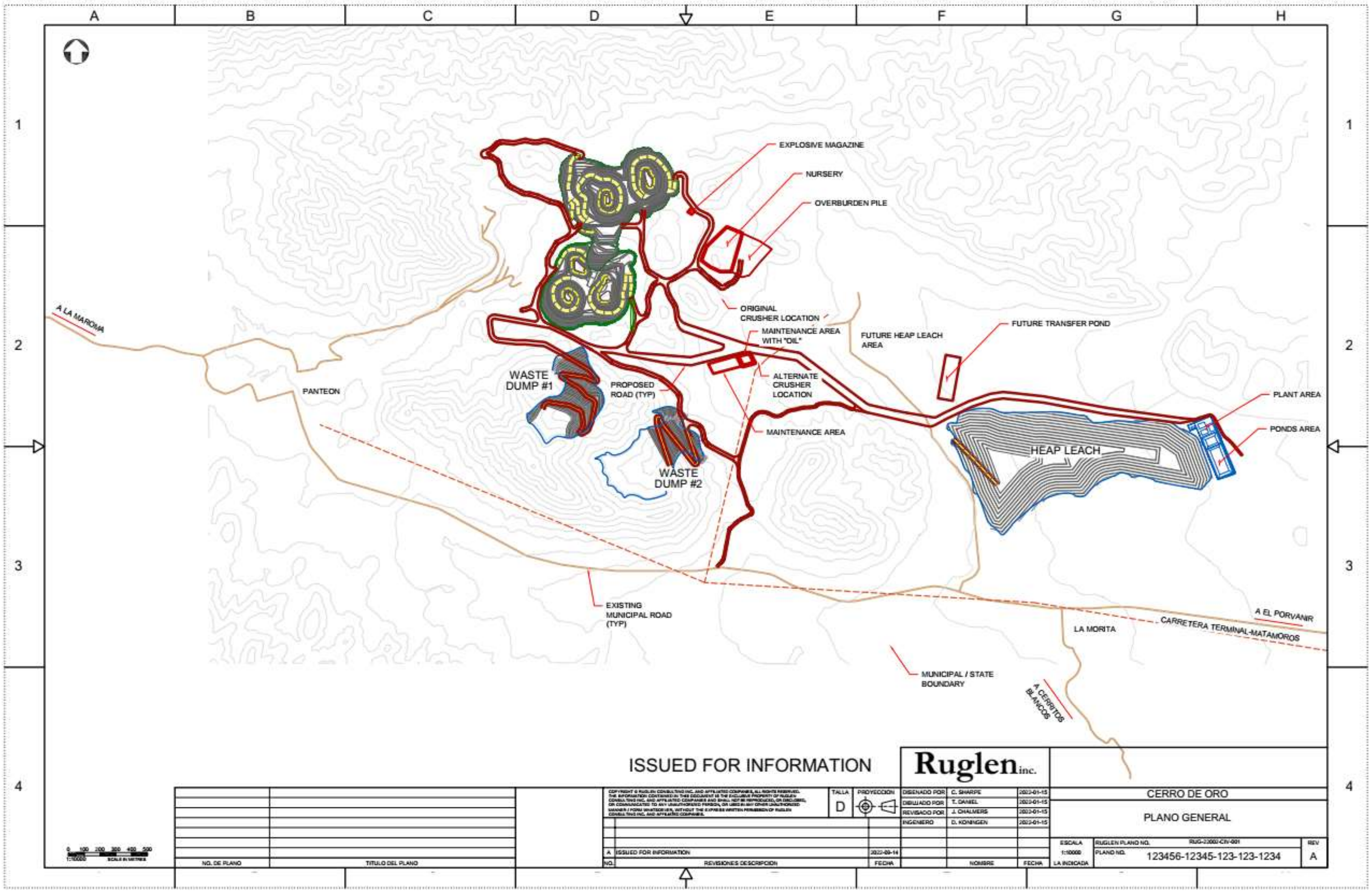
18.1 Access

The Cerro de Oro project is accessible by road from the city of Saltillo in neighbouring Coahuila State, a driving distance of approximately 165 km, about a two-hour drive (Figure 5-1). The exit to Melchor Ocampo is off Federal Highway 54 approximately 5 km northeast of the town of Concepción del Oro. After taking the exit, the Project is accessible via the paved Bonanza and Terminal–Matamoros roads toward the town of Melchor Ocampo. The site access road is approximately 2.5 km east of Melchor Ocampo, and itself is a 3 km gravel road that provides access to the Project site. All roads to the town are paved and in good condition.

Preliminary engineering has been completed to locate new access roads required for the development and operation of the Cerro de Oro project. From this plan, a total of approximately 11 km is required for initial site development and early mine production. Roads will consist of gravel surfaces suitable for the operation of mining trucks and general-purpose vehicles (see Figure 18-1).

A full evaluation of the upgrades required to existing roads around the Project area has yet to be to be completed. Some upgrades would be expected including the widening of sections of existing local roads that pass through/near the Project to better accommodate two-way truck traffic.

Figure 18-1: Site Plan



18.2 Power

Power requirements for the site are divided into two groups, crushing plant and process (leaching) plant operations. These operation segments are described below.

18.2.1 Crushing Plant Operations

The crushing plant operations are planned for an area east of the open pit operations and west of the heap leach pad. The detailed arrangements required for the existing equipment previously purchased by the Company have not yet been completed but will include a truck dump hopper/feeder, two stage crushing and screening as well as required transfer conveyors and an area sufficient for short term material stockpiles. It is planned that “grasshopper” style conveyors will be used to transfer crushed rock to a mobile stacker located at the leach pad for final stacking/placement. In total an allowance has been included for a connected load of approximately 1.5 MW to power all the major equipment. An existing 2 MW backup diesel generator was acquired as part of the overall used crushing circuit equipment and will be installed as a backup.

The nearest federal electricity (CFE) connection to the planned crushing area is a local line approximately 0.5 km to the east of the crushers. The main line supplying the town of Melchor Ocampo runs along the primary access road to the town approximately 2 km to the south. The company is currently discussing the Project requirements with CFE to confirm sufficient capacity exists within the local network and to confirm acceptable locations for connection to the power grid.

18.2.2 Process (Leaching) Plant Operations

For the purposes of this study, it is assumed for the foreseeable future that all power required for the Cerro de Oro gold leaching and recovery plant will be generated at site via diesel generators. The total maximum operating plant power load is estimated at 780 kW, which will be supplied via a single diesel generator unit (1 MW). A backup generator (300–400 kW) will also be installed to manage basic requirements during maintenance periods or periods of reduced solution pumping. Generators are to be located close to the processing plant area, so site power transmission requirements will be negligible. Wherever possible, smaller power consumers not associated with the processing plant (i.e., test wells, local offices) will be self-contained with local diesel hydraulic/electric generation. Process power requirements will vary with heap leach stacking height and locations and it can be assumed that diesel requirements for these smaller consumers can be assumed to be included in the calculations for the maximum operating plant power load.

Typical diesel power generation consumes 0.25–0.30 L/kWh. At current fuel prices in Mexico, this is equivalent to an electric power cost in the range of $0.30/kWh, which has been used for budgeting. Should project resources continue to grow, further studies would be warranted to investigate the economics of extending grid power to the process plan area.

18.3 Water Management

The sources of process water available for the Cerro de Oro project consist of groundwater wells. In mid-2022 Corex Global (a subsidiary of Minera Alamos) hired a hydrogeological consulting group to perform reviews of the Cerro de Oro area to better understand the regional water flows around Melchor Ocampo. As a result of regional geology map reviews in addition to local field investigations in regions of interest, 22 different areas were selected for follow-up with electromagnetic geophysical surveys (TEM) using 150 m by 150 m loops intended to explore base rock resistivities down to a maximum depth of 400 m.

Seven high-priority targets have been selected by the Company for test drilling down to a maximum depth of 300 m. Many of the target areas are located north of the planned leach pad/processing plant facilities and at a distance less than 5 km.

18.4 Other Infrastructure

Preliminary estimates were completed to calculate the total volumes of material to be relocated during overall site construction activities. These are summarized as follows:

- Solution ponds (115,000 m^3 cut / 25,000 m^3 fill)
- Processing and crushing plant areas (130,000 m^3 cut / 75,000 m^3 fill)
- Other general works (20% of totals above).

Using an overall in-situ density of 2.5 t/m3 the total amount of material to be cut during the site preparations is 700,000–750,000 tonnes excluding 11 km of site access roads. Of this total, 40% will be moved short distances and used as compacted fill. The remainder will be moved to one of the site waste storage dumps.

