

PORTFOLIO OF **ADVANCED PROJECTS**

Silver



Ministerio de Economía
Argentina

Secretaría de Minería

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ADVANCED SILVER PROJECTS



CAPEX

1,354.12 e M USD*

1

CONSTRUCTION

1 - PROVIDENCIA

3

PEA (Pref. Econ. Asses.)

2 - DIABLILLOS

3 - EL QUEVAR

4 - NAVIDAD



RESERVES AND RESOURCES

2,296 Moz Ag

3

ADVANCED EXPLORATION

5 - PINGÜINO

6 - EL FIERRO

7 - VIRGINIA

* Mt: millions of tons- Moz: million of ounces kt: thousands of tons- koz: thousand of ounces - M USD: Million of dollars.

* This CAPEX estimated number includes projects in different stages of progress that are not described in this portfolio.



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PROVIDENCIA

1



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PROVIDENCIA

**LOCATION**

(23° 15' 41" Lat. S; 66° 48' 2,9" Long. W)

The Providencia Property is located in the northwestern corner of Argentina. It is located in the "Puna", an extension of the Bolivian altiplano at elevations varying from 4,200 to 4,700 meters. The property consists of seven mineral concessions aggregating an area of 17,035 hectares. Access is by road from either San Salvador de Jujuy (260 Kilometers) or Salta (370 kilometers).

**MINERALIZATION TYPE**

Sulphidation Epithermal Style

**PROPERTY DATA
OWNER / CONTROLLER**

HANAQ GROUP

**OPERATOR**

Hanaq Argentina S.A.

**ÁREA**

12,843 ha



Ag

PROVIDENCIA

PROJECT GEOLOGY

Regional Geology

The geological province of the Puna was described by Turner (1970). It forms the southern end of the Bolivian Altiplano and corresponds to a belt, morphologically between the “Cordillera Oriental” to the east and passing transitionally into the “Sierras Pampeanas Septentrionales” to the south. The puna is characterized by an elevated plateau with an average altitude of 4,000 meters above sea level. The border between Argentina and Chile forms the western boundary, defined by volcanoes of the upper Cenozoic volcanic arc.

The basement is composed of marine sediments and low-grade metamorphic rocks, which are Ordovician in age and are highly deformed along the western margin. These sediments overlie a metamorphic basement, which is identified in the north by the presence of xenoliths brought to surface by Tertiary volcanics, while in the south these metamorphic rocks are found in outcrop.

The geological province of the Puna has been subdivided into two sectors (Alonso et al. 1984) according to their regional geological characteristics, namely the Puna Septentrional or Puna Jujena and the Puna Austral or Puna Salto catamarquena. The oldest rocks outcropping in the Puna Jujena are Ordovician in age, while those in the Puna Saltocatamarquena are Proterozoic metamorphic rocks. The Calama-Olalcapato-El Toro lineament forms the boundary between the two sub-provinces. Other differences are an Ordovician eruptive belt in the south and the development of lower Quaternary basaltic volcanism related to an extensional event.

Deposit Geology

The properties are located within a basin-and-range type terrane with north-trending linear blocks bounded by high angle reverse faults separating Tertiary-age strike-slip (pull-apart) basins, many of which have developed salt flats or salars. All lithologies in the vicinity of La Providencia have been altered to a varying degree both locally and on a property scale. Pervasive hematization has resulted in the red hue evident in the Dark Red Conglomerate and the Eocene sandstones.

Approaching the mineralized zones, carbonate content in the rocks becomes higher and, as mineralization increases, there is an increase in the abundance of sericite until, in the core of the higher grade zone, sericite appears to replace biotite and plagioclase. Calcite, on the other hand, appears depleted in the higher grade core zones.

