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OSISKO DEVELOPMENT CORP.

NI 43-101 TECHNICAL REPORT
FOR THE
2022 MINERAL RESOURCE ESTIMATE
ON THE
SAN ANTONIO PROJECT
SONORA, MEXICO

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Page

Table of Contents

Page

Page

Appendices

List of Tables

Page

List of Figures

Page

1.0 SUMMARY

1.1 General

Osisko Development Corp. (Osisko Development) has retained Micon International Limited (Micon) to audit its updated mineral resource estimate for the San Antonio Gold Project (San Antonio Project or the Project) in the State of Sonora (Sonora), Mexico and to compile a Canadian National Instrument (NI) 43-101 Technical Report disclosing the results of the resource estimate audit. Micon has not conducted an audit of/or a mineral resource estimate for the San Antonio Project previously.

The San Antonio Project mineral resource estimate that was audited by Micon was conducted by Leonardo de Souza, MAusIMM (CP), of Talisker Exploration Services Inc. (Talisker). The site visit was conducted by Rodrigo Calles-Montijo, CPG of Servicios Geológicos IMEx, S.C. (IMEx).

When auditing the mineral resource estimate, the Qualified Persons (QPs) used the following guidelines:

1. The CIM Definitions and Standards for Mineral Resources and Reserves, adopted by the CIM council on May 10, 2014.
2. The CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines, adopted by the CIM Council on November 29, 2019.

This report discloses technical information, the presentation of which requires the QPs to derive sub-totals, totals and weighted averages that inherently involve a degree of rounding and, consequently, introduce a margin of error. Where these occur, the QPs do not consider them to be material.

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

This report is intended to be used by Osisko Development subject to the terms and conditions of its agreement with Micon. That agreement permits Osisko Development to file this report as a Technical Report on SEDAR (www.sedar.com) pursuant to provincial securities legislation or with the SEC in the United States.

Neither Micon nor the QPs have, nor have they previously had, any material interest in Osisko Development or related entities. The relationship with Osisko Development is solely a professional association between the client and the independent consultants. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

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

The contents of this report supersede and replace all prior Technical Reports written for the San Antonio Project.

1.2 Property Location, Description and Ownership

The San Antonio Project is located in the south-central portion of the Mexican state of Sonora, which borders on the American state of Arizona, and is approximately 138 km southeast of the city of Hermosillo, the capital of Sonora. The Project is specifically located within the Sonoran municipalities of Soyopa and San Javier, within the San Javier Mining District.

In August 2020, Osisko Gold Royalties Ltd. (Osisko Gold) acquired the San Antonio Project. The San Antonio Project was subsequently transferred to Osisko Development as part of the Reverse-Take-Over (RTO) transaction and formation of Osisko Development. Osisko Gold retained a 15% stream on the gold and silver on the Project. The stream is secured by a first ranking security. There are no other royalties that exist on the Project. There was a historic royalty on the property and payments were made to the holder, but this royalty is now extinguished.

Osisko Development owns 100% of the San Antonio Project through its wholly owned indirect Mexican subsidiary Sapuchi Minera S. de R.L. de C.V. (Sapuchi) which is based in Hermosillo. The San Antonio Project is comprised of 43 mineral concessions which vary in size and are mostly contiguous, for a total property area 11,338.024 ha.

1.3 Accessibility, Climate, Physiography, Local Resources and Infrastructure

1.3.1 Accessibility

The San Antonio Project is located west of the Yaqui River and situated largely within the San Javier Mountain Range (Sierra de San Javier), which is part of the Western Sierra Madre. The eastern edge of the holdings is located near the river at an elevation of approximately 250 metres above sea level (masl), the lowest point on the property.

Access from Hermosillo, the capital of Sonora, to the site is via Federal Highway 16, a two-lane paved road, east for 164 km. This road connects to an improved dirt road immediately west of the Yaqui River, for approximately 8 km to the Luz del Cobre copper plant, field camp, offices and workshop. The site is approximately a 3-hour drive from the international airport in Hermosillo. The airport in Hermosillo has daily flights to Mexico City and some US destinations.

1.3.2 Physiography

The climate allows regular activities to take place on a year-round basis, with temperatures ranging from near freezing overnight in the winter, upwards to nearly 50° Celsius (C) in the summer. On average, winters are mild, but summers are generally hot, with daily temperatures averaging in excess of 40°C. Although the area is semi-arid, occasional heavy thunderstorms occur in the summer (typically from July to September) and a more persistent light rain may fall during December and January.

1.3.3 Climate

The housing camp and office site is located just west of the Yaqui River, in the gently rolling hills within the river basin. One kilometre north of the camp and office facilities is the village of San Antonio de La Huerta, located on the west bank of the river. To the west part of the San Antonio Project, the topography becomes mountainous. Site elevations range from 250 msl at the camp to over 1,300 msl on the high peaks. Generally, the terrain is steep and rugged with vegetation characteristic of the semi-arid climate. The brush and trees are dormant during much of the year but, during and following the summer rains, for several months the vegetation becomes much denser.

1.3.4 Local Resources and Infrastructure

The industrial centre and state capital city of Hermosillo is three hours' drive time to the west and provides the full range of services and supplies typically needed for a mining project.

Experienced and competent mining professionals are readily available in Mexico and general labour can be recruited from the surrounding small towns or regional centres.

The historic camp facilities have been established near the Yaqui River on the eastern side of the property. This is less than a kilometre south from the village of San Antonio de La Huerta. The population of the village is approximately 297 people, which increases when jobs are locally available. Other villages of a similar or slightly larger size within a 20 km radius include Tonichi, Soyopa, San Javier and Onavas. All communities are accessible by paved and/or improved dirt roads.

The camp and administration facilities are located on the eastern side of the property. The Luz del Cobre mine owns the license to a fully permitted water well (350,000 m^3/year) about 800 m northeast of the camp. The Yanqui River was also previously used to supply water to the camp and the processing plant.

A 13.2 KV power transmission line crosses the property from the Novillo hydroelectric facility 30 km to the north. The line currently provides power for the camp and office facilities. The site also has generators which were originally required to produce power for the mining and milling of ore from the Luz del Cobre deposit.

Relatively flat terrain, suitable for the construction of facilities is present near the river. However, most facilities are likely be located near mine locations, where it is anticipated that such features as tailings impoundments, leach pads, and waste disposal areas will be sited in adjacent valleys.

1.4 History

1.4.1 Historical Exploration and Mining Development

Early mining activity is poorly documented, although small scale, but locally extensive, underground workings attest to this work and are present at the Sapuchi, Luz del Cobre and Realito deposits. Except for the physical evidence of mining, there are few records to quantify the historical work. The most extensive workings are at the Luz del Cobre deposit, where six levels were developed, with a portion of this work conducted in the 1970s. The workings at the Sapuchi deposit are the next most developed, typically with adits and small stopes on one level and with the total length of the underground development probably ranging in hundreds of metres. Underground mining has been carried out at the Sapuchi deposit by local miners in three closely spaced and connected mines named the Mina Grande, Mina Uvalama and Mina Halcon. These workings are located near the central part of the Sapuchi ridge. At the Realito deposits, the old workings are generally much smaller, with individual adit lengths ranging up to a maximum of several tens of metres. Collectively, the mines have hundreds of metres of workings, including several limited stopes, but no records have been located to indicate the amount or historic grades of the extracted material.

The core area of the property holdings was historically held by Minera Sanex S.A. de C.V. (Minera Sanex), a Mexican company that had been active intermittently in the area and had maintained the claims continuously for several decades. It appears, from sketchy records, that Minera Sanex conducted limited exploration on its own behalf and also at various times optioned or joint ventured the property, but at no time, did the ownership of the property change. Records also show that as early as 1910, Luz del Cobre has been subject to small scale underground mining activities by a group of Mexican-Arizona (USA) copper mining interests.

Prior to 1972, the data are incomplete, but intermittent copper production from the Luz del Cobre deposit is thought to have occurred, utilizing both open pit and underground mining methods. Incomplete records regarding this activity are available but the total amount of material excavated from the period has been estimated by previous exploration companies at approximately 75,000 t.

Gold bearing rocks from a number of prospects in the Realito deposits were mined on a small scale by Minera Sanex in the 1970s. The mined material was processed in a 50 t/d ball mill and flotation plant, with portions of the plant still located on the property, near the current camp site.

On the portion of the property containing the Luz del Cobre deposit several companies conducted exploration activities to expand or define the copper resources under various option agreements with Minera Sanex. Alcoa Corporation (Alcoa) began exploration in 1972 in the vicinity of the Luz del Cobre deposit and expanded the underground workings. The project was dropped in 1974, reportedly due to low metal prices.

The project appears to have been dormant until Chutine Resources Ltd. (Chutine) optioned the property in 1990 and conducted limited exploration. A feasibility study, based on this work and the previous work, was completed by White Resources in 1991.

In October, 1993, a purchase agreement was concluded between Minera Sanex and Golden News Resources Inc. (Golden News), a Canadian mining and exploration company then listed on the Vancouver Stock Exchange. Golden News held a 100% ownership of Minerales Libertad S.A. de C.V., (Minerales Libertad) a Mexican subsidiary company, and held the title to the property through this subsidiary. In 1995, Golden News changed its name to Laminco Resources Inc. (Laminco), in conjunction with obtaining a listing on the Toronto Stock Exchange and it retained 100% ownership of Minerales Libertad.

In the 1990s extensive exploration and development studies were undertaken on the San Antonio property, but none of them resulted in a production decision.

In October, 2000, Laminco concluded a merger with Zaruma Resources Inc. (Zaruma) with the newly formed company retaining the Zaruma name, and Minerales Libertad then became a wholly owned subsidiary of Zaruma.

Between 2003 and 2008, exploration drilling was conducted by Zaruma with the intention of identifying an economic copper deposit. By 2008, this work near the Luz del Cobre deposit, defined two deposits. The first of these deposits (referred to as the south extension) is a continuation of the Luz del Cobre body within a north trending structural corridor, on the south-western end of the mineralized body. The second deposit was called the Calvario deposit and is located 200 m to the west of the Luz del Cobre deposit.

In 2008, several months of geological mapping and geochemical sampling were undertaken at the Sapo-Carrizo deposits with this program followed up by a nine-hole drilling program, totalling 1,993 m, that was completed during the fourth quarter of 2008. This work revealed a significant hydrothermally altered breccia with primary copper mineralization in the Carrizo deposit and confirmed the presence of near-surface oxidized copper mineralization in at least three separate target areas in the Sapo deposit.

In October, 2007, Zaruma signed agreements with EMLQ, whereby EMLQ undertook to finance the capital cost for development of the Luz del Cobre deposit, with Glencore acquiring the right to purchase copper cathodes produced at prevailing London Metal Exchange (LME) market prices at the time of delivery.

In October, 2008, Zaruma suspended development of the Luz del Cobre deposit an estimated four months short of production.

In 2011, Zaruma changed their name to Red Tiger Mining Inc. (Red Tiger), secured bank financing and private equity to fund construction of the Luz del Cobre operation. Waste stripping started in November, 2012. Over the period of 2013 and 2014, the mine produced an average of 5,555 t of copper cathode per year.

By 2015, production had dropped to 1,390 t for the year. Red Tiger halted mining operations in November, 2014 as copper production from the leaching operations had begun to decline in September, 2014. Red Tiger claimed a sudden and unprecedented occurrence of clay materials resulted in low permeability of the heap.

Red Tiger initiated a remediation plan and, in December, 2015, it resumed mining operations. In December, 2016, Red Tiger Mining announced it had ceased mining operations at the Luz del Cobre copper mine, as recoveries had dropped, thus making the operation unfeasible. The operation was put under care and maintenance and continued leaching residual copper from the heap. This continued until 2018 when the pregnant solution grade dropped below economic conditions.

In January, 2019, Osisko Gold entered into negotiations with the lender to purchase the San Antonio Project, which resulted in the agreement to purchase in August, 2020. On October 5, 2020, Osisko Gold transferred the San Antonio property into a new company called Osisko Development., which was created through a reverse take-over of Barolo Ventures Corp.

1.5 GEOLOGICAL SETTING AND MINERALIZATION

1.5.1 Regional Geology

Rocks of the San Antonio Project area are part of the Cortés Terrane of the Mexican Cordillera. The Cortés Terrane is characterized by a Paleozoic deep marine turbiditic succession interpreted to overlie a highly attenuated Proterozoic continental basement. The deep-water Paleozoic succession of the Cortés Terrane was internally deformed prior to and during its thrust emplacement above proto-North American platformal rocks of the Caborca terrane, during Permo-Triassic amalgamation of Pangea.

The Paleozoic succession of the Cortés Terrane is unconformably overlain by a post-amalgamation, Upper Triassic terrestrial-marine succession containing siliciclastic rocks, abundant coal beds, and rare tuffaceous horizons which are interpreted to have been deposited within an intra-continental rift. This sequence constitutes the Barranca Group, which is subdivided into several formational members within the San Antonio Project.

Rocks of the Cortés Terrane are intruded by calc-alkaline igneous rocks and overlain by locally preserved volcanic rocks of the Late Cretaceous–Paleogene Laramide arc. Laramide intrusions within the greater San Antonio Project area yield age dates ca. 49-63 Ma and co-genetic volcanic facies of the Tarahumara Fm. range from 70-90 Ma.

A few tens of km to the east of the San Antonio project area, the Paleozoic–Mesozoic succession of the Cortés Terrane is entirely overlain by Late Eocene to Early Miocene volcanic rocks of the Sierra Madre Occidental. The ca. 28-32 Ma Oligocene core of the sequence is dominated by rhyolitic ignimbrites covering an area of ~300,000 km^2 with local thicknesses up to 1.5 km. These volcanic rocks are inferred to be related to the onset of Basin and Range extension, beginning as early as 27 Ma.

Despite the complex history of polyphase shortening within the Cortés Terrane, the modern landscape is more reflective of Basin and Range extension and recent strike slip faulting. North-south to northwest-southeast trending extensional faults in the greater San Antonio Project area are of typical Basin and Range orientation. An oblique set of east-west to northeast-southwest trending faults are consistent with Triassic extension but may have been reactivated during Basin and Range extension. These structures have also been postulated as representing an independent phase of extension contemporaneous with Paleocene–Eocene copper-molybdenum porphyry deposits in the region. Exploitation of these likely crustal-scale structures by upwelling magma and/or mineralizing hydrothermal fluids is consistent with apparent regional northeast-southwest mineralization trends and observed deposit-scale east-west to northeast-southwest trends within the district

1.5.2 Property Geology

The general map pattern within stratified rocks of the San Antonio Project is younging toward the south and west, with the oldest rocks being the Middle Ordovician clastic sequence locally referred to as the San Antonio Formation. The local sequence consists of quartzite, interlayered to interbedded meta-sandstones and siltstones, and lesser carbonate facies with localized skarn.

San Antonio Formation rocks are in fault contact with and unconformably overlain by siliciclastic rocks of the Triassic Barranca Group. The Barranca Group is divided into three formational members, which outcrop within the south-central and western areas of the San Antonio Project.

Upper Cretaceous (ca. 70-90 Ma; Roldán-Quintana et al., 2009) Laramide volcanic and volcaniclastic rocks of the Tarahumara Formation unconformably overlie the Barranca Group rocks within the southern and southwestern extents of the San Antonio Project footprint. Mapping also indicates that Tarahumara Formation rocks are in direct fault contact with San Antonio formation rocks at the eastern limit of the Project. Tarahumara Formation rocks are variable in both texture and composition but consist predominantly of andesitic flows and tuffs within the limits of the San Antonio Project.

Rocks of the San Antonio Formation, Barranca Group and Tarahumara Formation are intruded by stocks and smaller intrusive bodies of Laramide age. Slightly younger than, but co-magmatic with Tarahumara Formation volcanic and volcaniclastic rocks, these bodies range in composition from granodiorite to (more commonly) tonalite, quartz-diorite and diorite. A large quartz diorite stock, mapped as an andesitic to dioritic porphyry, hosts hydrothermal breccia and associated mineralization at both the Sapuchi prospect and Luz del Cobre deposits. Andesitic intrusions are locally mineralized and associated with economic gold grades, suggesting that they either pre-date or are loosely contemporaneous with mineralization.

Hydrothermal breccias provide an important host for mineralization across the property. They occur in intimate association with intrusive bodies but are present in all rock types. The breccias are highly variable in clast size, clast composition, form, matrix volume and matrix mineralogy (see mineralization section below).

The geology and deposit geometry at the San Antonio Project is complicated by multiple generations of faulting with variable orientations and apparent slip vectors. Some structural control may be exerted by early phase faulting locally annealed by mineralizing fluids. Conversely, mineralized zones are offset and locally delineated by late-stage faulting (or late-stage reactivation of early phase faulting) ranging from low-angle through subvertical.

1.5.3 Mineralization

Four parallel northeast-southwest oriented mineralized trends are identified within the greater area of the San Antonio Project. The central Sapuchi-Cerro Verde trend spans a strike length greater than 15 km from the Cerro Verde deposit of the Barksdale Resources San Javier Project to the southwest, and includes the advanced target Sapuchi, Golfo de Oro and California deposits. The southeastern most La Ventana trend spans an 8 km strike-length, includes the Luz del Cobre deposit, and is in part defined by highly anomalous surface samples ranging from 2 to approximately 25 ppm gold. The central approximately 8 km Canuc-Brindeña trend appears to be the northeast extension of gold-bearing breccias and veins on Canuc Resources claims to the southwest. The northwestern most and newly defined >10 km strike-length La Centradita trend is delineated by anomalous surface samples and historical workings.

Gold mineralization at the San Antonio Project is primarily associated with sulphide minerals (mostly pyrite and pyrrhotite), occurring within stockwork veins and within the matrix of hydrothermal breccias. Vein mineralogy comprises quartz, iron-carbonates, iron-oxides and sulphides. Sulphide mineralogy is dominated by pyrite and pyrrhotite but locally includes marcasite, chalcopyrite, bornite, galena and sphalerite. Near surface sulphides have been leached by supergene oxidation and the remaining gold is associated with the resulting hematite, within stockwork veins and hydrothermal breccia matrix. The best gold grades and the bulk of the corresponding sulphide mineralization discovered thus far generally occupy a position within the upper parts of the system.

1.6 Exploration and Drilling Programs

1.6.1 Exploration Programs

The 2021 mapping program was focused within an approximate 120 ha footprint, centred on the Sapuchi deposit area from September through November. In December, the mapping footprint was extended northward to fully cover the neighbouring Miguelillas deposit area, and northwest to focus over the satellite Brindeña and Tapeste targets. Each of these four areas was highlighted as prospective for gold mineralization during earlier programs and legacy rock and soil surface samples were obtained. In the case of the Sapuchi deposit, mapping was conducted simultaneous with exploration drilling.

The principal aims of the program included mapping at the lesser explored Miguelillas, Brindeña and Tapeste targets and was more focused on applying knowledge developed at the Sapuchi, California and Golfo de Oro deposits to identify and delineate mineralogically prospective zones to be considered for brownfields 2022 exploration drilling.

Approximately 250 ha were covered during the 4-month-long 2021 mapping season, including complete road coverage over 19 1:1000 map sheets, and partial mapping across an additional 16 sheets.

Mapping coverage across the high road and outcrop density of the Sapuchi deposit footprint was more than sufficient to generate well-constrained surface extents for the grade controlling Sapuchi hydrothermal breccia deposit. Nearly 600 individual structural measurements from veins, faults, fractures and intrusive contacts were collected within the Sapuchi mapping footprint. These data provide quantitative measures of deposit geometry and insight into structural control not obtainable with the current exploration drilling program.

Intrusive bodies and related hydrothermal breccia zones identified as favourable for gold mineralization were identified at the Miguelillas, Brindeña and Tapeste target areas. Ongoing field data analysis, additional mapping, and new geochemical sampling will help to constrain successful brownfields exploration drilling under consideration for each of these mineral targets in 2022.

1.6.2 Exploration Drilling

The 2021 drill program was focused within three advanced target areas, Sapuchi, Golfo de Oro and California. The program was designed in two phases, with initial planning informed by historical drill data and promising surface geochemical data. Both phases of drilling culminated in a total of 27,869.73 m drilled in 177 drill holes.

Phase I drilling at the San Antonio Project focused on resource delineation and totalled 16,992.55 m drilled in 85 holes. Phase II drilling consisted of generally shallower holes planned at an idealized 25 m spacing to focus on resource category conversion and delineation of the limits of the oxide mineralization. Phase II drilling totalled 10,877.18 m over 92 drill holes with variable orientations.

The majority of the 2021 drilling was carried out within the Sapuchi target area, where three operating drill rigs produced a combined Phase I and Phase II season total of 15,753.23 m.

Drilling at the Golfo de Oro and California deposits was carried out with one drill operating in each area over the duration of the program, with combined Phase I and Phase II season totals of 6,547.10 m and 5,569.40 m, respectively.

The data obtained from drilling contributed to the redefinition and the refinement of geologic models and mineralization controls at each of the three exploration targets. Drill results at the Sapuchi deposit delineated the western and southern extents of mineralization, with multiple holes suggesting high grade continuity in both directions. In addition, several drill holes opened the potential for gold exploration and corridor continuity up to 500 m eastward towards the Luz del Cobre open pit. Though fewer metres were drilled at the Golfo de Oro and California deposits, the program produced quality intercepts, expanding the limits of the delineated deposits and suggesting the potential to reduce stripping ratios within open pit models for each target area.

1.7 METALLURGICAL TESTWORK

Metallurgical testing is considered to have occurred in two phases; historical (pre-2019) and current (2021-2022) testing. The current metallurgical testing forms the primary basis for the recovery and reagent consumption estimates used in this study. The samples used for the current testing come from the Sapuchi deposit and are assumed to be representative of the material considered for the mineral resource estimate. A summary of the pre-2019 metallurgical testing and processing was previously prepared by JDS. This summary has been reviewed and contributes to an understanding of the mineralogy and metallurgy for the project. However, as records for the sample sources for the historical work are incomplete, data from the historical testing are of more limited use than data from the ongoing 2021-2022 metallurgical testing.

1.7.1 Forte Analytical 2001 to 2022 Testwork

The metallurgical data from the most recent set of gold leaching testwork was reviewed to determine the expected gold recoveries and reagent consumptions for each mineralization type. It is assumed that oxide mineralization will be heap leached at a ½" crush size. The transition and sulphide mineralization will be milled to 75 µm and then agitated tank leached. A summary of the metallurgical assumptions can be found in Table 1.1.

The Forte Analytical 2021 bottle roll test program leached oxide mineralization at 9.5 mm. The average extraction was 73.8%. By increasing the operational crush size to an approximate 12.5 mm, a 70% heap leach gold extraction is projected. Silver recoveries are highly variable and more difficult to project. A nominal 60% silver extraction is projected. Under these conditions, it is expected that NaCN and lime consumptions are 0.5 and 5.0 kg/t respectively.

The gold recovery in the transition and sulphide domains, considering the historical and current testwork on pulverized samples, is projected at 90%. The gold in these domains has been shown to be cyanide amenable when milled to approximately 75 µm, with NaCN and lime reagent consumptions of 1.0 and 2.0 kg/t respectively. Silver extraction is highly variable and potentially poor from these domains and is capped at 30%.

Table 1.1
Metallurgical Assumptions

Parameter	Heap Leach	Mill
	Oxide	Transition and Sulphide
Operating Conditions		
Particle Size (P 80)	1 inch (25 mm)	75 µm
Residence Time	100 days	36 hours
Recovery		
Au	70%	90%
Ag	60%	30%
Reagent Consumption		
NaCN (kg/t)	0.5	1.0
Lime (kg/t)	5.0	2.0

1.8 San Antonio Project, Mineral Resource Estimate

1.8.1 General Notes

Resource estimation have been prepared and audited for five deposits on the San Antonio Property: Golfo de Oro, California, Sapuchi, High Life and Calvario.

The resource area for the Golfo de Oro segment covers a strike length of 1.2 km and a width of approximately 370 m, to a vertical depth up to 350 m below surface. The California segment covers a strike length of 0.6 km and a width of approximately 230 m, to a vertical depth up to 250 m below surface. The Sapuchi segment covers a strike length of 0.9 km and a width of approximately 420 m, to a vertical depth up to 240 m below surface. The High Life segment covers a strike length of 0.25 km and a width of approximately 120 m, to a vertical depth up to 110 m below surface. The Calvario segment covers a strike length of 0.27 km and a width of approximately 110 m, to a vertical depth up to 100 m below surface.

The models for the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits were prepared using Datamine Studio RM 1.9.36.0 (Datamine). Datamine was used for the mineralized solid modelling by gold grade indicator interpolation. Datamine was also used for the grade estimation, which consisted of 3D block modelling and the ordinary kriging (OK) interpolation method. Statistical studies, capping and variography were completed using Datamine, GSLIB and Excel. Capping and validations were carried out in Datamine and Microsoft Excel.

1.8.2 Supporting Data for the Resource Estimate

1.8.2.1 Drilling Database

The drilling database that was used for resource estimation comprises diamond and reverse circulation drill holes, carried out from 1994 to 2021.

The drilling database includes lithological descriptions, gold, silver and copper assays for the Golfo de Oro and California deposits. For the Sapuchi deposit, the lithological description is not available. In addition, the drilling database includes depths of the limit of the oxidation zone and the transition zone, which permitted construction of preliminary surfaces to restrict the block models into the oxidation zone, transition zone or fresh rock (sulphides), for the three deposits.

The databases cover the strike length of each resource area at variable drill spacings, ranging from 25 to 100 m for the five deposits.

1.8.2.2 Topography

For the 2022 updated resource, Osisko Development undertook a study to resolve previous topographic problems, where there were a number of drill hole collar elevation and topographic surface disagreements. As a result of the study, a new topography was created by point triangulation with 5.0 m surface resolution sufficient to support the open pit optimization for the resource estimation.

1.8.2.3 Compositing

Mineral composites were created to support the resource estimation, with a length of 3 m selected using a probability plot, utilizing all of the drill holes within the five deposits.

1.8.2.4 Geological Model

The estimation domains were primarily determined by the gold grade distribution. This is in part due to the lack of reliable geological data and because the gold mineralization appears to be associated primarily with the breccia and porphyry felsic intrusions that cross-cut the stratigraphy.

The geometric definition of the mineralized volume was conducted by gold indicator interpolation in Datamine, with a cut-off of 0.2 g/t gold, using 3 m long composites. Mineralized zones were defined with probability equal to or greater than 40% to be above 0.2 g/t gold. The directions of anisotropic searches for the gold indicator interpolation used the dynamic anisotropy process within Datamine, guided by manual interpretation of the gold spatial grade connectivity. Gold indicator interpolation was performed via inverse distance squared (ID^2), using searches up to 125 m x 125 m x 35 m, 4 to 12 composites and minimum of two drill holes.

1.8.2.5 Model of Voids

The voids represent historical underground workings (combined stopes, drifts and shafts). These workings are understood to have been completed prior to the drilling campaigns used for the resource estimate.

A 5 m buffer was applied to the modelled voids of the Sapuchi deposit, to compensate for the uncertainty in locations of the voids.

The voids are used to deplete the mineral resource estimate for those mineralized blocks which have been historically mined, usually through underground mining methods. Historical open pit mining is accounted for in the current topographical survey.

1.8.2.6 Capping

Grade capping was investigated for gold and silver by deposit and oxidation zone. The selected capping of the high-grade gold and silver values is as follows:

- Capping at 11 g/t for gold and 20 g/t for silver is appropriate for Golfo de Oro deposit and all oxidation states.
- Capping at 8 g/t for gold and 20 g/t for silver is appropriate for California deposit and all oxidation states.
- Capping at 8 g/t for gold and 30 g/t for silver is appropriate for Sapuchi deposit and all oxidation states.
- Capping at 3 g/t for gold is 20 g/t for silver are appropriate for High Life deposit and all oxidation states.
- Capping was not conducted for the Calvario deposit, due to the low number of samples.

The similarity of grade distribution by oxidation state and the relatively low number of oxide and transition samples supports the decision to use a soft boundary between the different oxidation zones during the grade interpolation phase.

1.8.2.7 Density

Osisko Development supplied 1,140 bulk density measurements for the updated San Antonio resource, from which 1,123 measurements were used to calculate the median on each weathering zone. These three median values were used for the block model.

1.8.2.8 Variography and Search Ellipsoids

Three-dimensional directional-specific search ellipses were guided by dynamic anisotropy in Datamine, with search radii determined by the gold variography. However, the variogram used for kriging estimation was a single spherical variogram model for gold and another for silver, using composited assays from the three main deposits. The gold and silver variograms were used to estimate the resources of the three main deposits (California, Golfo de Oro and Sapuchi). The other two minor deposits of High Life and Calvario do not have enough data to run meaningful variograms, instead the closest major deposits variography was used.

1.8.2.9 Grade Interpolation

The interpolation profiles were customized for each deposit to estimate grades, with hard boundaries between the different deposits.

For each of the five deposits, the mineralized blocks were estimated independently, with an anisotropic three-pass search, derived from the variography and using capped composites. The directions of anisotropic searches for the gold and silver grade interpolation used the dynamic anisotropy process of Datamine, guided by manual interpretation of the gold spatial grade connectivity.

The ordinary kriging (OK) method was selected for the final resource estimation for gold and silver, as it better honours the grade distribution for all the deposits.

1.8.3 Economic Parameters and Classification

1.8.3.1 Prospects for Economic Extraction

The CIM Standards require that a mineral resource must have reasonable prospects for eventual economic extraction. The metal prices and operating costs provided by Osisko Development and reviewed and accepted by Micon's QP are considered appropriate to be used as the economic parameters for the mineral resource estimate.

To determine the quantities of materials with "reasonable prospects for eventual economic extraction", the QP determined pit constraining limits using the Lerchs-Grossman economic algorithm. The result defines an open pit shell that has the highest possible total value, while honouring the required surface mine slope and economic parameters.

The resources have been estimated using an open pit mining method which was defined using the NPV Scheduler software, version 4.30.145.0. Economic parameters used for the analysis are summarized in Table 1.2.

Table 1.2
Summary of the Parameters used for Pit Optimization at the San Antonio Project

Parameters	Units	Oxide	Transition	Fresh Rock
Gold price	USD/oz	1,750	1,750	1,750
Silver price	USD/oz	21	21	21
Refining Charge	USD/oz	4	4	4
Processing cost	USD/t treated	4.0	13.0	13.0
Met. Recovery Au	%	70%	90%	90%
Met. Recovery Ag	%	60%	30%	30%
Mine dilution	%	10%	10%	10%
Mine recovery	%	95%	95%	95%
Site Services	USD/t treated	1.3	1.3	1.3
G&A	USD/t treated	2.5	2.5	2.5
Mine Cost	USD/t mined	2.95	2.95	2.95
Gold Cut-off Grade	g/t Au	0.27	0.44	0.44
Annual Discount Rate	%	5%	5%	5%
Pit Slope Angle	Degrees	50º	50º	50º

Table supplied by Talisker in June, 2022.

The processing scenario for the San Antonio Project assumes heap leaching of the mineralized material sourced from open pit mining. The mineral resource has been limited to mineralized material that occurs within the pit shells. All other material within the defined pit shells was characterized as non-mineralized material (waste).

1.8.3.2 Mineral Resource Classification

The QP has classified the current mineral resource estimation in the indicated and inferred categories. The 2021 drilling campaign has allowed upgrading portions of the mineral resources into the Indicated category for the California, Golfo de Oro and Sapuchi deposits. The High Life and Calvario deposits remain entirely in the Inferred category at this time, due to the limited amount of data available. There are no measured resources, at this time, for any of the deposits.

The criteria for categorization are as follows:

- Indicated blocks are within a drilling grid of 50 m x 50 m or smaller and are interpolated using a minimum of 3 drill holes.
- Inferred blocks are within a drilling grid of 100 m x 100 m or smaller, using a minimum of 2 drill holes.

The resulting indicated blocks were revised and cleaned up to eliminate any isolated or scattered blocks, known as the "Spotted Dog Effect", with the remaining blocks forming a cohesive volume of indicated material.

1.8.4 Mineral Resource Estimate

1.8.4.1 Mineral Resource Estimate

Table 1.3 summarizes the in-pit mineral resource estimate for each of the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits at the San Antonio Project. Table 1.3 also summarizes the details of the in-pit mineral resources by weathering zone within each of the deposits.

Table 1.4 summarizes the combined mineral resources for all deposits by weathering zone in order to separately tabulate the combined mineral resource total for the San Antonio Project.

Table 1.3
Summary of In-Pit Mineral Resource Estimate by Deposit for the San Antonio Project

Category	Deposit	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	California	Oxide	0.6	0.93	2.8	17	0.05
		Transition	0.2	0.79	3.3	6	0.02
		Sulphide	3.1	1.31	2.4	130	0.23
		Total	**3.9**	**1.22**	**2.5**	**153**	**0.31**
	Golfo de Oro	Oxide	0.2	1.07	2.8	7	0.02
		Transition	0.1	1.19	2.8	6	0.01
		Sulphide	5.3	1.46	2.5	249	0.42
		Total	**5.7**	**1.44**	**2.5**	**262**	**0.46**
	Sapuchi	Oxide	1.9	0.85	3.6	53	0.22
		Transition	1.4	1.04	3.6	47	0.16
		Sulphide	2.1	0.94	3.4	62	0.22
		Total:	**5.4**	**0.93**	**3.5**	**162**	**0.61**
	Total	**Oxide**	**2.7**	**0.89**	**3.4**	**77**	**0.30**
		Transition	**1.8**	**1.02**	**3.5**	**59**	**0.20**
		Sulphide	**10.4**	**1.31**	**2.6**	**441**	**0.88**
		Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
Inferred	California	Oxide	0.4	0.68	2.1	8	0.02
		Transition	0.1	0.85	2.6	4	0.01
		Sulphide	1.1	1.27	3.8	46	0.14
		Total	**1.6**	**1.10**	**3.3**	**58**	**0.17**
	Golfo de Oro	Oxide	0.5	0.80	3.0	12	0.04
		Transition	0.2	0.93	3.4	5	0.02
		Sulphide	5.7	1.29	2.5	237	0.46
		Total	**6.4**	**1.24**	**2.5**	**254**	**0.52**
	High Life	Oxide	0.5	0.84	4.2	14	0.07
		Transition	0.2	0.73	4.5	4	0.02
		Sulphide	0.1	0.90	8.3	4	0.04
		Total	**0.8**	**0.83**	**4.9**	**22**	**0.13**
	Sapuchi	Oxide	3.2	0.74	3.7	75	0.37
		Transition	1.6	0.92	3.6	48	0.19
		Sulphide	2.8	0.92	4.1	84	0.37
		Total	**7.6**	**0.85**	**3.8**	**208**	**0.94**
	Calvario	Oxide	0.1	0.53	0.0	2	0.00

Category	Deposit	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
		Transition	0.0	0.55	0.0	0	0.00
		Sulphide					
		Total	**0.1**	**0.53**	**0.0**	**2**	**0.00**
	Total	**Oxide**	**4.6**	**0.74**	**3.5**	**111**	**0.51**
		Transition	**2.1**	**0.90**	**3.6**	**61**	**0.24**
		Sulphide	**9.8**	**1.18**	**3.2**	**371**	**1.00**
		Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**

Source: Talisker/Micon (2022).
Notes:

1. Rodrigo Calles, of Servicios Geológicos IMEx, S.C., William Lewis and Alan J San Martin, of Micon International Limited have reviewed and validated the mineral resource estimate for Sapuchi, Golfo de Oro, California, High Life and Calvario deposits. All are independent "Qualified Persons" (as defined in NI 43-101) responsible for auditing the 2022 mineral resource estimate. The effective date of the mineral resource estimate is June 22, 2022.
2. Specific extraction methods are used only to establish reasonable cut-off grades for various portions of the deposit. No Preliminary Economic Analysis, Pre-Feasibility Study or Feasibility Study has been completed to support economic viability and technical feasibility of exploiting any portion of the mineral resource, by any particular mining method.
3. The mineral resources disclosed in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") standards on mineral resources and reserves definitions, and guidelines, prepared by the CIM standing committee on reserve definitions and adopted by the CIM council.
4. The calculated economic cut-off grade for the resource in Oxides (70% recovery) is 0.27 g/t Au, Transition (90% recovery) is 0.44 g/t Au, and Fresh Rock (90% recovery) is 0.44 g/t Au.
5. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
6. Geologic modeling was completed by Osisko Development geologist Gilberto Moreno. The resource estimation was completed by Talisker Exploration Services Geologist Leonardo Souza, MAusIMM (CP).
7. The estimate is reported for a potential open pit scenario and USD. The cut-off grades were calculated using a gold price of $1,750 per ounce, a CAD:USD exchange rate of 1.3; mining cost of $2.95/t; processing cost of $4/t for oxides and $13.0/t for transition and sulphides; and general and administration costs of $2.50/t. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).
8. A density of 2.55 g/cm^3 was established for all oxide zones, 2.69 g/cm^3 for transition zones and 2.74 g/cm^3 for the sulphide zones.
9. Resources for Sapuchi, Golfo de Oro, California, High Life and Calvario were estimated using Datamine Studio RM 1.3 software using hard boundaries on composited assays (3.0 m for all zones). Ordinary Kriging interpolation was used with a parent block size = 10 m x 10 m x 5 m.
10. Results are presented in-situ. Ounce (troy) = metric tons x grade / 31.10348. Calculations used metric units (metres, tonnes, g/t). The number of metric tons was rounded to the nearest thousand. Any discrepancies in the totals are due to rounding effects; rounding followed the recommendations as per NI 43-101.
11. Neither the Company, Servicios Geológicos IMEx, S.C., nor Micon International Limited. is aware of any known environmental, permitting, legal, title-related, taxation, socio-political, marketing or other relevant issue that could materially affect the mineral resource estimate other than disclosed in this Technical Report.

Table 1.4
Summary of the In-Pit Constrained Mineral Resource Estimate by Weathering Zone

Category	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	Oxide	2.7	0.89	3.4	77	0.30
	Transition	1.8	1.02	3.5	59	0.20
	Sulphide	10.4	1.31	2.6	441	0.88
	Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
Inferred	Oxide	4.6	0.74	3.5	111	0.51
	Transition	2.1	0.90	3.6	61	0.24
	Sulphide	9.8	1.18	3.2	371	1.00
	Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**

Source: Talisker/Micon (2022).
Note: Since Table 1.5 summarizes the combined mineral resources for all deposits by weathering zone, all of the previous resource notes from Table 1.4 are applicable to Table 1.5.

1.8.4.2 Sensitivity Analysis

As part of the audit of Osisko Development's 2022 mineral resource estimate, the QP examined the sensitivity of the mineral resource using higher and lower gold prices. Table 1.5 summarizes the gold price sensitivity, ranging from a US$1,400 to US$1,900 per ounce with the resultant changes in both cut-off grades and mineral resources as a result of the changing gold price. The base case gold price remains at US$1,750/ ounce and gold cut-off grade applied to oxide, transition and sulphide remains 0.27 g/t gold, 0.44 g/t gold and 0.44 g/t gold, respectively.

Table 1.5
Gold Price Sensitivity Analysis for the San Antonio Project In-Pit Constrained Resources

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	1,400	0.34	Oxide	2.6	0.90	3.4	76	0.29
		0.55	Transition	1.6	1.07	3.6	55	0.18
		0.55	Sulphide	8.0	1.44	2.8	372	0.72
			Total	**12.3**	**1.28**	**3.0**	**504**	**1.19**
	1,450	0.33	Oxide	2.6	0.90	3.4	76	0.29
		0.54	Transition	1.6	1.06	3.5	56	0.19
		0.54	Sulphide	8.2	1.43	2.8	377	0.73
			Total	**12.5**	**1.27**	**3.0**	**510**	**1.21**
	1,500	0.32	Oxide	2.7	0.90	3.4	77	0.29
		0.52	Transition	1.7	1.05	3.5	57	0.19
		0.52	Sulphide	9.0	1.40	2.7	404	0.78
			Total	**13.3**	**1.25**	**3.0**	**537**	**1.27**
	1,550	0.31	Oxide	2.7	0.89	3.4	77	0.29
		0.50	Transition	1.7	1.05	3.5	57	0.19
		0.50	Sulphide	9.3	1.38	2.7	411	0.80
			Total	**13.6**	**1.24**	**2.9**	**545**	**1.29**
	1,600	0.30	Oxide	2.7	0.89	3.4	77	0.29
		0.48	Transition	1.7	1.04	3.5	58	0.20

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
		0.48	Sulphide	9.6	1.37	2.7	420	0.83
			Total	**14.0**	**1.23**	**2.9**	**554**	**1.31**
	1,650	0.29	Oxide	2.7	0.89	3.4	77	0.29
		0.47	Transition	1.8	1.03	3.5	58	0.20
		0.47	Sulphide	9.8	1.35	2.7	426	0.84
			Total:	**14.3**	**1.22**	**2.9**	**561**	**1.33**
	1,700	0.28	Oxide	2.7	0.89	3.4	77	0.29
		0.46	Transition	1.8	1.02	3.5	58	0.20
		0.46	Sulphide	10.1	1.33	2.6	432	0.86
			Total	**14.5**	**1.21**	**2.9**	**567**	**1.35**
	1,750	**0.27**	**Oxide**	**2.7**	**0.89**	**3.4**	**77**	**0.30**
		0.44	**Transition**	**1.8**	**1.02**	**3.5**	**59**	**0.20**
		0.44	**Sulphide**	**10.4**	**1.31**	**2.6**	**441**	**0.88**
			Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
	1,800	0.27	Oxide	2.7	0.89	3.4	77	0.30
		0.43	Transition	1.8	1.02	3.5	59	0.20
		0.43	Sulphide	10.6	1.30	2.6	446	0.89
			Total	**15.1**	**1.20**	**2.9**	**582**	**1.39**
	1,850	0.26	Oxide	2.7	0.89	3.4	77	0.30
		0.42	Transition	1.8	1.01	3.5	59	0.20
		0.42	Sulphide	10.9	1.30	2.6	455	0.91
			Total	**15.4**	**1.19**	**2.8**	**591**	**1.41**
	1,900	0.25	Oxide	2.7	0.89	3.4	77	0.30
		0.41	Transition	1.8	1.01	3.5	59	0.20
		0.41	Sulphide	11.0	1.29	2.6	457	0.92
			Total	**15.6**	**1.18**	**2.8**	**593**	**1.42**
Inferred	1,400	0.34	Oxide	3.9	0.81	3.7	103	0.47
		0.55	Transition	1.6	1.00	3.9	52	0.20
		0.55	Sulphide	5.9	1.38	3.5	261	0.67
			Total	**11.4**	**1.13**	**3.6**	**416**	**1.34**
	1,450	0.33	Oxide	4.1	0.79	3.7	104	0.48
		0.54	Transition	1.7	0.98	3.8	54	0.21
		0.54	Sulphide	6.7	1.33	3.5	286	0.75
			Total	**12.5**	**1.11**	**3.6**	**444**	**1.44**
	1,500	0.32	Oxide	4.2	0.78	3.6	105	0.48
		0.52	Transition	1.8	0.96	3.7	56	0.22
		0.52	Sulphide	7.6	1.29	3.4	314	0.83
			Total	**13.6**	**1.09**	**3.5**	**475**	**1.53**
	1,550	0.31	Oxide	4.3	0.77	3.6	107	0.49
		0.50	Transition	1.9	0.94	3.7	58	0.23
		0.50	Sulphide	8.1	1.26	3.3	330	0.87
			Total	**14.3**	**1.07**	**3.5**	**494**	**1.59**
	1,600	0.30	Oxide	4.4	0.76	3.5	109	0.50
		0.48	Transition	2.0	0.93	3.7	59	0.23
		0.48	Sulphide	8.5	1.24	3.3	339	0.90
			Total	**14.9**	**1.06**	**3.4**	**506**	**1.63**
	1,650	0.29	Oxide	4.5	0.76	3.5	110	0.50

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
		0.47	Transition	2.0	0.93	3.7	59	0.23
		0.47	Sulphide	8.9	1.22	3.3	348	0.93
			Total	**15.4**	**1.10**	**3.3**	**517**	**1.67**
	1,700	0.28	Oxide	4.6	0.75	3.4	111	0.51
		0.46	Transition	2.0	0.91	3.6	60	0.24
		0.46	Sulphide	9.3	1.20	3.2	360	0.97
			Total	**16.0**	**1.03**	**3.3**	**531**	**1.72**
	1,750	**0.27**	**Oxide**	**4.6**	**0.74**	**3.4**	**111**	**0.51**
		0.44	**Transition**	**2.1**	**0.90**	**3.6**	**61**	**0.24**
		0.44	**Sulphide**	**9.8**	**1.18**	**3.2**	**371**	**1.00**
			Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**
	1,800	0.27	Oxide	4.8	0.73	3.3	114	0.52
		0.43	Transition	2.2	0.89	3.6	62	0.25
		0.43	Sulphide	10.4	1.15	3.1	386	1.04
			Total	**17.4**	**1.00**	**3.2**	**562**	**1.81**
	1,850	0.26	Oxide	4.9	0.73	3.3	114	0.52
		0.42	Transition	2.2	0.89	3.5	63	0.25
		0.42	Sulphide	10.9	1.13	3.1	395	1.07
			Total	**18.0**	**0.99**	**3.2**	**572**	**1.85**
	1,900	0.25	Oxide	5.0	0.72	3.3	115	0.52
		0.41	Transition	2.3	0.88	3.5	64	0.26
		0.41	Sulphide	11.2	1.12	3.0	404	1.09
			Total	**18.4**	**0.99**	**3.2**	**583**	**1.87**

Source: Talisker/Micon (2022).
Notes:
1. William Lewis of Micon has reviewed and validated the gold price sensitivities for the various mineralization types and it is the opinion of the QP that they meet the test of reasonable prospects of economic extraction. Mr. Lewis is an independent "Qualified Person" (as defined in NI 43-101).

1.9 CONCLUSIONS AND RECOMMENDATIONS

1.9.1 Further Recommendations, Exploration Budget and Other Expenditures

Based on the results of the 2022 mineral resource estimate, Micon's QPs recommend that the San Antonio Project move to a more advanced phase of development, which would involve the preparation of a Preliminary Economic Assessment (PEA), covering at least the Sapuchi, California and Golfo de Oro deposits.

Micon's QPs recommend completing the PEA by concluding the geotechnical and metallurgical studies, continuing the permitting process and community engagement program. The characterization of the mining project environment should also continue in tandem with these other development steps.

Concurrently, Micon's QPs recommend that Osisko Development continue its exploration program with drilling (infill and exploration), geological mapping and sampling, to test the extents of known mineralization within the known mineral trend. In addition, the exploration program should attempt to identify new targets, as well as potentially expanding the current deposits. Continued geological modelling and structural interpretation should also be a part of this program.

With respect to sampling and assaying, the use of screen metallic assays on some material is recommended, as well as conducting some mineralogical studies in order to understand why some of the samples exhibit poor repeatability.

In summary, the following work program is recommended.

1. Exploration work:
    a) Infill drilling in areas currently classified as inferred and above cut-off, to convert to the indicated category (12,000 m).
    b) Exploration drilling to explore adjacent to known deposits between Sapuchi and High Life and around extends of current pit limits, to add additional inferred resources (30,000 m).
    c) Continue geologic mapping and surface sampling programs to define and identify new targets with the importance of collecting structural measurements that can then be modelled in 3D to increase knowledge of the geologic model.
    d) Perform a LiDAR survey on the property for collection of surface imagery and for aiding in structural interpretation.
2. PEA:
    a) Surface bulk sampling program to test geological and grade continuities, metallurgical and geotechnical parameters.
    b) Complete metallurgical testwork.
    c) Geotechnical work.
    d) Permitting considerations.
    e) Social licence management.

The budget presented in Table 1.6 summarizes the estimated costs for completing the recommended drilling and exploration program described above.

Table 1.6
San Antonio Project, Recommended Budget for Further Work (USD)

San Antonio Project, Drilling Program			
Target Area / Type of Activity	Cost/m (approx.) All included	Quantity (m)	Cost USD
Infill Drilling on Existing Resource (HQ)	270/m	12,000	3,240,000
Exploration Drilling (NQ or RC)	250/m	30,000	7,500,000
Metallurgical Drilling - Core	320/m	1,200	384,000
Geotechnical Drilling	300/m	1,000	300,000
Drilling Subtotal		**17,050**	**11,424,000**

San Antonio Project, Property Wide Activities			
Activity Type			Cost USD
Geological Modeling, Mapping & Consulting			70,000
LiDAR Surveys			30,000
Geochemical Sampling & Special Studies (PEA)			150,000
Metallurgical Test Work			150,000
PEA reporting and miscellaneous.			100,000
Property Wide Activities Subtotal			500,000
Contingency (~5%)			596,200
Grand Total			**12,520,200**

It is the opinion of the Micon QPs that all of the recommended work is warranted and that only the location of the exploration drilling needs to be re-evaluated, as assay results are obtained during the program. Micon and its QPs appreciate that the nature of the programs and expenditures may change as the further studies are undertaken, and that the final expenditures and results may not be the same as originally proposed.

The Micon QPs are of the opinion that the recommended work program and proposed expenditures are appropriate and well thought out. The Micon QPs believe that the proposed budget reasonably reflects the type and amount of the contemplated activities.

1.9.2 Metallurgy

The metallurgical testwork completed so far provides a good base for future planning. There is a significant amount of data that confirms that the oxide mineralization at the San Antonio properties is amenable to recovery by heap leaching. Current testwork is in progress and is focused on further defining the expected recovery by mineralized zone and the predicted reagent consumptions for each zone. Future testwork will be evaluated based on these results.

2.0 INTRODUCTION

2.1 TERMS OF REFERENCE

At the request of Osisko Development Corp. (Osisko Development), Micon International Limited (Micon) has been retained to audit its updated mineral resource estimate for the San Antonio Project (or the Project) in the State of Sonora (Sonora), Mexico and to compile a Canadian National Instrument (NI) 43-101 Technical Report disclosing the results of the resource estimate audit.

The San Antonio Project mineral resource estimate, which was audited by Micon's QP, was conducted by Leonardo de Souza, MAusIMM (CP), of Talisker Exploration Services Inc. (Talisker). The site visit was conducted by Rodrigo Calles-Montijo, CPG of Servicios Geológicos IMEx, S.C. (IMEx).

In this report, the term San Antonio Project refers to the area within the concessions that contains the updated mineral resource estimate, while the term San Antonio property (the property) refers to the entire land package of mineral concessions under Osisko Development's control.

This report discloses technical information, the presentation of which requires the Qualified Persons (QPs) to derive sub-totals, totals and weighted averages that inherently involve a degree of rounding and, consequently, introduce a margin of error. Where these occur, the QPs do not consider them to be material.

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

This report is intended to be used by Osisko Development subject to the terms and conditions of its agreement with Micon. That agreement permits Osisko Development to file this report as a Technical Report on SEDAR (www.sedar.com) pursuant to provincial securities legislation or with the SEC in the United States. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

Neither Micon nor the QPs have, nor have they previously had, any material interest in Osisko Development or related entities. The relationship with Osisko Development is solely a professional association between the client and the independent consultants. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

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

2.2 DISCUSSIONS, MEETINGS, SITE VISITS AND QUALIFIED PERSONS

In order to undertake the audit of the updated mineral resource estimate for the San Antonio Project, the QPs of this Technical Report undertook a number of discussions and meetings with Osisko Development's personnel and contractors to discuss details relevant to the exploration programs, Quality Assurance/Quality Control (QA/QC) programs, parameters used for the mineral resource estimate and the mineral resource estimate itself. The discussions were held via email chains and phone calls, as well as Google Teams and Zoom meetings. The discussions were open, frank and at no time was information withheld or not available to the QPs.

A site visit was conducted from November 11 to November 13, 2021. The site visit was undertaken to independently verify the geology, mineralogy, drilling programs and the QA/QC programs. A number of samples were taken during the 2021 site visit and the verification program is discussed in Section 12 of this report.

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

Table 2.1
Qualified Persons, Areas of Responsibility and Site Visits

Qualified Person	Title and Company	Area of Responsibility	Site Visit
William J. Lewis, P.Geo.	Senior Geologist, Micon	Sections 1, 2 to 9, 10, 14.1 to14.3, 14.12 to 14.14 except 14.13.1 and 23 to 28	None
Ing. Alan San Martin, MAusIMM(CP)	Mineral Resource Specialist, Micon	Sections 14.4 to 14.11 and 14.13.1	None
Dr. R. Nick Gow, MMSA(QP).	Laboratory Manager, Forte Analytical	Section 13	None
Rodrigo Calles-Montijo, CPG	General Administrator and Principal Consultant, Servicios Geológicos IMEx, S.C.	Sections 11, 12	November 11 to November 13, 2021
NI 43-101 Sections not applicable to this report		15,16,17,18,19,20,21 and 22	

The site visit to the San Antonio property was completed between November 11 and 13, 2021 by Rodrigo Calles-Montijo, CPG, who is an independent consultant and Certified Professional Geologist (CPG), as well as a member of the American Institute of Professional Geologists (AIPG). Mr. Calles-Montijo is based in Hermosillo, México. Mr. Calles-Montijo was contacted by Maggie Layman, Vice-President of Exploration of Osisko Development, requesting the preparation of a NI 43-101 Technical Report, and later established contact with William Lewis (Micon) to define the objectives of the site visit, as required by the NI 43-101 guidelines. The objectives of the site visit were previously discussed between Maggie Layman (Osisko Development), William Lewis (Micon) and Rodrigo Calles-Montijo. Mr. Calles-Montijo visited the different areas of the property, with an emphasis on verifying the exploration/evaluation works completed to date, as well as providing a general overview of the current construction works, an inspection of the old mine facilities and open-pit in the area. During the site visit, Mr. Calles-Montijo was accompanied by Mr. Francisco Quiroz, president of Sapuchi, a subsidiary company of Osisko Development. During the site visit, Mr. Calles-Montijo had the opportunity to meet the personnel responsible for the areas of technical services (mining, metallurgy and process), environmental and geology.

2.3 SOURCES OF INFORMATION

Micon's review of the San Antonio Project was based on published material researched by the QPs, as well as data, professional opinions and unpublished material submitted by the professional staff of Osisko Development or its consultants. Much of these data came from reports prepared and provided by Osisko Development. The information and reference sources for this report are noted in Section 28.0.

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

Some of the figures and tables for this report were reproduced or derived from reports on the property written by various individuals and/or supplied to the QPs by Osisko Development. A number of the photographs were taken by Mr. Calles-Montijo during his November, 2021 site visit. In cases where photographs, figures or tables were supplied by other individuals or Osisko Development, the source is referenced below that item.

2.4 UNITS OF MEASUREMENT AND ABBREVIATIONS

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

Table 2.2
List of Abbreviations

Name	Abbreviation
Adsorption/desorption/reactivation	ADR
Alamos Minerals Ltd.	Alamos
Alcoa Corporation	Alcoa
ALS Minerals	ALS
American Association of Laboratory Accreditation	AALA
Australian Geostats Pty Ltd	Australian Geostats
Australian Ore Research & Exploration P/L	OREAS
Bateman Engineering Inc.	Bateman
Barringer Laboratories Inc.	Barringer
Boytec Sondajes de Mexico SA de CV	Boytec

Name	Abbreviation
Canadian Centre for Mineral and Energy Technology	CANMET
Canadian Institute of Mining, Metallurgy and Petroleum	CIM
Canadian National Instrument 43-101	NI 43-101
Canadian Securities Administrators	CSA
Canuc Resources Corporation	Canuc
CDN Resource Laboratories Ltd.	CDN Resource
Centimetre(s)	cm
CESUS University	CESUS
Chutine Resources Ltd.	Chutine
Comisión de Ecologia y Desarrollo Sustentable del Estado de Sonora	CEDES
Comisión de Fomento Minero	CFM
Comisión Nacional del Agua	CONAGUA
Constellation Copper Corporation	Constellation
Degree(s), Degrees Celsius	º ,ºC
Diario Oficial de la Federación	DOF
Digital elevation model	DEM
Dirección General de Minas	DGM
Discounted cash flow	DCF
Diversified Drilling, S.A. de C.V.	Diversified
Electronic Data Gathering, Analysis and Retrieval	EDGAR
Environmental Impact Assessment	MIA
Florin Analytical Services LLC	Florin
Globexplore Drilling S.A. de C.V.	Globexplore
Golder Associates Ltd.	Golder Associates
Grams per metric tonne	g/t
Hectare(s)	ha
Hour	h
Inverse Distance Squared	ID^2
Inch(es)	in
Inductively Coupled Plasma – Emission Spectrometry	ICP-ES
Internal diameter	ID
Internal rate of return	IRR
Impuesto al Valor Agregado (or VAT)	IVA
Iron Oxide-Copper-Gold deposit-type	IOCG
Jacobs Assay Laboratory	Jacobs
JDS Energy & Mining Inc.	JDS
Justified Technical Study	ETJ
Kappes, Cassiday & Associates	KCA
KD Engineering Co., Inc.	KD
Kilogram(s)	kg
Kilometre(s)	km
Laminco Resources Inc.	Laminco
Life of mine	LOM
Litre(s)	L
London Metal Exchange)	LME
Minerales Libertad S.A. de C.V.	Minerales Libertad
Minera Sanex S.A. de C.V.	Minera Sanex
Metre(s)	m
Mexican peso	MXN
Micon International Limited	Micon

Name	Abbreviation
Million (eg million tonnes, million ounces, million years)	M (Mt, Moz, Ma)
Milligram(s)	mg
Millimetre(s)	mm
Mountain States R & D International	Mountain States
National Institute of Standards and Technology	NIST
North American Datum	NAD
Net present value, at discount rate of 8%/y	NPV, NPV8
Net smelter return	NSR
Not available/applicable	n.a.
Osisko Development Corp.	Osisko Development
Osisko Gold Royalties Ltd.	Osisko Gold
Ounces (troy)/ounces per year	oz, oz/y
Parts per billion, part per million	ppb, ppm
Percent(age)	%
Preventive Report	Informe Preventivo or IP
Princeton Mining Corporation	Princeton
Quality Assurance/Quality Control	QA/QC
Red Tiger Mining Inc.	Red Tiger
Resource Development Inc.	RDI
Run of mine	ROM
Sapuchi Minera S. de R.L. de C.V.	Sapuchi
Secretaria de la Defensa Nacional	SEDENA
Servicios Geológicos IMEx, S.C.	IMEx
SGS Mineral Services Canada	SGS
Specific gravity	SG
Square kilometre(s)	km^2
Standard Reference Material(s)	SRM(s)
System for Electronic Document Analysis and Retrieval	SEDAR
Talisker Exploration Services Inc.	Talisker
Three-dimensional	3-D
Tonne (metric)/tonnes per day, tonnes per hour	t, t/d, t/h
Tonne-kilometre	t-km
United States Dollar(s)	USD
US Environmental Protection Agency	EPA
US Securities and Exchange Commission	SEC
Universal Transverse Mercator	UTM
Value Added Tax (or IVA)	VAT or IVA
Year	y
Zaruma Resources Inc.	Zaruma

2.5 PREVIOUS TECHNICAL REPORTS

The following is a list of some of the historical Technical Reports which been published on the San Antonio Project:

- A review of the Gold Mineralization on the San Antonio Property, Sonora State, Mexico for Zaruma Resources Inc., by Micon in 2003.

- Technical Report, Resource Estimate and Preliminary Economic Assessment on the Sapuchi Gold Property and Resource Estimate Update on the Luz del Cobre Copper Property, Sonora State, Mexico for Zaruma Resources Inc. by P & E Mining Consultants Inc. in 2009.
- Independent Technical Report for Resource and Reserve Disclosure for the San Antonio Properties, Sonora State, Mexico, UTM 12R 633,100mE 3,167,800mN, for Red Tiger Mining Inc. by P & E Mining Consultants Inc. in 2013.

Other references and historical reports are noted in Section 28.0, References.

In 2020, Osisko Development commissioned JDS Energy & Mining Inc. (JDS) to complete a Technical Report on the San Antonio Project. The JDS report is an unpublished Technical Report and contains a number of sections that formed the basis of this report, cited throughout this report. The authors reviewed and verified this information and, where applicable, the sections were updated with new information from the 2021 work program.

3.0 RELIANCE ON OTHER EXPERTS

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

All data used in this report were originally provided by Osisko Development. The QPs have reviewed and analyzed these data and have drawn their own conclusions therefrom.

The QPs and Micon offer no legal opinion as to the validity of the title to the mineral concessions claimed by Osisko Development in Sections 1 and 4 and, in that regard, have relied on information provided by Osisko Development, which it has provided a legal opinion to Micon and the QPs regarding the property.

The legal opinion was conducted by Molina, Hanff & Pérez-Howlet, based in the City of Chihuahua in Chihuahua State and is dated February 9, 2022. The legal opinion indicates that the Mexican subsidiary of Osisko Development owns 100% of the concessions, with the exception of concession number 204878 (San Antonio 21) which is still in the process of being transferred. The legal opinion indicates that the concessions are up to date regarding filing of statistical and technical reports, filing of assessment work reports, and that there are no material taxes, duties or similar charges owning by the holders and no notice of leans or encumbrances affecting the concessions.