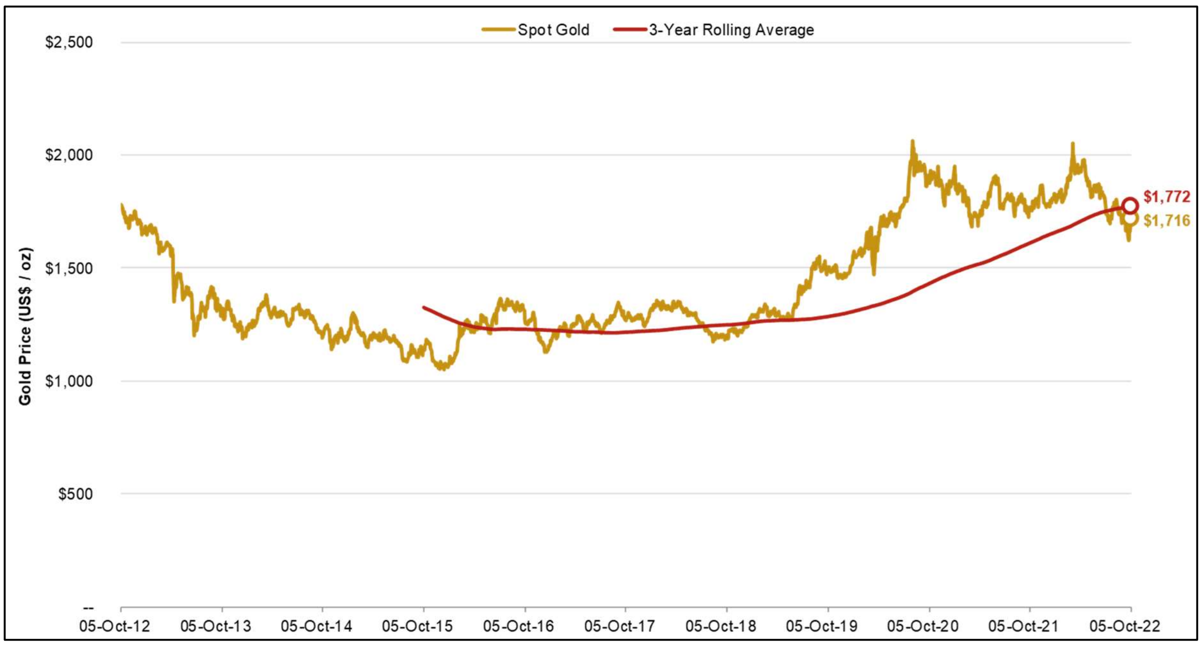
Other general infrastructure to be constructed at the Project includes an office, laboratory, and warehouse facilities. No allowance has been made for the truck shop area as these facilities are typically provided by the mining contractor as part of the contract for mine operations in Mexico. Detailed designs for the other items have not been completed, but basic area allowances have been included in the site arrangements based on management's experience with recent operations (including the Santana gold project). Simple buildings are planned with a combination of trailers/container units and locally constructed concrete block structures. Only very basic laboratory services are planned for the site focussing exclusively on production samples (mine blastholes and process solutions). Other samples/testwork/analysis will be completed at third-party facilities located in Zacatecas or Durango.

19 MARKET STUDIES AND CONTRACTS

Minera Alamos will produce gold loaded carbon at the Cerro de Oro project site. The loaded carbon will be shipped to an available facility in Mexico or the United States for final carbon processing (desorption), doré production and refining.

The Company has not conducted a market study for the gold that will be produced from the Cerro de Oro project. Gold is widely traded, at market prices that are well understood. As such, it is assumed that future gold sales will occur at the market spot price. Historical gold prices for the past 10 years are shown on Figure 19-1 for reference purposes.

Figure 19-1: Historical Gold Price (October 2012–October 2022)



Source: Factset.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 Environmental Impact Assessment Permitting

The Environmental Impact Assessment (EIA) for mining projects in Mexico starts with an application for the following primary permitting documents:

MIA—Manifestación de Impacto Ambiental (Environmental Impact Statement)

ETJ—Estudio Técnico Justificativo (Technical Justification Study) that includes the Estudio de Riesgo (Risk Study)

PPA—Programa de Prevención de Accidentes (Accident Prevention Program).

The Company is currently preparing the MIA-ETJ permit applications following the completion of surface rights agreements with both the local municipality and Ejido which are a prerequisite for the submission of the permit documentation.

Descriptions of the major permitting requirements and documents are provided in the following subsections.

20.1.1 MIA—Manifestación de Impacto Ambiental (Environmental Impact Statement)

The objective of this document is to evaluate, mitigate, and communicate the potential environment effects related to the Project. The MIA should include:

- General project information
- Mine construction and operation plans
- Description of the physical, natural, and social environment where the Project will be developed
- Description of the measures and designs that will be implemented to comply with the environmental norms
- Identification and evaluation of potential impacts
- Description of the proposed mitigation measures for the identified impacts.

MIAs include detailed analyses of the following subjects: soil, water, vegetation, wildlife, cultural resources, and socioeconomic impacts.

Ultimately SEMARNAT prepares a resolution indicating whether the Project is environmentally viable. The final resolution must be published and include public consultations, proposed alternatives, agency and public comments, and proponent responses.

20.1.2 Estudio Técnico Justificativo (Technical Justification Study)

The Estudio Técnico Justificativo (ETJ) is the technical document that includes the designs, actions, procedures, and monitoring for the protection, conservation, and restoration of forest ecosystems. The ETJ should include the conceptual description of the mine plan and operations. The ETJ must demonstrate compliance with the following basic provisions:

- The project will not compromise biodiversity
- The project will not cause soil erosion
- The project will prevent deterioration of the water quality
- The project will limit water use
- The proposed change in land use will be more productive long-term than the existing land use
- Payment related to Change of Land Use in Forested Areas (CUS–Cambio de Uso de Suelo).

Since a portion of the Project area is forested, Minera Alamos is required to submit to SEMARNAT, under the ETJ, an application for change in land use for forested areas disturbed by mining activities. Changes in the forest land use may only be granted when the provisions listed above are satisfied.

20.2 Other Permits

Following the completion of the ETJ–MIA process several other registrations and local/state permits are required in advance of various site development stages and the start of commercial production. These include:

- **Water Use**—Comisión de Agua (National Water Commission or CONAGUA). Once a final water balance for the Project facilities is complete an application is required for a final water use permit based on the fresh water pumping requirements of the Project. Prior to this application, some groundwater well flow studies should be completed to evaluate the quantities of available groundwater flows. The company initiated these studies in 2022.
- **Explosives Use**—Covers projected explosives requirements and design of explosives storage facilities.
- **Exploration Permits**—As required when surface disturbances are created for site drilling purposes.
- **Construction Permits**—Obtained from the local municipality.

20.3 Social Impacts

The Project surface rights are held partially by the Melchor Ocampo municipality (Zacatecas) and to the east by the Ejido San Pedro de Ocampo (Coahuila). In recent years, the Mexican Federal Government has changed the EIA permitting procedure such that the Company applying for these permits must first demonstrate that they have a legal and binding agreement in place for the surface rights covering the area to be permitted. SEMARNAT will no longer accept the ETJ–MIA permit application documents unless proof of such rights is presented with the application.

In June 2022, Minera Alamos announced the formal conclusion of agreements to rent a total of 833 ha (656 ha in the municipality area and 177 ha in the Ejido area immediately adjacent and to the east of the municipality) following a final general meeting held with the Ejido. The agreements with both groups are for a period of 25 years with annual rental payments and cover all activities necessary for the permitting and development of a mining operation at the Cerro de Oro deposit. As part of the process the Company committed to a program of limited social works in both communities and that qualified residents of the areas will have preference for employment once the mine is operational.

21 CAPITAL AND OPERATING COSTS

The capital (CAPEX) and operating (OPEX) costs for the Cerro de Oro project are described and presented in the following subsections.

21.1 Assumptions

Capital and operating cost estimates were prepared assuming a greenfield installation of mining and processing facilities. Costs are accurate within a range of ±30%. Key assumptions used during the estimating process are as follows:

- Average daily production of mineralized material to the leach pad of approximately 20,000–25,000 tonnes.
- Gold recovery plant operating 24 hours a day, 365 days per year at approximately 95% plant availability.
- Mine plans based on the current inferred resource model.
- Open pit mining sequences were prepared in accordance with the parameters outlined in Section **Error! Reference source not found.** (Mining Methods) of this Report. Production of mineralized material targeted approximately 7,000,000 t/a (0.30 strip ratio).
- All mining operations will be accomplished using a third-party mining contractor. It is assumed that all equipment for mining operations (including maintenance shop) will be provided by the contractor. Mine planning and grade control will be the responsibility of the Company.
- Average overall gold recovery of 68% is based on the leaching of a combination of crushed (higher grade mineralization) and ROM material stacked on the leach pad. The preliminary metallurgical test results demonstrated a trend towards a typical final residual gold content of approximately 0.1 g/t Au in leached material (gold recovery in low 70s range). Management's experience with similar low-grade operations guided the use of a conservative recovery estimate that is in the high 60s range until further testwork can be completed.
- The plant does not include capital costs for carbon stripping and gold refining which will be carried out by third-party operations (processing costs are included in the economic model).
- The crushing system will be operated by the Company. The crushing system was recently purchased from an existing operation and is currently located in a Company storage yard, is available for use and is suitable for the crushing rates considered for the Project.
- All power for the site operations, except for the crushing system, is to be produced through diesel generators located at site. Power for the crushing system is assumed to be available from the power grid available near the crushing area of the Project (diesel generator for backup). This will be further investigated and confirmed in the next phase of the Project development process.
- The operating personnel for mine, plant, and contractors are sourced from local communities and will have local accommodations. Therefore, on-site camp arrangements are not considered in the estimates.

- Management made available recent cost data from the Santana heap leach gold project which entered operations in 2021. Operating and capital estimates for the study have been derived from a combination of first principles, recent Santana actuals and cost references from other existing gold heap leach projects in Mexico, which are either in operation or at the development stage. This information was used to provide confirmatory checks on the estimated values generated for the Project as part of this PEA.