Project Status CONSTRUCTION

CAPEX: 10 M USD

Sources Consulted
[ht tps://www.hanaqgroup.com/projects/providencia/](https://www.hanaqgroup.com/projects/providencia/)



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DIABLILLOS

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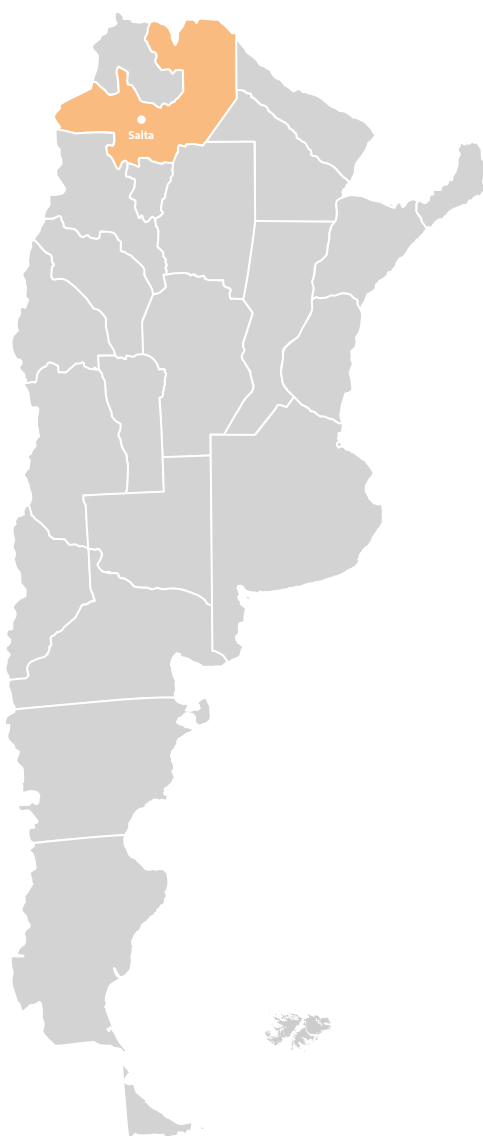


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DIABLILLOS



LOCATION

(25° 16' 29" Lat. S; 66° 47' 23" Long. W)

The Diablillos project is located 150 km southwest of the city of Salta, at 4,000 meters above sea level, immediately southwest of the Diablillos Volcano. Access is easy from the city of Salta to the northwest to the city of San Antonio de los Cobres along the RN 51.



MINERALIZATION TYPE

High Sulphidation Epithermal style



PROPERTY DATA OWNER / CONTROLLER

AbraSilver Resource Corp.



OPERATOR

Abra Plata Argentina S.A.



ÁREA

7,919 ha



Ag

DIABLILLOS

PROJECT GEOLOGY

Regional Geology

The project is located in the Postaccretionary Metalogenetic Belt associated with the Neogene magmatic arc, linked to NE-SO transtensional zones. It is characterized by a vulcanism that has not evolved much in the Miocene period. It includes corridors to the NE that control the magmatic and hydrothermal activity, where polymetallic mineralizations in the N (Farallón Negro) and porphyries with subtypes linked to the characteristics of magmatism such as Agua Rica and Alumbrera are located.

The dissected volcanoes of the upper Miocene in the Puna usually host areas with intermediate argillic alteration and silicification. In the highest levels of these systems, in their final episodes, golden manifestations such as Diablillos and Organullo were recognized.

Deposit Geology

In the vicinity of the project, the Diablillos-Cerro Galán fault zone is approximately 10 km wide. Magmatism and hydrothermal activity often occur at the intersection of the faults with shear structures, such as the Cerro Ratones line. Tertiary andesitic flows and flow breccias develop with intermediate tuffa and pelic units, and subvolcanic porphyry rocks. Precambrian granitic and granodioritic rocks underlie most of the volcanic sequence. Drilling by Silver Standard Resources identified a highly permeable erosive discordance that would control hydrothermal fluids.

The recognized alteration contains silica clay-alunite-jarosite, indicative of strong acid leaching, which is related to the presence of gold in silica.

Project Status PRELIMINARY ECONOMIC ASSESSMENT

Company's Announcement

FEBRUARY 2023. The company continues to Drill at New JAC Zone.