Information related to royalties, permitting, taxation, environmental matters and the validity of the title to the mineral concessions claimed by Osisko Development were extracted from previous NI 43-101 Technical Reports and updated by Osisko Development through personal communication with the QPs. Previous NI 43-101 Technical Reports, as well as other references, which were used in the compilation of this report are listed in Section 28.0.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 GENERAL

The San Antonio Project is located in the south-central portion of the Mexican state of Sonora, which borders on the American state of Arizona, and is approximately 138 km southeast of the city of Hermosillo, the capital of Sonora. The Project is specifically located within the Sonoran municipalities of Soyopa and San Javier, within the San Javier Mining District. Table 4.1 summarizes the geographical coordinates for the San Antonio Project mineral concessions.

Table 4.1
Geographical Coordinates for the San Antonio Property Mineral Concessions

Geographical Coordinates		Universal Transverse Mercator (UTM)	
North Latitude	West Longitude	Easting	Nothing
28°38'02	109° 40' 20"	629,800	3,168,000
28° 37'10"	109° 36' 32"	636,000	3,166,400

Source: Osisko Development, internal 2020 JDS report.

The term San Antonio Project refers to the area of the mineral concessions which contain the updated mineral resource, while the term San Antonio property refers to the entire land package (mineral concessions) under Osisko Development's control. The location of the San Antonio property is shown in Figure 4.1.

4.2 OWNERSHIP

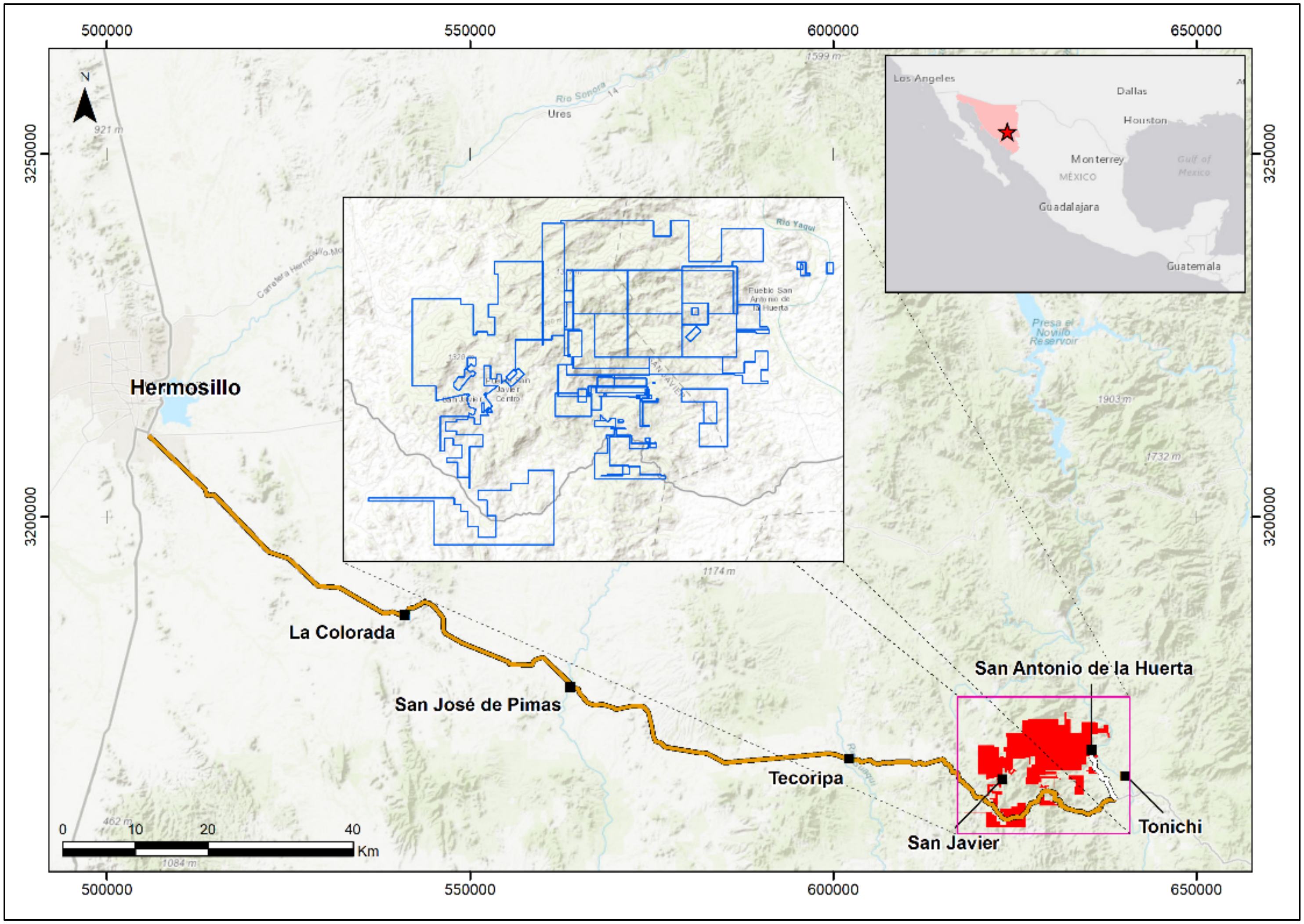
In August, 2020, Osisko Gold Royalties Ltd. (Osisko Gold) acquired the San Antonio Project. The San Antonio Project was subsequently transferred to Osisko Development, as part of the Reverse-Take-Over (RTO) transaction and the formation of Osisko Development. Osisko Gold retained a 15% stream on the gold and silver produced from the Project. The stream is secured by a first ranking security. There are no other royalties that exist on the Project. There was a historic royalty on the property and payments were made to the holder, but and this royalty is now extinguished.

Osisko Development owns 100% of the San Antonio Project through its wholly owned Mexican subsidiary Sapuchi Minera S. de R.L. de C.V. (Sapuchi) which is based in Hermosillo. The San Antonio Project is comprised of 43 mineral concessions which vary in size and are mostly contiguous, for a total property area 11,338.024 ha.

All concessions are subject to a bi-annual fee and the filing of reports in May of each year covering the work accomplished on the property between January and December of the preceding year. The fee rates are estimated in US dollars, based on the rates published in the "Diario Oficial de la Federación (DOF)" as of February 28, 2020.

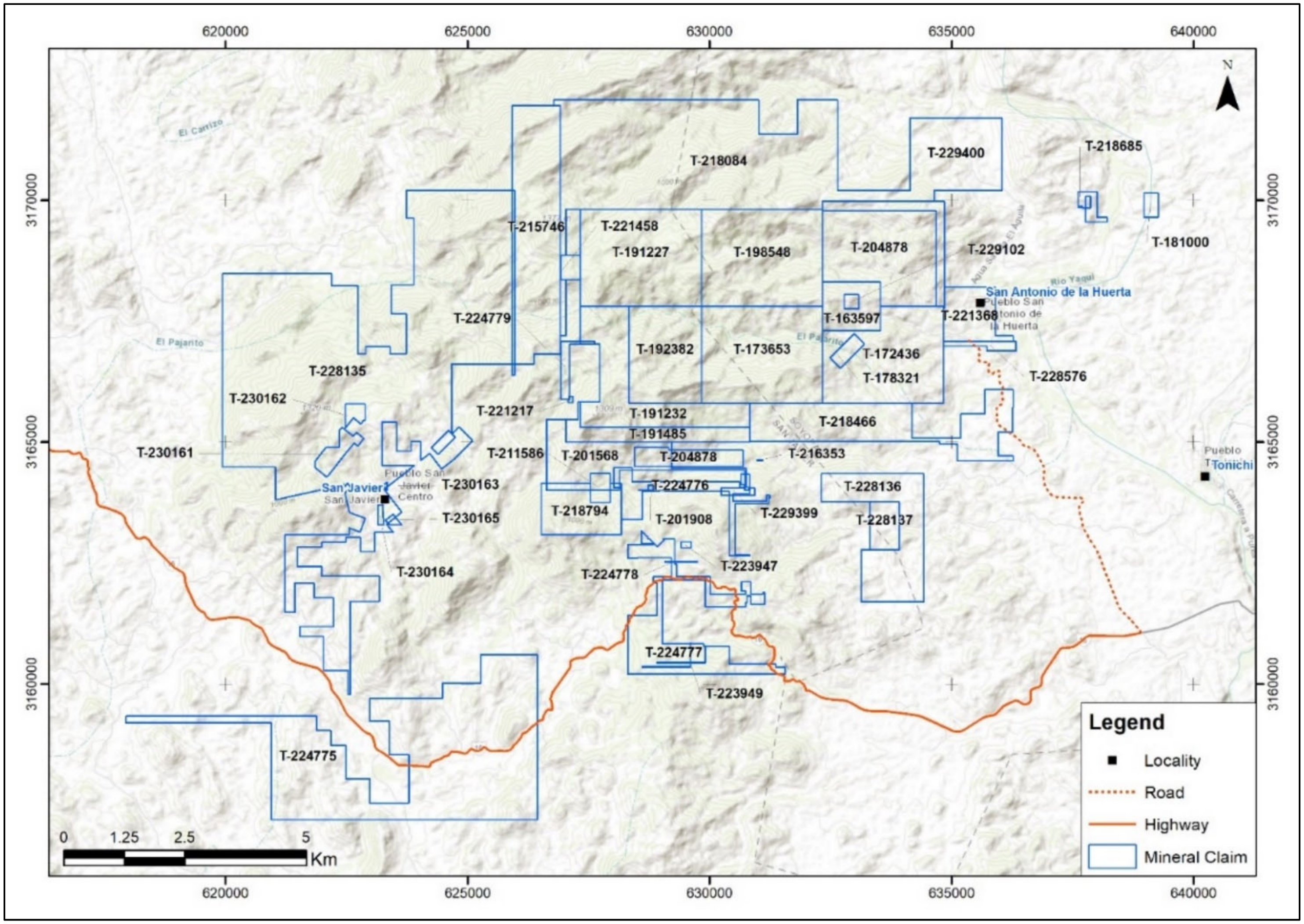
The information for the 43 concessions is summarized in Table 4.2. A map of the mineral concessions for the San Antonio property is provided in Figure 4.2.

Figure 4.1
San Antonio Project Location Map



Source: Osisko Development (2021).

Figure 4.2
San Antonio Mining Concessions



Source: Osisko Development (2021).

Table 4.2
San Antonio Project Mining Concessions

No.	Name	Number	Area (Hectares)	Location Date	Expiry Date	Bi-Annual Fee (USD)	Geographical Location	Owner
1	San Antonio 11	229400	1,587.3513	April 17, 2007	April 16, 2057	14,811.61	San Javier, Sonora	Sapuchi
2	Huerta 3 Bis	228576	21.0000	December 8, 2006	July 22, 2054	195.94	San Javier y Soyopa, Sonora	Sapuchi
3	La Nahuila Fracc. V	230165	4.1167	July 24, 2007	July 23, 2057	38.38	San Javier, Sonora	Sapuchi
4	La Nahuila Fracc.IV	230164	4.5051	July 24, 2007	July 23, 2057	40.04	San Javier, Sonora	Sapuchi
5	LaNahuilaFracc.ill	230163	0.6919	July 24, 2007	July 23, 2057	6.47	San Javier, Sonora	Sapuchi
6	La Nahuila Fracc. II	230162	14.7374	July 24, 2007	July 23, 2057	137.50	San Javier, Sonora	Sapuchi
7	La Nahuila Fracc. I	230161	37.6422	July 24, 2007	July 23, 2057	351.23	San Javier, Sonora	Sapuchi
8	Napa	229399	10.1828	April 17, 2007	July 23, 2057	95.00	San Javier, Sonora	Sapuchi
9	San Antonio Anexo No. 13 Fracc. II	221368	123.0548	October 11, 1995	February 2, 2054	1,148.22	Soyopa, Sonora	Sapuchi
10	LasArenillas	221458	20.0000	June 17, 1997	February 12, 2054	186.61	Hermosillo, Sonora	Sapuchi
11	San Antonio No. 22	221217	1.0336	June 17, 1997	December 15, 2053	9.63	Hermosillo, Sonora	Sapuchi
12	San Antonio No. 17	218685	19.4460	August 22, 1996	December 2, 2052	181.47	Hermosillo, Sonora	Sapuchi
13	San Antonio No. 15	218794	160.7307	August 22, 1996	January 16, 2053	1,499.80	Hermosillo, Sonora	Sapuchi
14	San Antonio Anexo No. 13 Fracc.I	218466	398.5431	October 11, 1995	November 4, 2052	3,718.82	Soyopa y San Javier, Sonora	Sapuchi
15	Sanex 12 Fracc. II	216353	0.3997	October 11, 1995	May 6, 2052	3.70	Hermosillo, Sonora	Sapuchi
16	Sanex 12 Fracc.I	215748	524.3179	October 11, 1995	March 18, 2052	4,892.44	San Javier, Sonora	Sapuchi
17	Anexo 10	218084	83.5841	September 15, 1994	October 2, 2052	779.94	Soyopa, Sonora	Sapuchi
18	Pavel	201908	404.6809	October 11, 1995	October I0, 2045	3,776.08	San Javier, Sonora	Sapuchi
19	Santa Rosa	181000	15.0000	August 14, 1987	August 13, 2037	139.97	Soyopa, Sonora	Sapuchi
20	SanAntonio 14Fracc.I	228136	312.9938	August 22, 1996	February 2, 2054	2,920.55	San Javier y Soyopa,	Sapuchi
21	Sanex 12Fracc. III	201567	240.8699	October 11, 1995	October 10, 2045	2,247.57	San Javier, Sonora	Sapuchi
22	La Libertad	178321	21.0000	August 7, 1986	August 6, 2036	195.94	San Javier, Sonora	Sapuchi
23	San Antonio Anexo No.9	191227	500.0000	December 19, 1991	December 19, 2041	4,665.51	San Javier, Sonora	Sapuchi
24	San Antonio Anexo No. 8	191485	120.4672	December 19, 1991	December 19, 2041	1,124.06	San Javier, Sonora	Sapuchi
25	San Antonio Anexo No. 7	191232	326.7949	December 19, 1991	December 19, 2041	3,049.30	San Javier, Sonora	Sapuchi
26	San Antonio Anexo No. 6	192382	300.0000	December 19, 1991	December 18, 2041	2,799.30	San Javier, Sonora	Sapuchi
27	San Antonio Anexo No. 5	176653	500.0000	December 16, 1985	December 15, 2035	4,665.51	San Javier, Sonora	Sapuchi
28	San Antonio Anexo No.4	198548	500.0000	November 30, 1993	December 29, 2043	4,665.51	San Javier, Sonora	Sapuchi
29	San Antonio Anexo No. 2	172436	419.0000	December 15, 1983	December 14, 2033	3,909.68	San Javier, Sonora	Sapuchi
30	San Antonio Anexo	163597	111.0000	October 30, 1978	October 29, 2028	1,035.72	Soyopa, Sonora	Sapuchi
31	San Antonio del Cobre	229102	9.0000	November 3, 1955	March 8, 2057	83.99	Soyopa, Sonora	Sapuchi
32	San Antonio No. 23	211586	24.0000	June 23, 2000	June 15, 2050	223.96	San Javier, Sonora	Sapuchi
33	San Antonio No 20 Fracc. VI	224779	24.8901	January 29, 1999	June 6, 2055	232.26	San Javier, Sonora	Sapuchi
34	San Antonio No. 20 Fracc. v	224778	0.8654	January 29, 1999	June 6, 2055	8.05	San Javier, Sonora	Sapuchi
35	San Antonio No. 20 Fracc. IV	224777	281.9012	January 29, 1999	June 6, 2055	2,630.43	San Javier, Sonora	Sapuchi
36	San Antonio No. 20 Fracc. III	224776	64.6012	January 29, 1999	June 6, 2055	59.33	San Javier, Sonora	Sapuchi
37	San Antonio No. 20 Fracc.	224775	1,276.9418	January 29, 1999	June 6, 2055	11,915.17	San Javier, Sonora	Sapuchi
38	San Antonio 20 Fracc. I A	228135	2,726.8548	October 4, 2006	April 19, 2055	25,444.36	San Javier, Sonora	Sapuchi
39	Ampl. Las Goteras	223949	1.4996	June 5, 1998	March 14, 2055	13.98	San Javier, Sonora	Sapuchi
40	La Candelaria	223947	2.4881	June 5, 1998	March 14, 2055	23.22	San Javier, Sonora	Sapuchi
41	Sanex 12 Fracc. IV	201568	1.2955	October 11, 1995	October 10, 2045	20.99	San Javier, Sonora	Sapuchi
42	San Antonio 14 Fracc. 2	228137	60.0000	March 16, 2001	February 2, 2054	559.88	San Javier y Soyopa, Sonora	Sapuchi
43	San Antonio 211	204878	80.5424	May 27, 1997	May 36, 2047	751.53	San Javier, Sonora	Transfer in Progress*
	Total:					**105,258.65**		

Table supplied by Osisko Development.
*This concession is in the process of being transferred to Sapuchi.

4.3 Mexican Mining Law

When the Mexican mining law was amended in 2006, all mineral concessions granted by the Dirección General de Minas (DGM) became simple mining concessions and there was no longer a distinction between mineral exploration or exploitation concessions. A second change to the mining law resulted in all mining concessions being granted for a period of 50 years, provided that the concessions remained in good standing. As part of the second change, all former exploration concessions which were previously granted for a period of 6 years became eligible for the 50-year term.

For any concession to remain valid, the bi-annual fees must be paid and a report has to be filed during the month of May of each year which covers the work conducted during the preceding year. Concessions are extendable, provided that the application is made within the five-year period prior to the expiry of the concession and the bi-annual fee and work requirements are in good standing. The bi-annual fee, payable to the Mexican government to hold the group of contiguous mining concessions for the San Antonio Project is USD 105,258.65.

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

4.4 Permitting and Environmental

4.4.1 Environmental Considerations

When Osisko Development acquired the San Antonio Project, several environmental liabilities existed from historical mining and processing operations developed by Minerales Libertad S.A. de C.V., (Minerales Libertad), including several Technical Reports missing and the remediation of a pregnant solution (PLS) spillage which occurred in 2015. Those two environmental liabilities were remediated in accordance with the Ministry of Environment and Natural Resources of Mexico (SEMARNAT) regulations.

On June 15, 2021, the Federal Delegation for Environmental Protection (PROFEPA) released its final report on the missing Technical Reports and the spillage, confirming that the Technical Reports are no longer necessary and that the area of the spillage is free of contaminants and is now totally rehabilitated.

Environmental surveys and studies for the Project were completed in support of the different permit applications. All studies, including climate, flora fauna, air quality noise, surface and groundwater quality have been compiled into an Environmental Baseline Report submitted to SEMARNAT on January, 2022.

Micon is unable to comment on any remediation which may have been undertaken by previous owners. Environmental studies and permitting undertaken by Osisko Development for its San Antonio Project are discussed in this section.

4.4.2 Permitting

SEMARNAT requires a number of studies to be completed to support the awarding of environmental permits to conduct exploration or operate a mine. Given the characteristics and project setting these permits include:

1. Preventive Report.
2. Environmental Impact Assessment (MIA in the Spanish acronym).
3. Change of Land Use (CUS in the Spanish acronym).

In addition to the SEMARNAT requirements, permits need to be obtained in some instances from the Comisión Nacional del Agua (CONAGUA), Comisión de Ecologia y Desarrollo Sustentable del Estado de Sonora (CEDES), Secretaría de la Defensa Nacional (SEDENA) and local municipal authorities.

Permitting of the San Antonio Project is currently ongoing, with the submittal of the Environmental Impact Assessment (MIA) to SEMARNAT on March 18, 2021. Approval of the MIA is still pending and is expected to be granted by late August 2022. A subsequent submission of the Justified Technical Study (ETJ) for the Change of Land Use was made to SEMARNAT on December 9, 2021, with a tentative approval response date by the environmental agency by late August 2022. These two documents are the primary environmental permitting authorizations necessary for mining in Mexico.

The current exploration, drilling and operational activities carried out by Sapuchi on the San Antonio Project are being done through several Preventive Reports (Informe Preventivo or IP) approved during Q4-2020 and Q2-2021, including:

- A Preventive Report approved on December 10, 2020 to explore and complete 82 drill holes along already existing roads. This permit is valid for 2 years.
- A Preventive Report approved on December 10, 2020 to build the leach pad and process the stockpile material. This permit is valid for 4 years.
- A Preventive Report approved on April 15, 2021 to explore and complete 908 drill holes along already existing roads. This permit is valid for 5 years.

4.4.3 Community/Social Considerations

The surface rights and access to the area of mineral resources is controlled and owned by two Ejidos, San Antonio de la Huerta and San Javier, which are essentially government sanctioned cooperatives consisting of local citizens who collectively utilize and manage the land. The San Antonio Ejido controls the land on the east side of the claim blocks and the San Javier Ejido owns the land under portions to the east of the claim blocks. Exploration and Exploitation Agreements with these Ejidos and communities have been finalized and are summarized below. Additionally, agreement with individual Ejido landowners is being negotiated as needed to cover deeded lands.

The status of the agreement with each of the Ejidos is as follow:

- Ejido San Antonio de la Huerta: signed and registered a 20-year Exploitation and Exploration Temporary Occupation Agreement (COT) pursuant to which Sapuchi was granted surface use and mine development rights on the Sapuchi, Golfo de Oro and California mineral deposits. This COT was signed on February 8, 2021.

- **Ejido San Javier y su Anexo Los Bronces:** signed a 5-year Exploration Access Agreement on October 5, 2021. This agreement gives access to Sapuchi for all concessions inside the Ejido land for the purpose of exploring, drilling and evaluating all identified mineral targets.
- **Ejido San Javier y su Anexo Los Bronces:** signed a 20-year Exploitation Temporary Occupation Agreement (COT) pursuant to which Sapuchi was granted surface use and mine development rights on the extension to the west of the Golfo de Oro and California mineral deposits.
- Negotiations with private owners and individual Ejido landowners are ongoing. Exploration and exploitation activities have been approved in most cases.

A social baseline study and a materiality assessment are in progress, aimed at identifying the key areas of community concern and the key risks facing the company, including potential risks relating to Sapuchi's relationship with local communities.

Osisko Development and Sapuchi Minera continue developing sustainable programs for the benefit of local communities, including educational, medical and economic, through various initiatives in combination with local communities, Ejidos, municipal and state authorities.

4.5 Micon QP Comments

Micon and the QPs are not aware of any significant factors or risks, other than those discussed in this section of the report, that may affect access, title or right or ability to perform work on the property by Osisko Development. It is Micon's and the QP's understanding that additional permitting and environmental studies will be required, if further economic studies demonstrate that the mineralization is sufficient to host a mining operation.

The San Antonio property is large enough to be able to locate and accommodate the infrastructure necessary to host any future mining operations.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCE, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The San Antonio Project is located west of the Yaqui River and situated largely within the San Javier Mountain Range (Sierra de San Javier), which is part of the Western Sierra Madre. The eastern edge of the holdings is located near the river at an elevation of approximately 250 metres above sea level (masl), the lowest point on the property.

Access from Hermosillo, the capital of Sonora, to the site is via Federal Highway 16, a two-lane paved road, east for 164 km. This road connects to an improved dirt road immediately west of the Yaqui River, for approximately 8 km to the Luz del Cobre copper plant, field camp, offices and workshop. The site is approximately a 3-hour drive from the international airport in Hermosillo. The airport in Hermosillo has daily flights to Mexico City and some US destinations.

5.2 CLIMATE

The climate allows regular activities to take place on a year-round basis, with temperatures ranging from near freezing overnight in the winter, upwards to nearly 50° Celsius (C) in the summer. On average, winters are mild, but summers are generally hot with daily temperatures averaging in excess of 40°C. Although the area is semi-arid, occasional heavy thunderstorms occur in the summer (typically from July to September) and a more persistent light rain may fall during December and January.

5.3 PHYSIOGRAPHY

The housing camp and office are located just west of the Yaqui River, in the gently rolling hills within the river basin. One kilometre north of the camp and office facilities is the village of San Antonio de La Huerta (Figure 5.1), located on the west bank of the river. To the west part of the San Antonio Project, the topography becomes mountainous. Site elevations range from 250 masl at the camp to over 1,300 masl on the high peaks. Generally, the terrain is steep and rugged with vegetation characteristic of the semi-arid climate. Figure 5.2 shows an overview of the terrain (looking southwest) in the area of the California and Golfo de Oro deposits. The brush and trees are dormant during much of the year, but during and following the summer rains for several months the vegetation becomes much denser.

5.4 LOCAL RESOURCES

Sonora's industrial centre and state capital city of Hermosillo (population 852,000 in 2019) is three hours' drive time to the west and provides the full range of services and supplies typically needed for a mining project.

Figure 5.1
Town of San Antonio de la Huerta

Source: JDS (2020).

Figure 5.2
Overview of the Terrain around the California and Golfo de Oro Deposits
(Looking Southwest)

Source: JDS (2020).

Experienced and competent mining professionals are readily available in Mexico and general labour can be recruited from the surrounding small towns or regional centres. The State of Sonora and the area have the advantage of a long history of mining, which assists in locating experienced workers or services.

5.5 INFRASTRUCTURE

The historic camp facilities (Figure 5.3) have been established near the Yaqui River on the eastern side of the property. This is less than a kilometre south from the village of San Antonio de La Huerta (San Antonio). The population of San Antonio is approximately 297 people, but this increases when jobs are locally available. Other villages of a similar or slightly larger size within a 20 km radius include Tonichi, Soyopa, San Javier and Onavas. All communities are accessible by paved and/or improved dirt roads.

The camp and administration facilities include an office building and a dormitory with 20 single quarters, housing and catering facilities. During production, the mine camp was capable of providing housing for up to 50 people.

The Luz del Cobre mine owns the license to a fully permitted water well (350,000 m^3/year) about 800 m northeast of the camp. The Yanqui River was also previously used to supply water to the camp and the processing plant.

Figure 5.3
The Historical Camp Facilities

Source: JDS (2020).

A 13.2 KV power transmission line crosses the property from the Novillo hydroelectric facility 30 km to the north. The line currently provides power for the camp and office facilities. The site has generators, which were originally required to produce power for the mining and milling of ore from the Luz del Cobre deposit.

The crushing, conveying and stacking equipment from the previous copper leach operation remains in place on the property.

Other facilities include the main waste dump area, and an old ore stockpile south of Luz del Cobre main pit.

Relatively flat terrain is present near the river for the construction of facilities as needed. However, most facilities will most likely be located nearer to mine locations, where it is anticipated that such features as tailings impoundments, leach pads and waste disposal areas will be sited in adjacent valleys.

6.0 HISTORY

The information for this Section was derived from a number of sources, including previous Technical Reports, government information and various other memoranda and internal reports written by or for previous owners and Osisko Development

6.1 GENERAL MINING HISTORY OF THE MEXICAN STATE OF SONORA

According to Southworth in his 1905 volume "The Mines of Mexico", "one of the richest mineral sections in the known world is the State of Sonora." During Southworth's visit, he noted that the mining industry of the state was very active, but that the present activity only dated back to the previous seven years when the development of the mining industry in Southeast Arizona had attracted the attention of capital to the comparatively unexploited mineral resources to the south.

Southworth also noted that, up until the time of the War of Independence in 1810, the State of Sonora, with mining as the principal industry, was one of the largest contributors to the Spanish Crown. However, the prolonged war, followed by the great Apache uprising that began in 1825 and the ensuing 75 years of instability caused mines to be closed and abandoned and that many of them had still not been redeveloped.

Mining began once again to flourish in Sonora from the 1890s up to the time of the Mexican civil war, after which mining entered a relatively dormant cycle until the early 2000s, at which time it started to revive again and has been relatively steady since.

6.2 SAN JAVIER MINING DISTRICT

The San Antonio Project is located in the San Javier Mining District, which has been known since colonial times when silver was exploited.

A number of the historical publications indicate that the Spaniards worked placer and vein gold in the El Realito subdistrict of San Antonio de la Huerta. Workings at the mine and Hacienda de La Prieta were initiated shortly after the French invasion of Mexico between 1860 and 1870. Mr. Luger mined and extracted material from the La Prieta, Mina Grande, Golfo de Oro and Promontorio mines. He apparently first worked the mines with steam engines that were transported through the Yaqui River. These were utilized at the operations between 1880 and 1890, when a five-hammer mill "Chicago'" was installed which worked a further 3 years using material from Mina Grande. All of the mill engines and other small mills with stone blocks or mule-driven, milled oxidized material which was then passed through amalgamation plates.

In approximately 1940, Mr. E.R. Driese worked the El Golfo de Oro, Mina Loca and Promontorio areas. A 10-ton ball mill was installed with amalgam and carpet plates, in order to perform pilot tests on the material from the large oxidized mineral outcrops. According to the Geological-Mining Monograph, of 1994, 80% of the gold was recovered through amalgamation and from the tailings a further 12% was obtained from the screening in carpet concentrate. The average head grade ranged from 7 to 8 g/t gold.

6.3 San Antonio Property, Historical Exploration and Mining Development

Early mining activity on the San Antonio property is poorly documented, although small scale but locally extensive underground workings attest to this work and are present in the Sapuchi, Luz del Cobre and Realito deposits. Except for the physical evidence of mining, there are few records to quantify the historical work, which is the case for many Mexican mining districts. The most extensive workings are at the Luz del Cobre deposit, where six levels were developed, with a portion of this work conducted in the 1970s. The workings at the Sapuchi deposit are the next most developed, typically with adits and small stopes on one level and with the total length of the underground development probably ranging in hundreds of metres. Underground mining has been carried out at the Sapuchi deposit by local miners in three closely spaced and connected mines named the Mina Grande, Mina Uvalama and Mina Halcon. These workings are located near the central part of the Sapuchi ridge. At the Realito deposits, the old workings are generally much smaller, with individual adit lengths ranging up to a maximum of several tens of metres. Collectively the mines have hundreds of metres of workings, including several limited stopes, but no records have been located to indicate the amount or historic grades of the extracted material.

The core area of the property holdings was historically held by Minera Sanex S.A. de C.V. (Minera Sanex), a Mexican company that had been active intermittently in the area and had maintained the claims continuously for several decades. It appears, from sketchy records, that Minera Sanex conducted limited exploration on its own behalf and also at various times optioned or joint ventured the property, but that at no time did the ownership of the property change. Records also show that as early as 1910, Luz del Cobre has been subject to small scale underground mining activities by a group of Mexican-Arizona (USA) copper mining interests.

Prior to 1972, the data are incomplete, but intermittent copper production from the Luz del Cobre deposit is thought to have occurred, utilizing both open pit and underground mining methods. Incomplete records regarding this activity are available but the total amount of material excavated from the period has been estimated by previous exploration companies at approximately 75,000 t.

Gold bearing rocks from a number of prospects in the Realito deposits were mined on a small scale by Minera Sanex in the 1970s. The mined material was processed in a 50 t/d ball mill and flotation plant, with portions of the plant still located on the property near the current camp site.

On the portion of the property containing the Luz del Cobre deposit, several companies had conducted exploration activities to expand or define the copper resources under various option agreements with Minera Sanex. Alcoa Corporation (Alcoa) began exploration in 1972 and drilled 22 core holes in the vicinity of the Luz del Cobre deposit and expanded the underground workings. A preliminary feasibility study was completed but the project was dropped in 1974, reportedly due to low metal prices.

The project then appears to have been dormant until Chutine Resources Ltd. (Chutine) optioned the property in 1990 and drilled an additional 24 reverse circulation exploration holes and completed chip and channel sampling on the surface. A feasibility study, based on this work and the previous Alcoa data, was completed by White Resources in 1991. The feasibility study was for a 20,000 t/d cathode copper production plant with an estimated 10-year mine life (Canadian Mines Handbook 1992-93).

In 1992 Princeton Mining Corporation (Princeton) entered into a joint venture with Chutine and drilled an additional 26 reverse circulation holes at Luz del Cobre deposit; however, it left the joint venture after the drilling campaign.

In October, 1993, a purchase agreement was concluded between Minera Sanex and Golden News Resources Inc. (Golden News), a Canadian mining and exploration company then listed on the Vancouver Stock Exchange. Golden News held a 100% ownership of Minerales Libertad S.A. de C.V., (Minerales Libertad) a Mexican subsidiary company, and held the title to the property through this subsidiary. In 1995, Golden News changed its name to Laminco Resources Inc. (Laminco) in conjunction with obtaining a listing on the Toronto Stock Exchange and it retained 100% ownership of Minerales Libertad.

Upon acquisition of the San Antonio property, Golden News' initial plan was to mine the Luz del Cobre deposit and recover cathode copper by electrowinning the pregnant solution. In 1994, KD Engineering Co., Inc. (KD) completed a feasibility study for this plan and the proposed operation was permitted by the Mexican government. In 1997, the earlier 1994 feasibility study was updated by Bateman Engineering Inc. (Bateman) of Tucson, Arizona.

Management changes within Laminco, concerns about environmental aspects of the project and low copper prices resulted in the abandonment of the mining plan and the focus was shifted to gold exploration. Beginning in 1994, Golden News conducted extensive gold exploration activities that included drilling at the Realito and Sapuchi deposits, outlining gold mineralization on a portion of the 15 km long regional structural trend. The work commenced in 1994, with the surface geologically mapped at a scale of 1:2,000 by Consulting Geologist Tim Percival. At the same time road cuts, both existing and newly constructed, were channel sampled and mapped in detail under the direction of Ray Roripaugh. Mr. Roripaugh continued work in the Sapuchi area as the supervisory geologist through the drilling stages, completed in late 1994 and early 1995. In addition to the road sampling program, the accessible underground workings were mapped, and channel sampled.

During the period between 1994 and 1996, more than 282 drill holes (some core holes but the majority were RC holes) were completed and extensive geophysical and geochemical surveys conducted, along with surface mapping and sampling. The drill holes are summarized by year and deposit in Table 6.1.

Table 6.1
San Antonio Project Summary of the 1994 to 1996 Drill Holes by Year and Deposit

Year	Location/Deposit	Number of Drill Holes	Total Length (m)	Type of Drilling
1994	California	16	1,411.22	RC
1994	Golfo de Oro	18	1,626.71	RC
1994	Miguelillas	5	283.46	RC
1994	Sapuchi	17	1,347.23	RC
1995	California	5	1,098.3	DD
1995	California	26	4,714.44	RC
1995	Calvario	2	182.88	RC
1995	Golfo de Oro	30	4,887.1	RC
1995	Golfo de Oro	8	2,319.82	DD
1995	Sapuchi	30	3,360.43	RC
1995	Exploration	5	1,183.09	DD

Year	Location/Deposit	Number of Drill Holes	Total Length (m)	Type of Drilling
1995	Exploration	1	193.55	RC
1996	Brindena	6	963.17	RC
1996	California	4	1,042.78	DD
1996	California	3	580.65	RC
1996	Golfo de Oro	35	9,700.43	DD
1996	Golfo de Oro	54	8,094.86	RC
1996	High Life	6	811.68	RC
1996	Sapuchi	2	321.24	RC
1996	Exploration	9	1,244.18	RC
	Total	**282**	**45,367.22**	

Table supplied by Osisko Development.

Although the work at the Sapuchi deposit was completed during this earlier period, most of the records (including drill logs and assay certificates) have apparently been maintained.

In 1997, an adit was excavated under the supervision of Laminco into the California deposit, for the purpose of obtaining a bulk sample of sulphide mineralization. The adit was approximately 70 m in length, had cross-sectional dimensions of approximately 2.5 m x 3 m and generated approximately 250 t of material.

In 2000, under a farm-in/option agreement, Alamos Minerals Ltd. (Alamos) commenced a test gold heap leach operation using test pit material from the California deposit. The mineralized material, although clay-rich, was not agglomerated prior to placement on the leach pad and, in 2001, the test was discontinued, and the option dropped. While very little information is available regarding this activity, approximately 25,000 t of gold bearing material were excavated at an estimated grade of ~3 g/t Au and it is believed that over 500 ounces of gold were recovered during the test.

In October, 2000, Laminco concluded a merger with Zaruma Resources Inc. (Zaruma) with the newly formed company retaining the Zaruma name, and Minerales Libertad S.A. de C.V. (Minerales Libertad) then became a wholly owned subsidiary of Zaruma.

In 2003, eleven drill holes, totalling 1,499.4 m, focused on targets at the Chalate, Centenario, La Huerta, and Corina deposits. A compilation of all data was completed by Dr. R.P. Viljoen. A preliminary metallurgical study on sulphide–hosted gold mineralization from the Golfo de Oro deposit was completed by Kappes, Cassiday & Associates (KCA).

Also in 2003, Zaruma commenced exploration with a systematic review of past work done at the San Antonio properties, after recovering digital data for the Project. This work was undertaken by staff who had previously worked on the Project, as well as external consultants. Key targets on coincident magnetic and geochemical anomalies in areas with favourable host rocks were identified from the review and follow up drilling, totalling 8,268 m over 59 diamond drill holes, was completed from 2003 to 2005, mostly at the Realito deposits. The resulting data along with the drilling information from 1994 to 1996 formed the basis of a 2004 Micon Technical Report

At the end of 2005, with the increase in the price of copper, Zaruma refocused on the Luz del Cobre deposit and, in March, 2006, a confirmation drilling program of 13 core holes over 977 m was completed. The drilling program was designed to confirm the geological interpretation, verify copper grades and distribution and to provide samples for metallurgical testing to assess the leach parameters of the different mineral categories.

During 2007 and 2008 exploration drilling continued with the main purpose to increase copper resources. A total of 7,353 m of drilling was completed over 70 holes. Included in this work was drilling near the Luz del Cobre deposit, where the drilling defined two deposits. The first of these deposits (referred to as the south extension) is a continuation of the Luz del Cobre deposit within a north trending structural corridor, on the south-western end of the mineralized body. The second deposit was called the Calvario deposit and is located 200 m to the west of the Luz del Cobre deposit.

In 2008, several months of geological mapping and geochemical sampling were undertaken at the Sapo-Carrizo deposits, with this program followed up by a nine-hole drilling program, totalling 1,993 m, that was completed during the fourth quarter of 2008. This work revealed a significant hydrothermally altered breccia with primary copper mineralization in the Carrizo deposit and confirmed the presence of near-surface oxidized copper mineralization in at least three separate target areas in the Sapo deposit.

Table 6.2 summarizes the drilling conducted by Zaruma between 2003 and 2008 at the San Antonio Project.

Table 6.2
Drilling Summary for the San Antonio Project between 2003 and 2008

Year	Location	Target	Hole ID	Number of Drill Holes	Total Length (m)
2003	Realito	Gold	C58-C68	11	1,499
2004	Realito	Gold	C69-C104	36	4,871
2005	Realito	Gold	C105-C116	12	1,898
2006	Luz del Cobre	Copper	LUZ01-LUZ13	13	977
2007	Trion-Luz del Cobre	Copper	(LUZ) OR (TR)14-(LUZ) OR (TR)54	41	3,957
2008	Trion-Luz del Cobre	Copper	LUZ/TR55-LUZ/TR83	29	3,396
2008	Sapo-Carrizo	Copper	CAR01-CAR02 & SAP03-SAP09	9	1,993
2003 to 2008	**Total**			**151**	**18,591**

Table taken from the 2013 P&E Technical Report.

6.4 HISTORICAL MINERAL RESOURCES

A number of mineral resource and reserve estimates have been conducted on the San Antonio Project since exploration began in earnest in 1972. Many of these were conducted prior to the inception of NI 43-101 reporting standards and a few were conducted afterwards by the owners of the Project. However, these mineral resources have all been superseded by the current mineral resources discussed in Section 14 of this report. The historical mineral resources will not be discussed further in this report.

6.5 MINING OPERATIONS

As described previously, records of early production from the San Antonio Project no longer exist. The latest period of mining starting from 2007 is described below.

In October, 2007, Zaruma signed agreements with EMLQ, whereby EMLQ undertook to finance $22 million of the capital cost for development of the Luz del Cobre deposit, with Glencore acquiring the right to purchase copper cathodes produced at prevailing London Metal Exchange (LME) market prices at the time of delivery.

In October, 2008, Zaruma suspended development of the Luz del Cobre deposit, an estimated four months short of production.

In 2009, Zaruma commissioned a preliminary economic assessment study from P&E Mining Consultants Inc. (P&E) based on potential operation with a mining rate of 3,000 t/d or1,080,000 t/a.

In 2011, Zaruma changed their name to Red Tiger Mining Inc. (Red Tiger), secured $30 M in bank financing and $25 M in private equity to fund construction of the Luz del Cobre operation. M3 Engineering & Technology (M3) was commissioned to lead EPCM activities to start leach operations. Waste stripping started in November, 2012, by the mining contractor. Over the period of 2013 and 2014, the mine produced an average of 5,555 t of copper cathode per year.

By 2015, production had dropped to 1,390 t for the year. Red Tiger halted mining operations in November, 2014, as copper production from the leaching operations had begun to decline in September, 2014. Red Tiger claimed that a sudden and unprecedented occurrence of clay materials resulted in low permeability of the heap. Mining production from 2011 to 2018 is summarized in Table 6.3.

Table 6.3
Mining Production at the Luz del Cobre Deposit from 2011 to 2018

Year	Cu Cathode (t)	Run-of- Mine Ore (t)	Waste (t)	Total (t)
2011	-	21,821	100,355	122,176
2012	2,284	807,475	4,558,952	5,366,427
2013	5,377	955,927	4,212,287	5,168,214
2014	5,733	1,015,634	4,650,206	5,665,840
2015	1,390	-	-	-
2016	1,617	-	-	-
2017-2018	1,806	-	-	-
Total	**18,207**	**2,800,857**	**13,521,800**	**16,322,657**

Source: JDS (2020).

Red Tiger initiated a remediation plan and, in December, 2015, it resumed mining operations. By September, 2016, production of copper cathode was 1,617 t. In December, 2016, Red Tiger Mining announced that it had ceased mining operations at the Luz del Cobre copper mine, as recoveries had dropped due to lower solubility material, thus making the operation unfeasible. The operation was put under care and maintenance and SX/EW continued leaching residual copper from the heap. This continued until 2018 when the pregnant solution grade dropped below economic conditions.

In total, the SX/EW plant was run from 2012 to 2018, with the first cathode produced in May, 2012. Over this period, 18,207 t of cathode copper were produced. The electrowinning plant was closed in December, 2012 due to low copper production, but the leach solution continued to be recirculated through the heaps (without pH modification) to maintain a water balance.

In 2018, Red Tiger entered into forbearance proceedings, due to low copper prices and health issues of senior management. From then on, the principal lender worked to clean up the capital structure, in order to sell the assets in an effort to recover its senior-ranking debt. During that period the property was put on care and maintenance.

In January, 2019, Osisko Gold entered into negotiations with the lender to purchase the San Antonio Project, which resulted in the agreement to purchase in August, 2020. On October 5, 2020, Osisko Gold transferred the San Antonio property into a new company called Osisko Development, which was created through a reverse take-over of Barolo Ventures Corp.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 GEOLOGICAL SETTING

The San Antonio Project resides within the Laramide magmatic-hydrothermal metallogenetic belt, which stretches nearly 2,000 km from the southwestern United Sates through central Pacific Mexico. The belt is largely recognized as a porphyry copper province, with deposits and associated magmatism ranging from Late Cretaceous to Paleocene in age (e.g., Valencia-Moreno et al., 2007, Price et al., 2019). In Sonora, the belt includes Grupo Mexico's Cananea (~30 Mt Cu) and La Caridad (~8 Mt Cu) deposits, located 260 km north-northwest and 185 km north of the San Antonio Property, respectively (Figure 7.1).

The Laramide magmatic-hydrothermal metallogenetic belt is also host to numerous gold-base metal deposits. These are variably associated with hydrothermal breccias, carbonate replacement bodies, skarn, and vein systems, all temporally and spatially related to Laramide age magmatism (Padilla, 2019).

7.2 REGIONAL GEOLOGY

The geologic and tectonic history of the Cordillera of northwest Mexico involves multiple episodes of extension, compression and magmatism, spanning from the Neoproterozoic to the Holocene. Rocks of northwest Mexico range in age from Precambrian to Late Cenozoic and the area remains tectonically active.

Rocks of the San Antonio Project area are part of the Cortés Terrane of the Mexican Cordillera. The Cortés Terrane is characterized by a Paleozoic deep marine turbiditic succession interpreted to overlie a highly attenuated Proterozoic continental basement (Sedlock et al., 1993; Keppie, 2004; Centeno-García et al., 2005). The deep-water Paleozoic succession of the Cortés Terrane was internally deformed prior to and during its thrust emplacement above proto-North American platformal rocks of the Caborca Terrane, during Permo-Triassic amalgamation of Pangea (e.g., Keppie, 2004) (Figure 7.1).

The Paleozoic succession of the Cortés Terrane is unconformably overlain by a post-amalgamation, Upper Triassic terrestrial-marine succession containing siliciclastic rocks, abundant coal beds, and rare tuffaceous horizons which are interpreted to have been deposited within an intra-continental rift (Centeno-García et al., 2005). This sequence constitutes the Barranca Group (Figure 7.2), which is subdivided into several formational members within the San Antonio Project area (Figure 7.3).

Figure 7.1
Geological Terrane Map of Mexico

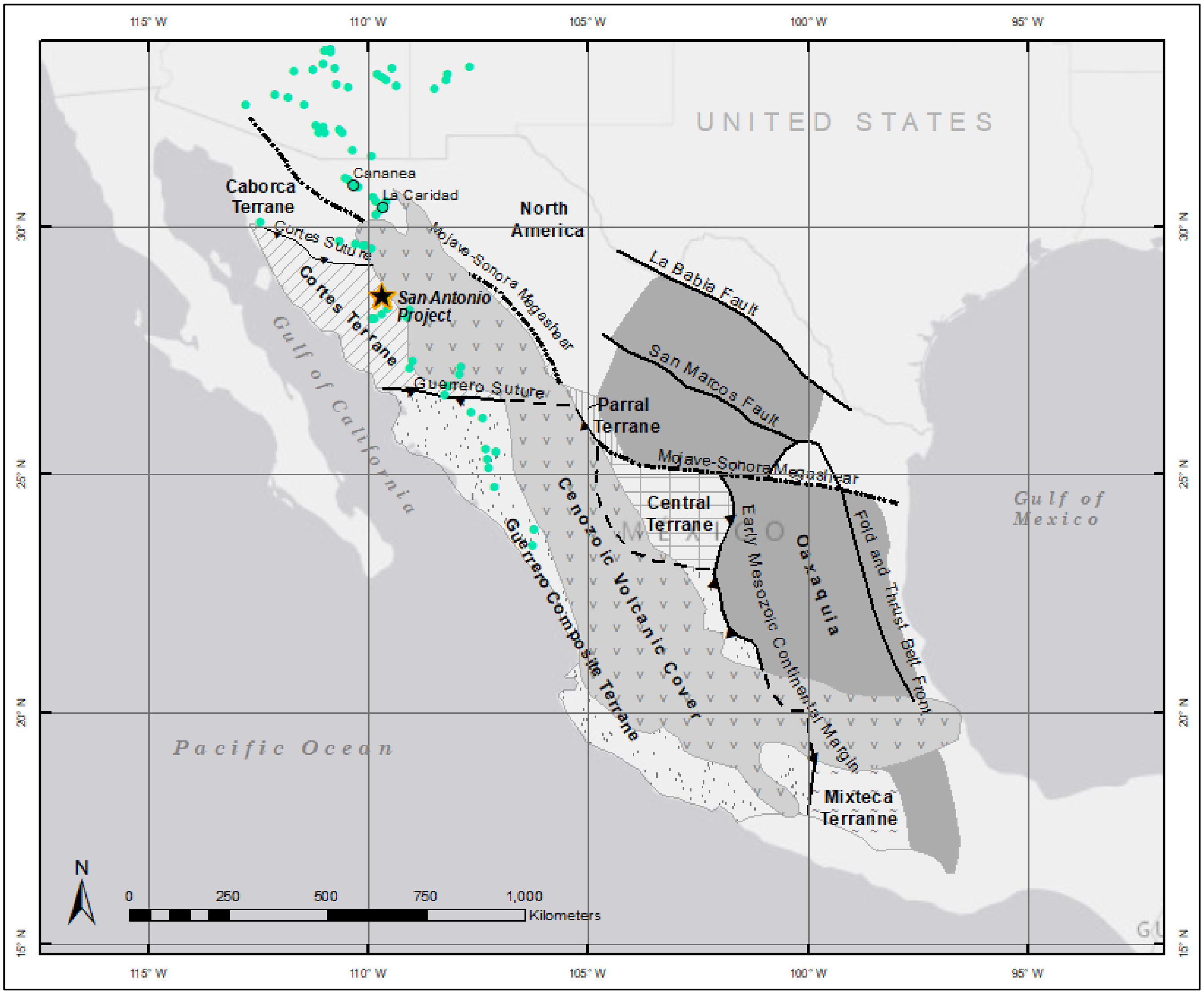


Figure taken from the internal 2020 JDS Technical Report. After Centeno-García et al. (2008). Location of the San Antonio Project indicated with the star. Approximate locations of Laramide copper-porphyry deposits within the southwestern US and northwestern Mexico indicated by the teal-coloured points (Valencia-Moreno et al., 2007).

Rocks of the Cortés Terrane are intruded by calc-alkaline igneous rocks and overlain by locally preserved volcanic rocks of the Late Cretaceous–Paleogene Laramide arc (Roldán-Quintana et al., 2009). Laramide intrusions within the greater San Antonio Project area yield age dates ca. 49-63 Ma and co-genetic volcanic facies of the Tarahumara Fm. range from 70-90 Ma (Figure 7.2) (Roldán-Quintana et al., 2009 and references therein).

Figure 7.2
Simplified Stratigraphic Column for the Cortés Terrane of Central and Eastern Sonora

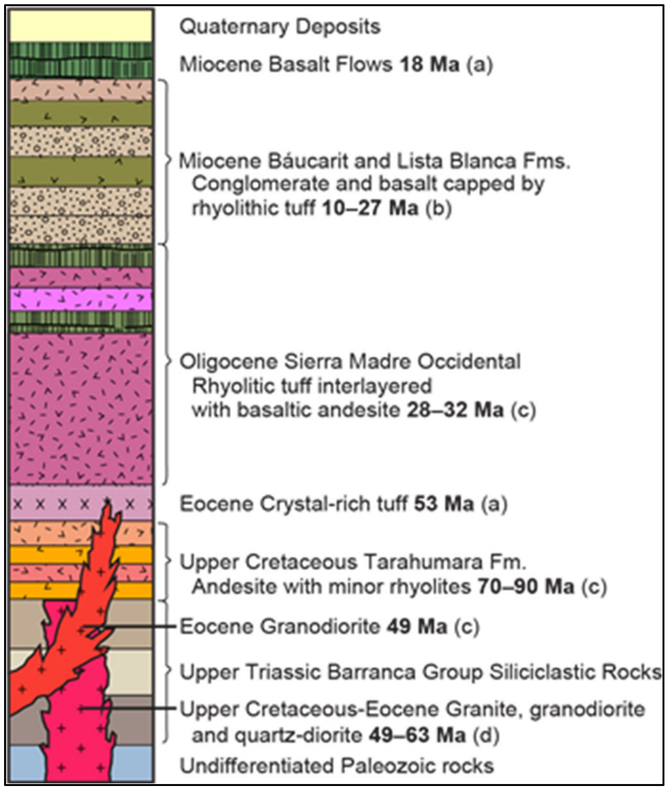


Figure taken from the internal 2020 JDS Technical Report. Modifed from Roldán-Quintana et al. (2009) (a). Additional sources for radiometric age data from igneous rocks are age data are: (b) McDowell et al., (1997); (c) McDowell et al., (2001); (d) Damon et al. (1983).

A few tens of km to the east of the San Antonio Project area, the Paleozoic – Mesozoic succession of the Cortés Terrane is entirely overlain by Late Eocene to Early Miocene volcanic rocks of the Sierra Madre Occidental (Bryan et al., 2008). The ca. 28-32 Ma Oligocene core of the sequence is dominated by rhyolitic ignimbrites covering an area of ~300,000 km^2, with local thicknesses up to 1.5 km (e.g., Ferrari et al., 2007; McDowell et al., 1997). These volcanic rocks are inferred to be related to the onset of Basin and Range extension, beginning as early as 27 Ma (McDowell et al., 1997).

Despite the complex history of polyphase shortening within the Cortés Terrane, the modern landscape is more reflective of Basin and Range extension and recent strike slip faulting. North-south to northwest-southeast trending extensional faults in the greater San Antonio Project area are of typical Basin and Range orientation. An oblique set of east-west to northeast-southwest trending faults are consistent with Triassic extension but may have been reactivated during Basin and Range extension. These structures have also been postulated as representing an independent phase of extension contemporaneous with Paleocene–Eocene copper-molybdenum porphyry deposits in the region (Ferrari et al., 2007). Exploitation of these likely crustal-scale structures by upwelling magma and/or mineralizing hydrothermal fluids is consistent with apparent regional northeast-southwest mineralization trends and observed deposit-scale east-west to northeast-southwest trends within the district.

Figure 7.3
Regional Geological Map for the San Antonio Project

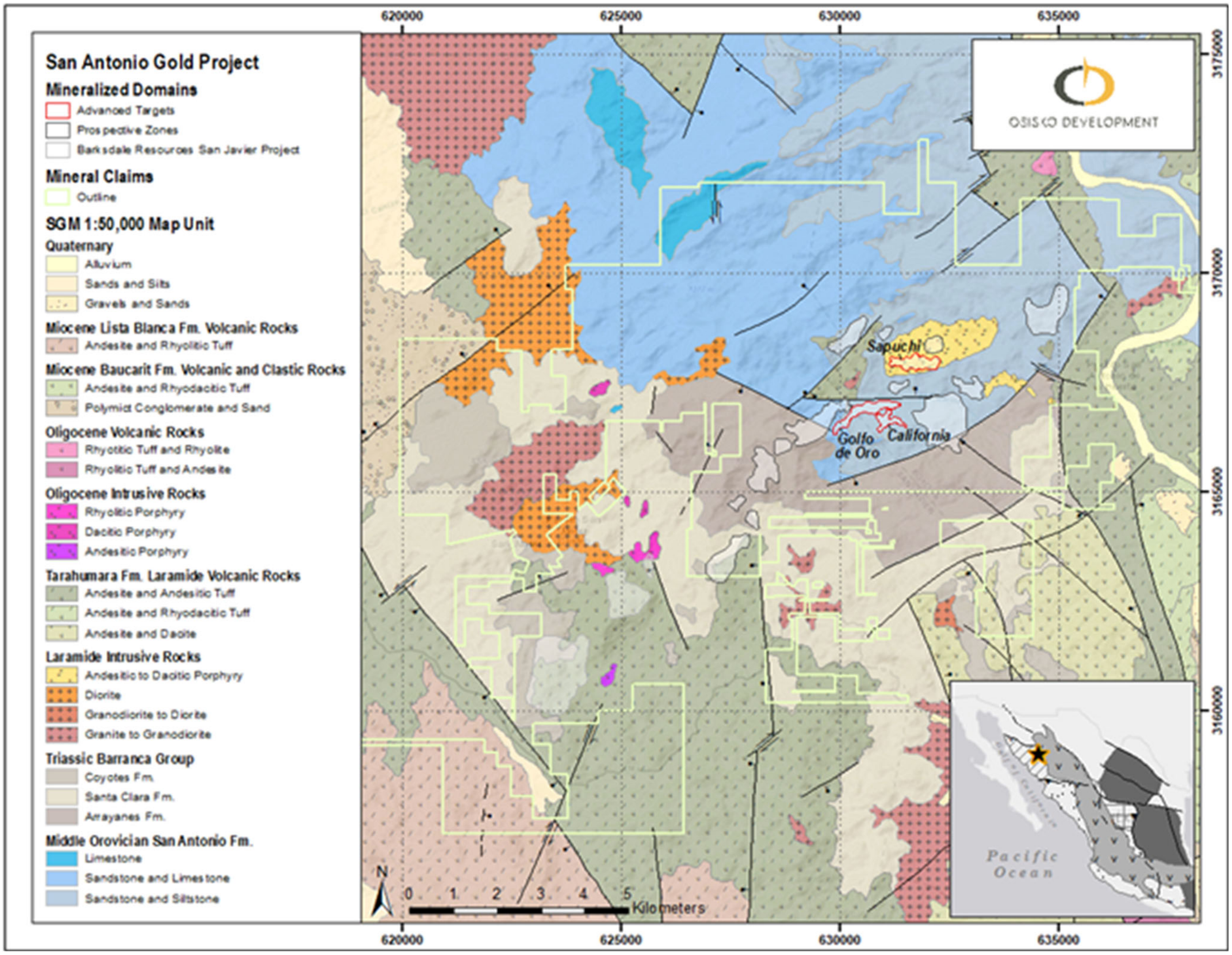


Figure taken from the internal 2020 JDS Technical Report. Map data digitized from the Geological Survey of Mexico (Servicio Geológico Mexicano) 1:50,000 scale Tecoripa and Tonichi Geologic and Mineral maps (cartas Geológico-Minera) (Gastélum and Guzmán Espinoza, 2004; García Cortez and Hernández, 2004).

7.3 PROPERTY GEOLOGY

The general map pattern within stratified rocks of the San Antonio Project is younging toward the south and west (Figure 7.3), with the oldest rocks being the Middle Ordovician clastic sequence locally referred to as the San Antonio Formation. The local sequence consists of quartzite, interlayered to interbedded meta-sandstones and siltstones, and lesser carbonate facies with localized skarn.

Primary fabrics within San Antonio Formation rocks are generally well-preserved. Bedding surfaces in the core project area range from subhorizontal to moderately inclined. Gentle to close metre-scale folds with NE-trending axes are locally observed in outcrop (Figure 7.4a). Stereoplot analysis of bedding data collected at surface within the Sapuchi Prospect area suggest a non-cylindrical, northeast-trending fold axis, consistent with regionally documented early-phase northwest-southeast shortening

San Antonio Formation rocks are in fault contact with and unconformably overlain by siliciclastic rocks of the Triassic Barranca Group. The Barranca Group is divided into three formational members, which outcrop within the south-central and western areas of the San Antonio Project holdings.

Upper Cretaceous (ca. 70-90 Ma; Roldán-Quintana et al., 2009) Laramide volcanic and volcaniclastic rocks of the Tarahumara Formation unconformably overlie the Barranca Group rocks within the southern and southwestern extents of the San Antonio Project footprint (Figure 7.3). Mapping also indicates that Tarahumara Formation rocks are in direct fault contact with San Antonio formation rocks at the eastern limit of the project area. Tarahumara Formation rocks are variable in both texture and composition but consist predominantly of andesitic flows and tuffs within the limits of the San Antonio Project area.

Rocks of the San Antonio Formation, Barranca Group and Tarahumara Formation are intruded by stocks and smaller intrusive bodies of Laramide age (ca. 49-63 Ma; Roldán-Quintana et al., 2009). Slightly younger; than but co-magmatic with Tarahumara Formation volcanic and volcaniclastic rocks, these bodies range in composition from granodiorite to (more commonly) tonalite, quartz-diorite and diorite. A large quartz diorite stock, mapped by the SGM as an andesitic to dioritic porphyry, hosts hydrothermal breccia and associated mineralization at both the Sapuchi prospect and Luz del Cobre deposits (Figure 7.4b). Andesitic intrusions are locally mineralized and associated with economic gold grades, suggesting that they either pre-date or are loosely contemporaneous with mineralization.

Hydrothermal breccias provide an important host for mineralization across the property. They occur in intimate association with intrusive bodies but are present in all rock types. The breccias are highly variable in clast size, clast composition, form, matrix volume and matrix mineralogy (see mineralization section below).

The geology and deposit geometry at the San Antonio Project is complicated by multiple generations of faulting with variable orientations and apparent slip vectors. Some structural control may be exerted by early phase faulting locally annealed by mineralizing fluids. Conversely, mineralized zones are offset and locally delineated by late-stage faulting (or late-stage reactivation of early phase faulting) ranging from low-angle through subvertical (e.g., Figure 7.4e).