21.2 Cost Estimate Methodology

The methodology for the preparation of the PEA operating and capital cost estimates is based on the following:

- Preliminary testwork results and in-house data used in conjunction with management experience gained at similar projects and available public data from similarly scaled operations.
- An overall mass flow balance was prepared for the gold recovery operations and used as the basis for calculating major power and reagent requirements.
- A process plant arrangement (Figure 17-2) and overall site layout were completed for the Project (see Figure 18-1).
- Site layouts were prepared with suitable calculated areas for life of mine leach pad areas, required pond volumes and other infrastructure items in addition to the process plant and crushing operations.
- Capital costs for the leach pads and process solution ponds were estimated based on Company capital unit cost factors from recent project construction experience including the Santana gold project completed in 2021.
- Overall process plant capital costs were factored based on recent construction costs of the Company's Santana mine processing facilities. The capital cost was factored up based on the change in total leach solution flow rates using a scale up factor exponent of 2/3.
- Infrastructure costs were estimated based on the site layout presented in Section 18.1. Estimates were prepared based on calculated cut/fill volumes and site road quantities. A significant contingency was included to cover other items not fully itemized at the time of this Technical Report.
- General allowances were included to cover costs for the upgrade and reconfiguration of the used crushing system owned by the Company and for a substation installation (and associated lines, etc.) for the grid power to feed the crushing equipment.
- A conservative contingency of 30% was added to the overall project capital cost estimates to account for items that were not specifically identified at this stage of the study.
- Mining will be performed by a contractor on fixed unit rates. Contractor rates were estimated based on recent operating experience (including current Santana project operations). The Company will provide overall supervision/planning for mine operations. The costs associated for this mine services group were included in the in the G&A expenses.
- Company labour costs and major consumable/reagent costs were developed from first principles based on current unit rates.

- Crushing costs were developed based on current data from existing operations (Company's and others) for two stages of crushing.
- Power costs were calculated based on current diesel prices and an estimate of expected grid electricity costs.
- Allowances for other OPEX items like maintenance, rentals, G&A, etc. were included based on recent management experience and other similar operations in Mexico.
- A contingency of 20% was added to the overall OPEX estimate (excluding mining contractor rates) to account for items that were not specifically detailed at this stage of the study.

21.3 Capital Costs

The capital cost estimate was divided into initial capital and production "sustaining" capital. Pre-production capital includes all mine and process costs up to the initiation of commercial mining operation. Total pre-production costs at the Cerro de Oro project are estimated at $28.1 million. Sustaining capital costs over the LOM are estimated at $14.7 million for a total Project capital cost of $42.8 million. A breakdown of the Project capital costs is summarized in Table 21-1.

To reduce the initial capital requirements, it was decided that the following strategies would be incorporated into the Project design:

- All open pit mining operations and associated capital costs would be the responsibility of an independent mining contractor (including installation of mine maintenance facilities).
- An existing crushing plant purchased previously by the Company will be used for site crushing operations.
- Personnel will stay in the local municipality eliminating the requirement for mine site camp facilities.

The Company's management has been involved with the construction of multiple gold heap leach operations with similar designs as proposed for the Project including the recently completed Santana gold project that entered production in 2021. The capital cost data from these projects has been compiled and made available as a reference for the Cerro de Oro project estimates.

Table 21-1: Project Capital Costs

Area	Initial ($)	Sustaining ($)	Total ($)
Preproduction technical work and engineering (geo tech drilling, etc.)	1,500,000	1,500,000	3,000,000
Infrastructure and Misc. Construction (excl. crushing)	3,000,000	-	3,000,000
Process Plant	3,400,000	-	3,400,000
Pad construction	7,000,000	13,200,000	20,200,000
Pond construction	2,700,000	-	2,700,000
Crushing and Stacking Refurbishment	2,000,000	-	2,000,000
Substation, Miscellaneous Power	2,000,000	-	2,000,000

Area	Initial ($)	Sustaining ($)	Total ($)
Contingency (30%)	6,480,000	-	6,480,000
Total Project	**28,080,000**	**14,700,000**	**42,780,000**

The pre-production capital cost estimate of $28.1 million includes the construction of stand-alone gold recovery, Phase 1 of the heap leach pad construction and all necessary site infrastructure to bring the mine into production. A conservative 30% contingency has been included to account for capital expenditures that are not detailed in this study.

21.3.1 Pre-Production Technical and Engineering

An allowance of $1,500,000 has been included in the capital cost estimate to cover technical work required during the pre-construction and construction periods. This allowance will cover activities such as geotechnical drilling and trenching, water well testing and miscellaneous and minor engineering work related to permitting and other details associated with the plant and other infrastructures. The estimate is based on management's recent experience with the construction of the Santana gold project (2021).

It should be noted that the Company's philosophy of operating in Mexico assumes that most of the engineering, procurement, and construction management (EPCM) activities are managed in-house using existing management personnel. This is expected to continue with the construction of the Cerro de Oro project and was considered when preparing the allowance for these activities.

21.3.2 Infrastructure and Miscellaneous Construction

Infrastructure estimates were developed based on a general mine and plant site layout as is illustrated on Figure 18-1. Areas were established for the primary production activities (mining, crushing, leach pads, process plant and ponds) and an initial network of site roads developed to adequately manage the traffic between the various areas.

A total estimate of $3.0 million is included to cover pre-production infrastructure activities. Included in this cost are the following items:

Roads

A total allowance of $1,400,000 for the construction/upgrading of gravel roads around the site has been considered. This includes:

- 11 km of new site roads suitable for the operation of mining trucks (conservative estimate of $80,000/km)
- General upgrades to existing roads into and around the Project area ($500,000 allowance).

General Site Earthworks

Preliminary site grading estimates were completed for the major project work areas and assuming the cut and fill volumes are to be balanced as much as possible. A conservative total volume of approximately 700,000 to 750,000 tonnes of material was estimated to be moved that includes a contingency for additional unspecified material movements. Further detailed studies (including some geotechnical work) will be required to better optimize these requirements.

Approximately 40%–50% of the estimated cut volumes will be used nearby for compacted fill as part of the overall site earthworks. The remainder will be transported and dumped at one of the site waste dump locations. Costs for the cut/fill operations will vary based on the range of original in-situ competency (expected to be loose to medium competency) and the final haul distances (local fill versus waste dumps). Using a reasonable average factor of $1.50/t an estimate of $1,100,000 has been included in the study.

Miscellaneous Facilities

An additional allowance of $500,000 is included for other miscellaneous infrastructures. This primarily consists of concrete block buildings for offices, explosives storage and laboratory facilities. These structures will be constructed using local labour under Company supervision.

21.3.3 Process Plant

A conceptual layout for the processing plant and crushing/stockpile arrangement is shown on Figure 17-2 and Figure 21-1. To provide maximum flexibility for future expansions, the design incorporates area to expand production including the capacity of the carbon columns. It is noted that the processing facilities exclude carbon desorption and gold doré refining facilities as these operations will be completed off-site by third parties.

For the purposes of this PEA, a capital cost estimate for the construction of the Cerro de Oro processing facilities was derived from the total capital expended for a similar facility at the Santana Gold project ($1,460,000, complete in 2021). The Santana processing facilities contain the same basic unit operations/areas as those required for Cerro de Oro. A capital cost scale-up factor was applied related to the increase in volume of leach solution being processed at the plant (800 m^3/h versus 225 m^3/h at Santana). Using a scale-up factor exponent of 2/3 the capital for the Cerro de Oro processing plant is estimated at $3,400,000.

21.3.4 Leach Pad Construction

The Phase 1 leach pad construction encompasses an area of 400,000 m^2. The leach pad construction consists of a compacted clay (locally located clay source) underliner followed by 80 mil LLDPE and crushed rock overliner with perforated ADS drainage tubes. The Company's recent experience with this type of construction (including at the recent Santana project) is an overall cost of $15 to $20/$m^2$. The topography in the area selected for the construction of the leach pad is extremely favourable (minimizing topo contouring) and therefore a value of $7,000,000 has been included in the estimate (middle of the expected range).

21.3.5 Pond Construction

The three-compartment solution pond construction proposed for the Cerro de Oro project is identical to the one used at the Company's Santana project ($13.80/m^3). Assuming a conservative all-in cost factor of $15/m^3, the estimated cost for the 180,000 m^3 total pond volume is $2,700,000.

21.3.6 Crushing and Stacking Refurbishment

The Company acquired a three-stage crushing/screening plant in 2020 from a closed gold heap leach project in Mexico (see Figure 21-1 for previous installation). The equipment is stored in a yard in Sonora, Mexico and is available for use at the Cerro de Oro project. The original circuit design was suitable for processing approximately 5,000 to 6,000 t/d (16 h/d) of ROM material down to a final product size of <3/8". Also included with the system are an agglomerator and 21 grasshopper transfer conveyors (30 m long each) and a leach pad stacker. The design for Cerro de Oro includes a crushing rate of 6,000 to 7,000 t/d, but at a coarser top size of 3/4" to 7/8". The existing system can be reconfigured to operate as a two-stage system to meet Project demands.

An allowance of $2,000,000 has been estimated for the required modifications and upgrades to the crushing plant to meet Project requirements. Quotations in the range of $250,000 to 300,000 were received for the upgrades of the grasshoppers and stacker. Engineering work is currently underway to establish the optimal arrangement for the remainder of the equipment prior to receiving estimates for the work.

Figure 21-1 Three-Stage Crushing and Screening Plant Purchased in 2020

21.3.7 Substation and Miscellaneous Power

The crushing plant operations are planned for an area east of the open pits and west of the heap leach pad. Although the detailed arrangements required for the existing equipment (previously purchased by the Company) have not yet been completed, the total maximum connected load for the system (including "grasshopper" style transfer conveyors and stacker) is estimated at 1.5 MW. An existing 2 MW backup diesel generator was acquired as part of the overall used crushing circuit equipment and will be installed as a backup.