DIABLILLOS

Contact
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Resources 2022

CATEGORY	Ag (g/t)	Au (g/t)	Contained Ag (000 oz Ag)	Contained Au (000 oz Au)
Measured & Indicated	66	0.79	109,370	1,297
Inferred	30	0.51	2,114	37

Technical and Economic Information

Estimated average annual production: Silver: 4.2M oz | Gold: 52 koz

Product to obtain: Doré

CAPEX: 255 M USD

Estimated LOM: 16 years

Mining Method: Open pit

Sources Consulted

<https://abrasilver.com/news-releases/abrasilver-continues-to-drill-wide-silver-intercepts-at-new-iac-zone>

<https://www.abrasilver.com/projects/diablillos/>

<https://www.abrasilver.com/news-releases/abrasilver-announces-robust-pea-of-diablillos-including-after-tax-npv-of-us364m>

Corporate presentation, March 2022

NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT TECHNICAL REPORT - DIABLILLOS PROJECT Salta Province, Argentina Prepared for AbraSilver Resource Corp. January 13 th 2022
NI 43-101 TECHNICAL REPORT MINERAL RESOURCE ESTIMATE DIABLILLOS PROJECT Salta Province, Argentina Prepared for AbraSilver Resource Corp. Report Date – November 28th, 2022



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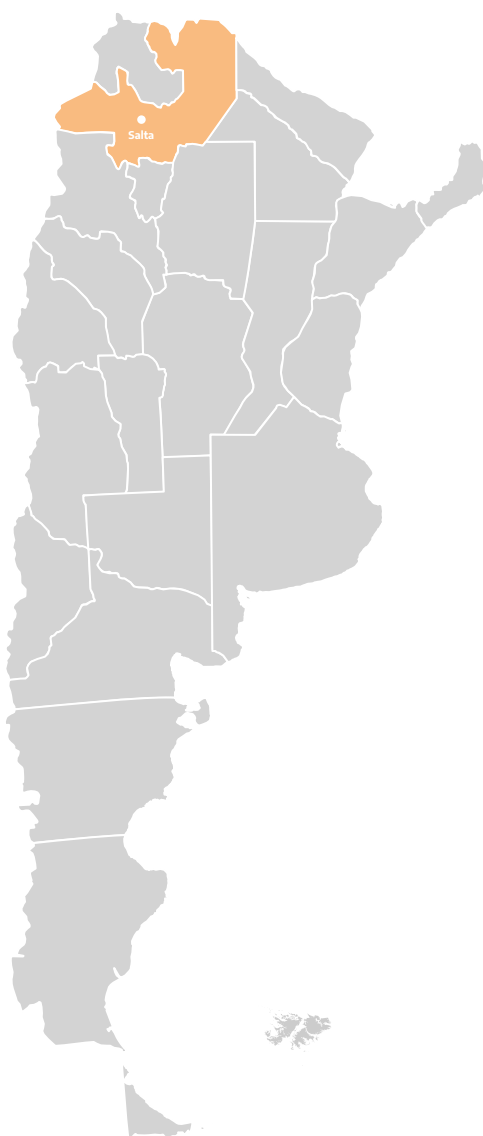
EL QUEVAR

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EL QUEVAR



LOCATION

(24° 20' 08" Lat. S; 66° 46' 57" Long. W)

The project is located in the department of Los Andes, at 4,800 m.a.s.l, about 300 km NW of the city of Salta. It can be accessed from Salta city through RN 51 to the detour with RP 27, continuing for 30 km. Driving time from Salta city is approximately 4 - 5 hours.



MINERALIZATION TYPE

High Sulphidation Epithermal



PROPERTY DATA OWNER / CONTROLLER

Barrick Gold Corp.
Golden Minerals Company



OPERATOR

SILEX Argentina S.A.



ÁREA

57,000 ha



Ag

EL QUEVAR

PROJECT GEOLOGY

Regional Geology

The project is located at the eastern end of the Puna unit in Argentina. Dominated by tertiary rocks of the El Quevar volcanic complex, these Shoshone rocks result from a rift basin during the Cretaceous to the Paleocene. It is bounded by structural lines (120° heading) to the north (Calama-Olacapato-Toro) and another parallel to the south. An older, secondary lineament system of 25° heading is interpreted to be associated with folding of the basement rocks during the Palaeozoic. The El Quevar volcanic complex was formed from the Miocene to the early Quaternary in several events. The dominant product was ignimbritic flows covered by rhyolitic flows and followed by andesitic flows and dacitic intrusions (domes). The latter related to alteration and mineralization events. Erosion windows expose the intrusive and extensive areas of alteration. The southern window includes the mineralized areas of El Quevar. And to the North the Campo Viejo target.