Figure 7.4
Select Lithologies Observed in Outcrop and Drill Core at the San Antonio Project

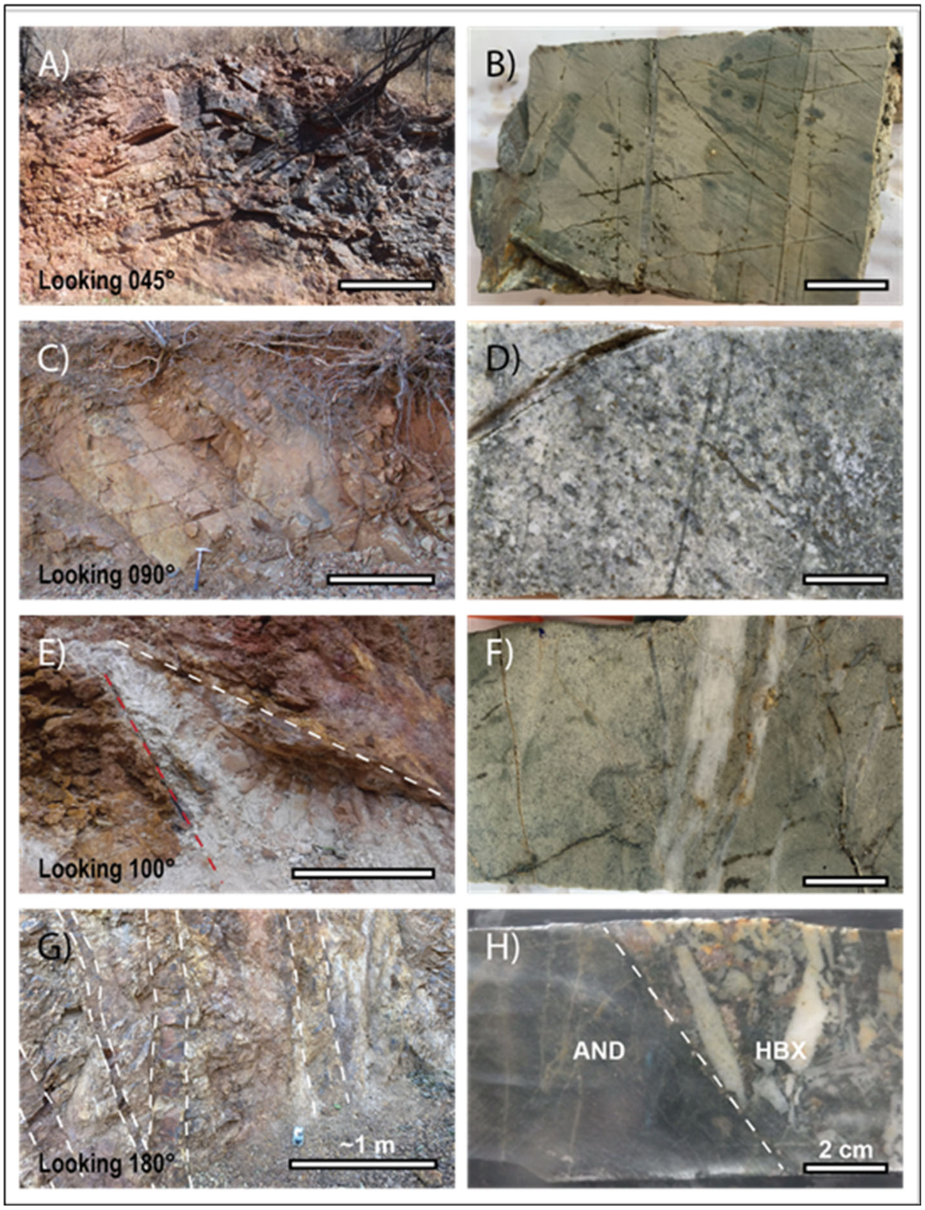


Figure taken from the internal 2020 JDS Technical Report. A) Open anticline in San Antonio Fm. quartzites, Sapuchi Prospect; B) Altered San Antonio Fm. siltstone in drill core, California Prospect; C) Quartz diorite in outcrop, Sapuchi; D) Quartz-Diorite in drill core, California; E) Dacitic intrusion cross-cutting (HW) and faulted against (FW) hydrothermal breccia, California. F) Dacite with quartz veining in drill core, California; G) Andesitic dikes cutting quartz-diorite clast-dominant magnetite-cemented breccia, Sapuchi; H) Similar texture to G) Andesitic dike (AND) cross-cutting chlorite-pyrrhotite-cemented hydrothermal breccia (HBX), Golfo de Oro Prospect.

7.4 MINERALIZATION

Four parallel northeast-southwest oriented mineralized trends are identified within the greater area of the San Antonio Project (Figure 7.5). The central Sapuchi-Cerro Verde trend spans a strike length greater than 15 km from the Cerro Verde deposit of the Barksdale Resources San Javier Project to the southwest and includes the advanced target Sapuchi, Golfo de Oro and California deposits. The southeastern most La Ventana trend spans an 8 km strike-length, includes the historic Luz del Cobre deposit, and is in part defined by highly anomalous surface samples ranging from 2 to approximately 25 ppm gold. The central approximately 8 km Canuc-Brindeña trend appears to be the northeast extension of gold-bearing breccias and veins on Canuc Resources claims to the southwest. The northwestern most and newly defined >10 km strike-length La Centradita trend is delineated by anomalous surface samples and historical workings, from which a reported 11 g/t gold and 260 g/t silver were recovered from 30 tonnes of mined material.

Figure 7.5
Exploration Targets (prospects) and Identified Mineral Trends at the San Antonio Project

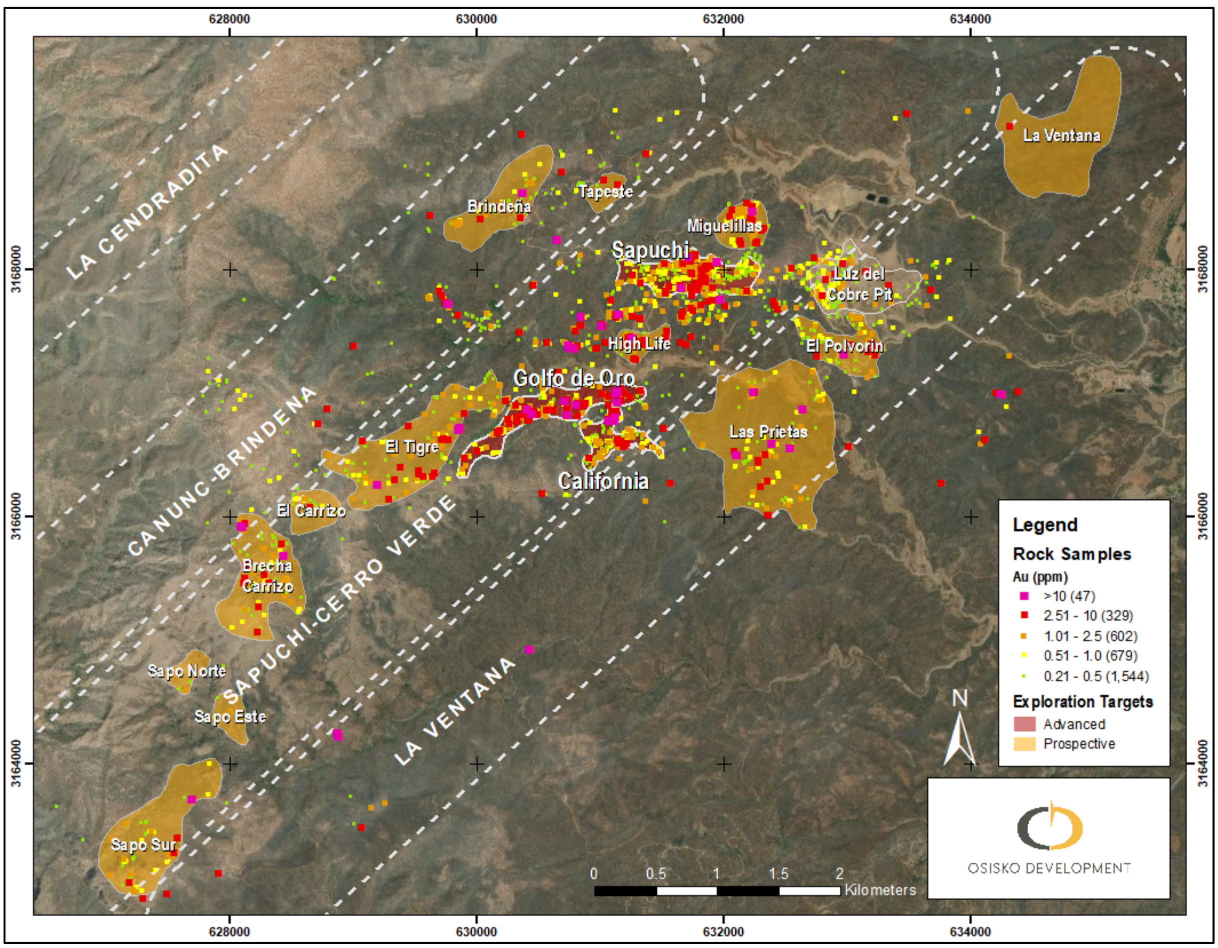


Figure supplied by Osisko Development, dated January 20, 2021.

Gold mineralization at the San Antonio Project is primarily associated with sulphide minerals (mostly pyrite and pyrrhotite), occurring within stockwork veins and within the matrix of hydrothermal breccias. Vein mineralogy comprises quartz, iron-carbonates, iron-oxides and sulphides. Sulphide mineralogy is dominated by pyrite and pyrrhotite but locally includes marcasite, chalcopyrite, bornite, galena and sphalerite. Near surface sulphides have been leached by supergene oxidation and the remaining gold is associated with the resulting hematite within stockwork veins and hydrothermal breccia matrix. The best gold grades and the bulk of the corresponding sulphide mineralization discovered thus far generally occupy a position within the upper parts of the system. Figure 7.6 shows the varying styles of mineralization at the San Antonio Project.

Figure 7.6
Varying Styles of Mineralization Observed at the San Antonio Project

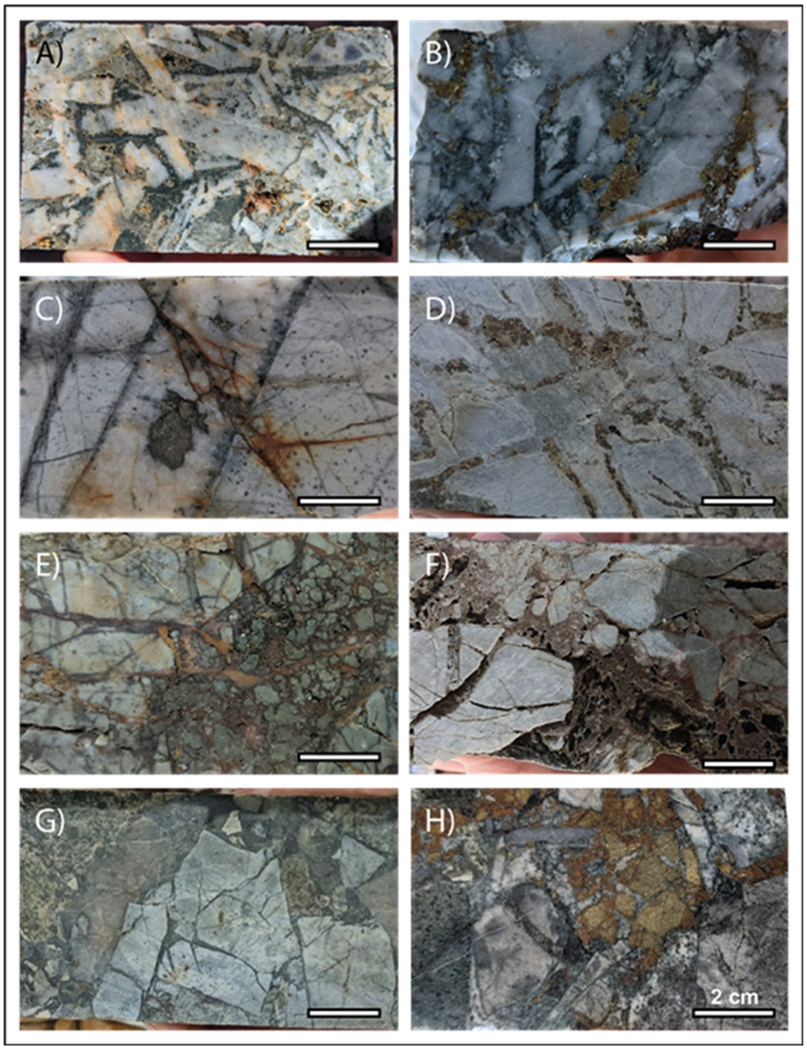


Figure taken from the internal 2020 JDS Technical Report. A) Py-Chl breccia cement. B) Py-Chl-Cal breccia cement. C) Late stage Py filling space at centre of Qtz vein. D) Stockwork veining in quartzite. E) Semi-massive Py and Fe-carbonate in breccia cement. F) Similar mineralization style to E) but sulphides have been leached away by supergene fluids. G) Mgt cemented breccia. H) Similar texture to G) but Mgt has been substituted by Py and Po.

7.4.1 Sapuchi Deposit Mineralization

The Sapuchi deposit is located on an east-west trending ridge underlain by hydrothermal breccia that forms an approximately 3,000 m long mineralization corridor, with the Luz del Cobre deposit at its eastern limit. It is thought that the primary control on mineralization is the breccia pipe itself, acting as a permeable fluid pathway for the late-stage metalliferous magmatic fluids associated with large batholiths at depth (Figure 7.7). The precipitation of gold in the upper parts of the system coincides spatially with a sulphidation front where magnetite is replaced by pyrite. The mineralized breccia at Sapuchi has been traced by drilling along an east-west distance of approximately 700 m, approximately 500 m north-south, and to a variable depth of up to 200 m locally. The breccia itself has been traced to >500 m depth and likely extends much deeper. Gold grades, however, become more erratic at these depths, where they likely have a different set of structural and/or chemical controls not yet well understood.

Figure 7.7
Schematic West-Facing Section Illustrating Mineralization and Structure in the Sapuchi Deposit

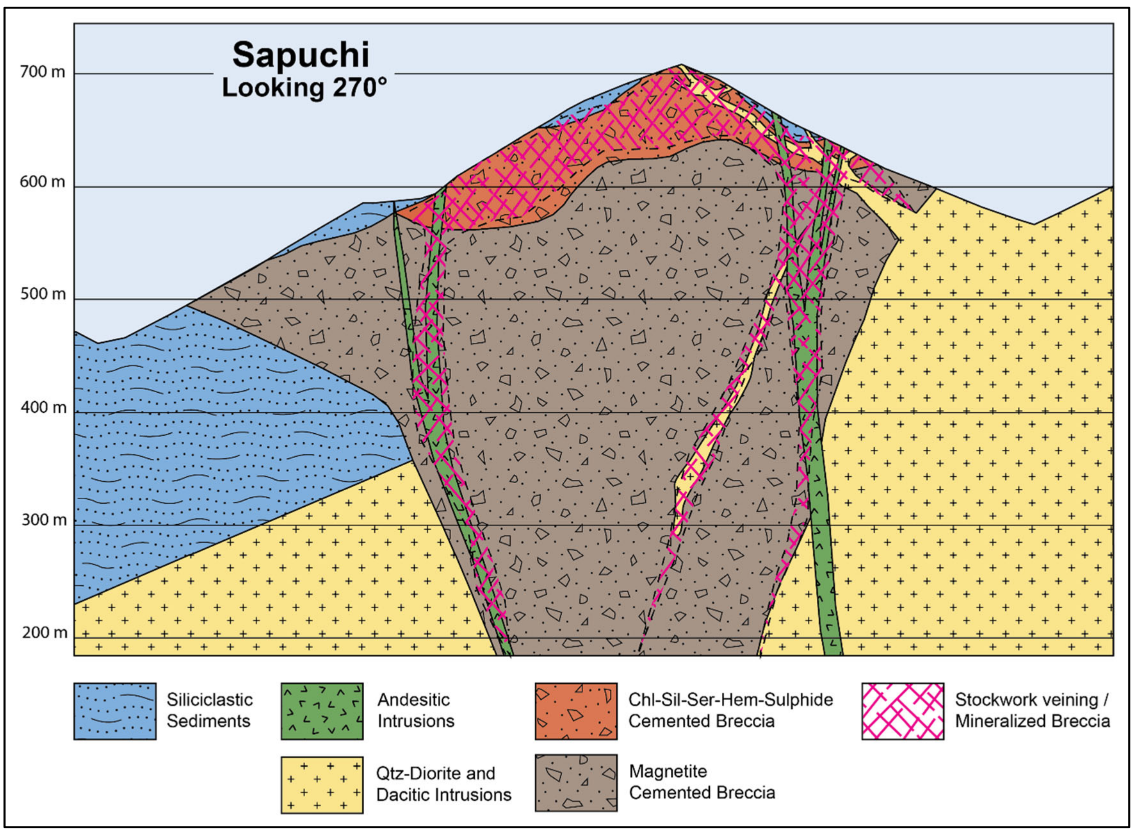


Figure taken from the internal 2020 JDS Technical Report.

7.4.2 Golfo de Oro Deposit Mineralization

The Golfo de Oro deposit is located approximately 1.5 km to the southwest of Cerro Sapuchi. Historic and recent drilling has defined a semicontinuous mineralized zone ~1,100 m in length, along an eastnortheast-westsouthwest oriented trend. Gold mineralization at the Golfo de Oro deposit is hosted by brecciated quartzites of the Lower San Antonio Formation which are locally cross-cut by andesitic dykes and quartz-diorite stocks thought to be related to the Laramide Magmatic Event (Figure 7.8). The breccias contain angular fragments of quartzite and quartz-diorite and have a matrix consisting of a mixture of chlorite and carbonate with local magnetite pyrrhotite and pyrite. The quartzite clasts tend to have a high aspect ratio and are often preferentially aligned forming a "shingle breccia".

Figure 7.8
Schematic West-Facing Section Illustrating Mineralization and Structure in the Golfo de Oro Deposit

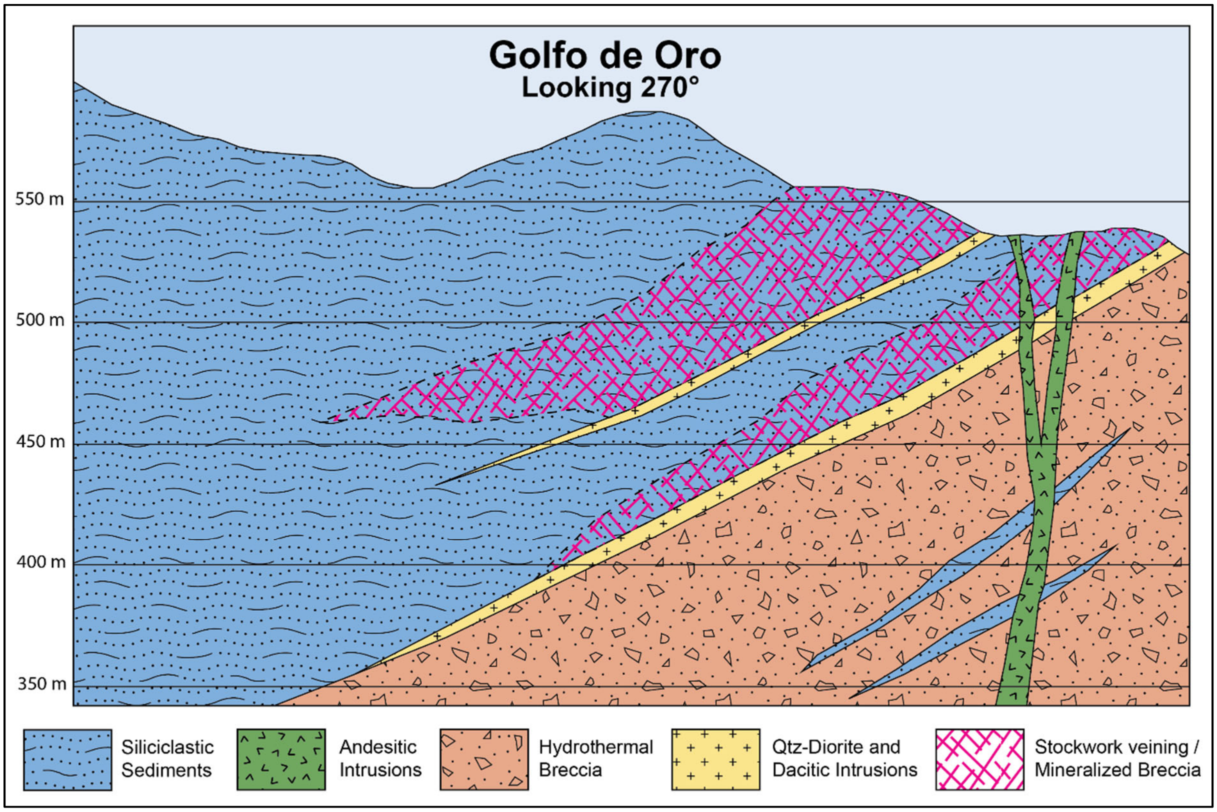


Figure taken from the internal 2020 JDS Technical Report.

Hydrothermal alteration and associated mineralization appear to have been focused within the contact area in the hanging-wall of the shingle breccia. The alteration mineralogy displays a zoned pattern, grading from a distal calcite-chlorite-magnetite-specular hematite alteration assemblage to a pyrite-pyrrhotite-ankerite-silica mineral assemblage in areas of increased gold values. Geochemically anomalous gold values generally occur within stratiform, tabular bodies up to 50 m in thickness. Pyrite is by far the most abundant hydrothermal mineral present, with local occurrences of up to 50% abundance, but averaging an estimated 10-15% over the length of a given mineralized interval. Ankerite is less prevalent, occurring as disseminations and patches in 5-7% abundance and in close association with pyrite. Silica occurs as a pervasive cryptocrystalline replacement of the host breccia unit. Chalcopyrite is also present in minor quantities in the areas of elevated gold values.

7.4.3 California Deposit Mineralization

The California deposit is located approximately 1500 m west-southwest of Cerro Sapuchi and approximately 450 m southeast of Golfo de Oro. The surface expression of mineralization is topographically above Golfo de Oro on the northern flank of an east-west trending ridge. Fewer holes have been drilled at the California deposit than at the other deposits and the extent of mineralization is therefore less well constrained. Elevated gold grades are associated with sulphide-rich stockwork veins and veinlets and with breccias (both tectonic and hydrothermal) which are modelled within a sub-vertical mineralized shoot (Figure 7.9). Pyrite is the dominant sulphide phase in the mineralized zone with minor associated chalcopyrite and bornite, however, a negative spatial correlation between elevated copper and elevated gold is observed at the California prospect.

Figure 7.9
Schematic West-Facing Section Illustrating Mineralization and Structure in the California Deposit

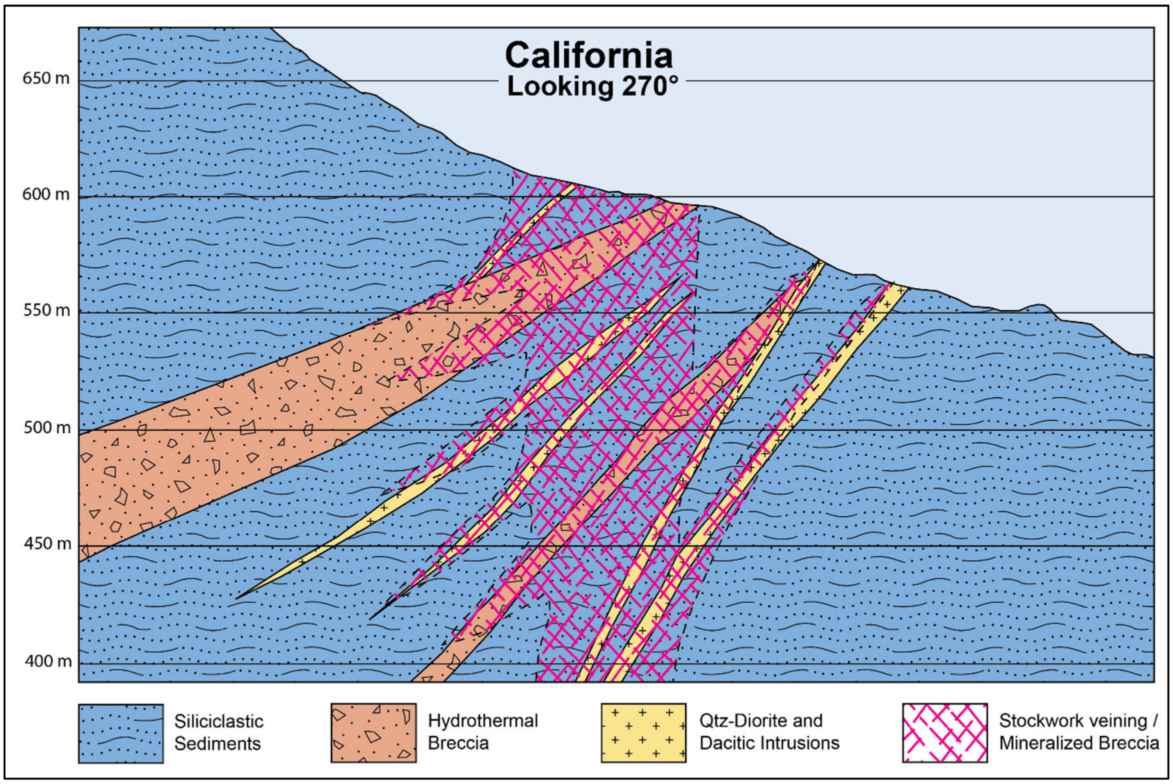


Figure taken from the internal 2020 JDS Technical Report.

8.0 DEPOSIT TYPES

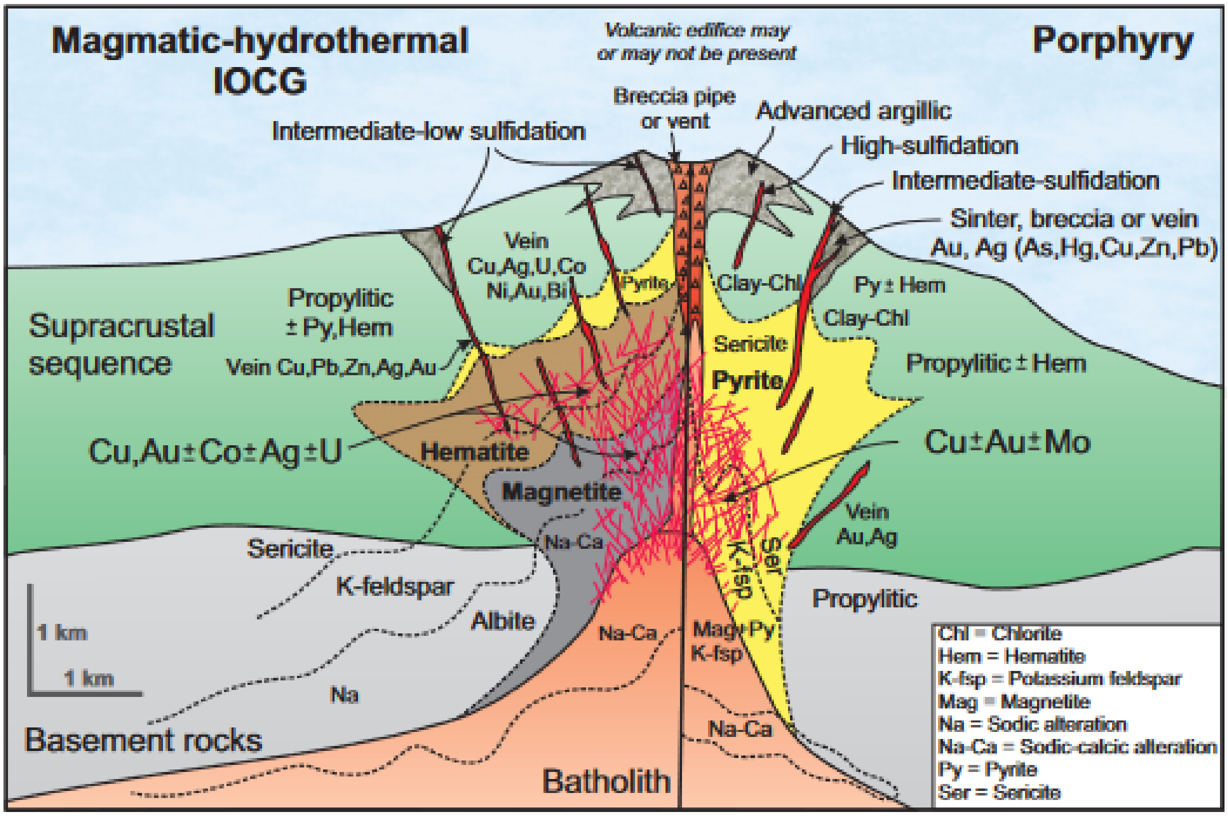
The San Antonio Project is situated amidst a cluster of copper, molybdenum and gold deposits within the greater Laramide magmatic-hydrothermal metallogenic belt of the southwestern United States and western Mexico. The belt is largely recognized as a porphyry copper province, with deposits and associated magmatism ranging from Late Cretaceous to Paleocene in age (Valencia-Moreno et al., 2007, Price et al., 2019). Prior to the definition and widespread use of the iron oxide-copper-gold (IOCG) deposit type classification (Hitzman et al., 1992; Sillitoe, 2003), deposits within the greater San Antonio Project area were broadly classified as porphyry-related. Several characteristics of the San Antonio Project deposits are consistent with a more specific classification as IOCG-type, a distinction recognized by previous owners and operators for the past ~20 years (Zaruma Resources, 2003; 2009; Red Tiger Mining Inc., 2013). Characteristics of San Antonio Project deposits consistent with IOCG classification include distribution of mineralization and grade, significance of structural controls, observed alteration assemblages, and deposit mineralogy characterized by an abundance of magnetite and the presence of hypogene specular hematite.

IOCG deposits are defined primarily by elevated magnetite and/or hematite contents (Sillitoe, 2003) and typically have close temporal relationships with plutonic complexes (Sillitoe, 2003) and/or related magmatic hydrothermal systems (Barton, 2009) (Figure 8.1). Economic concentrations of copper, gold and molybdenum may form in large bodies of breccia or stockwork veining in IOCG deposits (Richards and Mumin, 2013); IOCG deposits may also occur as replacement mantos, calcic skarns or composites of the preceding (Sillitoe, 2003). Mineralization at the San Antonio Project occurs primarily within stockwork veining and hydrothermal breccia bodies spatiotemporally related to cross-cutting intrusions of Laramide age, but is also found locally strata bound in calcareous-siliciclastic rocks. Vein mineralogy within gold-target deposits at San Antonio is predominantly quartz-hematite within supergene oxidized deposits. Mineralization at depth is primarily associated with sulphide minerals (pyrrhotite and pyrite ± copper-bearing sulphides) occurring with or without quartz, calcite, or iron-carbonates in veins and vugs, and occurring with and/or replacing magnetite within the matrix of hydrothermal breccia bodies.

Ore-related alteration assemblages in IOCG deposits commonly include chlorite, actinolite, sericite, K-feldspar, albite and epidote. Scapolite, biotite, quartz, amphibole, and garnet are also observed (Sillitoe, 2003). Mineralization within gold-target deposits (plus copper and silver) at the San Antonio Project is commonly associated with strong chlorite alteration ± sericite, silica and/or iron-carbonate. Strong albite alteration within dioritic intrusions and siliciclastic sediments is also observed, though not necessarily associated with gold grade.

Crustal-scale structural corridors may channel magmatic-derived fluids toward their ultimate emplacement within IOCG deposits. Within the San Antonio Project area, Laramide magmas and associated fluids are believed to have exploited a system of east-west to northeast-southwest–oriented normal faults formed during Triassic or possibly late Laramide extension. Padilla (2019) proposed that mineralization at the San Antonio Project may be related to cooling and crystallization of Laramide batholiths largely unexposed beneath regional Ordovician and Triassic siliciclastic successions and cogenetic Laramide volcanics of the Tarahumara Fm. Within the model presented by Padilla (2019), late monzonitic magmas and residual fluids are emplaced during post-crystallization cooling of the larger intrusive body, cross-cutting both the intrusion and its host rocks. Initial emplacement of the batholith produced hornfels and localized skarn within siliciclastic and locally calcareous host rocks. Hydrothermal breccia formation is related to the post-crystallization cooling, degassing, and emplacement of the late-stage dikes and stocks. Once late-stage bodies cooled below~300°C, sericite–chlorite–iron-carbonate stable fluids and associated mineralization infilled open space within hydrothermal breccias, formed stockwork veining controlling mineralization in all rock types, and formed replacement and disseminated deposits within calcareous and highly fractured sedimentary layers. Circulation of oxidized fluids is reflected by the presence of magnetite and hypogene specular hematite, though fluctuation to reducing fluids is required for the formation of sulphides including pyrite, pyrrhotite, and chalcopyrite.

Figure 8.1
Schematic Illustration showing Distinctions between IOCG and Porphyry Deposits



From: Richards and Mumin (2013).

Re-evaluation of existing San Antonio Project geological data set within the context of classification as an IOCG intrusion-related vein and breccia system is ongoing. The existence and significance of outcrop to regional-scale structural control is evident within geochemical data, and greater understanding will be key to defining future copper and gold exploration targets. Due to the potential for larger-scale deposits, the primary focus of past and current exploration at the San Antonio Project is inter-related stockwork vein and hydrothermal breccia-hosted mineralization. It is believed that additional target types may emerge with ongoing exploration, including larger-scale skarn, and more typical porphyry-style deposits occurring within the same system, at greater depths. Future exploration planning will incorporate any new concepts.

9.0 EXPLORATION

All historical exploration activities prior to Osisko Development's involvement in the San Antonio Project are discussed in Section 6 of this Technical Report.

9.1 Osisko Development Exploration Work on the San Antonio Project

Field exploration conducted by the Sapuchi team at the San Antonio Project in 2021 consisted of a surface mapping program spanning the months of September through December. No surface samples were collected for geochemical analyses as part of this or any other program, in 2021.

9.1.1 2021 Mapping Program

9.1.1.1 Aims and Objectives

The 2021 mapping program was focused within an approximate 120 ha footprint, centred on the Sapuchi deposit area from September through November. In December, the mapping footprint was extended northward to fully cover the neighbouring Miguelillas target area, and northwest to focus over the satellite Brindeña and Tapeste targets. Each of these four areas was highlighted as prospective for gold mineralization during earlier programs and legacy rock and soil surface samples were obtained. The historic datasets provide excellent coverage over large portions of the area, and aid in the interpretation of mineralization distribution patterns. In the case of the Sapuchi deposit, mapping was conducted simultaneous with exploration drilling. The principal aims of the program included:

1. delineating the surface extent and geometry of the Sapuchi hydrothermal breccia body.
2. assessing the nature of mineralization and alteration associated with elevated gold grades.
3. contributing to a more developed understanding on the lithologic and structural controls.

Mapping at the lesser explored Miguelillas, Brindeña and Tapeste targets was more focused on applying knowledge developed at the Sapuchi, California and Golfo de Oro deposits, to identify and delineate mineralogically prospective zones to be considered for brownfields 2022 exploration drilling.

9.1.1.2 Methodologies

Geologic mapping was conducted at a 1:1000 scale across a grid of 10-ha, 400 x 250 m cells (Figure 9.1) printed on ledger/A3 size paper maps on which all field data were recorded, including 1) outcrop lithology, 2) oxidation, 3) veins and 4) structural measurements of bedding, faults, fractures and contacts. All structural data were collected with Bunton Standard Transit compasses, using the North American right-hand rule convention for strike and dip. Structural data plotted directly onto maps in the field were later digitized and catalogued, along with the mapped outcrop, vein and oxidation data. Lithologic interpretation was likewise conducted on paper at a 1:1000 scale, before digitization.

Figure 9.1
2021 Season, 1:1000 Mapping Grid and Coverage

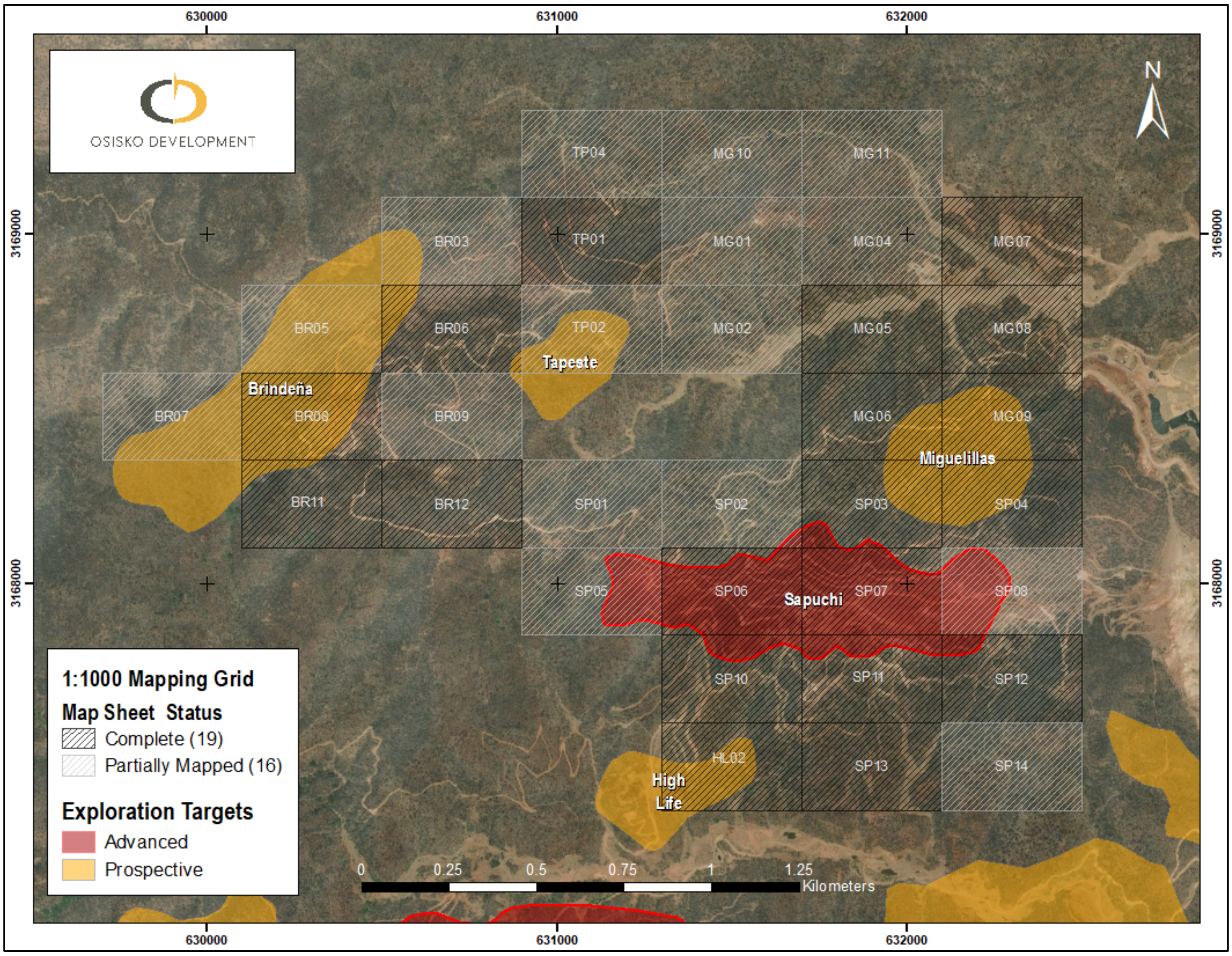


Figure supplied by Osisko Development February, 2022.

Mapping was carried out across road systems of varying density and along off-road transects of interest.

9.1.1.3 Results

Approximately 250 ha were covered during the 4-month-long 2021 mapping season, including complete road coverage over 19 1:1000 map sheets, and partial mapping across an additional 16 sheets.

Mapping coverage across the high road and outcrop density of the Sapuchi deposit footprint was more than sufficient to generate well-constrained surface extents for the grade controlling Sapuchi hydrothermal breccia deposit. Nearly 600 individual structural measurements from veins, faults, fractures and intrusive contacts were collected within the Sapuchi mapping footprint. These data provide quantitative measures of deposit geometry and insight into structural control not obtainable with the current exploration drilling program. Figure 9.2 is a geological map of the Sapuchi deposit area.

Intrusive bodies and related hydrothermal breccia zones identified as favourable for gold mineralization were identified at the Miguelillas, Brindeña and Tapeste target areas. Ongoing field data analysis, additional mapping, and new geochemical sampling will help to constrain successful brownfields exploration drilling under consideration for each of these mineral targets in 2022.

Figure 9.2
Geological Map of the Sapuchi Deposit Area

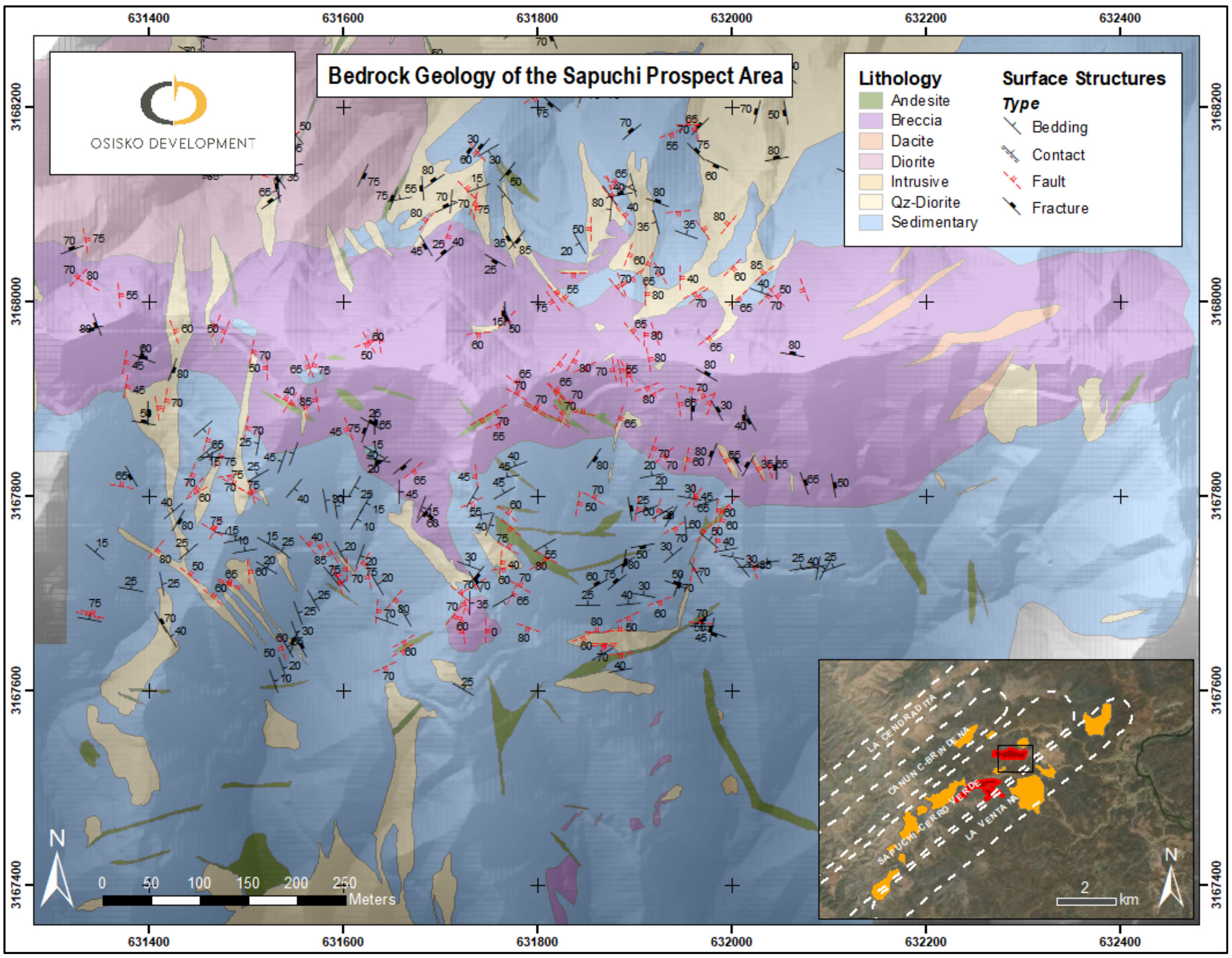


Figure supplied by Osisko Development February, 2022.

9.2 MICON QP COMMENTS

Micon's QP has reviewed the 2021 exploration program and agrees with the direction of the exploration programs. The geological mapping is very important, not only to delimit the extent of the geological unit(s) which host the mineralization, but to see if there are also any structural features that may affect the mineralization or mineralized deposits or zones.

Micon's QP believes that Osisko Development is following CIM best practice guidelines for its exploration program and that the data obtained from the mapping exercise, along with any surface sampling and drilling programs, will assist in outlining the extent of the mineralized zones.

10.0 DRILLING

All historical drilling programs prior to 2021 and Osisko Development's involvement in the San Antonio Project are discussed in Section 6 of this Technical Report.

10.1 OSISKO DEVELOPMENT DRILLING PROGRAM ON THE SAN ANTONIO PROJECT

10.1.1 Summary

This section discusses the San Antonio Project 2021 diamond drill hole (DDH) program. The drilling information in this section has been obtained from the Osisko Development on-site exploration team.

The principal objective of the 2021 drill program was to delineate deposit extents of the Sapuchi, Golfo de Oro and California prospective zones (Figure 10.1), with a focus on converting resources classified as inferred into the higher indicated category.

The 2021 program delivered a total of 177 diamond drill holes, producing 27,869.73 m of core. In conjunction with geochemical and lithologic surface data, diamond drill core is considered the most valuable source of data to inform the geologic model and refine mineralization trends.

10.1.2 Methodology

Drilling on the Project was conducted from March through the first week of November, 2021. Two drilling companies were contracted for the program, Boytec Sondajes de México S.A. de C.V. (Boytec) and Globexplore Drilling S.A. de C.V. (Globexplore). Both companies used a four-track, as well as a one-man portable drilling rig. Drill collar locations were determined with a base-rover GNSS/RTK Trimble R8 (8 mm Horizontal/15 mm Vertical precision) using the base above ground control points and rover. Drill rigs were aligned using a Brunton Transit Standard compass prior to collaring the holes. Downhole surveying was completed by the drill contractors using a Reflex EZ-Gyro tool, with the first shot being collected from zero to 15 m, followed by 50-m intervals thereafter. A final survey was also completed at the bottom of each hole. The downhole survey data were collected by the contractor on a tablet using Seequent's MX deposit software and records were received by geologists for review, prior to being submitted into the database.

All holes at the Sapuchi target were drilled using HQ diameter drill rods. Though the majority of Golfo de Oro and California target holes were also drilled using HQ diameter rods, PQ diameter was sometimes drilled in order to obtain more sample material through the oxide zones, as well as to allow for downsizing to HQ in more challenging terrain. At the drill rig, core was placed into corrugated plastic core boxes and marked off at every 3 m drill run.

Figure 10.1
2021 Diamond Drill Hole Collar Locations

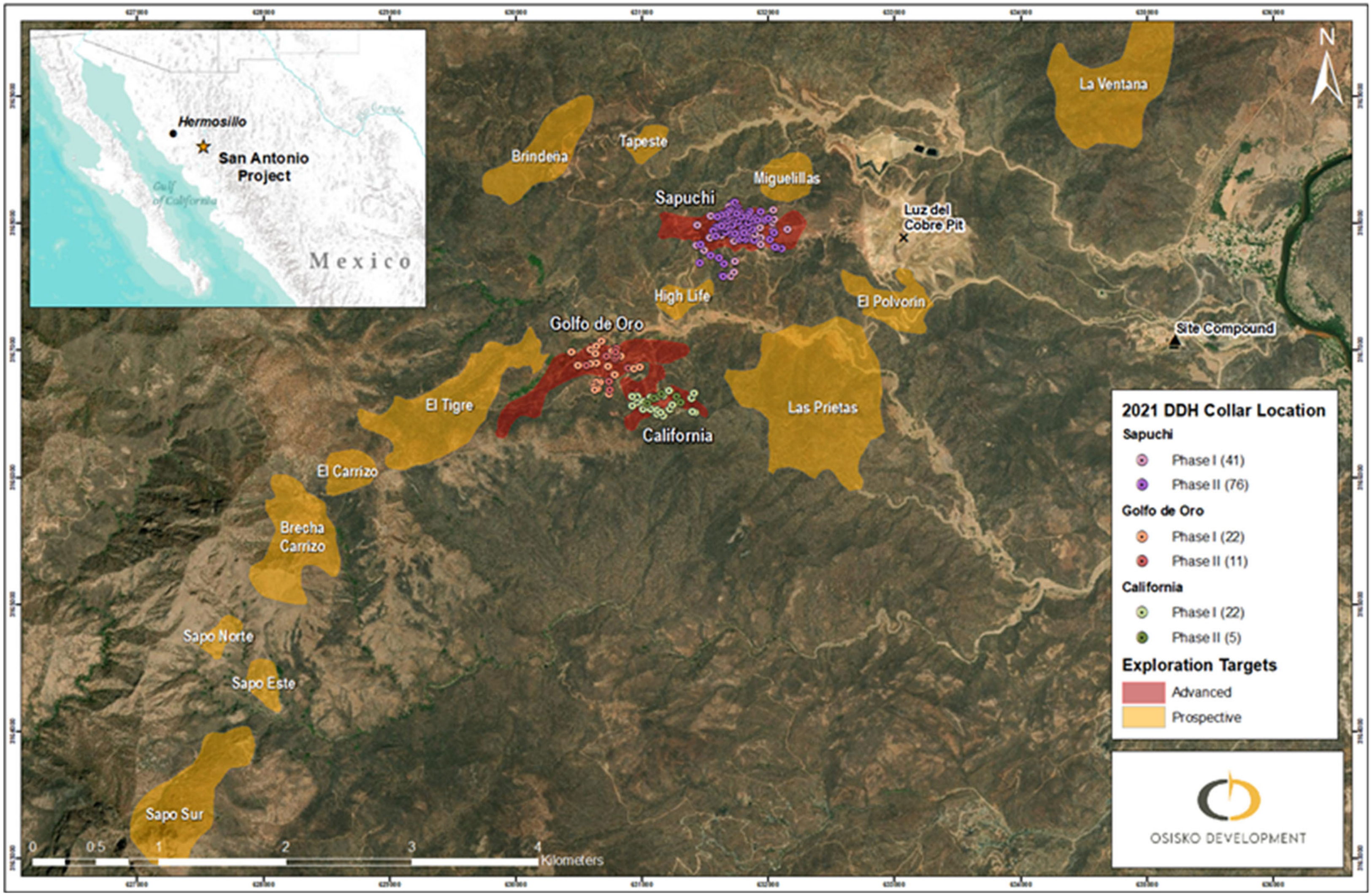


Figure supplied by Osisko Development, February, 2022.

10.1.3 Drill Program Details

The 2021 drill program was focused within three advanced target areas, Sapuchi, Golfo de Oro and California. The program was designed in two phases, with initial planning informed by historical drill data and promising surface geochemical data. A total of 27,869.73 m was drilled in 177 drill holes, as summarized in Table 10.1. Figure 10.1 shows the location of all property wide drill hole collars in 2021.

Table 10.1
Summary of the Holes in the 2021 Drilling Program by Deposit

Deposit	Number of Drill Holes			Number of Metres		
	Phase 1	Phase 2	Total	Phase 1	Phase 2	Total
Sapuchi	41	76	117	7,759.90	7,993.33	15,753.23
Golfo de Oro	22	11	33	4,552.35	1,994.75	6,547.10
California	22	5	27	4,680.30	889.10	5,569.40
Totals	**85**	**92**	**177**	**16,992.55**	**1,0877.18**	**27,869.73**

Table supplied by Osisko Development, February, 2022.

Phase I drilling at the San Antonio Project focused on resource delineation and totalled 16,992.55 m drilled in 85 holes. Phase II drilling consisted of generally shallower holes planned at an idealized 25-m spacing to focus on resource category conversion and delineation of the limits of the oxide mineralization. Phase II drilling totalled 10,877.18 m over 92 drill holes with variable orientations.

The majority of the 2021 drilling was carried out within the Sapuchi target area, where three operating drill rigs produced a combined Phase I and Phase II season total of 15,753.23 m. Figure 10.2 shows the 2021 collar locations within the Sapuchi deposit, a corresponding section with a selection of drill holes and highlights is presented in Figure 10.3.

Drilling at the Golfo de Oro and California deposits was carried out with one drill operating in each area over the duration of the program, with combined Phase I and Phase II season totals of 6,547.10 m and 5,569.40 m, respectively. Figure 10.4 shows all collar locations within the Golfo de Oro and California zones, corresponding cross-sections with select drill holes and highlights are presented in Figure 10.5 and Figure 10.6.

The data obtained from drilling contributed to the redefinition and the refinement of geologic models and mineralization controls at each of the three exploration targets. The significant drilling assays for each deposit are summarized in Table 10.2. Drill results at the Sapuchi deposit delineated the western and southern extents of mineralization, with multiple holes suggesting high grade continuity in both directions. In addition, several drill holes opened the potential for gold exploration and corridor continuity up to 500 m eastward towards the Luz del Cobre open pit. Though fewer metres were drilled at the Golfo de Oro and California deposits, the program produced quality intercepts, expanding the limits of the delineated deposits and suggesting the potential to reduce stripping ratios within open pit models for each target area.

Figure 10.2
Sapuchi Deposit, 2021 Diamond Drill Hole Collar Locations

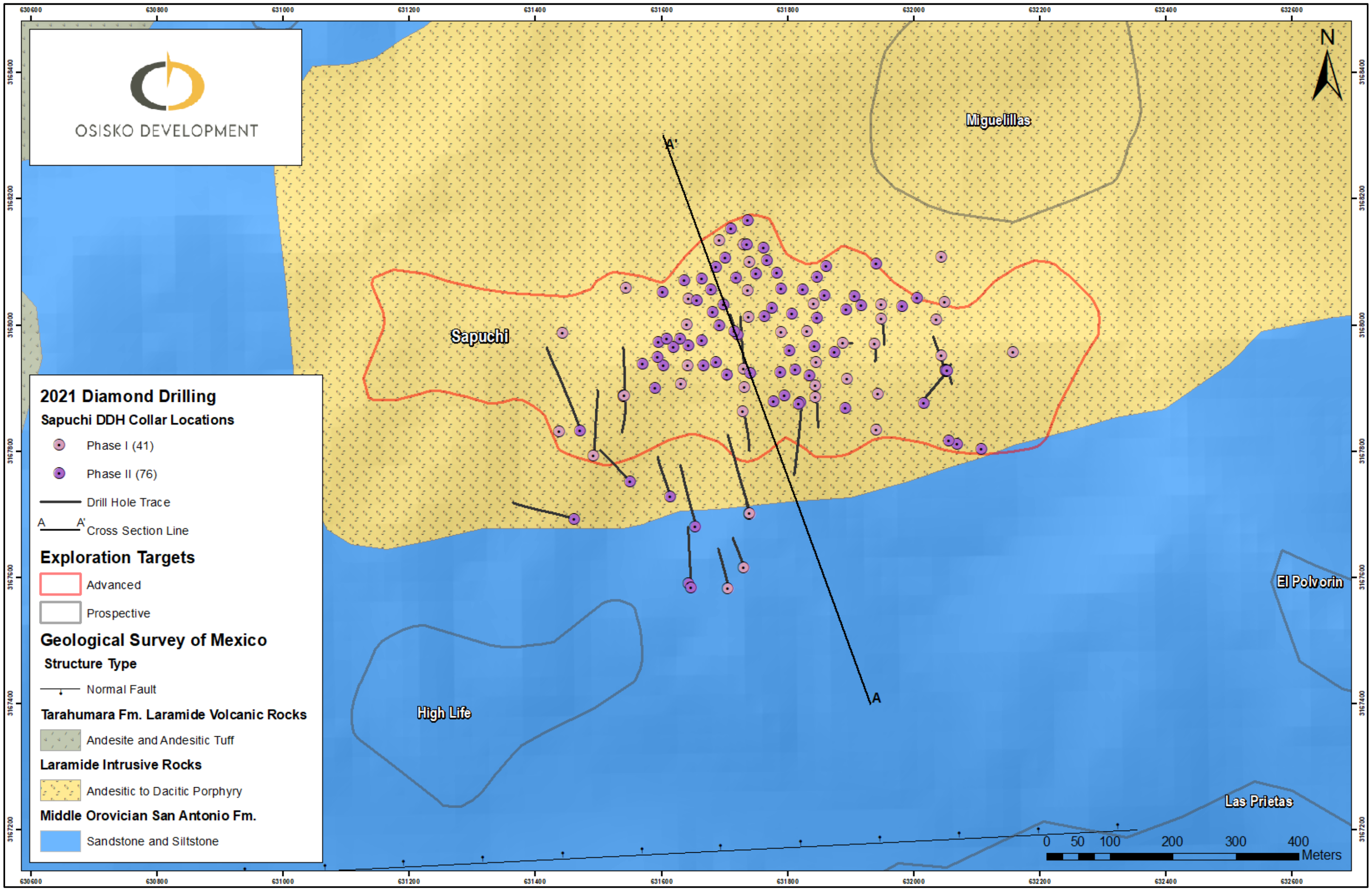


Figure supplied by Osisko Development, February, 2022.

Figure 10.3
Sapuchi Deposit, 2021 Diamond Drill Hole Cross-Section

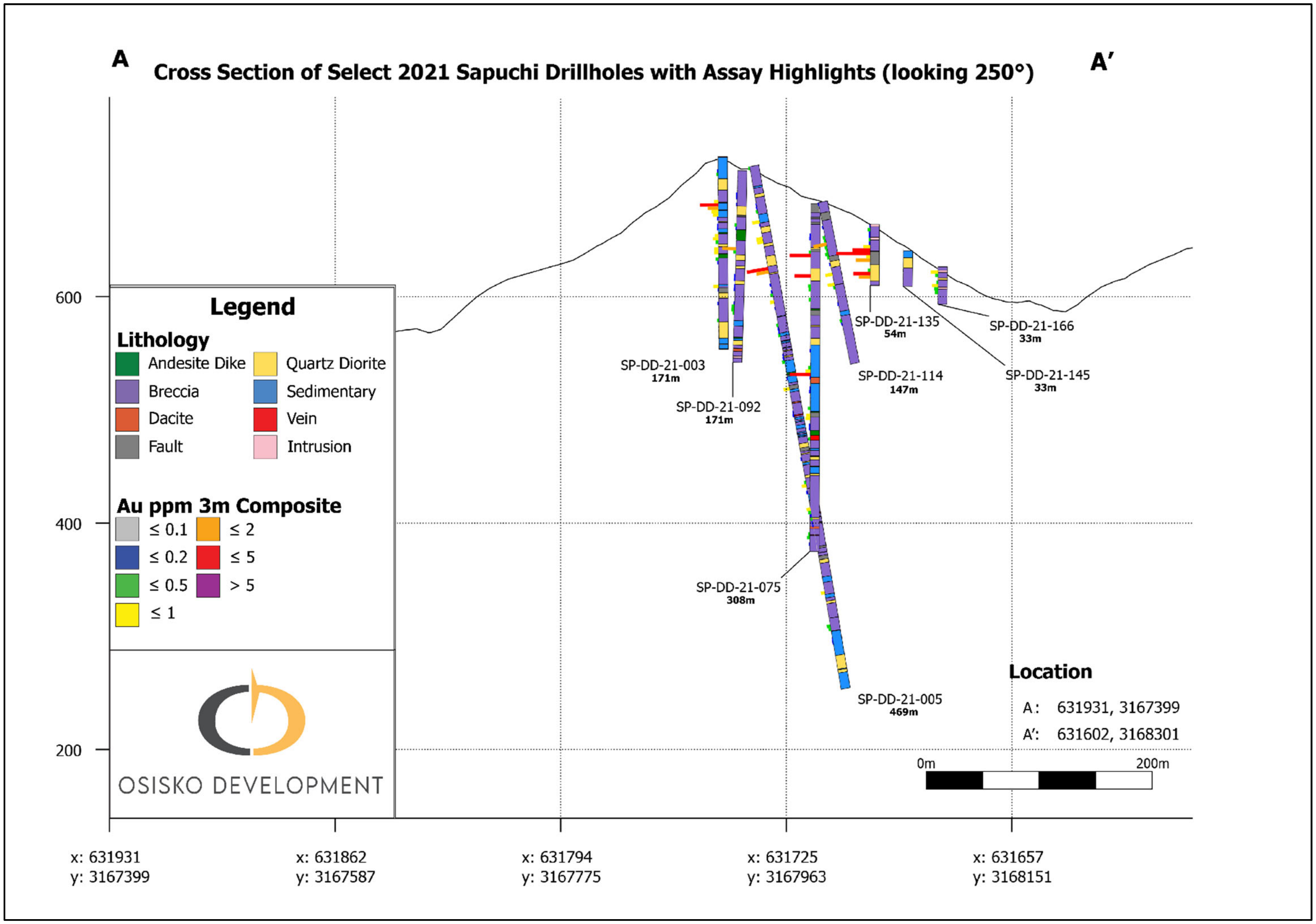


Figure supplied by Osisko Development, February, 2022.