The nearest federal electricity (CFE) connection to the planned crushing area is a local line approximately 0.5 km to the east. The main line supplying the town of Melchor Ocampo runs along the primary access road to the town approximately 2 km to the south. The company is currently discussing the Project requirements with the CFE to confirm sufficient capacity exists within the local network and to confirm acceptable locations for connection to the power grid. An allowance of $2,000,000 has been included in the report to cover the costs of a substation and associated line connections. Once additional information is received from CFE, this cost item will be revisited by the Company.

21.3.8 Contingency

Given the level of detail completed to date, a conservative contingency of 30% was applied to the capital cost estimates as detailed in the previous section. This level is consistent with recent experience at the Santana project based on actual versus initial capital estimates. It is also noted that the Santana project construction spanned the COVID-19 pandemic shutdowns in Mexico, which ultimately delayed construction and added to the final construction costs.

21.3.9 Sustaining Capital

Based on typical ultimate leach pad heights, sustaining capital was estimated based on a factor of \$0.25/t of mineralized material sent to the heap leach pad beginning in Year 2. Over the LOM this allowance is sufficient to cover the capital costs related to the overall expansion of the leach pad (500,000 to 600,000 m^2) in incremental phases as well as any related ancillary items (pond capacity, piping, etc.) related to the expansions.

21.3.10 Exclusions

No allowances have been made in the current capital cost estimates for the following:

- Working capital (preliminary discussions with mining contractors and the Company's current provider of working capital facilities have indicated that most working capital requirements can be funded via these third parties with minimal interest costs).
- Corporate costs (Minera Alamos will manage via the existing operations group).
- Additional preconstruction civil works beyond basic requirements, which assumes soils are suitable for the proposed construction activities.
- Taxes (assumes IVA will be refunded to Minera Alamos quarterly as construction progresses given the Company operates another site in Mexico).
- Bonding.
- Inflation.

21.4 Operating Costs

The total unit operating costs for the Project are estimated at \$6.66/t of mineralised material.

Operating costs were developed based on estimated staffing levels and reagent consumptions from preliminary testwork results and a mass balance for the Project. Costs of consumables and maintenance parts required to support the mine and process plant operations and the administrative activities are based on data of similar operations and experience gain from the operation of the Santana mine.

Power requirements for the process plant (excludes crushing) were estimated based on operating equipment motor sizes, plant availability and costs assuming diesel generation with a retail diesel fuel cost of \$1.10/L (approx. \$0.30/kWh). Power for the crushing system is assumed to be taken from the nearby power grid at a price of \$0.13/kWh.

All mine operating activities are assumed to be the responsibility of a third-party mining contractor. Contractor rates include drilling, blasting and transportation of the waste/mineralization. Costs for the Company mine services group were prepared separately and included the G&A.

An overall contingency of 20% was applied to the total operating cost to account for additional cost items such as outside contractors, laboratory consumables, vehicle fuel requirements and the like.

The LOM operating costs are summarized in Table 21-2. Details of these costs are discussed later in this section. It should be noted that the total costs (per year) as listed in the tables below are based on the typical annual production rates as outlined in Section 21.1. Actual annual costs in the economic model for the Project will vary based on the proposed annual mine schedule and the unit costs detailed below.

Table 21-2: Project Operating Cost Summary

Area	Cost ($/a)	Mineralized Material[1] ($/t)	Mined[2] ($/t)
Open Pit Mining[3]	20,300,000	2.90	2.23
Crushing[4]	3,658,000	0.52	0.40
Processing	16,038,000	2.29	1.76
G&A	2,259,000	0.32	0.25
Contingency (20%)[5]	4,391,000	0.63	0.48
All-in OPEX	45,646,000	6.66	5.13

Notes: [1] "Mineralized Material" represents mined material estimated to generate positive cash flows.
[2] "Mined" means total tonnes mined (mineralized + waste).
[3] Open pit mining cost is $2.00/t for waste and $2.30/t for mineralization. A cost of $0.30/t mineralization has been included in the base case mining cost for mineralization to account for a longer haulage route to the leach pads than to the waste dumps.
[4] Crushing costs are calculated per tonne of mineralized material to leach pad (or mined) assuming 30% of mineralized material is crushed (crushing unit cost is estimated at $1.74/t of crusher feed material).
[5] Contingency is applied to OPEX excluding mine contractor rates which are current.

21.4.1 Mining Cost

All mine production activities are assumed to be the responsibility of a mining contractor. Contractor rates include drilling, blasting, loading and transportation of the waste/mineralized material. ROM material will be truck dumped directly on the heap leach pad while material reporting to the crusher will be dumped into the crusher or at the surge stockpile.

An average base rate mining cost of $2.00/t mined has been used for this PEA that is consistent with the Company's current operations after applying a small reduction to account for increased mining rates at Cerro de Oro. This base case rate has been used for both mineral and waste material, however, an additional $0.30/t has been applied to the mineralized material. This represents a conservative allowance to cover varying excess haulage costs as haul distances for mineralized material to the heap leach pad vary over the life of the mine.

21.4.2 Crushing Operating Cost

The average amount of material to be crushed is estimated at approximately 2.1 Mt/a, roughly 30% of the total mineralized material mined per year. The crushing cost is estimated at $1.74/t of material crushed. Details of the crushing costs are given in Table 21-3 below.

Table 21-3: Crusher Operating Cost

Area	Cost ($/a)	Crushed ($/t)
Labour	142,000	0.07
Reagents and Consumables	500,000	0.24
Maintenance allowance	1,250,000	0.60
Other Fixed (supplies/rentals, etc.)	750,000	0.36
Power Cost	1,016,000	0.48
Total	**3,658,000**	**1.74**

Estimates for consumables and maintenance supplies were based on data available for other owner operated gold heap leach crushing systems in Mexico. Power for crushing operations was calculated based on the total expected connected power for the system (1.5 MW) corrected for annual utilization factors and is assumed to be taken from the nearby grid power line at a price of $0.13/kWh.

21.4.3 Process Plant Operating Cost

Process operating costs include labour, reagents and consumables, maintenance, and diesel for power generation. A breakdown of the process cost is presented in Table 21-4.

Table 21-4: Process Plant Operating Cost

Area	Cost ($/a)	Mineralized Material ($/t)
Labour (excluding G&A, mine)	877,000	0.13
Reagents and Consumables	11,147,000	1.59
Maintenance Allowance	1,000,000	0.14
Other Fixed (supplies/lab, etc.)	1,500,000	0.21
Diesel for Power Generation	1,514,000	0.22
Total	**16,038,000**	**2.29**

Labour costs were estimated by developing a preliminary staffing schedule for process operations and maintenance (approx. 70 people total) and then by applying typical monthly base salaries and burdens. Burden has been estimated at 33% of the base salaries and annual salaries calculated based on 15 months of normal payments to account for calendar and profit-sharing bonuses as applied in Mexico.

Reagent and consumable consumptions were estimated based on the preliminary testwork results to date, preliminary mass balance and equipment sizing generated for the Project. Reagent unit prices are based on current data from other operating projects.

Power for the processing plant is estimated based on operating equipment motor sizes and plant availability. Power for the plant is generated on site using diesel generators, after correcting for annual plant use and draw factors, the estimated total diesel fuel cost is approximately $1,500,000/a at a diesel price of $1.10/L delivered.

Annual maintenance supplies were estimated to be $1,000,000 which is consistent with other similar operations given the scope of the facilities and type of processing equipment used. An additional annual allowance of $1,500,000 was included for miscellaneous fixed costs for supplies, and rentals, which is based on the Company's current operations.

21.4.4 General and Administration

The PEA assumes that Minera Alamos will provide overall site management, technical support and surface and process personnel. Mining activities will be completed by a contractor and all personnel other than high-level supervision and planning are included in the contractor costs. The Company plans to maintain a local operations office in Melchor Ocampo as well as some accommodation facilities for management and outside consultants.

G&A costs were developed by preparing a proposed administration staffing schedule. The schedule covers G&A personnel for the operation as well as an in-house mine planning group responsible for oversight of the mining contractor and overall operations (approx. 50 people total). The total administration cost is estimated at $2,259,000/a. An allowance of $1,000,000 is included to cover other fixed costs at the Project level including supplies, rentals, and insurance.

Table 21-5: General and Administration Cost

Area	Cost ($/a)	Mineralized Material ($/t)
Admin. Labour	585,000	0.08
Mining Group Labour	674,000	0.10
Other Fixed (supplies/insurance, etc.)	1,000,000	0.14
Total	**2,259,000**	**0.32**

It is anticipated that wherever possible basic operations labour will be sourced locally from the Melchor Ocampo area or other nearby villages. Management and more skilled personnel that are not locally available can be sourced from the Concepcion de Oro general area, which is a local center for several mining operations. Minera Alamos will provide basic transportation services (by road) for operations personnel.

22 ECONOMIC ANALYSIS

22.1 Caution to the Reader

The reader is cautioned that this PEA is preliminary in nature and includes Inferred Mineral Resources that are too speculative geologically to have economic considerations applied to them. There is no certainty that the PEA will be realized.

22.2 Model Assumptions

A spreadsheet was created to analyse the economic potential of the Cerro de Oro project. This model calculates after-tax free cash flow (FCF), the net present values (NPV) at various discount rates, and the internal rate of return (IRR) for the Project. In addition, the model calculates the period required to repay the initial capital investment, the gold price required to achieve breakeven, the operating cost per ounce of gold sold, the all-in sustaining cost and the FCFs at higher and lower metal prices, metallurgical recoveries and operating and capital costs.