Figure 10.4
Golfo de Oro and California Deposits, 2021 Diamond Drill Hole Collar Locations

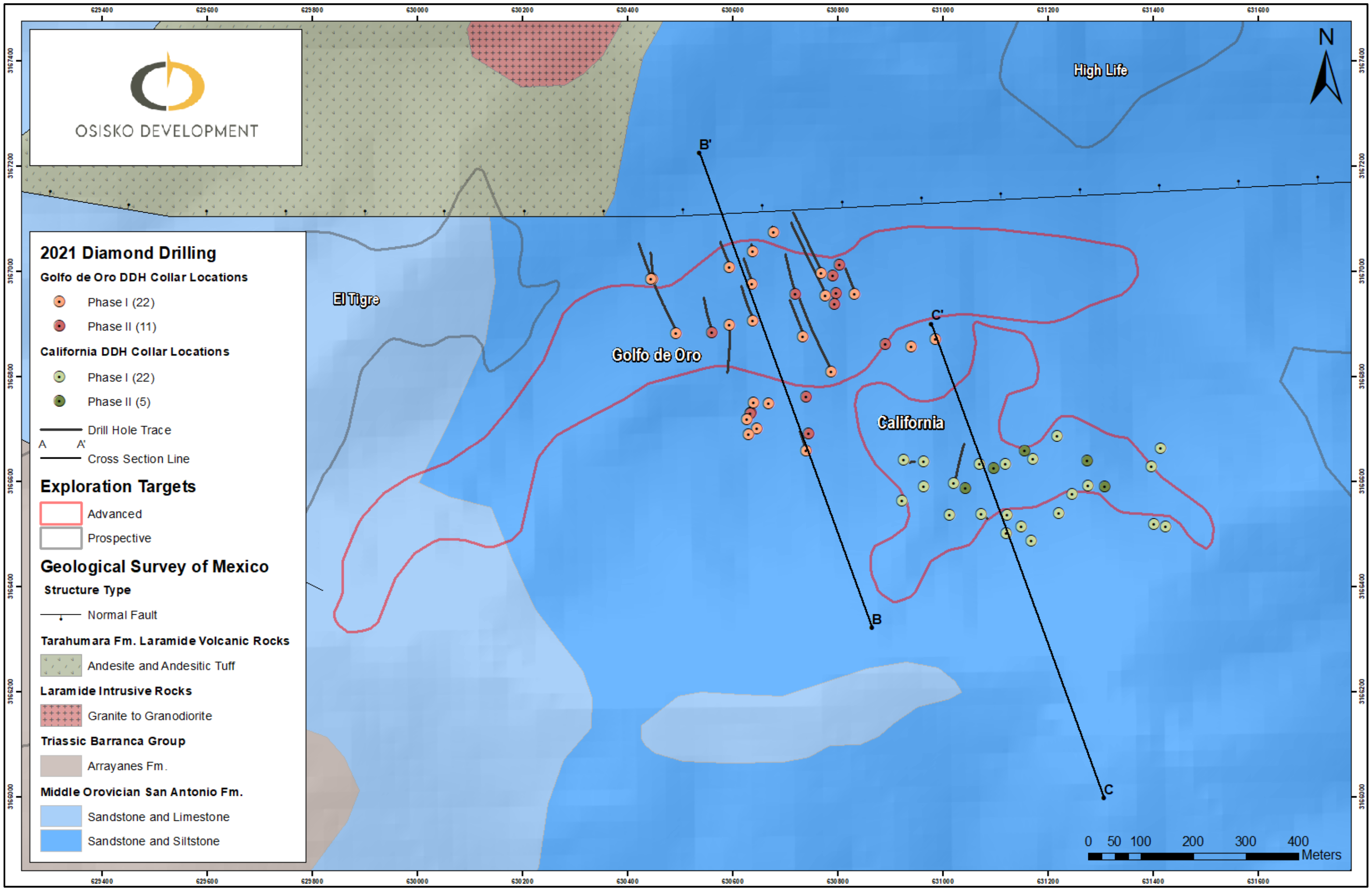


Figure supplied by Osisko Development, February, 2022.

Figure 10.5
Golfo de Oro Deposit, 2021 Diamond Drill Hole Cross-Section

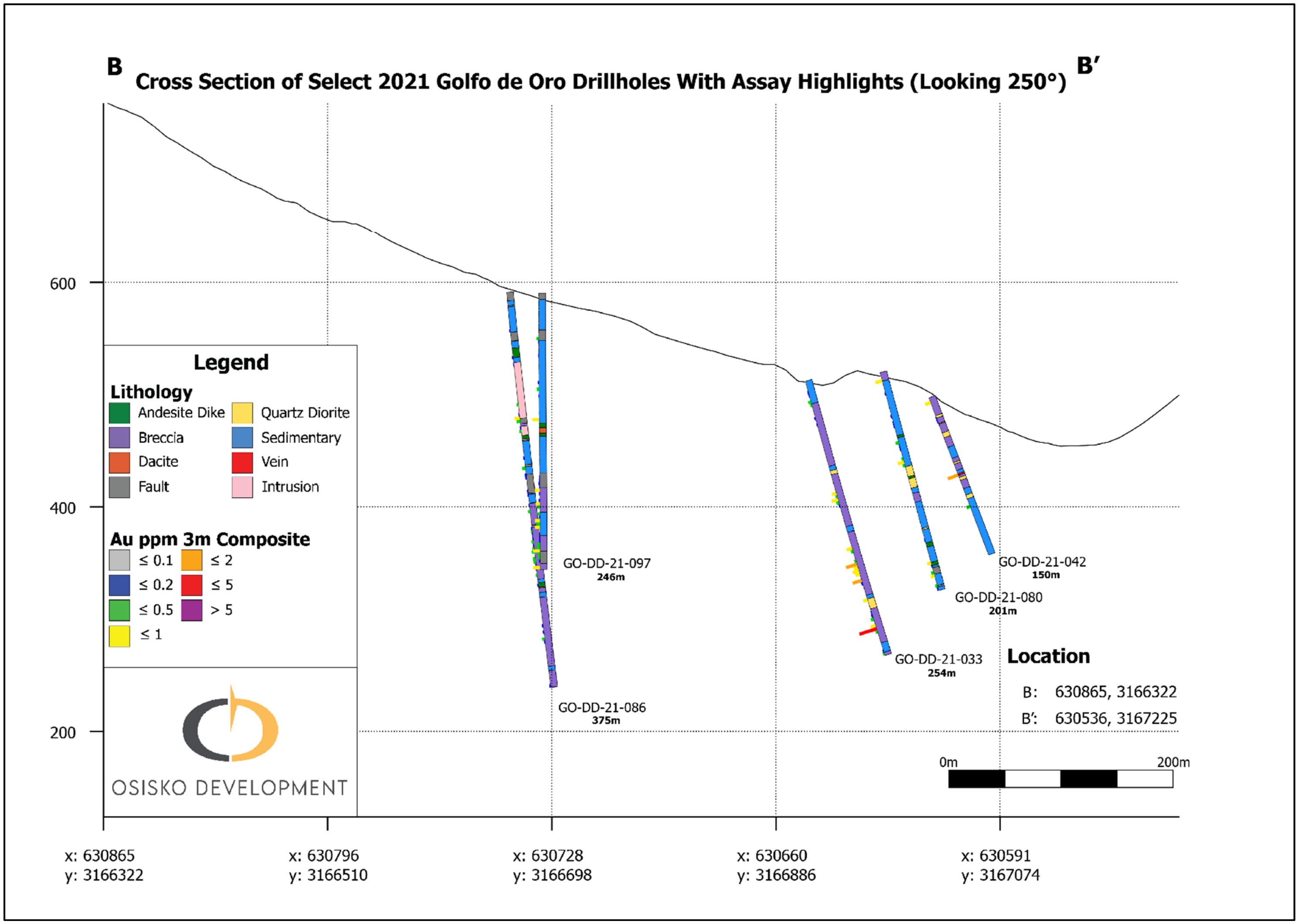


Figure supplied by Osisko Development, February, 2022.

Figure 10.6
California Deposit, 2021 Diamond Drill Hole Cross-Section

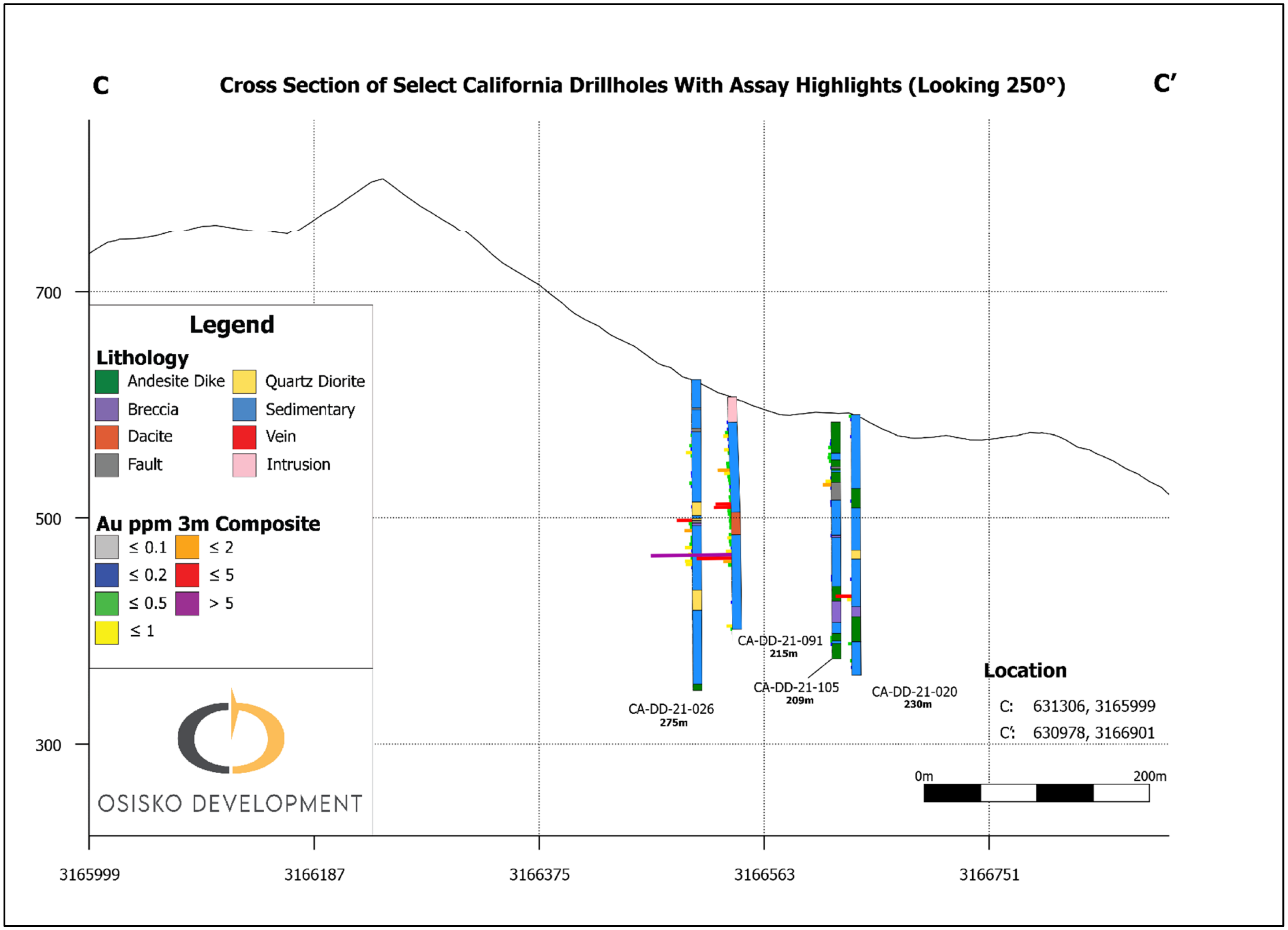


Figure supplied by Osisko Development, February, 2022.

Table 10.2
2021 Significant Drilling Assays

Deposit	Drill Hole ID		From (m)	To (m)	Length (m)	Au (ppm)	Ag (ppm)
Sapuchi	SP-DD-21-001		6.35	17.25	10.90	1.42	8.05
	SP-DD-21-001		42.50	55.00	12.50	2.16	2.90
	SP-DD-21-001	including	49.40	50.50	1.10	11.45	13.80
	SP-DD-21-001		83.85	98.65	14.80	1.04	2.00
	SP-DD-21-003		39.50	54.50	15.00	1.22	2.44
	SP-DD-21-005		89.80	94.85	5.05	2.66	4.27
	SP-DD-21-006		119.15	129.40	10.25	2.37	2.02
	SP-DD-21-006		418.05	435.75	17.70	1.01	11.75
	SP-DD-21-007		30.10	43.95	13.85	1.50	3.06
	SP-DD-21-007		54.05	63.50	9.45	1.58	32.51
	SP-DD-21-008		11.20	31.65	20.45	1.08	2.69
	SP-DD-21-008		62.55	84.70	22.15	1.59	3.68
	SP-DD-21-008		165.00	177.65	12.65	2.94	3.98
	SP-DD-21-008	including	173.25	173.95	0.70	44.40	54.40
	SP-DD-21-010		27.50	36.50	9.00	2.24	14.32
	SP-DD-21-010	including	32.00	33.50	1.50	10.90	63.20
	SP-DD-21-011		8.10	28.95	20.85	0.72	4.13
	SP-DD-21-012		11.10	26.00	14.90	1.22	1.20
	SP-DD-21-013		77.60	87.80	10.20	1.06	3.75
	SP-DD-21-019		167.40	207.30	39.90	1.02	3.90
	SP-DD-21-023		21.90	38.75	16.85	0.94	2.36
	SP-DD-21-028		192.05	196.30	4.25	3.39	13.46
	SP-DD-21-029		85.75	105.05	19.30	1.60	3.09
	SP-DD-21-031		163.50	168.20	4.70	3.34	7.13
	SP-DD-21-034		2.30	24.30	22.00	1.30	3.06
	SP-DD-21-038		5.85	27.50	21.65	2.14	3.05
	SP-DD-21-038	including	21.50	23.00	1.50	9.99	2.63
	SP-DD-21-039		23.80	37.25	13.45	1.33	3.75
	SP-DD-21-040		70.35	99.55	29.20	1.52	13.77
	SP-DD-21-046		55.00	72.00	17.00	1.02	3.34
	SP-DD-21-047		18.50	30.35	11.85	1.80	1.19
	SP-DD-21-060		2.70	11.80	9.10	2.19	5.35
	SP-DD-21-060A		3.70	25.75	22.05	0.62	5.00
	SP-DD-21-060A		177.70	183.00	5.30	3.58	2.71
	SP-DD-21-065		55.55	70.35	14.80	1.37	1.84
	SP-DD-21-067		170.25	180.80	10.55	1.26	0.73
	SP-DD-21-071		2.80	35.00	32.20	0.81	1.77
	SP-DD-21-073		0.00	27.25	27.25	0.82	3.11
	SP-DD-21-075		144.50	153.00	8.50	1.32	9.32
	SP-DD-21-081		1.30	27.95	26.65	0.93	6.76
	SP-DD-21-081		35.60	44.10	8.50	2.35	3.99
	SP-DD-21-082		22.15	30.95	8.80	2.49	8.32
	SP-DD-21-082	including	23.60	25.10	1.50	7.78	5.30
	SP-DD-21-083		12.60	19.35	6.75	2.01	1.66
	SP-DD-21-087		0.00	13.85	13.85	0.97	3.98
	SP-DD-21-087		18.20	59.00	40.80	1.00	14.32
	SP-DD-21-088		50.40	67.95	17.55	0.94	7.37

Deposit	Drill Hole ID		From (m)	To (m)	Length (m)	Au (ppm)	Ag (ppm)
	SP-DD-21-089		10.50	70.95	60.45	1.06	3.88
	SP-DD-21-093		112.80	123.00	10.20	1.39	1.79
	SP-DD-21-093		154.75	159.50	4.75	2.49	51.49
	SP-DD-21-096		114.05	137.00	22.95	1.07	2.31
	SP-DD-21-098		46.20	71.65	25.45	1.60	1.92
	SP-DD-21-098		81.10	105.50	24.40	0.51	3.07
	SP-DD-21-099		87.85	98.35	10.50	2.39	3.36
	SP-DD-21-099	including	89.35	90.65	1.30	10.20	5.91
	SP-DD-21-099		108.85	126.60	17.75	0.80	1.50
	SP-DD-21-102		7.10	86.00	78.90	2.19	4.12
	SP-DD-21-102	including	16.30	19.50	3.20	21.30	11.75
	SP-DD-21-102	and	70.60	72.10	1.50	7.34	6.06
	SP-DD-21-103		31.10	47.70	16.60	0.76	2.58
	SP-DD-21-104		39.80	42.15	2.35	8.28	1.92
	SP-DD-21-108		30.20	48.50	18.30	1.41	1.09
	SP-DD-21-124		55.50	57.20	1.70	8.56	4.42
	SP-DD-21-124	including	56.50	57.20	0.70	16.60	5.34
	SP-DD-21-130		19.50	47.00	27.50	0.75	3.41
	SP-DD-21-134		30.25	50.50	20.25	1.19	2.14
	SP-DD-21-135		13.50	31.40	17.90	1.75	3.33
	SP-DD-21-135		24.00	27.00	3.00	4.50	3.20
	SP-DD-21-138		9.00	25.95	16.95	1.22	1.88
	SP-DD-21-138	including	15.80	17.30	1.50	6.42	1.87
	SP-DD-21-146		72.00	85.80	13.80	1.31	1.26
	SP-DD-21-148		12.00	27.95	15.95	1.46	2.65
	SP-DD-21-153		28.10	30.00	1.90	7.04	121.00
	SP-DD-21-162		12.00	25.50	13.50	0.97	2.13
	SP-DD-21-173		0.00	18.60	18.60	1.18	3.85
Golfo de Oro	GO-DD-21-033		166.90	186.40	19.50	0.81	0.79
	GO-DD-21-049		143.60	145.10	1.50	9.59	7.78
	GO-DD-21-057		313.60	334.80	21.20	2.47	18.67
	GO-DD-21-057	including	333.30	334.80	1.50	18.00	43.90
	GO-DD-21-084		65.00	96.50	31.50	0.43	0.82
	GO-DD-21-094		98.85	134.50	35.65	0.86	0.62
	GO-DD-21-097		222.30	244.50	22.20	0.47	0.36
	GO-DD-21-110		100.25	131.50	31.25	1.45	2.05
	GO-DD-21-111		86.30	128.80	42.50	1.55	2.32
	GO-DD-21-131		59.30	63.80	4.50	2.35	1.93
	GO-DD-21-136		75.50	92.00	16.50	0.76	2.79
	GO-DD-21-147		84.65	98.70	14.05	0.87	0.61
	GO-DD-21-161		162.80	183.80	21.00	0.87	1.62
California	CA-DD-21-026		124.45	164.40	39.95	0.63	0.90
	CA-DD-21-037		86.40	98.30	11.90	1.50	13.96
	CA-DD-21-051		208.10	224.35	16.25	1.73	13.67
	CA-DD-21-051	including	214.30	215.35	1.05	12.85	13.10
	CA-DD-21-064		114.80	128.40	13.60	1.62	2.25
	CA-DD-21-070		158.05	174.35	16.30	1.28	1.17
	CA-DD-21-070	including	161.00	162.50	1.50	8.21	1.38
	CA-DD-21-085		134.30	171.80	37.50	0.92	2.15
	CA-DD-21-085		210.80	228.00	17.20	0.87	3.44

Deposit	Drill Hole ID		From (m)	To (m)	Length (m)	Au (ppm)	Ag (ppm)
	CA-DD-21-091		93.70	103.60	9.90	1.56	0.94
	CA-DD-21-091		135.40	148.90	13.50	3.93	3.38
	CA-DD-21-091	including	139.90	141.40	1.50	26.50	4.80
	CA-DD-21-100		18.80	36.80	18.00	0.73	3.09
	CA-DD-21-100		122.30	131.30	9.00	2.41	3.00
	CA-DD-21-113		32.30	52.20	19.90	0.76	0.94
	CA-DD-21-116		89.15	98.70	9.55	2.82	11.39
	CA-DD-21-165		119.4	120.9	1.5	21	4.5

Table supplied by Osisko Development, February, 2022.

10.2 MICON QP COMMENTS

Micon's QP has reviewed the 2021 drilling program and results and is of the opinion that the drilling has been conducted using industry best practices. Therefore, the information gained by drilling can be used to support a mineral resource estimate for the various deposits at the San Antonio Project.

11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

All data in the database come from the different drilling campaigns that have been conducted on the San Antonio Project since the 1990s. Information related to historical drilling (prior to 2021) campaigns was extracted from the unpublished Technical Report prepared in by JDS Energy & Mining Inc., in 2020. Information related to the 2021 drill campaign completed by Sapuchi Minera was collected during the site visit in November, 2021, and data provided by the company. The complete database is the source of information that support the resource estimation referred in this Technical Report.

11.1 Historical Sampling Procedures by Zaruma/Red Tiger

11.1.1 Luz del Cobre Deposit

Upon delivery to the logging facility, the core obtained from the Zaruma/Red Tiger drilling from the was digitally photographed to maintain a record of the appearance of the material, and for the purposes of geotechnical evaluation. The core was then geologically logged, and sample intervals marked for splitting. Intervals were determined based on the geology and mineralization, in order to develop data consistent with the constraints used in modelling. Sample intervals were routinely 1.52 m in length or less, although, on rare occasions, the intervals were exceeded in areas of poor core recovery or in rock with obvious low copper content. The entire hole was sampled.

Where the integrity of the core permitted, the sample was split using a diamond core saw. Where the core was strongly broken or had a high clay content, a sample splitter was used. Since it was planned to also use the core for metallurgical testing, a ¼ split was used for assaying, leaving ¼ for archiving and ½ for metallurgy.

Core recovery was examined during the site visits completed by JDS in 2020 and deemed to be satisfactory. Micon's QP believes that JDS conducted a thorough review of the core recovery during its site visit and, consequently, Micon's QP concentrated on reviewing the core generated during Osisko Development's drilling work and did not review the historical drilling.

All drill core sampling was supervised by Red Tiger geologists and conducted by a company employee. Samples were prepared at the ALS Minerals (ALS) laboratory in Hermosillo, Mexico and the pulps were then shipped to the ALS laboratory in Vancouver, BC, with the rejects returned to Red Tiger for archiving.

ALS is an international mineral testing laboratory, operating in 55 countries. ALS maintains ISO registrations and accreditations, which provide independent verification that a Quality Management System, (QMS) is in operation at the location in question. Most ALS laboratories are registered or are pending registration to ISO 9001:2008, and several analytical facilities have received ISO 17025 accreditations for specific laboratory procedures.

All samples in the oxide zone were analyzed for total copper and acid soluble copper, while the mixed zone core was tested with a sequential copper analysis which included total copper, cyanide soluble copper and acid soluble copper. In addition, every tenth sample was tested for 34 elements, using ICP methods. At the end of the program, ALS shipped ten per cent of the pulps to Toronto for check assaying of total copper by SGS Canada (SGS). SGS Canada is an independent commercial laboratory which maintains ISO/IEC 17025 accreditation for its mineral services laboratories.

No quality control was implemented by Red Tiger, however, results of the internal laboratory QC, the secondary laboratory checks, and the P&E due diligence sampling are presented in the Technical Report prepared by JDS Energy & Mining Inc., in 2020. This material has been reviewed by the Micon QP and deemed to be satisfactory for the purposes of use as part of mineral resource database.

11.1.2 Sapuchi Deposit

Drilling consisted of reverse circulation (RC) and all sampling was done on regular 5-foot (1.52 m) intervals down the drill hole. The sample emerging from the drill-mounted cyclone was collected by Minerales Libertad personnel and then split into two samples using a Jones riffle splitter.

The drilling completed at the Sapuchi deposit was conducted by Layne de Mexico, based out of Hermosillo, using a track mounted reverse circulation drill rig with a hole diameter of 5.5 inches. Cuttings were channelled through a cyclone attached to the drill and were then separated into two samples using a Jones splitter. Duplicate samples were collected over five-foot intervals (1.52 m) under the direction of a Minerales Libertad geologist, who also logged the cuttings on site, and the samples were transported to the main camp area at the end of each day. One sample was sent for assay, while the duplicate sample was placed in secure storage.

Duplicate samples from the RC drill program were taken to camp at the end of each shift, where one sample was placed in secure storage and the second was sent to the assay laboratory for analysis.

The channel sampling which was included in the 2013 resource estimation was similar for both the surface and underground locations. The location of each sample was determined by the geologist during mapping, based on the character and attitude of the rock, with the channel then cut by technicians under the geologist's direction. Channel lengths varied from one to two metres, with the one metre length being more common. Widths were approximately ten centimetres and depths were up to five centimetres. All sample sites were marked with aluminum tags displaying the appropriate sample number and the channel area was painted, enabling short-term re-examination of the area after receipt of assay results. As with the drilling, the samples were moved to the camp site at the end of each day for shipment to the assay laboratory.

The RC drill samples were delivered by Minerales Libertad personnel to the Bondar-Clegg preparation laboratory in Hermosillo, Mexico, where pulp samples were prepared and then shipped to the laboratory in Vancouver, BC. Bondar-Clegg was a major provider of analytical services to the mineral industry, with laboratory facilities in Canada and other parts of North and South America. In 2001, ALS announced that it had acquired the Bondar-Clegg laboratory group, effective December 1, 2001. It was reported by the Northern Miner in April, 2001 that Bondar-Clegg intended to get accredited according to ISO Guide 25 but it is unknown if this occurred prior to acquisition by ALS in December, 2001.

Samples were analyzed for gold by lead-collection fire assay and AA finish. Due to the expense involved and the difficulty of re-importation to Mexico, the pulps were not returned (the primary reason for collecting two samples for each drill interval).

A limited number of samples were assayed by Barringer Laboratories Inc. (Barringer) of Reno, Nevada, using the same assay techniques as at Bondar-Clegg. The certification that Barringer held is unknown but a recent web search by Micon appears to indicate that this commercial laboratory ceased to exist between 2000 and 2002.

Surface and underground channel samples were sent to either Bondar-Clegg, with procedures and analysis as above, or to Jacobs Assay Laboratory (Jacobs) in Tucson, Arizona. When the destination for the samples was Jacobs, they were delivered by Minerales Libertad personnel to a shipping point in Hermosillo, where Jacobs's personnel took control of the samples for shipment to Tucson. Samples at Jacobs were analyzed for gold by fire assay on a two-assay tonne aliquot and for a suite of 30+ elements by the ICP method. Jacobs was a small privately run commercial laboratory which does not appear to have obtained ISO certification prior to the principal person retiring in the mid-2000s and closing commercial operations.

Due to the amount of time between the reverse circulation drilling at Sapuchi and the resource estimate, P&E chose to verify the quality of the older data, even though all records were available. To confirm the quality of the drilling assays, 245 samples from gold bearing intervals in 22 drill holes were recovered from the secure facility on site and submitted to the Minerales Libertad laboratory, which was established for the Luz del Cobre mine. The samples were assayed for gold by fire assay-AA, and copper was analyzed by standard atomic absorption methods. The results of this work confirmed the reliability of the earlier sampling. Twenty of the drill samples were also analyzed for gold by bottle roll testing, again confirming the level of contained gold and providing additional data on the leaching characteristics of the samples.

Micon's QP notes that it is common practice for operating mines to assay their own samples using purchased standards and blanks and include the information obtained in their databases. Mine laboratories also usually participate in bi-annual or annual round-robins to maintain their QA/QC, as well as sending material to secondary laboratories. Mine laboratories doing their own assaying is an acceptable and common practice in the mining industry and it is rare that these laboratories are ISO Certified, even though they maintain their own QA/QC protocols. Canadian CANMET and Australian Geostats Pty. Ltd. are the most common providers of round-robin testing of mine laboratories.

Thirty-seven channel samples were re-located at surface at Sapuchi and re-sampled as closely as possible to the original site. These samples were assayed for gold by fire assay methods in the Minerales Libertad laboratory and for copper by atomic absorption. The values confirmed the reliability of the original work.

Quality control in the Minerales Libertad laboratory was maintained by internal calibration standards purchased for that purpose. In addition, certified standards for both copper and gold were purchased by the exploration group and were submitted with samples to verify the quality of the results. These results were reviewed by JDS in 2020 and an internal report was drafted.

11.1.3 Realito Trend Deposits

Samples generated during the 2003-2004 Realito Trend drill program were prepared by employees of Red Tiger and followed the protocols as developed and implemented in 2003 by J. Poulter. The procedures for the drill program are summarized below:

"Core was picked up at the drill site by Red Tiger Mining geologists and transported to the main camp for logging and splitting. Rock type, alteration and mineralization are determined and recorded on the drill logs, and intervals are selected for sampling. In addition, various other measurements are taken to assist in interpretation or aid in future work. These include core recovery, RQD and specific gravity (calculated by measuring the weight of a sample dry and then suspended in water) data that are also recorded on the logs."

"Sample boundaries are selected by the geologist on the basis of geology, alteration, and mineralogy. Sample intervals are generally from 1 to 1.5 m of core length, although in rare cases there are longer intervals. Core is split by either a mechanical splitter or a diamond saw".

The drill core was stored in an unsecured outdoor location under constant visual observation. Split and sawed drill core samples were stored behind a locked gate until a sufficient number had accumulated for shipping to the assay laboratory. When a sufficient number of samples had accumulated, they were transported by Red Tiger staff to the sample receiving facility at the ALS laboratory in Hermosillo. At the laboratory, sample pulps were prepared from sub-samples of the drill core and were sent to ALS in Vancouver, BC where the final analyses were done.

Gold was determined using fire assay-AA finish on a one assay tonne sub-sample. Any samples returning greater than 10 g/t Au were re-analyzed using a fire assay / gravimetric finish on a one assay tonne sub-sample. Multi-element analyses for a 32-element suite were determined using an Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES) method.

A program of check sampling was carried out on select samples of core, following completion of the drilling program. This program consisted of sending select sample rejects created by ALS to Jacobs in Tucson, Arizona for determination of gold content. These results were reviewed by JDS in 2020 and an internal report was drafted.

11.2 Osisko Development Sample Preparation, Analysis and Security

11.2.1 Sampling Procedures Osisko Development – Sapuchi (2021)

Intensive core drilling campaigns completed in 2021 by Osisko Development were carried out by employees of Sapuchi, the Mexican subsidiary of Osisko Development. Samples generated during this campaign followed the logging protocols prepared by the Mexican subsidiary in March, 2021. Core logging and sample procedures were revised by Micon during the November, 2021, site visit. The procedures for the 2021 drill program are summarized below.

The drill program is prepared and updated on a weekly basis, based on the prior drill results. Programmed holes are marked by geologists in the field, using a handheld GPS, and the hole location is verified by the professional mine surveyor before the rig is installed. Once the rig is installed, the geologist verifies the level and orientation of the rig, prior to initiating the drilling. Once drilling starts, geologists conduct a periodic drill inspection, visiting the rig at least twice a day. Core boxes are transported from the rig site to logging facilities by either the geologists or the drillers. Core boxes are inspected, and wood-depth marks revised and corrected, if necessary.

Each core box is inspected to ensure that it is properly marked, indicating the Hole ID, box number and core interval. Core logging begins by determination of the core recovery and rock quality designation (RQD), after which the geologists proceed with the geological core logging to capture data regarding to lithology, alteration, mineralization, structures and other relevant geological data. Once the core logging is completed, the geologist in charge proceeds to mark the sample locations. The sample procedures established that a sample will be 1.5 m in length unless there are geological changes, such as lithological contact, relevant structures, or changes in alteration and/or mineralization that limit the length to less than 1.5 m. The local sample protocols establish that the minimum sample length allowed is 0.50 m. Samples are marked in each core box, using a permanent marker pen and stapling a copy of the sample tag into the box.

11.2.2 Sample Security

The following is a description of the steps Sapuchi undertook to ensure the security of the samples taken during its exploration and drilling programs. The system described herein was outlined by the project geologists during the site visit and is aligned with the general guidelines included in the logging protocols prepared for Sapuchi in March, 2021:

1. Core boxes are transported by either the drillers or geologist up to the core shack, located at the mine facilities.
2. After reviewing the core boxes received from the drill site, core is logged in detail, estimating core recovery and RQD, prior to the detailed lithological logging. Data are directly loaded in electronic tablets, with use of "DEPOSIT" database software.
3. Core samples are marked according to the established protocols. Copies of the sample tags are inserted in the core boxes as a sample location reference.
4. Core boxes are photographed, using an adequate preconfigured setting, which includes a whiteboard with the adequate identification of the hole ID, core box number and the core interval at each photo.
5. Marked core boxes are then sent for core splitting. A trained field assistant prepares heavy duty plastic bags with the identification number for each sample using permanent marker pen and inserting a copy of the sample tag in each corresponding bag.
6. The field assistant proceeds to split samples with the core saw, under the supervision of the geologist in charge. Half of the split core is bagged, and half remains in the core boxes as a witness sample.
7. Samples produced during the diamond drilling are bagged, tied and transferred into sacks at the core shack facilities. Each sack is properly identified with the number of samples included in the sack. When the geologists prepare the sample batch, samples from each hole drilled are maintained as individual batches.
8. Samples are collected at the core shack facilities using a transportation designation for the corresponding laboratory (ALS or Bureau Veritas). Samples are then transported by the freight company designated, to the laboratory facilities located in the city of Hermosillo.
9. The geological manager is informed by the field geologist what samples have been transported by each freight company. The geological manager prepares the corresponding work order which indicates the numbers of samples shipped and analysis requested.
10. The laboratory prepares a sample reception form, which is mailed directly to the chief geologist and data manager.
11. Witness samples of the core (half of the core) remain safely stored at the core shack facilities, located at the Project.
12. Samples rejects and pulps are sent back to the Project after chemical analysis. Rejects and pulps are currently safely stored in different locations within the Project.
13. Assay certificates with assay results are delivered by electronic mail from the laboratory in both PDF format and as a CVS file to the management team and data manager of Sapuchi. Assays files are then imported into the DEPOSITS database platform.

14. Control samples are reviewed in timely manner by the data manager, who reports any inconsistency to the laboratory for verification and potential correction.

Sample assays for the early drilling campaigns were conducted by ALS. The most recent drill samples have been assayed by Bureau Veritas, which offers a shorter turn around. Both laboratories are independent ISO-Certified Laboratories The sample preparation and main assaying procedures at the laboratories are summarized in Table 11.1.

Table 11.1
Sample Assay Methodologies

Laboratory	Stage	Method Code	Description
ALS[1]	Sample Preparation	PREP-31	Crush to 70% less than 2 mm, riffle split off 250 g, pulverize split to better than 85% passing 75 microns.
	Gold Determination	AU-AA24	Au 50 g Fire Assay AA finish
	Multi-Element	ME-MS61	ICP-MS 48 Elements, Four acid digestion
	Gold (>10 ppm)	Au-GRA22	Au by fire assay and gravimetric finish
	Silver (>100 ppm)	AG-OG62	Ag by HF-HNO_3-$HClO_4$ digestion with HCl leach, ICP-AES or AAS finish. 0.4 g sample
	Copper (>10,000 ppm)	Cu-OG62	Four acid digestion and ICP finish. 0.4 g sample
Bureau Veritas[2]	Sample Preparation	PRP70-250	Crush, split and pulverize 250 g rock to 200 mesh
	Gold Determination	FA450	50 g Lead Collection Fire Assay Fusion - AAS Finish
	Multi-Element	MA200	45 element - ICP-ES/MS
	Gold (>10 ppm)	FA550	Lead collection fire assay 50G fusion - Grav finish
	Copper (>10,000 ppm)	MA370	4-Acid Digestion ICP-ES Finish

[1] Schedule of Services & Fees. Geochemistry. ALS Global 2020
[2] Bureau Veritas Minerals. 2015 Schedule of Services and Fees (CAD) V.4

11.2.3 Quality Assurance and Quality Control

In March, 2021, Sapuchi prepared logging protocols which described the general guidelines for core information data collection. The existing manual details the system of loading data into the DEPOSIT database, as well as providing general guidelines related to lithological logging, sampling criteria, RQD, recovery, core box photos and the determination of specific gravity.

The dataset used in the current resource estimation for the San Antonio Project contains 20,386 core samples, and includes all samples collected during the drilling campaigns, up to late 2021. Core sample assays from the previous drill campaigns are available but were not used in current estimations, due to uncertainties in the location and sampling/assays procedures. The database also contains information from 2,793 control samples, which includes assay results for coarse and fine blanks, Standard Refence Materials (SRM) and duplicates (core, rejects and pulps). Control samples were inserted systematically after 25 core samples and currently represent the 12.0% of the assays included in the dataset used for the resource estimation. The control sample distributions are summarized in Table 11.2.

Table 11.2
Summary of the Distribution of Control Samples Inserted by Sapuchi

Control Sample Type	Number	% Of Assayed Samples	% By Category
Blanks			
Coarse Blanks	692	3.3%	3.8%

Fine Blanks (Not Certified)	79	0.4%	
Fine Blanks (Certified)	100	0.5%	
Standard Reference Material			
OREAS 61f	86	0.4%	3.8%
OREAS 152B	68	0.3%	
OREAS 502C	196	1.0%	
OREAS 504C	200	1.0%	
OREAS 507	125	0.6%	
OREAS 609	108	0.5%	
CDN-CM-43	97	0.5%	
Duplicates			
Core	957	4.5%	4.5%
Rejects	20	0.1%	
Pulps	36	0.2%	
Referee Lab	29	0.1%	
TOTAL	**2,793**		**12.0%**

11.2.3.1 Course Blanks

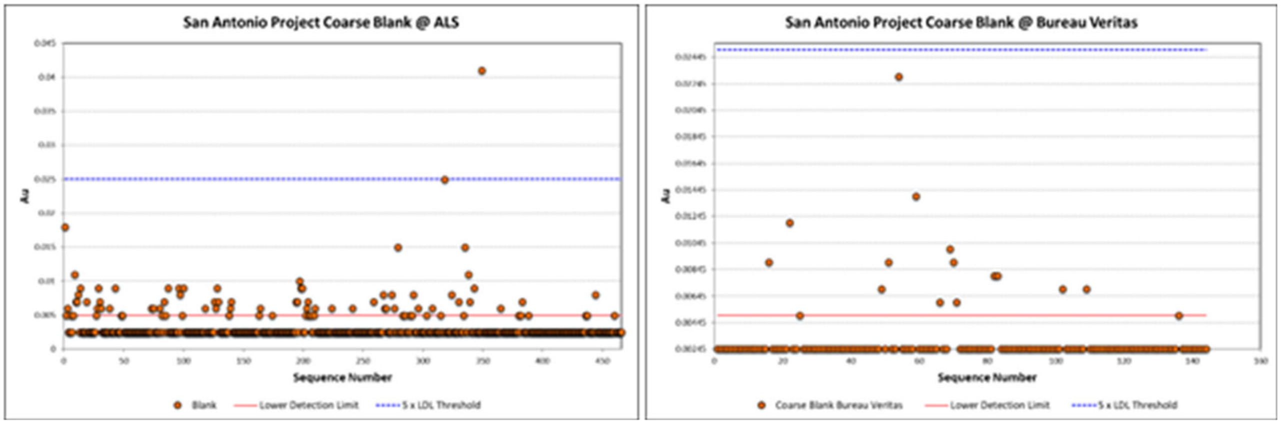
During the 2021 drill campaign, Sapuchi used three different types of blanks to assess any potential cross contamination. The types of blanks include:

- Coarse blank material, constituted from decorative marble pebbles.
- Non-certified fine blank from local barren breccia.
- Certified commercial blank CDN-BL-10.

Coarse Blank

A total of 692 coarse blank samples were analysed, with 548 analyzed at ALS and 144 at Bureau Veritas. From the total of samples analyzed, only two samples analyzed by ALS are considered above the threshold of 5 times the detection limit established by the laboratory, with most of the reported values below the detection limit. The graphs in Figure 11.1, shows the distribution of assays results on the coarse blanks.

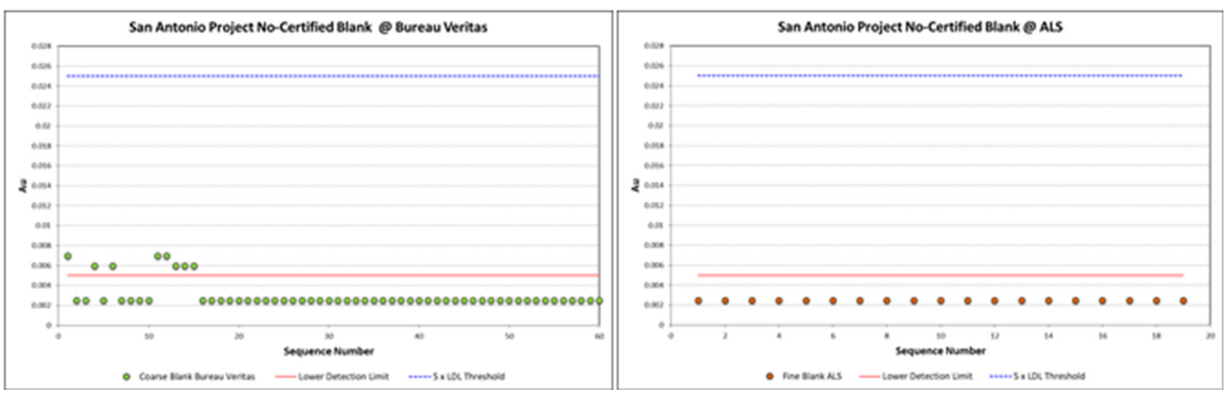
Figure 11.1
Coarse Blank Assays at ALS and Bureau Veritas



Non-Certified Fine Blank

A total of 79 non-certified blanks were inserted in the core samples batches. ALS analyzed 19 of these samples, while the remaining 60 samples were assayed at Bureau Veritas. Graphs displaying the results for the non-certified fine blanks are shown in Figure 11.2. There are no assay results that exceed the acceptable threshold established of 5 times the detection limits determined by each laboratory.

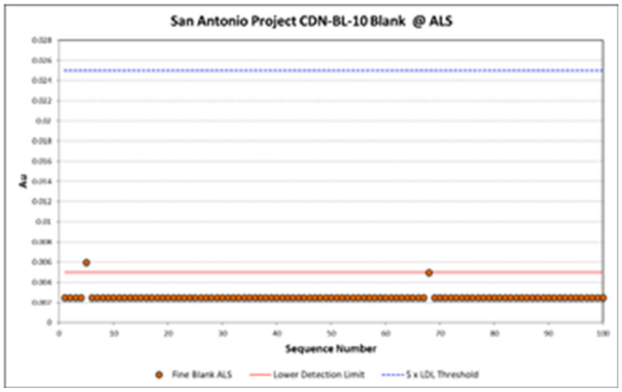
Figure 11.2
Non-Certified Fine Blanks Assays at ALS and Bureau Veritas



Certified Commercial Fine Blank

Commercial blank CDN-BL-10 prepared by CDN Resource Laboratories Ltd. (CDN Resource) laboratories based on granitic material was also inserted to assess potential cross-contamination issues during the assay procedures. A total of 100 samples containing this certified material were analyzed by ALS. Graphs displaying the results for this certified fine blank are showed in Figure 11.3. There are no assays results that exceeded the acceptable threshold established of 5 times the detection limit determined by ALS.

Figure 11.3
Certified Blanks CDN-BL-10 Assays at ALS



The results for the coarse and fine blanks analyzes indicate that no significant cross contamination occurred during the assay process.

11.2.3.2 Standard Reference Material

During the 2021 drilling campaign completed by Sapuchi, seven different types of commercial SRMs were used. Six out of the seven SRM used were produced by Australian Ore Research & Exploration P/L (OREAS) and the seventh was prepared by CDN Resource. The SRMs used, quantities used, comparison between historical means and certified value, as well as the matrix of each standard are summarized in Table 11.3.

Table 11.3
Summary of SRMs used During the 2021 Drill Campaign

SRM	Number of Samples	Historical Mean	Certificate Mean	Relative Difference %	SRM Matrix
OREAS 61f	86	4.665	4.600	0.014	Coarse reject splits of gold-silver ore samples blended with barren andesite
OREAS 152B	68	0.135	0.134	0.004	Porphyry cooper SRM from copper ore drilling reject material.
OREAS 502C	196	0.484	0.488	0.009	Blend of porphyry copper-gold ore, barren granodiorite and a minor quantity of Cu-Mo concentrate
OREAS 504C	200	1.466	1.480	0.010	Blend of porphyry copper-gold ore, barren granodiorite and a minor quantity of Cu-Mo concentrate
OREAS 507	125	0.177	0.176	0.005	Blend of porphyry copper-gold ore, barren granodiorite and Cu-Mo concentrate
OREAS 609	108	5.133	5.160	0.005	Blend of silver-copper-gold bearing ores
CDN-CM-43	97	0.306	0.309	0.009	Imperial Metal's Mount Polley mine low grade ore
TOTAL	**880**				

The Table 11.4 summarizes the basic statistical information of the seven SRM samples used to date. Based on the common QC criteria, most of the assayed standards are maintained within two standard deviations of the historical mean, with failures of between 2% and 8% (OREAS 502C), and a Relative Standard Deviation <5%. SRM CDM-CM-43 is considered as "Provisional" since the Relative Standard Deviation is slightly over the 5% criteria.

Table 11.4
Basic Statistics of the Seven SRM Samples

	OREAS 61f	OREAS 152B	OREAS 502C	OREAS 504C	OREAS 507	OREAS 609	CDN-CM-43
Statistics	Au	Au	Au	Au	Au	Au	Au
Count	86	68	196	200	125	108	97
Min	4.390	0.123	0.445	1.360	0.159	4.689	0.275
Max	4.990	0.144	0.530	1.600	0.191	5.520	0.358
Mean	4.665	0.135	0.484	1.466	0.177	5.133	0.306
Std Dev	0.094	0.004	0.014	0.042	0.006	0.194	0.017
Certificate							
Cert Mean	**4.600**	**0.134**	**0.488**	**1.480**	**0.176**	**5.160**	**0.309**
Cert Std Dev	**0.134**	**0.005**	**0.015**	**0.045**	**0.006**	**0.139**	**0.040**
% Bias	**1.4**	**0.4**	**-0.9**	**-1.0**	**0.5**	**-0.5**	**-0.9**
Certificate ± %							
Mean + %	5.06	0.15	0.54	1.63	0.19	5.68	0.34
Mean - %	4.20	0.12	0.44	1.32	0.16	4.62	0.28
Ok @ %	86	68	196	200	124	108	92
Failures > %	**0**	**0**	**0**	**0**	**1**	**0**	**5**
% Failures > %	**0**	**0**	**0**	**0**	***1***	**0**	***5***
Mean ± %	4.6 ± 0.46	0.13 ± 0.01	0.49 ± 0.05	1.48 ± 0.15	0.18 ± 0.02	5.16 ± 0.52	0.31 ± 0.03
Certificate ±2SD							
CMean + 2SD	4.87	0.14	0.52	1.57	0.19	5.44	0.39
CMean - 2SD	4.33	0.12	0.46	1.39	0.16	4.88	0.23
Ok @ 2 SD	85	67	184	186	114	90	97
Failures > 2SD	**1**	**1**	**12**	**14**	**11**	**18**	**0**
% Failures > 2SD	**1**	**1**	**6**	**7**	**9**	**17**	**0**
Mean ± 2SD	4.6 ± 0.27	0.13 ± 0.01	0.49 ± 0.03	1.48 ± 0.09	0.18 ± 0.01	5.16 ± 0.28	0.31 ± 0.08
Historical ±SD							
Mean + SD	4.9	0.1	0.5	1.6	0.2	5.5	0.3
Mean - SD	4.5	0.1	0.5	1.4	0.2	4.7	0.3
Ok @ SD	84	65	184	190	115	105	93
Failures > SD	**2**	**3**	**12**	**10**	**10**	**3**	**4**
% Failures > SD	**2**	**4**	**6**	**5**	**8**	**3**	**4**
Mean ± 2SD	4.66 ± 0.19	0.13 ± 0.01	0.48 ± 0.03	1.47 ± 0.08	0.18 ± 0.01	5.13 ± 0.39	0.31 ± 0.03
Historical RSD							
RSD	2.0	3.3	2.9	2.9	3.5	3.8	5.6
Certification	Certified	Certified	Certified	Certified	Certified	Certified	Provisional
Acceptable QC?	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
2SD < 10%?	yes	yes	yes	yes	yes	yes	**2SD > 10%**

The QC graphs for the SRM are displayed in Figure 11.4.

Although most of the assayed SRMs are reported to be within the common QC parameters of plus or minus two standard deviations, it was observed that the SRMs analyzed at Bureau Veritas are potentially slightly sub-estimating the assay values, since a significant quantity of assays lie below the mean value, and/or the largest differences (deviation from the mean) observed are below the mean value line. It was also observed that there is a temporal variation in the precision of the SRMs assayed, a situation that need to be addressed with each one of the laboratories.

The results for the SRMs indicate that assays currently stored in the database are generally suitable for use in resource estimation. There exist some specific considerations that need to be addressed for potential impact in the resources estimated, for any future upgrade in the estimation and reclassification of mineral resources.

Figure 11.4
QC Graphs for the Different SRMs used in the 2021 Drill Campaign

11.2.3.3 Duplicates

Sapuchi's QC protocols include the insertion of core duplicates. General protocols established by Sapuchi indicate that field duplicates for the core drill holes should be inserted systematically with each 25 samples. The insertion of duplicates is based on a systematic approach. However, the current duplicate insertion program does not consider or account for varying mineralized intervals/alteration and/or lithology and a review of the program which also accounts for these variations should be considered.

As part of the data verification process after the site visit was completed in November, 2021, a set of 20 randomly selected reject samples and 36 pulps were analyzed. Additionally, 29 rejects and/or pulps were sent to different laboratories and are herein considered as referee laboratory duplicates.

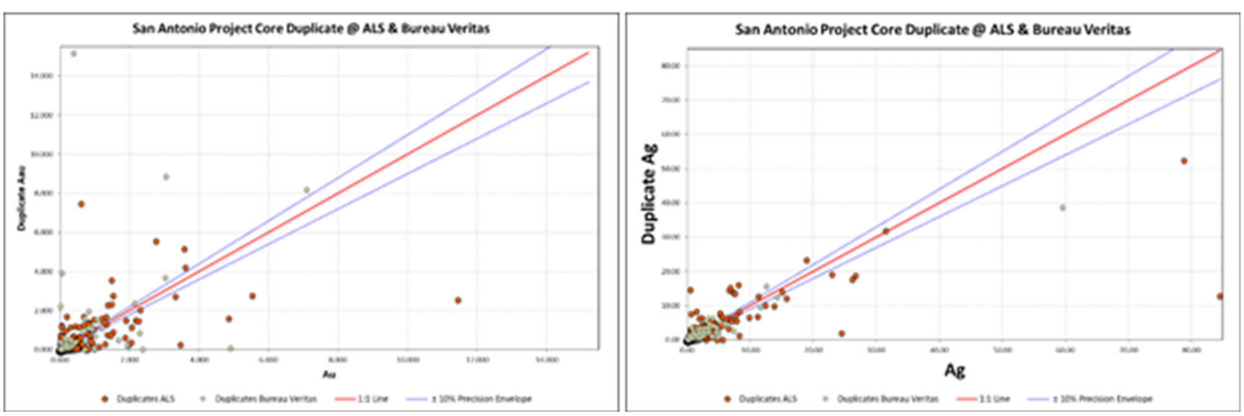
Core Duplicates

Core duplicates are selected by splitting the half core sample into two parts. One quarter of the core is prepared as a parent sample, with the other quarter as a duplicate. A total of 957 core duplicates, were collected and assayed by Sapuchi Minera during the drill campaign 2021 and are part of the dataset. This represents 4.5% of the total of core samples assayed.

The duplicate samples were systematically labelled with the consecutive number after the parent sample.

The Figure 11.5 displays the behaviour of the duplicate samples reported by both laboratories, ALS and Bureau Veritas, for gold and silver.

Figure 11.5
Scatter Plot Showing Core Duplicates ALS and Bureau Veritas



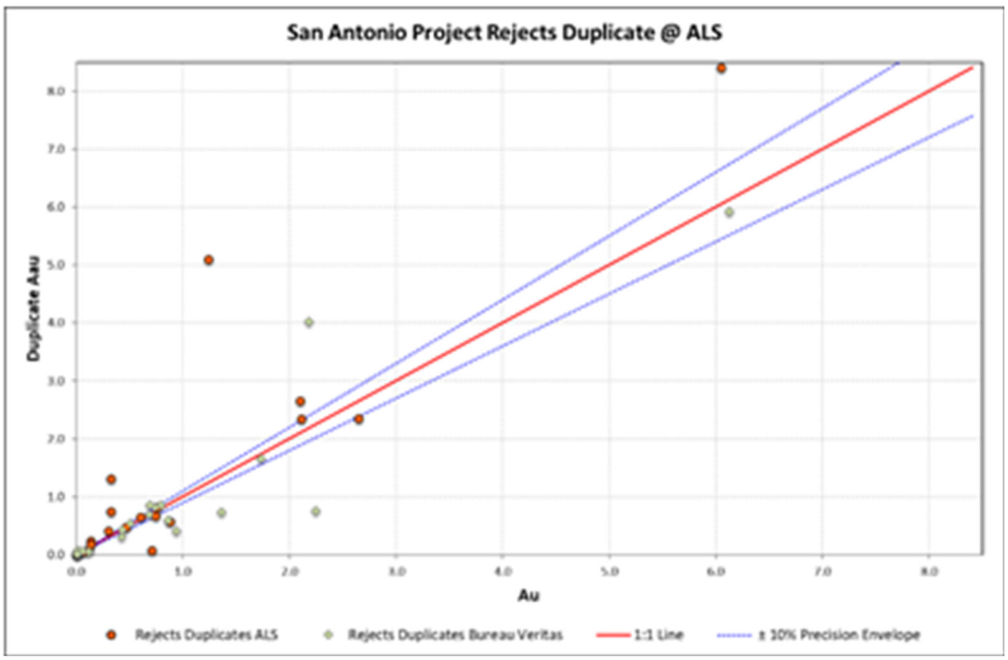
The precision for the gold and silver assays is considered low for the samples assayed in both laboratories. For gold, 10% of the sample pairs comply with the quality criterion of Relative Difference (RD) <10%, while, for silver, the numbers of pair samples that comply with this quality criterion increases to 27%. The precision increases to 26% (gold) and 45% (silver), considering samples pairs with RD <20%. The difference in the duplicate samples assays is significant even in both low-grade and high-grade samples. The mean value between the parent population and duplicate population differs by 7% for gold (0.192 g/t vs. 0.206 g/t), while, for silver, the RD between the means of the parent and duplicate is estimated at 8% (1.5 g/t vs. 1.4 g/t). For 64% of the duplicate samples assayed, the RD is >20%. It is noted that nearly 74% of the core duplicate samples are in the low-grade range (<0.1 g/t).

Reject Duplicates

As part of the data verification process, a total of 20 reject samples were selected and shipped for analysis. Both the parent samples and the rejects were analyzed at ALS.

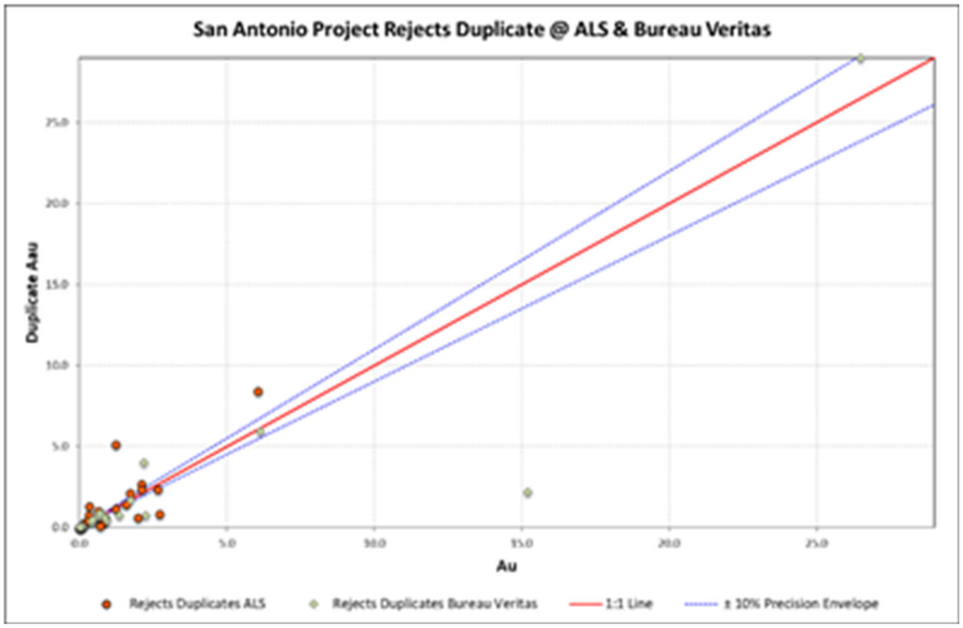
The precision observed for the 20 sample pairs, assayed in the same laboratory, show a low accuracy, with only 20% of the pairs considered to be within the limits of tolerance commonly established (RD <10%). The mean value of the 20 original assays, compared with the duplicate analysis, show a significant difference of -32% (0.986 g/t vs. 1.359 g/t). The scatter plot graphs displaying these values is provided in Figure 11.6.

Figure 11.6
Scatter Plot Showing the Reject Duplicates Assayed by ALS



The number of rejects analyzed also included some samples that were originally assayed at ALS or Bureau Veritas, which were later assayed at SGS or ALS. This extended number of rejects included an additional 30 samples to those displayed in Figure 11.6. When the entire population (50 samples pairs) is evaluated, it is observed that there is a slight improvement in the accuracy of gold assays, with 30% of the sample pairs being within the commonly accepted tolerance range (RD <10%), and with the difference in the mean values of the original assays compared with the duplicate assays for gold of 8% (parent: 1.843 g/t vs. duplicate: 1.695 g/t). Figure 11.7 displays the assay distribution of the 50 sample pairs analyzed by different the laboratories.

Figure 11.7
Scatter Plot showing the Reject Duplicates Assayed by ALS, Bureau Veritas



Pulp Duplicates

A total of 70 pulps were randomly selected and sent for check assays to the ALS laboratory. One of these samples was discarded, since the laboratory reported there was not sufficient sample to complete the analysis. From this population, 36 samples correspond to samples that were originally prepared at ALS, while the remaining 34 represent pulps that were assayed at different laboratory facilities.

For the 36 pulp samples originally prepared and assayed at ALS, no significant improvement in the accuracy is observed, with just 36% of the sample's pairs reporting a RD <10%. A significant improvement is observed when the mean value of both sets of data (parent vs. duplicate) is compared. The relative difference between the means is just 1%, (0.809 g/t vs. 0.804 g/t). Figure 11.8 displays the scatter diagram for this population of pulp samples assayed at the ALS facilities.

In of the entire population of pulps assayed (which include pulps analyzed by Bureau Veritas and SGS laboratories), the precision observed in the sample pairs is still low, with only 26% of the sample's pairs with an RD value <10%. The relative difference between the mean value of the two set of data (pulp parent and pulp duplicate) is 5% (1.084 g/t vs. 1.144 g/t). Figure 11.9 displays the sample distribution of the 69 samples pair of pulps analyzed by the different laboratories.

Referee Laboratory Duplicates

From the population of 50 rejects and 69 pulps reviewed, the sample rejects and pulps analyzed by different laboratories were extracted and examined individually. This includes 30 rejects samples and 34 pulps assayed by different laboratories.

The review of 30 reject samples analyzed by different laboratories indicates that 37% of the sample pairs accomplish the accepted limit of tolerance of RD<10%. The comparison in the mean value shows a difference of 23% (2.413 vs. 1.918), 50% of the sample pairs report a RD >20%. Sample pairs graph are displayed in Figure 11.10.

Review of the 34 pulp samples analyzed by different laboratories indicated that 21% of the sample pairs were within the accepted tolerance limit of RD<10%. The comparison in the mean value shows a difference of 1% (1.524 g/t vs. 1.514 g/t). However, 45% of the sample pairs reported a RD >20%. Sample pairs are displayed in Figure 11.11.

Figure 11.8
Scatter Plot Showing Pulp Duplicates Assayed by ALS

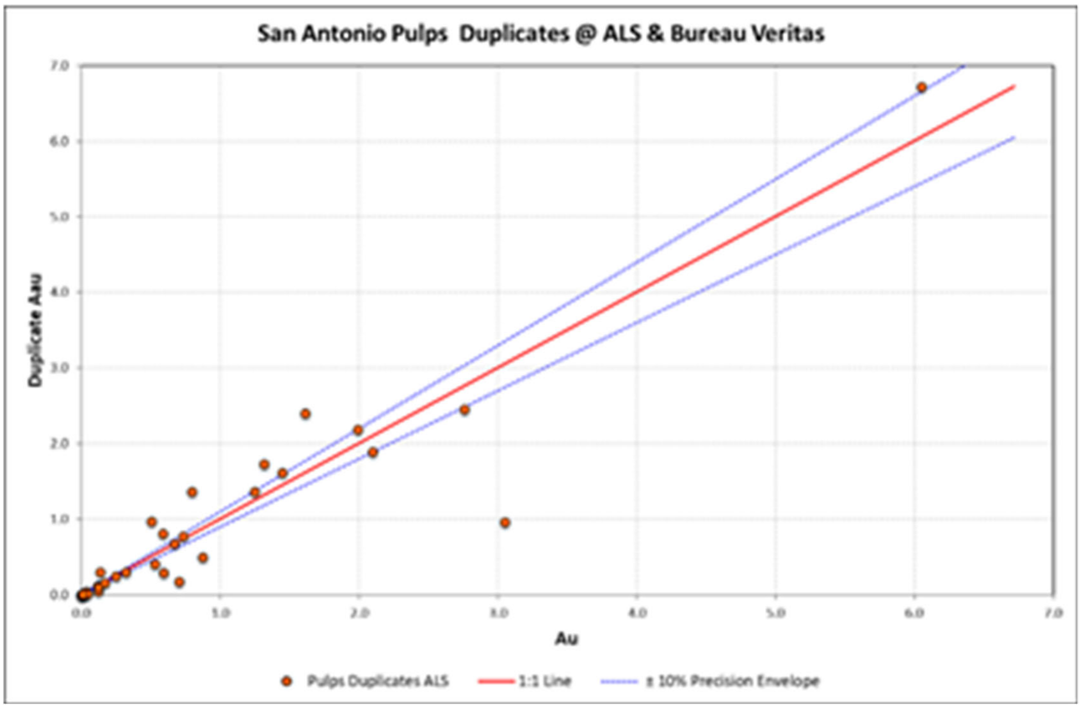


Figure 11.9
Scatter Plot showing Pulp Duplicates Assayed by ALS

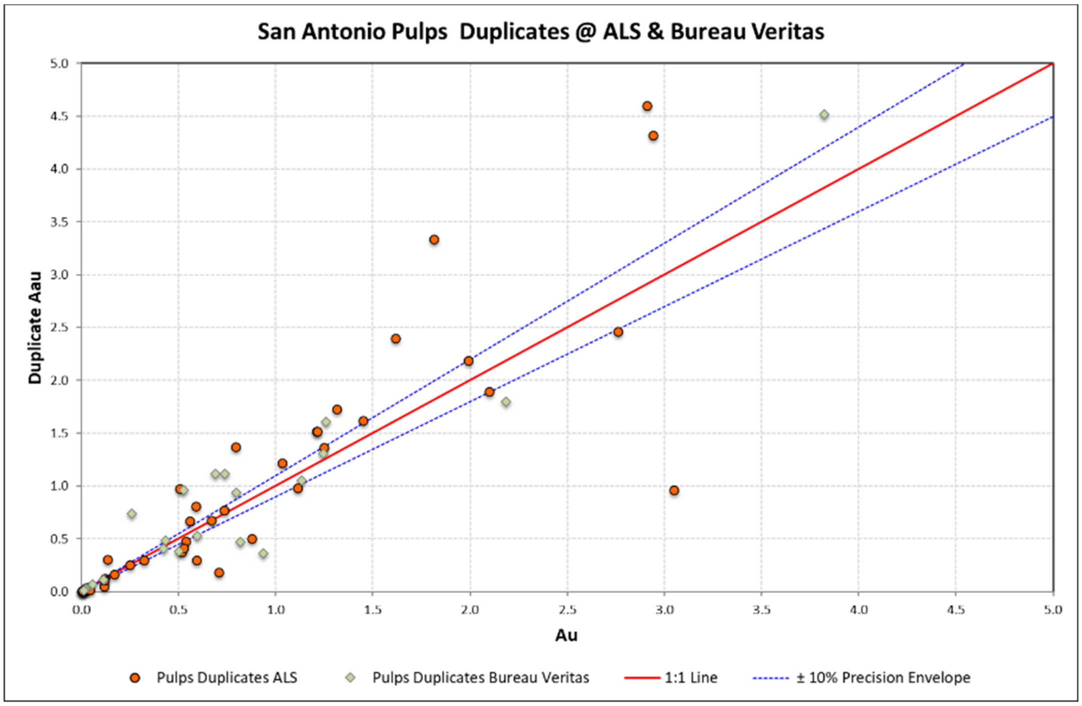


Figure 11.10
Scatter Plot showing Reject Duplicates Assayed at Different Laboratories

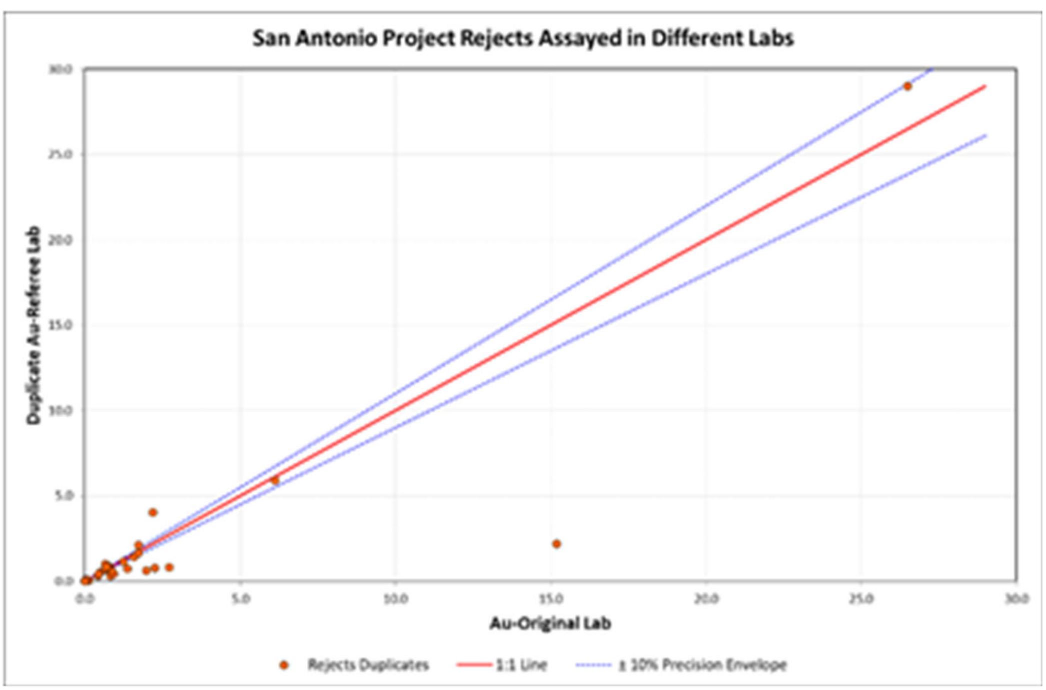
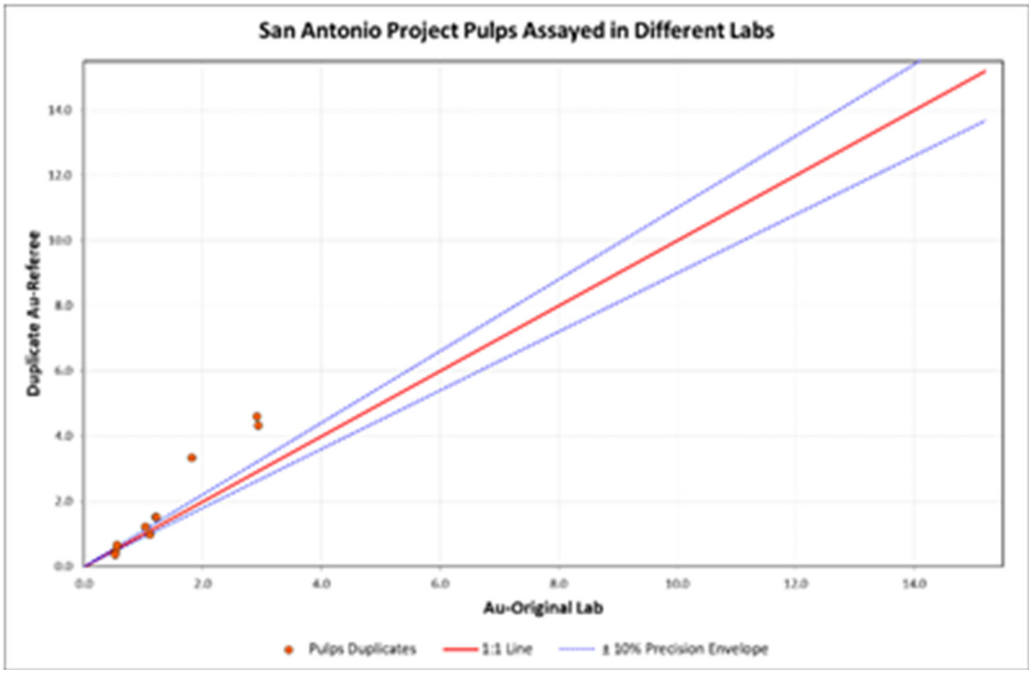


Figure 11.11
Scatter Plot Showing Pulp Duplicates Assayed at Different Laboratories



The review of the different types of duplicates (core, rejects, pulps) and analysis of samples pairs analyzed by different laboratories indicates that the level of precision for the analysis is low and needs to be properly assessed. The presence of gold mineralization is commonly manifested in the sample pairs, but the content of gold usually shows a significant difference between the parent sample and the duplicate sample. The precision does not improve significatively for more processed samples (core-rejects-pulps), but the comparison between the mean values of both populations (parent vs. duplicate) improves with the number of samples.

The results suggest that overall estimation of the resources may not see a significant impact in the global numbers, but that they may be a significant local impact in the spatial distribution of the values, and values assigned to each block, with a potentially significant impact in the block model, and eventually in the mine design and short-term mining plan.

11.3 Micon QP Comments

Micon's QP reviewed Sapuchi's QA/QC procedures for the 2021 drilling campaign at the San Antonio Project. The QP believes that the program was conducted in line with the CIM best practice guidelines.

Micon's QP recommends conducting a review of current logging protocols, prepared by Sapuchi in 2021, in order to implement standardized procedures for all the stages of data collection, and to provide detailed procedures with the aim of minimizing errors and creating systematic standard procedures during data collection. A chain of custody procedure should be included to track samples along the entire process chain and a verification procedure should be instituted to review specific gravity parameters at external specialized laboratories.

The sampling protocol requires revision to ensure the insertion of an adequate number and type of control samples within the potentially mineralized zone. The use of coarse blanks, with the highest hardness (e.g., quartz), as well as certified blanks is suggested. Sapuchi needs to consider creating and certifying its own blanks and SRMs, in order to minimize the matrix effect during assays.

The significant low accuracy for the different types of duplicates needs to fully be evaluated and corrective action put in place to increase the accuracy and/or understand the origin of the differences. It is suggested that Sapuchi consider conducting a comprehensive mineralogical analysis, including textural relationship, mineral size, exposure, etc., to better understand the impact of these factors on the quality of the assays obtained. Sapuchi also needs to review and re-enforce its own sampling procedures, as well as potentially reviewing and, eventually, modifying the sample preparation methodology used currently at the laboratories for its samples.

The use of the screen metallic assay technique is recommended by the Micon QP, as this will potentially promote a better understanding of the grade variability and increase confidence in the results.

The impact of the low accuracy in the assays results will affect the categorization of the resources and must be properly evaluated for any future work oriented towards upgrading the category of the resources as the Project advances. It is recommended to investigate and evaluate the spatial effect of the low accuracy in the assays results in the current geological/block model.

12.0 DATA VERIFICATION

12.1 GENERAL

Micon has been retained to audit Osisko Development's updated mineral resource estimate for the San Antonio Project in Sonora, Mexico and to compile a NI 43-101 Technical Report disclosing the results of the resource estimate audit. As part of this procedure, Micon has undertaken data verification related to Osisko Development's drilling program, as well as the database upon which the resource estimate is based.

12.2 SITE VISIT

The current site visit to the San Antonio property was completed between November 11 and 13, 2021 by Rodrigo Calles-Montijo, CPG, who is an independent consultant and Certified Professional Geologist (CPG), as well as a member of the American Institute of Professional Geologists (AIPG). Mr. Calles-Montijo is based in Hermosillo, México. Mr. Calles-Montijo was contacted by Maggie Layman, Vice-President of Exploration of the Osisko Development, requesting the preparation of a NI 43-101 Technical Report, and later established contact with William Lewis (Micon) to define the objectives of the site visit, as required by the NI 43-101 guidelines. The objectives of the site visit were discussed between Maggie Layman (Osisko Development), William Lewis (Micon) and Rodrigo Calles-Montijo. Mr. Calles-Montijo visited the different areas of the property, with an emphasis in verifying the exploration/evaluation works completed to date, as well as a general overview of the current construction works, and an inspection of the old mine facilities and open-pit in the area. During the site visit, Mr. Calles-Montijo was accompanied by Mr. Francisco Quiroz, president of Sapuchi, a subsidiary company of Osisko Development. During the site visit, Mr. Calles-Montijo had the opportunity to meet the personnel responsible for the areas of Technical Services (mining, metallurgy and process), environmental and geological staff.

During the 2021 site visit, the location of 11 (out of 177) of the DDH holes drilled in 2021 were inspected. Due to permitting limitations and in order to minimize environmental impact, most of the holes drilled in 2021 are located along the dirt access roads. The drill sites were identified in the field and, in most cases, a board sign with basic hole information was placed at the site. Hole collars are mostly covered by soil and are not accurately identifiable, which limited the amount of hole collars reviewed during the site inspection. In some cases, it is possible to observe the hole in the ground or a piece of steel casing left on site. No cement monument was observed at any of the drill sites visited in 2021 (Figure 12.1).

Coordinates of the inspected collars during the 2021 site visit were compared with coordinates provided by Sapuchi in the collar table. There are differences within the range of tolerance for a handheld GPS (<5 m). Significant differences detected during collar validation in the location of 2 holes were reported and later corrected by the geology and survey staff of Sapuchi. A later drill-hole location verification was completed, comparing the elevation of collars reported by Sapuchi surveyors and the elevation obtained from the Digital Elevation model completed in December, 2021. Some significant differences were found, and reported to Sapuchi, which conducted a field verification and corrected some of the data originally contained in the database.

Figure 12.1
Location of Holes SP-DD-21-066 (Left) & CA-DD-21-062 (Right)

Source: Micon, 2021.

An intensive surface sampling program across the entire property was completed by the former owner of the property. This information is currently stored in the Osisko Development database. Several samples are still properly identified in the field, with the presence of aluminum tags containing the sample identification (Figure 12.2). During the 2021 site visit, nine rock chips samples were collected along representative outcrops of the three main mineralized zones. Photos of some of the surface verification samples are shown in Figure 12.2, and surface sample list with assays results are shown in Table 12.1.

Figure 12.2
Left: Sample 493801 (2021). Right Sample 493802. Aluminum Tags from Previous Surface Sampling

Source: Micon, 2021.

Table 12.1
Surface Samples Collected During the Site visit, 2021

Field ID (2021)	Historical Sample ID	WGS 84		Assay	Description
		X	Y	Gold (ppm)	
493801	NI	631,854	3,167,943	0.261	Red-oche breccia with abundant FeOx, and white-argillized zones

Field ID (2021)	Historical Sample ID	WGS 84		Assay	Description
		X	Y	Gold (ppm)	
493802	78610 and2053	631,818	3,167,958	0.534	Breccia with abundant silica veinlets and well crystallized-quartz veins.
493803	NI	631,856	3,167,909	1.89	Breccia with semi-horizontal quartz veins and thins veinlets. Abundant FeOx.
493804	NI	631,745	3,168,017	0.153	Antique mine workings. Breccia with abundant silica veins. Abundant FeOx.
493805	NI	631,759	3,168,899	2.47	Antique mine workings. Breccia with semi-horizontal quartz veins & silica veinlets
493806	NI	630,560	3,166,853	2.91	Grab sample on mineral stockpile. Recent low scale-artisanal mining work.
493807	NI	630,736,	3,166,868	2.34	Shear zone along the contact between intrusive and sediments. Strongly fractured. Abundant FeOx.
493808	NI	631,209	3,166,598	2.05	Contact zone between argillized intrusive and brecciated sediments. Abundant FeOx.
493809	NI	630,948	3,166,928	3.66	Zone with abundant FeOx at the footwall of faulted structure.

Source: Micon, 2021.

Core logging facilities located at the camp were visited and core logging and sampling procedures were discussed with members of the geology staff, as described in Section 11.0. Core logging facilities (Figure 12.3) are adequate and well equipped and include three diamond saws to split core and equipment for determination of bulk density in core samples. Core storage facilities are temporary, and most of the core boxes are currently stored in piles around the core logging facilities. Some of the core boxes, as wells as sample pulps and rejects, are temporarily stored at the old explosive magazine building (Figure 12.4). A core warehouse facility is programmed to be built soon.

Figure 12.3
Sapuchi Core Logging and Storage Facilities

Source: Micon, 2021.

Core of three representative holes, from each one of the main three areas of interests (Sapuchi, Golfo de Oro and California), were reviewed and compared with strip logs previously provided by Osisko Development staff. Seven samples from representative intervals from the inspected holes were collected from the ½ core witness available, leaving ¼ core for future reference. Table 12.2 summarizes the results of the duplicated core samples collected during the site visit, and a comparison with original assays reported.

Table 12.2
Duplicate Core Samples from RC-Drilling Collected During the 2021 Site Visit

Sample ID (2021)	Original Sample ID	Hole ID	From (m)	To (m)	Au (ppm)			Ag (ppm)		
					Original	Duplicate	RD	Original	Duplicate	RD
493842	44303	SP-DD-21-102	7.1	9	1.425	0.859	49.6	3.55	3	16.8
493843	44323	SP-DD-21-102	35	36.5	2.86	1.200	81.8	37.9	29	26.6
493844	44334	SP-DD-21-102	48.5	50	2.97	9.580	105.3	2.45	<2	
493845	54183	GO-DD-21-042	1.1	3	0.082	0.100	19.8	0.51	<2	
493846	7836	CA-DD-21-091	47.2	48.7	0.652	0.702	7.4	1.6	<2	
493847	7850	CA-DD-21-091	65.2	66.7	2.165	1.810	17.9	7.2	3	82.4
493848	7854	CA-DD-21-091	71.2	72.7	0.269	0.294	8.9	0.7	<2	
Mean					1.49	2.08	33.0			

Source: Micon, 2021.

Sample rejects are stored on wood pallets, and properly covered to protect the materials from the impact of weather. Samples pulps, as well as some of the core boxes, are stored inside the magazine buildings, protected and well organized. During the site visit, 11 reject samples and 10 pulp samples were selected for verification analysis. Figure 12.4 shows the storage conditions of the rejects and pulps. The list of selected samples for assay verification are summarized in Table 12.3 and Table 12.4.

Figure 12.4
Reject and Pulp Sample Storage Facilities (Mine Magazines)

Source: Micon, 2021.

Table 12.3
Reject Samples from Drilling Collected During the 2021 Site Visit

Sample ID (2021)	Original Sample ID	Hole ID	From (m)	To (m)	Au (ppm)			Ag (ppm)		
					Original	Duplicate	RD	Original	Duplicate	RD
493810	846013	SP-DD-21-003	17	17.95	0.647	0.997	42.6	4.06	2	68.0
493811	846042	SP-DD-21-003	49.85	51.25	1.99	0.602	107.1	0.75	<2	
493812	846035	SP-DD-21-003	42	43.35	2.71	0.815	107.5	1.74	<2	
493813	846038	SP-DD-21-003	46.35	47.85	1.73	2.1	19.3	1.22	<2	
493814	846061	SP-DD-21-003	70.4	71.9	0.82	0.316	88.7	2.36	2	16.5
493815	846074	SP-DD-21-003	83	84.5	1.585	1.43	10.3	1.19	<2	

493816	846103	SP-DD-21-003	115.15	116.7	1.235	1.16	6.3	1.34	<2	
493817	7269	GO-DD-21-086	115.5	117	1.36	0.732	60.0	0.2	<2	
493818*	7454					0.761			<2	
493819	7376	GO-DD-21-086	243	244.5	0.505	0.542	7.1	0.4	<2	
493820	8766	GO-DD-21-090	109.8	112.4	0.683	0.688	0.7	1.6	<2	
Mean Values**					1.33	0.92	36.0			

*Original SRM inserted in sample batch. Not sufficient sample for Ag determination; RD=Relative Difference
** Values above and below detection limits (<,>), not considered in mean estimation.
Source: Micon, 2021.

Table 12.4
Pulp Samples from Drilling Collected During the 2021 Site Visit

Sample ID (2021)	Original Sample ID	Hole ID	From (m)	To (m)	Au (ppm)			Ag (ppm)		
					Original	Duplicate	RD	Original	Duplicate	RD
493821	50315	SP-DD-21-006	351.6	353.05	2.91	4.600	45.0	15.9	20	22.8
493822	50355	SP-DD-21-006	397.55	398.6	0.537	0.480	11.2	0.37	<2	
493823	50402	SP-DD-21-006	452	453.5	1.035	1.220	16.4	0.25	<2	
493824	46551	CA-DD-21-032	123.9	124.55	0.558	0.668	17.9	5.96	6	0.7
493825	46554	CA-DD-21-032	127.55	129.05	1.815	3.340	59.2	28.2	35	21.5
493826	46557	CA-DD-21-032	132.05	133.55	1.21	1.520	22.7	5.96	5	17.5
493827	41939	SP-DD-21-034	5.0	6.4	0.518	0.376	31.8	1.85	<2	
493828	41950	SP-DD-21-034	18.15	18.7	2.94	4.320	38.0	1.65	<2	
493829	41972	SP-DD-21-034	35.2	36.7	1.215	1.520	22.3	0.97	<2	
493830	54081	GO-DD-21-036	24.3	25.35	1.115	0.982	12.7	0.79	<2	
Mean Values**					1.39	1.90	31.5			

** Values above and below detection limits (<,>), not considered in mean estimation.
Source: Micon, 2021.

Pulps, rejects, core and surface rock samples collected during the site visit were maintained in the permanent custody of Mr. Calles-Montijo, packed and relabelled and personally delivered at the facilities of SGS in Hermosillo, México. The selected suite of analysis was chosen to be consistent with the suite used by Osisko Development for the drill hole samples, that were analyzed by ALS and Bureau Veritas. Assay methods used for samples collected by Micon in 2021 are listed in the Table 12.5.

ALS laboratories are registered or are pending registration to ISO 9001:2008 accreditation standards and a number of analytical facilities have received ISO 17025 accreditations for specific laboratory procedures. Bureau Veritas has achieved ISO/IEC 17025 accreditation at its Analytical Laboratory in Hermosillo, Mexico.

Table 12.5
Assays Method used for the Analysis of Samples Collected During the 2021 Site Visit

Stage	Method Code	Description

Sample Preparation*	PRP-91	Weigh, dry, (<3.0 kg), crush to 75% passing 2 mm, split 500 g, pulverize to 85% passing 75 microns
Gold Determination**	GO_FAA50V10	50 g, Fire assay, AAS finish
Multi-Element**	GE_ICP21B20	Two acid/aqua regia digestion/ / ICP-OES package (34 elements)
Silver determination** (>100 ppm)	GO_AAS21C50	0.5 g, 2-Acid digest, AAS finish

Source: * SGS Analytical Services, 2018; ** SGS Analytical Services, 2020.
Source: Micon, 2021.

The assay results included in the Sample Assays Excel spreadsheet provided by Sapuchi were reviewed, comparing the entered results in the compiled table with the values reported on the assays certificates. A total of 2,449 assays results, equivalent to the 12% of the total number of samples included in the dataset, were reviewed, with no significant errors for the recorded values of gold and silver. Some inconsistencies in the values of copper were identified and reported to Sapuchi's data manager for review and correction, prior to complete the resource estimation.

Drill hole datasets used for the current resource estimation were reviewed, using the QA/QC function ability of Target (Geosoft®) for ArcGIS®. The QA/QC report generated for this application reported some issues in the down hole survey data, which were reported to Sapuchi's data manager for review and correction.

12.3 MICON QP COMMENTS

In general, Micon's review of the material provided by Osisko Development and its discussions with technical staff of Osisko Development, and site visit observation in 2021, found that the data provided were adequate for the purposes of preparing a resource estimate for the San Antonio Property.

Micon's QP recommends installing a cement monument and a piece of capped steel or PVC pipe at the collar of each completed hole, once the drill pads are abandoned. Due to the location of current holes (on dirt access roads), the cement plate and the piece of pipe should be installed at the surface level for longer preservation. This is also usually required by the environmental authorities, and it will assist with identifying hole locations during future reviews. During the site visit, it was observed that the water table is located close to the collars of a number of the drill holes. The Micon QP recommends that a record is kept of the information regarding the height of the water table, so that some of the exploration holes could be converted into monitoring wells, for future control and monitoring of the underground water quality.

No rock mechanics information has been generated at the Project, at the time of this report. The geological conditions observed during the site visit, the intensive degree of alteration and geotechnical features, such as faulting/brecciation, need to be investigated and incorporated into the mine design. The QP recommends expanding the core logging protocols to include collection of basic geotechnical information.

Core logging protocols prepared by Sapuchi are mainly focused on the process of data insertion into the database system (Deposit). Micon's QP recommends reviewing these protocols and adding additional information, such as geotechnical information and density, which will be used as the Project advances.

Only limited determination of bulk density has been carried out as part of the core-logging process. Selected samples for determination of bulk density are each 25 m apart, which can be considered wide spaced, due the potential size of exploitation blocks. It was also observed that some of the samples selected for determining bulk density are significantly porous, and determination procedures do not include the specific methodology to deal with this type of materials. Samples selected for bulk density determination remain intact in the core boxes and were not split and included in the corresponding core sample. It is recommended that, for future campaigns, the samples used for specific gravity determination be split after the data are collected. During the site visit, Micon noticed that the degree of alteration results in significant variability in the rock density. Bulk density has a direct impact on the estimation of mineral resources, as well as a potential impact on the geotechnical behaviour of the rocks and must be properly determined. Micon recommends increasing the number of determinations of bulk density of the drilled core and suggests that the bulk density methodology be reviewed. It is also recommended that a specific gravity verification process be implemented by sending a random set of samples, previously analyzed in the project facilities, to specialized rock mechanics laboratory for determination of this parameter, followed by a comparative analysis of the results.

Core boxes containing witness core are still stored in piles near the core-logging facilities and in the magazine building which is considered a temporary storage facility. Due to the large amount of core produced in the past year, it is recommended that the prompt construction of adequate facilities to store and secure all core boxes in a single place is undertaken. The new facility should also store any witness core from the historical drilling that might be located at the Project. Core sample rejects, as well as sample pulps, should also be properly stored.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

This section summarizes the metallurgical testing conducted on samples from the San Antonio property. Estimates of recovery and reagent consumption developed for the processing methods assumed for the mineral resource are included.

Metallurgical testing is considered in two parts: historical (pre-2019) and current (2021-2022) testing. The current metallurgical testing forms the primary basis for the recovery and reagent consumption estimates used in this study. The samples used for the current testing come from the Sapuchi deposit and are assumed to be representative of the material considered for the mineral resource estimate. A summary of the pre-2019 metallurgical testing and processing was previously prepared by JDS. This summary has been reviewed and contributes to an understanding of the mineralogy and metallurgy for the project. However, as records for the sample sources for the historical work are incomplete, data from the historical testing are of more limited use than data from the ongoing 2021-2022 metallurgical testing.

The Qualified Person for this section of the report is Dr. R. Nick Gow, MMSA(QP).

13.1 HISTORICAL CYANIDE TESTWORK

Metallurgical testwork, with respect to gold, has been conducted on the deposits of the San Antonio mine since 1984. From 1990 to 2006, the metallurgical testwork also included testing of heap leaching for copper.

The original testwork for gold in 1984 and 2003 focused primarily on bottle rolls on fine grinds such as would be found in a conventional mill. Testwork completed in 1995, 1996, and 2014 included some heap leach, as well as conventional milling testwork.

The sulphide mineralization testwork for gold recovery in 2017 and 2019 focused on coarser particles such as would be found in a heap leach scenario.

Copper recovery testwork was conducted between 1990 and 2006 at various laboratories. This testwork successfully demonstrated an opportunity to recover copper by heap leach and SX/EW recovery.

The historical cyanide testwork done up until 2003 which includes:

- 1984 Golden Shield Samples Cyanide Bottle Roll Tests.
- 1995 Metallurgical Testing of Mexican Gold Ores.
- 1995 Luz de Cobre Column Leach Cyanidation Study Realito Zone – San Antonio.
- 1996 Preliminary Metallurgical Investigation for the San Antonio De La Huerta Property in Sonora, Mexico.
- 2003 Golfo de Oro Report of Metallurgical Testwork.

In the testwork conducted in 1984, 53 samples were received by Kappes, Cassiday & Associates (KCA), which were then prepared and submitted for assay. After assaying the samples, 10 samples were chosen for leach testing. The samples were pulverized to 100% passing 150 µm and leached at 5,000 ppm for 24 hours. The average dissolution (recovery) was 96% for gold and 57% for silver.

The 1984 report makes a special mention that silver recovery was quite variable, ranging from 13% to 95%. It was also noted that there was very low cyanide soluble copper in these samples with the average being 13 ppm.

In the 1995 metallurgical testing of Mexican Gold Ores, by Hazen Research, five gold mineralized samples were tested for gold recoveries. The five samples were each homogenized and then split into three portions; one portion for assay, one portion for leaching without grinding, and one portion to be leached at a particle size distribution of 80% passing 105 µm.

The samples were leached at 35% solids at a pH of between 10.5 and 11 and at a cyanide concentration of 1,000 ppm (initially 1,500 ppm) for 72 hours.

The gold extractions ranged from 27.7% to 88.9% for the unground samples and from 80.4% to 95.1% for the ground samples.

The column testwork performed in 1995 was conducted on two surface samples from the Realito Zone (California and Golfo de Oro deposits) which were crushed to an estimated ½ inch and then agglomerated. The results for these tests are summarized in Table 13.1.

Table 13.1
1995 Column Leach Extractions

Sample Description	Extraction (%)		Calculated Head (oz/t)		Reagent Consumption (lb/short ton Min.)	
	Au	Ag	Au	Ag	NaCN	CaO
Surface Ore No. 1	92.81	86.82	0.127	0.075	5.65	12.35
Surface Ore No. 2	82.92	9.93	0.29	0.124	3.97	13.17

Source: Luz de Cobre Column Leach Cyanidation Study Realito Zone – San Antonio (1995).
Min. is short for mineralization

The 1996 metallurgical testwork was completed for the purpose of issuing a pre-feasibility study report for Echo Bay Mines on the San Antonio property. For this study, two composites, oxide and sulphide, were generated to determine the expected recovery through cyanidation. The test results are summarized in Table 13.2.

Table 13.2
1996 Bottle Roll Leach Extractions

Sample Description	Size	Extraction (%)		Calculated Head (g/t)		Reagent Consumption (kg/t Min.)	
		Au	Ag	Au	Ag	NaCN	CaO
Sulphide Composite	As received	64.9	41	1.63	10.1	0.98	1.97
Sulphide Composite	P_{80} 105 µm	96.4	52.2	1.63	10.1	1.38	2.59
Oxide Composite	As received	94.9	29.8	1.25	4.8	0.57	6.74
Oxide Composite	P_{80} 105 µm	92	38.7	1.25	4.8	0.35	7.29

Source: Preliminary Metallurgical Investigation for the San Antonio de la Huerta Property in Senora, Mexico (1996).

The flotation gold recoveries for these samples, at a grind size of P_{80} - 105 µm, was 94.8% and 87% for the sulphide and oxide samples respectively.

The Golfo de Oro testwork program in 2003 was conducted on a sulphide composite from the Golfo do Oro deposit in the San Antonio property. The testwork included gravity, flotation, and bottle roll leach testing. The results for the bottle roll leach testing can be seen in Table 13.3.

Table 13.3
2003 Bottle Roll Leach Extractions

KCA Test No.	P_{80} Size (mm)	Extraction (%)	Calculated Head (g/t)	Reagent Consumption (kg/t Min.)
		Au	Au	NaCN
31054 A	0.447	91	6.14	3.77
30890 A	0.267	94	6.34	4.11
30890 B	0.124	97	6.58	4.59
30890 C	0.086	97	6.01	5.23
30890 Pre-Aeration	0.086	98	5.78	3.76

Source: Golfo de Oro Report of Metallurgical Testwork (2003)

The flotation recoveries, not including gravity, were comparable to the leach extractions for the samples ground to a P_{80} below 125 µm. For grinds coarser than P_{80} of 125 µm, the flotation recoveries did not achieve the same levels as for leaching with cyanide.

In 2014, a testwork program was conducted with Resource Development Inc. (RDI) to test the response of the mineralization to cyanidation at coarser size fractions. The samples responded very well to cyanidation in both bottle roll and vat leaching tests, with recoveries reported in the range of 70% for the combined feed. The report does not identify the origin of the sample and, therefore, it is difficult to determine if this sample is meant to be representative of the sulphide, oxide, or transition mineralization types.

A series of leach tests were conducted in 2017 and 2019 at SGS – Lakefield in Lakefield, Ontario Canada to determine the amenability of sulphide composites from the San Antonio properties to recovery by heap leaching.

The tests were conducted on a range of gold, silver and copper feed grades, the results of which are summarized in Table 13.4.

Table 13.4
2017/2019 Bottle Roll Extractions

Test No.	Calculated Head (Au g/t)	Calculated Head (Ag g/t)	Reagent Consumption		Recovery	
			NaCN (kg/t)	CaO (kg/t)	Au (%)	Ag (%)
2017 - CN19	0.568	1.764	1.834	3.103	61.24	31.96
2017 - CN20	1.470	1.127	1.683	2.819	65.64	55.62
2017 - CN21	4.832	2.335	2.177	3.491	52.29	61.46
2017 - CN22	1.049	1.662	2.607	3.508	56.14	33.83
2017 - CN23	0.323	0.628	1.817	2.750	35.07	20.34
2019 - CN 7	2.18	6.09	2.461	6.813	74.77	16.22
2019 - CN 8	1.09	1.09	2.228	4.780	54.29	53.93
2019 - CN 9	1.213	1.473	1.461	2.568	57.14	38.91
2019 - CN 10	1.085	2.839	1.749	2.894	94.01	78.87

Test No.	Calculated Head (Au g/t)	Calculated Head (Ag g/t)	Reagent Consumption		Recovery	
			NaCN (kg/t)	CaO (kg/t)	Au (%)	Ag (%)
2019 - CN 11	2.915	41.280	2.842	2.282	21.61	37.74
2019 - CN 12	1.081	1.689	1.286	2.815	64.85	58.55
2019 - CN 13	0.399	0.928	1.455	2.699	93.74	46.13
2019 - CN 14	1.373	7.222	2.422	3.382	59.94	29.38
2019 - CN 15	1.584	6.417	1.675	3.305	53.91	29.87
2019 - CN 16	2.687	1.541	1.745	2.874	47.72	48.09
2019 - CN 17	1.707	3.022	1.485	2.782	48.44	27.19
2019 - CN 18	0.647	1.492	1.315	2.296	31.23	32.99
2019 - CN 19	0.731	2.399	2.184	2.642	53.48	29.13
2019 - CN 20	0.791	0.889	1.097	2.429	63.95	43.79

Source: JDS Summary of SGS Lakefield Excel Results (2017/2019).

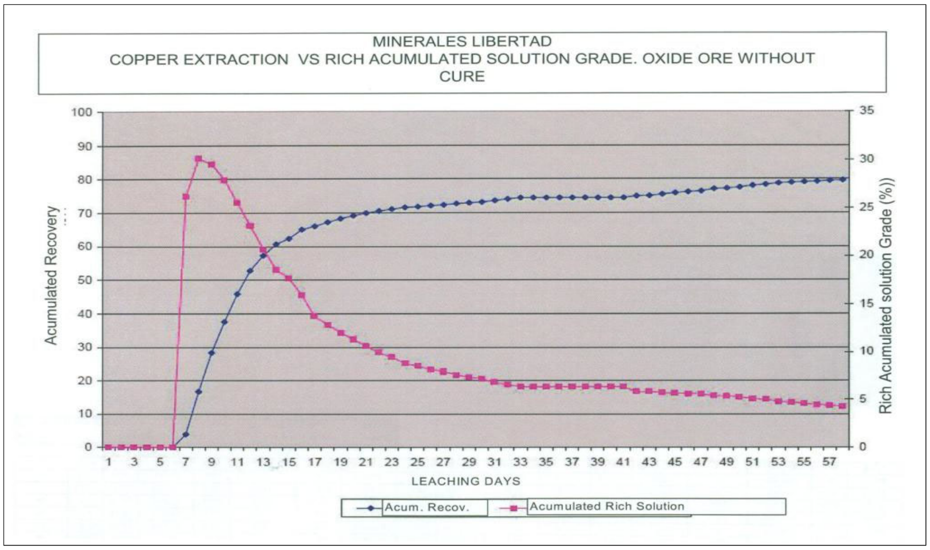
13.2 Historical Copper Testwork

Metallurgical testing of copper minerals believed to represent the current Luz del Cobre resource was undertaken between 1990 to 2006 at various laboratories. Tests by Comision de Fomento Minero of Mexico and Mountain States R & D International of Arizona in 1990-91 included mineralogy, grinding, flotation and acid leaching of crushed samples. Very early in the tests it was determined that potential mineralization was amenable to heap leaching with sulphuric acid. Column leaching tests on high grade (>3% CuT) and low grade (<1%) indicated copper extractions well over 90% in 30 days.

Mineralogical analyses of a suite of 5 samples by Dr. Eva Schandl, in 2006, indicated that the copper mineralization was predominantly copper sulphides – chalcopyrite, chalcocite and covellite. Other copper mineralization included cuprite and delafossite (Cu-oxides) as well as copper rich goethite and minor amounts of native copper. Importantly, chalcocite was noted to have replaced pyrite. This could indicate that the contained copper is readily leachable.

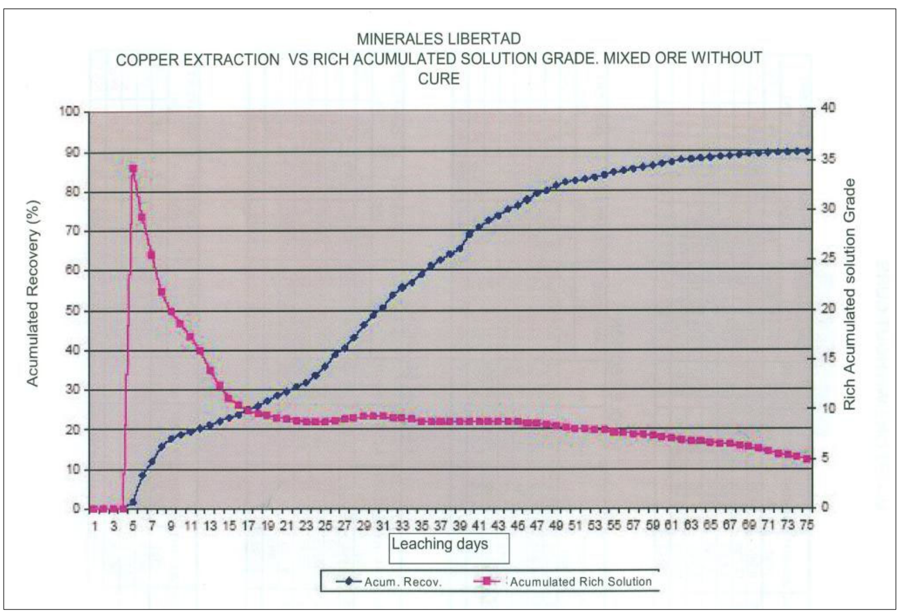
Column leach tests were conducted 2005-2006 at the metallurgical laboratory of the CESUS University in Hermosillo (CESUS). Samples of 1.2% mixed mineralization and 0.6% oxide mineralization were crushed to -1" and leached for 75 days. Copper extractions were 90% and 80%, with acid consumptions of 63 and 24 kg/t respectively. Testing was completed with and without an initial acid cure. No difference in recoveries was observed for either case. As expected, the oxide mineralization copper extraction was more rapid than from the mixed mineralization. However, higher ultimate extractions were achieved from mixed mineralization. Copper extraction kinetics of the oxide and mixed mineralization are shown in Figure 13.1 and Figure 13.2.

Figure 13.1
CESUS Leach Test on Oxide Mineralization



Source: CESUS (2005/2006).

Figure 13.2
CESUS Leach Test on Mixed Mineralization



Source: CESUS (2005/2006).

13.3 CURRENT METALLURGICAL TESTWORK (2021-2022)

In 2021, Osisko Development conducted a drilling program that included drill holes in the California, Golfo de Oro and Sapuchi deposits at the San Antonio property. Each drill hole interval was classified as Oxide (Oxidos), Transition (Mixtos) or Sulphide (Sulfuros). Head assays were completed on each of the interval samples, with current metallurgical testing on the Sapuchi samples only. Testing included cyanide shake leach testing and composite bottle roll testing at sizes ranging from 75 µm to 9.5 mm, as well as some initial gold deportment imaging on the oxide samples. In addition, bulk samples of oxide and sulphide mineralization have been used for column testing that is still underway.

The following list summarizes the work and reference reports for current testing:

2021 Head Assay for California, Golfo de Oro and Sapuchi Interval Samples: SGS Durango.

2021 Analytical testwork on Sapuchi drill hole intervals: Forte Analytical Report #21054.

2021 Bottle Roll Testing on Sapuchi composites at 75 µm, 2mm, and 9.5mm: Forte Analytical Report #21063.

2021 Bottle Roll Testing on Sapuchi lithology composites at 75 µm: SGS-Durango Summary.

13.3.1 Drill Hole Interval Head Assays and Testing

A total of 177 drill holes were completed as part of the 2021 diamond drill program. Interval samples from 25 drill holes totaling 478.2m of ½ HQ core were provided to SGS – Durango and Forte Analytical for metallurgical testing consideration. Intervals along these holes were selected based on lithological breaks, up to a maximum of 3.5 m, and sent for fire assay. Initial head samples were completed at the SGS - Durango laboratory.

Although drill holes within the California and Golfo de Oro showed gold grades above the estimated cut-off grade, ore grade was only found within the sulphide portion. No further testing was completed. A summary of head assays for California and Golfo de Oro drill holes is presented in Table 13.5. Additional drilling will be conducted in the future for these deposits.

Assays conducted on the Sapuchi deposit were divided across oxide, transition and sulphide geological designations. Cyanide amenability shake leach testing and carbon/sulphur speciation testing was conducted on each of the 249 interval samples by Forte Analytical in Fort Collins, CO, and the results are summarized in Table 13.6, Table 13.7 and Table 13.8, based on oxidation state.

Table 13.5
Summary of 2021 Head Assays of the California and Golfo de Oro Samples

Deposit	Mineralization Type	Drill Hole ID	Length (m)	Head Assay (average)	
				Au (ppm)	Ag (ppm)
California	Sulphide	CA-DD-21-020	7.0	1.19	1.25
		CA-DD-21-026	39.1	0.75	1.19
		CA-DD-21-032	12.2	0.84	11.13
		Summary	**58.2**	**0.82**	**3.28**
Golfo de Oro	Sulphide	GO-DD-21-015	34.4	0.48	1.20
		GO-DD-21-022	13.3	0.51	0.62
		GO-DD-21-027	6.8	1.21	0.81
		GO-DD-21-033	16.5	0.77	0.82
		GO-DD-21-036	11.1	0.47	6.64
		Summary	**82.1**	**0.60**	**1.73**

Source: SGS (2021)

Table 13.6
Head Assays by Drill Hole for Sapuchi – Oxide Intervals

Mineralization Type	Drill Hole ID	Length (m)	Head Assay (average)		Cyanide Solubility	
			Au (ppm)	Ag (ppm)	Au (%)	Ag (%)
Oxide	SP-DD-21-002	9.3	1.26	7.23	26%	101%
	SP-DD-21-003	15	1.22	3.22	55%	70%
	SP-DD-21-004	4.3	2.57	3.49	57%	65%
	SP-DD-21-008	36.9	1.09	2.73	60%	50%
	SP-DD-21-009	8.4	1.30	0.88	101%	118%
	SP-DD-21-011	15.3	0.91	4.27	53%	44%
	SP-DD-21-012	16.4	1.13	1.26	103%	97%
	SP-DD-21-016	10.2	0.94	7.22	80%	30%
	SP-DD-21-018	3	1.04	6.28	20%	19%
	SP-DD-21-023	6	1.42	2.71	127%	57%
	SP-DD-21-025	3.6	1.83	2.84	109%	75%
	Summary	**128.3**	**1.19**	**3.45**	**70%**	**65%**

Source: SGS (2021) and Forte Analytical Report #21054 (2021).

Table 13.7
Head Assays by Drill Hole for Sapuchi – Transition Intervals

Mineralization Type	Drill Hole ID	Length (m)	Head Assay (average)		Cyanide Solubility	
			Au (ppm)	Ag (ppm)	Au (%)	Ag (%)
Transition	SP-DD-21-002	20.2	1.02	3.68	48%	36%
	SP-DD-21-004	4.1	1.23	1.92	4%	0%
	SP-DD-21-005	9.1	2.02	3.13	25%	36%
	SP-DD-21-007	30.8	1.25	12.62	35%	14%
	SP-DD-21-008	23.2	1.11	4.24	47%	45%
	SP-DD-21-009	4.3	1.64	6.87	109%	81%
	SP-DD-21-010	27.9	1.08	6.65	17%	29%
	SP-DD-21-018	4.4	1.30	1.69	9%	71%
	SP-DD-21-023	10.4	1.50	3.23	18%	22%
	Summary	**134.2**	**1.24**	**6.36**	**34%**	**31%**

Source: SGS (2021) and Forte Analytical Report #21054 (2021).

Table 13.8
Head Assays by Drill Hole for Sapuchi – Sulphide Intervals

Mineralization Type	Drill Hole ID	Length (m)	Head Assay (average)		Cyanide Solubility	
			Au (ppm)	Ag (ppm)	Au (%)	Ag (%)
Sulphide	SP-DD-21-003	6.8	1.08	4.65	104%	23%
	SP-DD-21-005	5.9	0.96	3.29	41%	36%
	SP-DD-21-007	13.9	1.15	1.14	71%	61%
	SP-DD-21-008	1.5	3.00	0.90	0%	0%
	SP-DD-21-009	2.0	1.83	1.23	10%	32%
	SP-DD-21-010	7.4	2.13	0.93	30%	61%
	SP-DD-21-012	6.0	1.03	2.36	42%	38%
	SP-DD-21-013	5.5	1.78	1.55	25%	69%
	SP-DD-21-014	8.5	1.10	1.17	27%	52%
	SP-DD-21-018	1.8	1.19	4.52	34%	16%
	SP-DD-21-021	11.5	1.31	2.95	48%	49%
	SP-DD-21-025	3.8	0.97	3.72	43%	27%
	Summary	**75.5**	**1.33**	**2.23**	**48%**	**46%**

Source: SGS (2021) and Forte Analytical Report #21054 (2021).

Carbon and sulphur speciation results for the Sapuchi intervals are summarized in Table 13.9. Insignificant levels of organic carbon were noted in the assays, suggesting that preg-rob should not be an issue for this deposit. Sulphide levels ranged up to 27.6% in individual intervals; however, the average sulphide levels are presented by mineralization type, transition and sulphide mineralization designations have similar average sulphide levels.

Table 13.9
Carbon and Sulphur Speciation for Sapuchi by Mineralization Type

Mineralization Type	LECO – Carbon & Sulfur Speciation					
	Total C (%)	Organic C (%)	Inorganic C (%)	Total S (%)	Sulphide (%)	Sulphate (%)
Oxide	0.07%	0.01%	0.06%	0.83%	0.29%	0.54%
Transition	0.99%	0.00%	0.99%	5.16%	4.96%	0.23%
Sulphide	0.97%	0.00%	11.97%	5.76%	5.35%	0.42%

Source: Forte Analytical Report #21054 (2021)

It is noted that the gold in oxide samples is considered amenable to cyanide leach. The transition and sulphide mineralization types are considered to be refractory, likely due to high sulphide levels. The high variability in the fire assay and cyanide shake to fire assay ratios suggest a potential issue with coarse gold, which was also noted in the bottle roll testing conducted by Forte Analytical.

13.3.2 Composite Bottle Roll Testing – Forte Analytical

The interval samples from Section 13.3.1 were used to create 19 composite samples for bottle roll cyanidation leach tests.

To select composites, the interval samples were grouped by the geological mineralization type and lithology logs provided. Intervals below a cut-off grade of 0.2 g/t gold and those with less than 1 kg of sample remaining were removed from consideration. One composite was generated for every seven available intervals per grouping, with a maximum of four composites per group. Table 13.10 summarizes the total number of available intervals and number of composites created for each mineralization type-lithology combination. The report “21063 – Sapuchi Bottle Roll Testing Report” provides details of which intervals were selected for each composite.

Table 13.10
Available Intervals and Number of Composites for Bottle Roll Testing

Mineralization Type	Lithology	Available Intervals	Composite Numbers
Oxides	Fault Zone	8	1
	Hydrothermal Breccia	15	2, 3
	Quartz-Diorite	4	N/A
	Sedimentary	42	4, 5, 6, 7
Transition	Fault Zone	3	N/A
	Hydrothermal Breccia	58	8, 9, 10, 11
	Quartz-Diorite	5	N/A
	Sedimentary	7	12
Sulphide	Fault Zone	3	13
	Hydrothermal Breccia	58	14, 15, 16, 17
	Quartz-Diorite	5	18
	Sedimentary	7	19

Each composite was tested at three approximate sizes (P_{80} – 9.5 mm, P_{80} – 2 mm and P_{80} – 75 µm) to better understand the size dependency of the gold extraction and reagent consumptions. Bottle roll testing was conducted at 1 g/L NaCN for 72 hours at 75 µm, 168 hours at 2 mm and 289 hours at 9.5 mm. These results are presented in Table 13.11, Table 13.12 and Table 13.13.

Table 13.11
Extraction Summary of Sapuchi Composites (P_{80} – 75 µm)

Comp ID		Au - g/t				Extraction, % Au	kg/t	
		Head Assay	Back Calc. Head Grade	Extracted	Tail Assay		NaCN Cons.	Lime Add.
Oxide	1	0.70	1.29	1.18	0.11	91.4	0.41	5.67
	2	1.29	1.87	1.73	0.15	92.2	1.12	10.54
	3	1.34	2.56	2.38	0.18	93.0	0.68	8.92
	4	0.80	1.15	1.07	0.07	93.6	0.68	7.85
	5	0.99	1.48	1.39	0.09	93.8	0.87	5.55
	6	2.73	0.89	0.83	0.06	93.4	0.73	5.29
	7	0.87	1.18	1.06	0.12	89.9	0	5.91
	Avg	**1.24**	**1.49**	**1.38**	**0.11**	**92.5**	**0.75**	**7.10**
Transition	8	1.42	2.93	2.55	0.39	86.7	2.24	4.70
	9	0.50	0.76	0.61	0.14	81.0	1.04	2.69
	10	1.13	1.56	1.46	0.10	93.9	0.90	6.41
	11	0.18	0.27	0.24	0.03	89.7	0.81	2.23
	12	0.24	0.58	0.51	0.07	88.2	3.50	6.87
	Avg	**0.69**	**1.22**	**1.07**	**0.14**	**87.9**	**1.70**	**4.58**
Sulphide	13	1.04	0.57	0.50	0.08	86.7	1.25	4.91
	14	1.13	1.24	1.16	0.08	93.7	1.77	3.33
	15	0.38	0.76	0.70	0.06	92.2	1.85	2.09
	16	15.00	1.96	1.86	0.11	94.6	1.60	2.32
	17	0.25	0.47	0.43	0.04	91.0	1.64	1.96
	18	0.98	1.48	1.37	0.11	92.4	1.06	1.94
	19	0.53	0.81	0.76	0.05	93.6	1.56	1.61
	Avg	**2.76**	**1.04**	**0.97**	**0.08**	**92.0**	**1.53**	**2.59**

Source: Forte Analytical Report #21063 (2021).

Table 13.12
Extraction Summary of Sapuchi Composites (P_{80} – 2 mm)

	Comp ID	Au - g/t				Extraction, % Au	kg/t	
		Head Assay	Back Calc. Head Grade	Extracted	Tail Assay		NaCN Cons.	Lime Add.
Oxide	1	0.70	1.05	0.83	0.21	79.7	1.20	4.21
	2	1.29	7.13	6.62	0.50	93.0	3.18	7.20
	3	1.34	1.75	1.44	0.30	82.7	1.63	6.57
	4	0.80	0.67	0.42	0.24	63.6	1.61	6.38
	5	0.99	0.96	0.80	0.16	83.4	1.93	4.10
	6	2.73	2.72	2.46	0.26	90.3	0.90	4.55
	7	0.87	0.75	0.65	0.11	85.9	0.92	4.49
	Avg	**1.24**	**2.15**	**1.89**	**0.26**	**82.7**	**1.62**	**5.36**
Transition	8	1.42	1.82	1.18	0.64	64.9	2.37	3.23
	9	0.50	0.95	0.62	0.33	65.5	2.02	2.23
	10	1.13	1.52	1.06	0.46	69.8	2.27	5.21
	11	0.18	0.38	0.29	0.10	75.2	1.93	2.16
	12	0.24	0.86	0.26	0.59	30.6	5.20	3.16
	Avg	**0.69**	**1.11**	**0.68**	**0.42**	**61.2**	**2.76**	**3.20**
Sulphide	13	1.04	1.01	0.66	0.35	65.2	1.50	3.84
	14	1.13	0.49	0.38	0.11	77.2	1.94	1.06
	15	0.38	0.95	0.53	0.42	55.5	1.98	1.02
	16	15.00	2.94	2.54	0.40	86.4	2.17	0.79
	17	0.25	1.45	0.37	1.08	25.5	1.95	0.84
	18	0.98	1.87	1.37	0.50	73.4	1.41	1.09
	19	0.53	1.07	0.70	0.36	66.1	1.73	1.23
	Avg	**2.76**	**1.40**	**0.94**	**0.46**	**64.2**	**1.81**	**1.41**

Source: Forte Analytical Report #21063 (2021).

Table 13.13
Extraction Summary of Sapuchi Composites (P_{80} – 9.5 mm)

	Comp ID	Au - g/t				Extraction, % Au	kg/t	
		Head Assay	Back Calc. Head Grade	Extracted	Tail Assay		NaCN Cons.	Lime Add.
Oxide	1	0.70	0.85	0.68	0.17	79.8	0.99	3.81
	2	1.29	1.42	1.04	0.38	73.3	3.43	7.15
	3	1.34	2.00	1.44	0.57	71.7	0.88	5.90
	4	0.80	0.84	0.65	0.19	77.5	0.70	5.08
	5	0.99	1.34	0.72	0.62	53.7	0.73	3.57
	6	2.73	0.64	0.54	0.10	84.3	0.73	4.26
	7	0.87	0.95	0.73	0.23	76.3	0.60	4.58
	Avg	**1.24**	**1.15**	**0.83**	**0.32**	**73.8**	**1.15**	**4.91**
Transition	8	1.42	0.94	0.28	0.66	29.9	1.42	2.11
	9	0.50	0.39	0.17	0.22	43.7	1.46	1.30
	10	1.13	2.01	0.81	1.20	40.4	1.55	4.83
	11	0.18	0.50	0.10	0.40	19.9	1.51	1.95
	12	0.24	0.38	0.21	0.17	55.0	4.97	3.60
	Avg	**0.69**	**0.84**	**0.31**	**0.53**	**37.8**	**2.18**	**2.76**
Sulphid	13	1.04	0.77	0.42	0.35	54.3	1.32	3.66
	14	1.13	0.68	0.18	0.50	26.2	0.81	0.57
	15	0.38	1.05	0.18	0.87	16.7	0.80	0.54

Comp ID		Au - g/t				Extraction, % Au	kg/t	
		Head Assay	Back Calc. Head Grade	Extracted	Tail Assay		NaCN Cons.	Lime Add.
	16	15.00	2.07	0.37	1.70	17.7	0.94	0.80
	17	0.25	0.73	0.15	0.58	20.7	0.71	0.44
	18	0.98	2.04	0.57	1.47	28.0	0.33	0.94
	19	0.53	1.07	0.16	0.92	14.5	0.71	0.74
	Avg	2.76	1.20	0.29	0.91	25.4	0.80	1.10

Source: Forte Analytical Report #21063 (2021).

The oxide composites all extracted well at 75 µm, ranging from 89.9% to 93.8%. This drops to an averaged extraction of 73.8% at 9.5 mm, ranging from 53.7 to 84.3%. Silver leach extractions were highly variable at the coarser size, ranging from 25.9% to 99%. Column leach testwork is on-going to optimize the operating crush size.

The transition and sulphide composites are considered cyanide amenable at the 75 µm sizing, with extractions 87.9% and 92.0%, respectively. However, as the mineralization size increases to 9.5 mm, these extractions decrease to 37.8% and 25.4% respectively. Silver leach extractions decreased similarly, with an average 48% at 9.5 mm. These mineralization types should not be considered heap leachable and additional testwork, such as milling to leach, flotation or gravity concentration should be considered for optimization.

13.3.2.1 Reagent Consumptions

Lime consumptions are slightly elevated, suggesting an acid-producing mineralization; however, cyanide consumptions are within expectations of typical heap leach mineralization.

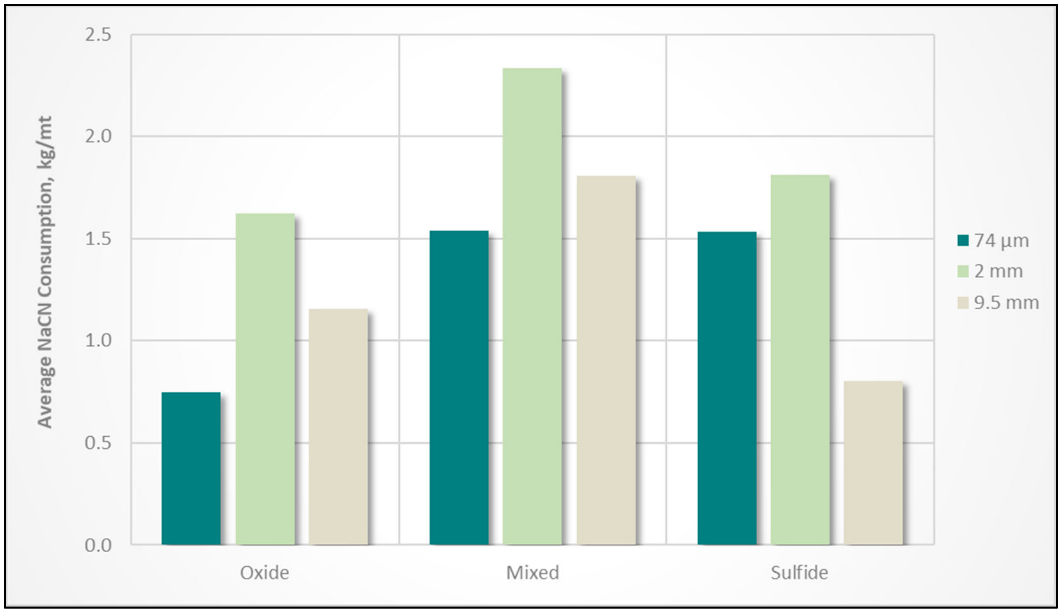
Lime consumptions for the oxide mineralization should be considered elevated, ranging from 4.9 kg/t at 9.5 mm up to 7.1 kg/t for the pulverized tests. For heap leach consideration, an estimated 5 kg/t is expected.

Sodium cyanide consumptions for the oxide composites ranged between 0.6 to 3.4 kg/t with an average of 1.2 kg/t. It is common to apply a 0.3-0.5 factor when estimating reagent consumptions for field estimates. An estimated 0.5 kg/t NaCN is expected for heap leach testing.

Assuming a mill to leach scenario for all transition and sulphide mineralization at approximately 75 µm, the NaCN consumption averages about 1.0 kg/t, and the lime consumption averages approximately 2.0 kg/t.

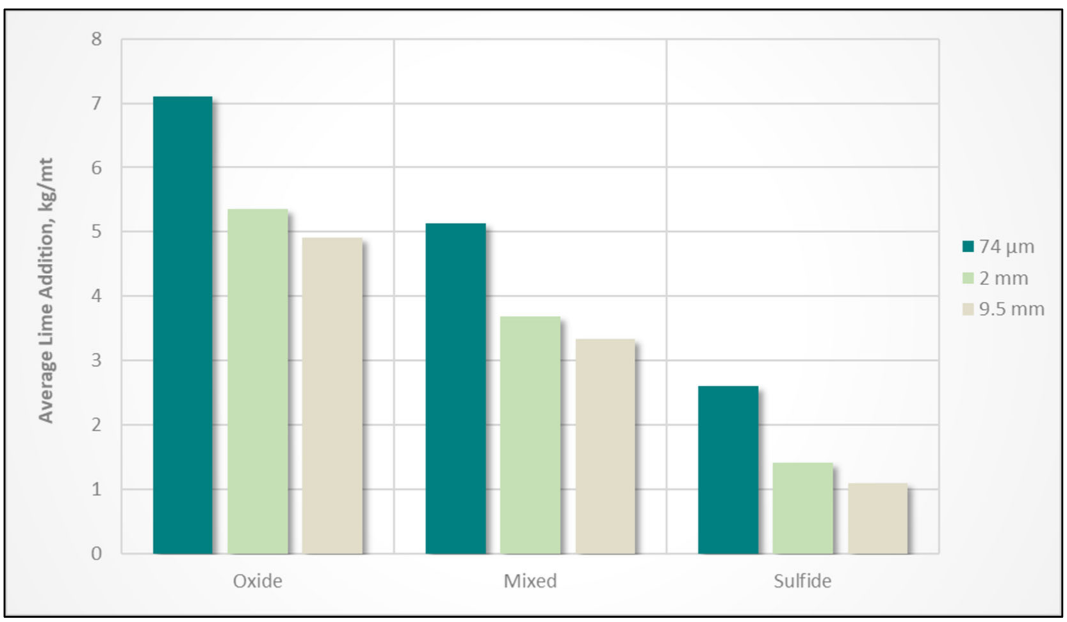
Figure 13.3 shows the average sodium cyanide consumptions by mineralization type and test sample size. Figure 13.4 shows average lime addition by mineralization type.

Figure 13.3
Average Sodium Cyanide Consumptions by Mineralization Type and Test Sample Size



Source: Forte Analytical Report #21063 (2021).

Figure 13.4
Average Lime Addition by Mineralization Type



Source: Forte Analytical Report #21063 (2021).