The underlying assumptions and parameters used are as follows:

- All units of measurement are metric unless otherwise stated.
- All values are United States dollars unless otherwise stated.
- No inflation is assumed (all dollars are real dollars).
- A base case gold price of $1,600/oz, based on the conservative end of a review of recent consensus long-term pricing studies reviewed by the author.
- An overall gold recovery of 68%.
- Allowance for a one-year pre-production period from the point of a construction decision, which is sufficient time to complete pre-production activities and to finish the Project construction and start-up.
- The model assumes an 8.2-year life of mine.
- The processing plant produces a gold “loaded carbon” product that is sent off-site for final gold doré production. Transportation and processing costs for the loaded carbon are based on current Company costs for loaded carbon produced at its Santana mine located in Sonora Mexico.
- Operating cost estimates:
    - Mining costs are based on typical rates for similar operating gold open pit operations in Mexico including the Company’s Santana mine.
    - An additional allowance was included to compensate for extra haulage distances from the open pit to the heap leach pad over the LOM.
    - Processing costs as developed for the Project are based on metallurgical testwork completed to date along with data from other gold projects that have similar unit operations.
    - Labour costs are based on the Projected manpower summary for the Project.

  - G&A costs estimated from other Minera Alamos operations appear reasonable in the author's opinion.
  - Capital costs are relatively low and are based on the recent (2020/21) construction costs from the Company's Santana project and adapted as necessary based on the preliminary engineering work completed for Cerro de Oro. The Company has already purchased a used crushing plant which can be adapted to the current project. There are no provisions for mining capital as all mining will be performed by a Mexican based contractor.
- Sustaining capital, starting in year 2, estimated at a rate of $0.25/t of material stacked on the leach pad to account for the additional pad area that will be constructed in phases. Total sustaining capital for the LOM is consistent with the ultimate area of new leach pad to be constructed after Phase 1 with an additional allowance for other related ancillaries.
- The economic model assumes 100% equity-based financing.
- The model calculates book depreciation using both the Units of Production (UOP) and straight-line methods.
- Taxes and government royalties deducted by the economic model include:
  - Special Mining Duty—7.5% of earnings before income tax, depreciation and amortization. The Special Mining Duty is deductible for corporate taxes (see below).
  - Extraordinary Mining Duty—0.5% of the gold and silver NSR. Also deductible before calculating Mexican Corporate Taxes.
  - Mexican Corporate Taxes—30% of net income where net income is defined as cash operating profit less the above duties, any opening tax pools and depreciation. Tax depreciation is calculated using both the straight-line method and units of production (accelerated depreciation). Units of production were used for 50% of the related owner's costs and for the process plant development, 100% on earthworks items related to the construction of the heap leach pad and ponds and 75% on the total sustaining capital of which the majority is related to additional heap leach expansions. The straight-line method has been used on the other 50% of the related owner's costs, 25% on the total sustaining capital and 100% on the refurbishment of the crusher and stacking equipment and exploration related costs.
  - The model assumes that there are no opening tax pools available.
- Working capital requirements—Working capital represents the money required to fund the operations until the funds generated by the Project are received. Working capital is recaptured at the end of the mine life. The parameters used to calculate the net change in working capital are:
  - Accounts Receivable—four weeks (30 days)
  - Prepaid Expenses—5% of total OPEX for a given period
  - Material inventory—5% of processing costs for a given period
  - Accounts payable—four weeks (30 days).
- FCF is calculated as NSR less:
  - Operating costs
  - Mining duties and taxes
  - Capital investment
  - Net changes in working capital.

22.3 Results

On an after-tax basis, the Project returns an IRR of 111% and a payback period of 11 months following the commencement of mine production. In addition, the total undiscounted free cash flow is $200 million and the NPVs at various discount rates are as follows:

- 5%—$150.5 million
- 8%—$128.1 million
- 10%—$115.5 million.

Table 22-1 presents a summary table that contains a list of the inputs and the results of the economic analysis of the Cerro de Oro project.

Table 22-1: Summary of Model Inputs and Results

Item	Unit	
Production and Revenue		
Preproduction Period	years	1
Mine Life	years	8.2
Preproduction Waste Stripping		None
Production Waste Stripping	Mt	17.9
Total Waste Mined	**Mt**	**17.9**
Mineralized Material to Leach Pad Directly (ROM)	Mt	41.5
Gold Grade	g/t	0.27
Mineralized Material to Crushing	Mt	17.8
Gold Grade	g/t	0.61
Total Material to Leach Pads	**Mt**	**59.3**
Gold Grade	g/t	0.37
Gold Recovered in Loaded Carbon/Doré		
Gold	oz	476,610
Metal Prices		
Gold	$/oz	1,600
Total Revenue	**$ million**	**762.6**
Operating Costs		
Waste Mining (waste)	$/t	2.00
Mineral Mining (mineral)	$/t	2.00
Additional Haulage (LOM) (mineral)	$/t	0.30
Crushing (crushed)	$/t	1.74
Processing (mineral on leach pad)	$/t	2.29
General and Administration (mineral)	/t	0.32
Contingency (mineral)	$/t	0.63
Waste Mining (Total)	$ million	35.8
Mineral Mining (Total)	$	118.6
Additional Haulage (LOM)	$	17.8

Item	Unit	
Crushing (Total)	$	31.0
Processing (Total)	$	173.1
General and Administration (Total)	$	19.0
Doré Production, Refining, Selling (Total)	$	6.2
Total Operating Cost	**$**	401.5
Economic Results		
Operating Cash Flow	$ millions	361.1
Less:		
Expansion Capital	$	28.1
Sustaining Capital	$	14.7
Special Mining Duty	$	27.1
Extraordinary Mining Duty		3.8
Mexican Corporate Taxes		87.5
Free Cash Flow		200.0
After Tax Results		
Free Cash Flow to Project	$ millions	200.0
Project IRR	%	111
NPV		
Discounted at 5%	$	150.5
Discounted at 8%	$	128.1
Discounted at 10%	$	115.5
Payback Period (from start of production)	months	10.4
Operating Costs per ounces Gold Sold	$/oz	842
All-in Sustaining Costs per ounces Gold Sold	$/oz	873
Breakeven Gold Price	$/oz	953

Note: The author has used the World Gold Council definitions of Operating Costs and All-In-Sustaining Costs. In the current project, All-In-Sustaining Costs include OPEX plus sustaining capital less by-product credits.

22.4 Risk Analysis

This section illustrates the sensitivity of the Cerro de Oro project FCF and NPV(5%) to changes in metal price, gold recovery, and capital and operating costs. Prices and costs were varied from -30% to +30%. Figure 21-1 and Figure 22-2 present the results. As would be expected, the Project is most sensitive to metal price, followed by gold recovery, operating costs and finally capital costs. Based on this analysis the Cerro de Oro project is extremely robust. Even a 30% reduction in metal price produces a positive FCF of $53 million and an NPV discounted at 5% of $37 million. The gold price that would return a zero IRR (i.e., the gold price at which the Project returns invested capital but no profit) is $953/oz.

Figure 22-1: Sensitivity of Project Undiscounted FCF to Changes in Gold Price, Gold Recovery, and CAPEX and OPEX ($ millions)