13.3.2.2 SEM – Gold Deportment Imaging

Due to the variability of the shake leach and fire assay gold head grades in the interval samples, it was expected that coarse free gold was present in a number of the intervals. A split of 17 oxide intervals were sent to Eagle Engineering for confirmation imaging. Due to the low-grade nature of the intervals, only a few gold particles were found. However, liberated coarse gold particles, approximately 20 to 50 microns in size, were found in five of the samples.

13.3.3 Bottle Roll Testing on Head Rejects – SGS

Bottle roll testing was conducted by the SGS-Durango laboratory on 18 composites generated from the analytical head rejects. The composites were selected by mineralization type, lithology and grade variations utilizing continuous lengths of core. While single lithology composites were the primary goal, a few blends were also created. Table 13.14 summarizes the composites used for this testing.

Table 13.14
Composites for Bottle Roll Testing on Head Rejects

<table>
<tr><th>Mineralization Type</th><th>Lithology</th><th>Drill Hole ID</th><th>Composite IDs</th></tr>
<tr><td rowspan="3">Oxides</td><td>Sedimentary</td><td>DD-21-012
DD-21-016
DD-21-003</td><td>OSM
OSL
OSH</td></tr>
<tr><td>Hydrothermal Breccia</td><td>DD-21-008</td><td>OHTBM</td></tr>
<tr><td>Fault Zone / Sedimentary</td><td>DD-21-008</td><td>OFSM</td></tr>
<tr><td>Transition</td><td>Hydrothermal Breccia</td><td>DD-21-008
DD-21-010
DD-21-007</td><td>MHTBL
MHTBM
MHTBH</td></tr>
<tr><td rowspan="4">Sulphide</td><td>Hydrothermal Breccia</td><td>DD-21-013 & DD-21-014
DD-21-012
DD-21-014</td><td>SHTBL
SHTBM
SHTBH</td></tr>
<tr><td>Fault Zone</td><td>DD-21-013 & DD-21-014</td><td>SFZM</td></tr>
<tr><td>Sedimentary</td><td>DD-21-012</td><td>SSM</td></tr>
<tr><td>Quartz-Diorite</td><td>DD-21-014</td><td>SQDM</td></tr>
<tr><td rowspan="2">Oxide/Transition</td><td>Hydrothermal Breccia</td><td>--</td><td>B-OHTBM-MHTBM</td></tr>
<tr><td>Sedimentary / Hydrothermal Breccia</td><td>--</td><td>B-OSM-MHTBM</td></tr>
<tr><td>Transition/Sulphide</td><td>Hydrothermal Breccia</td><td>--</td><td>B-MHTBM-SHTBM</td></tr>
<tr><td>Oxide/Transition /Sulphide</td><td>Sedimentary / Hydrothermal Breccia / Fault Zone</td><td>--</td><td>B-OSM-MHTBM-SFZM</td></tr>
</table>

Source: SGS-Durango (2021).

Composites were blended and prepped to P_{80} – 75 µm. Bottle roll testing was conducted at 1g/L NaCN for 48 hours. Leach extraction results are presented in Table 13.15.

Table 13.15
Gold Extraction Summary for Bottle Rolls

<table>
<tr><th colspan="2" rowspan="2">Comp ID</th><th colspan="4">Au - g/t</th><th colspan="2">kg/t</th></tr>
<tr><th>Head Assay</th><th>Back Calc. Head Grade</th><th>Tail Assay</th><th>Extraction, % Au</th><th>NaCN Cons.</th><th>Lime Add.</th></tr>
<tr><td rowspan="6">Oxide</td><td>OSM</td><td>0.87</td><td>0.90</td><td>0.04</td><td>95.6</td><td>0.5</td><td>3.4</td></tr>
<tr><td>OSL</td><td>0.67</td><td>0.36</td><td>0.02</td><td>94.4</td><td>0.4</td><td>5.2</td></tr>
<tr><td>OSH</td><td>1.04</td><td>0.67</td><td>0.02</td><td>97.0</td><td>0.6</td><td>4.2</td></tr>
<tr><td>OHTBM</td><td>1.33</td><td>1.21</td><td>0.02</td><td>98.3</td><td>1.0</td><td>4.5</td></tr>
<tr><td>OFSM</td><td>0.60</td><td>0.71</td><td>0.04</td><td>94.4</td><td>0.5</td><td>3.7</td></tr>
<tr><td>**Average**</td><td>**0.90**</td><td>**0.77**</td><td>**0.03**</td><td>**95.9**</td><td>**0.6**</td><td>**4.2**</td></tr>
<tr><td rowspan="3">Transiti</td><td>MHTBL</td><td>0.73</td><td>0.70</td><td>0.06</td><td>91.4</td><td>0.8</td><td>2.9</td></tr>
<tr><td>MHTBM</td><td>0.26</td><td>0.22</td><td>0.07</td><td>67.6</td><td>2.6</td><td>3.0</td></tr>
<tr><td>MHTBH</td><td>1.12</td><td>1.76</td><td>0.03</td><td>98.3</td><td>0.8</td><td>2.7</td></tr>
</table>

Comp ID		Au - g/t				kg/t	
		Head Assay	Back Calc. Head Grade	Tail Assay	Extraction, % Au	NaCN Cons.	Lime Add.
	Average	**0.70**	**0.89**	**0.05**	**85.8**	**1.4**	**2.9**
Sulphide	SHTBL	0.33	0.50	0.02	96.0	0.6	0.8
	SHTBM	0.50	0.62	0.02	96.8	0.7	1.7
	SHTBH	1.18	2.05	0.03	98.5	0.8	2.2
	SFZM	0.86	0.95	0.11	88.4	0.8	2.8
	SSM	1.13	1.25	0.03	97.6	0.6	1.6
	SQDM	0.47	0.61	0.03	95.1	0.2	1.5
	Average	**0.75**	**1.00**	**0.04**	**95.4**	**0.6**	**1.7**
Blends	B-OHTBM-MHTBM	0.60	0.67	0.14	79.1	2.0	3.1
	B-MHTBM-SHTBM	0.67	0.51	0.10	80.4	1.7	2.4
	B-OSM-MHTBM	0.57	0.65	0.06	90.7	2.0	3.2
	B-OSM-MHTBM-SFZM	0.72	0.75	0.05	93.3	1.3	3.3

Source: SGS-Durango (2021)

Gold leach extraction rates for the bottle rolls are in line with the results from Section 13.3.2, showing above 90% average recoveries for the oxide and sulphide mineralization, and 85% average recovery for the transition mineralization. Due to lower than detection limit silver grades, silver extraction was not able to be determined, but is assumed to be minimal.

13.4 Metallurgical Assumptions

The metallurgical data from the most recent set of gold leaching testwork was reviewed to determine the expected gold recoveries and reagent consumptions for each mineralization type. It is assumed that oxide mineralization will be heap leached at a ½" crush size. The transition and sulphide mineralization will be milled to 75 µm and then agitated tank leached. A summary of the metallurgical assumptions can be found in Table 13.16.

The Forte Analytical 2021 bottle roll test program leached oxide mineralization at 9.5 mm. The average extraction was 73.8%. By increasing the operational crush size to an approximate 12.5 mm, a 70% heap leach gold extraction is projected. Silver recoveries are highly variable and more difficult to project. A nominal 60% silver extraction is projected. Under these conditions, it is expected that NaCN and lime consumptions are 0.5 and 5.0 kg/t respectively.

The gold recovery in the transition and sulphide domains, considering the historical and current testwork on pulverized samples, is projected at 90%. The gold in these domains has been shown to be cyanide amenable when milled to approximately 75 µm, with NaCN and lime reagent consumptions of 1.0 and 2.0 kg/t respectively. Silver extraction is highly variable and potentially poor from these domains and are capped at 30%.

Table 13.16
Metallurgical Assumptions

Parameter	Heap Leach	Mill
	Oxide	Transition and Sulphide
Operating Conditions		
Particle Size (P 80)	1 inch (25 mm)	75 µm
Residence Time	100 days	36 hours
Recovery		
Au	70%	90%
Ag	60%	30%

Parameter	Heap Leach	Mill
	Oxide	Transition and Sulphide
Reagent Consumption		
NaCN (kg/t)	0.5	1.0
Lime (kg/t)	5.0	2.0

13.5 NOTES REGARDING METALLURGICAL LABORATORY CERTIFICATIONS

All the metallurgical laboratories in this section are independent of Osisko Development. The latest metallurgical testwork was conducted by Forte Analytical which is an ISO 9001 laboratory.

Both Eagle and Hazen are not accredited. Typically, accreditation is not necessary on the metallurgical work and metallurgical laboratories will generally have either in-house or partnerships with assay laboratories that are certified to conduct the actual assaying. Forte Analytical has verified both Eagle's and Hazen's methods and quality control to the extent that it satisfies documentation requirements.

The SGS geochemical laboratory in Durango, Mexico is an ISO/IEC 17025 accredited laboratory.

14.0 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

At the request of Osisko Development, Micon was retained to audit Osisko Development's updated mineral resource estimate for the San Antonio Project. The estimate was prepared by Leonardo de Souza, MAusIMM(CP) of Talisker, using all available data and information provided by Osisko Development. Micon worked with Mr. de Souza, as well as Osisko Development personnel, to ensure that the audit reflected that the current understanding of the mineralization and deposit models were being incorporated into the mineral resource estimate.

The updated 2022 mineral resource estimate for the San Antonio Project encompasses gold and silver estimation for five deposits: Golfo de Oro, California, Sapuchi, High Life and Calvario.

14.2 CIM MINERAL RESOURCE DEFINITIONS AND CLASSIFICATIONS

If a company is a reporting Canadian entity, all resource and reserve estimates presented in a Technical Report should follow the current CIM definitions and standards for mineral resources and reserves. The latest edition of the CIM definitions and standards was adopted by the CIM council on May 10, 2014, and includes the resource definitions reproduced below:

> *Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.*
>
> *A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.*
>
> *The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.*
>
> *Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals.*
>
> *The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of Modifying Factors.*
>
> ***Inferred Mineral Resource***
>
> *An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.*
>
> *An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is*

reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

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

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

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

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

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

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

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

14.3 CIM Estimation of Mineral Resources Best Practices and Guidelines

Micon and its QPs have used the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines which were adopted by the CIM Council on November 29, 2019, in estimating the mineral resources contained within of the San Antonio property. The November, 2019 guidelines supersede the 2003 CIM Best Practice Guidelines.

14.4 Mineral Resource Methodology and Database

14.4.1 Methodology

The 2022 updated mineral resource included the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits. The resource area for the Golfo de Oro segment covers a strike length of 1.2 km and a width of approximately 370 m, to a vertical depth up to 350 m below surface. The California segment covers a strike length of 0.6 km and a width of approximately 230 m, to a vertical depth up to 250 m below surface. The Sapuchi segment covers a strike length of 0.9 km and a width of approximately 420 m, to a vertical depth up to 240 m below surface. The High Life segment covers a strike length of 0.25 km and a width of approximately 120 m, to a vertical depth up to 110 m below surface. The Calvario segment covers a strike length of 0.27 km and a width of approximately 110 m, to a vertical depth up to 100 m below surface.

The models for the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits were prepared using Datamine Studio RM 1.9.36.0 (Datamine). Datamine was used for the mineralized solid modelling by gold grade indicator interpolation. Datamine was also used for the grade estimation, which consisted of 3D block modelling and the ordinary kriging (OK) interpolation method. Statistical studies, capping and variography were completed using Datamine, GSLIB and Excel. Capping and validations were carried out in Datamine and Microsoft Excel.

The main steps in the auditing methodology were as follows:

- Compile and validate the drill hole databases used for mineral resource estimation.
- Validate the geological model and interpretation of the mineralized zones guided primarily gold grade, with minor emphasis of geological controls. Gold is correlated with brecciated rocks that cross-cut all of the geological units.
- Validate the drill hole intercepts database, compositing database, and gold and silver capping values for the purposes of geostatistical analysis and variography.
- Validate the block models and gold and silver grade interpolation.
- Validate the classification of the estimated resources.
- Assess the resources for “reasonable prospects for economic extraction” by open pit mining.
- Generate a mineral resource statement.

14.4.2 Drill Hole Database

The drilling database that was used for resource estimation comprises diamond and reverse circulation drill holes, carried out from 1994 to 2021.

The drilling database includes lithological descriptions, gold, silver and copper assays for the Golfo de Oro and California deposits. For the Sapuchi deposit, the lithological description is not available. In addition, the drilling database includes depths of the limit of the oxidation zone and the transition zone, which permitted construction of preliminary surfaces to restrict the block models into the oxidation zone, transition zone or fresh rock (sulphides), for the three deposits.

The databases cover the strike length of each resource area at variable drill spacings, ranging from 25 to 100 m for the five deposits. The drill hole data for each deposit is summarized in Table 14.1 and illustrated in Figure 14.1.

Table 14.1
Number and Type of Drill Holes for Each Deposit

Deposit	Type	# Drill Holes	Metres
Golfo de Oro	DD	128	25,829
	RC	102	14,609
	Total	**230**	**40,437**
Sapuchi	DD	151	18,674
	RC	50	5,182
	Total	**201**	**23,856**
California	DD	38	8,010
	RC	45	6,706
	Total	**83**	**14,717**
Calvario	DD	50	4,025
	RC	3	338
	Total	**53**	**4,363**
High Life	DD	6	270
	RC	6	812
	Total	**12**	**1,082**
Total Drill Holes		**579**	**84,454**

Table supplied by Talisker in March, 2022.

Figure 14.1
Surface Plan View of the Drill Holes used for the 2022 Mineral Resource Estimate for the Five Deposits

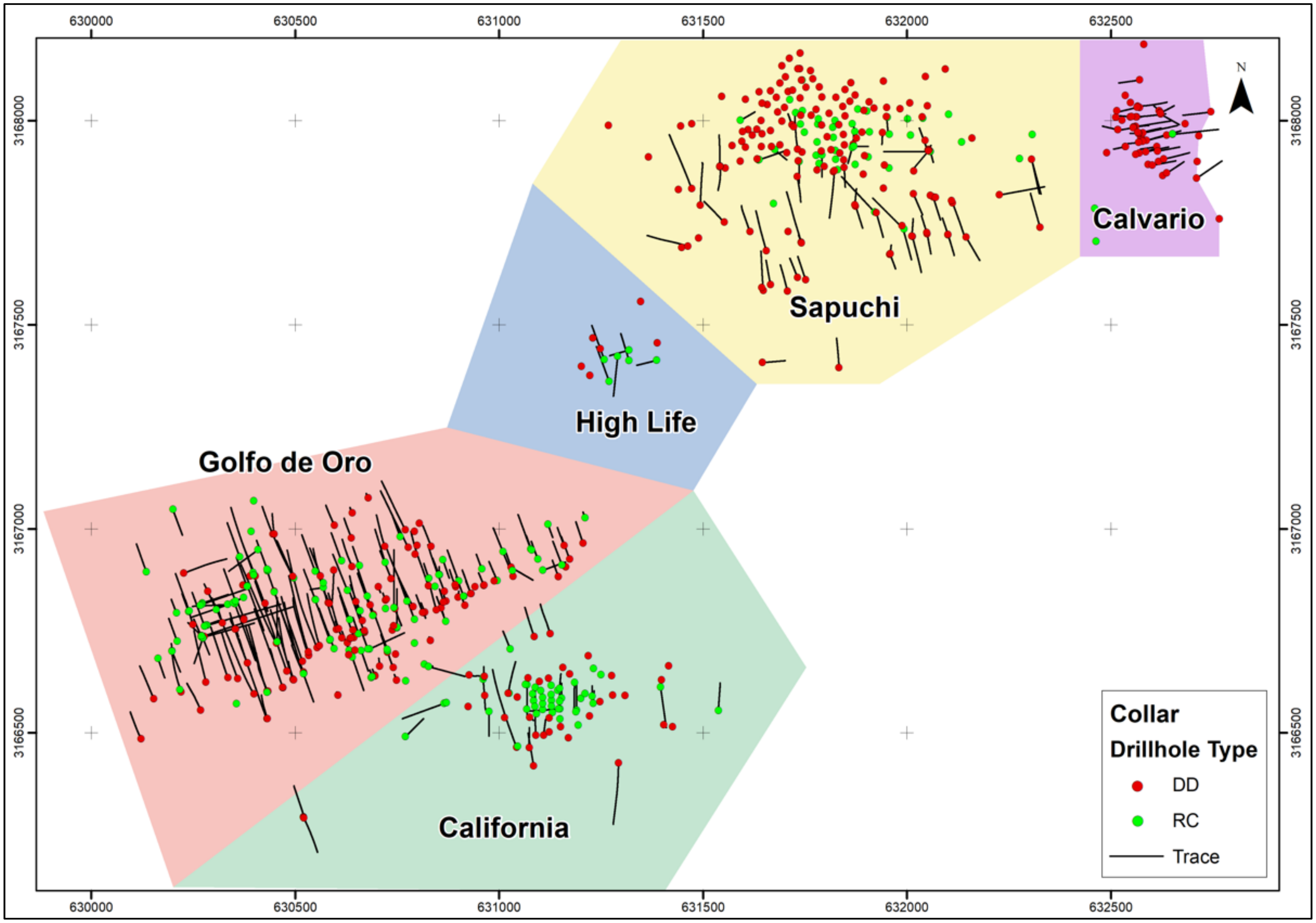


Table supplied by Talisker in March, 2022.

14.4.3 Topography

For the 2022 updated resource, Osisko Development undertook a study to resolve previous topographic problems, where there were a number of drill hole collar elevation and topographic surface disagreements.

The topography used to for the 2022 resource estimation was re-created using two Digital Elevation Models - DEMs in TIFF format. The first model was created in 2008, by Horizons de México with a resolution of 2.0 m pixel size covering the district. In 2021, IMEx conducted a new drone survey which covered Osisko Development's exploration area with a resolution of 0.5 cm pixel size.

Topographic features and terrain conditions prevented the drone survey from fully covering the surface. In order to solve the "no data" problem in these areas, a new merged 3D surface was created in Leapfrog Geo (DEM based), combining all of the sources and extracting vertices in a 1.0 m resolution point cloud. A new topography was then created by point triangulation, with 5.0 m surface resolution that could support the open pit optimization used to constrain the resource estimates.

A similar topographic procedure was conducted at the neighbouring Luz del Cobre mine.

14.4.4 Geological Model

The estimation domains were primarily determined by the gold grade distribution. This is in part due to the lack of reliable geological data and because the gold mineralization appears to be associated primarily with the breccia and porphyry felsic intrusions that cross-cut the stratigraphy.

Mineral composites were created to support the estimation, with a length of 3 m selected using a probability plot, utilizing all of the drill holes within the five deposits (Figure 14.2).

The geometric definition of the mineralized volume was conducted via gold indicator interpolation in Datamine, with a cut-off of 0.2 g/t gold, using 3 m long composites. Mineralized zones were defined with a probability equal to or greater than 40% of being above 0.2 g/t gold. The directions of anisotropic searches for the gold indicator interpolation used the dynamic anisotropy process within Datamine, guided by manual interpretation of the gold spatial grade connectivity. Gold indicator interpolation was performed via inverse distance squared (ID^2), using searches up to 125 m x 125 m x 35 m, 4 to 12 composites and minimum of two drill holes.

Figure 14.2
Probability Plot Defining the 3 m Length used to Estimate the Gold Indicator Composites

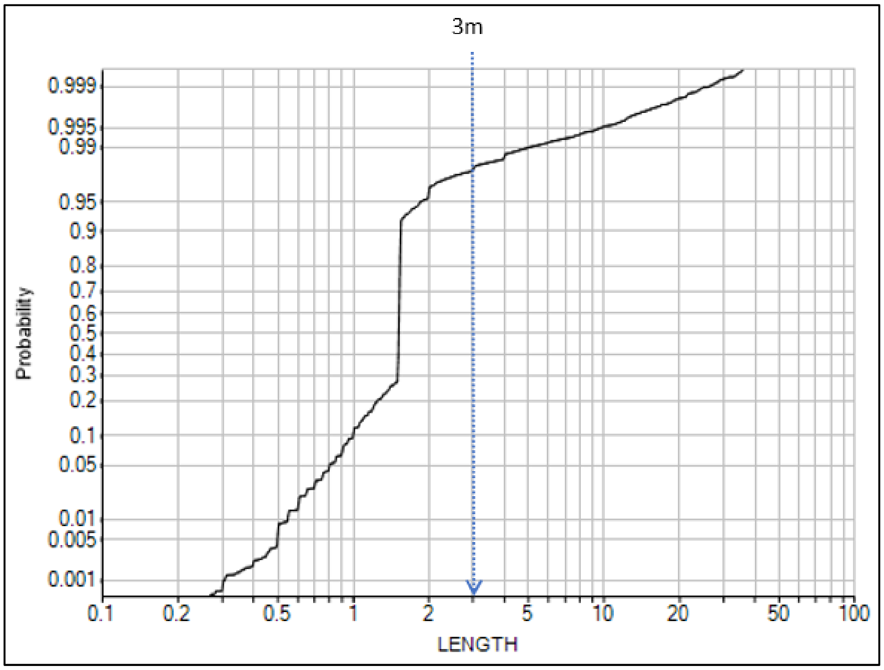


Figure supplied by Talisker in March, 2022.

Figure 14.3, Figure 14.4 and Figure 14.5 illustrate the process of defining the mineralized volume through gold indicator interpolation at the 0.2 g/t cut-off grade for the Golfo de Oro, California and Sapuchi deposits. The coloured blocks in these images highlight those considered as occurring within the mineralized solid. The small discs in the first image illustrate the variable search orientation, based on interpretation. Blocks with a 40% or greater probability of being above 0.2 g/t Au define the mineralized zone; grey blocks are not estimated.

Figure 14.3 shows the cross-section of the Golfo de Oro deposit, illustrating the process used to establish the mineralized zone. At the top of the figure are ellipsoids illustrating the variable orientation of Datamine's dynamic anisotropy process, and blocks coloured by the probability of being above the 0.2 g/t Au cut-off grade. At the bottom of the figure, black bars in the drill holes illustrate intervals with gold grade >= 0.2 g/t, overlapping the coloured blocks by the probability of being above the cut-off grade of 0.2 g/t Au.

Figure 14.3
Cross-Section of the Golfo de Oro Deposit

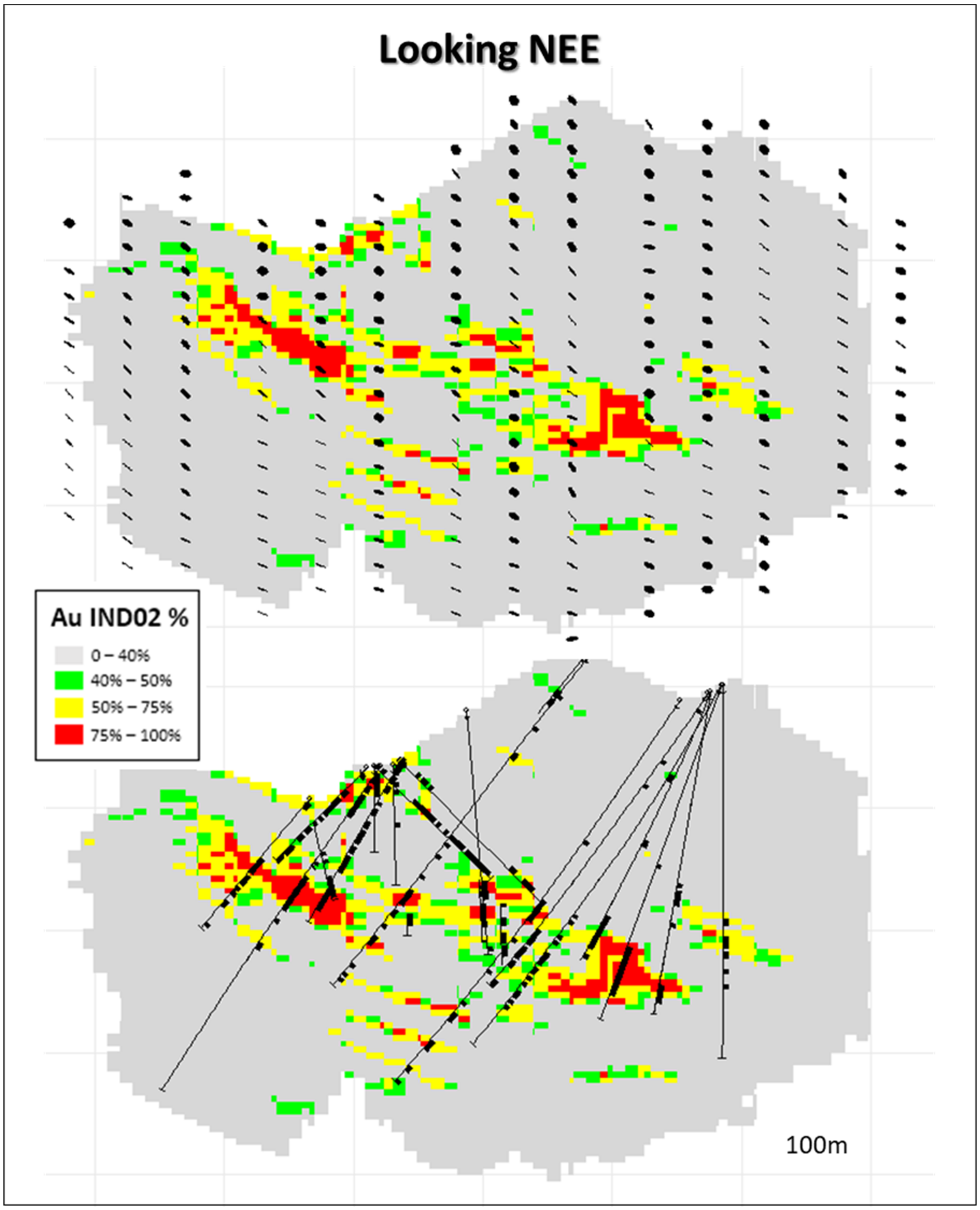


Figure supplied by Talisker in March, 2022.

Figure 14.4 shows the cross-section of the California deposit, illustrating the process used to establish the mineralized zone. Coloured blocks with a 40% or greater probability of being above 0.2 g/t Au define the mineralized zone. At the left of the figure, the ellipsoids illustrate the variable orientation of Datamine's dynamic anisotropy process. At the right of the figure, black bars in the drill holes illustrate intervals with gold grade >= 0.2 g/t, overlapping the coloured blocks by the probability of being above the cut-off grade of 0.2 g/t Au.

Figure 14.4
Cross-Section of the California Deposit

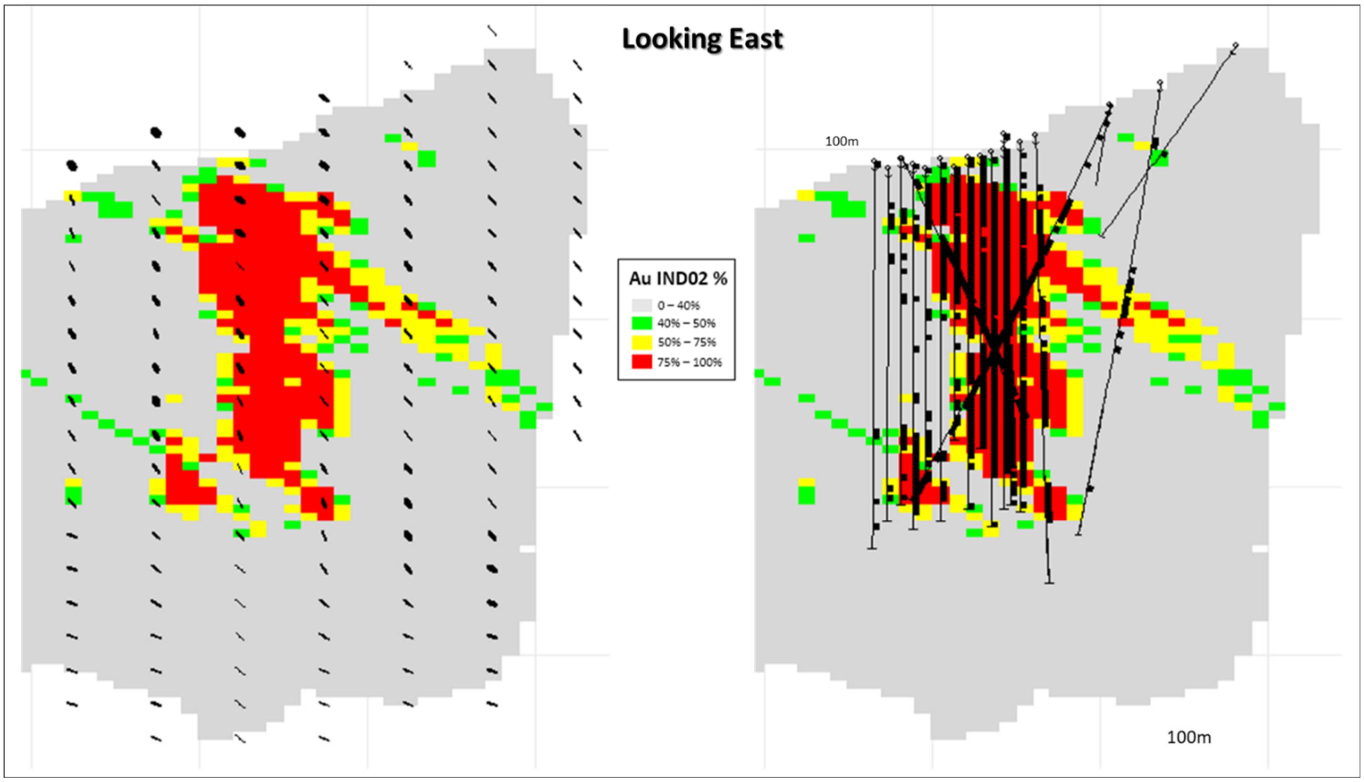


Figure supplied by Talisker in March, 2022.

Figure 14.5 shows the cross-section of the Sapuchi deposit, illustrating the process to establish the mineralized zone. At the top of the figure, ellipsoids illustrate the variable orientation of Datamine's dynamic anisotropy process, and blocks coloured by the probability of being above the 0.2 g/t Au cut-off grade. At the bottom of the figure, black bars in the drill holes illustrate intervals with gold grade >= 0.2 g/t, overlapping the coloured blocks by the probability of being above the cut-off grade of 0.2 g/t Au.

Figure 14.5
Cross-Section of the Sapuchi Deposit (looking ENE)

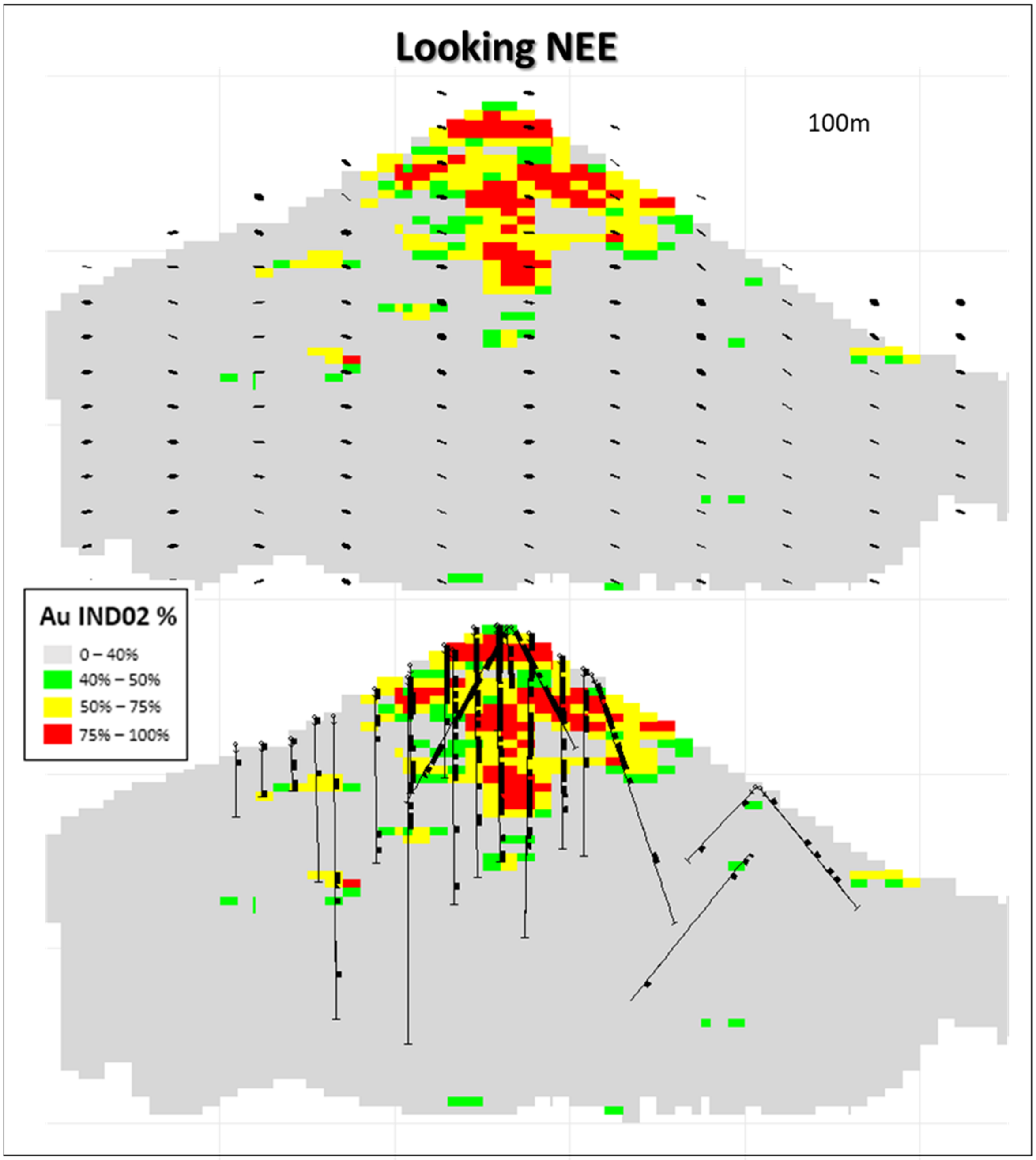


Figure supplied by Talisker in March, 2022.

Figure 14.6 illustrates the oxidation states defined in this resource estimation, for the Golfo de Oro, California and Sapuchi deposits, in the same vertical sections illustrated in the previous figures. Bars along the drill hole traces represent gold grades.

Figure 14.6
Cross-Section Showing the Weathering Zones of Golfo de Oro, California and Sapuchi Deposits

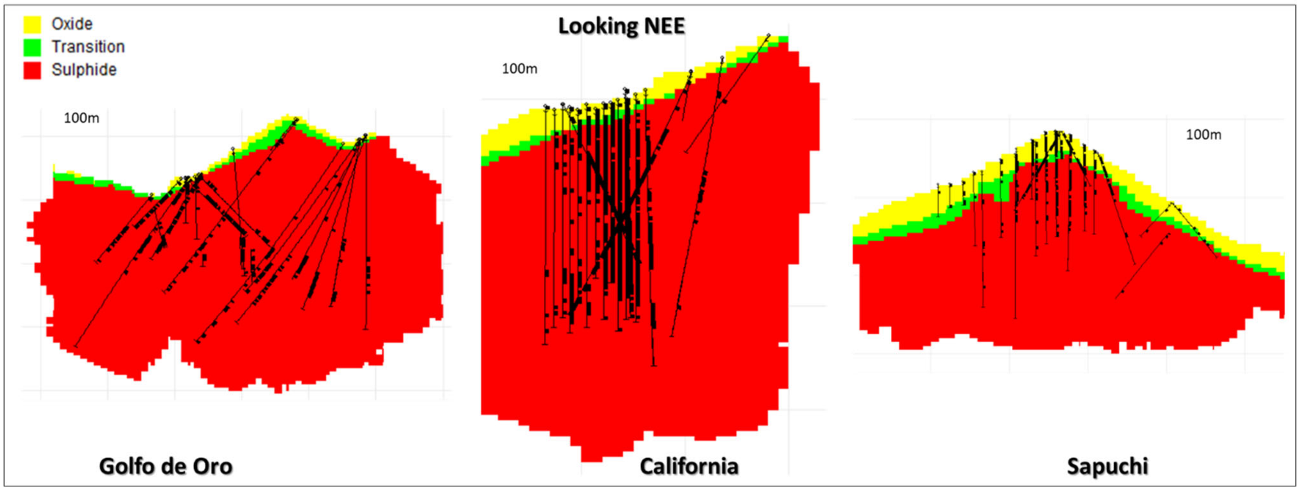


Figure supplied by Talisker in March, 2022.

Figure 14.7 illustrates the 3D expression of the mineralized zones defined by indicator interpolation in the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits, with a 40% or greater probability of being above 0.2 g/t.

Figure 14.7
The Mineralized Zones within the Five Deposits with a ≥40% Probability of being Above 0.2 g/t

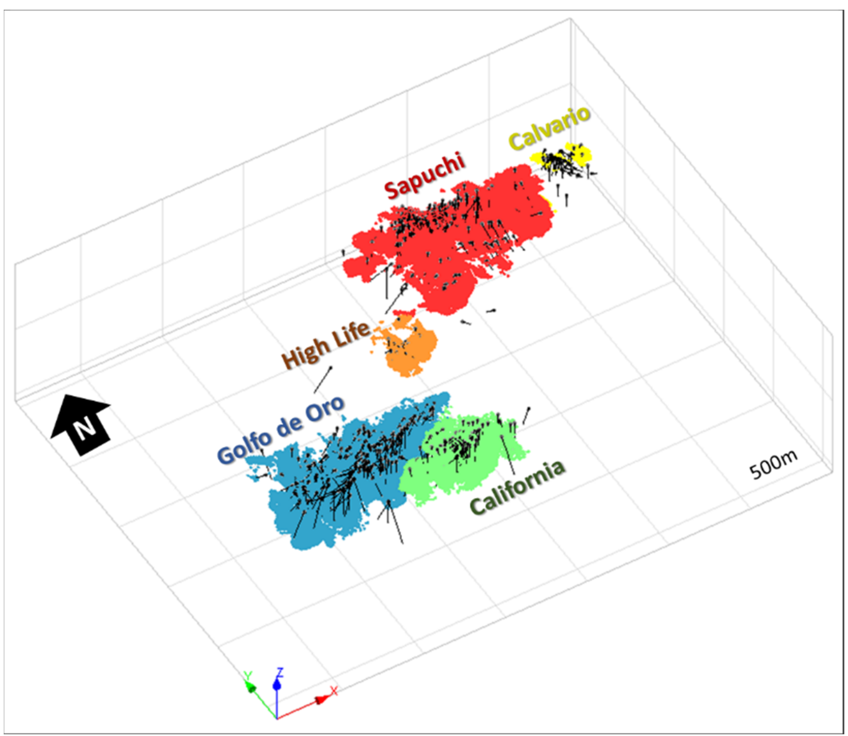


Figure supplied by Talisker in March, 2022.

14.4.5 Model of Voids

Voids represent historical underground workings (combined stopes, drifts and shafts). These workings are thought to have been completed prior to the drilling campaigns used for the resource estimate.

A 5 m buffer was applied to the modelled voids of the Sapuchi deposit to compensate for the uncertainty in locations of those voids.

The voids are used to deplete the mineral resource estimate by those mineralized blocks which have been historically mined, usually through underground mining methods. Historical open pit mining is accounted for by conducting a current topographical survey.

Figure 14.8 shows the voids used to deplete the current resource estimate in the Sapuchi deposit.

Figure 14.8
Historical Voids Used to Deplete the Current Resource Estimate in the Sapuchi Deposit

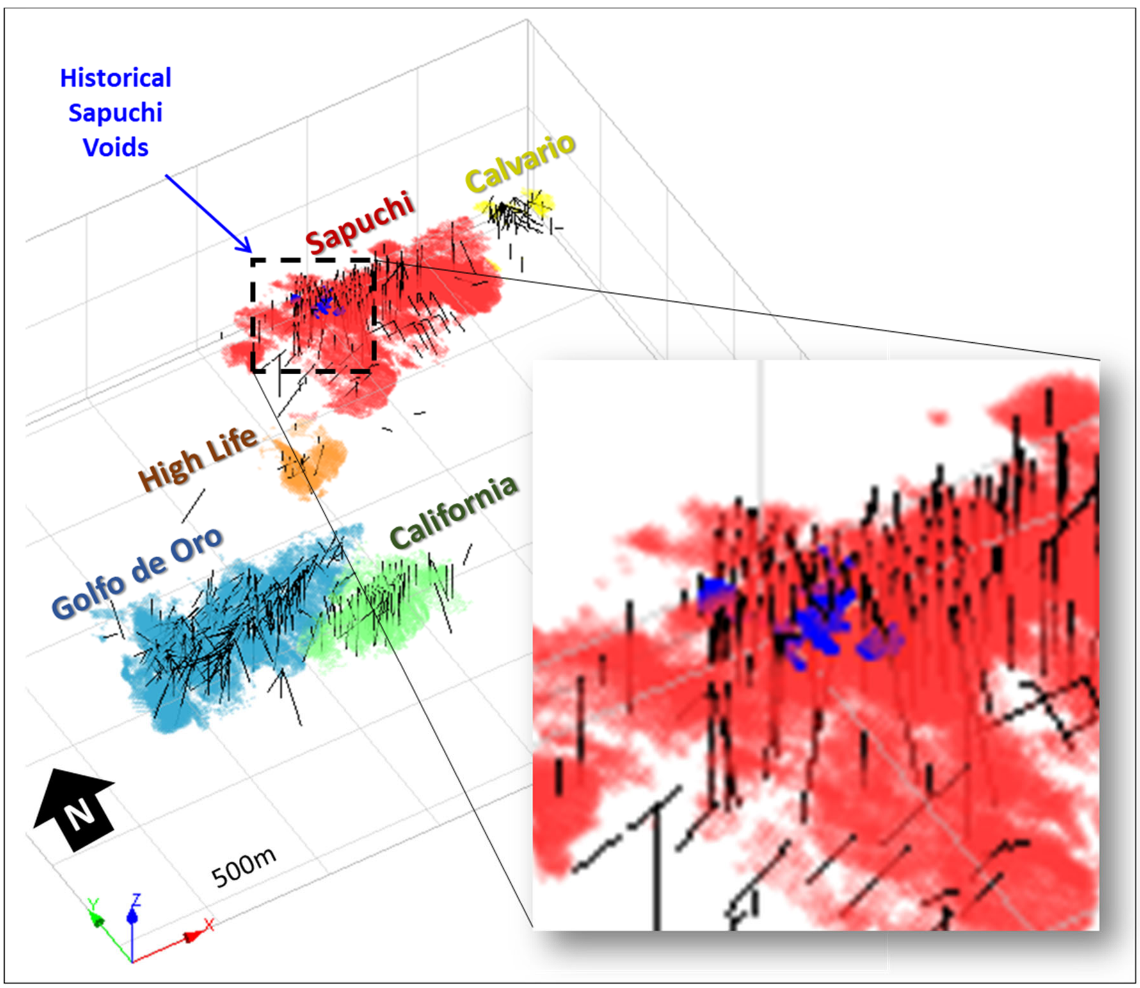


Figure supplied by Talisker in March, 2022.

14.5 Mineral Resource Estimation Composites

Deposit codes were automatically attributed to the drill hole assay intervals previously composited to 3 m that intersected the mineralized blocks defined by the indicator interpolation. The composites were then capped to limit the impact of local extreme grades. Missing sample intervals were replaced with zero grade for both gold and silver.

Table 14.2 and Table 14.3 summarize the composite statistics for gold and silver by deposit, using 3 m length composites before capping. The coefficient of variation values for gold and silver are below 2.5 for uncapped composites. This is relatively low and indicates a well-behaved statistical grade distribution.

Table 14.2
Summary of the Statistics for the Gold Composites by Deposit

Deposit (Code)	Number of Composites	Maximum (Au g/t)	Mean (Ag g/t)	Standard Deviation	Coefficient of Variation
California (1)	1,472	26.40	0.93	1.40	1.50
Golfo de Oro (2)	2,430	61.43	0.94	2.01	2.15
High Life (3)	53	4.48	0.79	1.01	1.28
Sapuchi (4)	1,957	11.64	0.73	1.03	1.41
Calvario (5)	78	1.84	0.45	0.36	0.80

Table supplied by Talisker in March, 2022.

Table 14.3
Summary of the Statistics for the Silver Composites by Deposit

Deposit (Code)	Number of Composites	Maximum (Ag g/t)	Mean (Ag g/t)	Standard Deviation	Coefficient of Variation
California (1)	1,406	74.21	2.94	5.94	2.02
Golfo de Oro (2)	2,232	130.62	2.10	4.80	2.28
High Life (3)	41	92.55	8.12	17.45	2.15
Sapuchi (4)	1,763	105.65	3.92	8.29	2.12
Calvario (5)	1	0.90	0.90		

Table supplied by Talisker in March, 2022.

14.6 High Grade Capping for the San Antonio Project Deposits

Grade capping was investigated for gold and silver by deposit and oxidation zone. The capping values selected for the high-grade gold and silver are as follows:

- Capping at 11 g/t for gold and 20 g/t for silver is appropriate for the Golfo de Oro deposit and all oxidation states.
- Capping at 8 g/t for gold and 20 g/t for silver is appropriate for the California deposit and all oxidation states.
- Capping at 8 g/t for gold and 30 g/t for silver is appropriate for the Sapuchi deposit and all oxidation states.

- Capping at 3 g/t for gold and 20 g/t for silver is appropriate for the High Life deposit and all oxidation states.
- Capping was not conducted for the Calvario deposit, due to the low number of samples.

The capping grades selected for each deposit represent approximately the 99th percentile in the probability plots. Figure 14.9 and Figure 14.10 illustrate the probability plots for gold and silver in each deposit.

The similarity of grade distribution by oxidation state and the relatively low number of oxide and transition samples supports the decision to use a soft boundary between the different oxidation zones during the grade interpolation phase.

Figure 14.9
Probability Plots for Gold in the Various Deposits

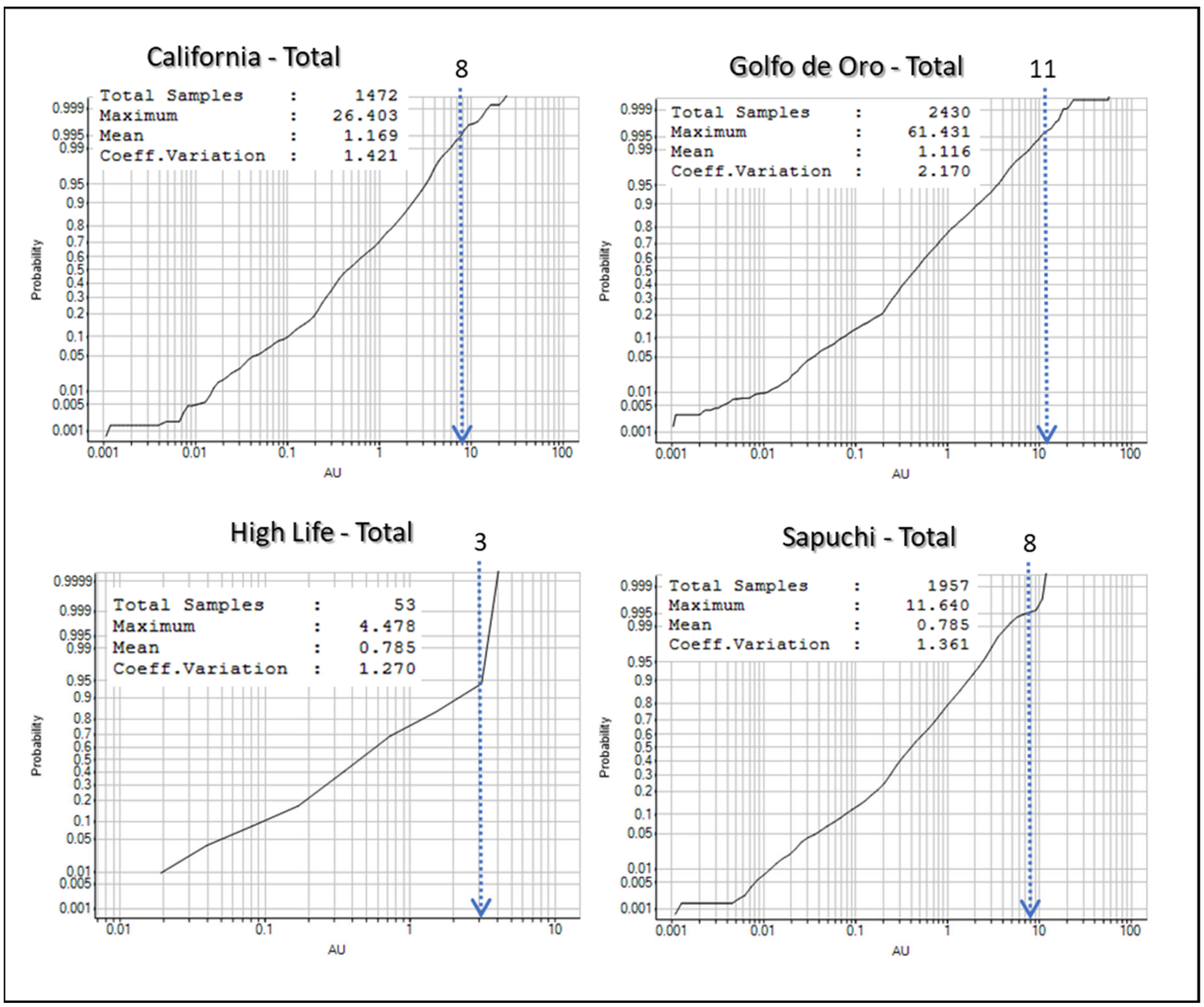


Figure supplied by Talisker in March, 2022.

Figure 14.10
Probability Plots for Silver in the Various Deposits

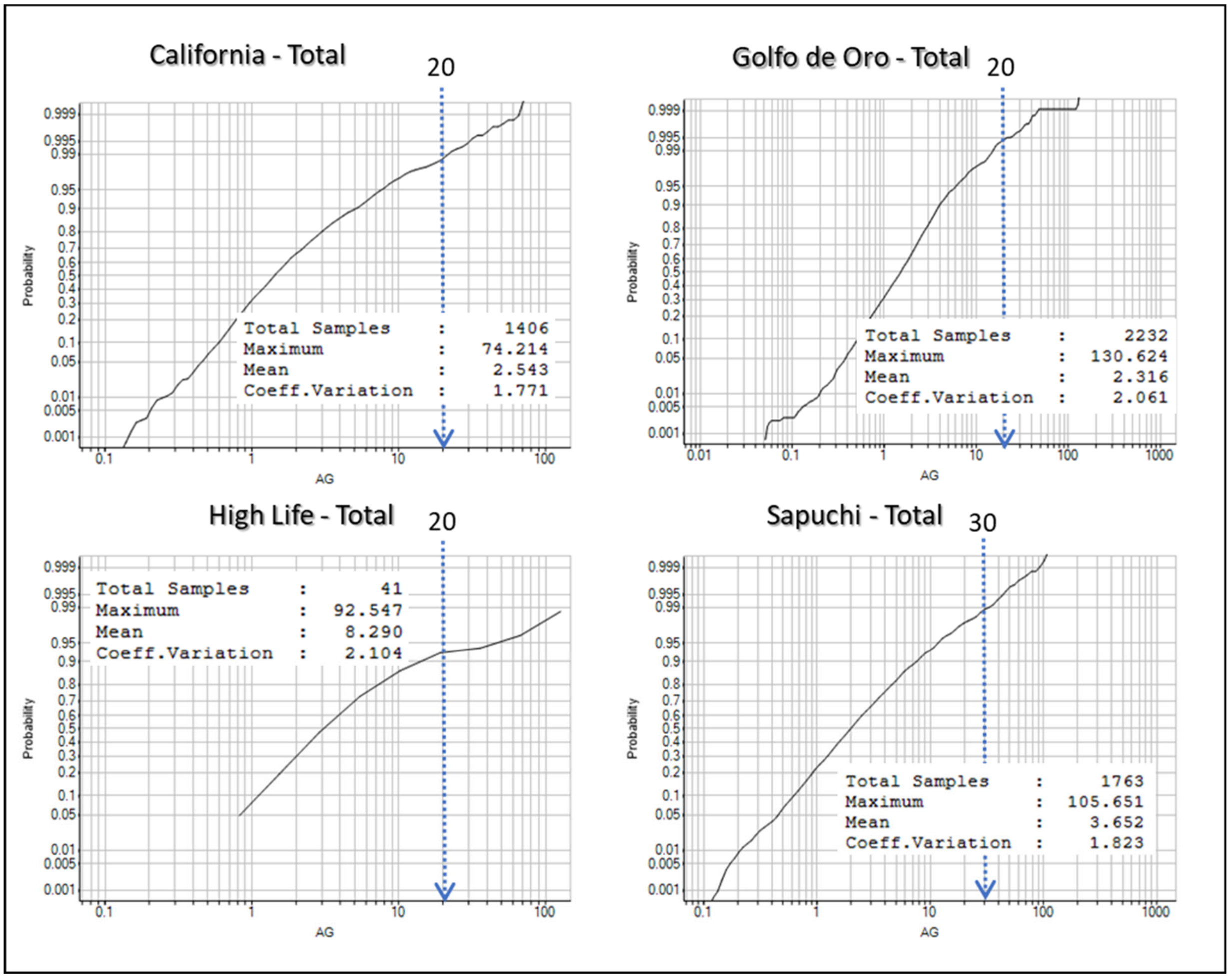


Figure supplied by Talisker in March, 2022.

14.7 DENSITY

Osisko Development supplied 1,140 bulk density measurements for the updated San Antonio resource estimate, from which 1,123 measurements were used to calculate the median on each weathering zone. These three median values were used for the block model. The detailed statistics are summarized in Table 14.4 and a typical section of the weathering zones is shown in Figure 14.11.

Table 14.4
Summary Statistics for Density Data by Weathering Zone

	Median	Mean	Mode	SD	VAR	CoV	Range	Minimum	Maximum	Count
Oxidized Rock	**2.55**	2.53	2.56	0.22	0.05	1.26	1.69	1.50	3.19	84
Transition Rock	**2.70**	2.73	2.65	0.27	0.07	1.77	2.24	2.03	4.27	152
Sulphide Rock	**2.74**	2.79	2.68	0.24	0.06	1.68	4.06	1.00	5.06	887

Table supplied by Talisker in March, 2022.

Figure 14.11
Typical Vertical Section of the Weathering Zones

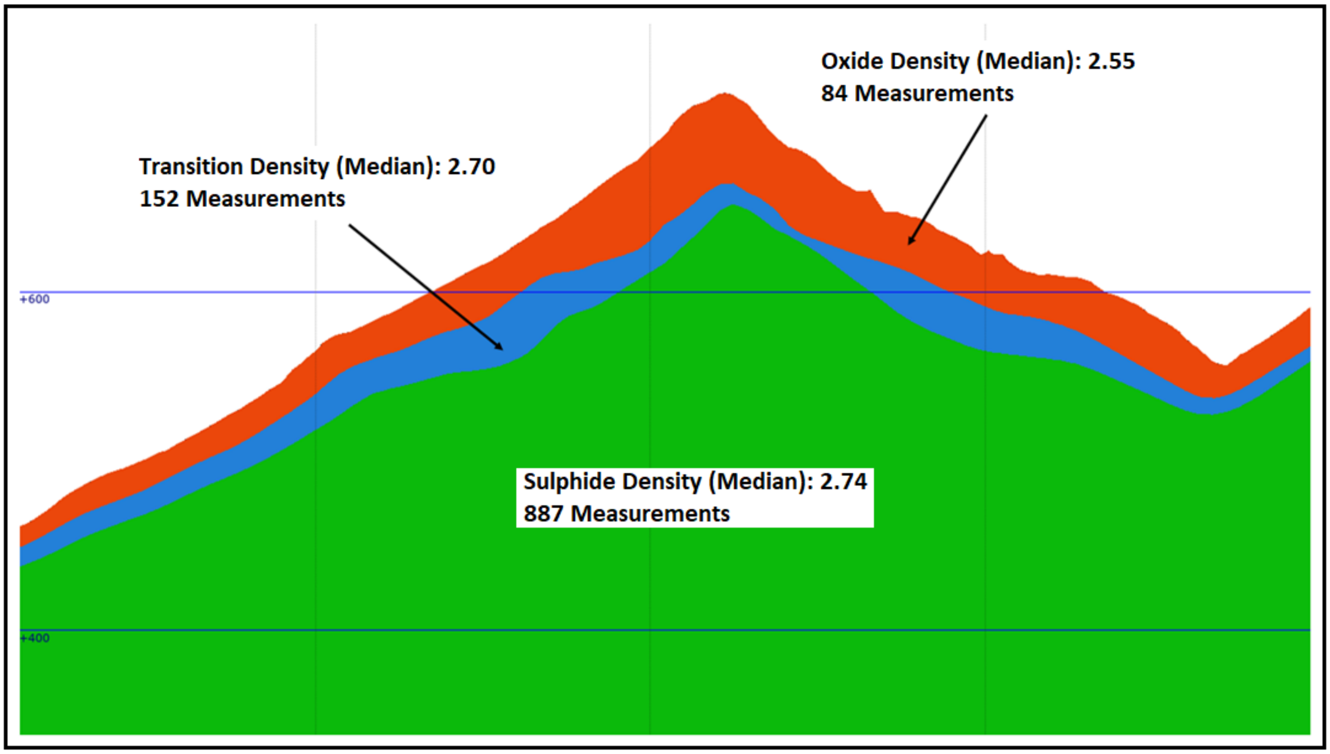


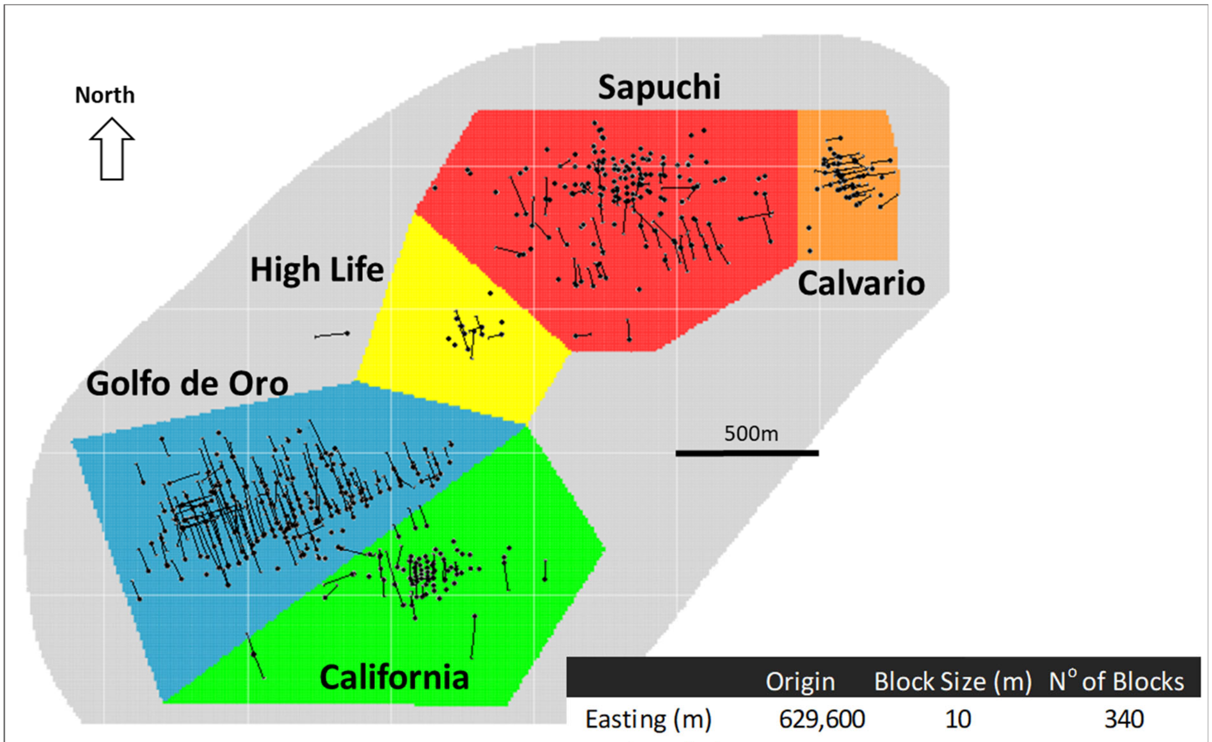
Figure supplied by Talisker in March, 2022.

14.8 Block Model

A single, non-rotated block model was created for all five deposits with no sub-blocks used.

The origin of the block model is the lower-left corner. Block dimensions reflect the sizes of mineralized zones and plausible mining method. Figure 14.12 shows the layout for each deposit and the properties of the block model.

Figure 14.12
Layout for Each Deposit and the Properties of the Block Model



	Origin	Block Size (m)	N° of Blocks
Easting (m)	629,600	10	340
Northing (m)	3,165,900	10	265
Elevation (m)	0	5	200

Figure supplied by Talisker in March, 2022.

14.9 VARIOGRAPHY AND SEARCH ELLIPSOIDS

Three-dimensional directional-specific search ellipses were guided by dynamic anisotropy in Datamine, with search radii determined by the gold variography. However, the variogram used for kriging estimation was a single spherical variogram model for gold and another for silver, using composited assays from the three main deposits. Figure 14.13 to Figure 14.18 illustrate the gold and silver variograms used to estimate the resources of the three main deposits (California, Golfo de Oro and Sapuchi). The other two minor deposits of High Life and Calvario do not have enough data to run meaningful variograms, instead the closest major deposit variography was used.