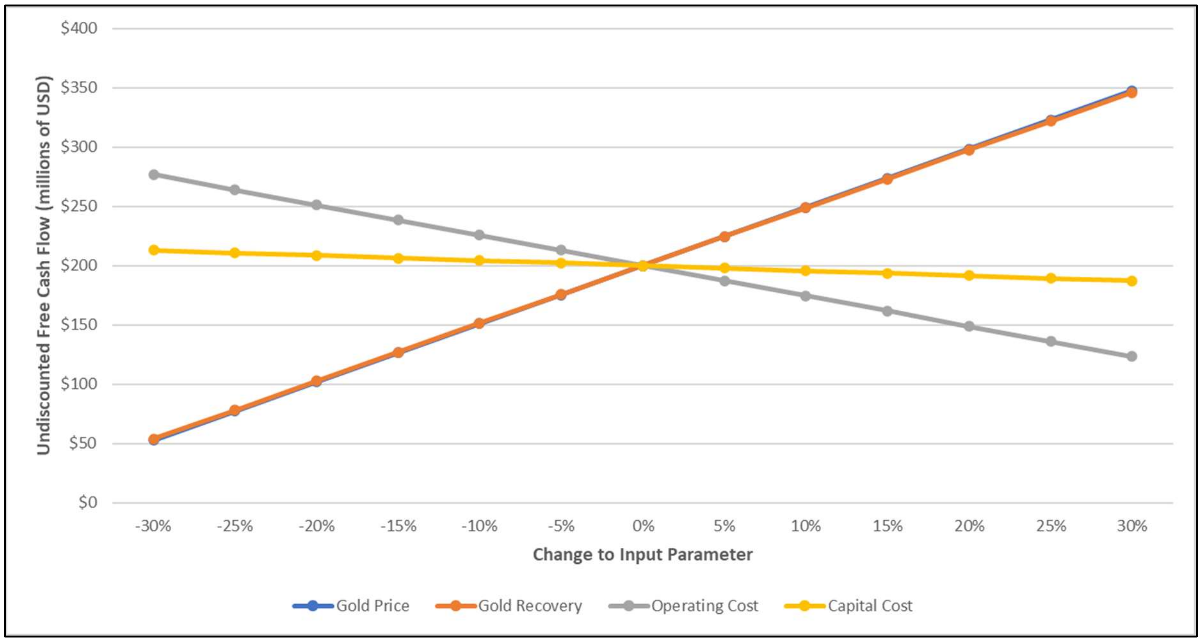
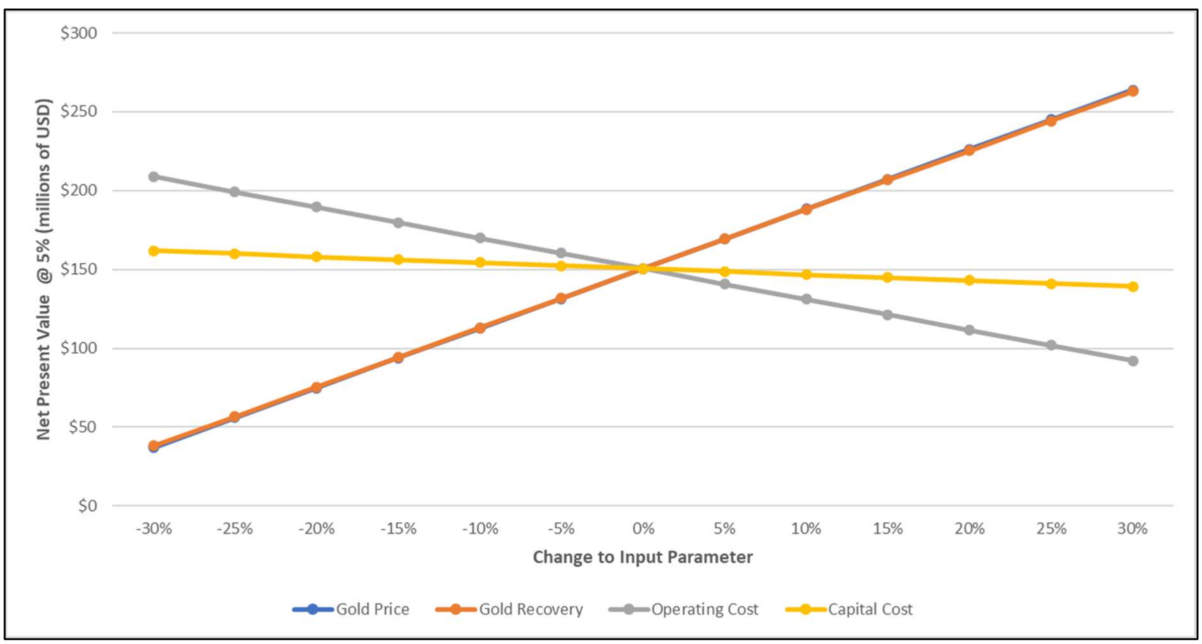


Figure 22-2: Sensitivity of Project NPV Discounted at 5% to Changes in Gold Price, Gold Recovery, and CAPEX and OPEX ($ millions)



23 ADJACENT PROPERTIES

Except for a privately held Company that operates a small underground mine and mill to the west of Cerro de Oro, there are no other significant properties adjacent to the Project.

24 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information that should be included in this Technical Report.

25 INTERPRETATION AND CONCLUSIONS

The QPs reviewed the Cerro de Oro project data provided by Minera Alamos including the drill-hole database, historical sampling and analytical procedures and security, mine plans, operating costs, capital costs and metallurgical test results; one of the QPs have conducted a site visit. The QPs believe the data presented by Minera Alamos to be an accurate and reasonable representation of the Project mineralization.

This PEA uses the Mineral Resource estimate prepared for the Cerro de Oro project by Mr. Scott Zelligan, P.Geo., with an effective date of September 28, 2022. The Mineral Resource estimate is based on the results of both the Noranda and Minera Mexico Pacific RC drill holes that were completed prior to the acquisition of the property by Minera Alamos.

The authors of this Technical Report make the following conclusions.

25.1 Geology

- Mineralization at the Cerro de Oro deposit is typical of a porphyry system and is characterized by the development of A and B veins. These veins developed during an early potassic alteration phase and were later overprinted by silica, sericite, and pyrite (phyllic overprinting), within the inter-mineral porphyritic intrusive phases. These phases form part of the overall intrusive complex.
- The porphyry system at Cerro de Oro, according to Sillitoe (1979), can be defined as a gold-rich system because it has a typical gold content of ≥0.40 g/t Au.
- The mineralization remains open beyond the areas tested by exploration drilling, including at depth and along the strike of the deposit. These areas will be the focus of upcoming exploration campaigns.

25.2 Mineral Resource

- The Cerro de Oro project has an Inferred Mineral Resource of 790,000 oz of contained gold (67 Mt grading 0.37 g/t Au).
- The cut-off grade used for resource reporting is 0.15 g/t Au ($1,700/oz Au, mining, milling, and G&A costs of US 8.80/t stacked, 70% recovery, 45-degree constant open pit slope angle).
- Grade interpolations for gold were carried out using conventional methods, commonly used in the industry, and applied with reasonable geological inference and controls.
- The existing sample data have been collected using protocols that are consistent with industry best practices. The sampling that has been completed on the Project to date has been appropriate for the mineralization type, and the samples are representative of the deposit.
- All samples collected were transported in a secure manner, and a chain of custody was followed.

- Assays were carried out in a well-managed facility using conventional methods commonly used in the industry. During previous drilling campaigns, suitable levels of independent QA/QC samples were submitted to the laboratory to ensure reasonable results were returned.
- The QP is of the opinion that the analytical work performed by the various laboratories was suitable for use in the Mineral Resource estimation.
- The assumptions, parameters, and methodology are appropriate for the Mineral Resource estimation, are consistent with the style of mineralization, and are applicable for an open pit and heap leach operation.
- The QP has classified the current Mineral Resource estimation as Inferred for the oxidized portion of the Cerro de Oro deposit. Although drill spacing is locally sufficient for Indicated classification, there remain necessary revisions and updates to the geological logs; better definition of the limit between the oxides and fresh rock; understanding of mineralization controls; and bulk density measurements. The reported Inferred Mineral Resources are estimated with an average drilling grid of 85 m by 85 m.

25.3 Mining Methods

- The mineralization at the Cerro de Oro project will be mined from two open pits.
- Conventional open pit methods will be undertaken by a mining contractor using 11.5m^3 front-end loaders and 100-t trucks.
- The ultimate open pit configurations are based on the economic parameters in Table 14-5 and the $1,500/oz constraining pit shell that was used as a guide.
- The cut-off grade for mine planning purposes was decreased from 0.15 g/t Au (the cut-off used for resource estimation) to 0.12 g/t Au which reflects a gold price of $1,600/oz and the estimated OPEX developed as part of this PEA.
- The mine plan is based solely on an inferred resource.
- The parameters used in the current report generated a production schedule that estimates mining of 59.3 Mt of mineralization grading 0.37 g/t Au and 17.9 Mt of waste for a strip ratio of 0.30:1 (waste to ore).

25.4 Metallurgical Recovery

- Metallurgical testwork demonstrated the amenability of oxide mineralization to gold recovery using cyanidation.
- Gold mineralization appears to be well disseminated through the host rock, with little correlation to rock particle-size distributions.
- Oxide gold mineralization responded positively to gold cyanidation, with residual gold content (unrecovered gold) typically in the range of 0.1 g/t Au or lower, regardless of variations in sample head grades.
- Bottle roll test samples (RC chips) had an average head grade of 0.42 g/t Au (similar for oxide and mixed sulphide transition material) corresponding to a metallurgical recovery of in excess of 75%.

- Leach recovery kinetics were generally rapid (majority of gold extracted from RC chips in less than 24 h).
- Bottle roll tests using coarse particle sizes (minus 2" material) produced gold recoveries similar to those observed with RC chip samples.
- Three column samples (minus 2" material) resulted in leach extractions consistent with those performed using coarse bottle roll methods.
- Reagent consumptions were consistently in the low to moderate range expected for heap leach gold projects.
- A limited number of positive metallurgical tests completed on samples of transition/sulphide material indicated that additional testing of this type of mineralization is warranted.

25.5 Mineral Processing

- Processing facilities will include two-stage crushing of high-grade material (currently estimated at 30% to 35% of total mined mineralization), a heap leach pad, solution ponds and carbon column recovery of gold from pregnant leach solution.
- Loaded carbon will be transported off-site and refined to doré at a suitable facility.
- Overall plant design was based on a nominal 7,000,000 t/a of mineralized material placed on the leach pad with average grades of 0.40 g/t Au.
- Allowances were made in the process plant and solution storage pond designs/layouts to accommodate expansions should future increases in production rates be considered.
- Make-up water for processing operations (leaching and reagent preparation) will be provided by surface wells and will be pumped to the process plant / ponds for use and storage as required.

25.6 Infrastructure

- A full evaluation of the required upgrades to existing roads around the Project needs to be completed to ensure two-way traffic can be accommodated. Reasonable initial assumptions have been included as part of this PEA study.
- Crushing plant operations have an allowance for a grid connected load of approximately 1.5 MW to power all major equipment unit operations. The company needs to confirm the availability of the grid power requirement. The Company has purchased a 2 MW diesel generator for backup requirements.
- All power requirements required for leaching and recovery plant operations will be generated at site using diesel generators. Diesel consumption for power generation is estimated to be equivalent to an electric power cost in the range of $0.30/kWh.
- Water will be available via a series of wells and pumped to the process plant/ponds.
- A preliminary plant layout has been completed and incorporated in the overall site plan. Maintenance areas required by the mining contractor will be the responsibility of the contractor, however, suitable areas for use have been designated in the site plan.