Figure 14.13
Variogram Models of the Gold Grade for the California Deposit

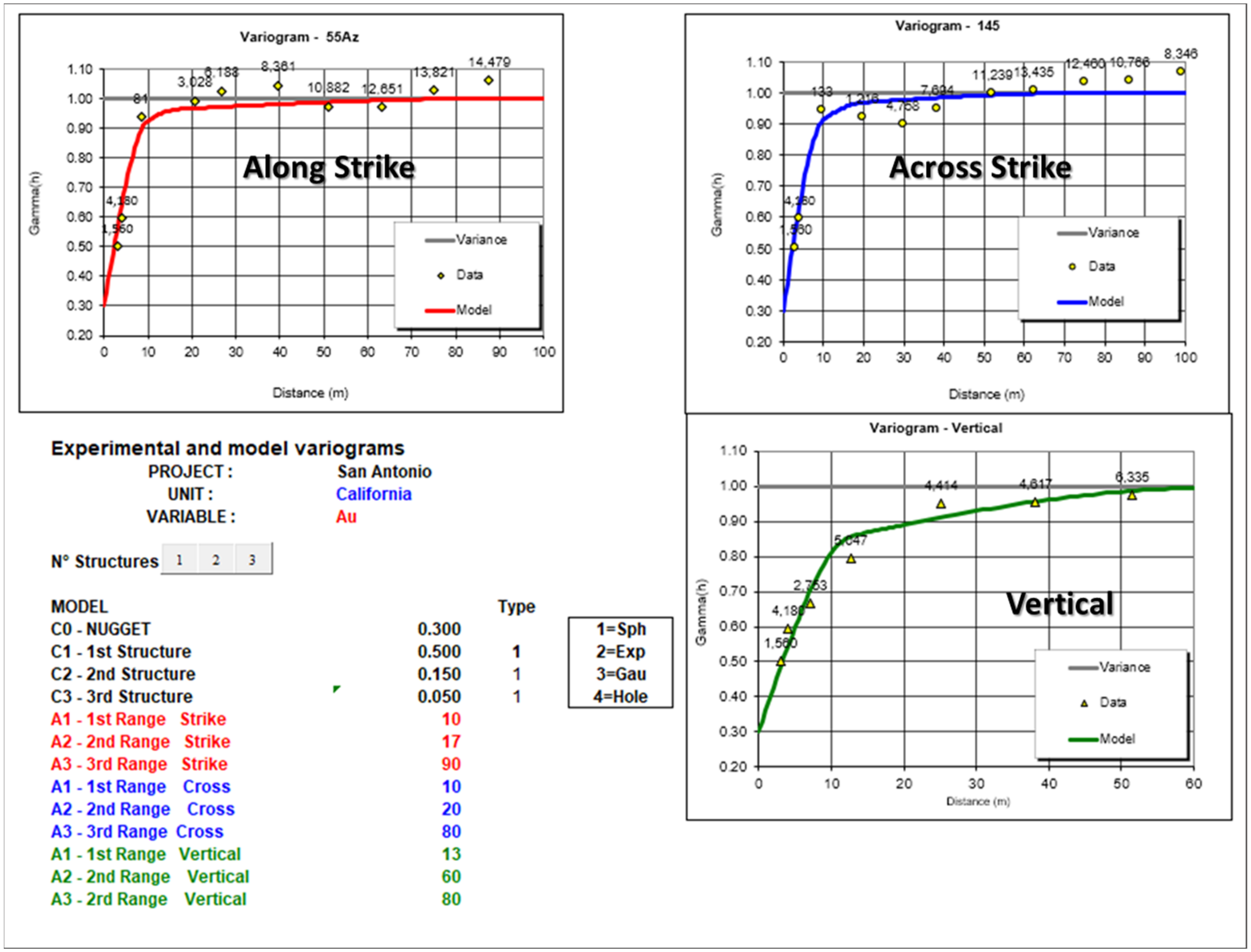


Figure supplied by Talisker in March, 2022.

Figure 14.14
Variogram Models of the Gold Grade for Golfo de Oro Deposit

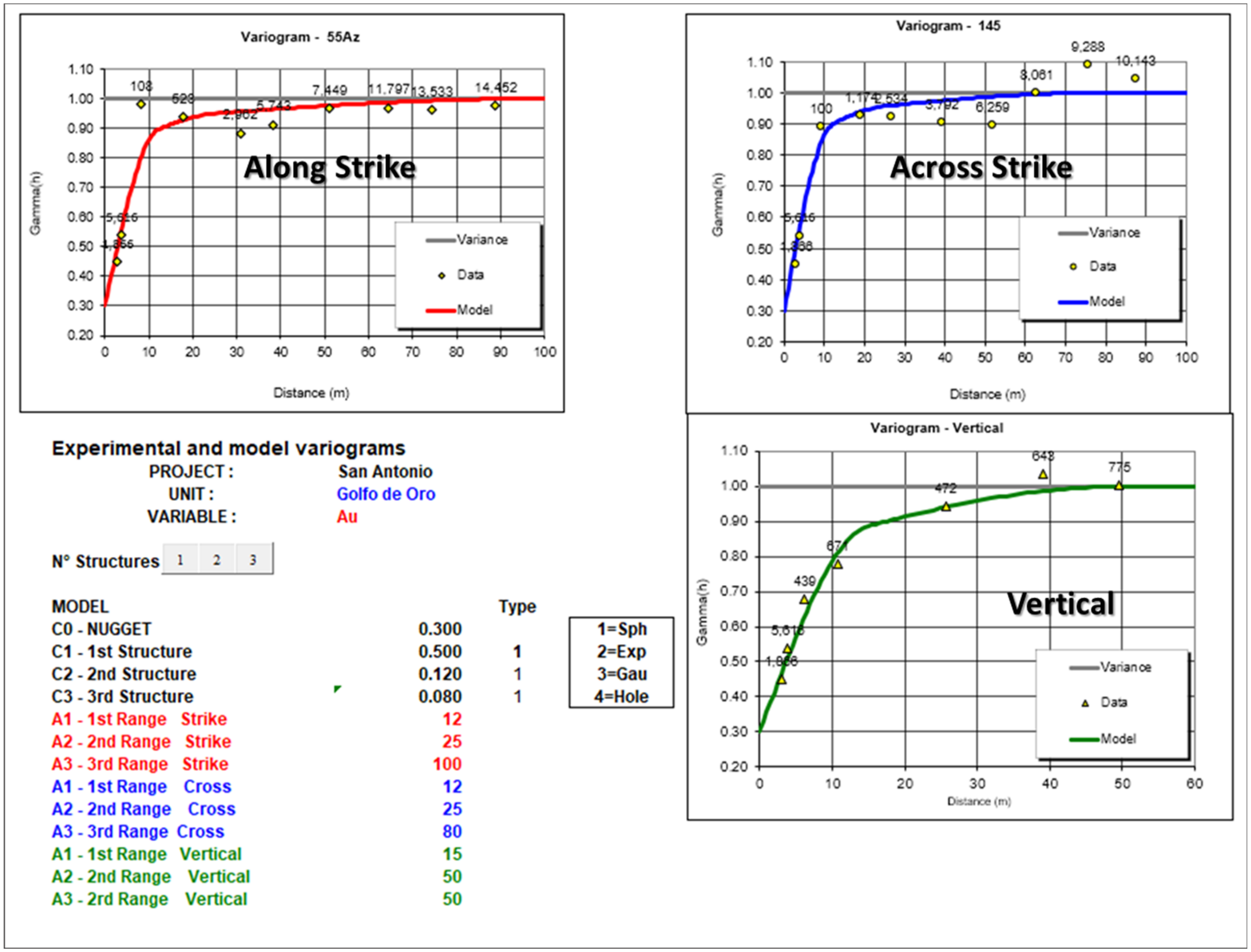


Figure supplied by Talisker in March, 2022.

Figure 14.15
Variogram Models of the Gold Grade for the Sapuchi Deposit

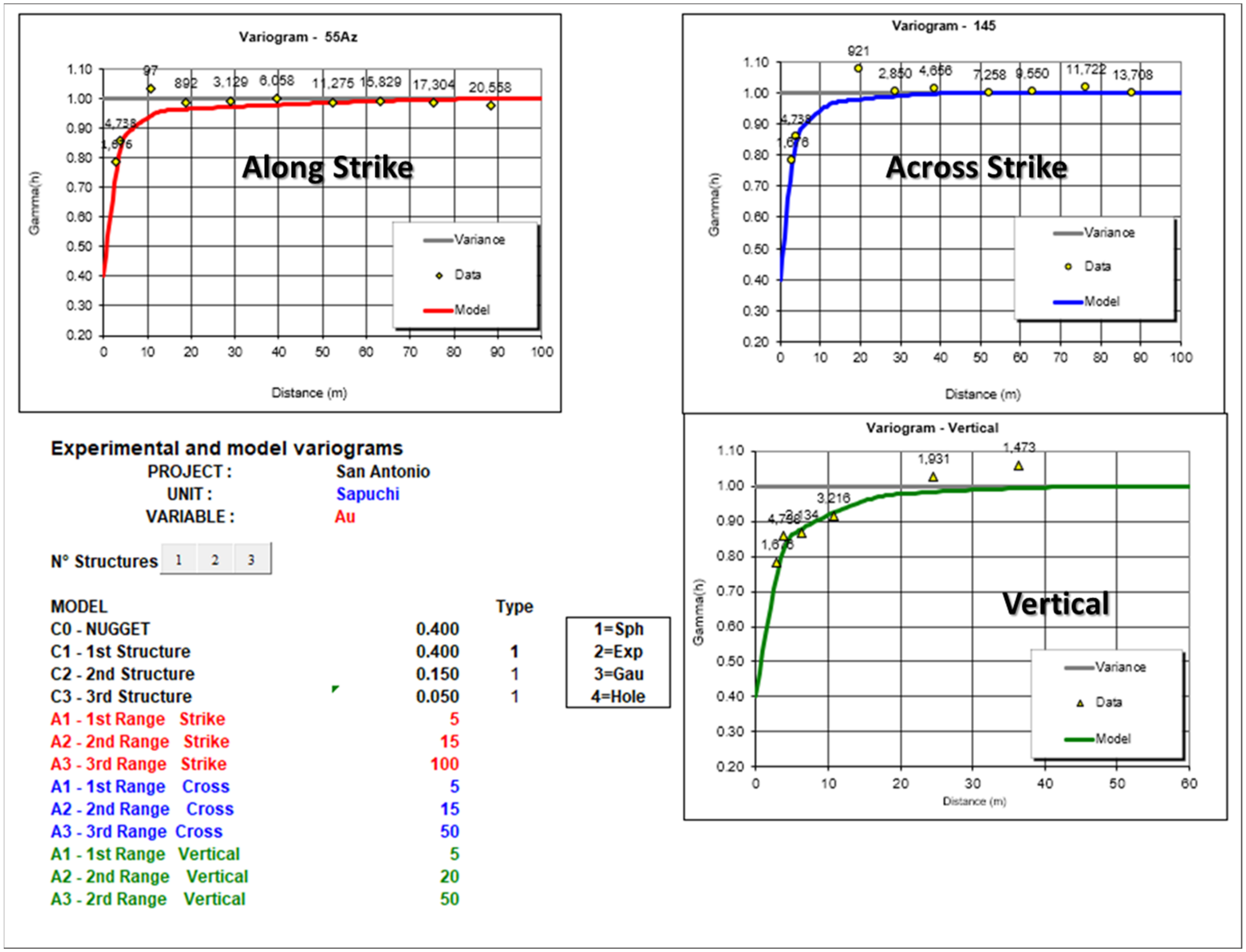


Figure supplied by Talisker in March, 2022.

Figure 14.16
Variogram Models of the Silver Grade for the California Deposit

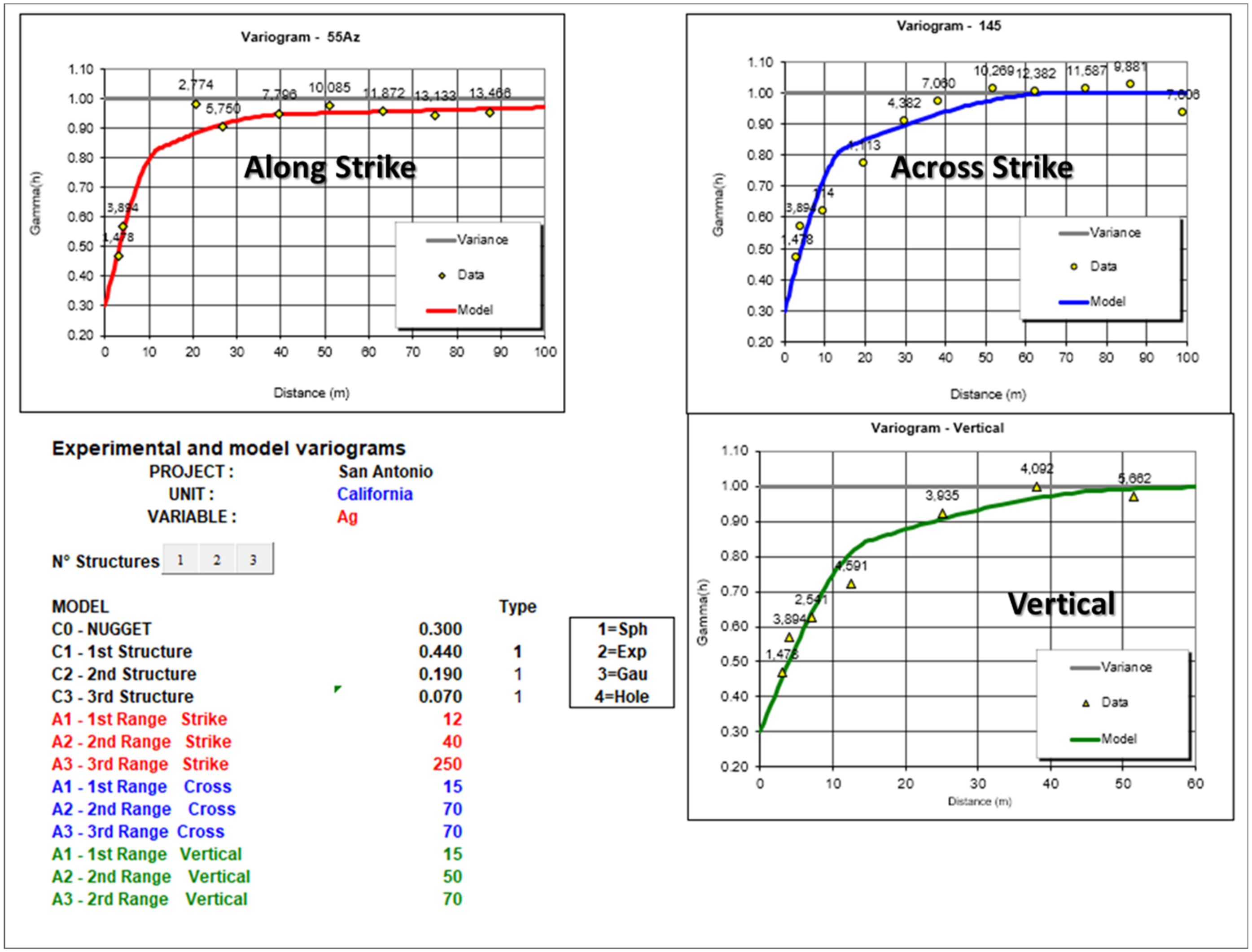


Figure supplied by Talisker in March, 2022.

Figure 14.17
Variogram Models of the Silver Grade for the Golfo de Oro Deposit

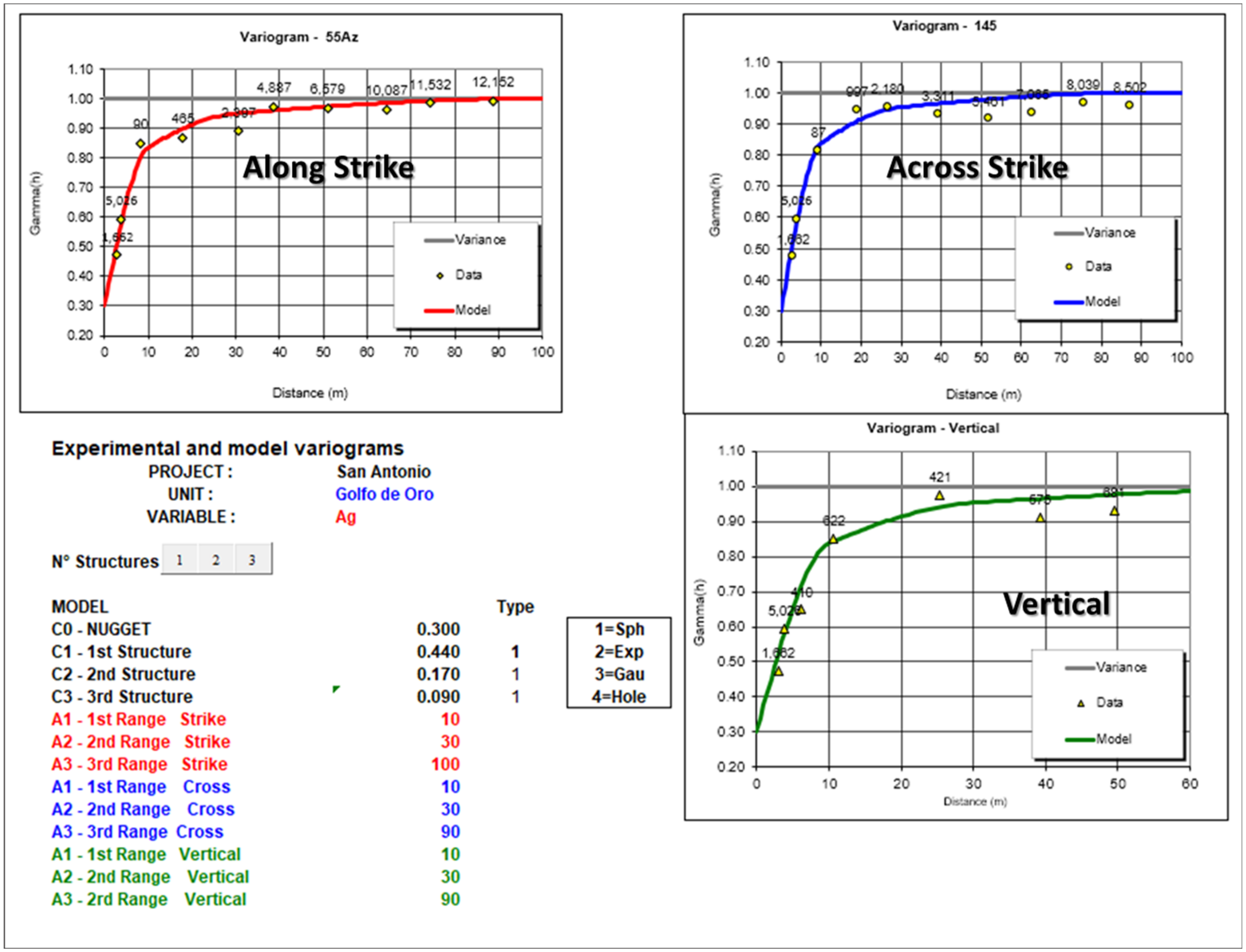


Figure supplied by Talisker in March, 2022.

Figure 14.18
Variogram Models of the Silver Grade for the Sapuchi Deposit

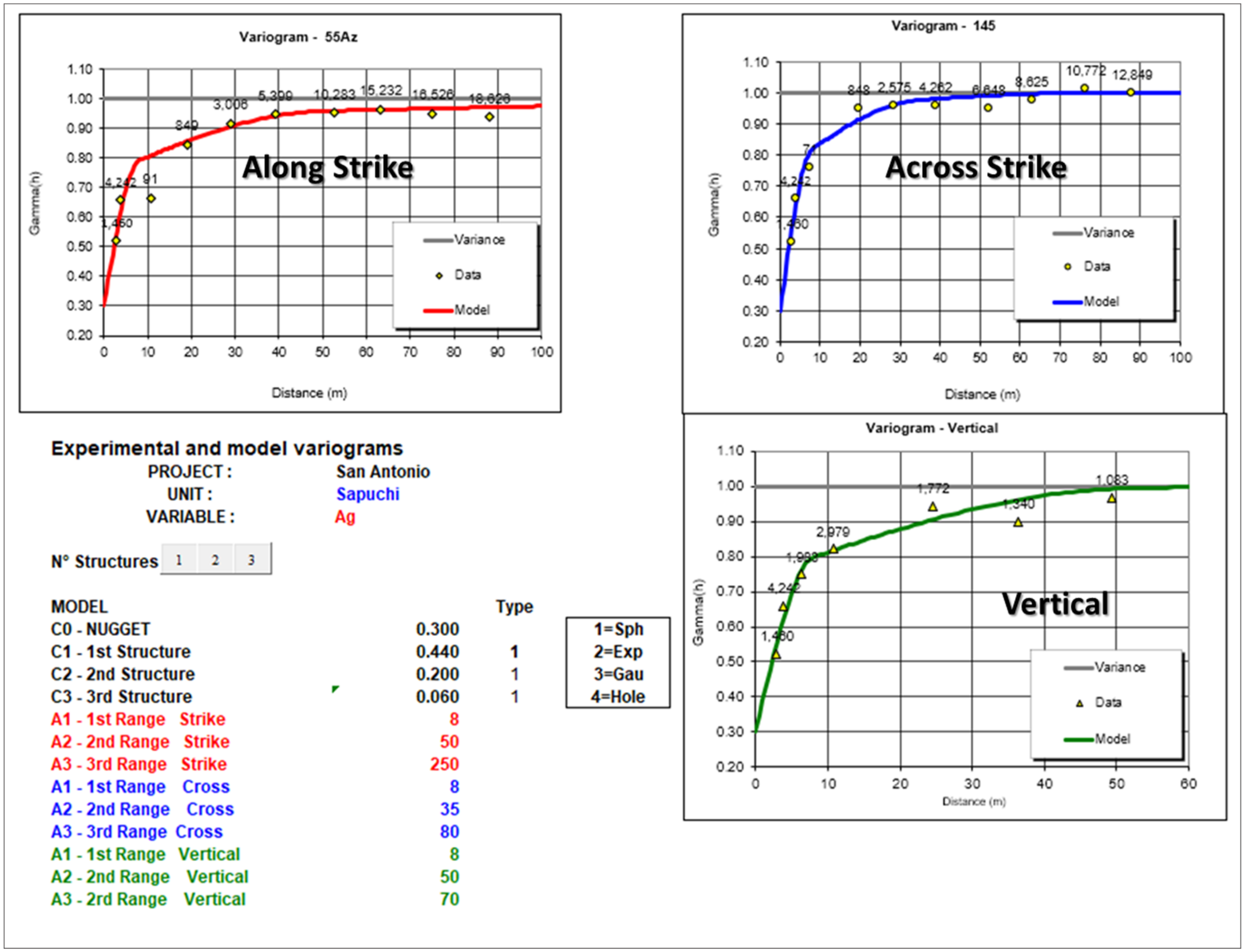


Figure supplied by Talisker in March, 2022.

14.10 Grade Interpolation

The interpolation profiles were customized for each deposit to estimate grades, with hard boundaries between the different deposits.

For each of the five deposits, the mineralized blocks were estimated independently, with an anisotropic three-pass search to estimate all blocks, derived from the variography and using capped composites. The directions of anisotropic searches for the gold and silver grade interpolation used the dynamic anisotropy process of Datamine, guided by manual interpretation of the gold spatial grade connectivity.

The OK method was selected for the final resource estimation for gold and silver, as it better honours the grade distribution for all the deposits.

The grade estimation parameters are summarized in Table 14.5.

Table 14.5
Gold and Silver Grades Estimation Parameters for All Deposits

Pass	Minimum. Composites	Maximum. Composites	Minimum. Drill Holes	Orientation		
				X (m)	Y (m)	Z (m)
1	4	12	2	25	25	7.5
2	4	12	2	75	75	22.5
3	4	12	2	125	125	37.5

Table supplied by Talisker in March, 2022.

14.11 Block Model Validation

The block model was validated visually and statistically. The visual validation confirmed that the block model honours the drill hole composite data (Figure 14.19 to Figure 14.21).

Both ID^2 and nearest neighbour (NN) models were produced to check for local bias in the models for gold estimation. The ID^2 models matched well with the OK models and the differences in the high-grade composite areas are within acceptable limits. The trend and local variation of the estimated ID^2 and OK models were compared with the NN models and composite data, using swath plots in three directions (north, east and elevation). The ID^2, NN and OK models show similar trends in gold grades with the expected smoothing for each method, when compared to the composite data (Figure 14.22 to Figure 14.24).

Figure 14.19
Visual Validation of the Gold Estimate via OK at the Golfo de Oro Deposit*

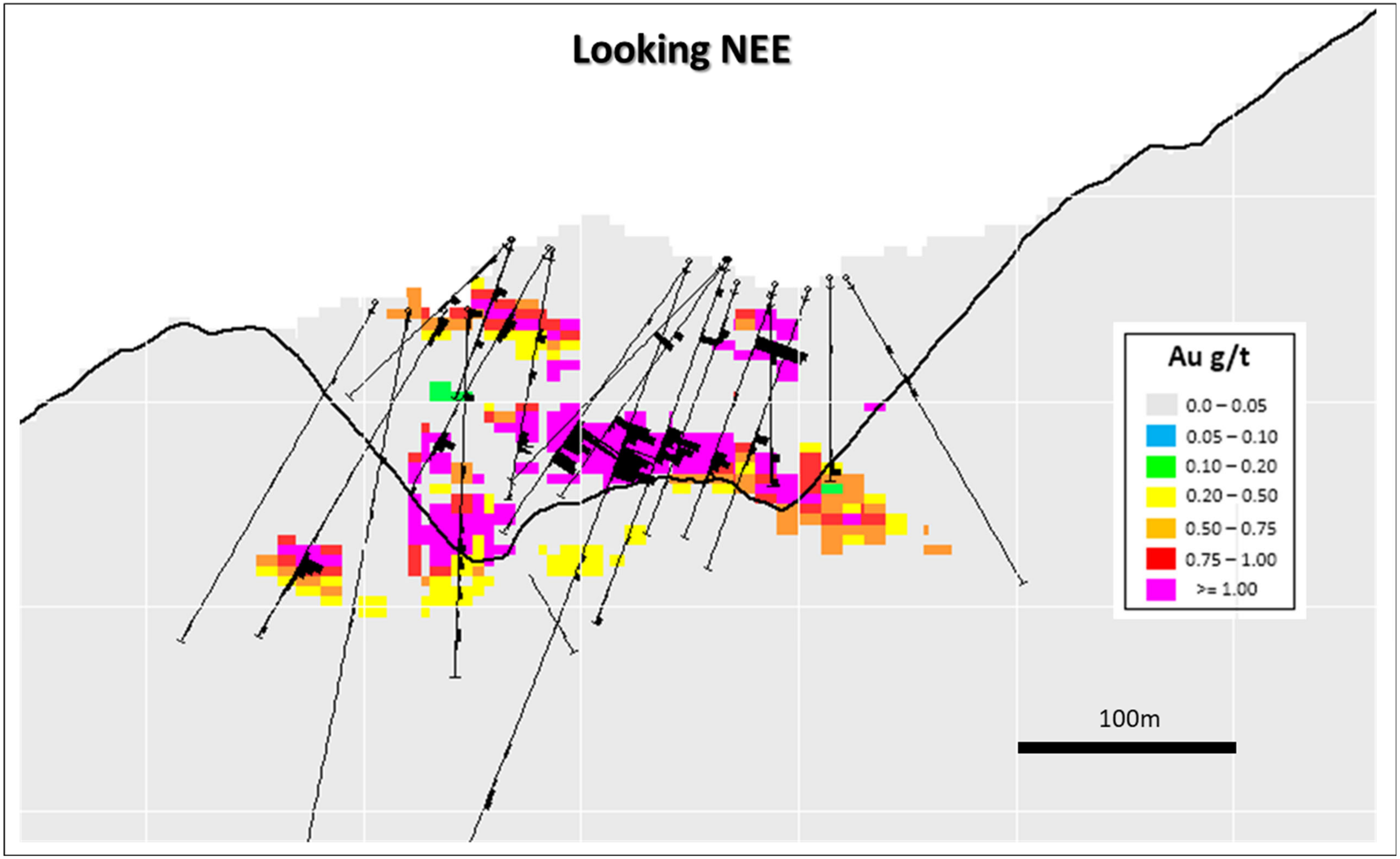


Figure supplied by Talisker in March, 2022.
*The heavy black line represents, in part, the existing topography and the maximum pit limits for the resource estimate.

Figure 14.20
Visual Validation of the Gold Estimate via OK at the California Deposit*

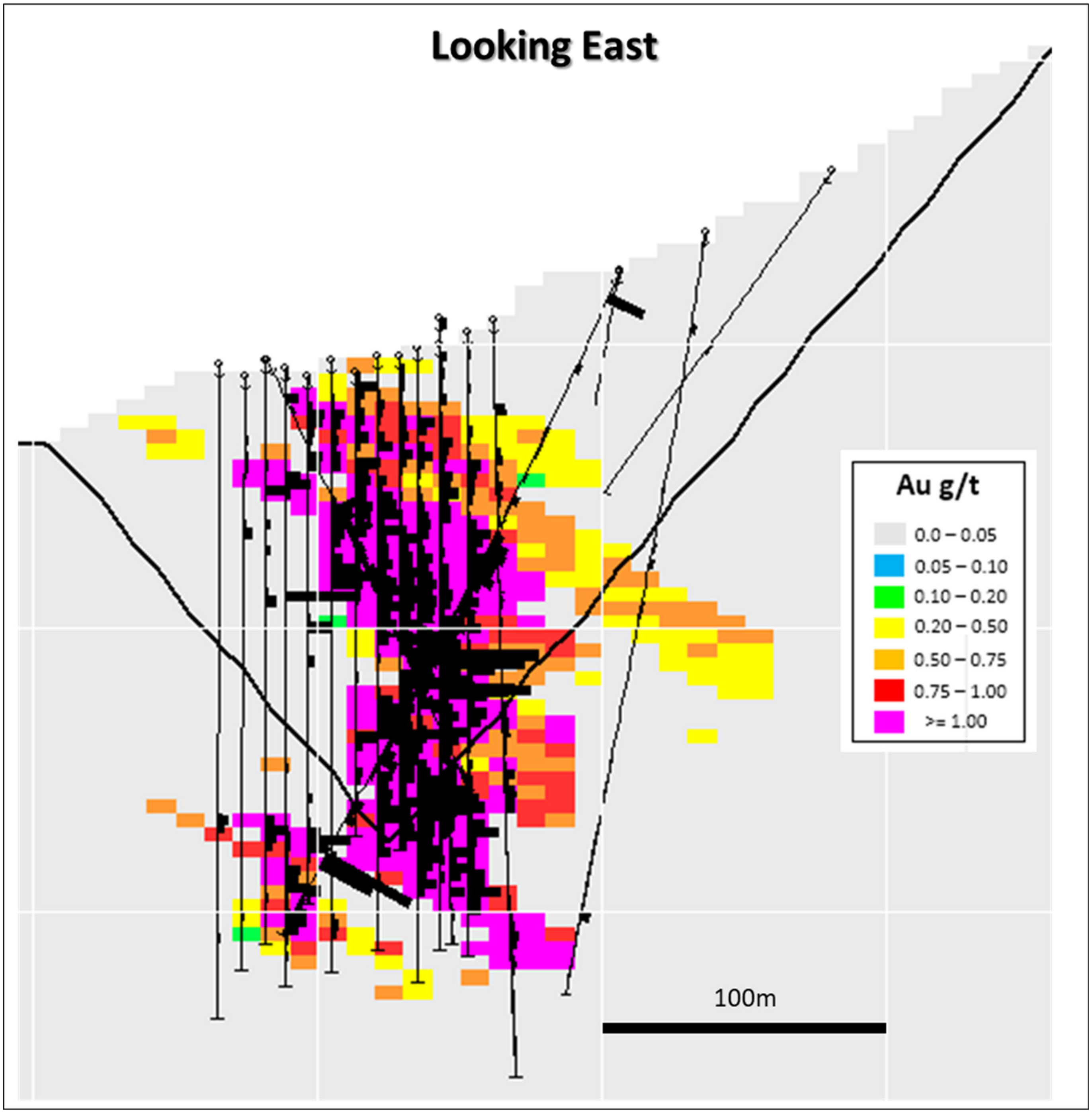


Figure supplied by Talisker in March, 2022.
* The heavy black line represents, in part, the existing topography and the maximum pit limits for the resource estimate.

Figure 14.21
Visual Validation of the Gold Estimate via OK at the Sapuchi Deposit

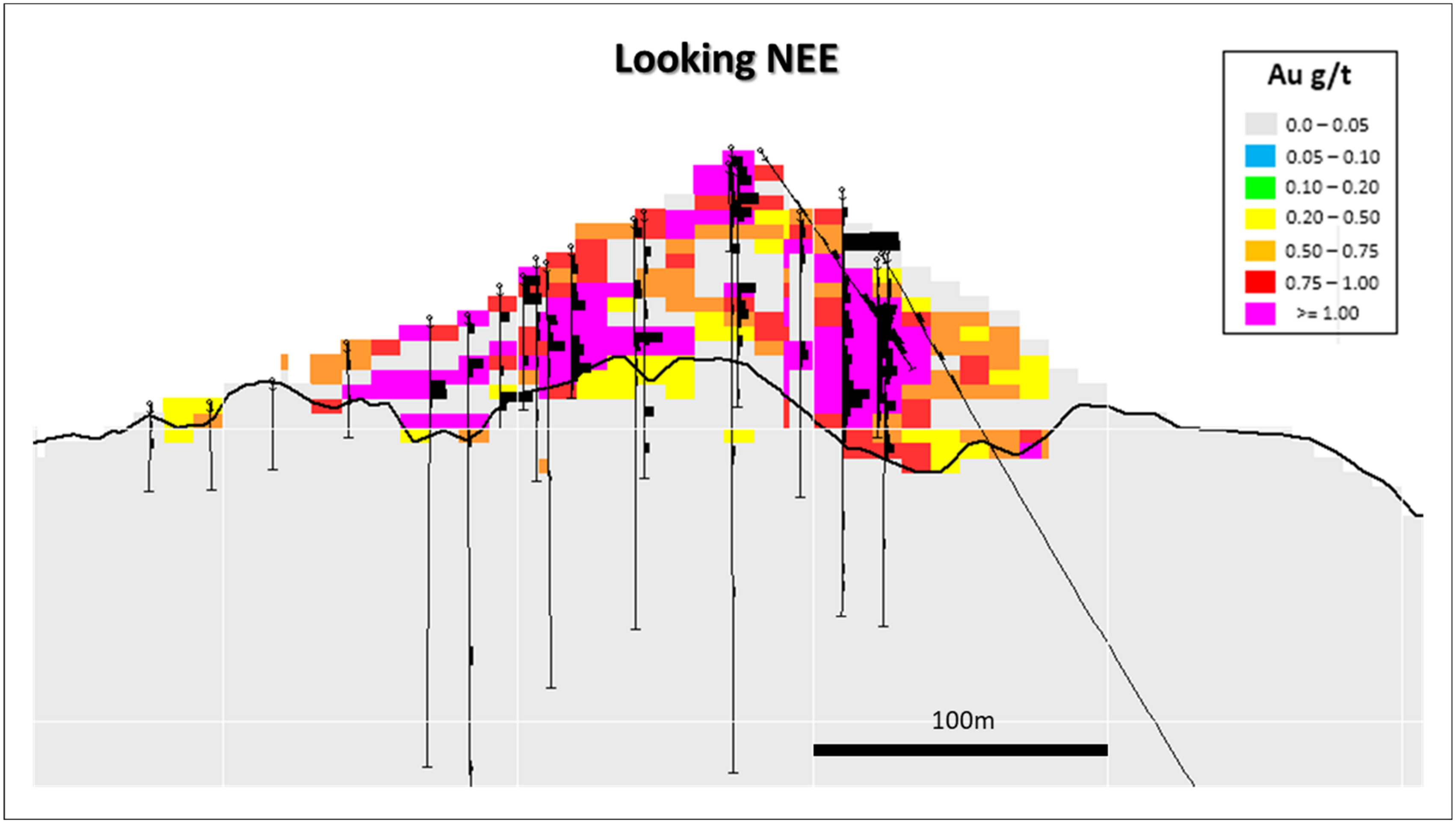


Figure supplied by Talisker in March, 2022.
* The heavy black line represents, in part, the existing topography and the maximum pit limits for the resource estimate.

Figure 14.22
Golfo de Oro Deposit - Gold Model Validation Using Three-Direction Swath Plots
Comparing the Different Interpolation Methods to the DDH Composites

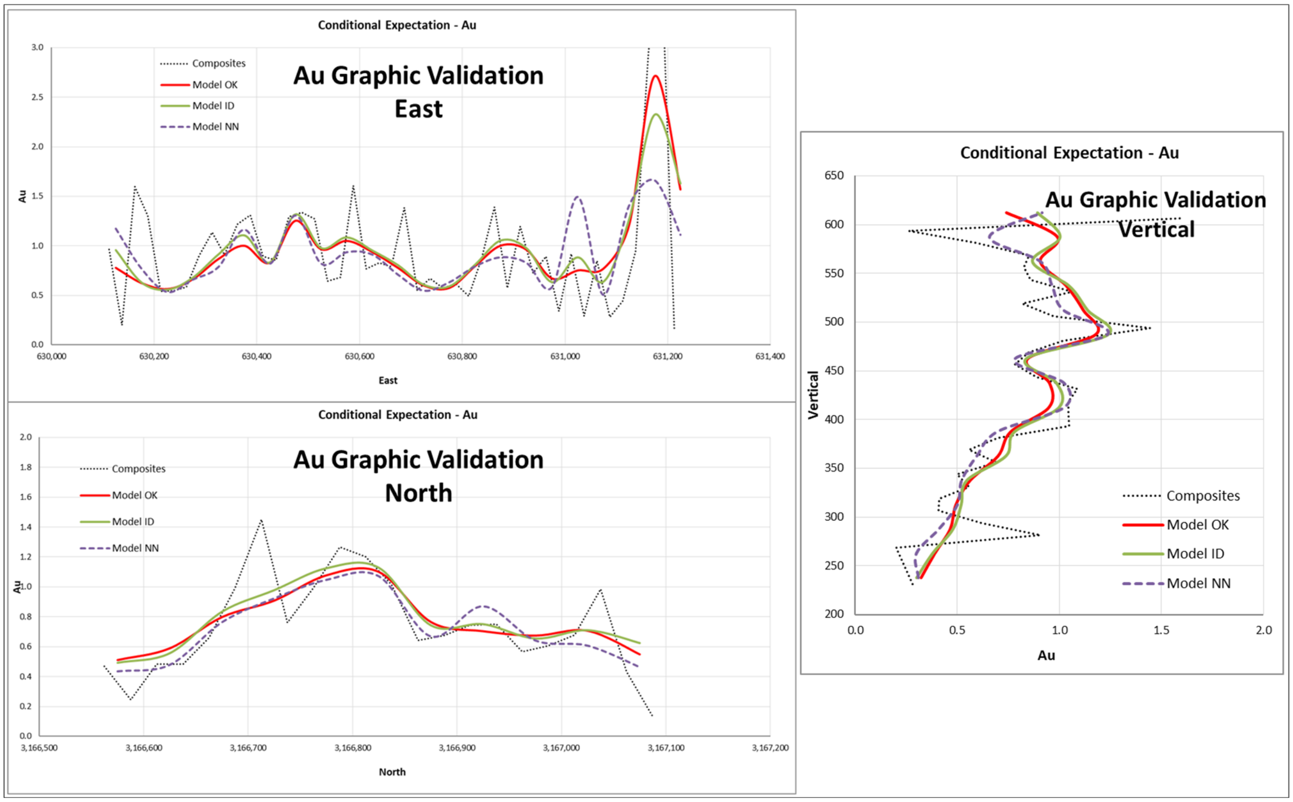


Figure supplied by Talisker in March, 2022.

Figure 14.23
California Deposit - Gold Model Validation Using Three-Direction Swath Plots
Comparing the Different Interpolation Methods to the DDH Composites

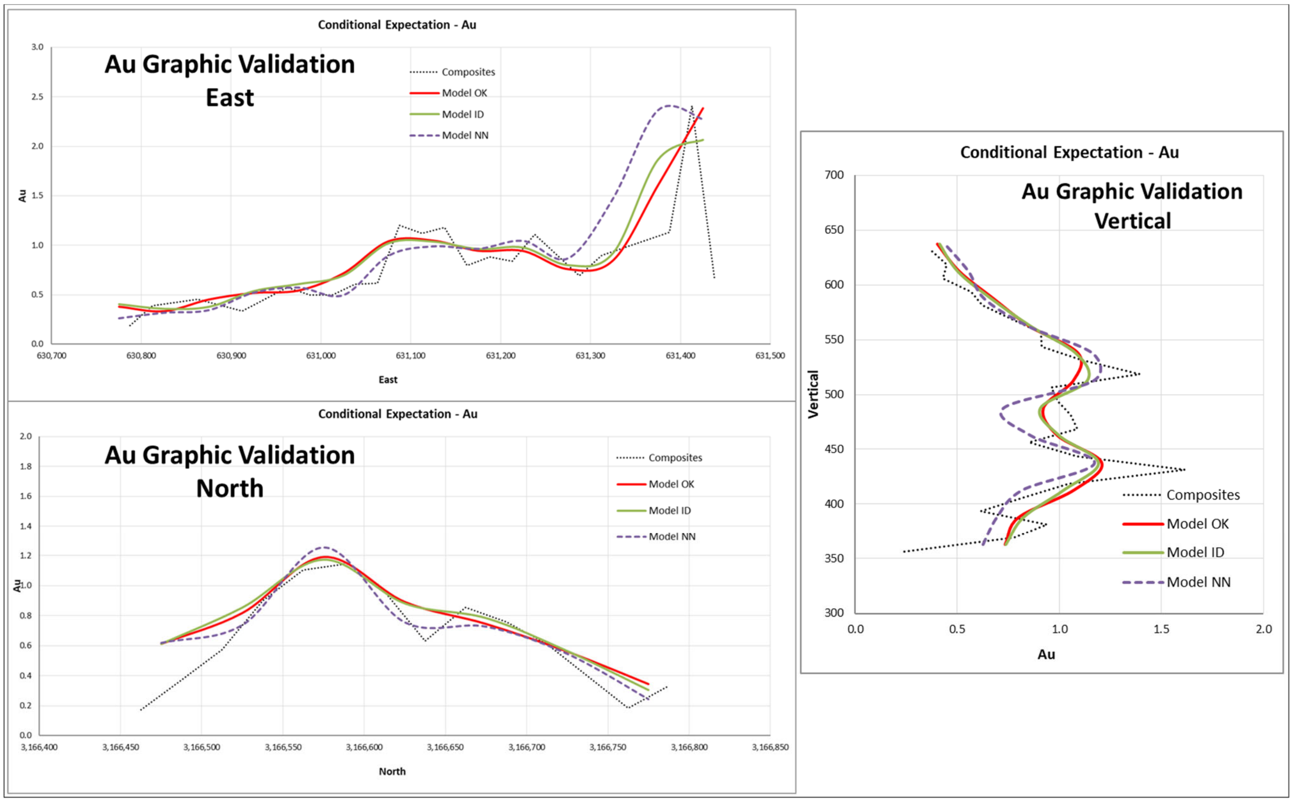


Figure supplied by Talisker in March, 2022.

Figure 14.24
Sapuchi Deposit - Gold Model Validation Using Three-Direction Swath Plots
Comparing the Different Interpolation Methods to the DDH Composites

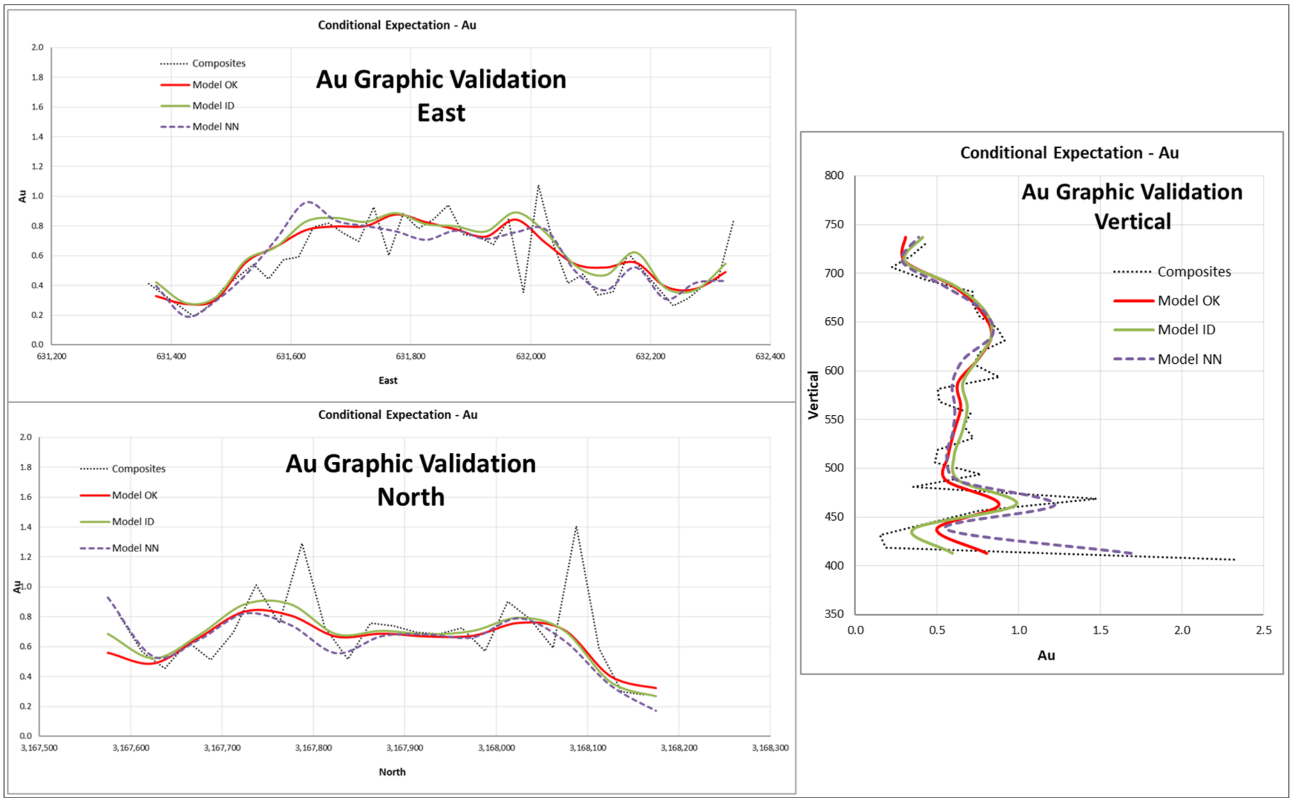


Figure supplied by Talisker in March, 2022.

14.12 Mineral Resource Classification

The QP has classified the current mineral resource estimation in the Indicated and Inferred categories. The 2021 drilling campaign has allowed upgrading portions of the mineral resources into the Indicated category for California, Golfo de Oro and Sapuchi deposits. The High Life and Calvario deposits remain entirely in the Inferred category at this time due to the limited amount of data available. There are no measured resources, at this time, for any of the deposits.

The criteria for categorization are as follows:

- Indicated blocks are within a drilling grid of 50 m x 50 m or smaller and are interpolated using a minimum of 3 drill holes.
- Inferred blocks are within drilling a grid of 100 m x 100 m or smaller, using a minimum of 2 drill holes.

The resulting indicated blocks were revised and cleaned up to eliminate any isolated or scattered blocks, known as the “Spotted Dog Effect”, with the remaining blocks forming a cohesive volume of indicated material. Typical examples are shown in vertical sections in Figure 14.25.

Figure 14.25
Typical Sections of the Resource Category for Golfo de Oro, California and Sapuchi Deposits

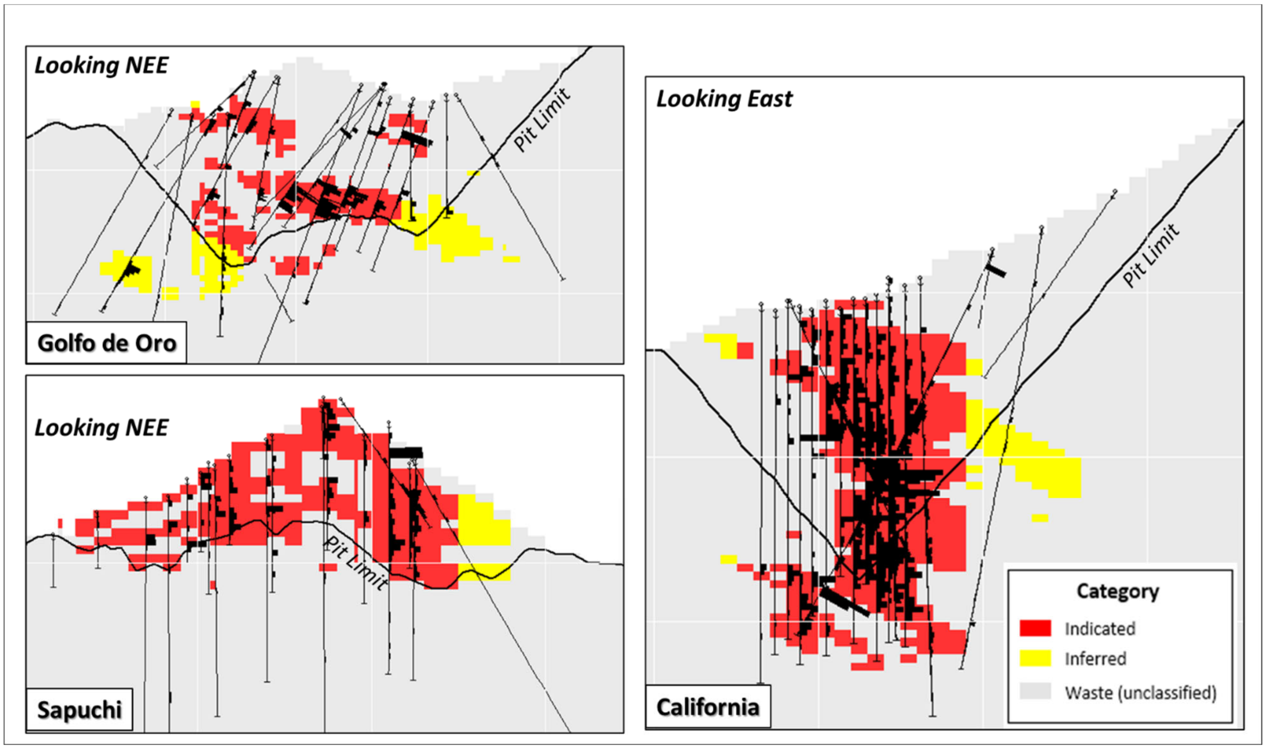


Figure supplied by Talisker in March, 2022.

14.13 Mineral Resource Estimate

14.13.1 Reasonable Prospects for Economic Extraction

To determine the quantities of materials with "reasonable prospects for eventual economic extraction", the QP determined pit constraining limits using the Lerchs-Grossman economic algorithm. The result defines an open pit shell that has the highest possible total value, while honouring the required surface mine slope and economic parameters.

The resources have been estimated using an open pit mining method which was defined using the NPV Scheduler software, version 4.30.145.0. Economic parameters used for the analysis are summarized in Table 14.6.

Table 14.6
Summary of the Parameters used for Pit Optimization at the San Antonio Project

Parameters	Units	Oxide	Transition	Fresh Rock
Gold price	USD/oz	1,750	1,750	1,750
Silver price	USD/oz	21	21	21
Refining Charge	USD/oz	4	4	4
Processing cost	USD/t treated	4.0	13.0	13.0
Met. Recovery Au	%	70%	90%	90%
Met. Recovery Ag	%	60%	30%	30%

Parameters	Units	Oxide	Transition	Fresh Rock
Mine dilution	%	10%	10%	10%
Mine recovery	%	95%	95%	95%
Site Services	USD/t treated	1.3	1.3	1.3
G&A	USD/t treated	2.5	2.5	2.5
Mine Cost	USD/t mined	2.95	2.95	2.95
Gold Cut-off Grade	g/t Au	0.27	0.44	0.44
Annual Discount Rate	%	5%	5%	5%
Pit Slope Angle	Degrees	50°	50°	50°

Table supplied by Talisker in June, 2022.

14.13.2 Mineral Resource Estimate

The processing scenario for the San Antonio Project assumes heap leaching of the mineralized material sourced from open pit mining. The mineral resource has been limited to mineralized material that occurs within the pit shells. All other material within the defined pit shells was characterized as non-mineralized material (waste). Table 14.7 summarizes the in-pit mineral resource estimate, for each of the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits at the San Antonio Project. Table 14.7 also summarizes the details of the in-pit mineral resources by weathering zone within each of the deposits.

Table 14.8 summarizes the combined mineral resources for all deposits by weathering zone, in order to separately tabulate the combined mineral resource total for the San Antonio Project.

Table 14.7
Summary of In-Pit Mineral Resource Estimate by Deposit for the San Antonio Project

Category	Deposit	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	California	Oxide	0.6	0.93	2.8	17	0.05
		Transition	0.2	0.79	3.3	6	0.02
		Sulphide	3.1	1.31	2.4	130	0.23
		Total	**3.9**	**1.22**	**2.5**	**153**	**0.31**
	Golfo de Oro	Oxide	0.2	1.07	2.8	7	0.02
		Transition	0.1	1.19	2.8	6	0.01
		Sulphide	5.3	1.46	2.5	249	0.42
		Total	**5.7**	**1.44**	**2.5**	**262**	**0.46**
	Sapuchi	Oxide	1.9	0.85	3.6	53	0.22
		Transition	1.4	1.04	3.6	47	0.16
		Sulphide	2.1	0.94	3.4	62	0.22
		Total	**5.4**	**0.93**	**3.5**	**162**	**0.61**
	Total:	**Oxide**	**2.7**	**0.89**	**3.4**	**77**	**0.30**
		Transition	**1.8**	**1.02**	**3.5**	**59**	**0.20**
		Sulphide	**10.4**	**1.31**	**2.6**	**441**	**0.88**
		Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
Inferred	California	Oxide	0.4	0.68	2.1	8	0.02
		Transition	0.1	0.85	2.6	4	0.01
		Sulphide	1.1	1.27	3.8	46	0.14

Category	Deposit	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
		Total	**1.6**	**1.10**	**3.3**	**58**	**0.17**
	Golfo de Oro	Oxide	0.5	0.80	3.0	12	0.04
		Transition	0.2	0.93	3.4	5	0.02
		Sulphide	5.7	1.29	2.5	237	0.46
		Total	**6.4**	**1.24**	**2.5**	**254**	**0.52**
	High Life	Oxide	0.5	0.84	4.2	14	0.07
		Transition	0.2	0.73	4.5	4	0.02
		Sulphide	0.1	0.90	8.3	4	0.04
		Total	**0.8**	**0.83**	**4.9**	**22**	**0.13**
	Sapuchi	Oxide	3.2	0.74	3.7	75	0.37
		Transition	1.6	0.92	3.6	48	0.19
		Sulphide	2.8	0.92	4.1	84	0.37
		Total	**7.6**	**0.85**	**3.8**	**208**	**0.94**
	Calvario	Oxide	0.1	0.53	0.0	2	0.00
		Transition	0.0	0.55	0.0	0	0.00
		Sulphide					
		Total	**0.1**	**0.53**	**0.0**	**2**	**0.00**
	Total	**Oxide**	**4.6**	**0.74**	**3.5**	**111**	**0.51**
		Transition	**2.1**	**0.90**	**3.6**	**61**	**0.24**
		Sulphide	**9.8**	**1.18**	**3.2**	**371**	**1.00**
		Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**

Source: Talisker/Micon (2022)

1. Rodrigo Calles, of Servicios Geológicos IMEx, S.C., William Lewis and Alan J San Martin, of Micon International Limited have reviewed and validated the mineral resource estimate for Sapuchi, Golfo de Oro, California, High Life and Calvario deposits. All are independent "Qualified Persons" (as defined in NI 43-101) responsible for auditing the 2022 mineral resource estimate. The effective date of the mineral resource estimate is June 22, 2022.
2. Specific extraction methods are used only to establish reasonable cut-off grades for various portions of the deposit. No Preliminary Economic Analysis, Pre-Feasibility Study or Feasibility Study has been completed to support economic viability and technical feasibility of exploiting any portion of the mineral resource, by any particular mining method.
3. The mineral resources disclosed in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") standards on mineral resources and reserves definitions, and guidelines, prepared by the CIM standing committee on reserve definitions and adopted by the CIM council.
4. The calculated economic cut-off grade for the resource in Oxides (70% recovery) is 0.27 g/t Au, Transition (90% recovery) is 0.44 g/t Au, and Fresh Rock (90% recovery) is 0.44 g/t Au.
5. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
6. Geologic modeling was completed by Osisko Development geologist Gilberto Moreno. The resource estimation was completed by Talisker Exploration Services Geologist Leonardo Souza, MAusIMM (CP).
7. The estimate is reported for a potential open pit scenario and USD. The cut-off grades were calculated using a gold price of $1,750 per ounce, a CAD:USD exchange rate of 1.3; mining cost of $2.95/t; processing cost of $4/t for oxides and $13.0/t for transition and sulphides; and general and administration costs of $2.50/t. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).
8. A density of 2.55 g/cm^3 was established for all oxide zones, 2.69 g/cm^3 for transition zones and 2.74 g/cm^3 for the sulphide zones.
9. Resources for Sapuchi, Golfo de Oro, California, High Life and Calvario were estimated using Datamine Studio RM 1.3 software using hard boundaries on composited assays (3.0 m for all zones). Ordinary Kriging interpolation was used with a parent block size = 10 m x 10 m x 5 m.
10. Results are presented in-situ. Ounce (troy) = metric tons x grade / 31.10348. Calculations used metric units (metres, tonnes, g/t). The number of metric tons was rounded to the nearest thousand. Any discrepancies in the totals are due to rounding effects; rounding followed the recommendations as per NI 43-101.

11. Neither the Company, Servicios Geológicos IMEx, S.C., nor Micon International Limited. is aware of any known environmental, permitting, legal, title-related, taxation, socio-political, marketing or other relevant issue that could materially affect the mineral resource estimate other than disclosed in this Technical Report.

Table 14.8
Summary of the In-Pit Constrained Mineral Resource Estimate by Weathering Zone

Category	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	Oxide	2.7	0.89	3.4	77	0.30
	Transition	1.8	1.02	3.5	59	0.20
	Sulphide	10.4	1.31	2.6	441	0.88
	Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
Inferred	Oxide	4.6	0.74	3.5	111	0.51
	Transition	2.1	0.90	3.6	61	0.24
	Sulphide	9.8	1.18	3.2	371	1.00
	Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**

Source: Talisker/Micon (2022).
Since Table 14.8 summarizes the combined mineral resources for all deposits by weathering zone, all of the previous resource notes from Table 14.7 are applicable to Table 14.8.

14.13.3 Mineral Resource Sensitivity

As part of the audit of Osisko Development's 2022 mineral resource estimate, the QP examined the sensitivity of the mineral resource using higher and lower gold prices. Table 14.9 summarizes the gold price sensitivity, ranging from a US$1,400 to US$1,900 per ounce with the resultant changes in both cut-off grades and mineral resources as a result of the changing gold price. The base case gold price remains at US$1,750/ ounce and gold cut-off grade applied to oxide, transition and sulphide remains 0.27 g/t gold, 0.44 g/t gold and 0.44 g/t gold, respectively.

Table 14.9
Gold Price Sensitivity Analysis for the San Antonio Project In-Pit Constrained Resources

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	1,400	0.34	Oxide	2.6	0.90	3.4	76	0.29
		0.55	Transition	1.6	1.07	3.6	55	0.18
		0.55	Sulphide	8.0	1.44	2.8	372	0.72
			Total	**12.3**	**1.28**	**3.0**	**504**	**1.19**
	1,450	0.33	Oxide	2.6	0.90	3.4	76	0.29
		0.54	Transition	1.6	1.06	3.5	56	0.19
		0.54	Sulphide	8.2	1.43	2.8	377	0.73
			Total	**12.5**	**1.27**	**3.0**	**510**	**1.21**
	1,500	0.32	Oxide	2.7	0.90	3.4	77	0.29
		0.52	Transition	1.7	1.05	3.5	57	0.19
		0.52	Sulphide	9.0	1.40	2.7	404	0.78
			Total	**13.3**	**1.25**	**3.0**	**537**	**1.27**
	1,550	0.31	Oxide	2.7	0.89	3.4	77	0.29
		0.50	Transition	1.7	1.05	3.5	57	0.19
		0.50	Sulphide	9.3	1.38	2.7	411	0.80

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
			Total	**13.6**	**1.24**	**2.9**	**545**	**1.29**
	1,600	0.30	Oxide	2.7	0.89	3.4	77	0.29
		0.48	Transition	1.7	1.04	3.5	58	0.20
		0.48	Sulphide	9.6	1.37	2.7	420	0.83
			Total	**14.0**	**1.23**	**2.9**	**554**	**1.31**
	1,650	0.29	Oxide	2.7	0.89	3.4	77	0.29
		0.47	Transition	1.8	1.03	3.5	58	0.20
		0.47	Sulphide	9.8	1.35	2.7	426	0.84
			Total	**14.3**	**1.22**	**2.9**	**561**	**1.33**
	1,700	0.28	Oxide	2.7	0.89	3.4	77	0.29
		0.46	Transition	1.8	1.02	3.5	58	0.20
		0.46	Sulphide	10.1	1.33	2.6	432	0.86
			Total	**14.5**	**1.21**	**2.9**	**567**	**1.35**
	1,750	**0.27**	**Oxide**	**2.7**	**0.89**	**3.4**	**77**	**0.30**
		0.44	**Transition**	**1.8**	**1.02**	**3.5**	**59**	**0.20**
		0.44	**Sulphide**	**10.4**	**1.31**	**2.6**	**441**	**0.88**
			Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
	1,800	0.27	Oxide	2.7	0.89	3.4	77	0.30
		0.43	Transition	1.8	1.02	3.5	59	0.20
		0.43	Sulphide	10.6	1.30	2.6	446	0.89
			Total	**15.1**	**1.20**	**2.9**	**582**	**1.39**
	1,850	0.26	Oxide	2.7	0.89	3.4	77	0.30
		0.42	Transition	1.8	1.01	3.5	59	0.20
		0.42	Sulphide	10.9	1.30	2.6	455	0.91
			Total	**15.4**	**1.19**	**2.8**	**591**	**1.41**
	1,900	0.25	Oxide	2.7	0.89	3.4	77	0.30
		0.41	Transition	1.8	1.01	3.5	59	0.20
		0.41	Sulphide	11.0	1.29	2.6	457	0.92
			Total	**15.6**	**1.18**	**2.8**	**593**	**1.42**
Inferred	1,400	0.34	Oxide	3.9	0.81	3.7	103	0.47
		0.55	Transition	1.6	1.00	3.9	52	0.20
		0.55	Sulphide	5.9	1.38	3.5	261	0.67
			Total	**11.4**	**1.13**	**3.6**	**416**	**1.34**
	1,450	0.33	Oxide	4.1	0.79	3.7	104	0.48
		0.54	Transition	1.7	0.98	3.8	54	0.21
		0.54	Sulphide	6.7	1.33	3.5	286	0.75
			Total	**12.5**	**1.11**	**3.6**	**444**	**1.44**
	1,500	0.32	Oxide	4.2	0.78	3.6	105	0.48
		0.52	Transition	1.8	0.96	3.7	56	0.22
		0.52	Sulphide	7.6	1.29	3.4	314	0.83
			Total	**13.6**	**1.09**	**3.5**	**475**	**1.53**
	1,550	0.31	Oxide	4.3	0.77	3.6	107	0.49
		0.50	Transition	1.9	0.94	3.7	58	0.23
		0.50	Sulphide	8.1	1.26	3.3	330	0.87
			Total	**14.3**	**1.07**	**3.5**	**494**	**1.59**
	1,600	0.30	Oxide	4.4	0.76	3.5	109	0.50
		0.48	Transition	2.0	0.93	3.7	59	0.23

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
		0.48	Sulphide	8.5	1.24	3.3	339	0.90
			Total	**14.9**	**1.06**	**3.4**	**506**	**1.63**
	1,650	0.29	Oxide	4.5	0.76	3.5	110	0.50
		0.47	Transition	2.0	0.93	3.7	59	0.23
		0.47	Sulphide	8.9	1.22	3.3	348	0.93
			Total	**15.4**	**1.10**	**3.3**	**517**	**1.67**
	1,700	0.28	Oxide	4.6	0.75	3.4	111	0.51
		0.46	Transition	2.0	0.91	3.6	60	0.24
		0.46	Sulphide	9.3	1.20	3.2	360	0.97
			Total	**16.0**	**1.03**	**3.3**	**531**	**1.72**
	1,750	**0.27**	**Oxide**	**4.6**	**0.74**	**3.4**	**111**	**0.51**
		0.44	**Transition**	**2.1**	**0.90**	**3.6**	**61**	**0.24**
		0.44	**Sulphide**	**9.8**	**1.18**	**3.2**	**371**	**1.00**
			Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**
	1,800	0.27	Oxide	4.8	0.73	3.3	114	0.52
		0.43	Transition	2.2	0.89	3.6	62	0.25
		0.43	Sulphide	10.4	1.15	3.1	386	1.04
			Total	**17.4**	**1.00**	**3.2**	**562**	**1.81**
	1,850	0.26	Oxide	4.9	0.73	3.3	114	0.52
		0.42	Transition	2.2	0.89	3.5	63	0.25
		0.42	Sulphide	10.9	1.13	3.1	395	1.07
			Total	**18.0**	**0.99**	**3.2**	**572**	**1.85**
	1,900	0.25	Oxide	5.0	0.72	3.3	115	0.52
		0.41	Transition	2.3	0.88	3.5	64	0.26
		0.41	Sulphide	11.2	1.12	3.0	404	1.09
			Total	**18.4**	**0.99**	**3.2**	**583**	**1.87**

Source: Talisker/Micon (2022).
Notes:
William Lewis of Micon International Limited has reviewed and validated the gold price sensitivities for the various mineralization types and it is the opinion of the QP that they meet the test of reasonable prospects of economic extraction. Mr. Lewis is an independent "Qualified Person" (as defined in NI 43-101).

14.14 Responsibility for the Estimation

The updated mineral resource estimated discussed in this Technical Report was originally prepared by Leonardo de Souza, MAusIMM(CP) of Talisker and audited by William J. Lewis, P.Geo., of Micon for the purpose of disclosure in this Technical Report. Mr. Lewis, who is independent of Osisko Development and is a "Qualified Person" within the meaning of NI 43-101, is responsible for the audited mineral resource estimate.

TECHNICAL REPORT SECTIONS NOT REQUIRED

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

15.0 MINERAL RESERVE ESTIMATES

16.0 MINING METHODS

17.0 RECOVERY METHODS

18.0 PROJECT INFRASTRUCTURE

19.0 MARKET STUDIES AND CONTRACTS

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

21.0 CAPITAL AND OPERATING COSTS

22.0 ECONOMIC ANALYSIS

23.0 ADJACENT PROPERTIES

Mineral properties adjacent to Osisko Development's San Antonio holdings have seen extensive exploration activities and mining in the past, but mostly on a small scale. This includes work done at La Barranca and at San Javier, which are now believed to be part of the same mineralizing system as Luz del Cobre. Little factual data or records are available for this work, but historical workings suggest considerable small-scale activity over perhaps the last two centuries.

Near the west end of the property and south of San Javier is the Cerro Verde area (also now believed to be a part of the same mineralizing system found at San Antonio), that has seen more organized exploration for copper. The property was drilled in 1997 and 1998 by Phelps Dodge, which reported that several of the nine core holes drilled contained significant copper and gold values. The property was reportedly dropped in 1999, during a period of low copper prices, reportedly due to the high cost of holding the mineral concessions. In mid-2005, the property was optioned by Constellation Copper Corporation (Constellation), wich conducted an extensive exploration program at Cerro Verde that included drilling, metallurgical studies, surface work and other activities that led to completion of a scoping study. Constellation encountered serious financial difficulties and entered bankruptcy in 2008. Currently Constellation's Cerro Verde property is owned or partly owned by Canuc Resources Corporation (Canuc).

During the site visit, significant mineral extraction conducted by small miners (Gambusinos), who are using motorized equipment, such as mechanical shovels and large trucks, was observed on portions of the property. These miners, who have worked in the area for many years, are currently working under the authorization of Osisko Development, although, they apparently do not have established mineral rights and will eventually have to be asked to leave if the Project progresses to a development stage.

Micon has not verified the information regarding the adjacent mineral deposits and showings described above that are outside the immediate area of the San Antonio Project. The information contained in this section of the report, which was partially provided by Osisko Development and partly researched by Micon, is not necessarily indicative of the mineralization at the San Antonio Project.

24.0 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information regarding Osisko Development's San Antonio Project are included in other sections of this Technical Report.

Neither Micon nor the QPs of this report are aware of any other data that would make a material difference to the quality of this Technical Report or make it more understandable, or without which the report would be incomplete or misleading.

25.0 INTERPRETATION AND CONCLUSIONS

25.1 GENERAL

This Technical Report supersedes and replaces all prior Technical Reports written for the San Antonio Project.

In August, 2020, Osisko Gold acquired the San Antonio Project. The San Antonio Project was subsequently transferred to Osisko Development, as part of the Reverse-Take-Over transaction and the formation of Osisko Development. Osisko Development conducted both surface exploration and drilling at a number of mineralized deposits located on the San Antonio property in 2021. The exploration and drilling information has been combined with historical exploration work, in order to undertake a mineral resource estimate for the San Antonio Project that encompasses gold and silver mineralization for the five deposits, Golfo de Oro, California, Sapuchi, High Life and Calvario.

25.2 SAN ANTONIO PROJECT MINERAL RESOURCE ESTIMATE

25.2.1 General Notes

The resource area for the Golfo de Oro segment covers a strike length of 1.2 km and a width of approximately 370 m, to a vertical depth up to 350 m below surface. The California segment covers a strike length of 0.6 km and a width of approximately 230 m, to a vertical depth up to 250 m below surface. The Sapuchi segment covers a strike length of 0.9 km and a width of approximately 420 m, to a vertical depth up to 240 m below surface. The High Life segment covers a strike length of 0.25 km and a width of approximately 120 m, to a vertical depth up to 110 m below surface. The Calvario segment covers a strike length of 0.27 km and a width of approximately 110 m, to a vertical depth up to 100 m below surface.

The models for the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits were prepared using Datamine Studio RM 1.9.36.0 (Datamine). Datamine was used for the mineralized solid modelling by gold grade indicator interpolation. Datamine was also used for the grade estimation, which consisted of 3D block modelling and the ordinary kriging (OK) interpolation method. Statistical studies, capping and variography were completed using Datamine, GSLIB and Excel. Capping and validations were carried out in Datamine and Microsoft Excel.

25.2.2 Supporting Data for the Resource Estimate

25.2.2.1 Drilling Database

The drilling database that was used for resource estimation comprises diamond and reverse circulation drill holes, carried out from 1994 to 2021.

The drilling database includes lithological descriptions, gold, silver and copper assays for the Golfo de Oro and California deposits. For the Sapuchi deposit, the lithological description is not available. In addition, the drilling database includes depths of the limit of the oxidation zone and the transition zone, which permitted construction of preliminary surfaces to restrict the block models into oxidation zone, transition zone or fresh rock (sulphides), for the three deposits.

The databases cover the strike length of each resource area at variable drill spacings, ranging from 25 to 100 m for the five deposits.

25.2.2.2 Topography

For the 2022 resource update, Osisko Development undertook a study to resolve previous topographic problems, where there were a number of drill hole collar elevation and topographic surface disagreements. As a result of the study, a new topography was created by point triangulation with 5.0 m surface resolution that could support the open pit optimization used for constraining the resource estimate.

25.2.2.3 Compositing

Mineral composites were created to support the resource estimation, with a length of 3 m selected using a probability plot, utilizing all of the drill holes within the five deposits

25.2.2.4 Geological Model

The estimation domains were primarily determined by the gold grade distribution. This is in part due to the lack of reliable geological data and because the gold mineralization appears to be associated primarily with the breccia and porphyry felsic intrusions that cross-cut the stratigraphy.

The geometric definition of the mineralized volume was conducted by gold indicator interpolation with a cut-off of 0.2 g/t gold in Datamine, using 3 m long composites. Mineralized zones were defined with a probability equal to or greater than 40% of being above 0.2 g/t gold. The directions of anisotropic searches for the gold indicator interpolation used the dynamic anisotropy process within Datamine, guided by manual interpretation of the gold spatial grade connectivity. Gold indicator interpolation was performed by inverse distance squared (ID^2), using searches up to 125 m x 125 m x 35 m, 4 to 12 composites and a minimum of two drill holes.

25.2.2.5 Model of Voids

Voids represent historical underground workings (combined stopes, drifts and shafts). These workings are thought to have been completed prior to the drilling campaigns used for the resource estimate.

A 5 m buffer was applied to the modelled voids of the Sapuchi deposit to compensate for the uncertainty in locations of the voids.

The voids were used to deplete the mineral resource estimate of those mineralized blocks which have been historically mined, usually through underground mining methods. Historical open pit mining is accounted for by conducting a current topographical survey.

25.2.2.6 Capping

Grade capping was investigated for gold and silver by deposit and oxidation zone. The capping of the high-grade gold and silver is as follows:

- Capping at 11 g/t for gold and 20 g/t for silver is appropriate for the Golfo de Oro deposit and all oxidation states.
- Capping at 8 g/t for gold and 20 g/t for silver is appropriate for the California deposit and all oxidation states.
- Capping at 8 g/t for gold and 30 g/t for silver is appropriate for the Sapuchi deposit and all oxidation states.
- Capping at 3 g/t for gold and 20 g/t for silver is appropriate for the High Life deposit and all oxidation states.
- Capping was not conducted for the Calvario deposit due to the low number of samples.

The similarity of grade distribution by oxidation state and the relatively low number of oxide and transition samples supports the decision to use a soft boundary between the different oxidation zones during the grade interpolation phase.

25.2.2.7 Density

Osisko Development supplied 1,140 bulk density measurements for the updated San Antonio resource from which 1,123 measurements were used to calculate the median for each weathering zone. These three median values were used for the block model.

25.2.2.8 Variography and Search Ellipsoids

Three-dimensional directional-specific search ellipses were guided by dynamic anisotropy in Datamine, with search radii determined by the gold variography. However, the variogram used for kriging estimation was a single spherical variogram model for gold and another for silver, using composited assays from the three main deposits. The gold and silver variograms were used to estimate the resources of the three main deposits (California, Golfo de Oro and Sapuchi). The two minor deposits of High Life and Calvario do not have enough data to run meaningful variograms, and the variography of the closest major deposit was used.

25.2.2.9 Grade Interpolation

The interpolation profiles were customized for each deposit to estimate grades, with hard boundaries between the different deposits.

For the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits, the mineralized blocks were estimated independently, with an anisotropic three-pass search to estimate all blocks within the mineralized zone, derived from the variography using capped composites. The directions of the anisotropic searches for the gold and silver grade interpolation used the dynamic anisotropy process of Datamine, guided by manual interpretation of the gold spatial grade connectivity.

The ordinary kriging (OK) method was selected for the final resource estimation for gold and silver, as it better honours the grade distribution for all the deposits.

25.2.3 Economic Parameters and Classification

25.2.3.1 Prospects for Economic Extraction

The CIM Standards require that a mineral resource must have reasonable prospects for eventual economic extraction. The metal prices and operating costs provided by Osisko Development and accepted by Micon's QP are considered appropriate to be used as the economic parameters for the mineral resource estimate.

To determine the quantities of materials with "reasonable prospects for eventual economic extraction", the QP constructed pit constraining limits using the Lerchs-Grossman economic algorithm. The result defines a surface pit shell that has the highest possible total value, while honouring the required surface mine slope and economic parameters.

The resources have been estimated using an open pit mining method which was defined using the NPV Scheduler software, version 4.30.145.0. Economic parameters used for the analysis are summarized in Table 25.1.

Table 25.1
Summary of the Parameters used for Pit Optimization at the San Antonio Project

Parameters	Units	Oxide	Transition	Fresh Rock
Gold price	USD/oz	1,750	1,750	1,750
Silver price	USD/oz	21	21	21
Refining Charge	USD/oz	4	4	4
Processing cost	USD/t treated	4.0	13.0	13.0
Met. Recovery Au	%	70%	90%	90%
Met. Recovery Ag	%	60%	30%	30%
Mine dilution	%	10%	10%	10%
Mine recovery	%	95%	95%	95%
Site Services	USD/t treated	1.3	1.3	1.3
G&A	USD/t treated	2.5	2.5	2.5
Mine Cost	USD/t mined	2.95	2.95	2.95
Gold Cut-off Grade	g/t Au	0.27	0.44	0.44
Annual Discount Rate	%	5%	5%	5%
Pit Slope Angle	Degrees	50º	50º	50º

Table supplied by Talisker in June, 2022.

The processing scenario for the San Antonio Project assumes heap leaching of the mineralized material sourced from open pit mining. The mineral resource has been limited to mineralized material that occurs within the pit shells. All other material within the defined pit shells was characterized as non-mineralized material (waste).

25.2.3.2 Mineral Resource Classification

The QP has classified the current mineral resource in the Indicated and Inferred categories. The 2021 drilling campaign has allowed upgrading portions of the mineral resources into the Indicated category for the California, Golfo de Oro and Sapuchi deposits. The High Life and Calvario deposits remain entirely in the Inferred category at this time, due to the limited amount of data available. There are no measured resources, at this time, for any of the deposits.

The criteria for this categorization are as follows:

- Indicated blocks are within a drilling grid of 50 m x 50 m or smaller and are interpolated using a minimum of 3 drill holes.
- Inferred blocks are within a drilling grid 100 m x 100 m or smaller using a minimum of 2 drill holes.

The resulting indicated blocks were revised and cleaned up to eliminate any isolated or scattered blocks, known as the "Spotted Dog Effect", with the remaining blocks forming a cohesive volume of indicated material.

25.2.4 Mineral Resource Estimate

25.2.4.1 Mineral Resource Estimate

Table 25.2 summarizes the in-pit mineral resource estimate for each of the Golfo de Oro, California, Sapuchi, High Life and Calvario deposits at the San Antonio Project. Table 25.2 also summarizes the details of the in-pit mineral resources by weathering zone, within each of the deposits.

Table 25.3 summarizes the combined mineral resources for all deposits by weathering zone, in order to separately tabulate the combined mineral resource total for the San Antonio Project.

Table 25.2
Summary of In-Pit Mineral Resource Estimate by Deposit for the San Antonio Project

Category	Deposit	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	California	Oxide	0.6	0.93	2.8	17	0.05
		Transition	0.2	0.79	3.3	6	0.02
		Sulphide	3.1	1.31	2.4	130	0.23
		Total:	**3.9**	**1.22**	**2.5**	**153**	**0.31**
	Golfo de Oro	Oxide	0.2	1.07	2.8	7	0.02
		Transition	0.1	1.19	2.8	6	0.01
		Sulphide	5.3	1.46	2.5	249	0.42
		Total:	**5.7**	**1.44**	**2.5**	**262**	**0.46**
	Sapuchi	Oxide	1.9	0.85	3.6	53	0.22
		Transition	1.4	1.04	3.6	47	0.16
		Sulphide	2.1	0.94	3.4	62	0.22
		Total:	**5.4**	**0.93**	**3.5**	**162**	**0.61**
	Total:	**Oxide**	**2.7**	**0.89**	**3.4**	**77**	**0.30**
		Transition	**1.8**	**1.02**	**3.5**	**59**	**0.20**
		Sulphide	**10.4**	**1.31**	**2.6**	**441**	**0.88**
		Total:	**14.9**	**1.20**	**2.9**	**576**	**1.37**
Inferred	California	Oxide	0.4	0.68	2.1	8	0.02
		Transition	0.1	0.85	2.6	4	0.01
		Sulphide	1.1	1.27	3.8	46	0.14
		Total:	**1.6**	**1.10**	**3.3**	**58**	**0.17**

Category	Deposit	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
	Golfo de Oro	Oxide	0.5	0.80	3.0	12	0.04
		Transition	0.2	0.93	3.4	5	0.02
		Sulphide	5.7	1.29	2.5	237	0.46
		Total:	**6.4**	**1.24**	**2.5**	**254**	**0.52**
	High Life	Oxide	0.5	0.84	4.2	14	0.07
		Transition	0.2	0.73	4.5	4	0.02
		Sulphide	0.1	0.90	8.3	4	0.04
		Total:	**0.8**	**0.83**	**4.9**	**22**	**0.13**
	Sapuchi	Oxide	3.2	0.74	3.7	75	0.37
		Transition	1.6	0.92	3.6	48	0.19
		Sulphide	2.8	0.92	4.1	84	0.37
		Total:	**7.6**	**0.85**	**3.8**	**208**	**0.94**
	Calvario	Oxide	0.1	0.53	0.0	2	0.00
		Transition	0.0	0.55	0.0	0	0.00
		Sulphide					
		Total:	**0.1**	**0.53**	**0.0**	**2**	**0.00**
	Total:	**Oxide**	**4.6**	**0.74**	**3.5**	**111**	**0.51**
		Transition	**2.1**	**0.90**	**3.6**	**61**	**0.24**
		Sulphide	**9.8**	**1.18**	**3.2**	**371**	**1.00**
		Total:	**16.6**	**1.02**	**3.3**	**544**	**1.76**

Source: Talisker/Micon (2022)

Mineral Resource Estimate Notes:

1. Rodrigo Calles, of Servicios Geológicos IMEx, S.C., William Lewis and Alan J San Martin, of Micon International Limited have reviewed and validated the mineral resource estimate for Sapuchi, Golfo de Oro, California, High Life and Calvario deposits. All are independent "Qualified Persons" (as defined in NI 43-101) responsible for auditing the 2022 mineral resource estimate. The effective date of the mineral resource estimate is June 22, 2022.
2. Specific extraction methods are used only to establish reasonable cut-off grades for various portions of the deposit. No Preliminary Economic Analysis, Pre-Feasibility Study or Feasibility Study has been completed to support economic viability and technical feasibility of exploiting any portion of the mineral resource, by any particular mining method.
3. The mineral resources disclosed in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") standards on mineral resources and reserves definitions, and guidelines, prepared by the CIM standing committee on reserve definitions and adopted by the CIM council.
4. The calculated economic cut-off grade for the resource in Oxides (70% recovery) is 0.27 g/t Au, Transition (90% recovery) is 0.44 g/t Au, and Fresh Rock (90% recovery) is 0.44 g/t Au.
5. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
6. Geologic modeling was completed by Osisko Development geologist Gilberto Moreno. The resource estimation was completed by Talisker Exploration Services Geologist Leonardo Souza, MAusIMM (CP).
7. The estimate is reported for a potential open pit scenario and USD. The cut-off grades were calculated using a gold price of $1,750 per ounce, a CAD:USD exchange rate of 1.3; mining cost of $2.95/t; processing cost of $4/t for oxides and $13.0/t for transition and sulphides; and general and administration costs of $2.50/t. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).
8. A density of 2.55 g/cm^3 was established for all oxide zones, 2.69 g/cm^3 for transition zones and 2.74 g/cm^3 for the sulphide zones.
9. Resources for Sapuchi, Golfo de Oro, California, High Life and Calvario were estimated using Datamine Studio RM 1.3 software using hard boundaries on composited assays (3.0 m for all zones). Ordinary Kriging interpolation was used with a parent block size = 10 m x 10 m x 5 m.
10. Results are presented in-situ. Ounce (troy) = metric tons x grade / 31.10348. Calculations used metric units (metres, tonnes, g/t). The number of metric tons was rounded to the nearest thousand. Any discrepancies in the totals are due to rounding effects; rounding followed the recommendations as per NI 43-101.

11. Neither the Company, Servicios Geológicos IMEx, S.C., nor Micon International Limited. is aware of any known environmental, permitting, legal, title-related, taxation, socio-political, marketing or other relevant issue that could materially affect the mineral resource estimate other than disclosed in this Technical Report.

Table 25.3
Summary of the In-Pit Constrained Mineral Resource Estimate by Weathering Zone

Category	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	Oxide	2.7	0.89	3.4	77	0.30
	Transition	1.8	1.02	3.5	59	0.20
	Sulphide	10.4	1.31	2.6	441	0.88
	Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
Inferred	Oxide	4.6	0.74	3.5	111	0.51
	Transition	2.1	0.90	3.6	61	0.24
	Sulphide	9.8	1.18	3.2	371	1.00
	Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**

Source: Talisker/Micon (2022).
Mineral Resource Estimate Notes:
Since Table 25.3 summarizes the combined mineral resources for all deposits by weathering zone, all of the previous resource notes from Table 25.2 are applicable to Table 25.3.

25.2.4.2 Sensitivity Analysis

As part of the audit of Osisko Development's 2022 mineral resource estimate, the QP examined the sensitivity of the mineral resource using higher and lower gold prices. Table 25.4 summarizes the gold price sensitivity, ranging from a US$1,400 to US$1,900 per ounce, with the resultant changes in both cut-off grades and mineral resources as a result of the changing gold price. The base case gold price remains at US$1,750/ ounce and gold cut-off grade applied to oxide, transition and sulphide remains 0.27 g/t gold, 0.44 g/t gold and 0.44 g/t gold, respectively.

Table 25.4
Gold Price Sensitivity Analysis for the San Antonio Project In-Pit Constrained Resources

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
Indicated	1,400	0.34	Oxide	2.6	0.90	3.4	76	0.29
		0.55	Transition	1.6	1.07	3.6	55	0.18
		0.55	Sulphide	8.0	1.44	2.8	372	0.72
			Total	**12.3**	**1.28**	**3.0**	**504**	**1.19**
	1,450	0.33	Oxide	2.6	0.90	3.4	76	0.29
		0.54	Transition	1.6	1.06	3.5	56	0.19
		0.54	Sulphide	8.2	1.43	2.8	377	0.73
			Total	**12.5**	**1.27**	**3.0**	**510**	**1.21**
	1,500	0.32	Oxide	2.7	0.90	3.4	77	0.29
		0.52	Transition	1.7	1.05	3.5	57	0.19
		0.52	Sulphide	9.0	1.40	2.7	404	0.78
			Total	**13.3**	**1.25**	**3.0**	**537**	**1.27**
	1,550	0.31	Oxide	2.7	0.89	3.4	77	0.29
		0.50	Transition	1.7	1.05	3.5	57	0.19

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
		0.50	Sulphide	9.3	1.38	2.7	411	0.80
			Total	**13.6**	**1.24**	**2.9**	**545**	**1.29**
	1,600	0.30	Oxide	2.7	0.89	3.4	77	0.29
		0.48	Transition	1.7	1.04	3.5	58	0.20
		0.48	Sulphide	9.6	1.37	2.7	420	0.83
			Total	**14.0**	**1.23**	**2.9**	**554**	**1.31**
	1,650	0.29	Oxide	2.7	0.89	3.4	77	0.29
		0.47	Transition	1.8	1.03	3.5	58	0.20
		0.47	Sulphide	9.8	1.35	2.7	426	0.84
			Total	**14.3**	**1.22**	**2.9**	**561**	**1.33**
	1,700	0.28	Oxide	2.7	0.89	3.4	77	0.29
		0.46	Transition	1.8	1.02	3.5	58	0.20
		0.46	Sulphide	10.1	1.33	2.6	432	0.86
			Total	**14.5**	**1.21**	**2.9**	**567**	**1.35**
	1,750	**0.27**	**Oxide**	**2.7**	**0.89**	**3.4**	**77**	**0.30**
		0.44	**Transition**	**1.8**	**1.02**	**3.5**	**59**	**0.20**
		0.44	**Sulphide**	**10.4**	**1.31**	**2.6**	**441**	**0.88**
			Total	**14.9**	**1.20**	**2.9**	**576**	**1.37**
	1,800	0.27	Oxide	2.7	0.89	3.4	77	0.30
		0.43	Transition	1.8	1.02	3.5	59	0.20
		0.43	Sulphide	10.6	1.30	2.6	446	0.89
			Total	**15.1**	**1.20**	**2.9**	**582**	**1.39**
	1,850	0.26	Oxide	2.7	0.89	3.4	77	0.30
		0.42	Transition	1.8	1.01	3.5	59	0.20
		0.42	Sulphide	10.9	1.30	2.6	455	0.91
			Total	**15.4**	**1.19**	**2.8**	**591**	**1.41**
	1,900	0.25	Oxide	2.7	0.89	3.4	77	0.30
		0.41	Transition	1.8	1.01	3.5	59	0.20
		0.41	Sulphide	11.0	1.29	2.6	457	0.92
			Total	**15.6**	**1.18**	**2.8**	**593**	**1.42**
Inferred	1,400	0.34	Oxide	3.9	0.81	3.7	103	0.47
		0.55	Transition	1.6	1.00	3.9	52	0.20
		0.55	Sulphide	5.9	1.38	3.5	261	0.67
			Total	**11.4**	**1.13**	**3.6**	**416**	**1.34**
	1,450	0.33	Oxide	4.1	0.79	3.7	104	0.48
		0.54	Transition	1.7	0.98	3.8	54	0.21
		0.54	Sulphide	6.7	1.33	3.5	286	0.75
			Total	**12.5**	**1.11**	**3.6**	**444**	**1.44**
	1,500	0.32	Oxide	4.2	0.78	3.6	105	0.48
		0.52	Transition	1.8	0.96	3.7	56	0.22
		0.52	Sulphide	7.6	1.29	3.4	314	0.83
			Total	**13.6**	**1.09**	**3.5**	**475**	**1.53**
	1,550	0.31	Oxide	4.3	0.77	3.6	107	0.49
		0.50	Transition	1.9	0.94	3.7	58	0.23
		0.50	Sulphide	8.1	1.26	3.3	330	0.87
			Total	**14.3**	**1.07**	**3.5**	**494**	**1.59**
	1,600	0.30	Oxide	4.4	0.76	3.5	109	0.50

Category	Gold Price US$/oz	Gold Cut-off Grade (g/t)	Weathering Zone	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold Ounces (*1,000)	Silver Ounces (*1,000,000)
		0.48	Transition	2.0	0.93	3.7	59	0.23
		0.48	Sulphide	8.5	1.24	3.3	339	0.90
			Total	**14.9**	**1.06**	**3.4**	**506**	**1.63**
	1,650	0.29	Oxide	4.5	0.76	3.5	110	0.50
		0.47	Transition	2.0	0.93	3.7	59	0.23
		0.47	Sulphide	8.9	1.22	3.3	348	0.93
			Total	**15.4**	**1.10**	**3.3**	**517**	**1.67**
	1,700	0.28	Oxide	4.6	0.75	3.4	111	0.51
		0.46	Transition	2.0	0.91	3.6	60	0.24
		0.46	Sulphide	9.3	1.20	3.2	360	0.97
			Total	**16.0**	**1.03**	**3.3**	**531**	**1.72**
	1,750	**0.27**	**Oxide**	**4.6**	**0.74**	**3.4**	**111**	**0.51**
		0.44	**Transition**	**2.1**	**0.90**	**3.6**	**61**	**0.24**
		0.44	**Sulphide**	**9.8**	**1.18**	**3.2**	**371**	**1.00**
			Total	**16.6**	**1.02**	**3.3**	**544**	**1.76**
	1,800	0.27	Oxide	4.8	0.73	3.3	114	0.52
		0.43	Transition	2.2	0.89	3.6	62	0.25
		0.43	Sulphide	10.4	1.15	3.1	386	1.04
			Total	**17.4**	**1.00**	**3.2**	**562**	**1.81**
	1,850	0.26	Oxide	4.9	0.73	3.3	114	0.52
		0.42	Transition	2.2	0.89	3.5	63	0.25
		0.42	Sulphide	10.9	1.13	3.1	395	1.07
			Total	**18.0**	**0.99**	**3.2**	**572**	**1.85**
	1,900	0.25	Oxide	5.0	0.72	3.3	115	0.52
		0.41	Transition	2.3	0.88	3.5	64	0.26
		0.41	Sulphide	11.2	1.12	3.0	404	1.09
			Total	**18.4**	**0.99**	**3.2**	**583**	**1.87**

Source: Talisker/Micon (2022).
Notes:
William Lewis of Micon International Limited has reviewed and validated the gold price sensitivities for the various mineralization types and it is the opinion of the QP that they meet the test of reasonable prospects of economic extraction. Mr. Lewis is an independent "Qualified Person" (as defined in NI 43-101).

25.3 CONCLUSIONS

Osisko Development's exploration activities have been successful in increasing the confidence in the geological interpretation of the known deposits, as well as expanding upon the previous mineral resource estimates. Micon and its QPs consider the 2022 mineral resource estimate to be reliable, thorough, based on quality data, reasonable hypotheses, and parameters compliant with NI 43 101 requirements and CIM Definition Standards. Therefore, Micon and its QPs conclude that the results of the 2022 mineral resource estimate support the recommendation to advance the Project to a preliminary economic assessment (PEA).

Osisko Development has also identified further mineralization zones/deposits at the San Antonio Project, in addition to the five deposits upon which the current mineral resource is based. Further work at the five deposits, as well as at the other mineralization zones/deposits, will most likely add to the overall resource estimate in future iterations.

Table 25.5 identifies any significant internal risks, potential impacts and possible risk mitigation measures that could affect the economic outcome of the Project. This excludes the external risks that apply to all mining projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.). Significant opportunities that could improve the economics, timing and permitting of the project are also identified in this table. Further information and evaluation are required before these opportunities can be included in the project economics.

Table 25.5
Risks and Opportunities at the San Antonio Project

Risk	Potential Impact	Possible Risk Mitigation
Mineral Resource Continuity	Widely spaced drilling in some areas	Continue to use a multi-capping procedure approach until an underground access is developed into the mine zone. Continue infill drilling to upgrade a larger proportion of the mineral inventory to indicated and measured resources.
Proximity to the Town of San Antonio	Possibility that the population does not accept the mining project	Maintain a pro-active and transparent strategy to identify all stakeholders and maintain a communication plan. The main stakeholders have been identified, and their needs/concerns understood. Continue to organize information sessions, publish information on the mining project, and meet with host communities.
Difficulty in attracting experienced professionals	The ability to attract and retain competent, experienced professionals is a key success factor.	The early search for professionals will help identify and attract critical people. It may be necessary to provide accommodation for key people (not included in project costs).
Some of the samples exhibit poor repeatability	Potential for a portion of the resources to be overestimated or underestimated with respect to the grade.	The use of screen metallic assays on some material is recommended, as well as conducting some mineralogical studies in order to understand why some of the samples exhibit poor repeatability.
Opportunities	**Explanation**	**Potential Benefit**
Surface definition diamond drilling	Potential to upgrade inferred resources to the indicated category	Adding indicated resources increases the economic value of the mining project.
Surface exploration drilling	Potential to identify additional inferred resources	Adding inferred resources increases the economic value of the mining project.

26.0 RECOMMENDATIONS

26.1 FURTHER EXPLORATION

Based on the results of the 2022 mineral resource estimate, Micon's QPs recommend that the San Antonio Project move to a more advanced phase of development, which would involve the preparation of a Preliminary Economic Assessment (PEA), covering at least the Sapuchi, California and Golfo de Oro deposits.

Micon's QPs recommend completing the PEA by concluding the geotechnical and metallurgical studies, and continuing the permitting process and community engagement program. The characterization of the mining project environment should also continue in tandem with these other development steps.

Concurrently, Micon's QPs recommend that Osisko Development continue its exploration program with drilling (infill and exploration), geological mapping and sampling, to test the extents of known mineralization within the known mineral trend. The exploration program should attempt to identify new targets, as well as potentially expanding the current deposits. Continued geological modelling and structural interpretation should also be a part of this program.

With respect to sampling and assaying, the use of screen metallic assays on some material is recommended, as well as conducting some mineralogical studies in order to understand why some of the samples exhibit poor repeatability.

In summary, the following work program is recommended.

1. Exploration work:
    a) Infill drilling in areas currently classified as inferred and above cut-off, to convert to the indicated category (12,000 m).
    b) Exploration drilling to explore adjacent to known deposits between Sapuchi and High Life and around the extent of current pit limits, to add additional inferred resources (30,000 m).
    c) Continue geologic mapping and surface sampling programs to define and identify new targets with the importance of collecting structural measurements that can then be modelled in 3D to increase knowledge of the geologic model.
    d) Perform a LiDAR survey on the property for collection of surface imagery and for aiding in structural interpretation.
2. PEA:
    a) Surface bulk sampling program to test geological and grade continuities, metallurgical and geotechnical parameters.
    b) Complete metallurgical testwork.
    c) Geotechnical work.
    d) Permitting consideration.
    e) Social licence management.

The budget presented in Table 26.1 summarizes the estimated costs for completing the recommended drilling and exploration program described above. The budget is a cost estimate and guideline to complete the work.

It is the opinion of the Micon QPs that all of the recommended work is warranted and that only the location of the exploration drilling needs to be re-evaluated, as assay results are obtained during the program. Micon and its QPs appreciate that the nature of the programs and expenditures may change as the further studies are undertaken, and that the final expenditures and results may not be the same as originally proposed.

The Micon QPs are of the opinion that the recommended work program and proposed expenditures are appropriate and well thought out. The Micon QPs believe that the proposed budget reasonably reflects the type and amount of the contemplated activities.

Table 26.1
San Antonio Project, Recommended Budget for Further Work (USD)

San Antonio Project, Drilling Program			
Target Area / Type of Activity	Cost/m (approx.) All included	Quantity (m)	Cost (USD)
Infill Drilling on Existing Resource (HQ)	270/m	12,000	3,240,000
Exploration Drilling (NQ or RC)	250/m	30,000	7,500,000
Metallurgical Drilling - Core	320/m	1,200	384,000
Geotechnical Drilling	300/m	1,000	300,000
Drilling Subtotal		**17,050**	**11,424,000**
San Antonio Project, Property Wide Activities			
Activity Type	Cost/m (approx.) All included	Quantity (m)	Cost (USD)
Geological Modeling, Mapping & Consulting			70,000
LiDAR Surveys			30,000
Geochemical Sampling & Special Studies (PEA)			150,000
Metallurgical Testwork			150,000
PEA reporting and miscellaneous.			100,000
Property Wide Activities Subtotal			500,000
Contingency (~5%)			596,200
Grand Total			**12,520,200**

26.2 METALLURGY

The metallurgical testwork completed so far provides a good base for future planning. There is a significant amount of data that confirms that the oxide mineralization at the San Antonio properties is amenable to recovery by heap leaching. Current testwork is in progress and is focused on further defining the expected recovery by mineralized zone and the predicted reagent consumptions for each zone. Future testwork will be evaluated based on these results.

27.0 DATE AND SIGNATURE PAGE

The independent Qualified Persons for this report are:

MICON INTERNATIONAL LIMITED

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

William J. Lewis, P.Geo. Report Date: July 12, 2022.
Senior Geologist Effective Date: June 24, 2022.

"Alan J. San Martin" {signed as of the report date}

Ing. Alan J. San Martin, MAusIMM (CP) Report Date: July 12, 2022.
Mineral Resource Specialist Effective Date: June 24, 2022.

FORTE ANALYTICAL

"R. Nick Gow" {signed and sealed as of the report date}

R. Nick Gow, PhD, MMSA(QP). Report Date: July 12, 2022.
Laboratory Manager Effective Date: June 24, 2022.

SERVICIOS GEOLÓGICOS IMEX, S.C.

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

Rodrigo Calles-Montijo, MSc., CPG. Report Date: July 12, 2022.
General Administrator and Principal Consultant Effective Date: June 24, 2022.

28.0 REFERENCES

28.1 TECHNICAL REPORTS, PAPERS AND OTHER SOURCES

Anderson, T.H., and Silver, L.T., (1979), The role of the Mojave-Sonora megashear in the tectonic evolution of northern Sonora, in Anderson, T.H., and Roldán-Quintana, J., eds., Geology of Northern Sonora: San Diego, California, Geological Society of America Annual Meeting, Guidebook, Field Trip 27, p. 59-68.

Anderson, T. H., & Silver, L. T., (2005), The Mojave-Sonora megashear – Field and analytical studies leading to the conception and evolution of the hypothesis. Geological Society of America Special Paper, vol. 393, p. 1–50. https://doi.org/10.1130/0-8137-2393-0.1

Barton, M.D., (2009), IOCG deposits: A Cordilleran perspective. In Williams, P.J, ed., Proceedings from the 10th Biennial meeting of the Society for Geology Applied to Mineral Deposits, Townsville, Australia, vol. 1, p. 5-7.

Bryan, S. E., Ferrari, L., Reiners, P. W., Allen, C. M., Petrone, C. M., Ramos-Rosique, A., and Campbell, I. H., (2008), New insights into crustal contributions to large-volume rhyolite generation in the mid-Tertiary Sierra Madre Occidental province, Mexico, revealed by U-Pb geochronology. Journal of Petrology, vol. 49(1), p. 47–77. https://doi.org/10.1093/petrology/egm070

Centeno-García, E., (2005), Review of Upper Paleozoic and Lower Mesozoic stratigraphy and depositional environments of central and west Mexico: Constraints on terrane analysis and paleogeography. Geological Society of America Special Paper, vol. 393, p. 233–258. https://doi.org/10.1130/0-8137-2393-0.233

Centeno-García, Guerrero-Suastegui, M, and Talavera-Mendoza, O., (2008), The Guerrero Composite Terrane of western Mexico: Collision and subsequent rifting in a supra-subduction zone. 10.1130/2008.2436(13).

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

CIM Council, (2019), CIM Mineral Exploration Best Practices Guidelines, 16 p.

Damon, P. E., Shafiqullah, M., & Clark, K. F., (1983) Geochronology of the porphyry copper deposits and related mineralization of Mexico. Canadian Journal of Earth Sciences, vol. 20(6), p. 1052–1071. https://doi.org/10.1139/E83-095

Dirección General de Promoción Minera, (undated), Luz del Cobre, 9 p.

Ferrari, L., Valencia-Moreno, M., and Bryan, S., (2007), Magmatism and tectonics of the Sierra Madre Occidental and relation with the evolution of the western margin of North America. Geologic Society of America Special Paper, vol. 422, p. 1–39. https://doi.org/10.1130/2007.2422(01)

Gastéllum, R.C. and Guzmán Espinosa, J.B., (2004), Carta Geológico-Minera: Tecoripa H12-D64, Sonora. Servicio Geológico Mexicano, scale 1:50000, 1 sheet.

García Cortez, J.Á. and Hernandez, M. A., (2004), Carta Geológico-Minera: Tonichi H12-D65, Sonora. Servicio Geológico Mexicano, scale 1:50000, 1 sheet.

Groves,D. I.; Bierlein, F.P.; Meinert, L.D.; Hitzman, M.W. (2010), Iron Oxide Copper-Gold (IOCG) Deposits through Earth History: Implications for Origin, Lithospheric Setting, and Distinction from Other Epigenetic Iron Oxide Deposits. Economic Geology, 105(3):641-654

Keppie, J. D., (2004), Terranes of Mexico revisited: A 1.3 billion year Odyssey. International Geology Review, vol. 46(9), p. 765–794. https://doi.org/10.2747/0020-6814.46.9.765

McDowell, F. W., Roldán-Quintana, J., & Amaya-Martínez, R., (1997), Interrelationship of sedimentary and volcanic deposits associated with Tertiary extension in Sonora, Mexico. Bulletin of the Geological Society of America, vol. 109(10), p. 1349–1360. https://doi.org/10.1130/0016-7606(1997)109<1349:IOSAVD>2.3.CO;2

McDowell, F. W., Roldán-Quintana, J., & Connelly, J. N., (2001), Duration of Late Cretaceous–early Tertiary magmatism in east-central Sonora, Mexico. Geological Society of America Bulletin, vol. 113(4), p. 521–531. https://doi.org/10.1130/0016-7606(2001)113<0521:DOLCET>2.0.CO;2

Padilla, R., 2019. Geology, Mineralization, And Upside Potential of The San Antonio Gold Project, Sonora, Mexico, Report by Talisker Exploration Services for Osisko Gold Royalties, 11 p.

Pressacco, R., Puritch, E. (2004), Technical Report On The Resource Estimate Of The Gold Mineralization Found On The San Antonio Property, Sonora State, Northwestern Mexico.

Price, J. B., Calmus, T., Bennett, S. E. K., & Ochoa-Landín, L., (2019), Mesozoic to Cenozoic sedimentation, tectonics, and metallogeny of Sonora, Mexico. Geological Society of America Field Guides, vol. 55, p. 407–498. https://doi.org/10.1130/2019.0055(17)

Richards, J. P., & Mumin, A. H., (2013), Magmatic-hydrothermal processes within an evolving Earth: Iron oxide-copper-gold and porphyry Cu ± Mo ± Au deposits. Geology, vole. 41(7), p. 767–770. https://doi.org/10.1130/G34275.1

Roldán-Quintana, J., Mcdowell, F., Delgado Granados, H., & Valencia-Moreno, M., (2009), East-west variations in age, chemical and isotopic composition of the Laramide batholith in southern Sonora, Mexico. Revista Mexicana de Ciencias Geológicas, 26, 543–563.

Servicio Geológico Mexicano, (2020) Panorama Minero del Estado de Sonora, 75 p.

Sillitoe, R. H., (2003), Iron oxide-copper-gold deposits: An Andean view. Mineralium Deposita, vol. 38(7), p. 787–812. https://doi.org/10.1007/s00126-003-0379-7

Stewart, J. H., Poole, F. G., Ketner, K. B., Madrid, R. J., & Amaya-Martinez, R., (1990), Tectonics and Stratigraphy of the Paleozoic and Triassic Southern Margin of North America, Sonora, Mexico. in Gehrels, G.E.., and Spencer, J.E., eds., Geologic Excursions through the Sonoran Desert Region, Arizona and Sonora: Arizona Geological Survey Special Paper, vol. 7, p. 183-202

Stewart, J. H., & Roldán-Quintana, J., (1991), Upper Triassic Barranca Group; Nonmarine and shallow-marine rift-basin deposits of northwestern Mexico. Geological Society of America Special Paper, vol. 254, p. 19–36. https://doi.org/10.1130/SPE254-P19

Sedlock, R. L., Ortega-Guitierrez, F. and Speed, R. C., (1993), Tectonostratigraphic Terranes and Tectonic Evolution of Mexico. Geologic Society of America Special Paper, vol. 278, p. 1-143. https://doi.org/10.1130/SPE278

Southam Business Communications, (1992), Canadian Mines Handbook 1992 – 93, Chutine Resources Ltd, Company Profiles, p 93

Southworth, J.R., (1905)., The Mines of Mexico; History, Geology, Ancient Mining and General Description of the Mining States of the Republic of Mexico, 260 p.

Tadeschi, M., (2010), Geology of the Cerro Verde Iron Oxide-Copper-Gold Project: San Javier, Sonora, Mexico.

Unknown Author, (2021), San Antonio Gold-Copper Deposit, 2021 Exploration Advance Yearly Report. Osisko Development Internal Report, 18 pages.

Valencia-Moreno, M., Ochoa-Landín, L., Noguez-Alcántara, B., Ruiz, J., & Pérez-Segura, E., 2007. Geological and metallogenetic characteristics of the porphyry copper deposits of México and their situation in the world context. Geological Society of America Special Papers, vol. 422, p. 433–458. https://doi.org/10.1130/2007.2422(16)

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

28.2 INTERNET SOURCES (AS OF FEBRUARY, 2022)

Canuc Resources Corporation website, (2022), https://canucresources.ca/projects/san-javier-silver-gold-project/

Osisko Development Corporation website, (2022), https://osiskodev.com/news/

29.0 CERTIFICATES OF AUTHORS

CERTIFICATE OF AUTHOR
William J. Lewis

As the co-author of this report for Osisko Development Corp. entitled "NI 43-101 Technical Report for the 2022 Mineral Resource Estimate on the San Antonio Project, Sonora, Mexico" dated July 12, 2022, with an effective date of June 24, 2022, I, William J. Lewis do hereby certify that:

1. I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, e-mail wlewis@micon-international.com.
2. This certificate applies to the Technical Report titled "NI 43-101 Technical Report for the 2022 Mineral Resource Estimate on the San Antonio Project, Sonora, Mexico" dated July 12, 2022, with an effective date of June 24, 2022.
3. I hold the following academic qualifications:

   B.Sc. (Geology) University of British Columbia 1985.
4. I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba (membership # 20480); as well, I am a member in good standing of several other technical associations and societies, including:
   - Association of Professional Engineers and Geoscientists of British Columbia (Membership # 20333).
   - Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (Membership # 1450).
   - Professional Association of Geoscientists of Ontario (Membership # 1522).
   - The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 94758).
5. I have worked as a geologist in the minerals industry for over 35 years.
6. I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an exploration geologist looking for gold and base metal deposits, more than 11 years as a mine geologist in underground mines and 20 years as a surficial geologist and consulting geologist on precious and base metals and industrial minerals.
7. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument.
8. I have not visited the San Antonio Project.
9. This is the first Technical Report I have written or co-authored for the mineral property that is the subject of this Technical Report.
10. I am independent Osisko Development Corp. and its subsidiaries according to the definition described in NI 43-101 and the Companion Policy 43-101 CP.
11. I am responsible for Section 1 except for 1.7, 2 to 9, 10, 14.1 to14.3, 14.12 to 14.14 except 14.13.1 and 23 to 28 of this Technical Report.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this technical report not misleading.

Report Dated this 12th day of July, 2022 with an effective date of June 24, 2022.

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

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

CERTIFICATE OF AUTHOR
Ing. Alan J. San Martin, MAusIMM (CP)

As the co-author of this report for Osisko Development Corp. entitled "NI 43-101 Technical Report for the 2022 Mineral Resource Estimate on the San Antonio Project, Sonora, Mexico" dated July 12, 2022, with an effective date of June 24, 2022, I, Alan J. San Martin do hereby certify that:

1. I am employed as a Mineral Resource Specialist by Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, e-mail asanmartin@micon-international.com.
2. I hold a bachelor's degree in mining engineering (equivalent to B.Sc.) from the National University of Piura, Peru, 1999.
3. I am a member in good standing of the following professional entities:
   - The Australasian Institute of Mining and Metallurgy accredited Chartered Professional in Geology, Membership #301778.
   - Canadian Institute of Mining, Metallurgy and Petroleum, Member ID 151724.
   - Colegio de Ingenieros del Perú (CIP), Membership # 79184.
4. I have continuously worked in my profession since 1999. My experience includes mining exploration, mineral deposit modelling, mineral resource estimation and consulting services for the mineral industry.
5. I am familiar with NI 43-101 and form 43-101F1 regulations and by reason of education, experience and professional registration with AusIMM(CP), I fulfill the requirements of a Qualified Person as defined in NI 43-101.
6. I have not visited the San Antonio Project.
7. This is the first Technical Report I have written or co-authored for the mineral property that is the subject of this Technical Report.
8. As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading.
9. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument.
10. I am independent Osisko Development Corp. and its subsidiaries according to the definition described in NI 43-101 and the Companion Policy 43-101 CP.
11. I am responsible for the preparation of Sections 14.4 to 14.11 and 14.13.1 of this Technical Report.

Report Dated this 12th day of July, 2022 with an effective date of June 24, 2022.

"Alan J. San Martin" {signed as of the report date}

Ing. Alan J. San Martin, MAusIMM (CP)
Mineral Resource Specialist, Micon International Limited

CERTIFICATE OF AUTHOR
R. Nick Gow, PhD, MMSA(QP)

As an author of the technical report for Osisko Development Corp. entitled "NI 43-101 Technical Report for the 2022 Mineral Resource Estimate on the San Antonio Project, Sonora, Mexico" dated July 12, 2022, with an effective date of June 24, 2022, I, R. Nick Gow, do hereby certify:

1. I am employed as the Lab Manager at Forte Analytical, 120 Commerce Dr, Unit 4, Fort Collins, CO 80524, USA.
2. This certificate applies to the Technical Report entitled "NI 43-101 Technical Report for the 2022 Mineral Resource Estimate on the San Antonio Project, Sonora, Mexico" dated July 12, 2022, with an effective date of June 24, 2022.
3. I graduated with an Interdisciplinary Doctor of Philosophy in Metallurgical Engineering and Chemistry from the University of Montana and Montana Tech in 2015, a Bachelor of Science in Chemistry in 2011 from Montana Tech, Master of Science in Metallurgical Engineering and Bachelor of Science in Metallurgical and Materials Engineering in 2008, both from Montana Tech.
4. I am a Qualified Professional Member (#1538QP) of the Mining and Metallurgical Society of America (MMSA).
5. I have been employed as an engineer continuously for more than 10 years. My experience has been in mineral processing and extractive metallurgy for base and precious metals including hands-on metallurgical testing, testing campaign design and data review. I have also served as an Affiliate Professor with the Colorado School of Mines for the past three years.
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards for Disclosure for Mineral Projects ("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.
7. I have read NI 43-101 and Form 43-101F1, and the portions of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
8. I have not yet visited the San Antonio Project.
9. Prior to being retained by the Issuer, I have not had prior involvement with the property that is the subject of the Technical Report, nor any of the previous Technical Reports.
10. I am independent of the Issuer and its subsidiaries as independence is described in Section 1.5 of NI 43-101.
11. I am responsible for Section 13 of the Technical Report.
12. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Report Dated this 12th day of July, 2022 with an effective date of June 24, 2022.

"R. Nick Gow" {signed and sealed as of the report date}

R. Nick Gow, PhD, MMSA(QP)
Laboratory Manager, Forte Analytical

CERTIFICATE OF AUTHOR
Rodrigo Calles-Montijo, MSc., CPG.

As the co-author of this report for Osisko Development Corp. entitled "NI 43-101 Technical Report for the 2022 Mineral Resource Estimate on the San Antonio Project, Sonora, Mexico" dated July 12, 2022, with an effective date of June 24, 2022, I, Rodrigo Calles-Montijo do hereby certify that:

1. I am General Administrator and Principal Consultant of the firm Servicios Geológicos IMEx, S.C, located at Blvd. Morelos No. 639, Locales 13 y 14, Hermosillo, Sonora, Mexico, C.P. 83148, Email: rodrigo.calles@sgimex.mx.
2. This certificate applies to the Technical Report titled "NI 43-101 Technical Report for the 2022 Mineral Resource Estimate on the San Antonio Project, Sonora, Mexico" dated July 12, 2022, with an effective date of June 24, 2022.
3. I hold the following academic qualifications:
   - B.Sc. (Geological Engineer) Autonomous University of Chihuahua 1986
   - M.Sc. (Economic Geology) University of Sonora 1999
4. I am a Certified Professional Geologist in a good standing with American Institute of Professional Geologist with certificate number 11567 and member of the Association of Mining Engineers, Metallurgist and Geologist of Mexico, A.C., Membership 556.
5. I have 35 years of experience in exploration and evaluation of mineral deposits, including metallic and non-metallic deposits in several countries around the world; I have experience in evaluation of diverse types of gold deposits, including placer, skarn and disseminated deposits.
6. I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 20 years as an exploration geologist looking for base metal and industrial mineral deposits and more than 11 years as consulting geologist on precious, base metals and industrial minerals and operative mines.
7. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument.
8. I visited the San Antonio Project between November 11, 2021 and November 13, 2021.
9. I am independent Osisko Development Corp. and its subsidiaries according to the definition described in NI 43-101 and the Companion Policy 43-101 CP.
10. I am responsible for the site visit and for Sections 11 and 12 of this Technical Report.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Report Dated this 12th day of July, 2022 and Effective Report Date: June 24, 2022.

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

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

APPENDIX I

GLOSSARY OF MINING AND OTHER RELATED TERMS

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

A

Assay	A chemical test performed on a sample of ores or minerals to determine the amount of valuable metals contained.

B

Base metal	Any non-precious metal (e.g., copper, lead, zinc, nickel, etc.).
Bulk mining	Any large-scale, mechanized method of mining involving many thousands of tonnes of ore being brought to surface per day.
Bulk sample	A large sample of mineralized rock, frequently hundreds of tonnes, selected in such a manner as to be representative of the potential orebody being sampled. The sample is usually used to determine metallurgical characteristics.
By-product	A secondary metal or mineral product recovered in the milling process.

C

Channel sample	A sample composed of pieces of vein or mineral deposit that have been cut out of a small trench or channel, usually about 10 cm wide and 2 cm deep.
Chip sample	A method of sampling a rock exposure whereby a regular series of small chips of rock is broken off along a line across the face.
CIM Standards	The CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council from time to time. The most recent update adopted by the CIM Council is effective as of May 10, 2014.
CIM	The Canadian Institute of Mining, Metallurgy and Petroleum.
Concentrate	A fine, powdery product of the milling process containing a high percentage of valuable metal.
Contact	A geological term used to describe the line or plane along which two different rock formations meet.
Core	The long cylindrical piece of rock, about an inch in diameter, brought to surface by diamond drilling.
Core sample	One or several pieces of whole or split parts of core selected as a sample for analysis or assay.
Cross-cut	A horizontal opening driven from a shaft and (or near) right angles to the strike of a vein or other orebody. The term is also used to signify that a drill hole is crossing the mineralization at or near right angles to it.
Cut-off grade	The lowest grade of mineralized rock that qualifies as ore grade in a given deposit, and is also used as the lowest grade below which the mineralized rock currently cannot be profitably exploited. Cut-off grades vary between deposits and commodity types depending upon the amenability of the mineralization to extraction and upon production costs.

D

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

Development drilling

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

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

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

E

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

Epithermal deposit

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

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

F

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

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

Flotation A milling process in which valuable mineral particles are induced to become attached to bubbles and float as others sink.

Fold Any bending or wrinkling of rock strata.

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

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

G

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

H

Hangingwall The rock on the upper side of a vein or mineral deposit.

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

Host rock The rock surrounding an ore deposit.

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

I

Indicated Mineral Resource

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

Inferred Mineral Resource

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

Intrusive A body of igneous rock formed by the consolidation of magma intruded into other

K

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

L

Leaching The separation, selective removal or dissolving-out of soluble constituents from a rock or ore body by the natural actions of percolating solutions.

Level The horizontal openings on a working horizon in a mine; it is customary to work mines from a shaft, establishing levels at regular intervals, generally about 50 m or more apart.

M

m Abbreviation for metre(s). One metre is equal to 3.28 feet.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Metallurgy The science and art of separating metals and metallic minerals from their ores by mechanical and chemical processes.

Metamorphic Affected by physical, chemical, and structural processes imposed by depth in the earth's crust.

Mill A plant in which ore is treated and metals are recovered or prepared for smelting also, a revolving drum used for the grinding of ores in preparation for treatment.

Mine An excavation beneath the surface of the ground from which mineral matter of value is extracted.

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

Mineral Claim/Concession

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

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

Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals. The term mineral resource used in this report is a Canadian mining term as defined in accordance with NI 43-101 – Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM), Standards on Mineral Resource and Mineral Reserves Definitions and guidelines adopted by the CIM Council on December 11, 2005 and recently updated as of May 10, 2014 (the CIM Standards).

Mineral Reserve

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

N

NI 43-101

National Instrument 43-101 is a national instrument for the Standards of Disclosure for Mineral Projects within Canada. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. This includes foreign-owned mining entities who trade on stock exchanges overseen by the Canadian Securities Administrators (CSA), even if they only trade on Over-The-Counter (OTC) derivatives or other instrumented securities. The NI 43-101 rules and guidelines were updated as of June 30, 2011.

O

Open Pit/Cut A form of mining operation designed to extract minerals that lie near the surface. Waste or overburden is first removed, and the mineral is broken and loaded for processing. The mining of metalliferous ores by surface-mining methods is commonly designated as open-pit mining as distinguished from strip mining of coal and the quarrying of other non-metallic materials, such as limestone and building stone.

Osisko Development Osisko Development Corporation, including, unless the context otherwise requires, the Company's subsidiaries.

Outcrop An exposure of rock or mineral deposit that can be seen on surface, that is, not covered by soil or water.

Oxidation A chemical reaction caused by exposure to oxygen that results in a change in the chemical composition of a mineral.

P

Plant A building or group of buildings in which a process or function is carried out; at a mine site it will include warehouses, hoisting equipment, compressors, maintenance shops, offices and the mill or concentrator.

Plunge Plunge refers to the downward angle and direction of a linear structure. Most commonly it is used to measure the direction and angle of the plunge of a fold axis or hinge.

Probable Reserve

A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

Proven Reserve

A Proven Mineral Reserve is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

Pyrite A common, pale-bronze or brass-yellow, mineral composed of iron and sulphur. Pyrite has a brilliant metallic luster and has been mistaken for gold. Pyrite is the most wide-spread and abundant of the sulphide minerals and occurs in all kinds of rocks.

Q

Qualified Person

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

R

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

S

Shoot A concentration of mineral values; that part of a vein or zone carrying values of ore grade.

Stockpile Broken ore heaped on surface, pending treatment or shipment.

Strike The direction, or bearing from true north, of a vein or rock formation measure on a horizontal surface.

Stringer A narrow vein or irregular filament of a mineral or minerals traversing a rock mass.

T

Terrain A terrain in geology, in full a tectonostratigraphic terrain, is a fragment of crustal material formed on, or broken off from, one tectonic plate and accreted or "sutured" to crust lying on another plate.

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

U

Underground

Mining Is the process of extracting rock from underground using a network of tunnels and openings, often called stopes. This mining is generally more expensive with lower production rates due to the use of smaller equipment than open pit/ open cast mining at the surface.

V

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

Volcanogenic Formed by processes directly connected with volcanism: specif., said of mineral deposits (massive sulphides, exhalites, banded iron formations) considered to have been produced through volcanic agencies and demonstrably associated with volcanic phenomena.

W

Wall rocks Rock units on either side of an orebody. The hanging wall and footwall rocks of a mineral deposit or orebody.

Waste Unmineralized, or sometimes mineralized, rock that is not minable at a profit.

Working(s) May be a shaft, quarry, level, open-cut, open pit, or stope etc. Usually noted in the plural.

Z

Zone An area of distinct mineralization.