25.7 Economic Analysis

An economic analysis was completed for the Project incorporating the following basic parameters:

- A gold price of $1,600/oz (no allowance for recovered silver).
- In-pit cut-off grade of 0.12 g/t Au for open pit ROM material.
- Crushing of higher grade mineralization (crushing cut-off of 0.40–0.45 g/t Au) prior to heap leach stacking.
- Existing crushing and screening equipment owned by the company will be retrofitted to meet the requirements of planned Cerro de Oro operations.
- Gold recovery from heap leach operations onto “loaded” carbon which will be processed off-site for final gold doré production and sale.
- 400,000 m^2 of Phase 1 leach pad construction (and related solution storage ponds) included in initial CAPEX followed by additional sustaining capital investments to expand the leach pad area as mining operations advance.
- Overall average gold recovery of 68% estimated based on a combination of preliminary metallurgical testwork and other similar heap leach operations in Mexico.
- Site operations and contractor personnel will be housed in the nearby town of Melchor Ocampo limiting requirements for site facilities.
- Operating cost estimates were prepared and validated using a combination of first principles, recent operating data from the Company’s existing operations and from other active projects and mines in Mexico.
- Capital cost estimates were prepared using both current and historical data gained from Company assets constructed in Mexico. These costs were benchmarked against other recent CAPEX estimates for similar heap leach projects.
- A surface mine production schedule was completed for the PEA incorporating conventional surface mining methods and equipment. Production highlights include:
    - Eight-year mine life (partial production in Year 9, 8.2 years) based on a mineable inferred resource with 59 Mt of mineralization (0.37 g/t Au) processed at a rate of 19,000 to 22,000 t/d to the heap leach pad.
    - Average annual contained metal mined of approximately 60,000 oz (~60,000 to 70,000 oz in years 1 through 4).
    - 477 koz of gold extracted from leaching operations and recovered as loaded carbon concentrate to be shipped for final gold doré production and sale.

Highlights from the economic modelling and analysis of the Project include:

- Robust economics at a gold price of $1,600/oz:
  - All-in sustaining cost (AISC) of $873/oz ($763/oz average in years 1 to 4)
  - After-tax NPV at 5% of $150.5 million and an IRR of 111%
- Low CAPEX and rapid payback:
  - Pre-production CAPEX of $28.1
  - Payback period of 11 months.

In the Qualified Person's opinion, the Cerro de Oro project is potentially very robust and warrants the Company's continued advancement towards a construction decision.

The reader is cautioned that this PEA is preliminary in nature and includes Inferred Mineral Resources that are too speculative geologically to have economic considerations applied to them. There is no certainty that the PEA will be realized.

25.8 Project Risks

- The Mineral Resource estimate is based on the results of previous drilling by Noranda and Minera Mexico Pacific. It is recommended that additional drilling and testing be undertaken to further delineate the known zones of mineralization.
- The open pit, waste dump and heap leach pad designs are based on assumed configurations and do not include the results of a geotechnical investigation. If conditions differ from those currently assumed, changes to the designs will be required that could have an adverse impact on the economics of the Project.
- Metallurgical work completed to date for the Project remains limited. Additional studies are required to better evaluate the particle size/gold recovery relationships for the different zones of mineralization.
- Environmental, permitting, legal, title, taxation, socioeconomic, marketing, political, or other relevant issues have the potential to materially affect access, title, or the right or ability to perform the work recommend in this Report. At the present time the QPs are unaware of any such potential issues affecting the Project.
- Potential challenges and risks are related to the low-grade nature of the deposit. Follow-up programs to improve the confidence of resource estimates and projected metallurgical performance can reduce these risks.
- A permit application (MIA/ETJ) has not yet been submitted for the Project. The project evaluation uses generic year numbers as the exact timing of the permit submission and approval cannot be guaranteed.
- The cost estimations used as part of this PEA are based on both first principles and bench marking and are not based on firm quotations or detailed engineering. Earthworks estimates for road, leach pad and dump constructions are based on historical unit rates and modelled quantities. Changes to the unit rates assumed could have a negative impact on project economics.

25.9 Project Opportunities

Opportunities that could enhance the Project include:

- The known zones of gold mineralization appear to remain open both laterally and at depth.
- Potential for presence of skarn mineralization at the contact of the porphyry and surrounding sedimentary rocks.
- Additional metallurgical testwork should allow for a more complete understanding of the gold recovery versus crush size relationships for different areas of the deposit and could result in potential improvements in overall gold extraction via optimization of the processing parameters.
- There appears to be potential to leach transition/sulphide mineralization. Further metallurgical work should continue to evaluate the amenability of leaching this material, followed by additional drilling to better delineate the extents of these zones if warranted.
- Additional mine planning studies to evaluate opportunities to expand annual production rates and optimize production phasing.
- Haul Road optimization to attempt to reduce distances to the planned leach pads.

26 RECOMMENDATIONS

To continue to advance the Cerro de Oro project toward a potential development decision, the QPs responsible for this Technical Report make the following recommendations.

26.1 Exploration and Geology

- An exploration program for the Cerro de Oro project area involving drilling (infill and step-out); further mapping and rock outcrop sampling; soil sampling (100 m grid); soil spectral analysis (with Terraspec); and possible geophysical studies (i.e. magnetic and electromagnetic and induced polarization surveys) to delineate the shape of the porphyry at depth.
- Topographic work to provide additional accurate positions and directional details for historical holes.
- Preparation of plans for an additional phase of exploration drilling aimed at defining disseminated sulphide extensions from known oxide mineralization.
- Infill drilling program (Phase 1) for resource modelling purposes and to collect samples for additional metallurgical test work as well as in-situ rock density studies.
- Plan for a second phase of drilling (Phase 2) that is based on additional geologic work and the results of Phase 1 (step-out drilling).
- Continue regional geological studies to identify areas with mineralization similar to Cerro de Oro

26.2 Mineral Resources

- Compile new exploration results into a more advanced geological model for the Project, to increase the confidence level in the current resources (Inferred) and potential extensions of the known mineralization along strike and at depth.
- Incorporate data from in-situ rock density into the resource model to better define the densities of each of the main rock types.
- Evaluate the potential of the silver mineralization at the Project, and if warranted establish a compliant silver resource estimate.
- Expand the Project geological model to include lithological information and other details that may impact engineering studies, including metallurgical evaluations.

26.3 Open Pit Mining

- Complete geotechnical and hydrology site investigations to obtain a better understanding of existing ground conditions for open pit slope, waste dump and leach pad design purposes.
- Further pit design optimization to examine access road development alternatives, open pit phasing to maximize mineralization release and further smoothing of the production profile later in the mine life.

- Complete haulage optimization studies to better determine the cost of the overhaul of mineralized material to the leach pads and to estimate the equipment fleet that will be required more accurately.
- Complete additional pit design optimization work to evaluate the economic impact of changes to the open pit layout and operational parameters.

26.4 Metallurgy and Processing

- Coarse bottle roll (and possibly column) optimization studies to examine crush size and gold recovery relationships and variability for primary lithological zones within the Project mineralization.
- Leach variability studies to specifically examine areas of reduced rock permeability and elevated copper contents.
- Leach studies on sulphide mineralization materials.
- Hardness/abrasion studies for major rock lithologies.
- Evaluate the potential silver recoveries.

26.5 Infrastructure

- Complete a site audit of the exiting site roads and evaluate the potential and associated costs to expand them to accommodate two-way traffic.
- Evaluate the potential to connect the planned crushing operations to the power line running from the Project to the town of Melchor Ocampo.
- Continue to advance work towards identifying suitable water well locations to supply the plant.
- Identify suitable accommodations in the town of Melchor Ocampo for site management and third-party consultants.

26.6 Environmental and Permitting

- Complete environmental baseline studies for the preparation of the MIA/ETJ application.
- Complete a hydrogeological survey of the concession area to prioritize locations for process water sources and permit applications.
- Advance basic engineering studies required for permitting a heap leach gold recovery facility.
- Work proactively with government agencies to submit all necessary permit and license applications to advance the Project toward a construction decision.

26.7 Preliminary Budget for Work Activities

Table 26-1: Preliminary Budget for Recommended Work Activities

Work Activity	Budget ($)
Road Cleaning, Mapping, and Sampling	170,000
Hydrological Studies (inc. water test wells)	350,000
Phase 1 Drilling (Infill: 5,000–6,000 m)	1,000,000
Phase 2 Drilling (Step-Out: 5,000–6,000 m)	1,000,000
Geotechnical Studies	500,000
Geophysical Studies	150,000
Metallurgical Studies	200,000
Engineering Studies	150,000
Environmental and Permits	100,000
Contingency (15%)	540,000
Total	**4,160,000**

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28 CERTIFICATES OF AUTHORS

28.1 Scott Zelligan, P.Geo.

I Scott Zelligan, P.Geo., as an author of this report titled *National Instrument* (*NI) 43-101 Technical Report, Preliminary Economic Assessment and Mineral Resource Estimate for the Cerro de Oro Project, Zacatecas State, Mexico,* with an effective date of September 28, 2022 (the "Technical Report") prepared Minera Alamos Inc. and dated January 5, 2023, do hereby certify that:

1. I am an independent Consulting Geologist residing at 3357 Beechwood Drive, Coldwater, Ontario, L0K 1E0.
2. I graduated with a degree in Bachelor of Science Honours, Earth Sciences, from Carleton University (Ottawa, Ontario) in 2008.
3. I am a Professional Geoscientist (P.Geo.) registered with the Professional Geoscientists Ontario (#2078).
4. I have practiced my profession as a geologist for a total of over twelve years since my graduation from university; as an employee of major and junior mining companies, as an employee of engineering consulting firms, and as an independent consultant, including: five months working underground in a producing gold mine; three years working in exploration for numerous commodities (including base, precious, and other minerals); and nine years of resource estimation work including modelling, estimating, and evaluating mineral properties of all types (including base, precious, and other minerals) throughout North America and occasionally globally. I have previously been a primary author on eight NI 43-101 technical reports as well as secondary author or contributor on several others. I have worked on numerous properties with similar or comparative mineralization styles to the Project.
5. I have read the definition of "qualified person" set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of this NI 43-101.
6. I have not visited the Cerro de Oro project site.
7. I am responsible for Sections 1 through 3, 14, and parts of sections 25 and 26 of this Technical Report.
8. I have been engaged previously as a resource geologist with the Issuer; I have had prior experience with the Property that is the subject of this Report.
9. As of the date of the certificate to the best of my knowledge, information, and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.
10. I am independent of the Issuer and the Property, applying all the tests in section 1.5 of NI 43-101.
11. I have read NI 43-101 and Form 43-101F1, and this Technical Report has been prepared in compliance with that instrument and form.
12. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of this Technical Report.

Dated this 5th day of January 2023 in
Coldwater, Ontario.
Original Signed and Sealed

Scott Zelligan, B.Sc., P. Geo.

28.2 Lawrence Segerstrom, CPG

I Lawrence Segerstrom, CPG, as an author of this report titled *National Instrument (NI) 43-101 Technical Report, Preliminary Economic Assessment and Mineral Resource Estimate for the Cerro de Oro Project, Zacatecas State, Mexico,* with an effective date of September 28, 2022 (the “Technical Report”) prepared Minera Alamos Inc. and dated January 5, 2023, do hereby certify that:

1. I am currently owner-operator of Segerstrom Consulting LLC, at 190 W. Continental Rd, Suite 216-409, Green Valley, Arizona 85622.
2. I graduated with a Bachelor of Science degree in Geology from Colorado State University in Fort Collins in 1978, a Master of Science degree in Geosciences from the University of Arizona in Tucson in 1986, and a Master of Business Administration in international management from the Thunderbird School of Global Management in Glendale, Arizona in 2005.
3. I am a Certified Professional Geologist (#11557) in good standing with the American Institute of Professional Geologists. I am also a fellow in the Society of Economic Geologists and a member of several other geologic and mining societies.
4. Since 1983 I have worked as a geologist in the mining industry, predominantly in exploration and development, but also in mine geology and operations. I have worked in diverse metallic mineral deposit types and geologic settings, with emphasis on porphyry gold-copper, copper-gold, and copper-molybdenum deposits and associated skarns, as well as on low, medium and high-sulphidation epithermal deposits. My work locations have been mainly in South America, USA, Indonesia, and Serbia, as an employee or consultant for small, medium, and large companies, public and private.
5. I have read the definition of “qualified person” set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of this NI 43-101.
6. I visited the Project site from October 20 to October 22, 2020.
7. I am responsible for sections 4 through 12 and parts of sections 25 and 26 of this Report.
8. As of the date of this certificate, to the best of my knowledge, information and belief, I am not aware of any material fact or material change with respect to the subjects in the sections of this Technical Report that I am responsible for, sections 4 through 12 and parts of sections 25 and 26, which is not reflected in this Technical Report, such that the exclusion of these facts would make this Technical Report misleading.
9. I have been previously engaged by the Issuer; I have had prior experience with the Property that is the subject of this Report.
10. I am independent of the Issuer, and the Property applying all the tests in section 1.5 of NI 43-101.
11. I have read National Instrument 43-101 and Form 43-101F1, and this Report has been prepared in compliance with that instrument and form.
12. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of this Technical Report.

Dated this 5th day of January 2023 in Green Valley, Arizona.

Original Signed and Sealed
Lawrence Segerstrom, CPG

28.3 Peimeng Ling, P.Eng.

I, Peimeng Ling, P.Eng., as an author of this report titled *NI 43-101 Technical Report, Preliminary Economic Assessment and Mineral Resource Estimate for the Cerro de Oro Project, Zacatecas State, Mexico,* with an effective date of September 28, 2022 (the "Technical Report") prepared Minera Alamos Inc. and dated January 5, 2023, do hereby certify that:

1. I am the Principal of Peimeng Ling & Associates Limited (CofA #100183418) with an office at 39 Clovercrest Road, Toronto, Ontario, Canada, M2J 1Z5.
2. I am a graduate of Zhejiang University, PRC (B.Eng., Chem. Eng., 1982), University of Toronto, Canada (MSc Chem. Eng. 1994).
3. I am a registered Professional Engineer in good standing of Professional Engineers Ontario (Registration Number 90444985) and a member of The Canadian Institute of Mining, Metallurgy and Petroleum (CIM).
4. I have over 25 years of direct experience with precious and base metals mineral and hydrometallurgical processing in Canada, USA, Brazil, and Russia including testwork, project feasibility study, process design, plant design, environmental compliance, and financial evaluation with a variety of deposit types including gold, silver, copper, zinc, nickel, cobalt, vanadium, platinum-group metals and industrial minerals.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I have not visited the Cerro de Oro project site.
7. I am responsible for Sections 13,17and 20, and parts of Sections 21, 25, and 26 of this Technical Report.
8. I have been engaged previously as a mineral processing and metallurgical engineer with the Issuer; I have had prior experience with the Property that is the subject of this Technical Report.
9. As of the date of the certificate, to the best of my knowledge, information, and belief, the parts of this Technical Report for which I am responsible, contain all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.
10. I am independent of the Issuer, and the Property applying all the tests in section 1.5 of NI 43-101.
11. I have read NI 43-101 and Form 43-101F1, and this Technical Report has been prepared in compliance with this instrument.
12. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public, of this Technical Report.

Dated this 5th day of January 2023 in Toronto, Ontario.

Original Signed and Sealed
Peimeng Ling, P.Eng.

28.4 Toren Olson, PG.

I, Toren Olson, PG., as an author of this report titled *NI 43-101 Technical Report, Preliminary Economic Assessment and Mineral Resource Estimate for the Cerro de Oro Project, Zacatecas State, Mexico* with an effective date of September 28, 2022 (the "Technical Report") prepared Minera Alamos Inc. and dated January 5, 2023, do hereby certify that:

1. I am an Independent Mining Consultant residing at 11038 N. Cloud View Pl, Oro Valley, Arizona.
2. I graduated with a degree in Bachelor of Science Earth Sciences, from the University of Arizona in 1974.
3. I am a registered Professional Geologist No. 319 in good standing from Wyoming and a SME Registered Member No. 2418560.
4. I have over 45 years of direct experience as an employee of mid-size and junior mining companies, as an independent consultant and with a hydrodynamics consulting company. I have held positions of Chief Geologist, Chief Engineer, Technical Manager, Operations Manager and General Manager of mainly open pit gold operations in North America, Latin America, Central Asia and South East Asia. I have previously been a primary or secondary author on four NI 43-101 technical reports. I have worked on numerous properties with similar size and scope of the Project.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I have not visited the Cerro de Oro project site.
7. I am responsible for Section 16, part of Sections 25 and 26 of this Technical Report.
8. I have been engaged previously as a Mining Consultant with the Issuer; I have not had prior experience with the Property that is the subject of this Technical Report.
9. As of the Effective Date of this certificate, to the best of my knowledge, information, and belief, the parts of this Technical Report for which I am responsible, contain all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.
10. I am independent of the Issuer, and the Property applying all the tests in section 1.5 of NI 43-101.
11. I have read NI 43-101 and Form 43-101F1, and this Technical Report has been prepared in compliance with this instrument.
12. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public, of this Technical Report.

Dated this 5th day of January 2023 in Toronto, Ontario.

Original Signed and Sealed
Toren Olson, PG.

28.5 Alex Duggan, P.Eng.

I, Alex Duggan, P.Eng., as an author of this report titled *NI 43-101 Technical Report, Preliminary Economic Assessment and Mineral Resource Estimate for the Cerro de Oro Project, Zacatecas State, Mexico,* with an effective date of September 28, 2022 (the "Technical Report") prepared Minera Alamos Inc. and dated January 5, 2023, do hereby certify that:

1. I am the Principal of Kristal Font Inc. with an office at 8045 Wyandotte Street, East, Windsor, Ontario, Canada.
2. I am a graduate of Civil Engineering.
3. I am a registered P.Eng. in good standing of Professional Engineers Ontario (Registration Number 100103898 and a member of Association for the Advancement of Cost Engineering International (AACEI).
4. I have over 38 years of direct experience in the mining industry.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I have not visited the Cerro de Oro project site.
7. I am responsible for Sections 19, 21, 22 and part of Sections 25 and 26 of this Technical Report.
8. I have been engaged previously as a consultant with the Issuer; I have not had prior experience with the Property that is the subject of this Technical Report.
9. As of the date of this certificate, to the best of my knowledge, information, and belief, the parts of this Technical Report for which I am responsible, contain all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.
10. I am independent of the Issuer, and the Property applying all the tests in section 1.5 of NI 43-101.
11. I have read NI 43-101 and Form 43-101F1, and this Technical Report has been prepared in compliance with this instrument.
12. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public, of this Technical Report.

Dated this 5th day of January 2023 in Toronto, Ontario.

Original Signed and Sealed

Alex Duggan, M.Sc., P.Eng.