Deposit Geology

The geology of the project is characterized by the presence of dacite domes associated with breccia complexes. These cover hematetic breccias and slope to the southwest. The ensemble is overprinted by argillic alteration and silicification controlled by E-W structures and later NE-SW faults. Along the earlier structures mineralization is associated with Vuggy Silica and SilicoPyrite alteration in brecciated rock (auto-breccia). In the Yaxtché deposit the mineralization is associated with intensely altered and structurally controlled zones within the older volcanic rocks. Silver-bearing sulfides are mostly in gap-filling veins and less frequently disseminated.

Project Status PRELIMINARY ECONOMIC ASSESSMENT

Company's Announcement

November 2022. The company reported Third Quarter 2022 Results.



Ag

EL QUEVAR

Contact
Telephone: (303) 764-9170
investor.relations@goldenminerals.com

Resources

RESOURCES	Tonnage (Mt)	GRADE	Metal Content
		Ag (g/t)	Ag (MOz)
Indicated	2.93	482	45.3
Inferred	0.31	417	4.1

Technical and Economic Information

Estimated average annual production: Silver: 4.8 MOz

Product to obtain: Silver concentrate

CAPEX: 96.8 M USD

Estimated LOM: 6 years

Mining Method: Underground

Sources Consulted

http://www.goldenminerals.com/projects/el_quevar/

NI 43-101 Technical Report on Updated Mineral Resource

https://www.goldenminerals.com/resources/reports/El_Quevar_43101_TR_20180226.pdf?v=0.561

<https://www.goldenminerals.com/news/2022/golden-minerals-reports-third-quarter-2022-results>



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NAVIDAD

4

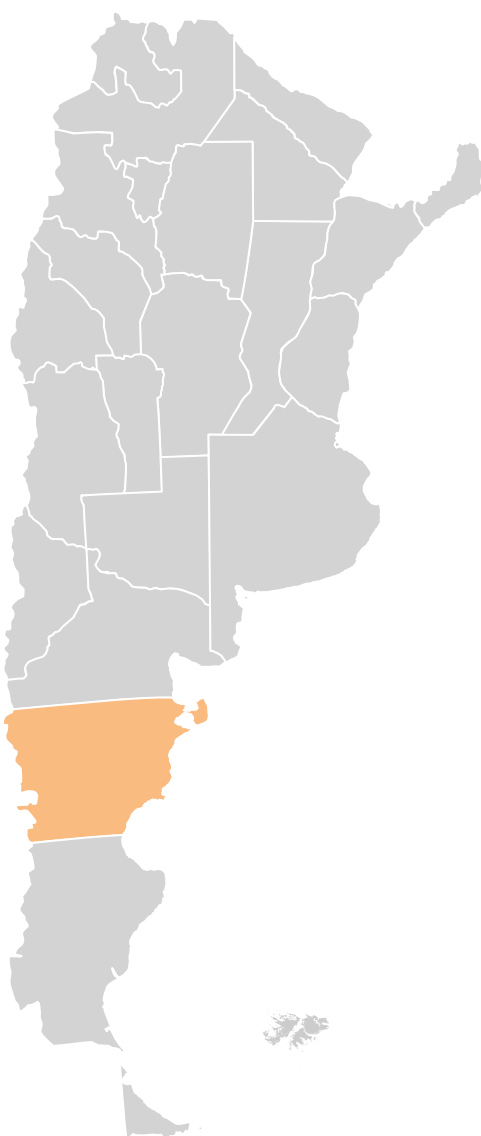


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NAVIDAD



LOCATION

(42° 24' 54" Lat. S; 68° 49' 12" Long. W)

The Navidad Project is located about 35 km from the town of Gastre, in the department of the same name, in the north of the province of Chubut.



MINERALIZATION TYPE

Intermediate Sulphidation
Epithermal Style



PROPERTY DATA OWNER / CONTROLLER

Pan American Silver Corp.



OPERATOR

Minera Argenta S.A.



ÁREA

10,000 ha



Ag

NAVIDAD

PROJECT GEOLOGY

Regional Geology

The Navidad Project is located on the southwest edge of the Northern Patagonia Massif in southern Argentina. This boundary of the massif is coincident with the “Gastre Fault System”, a mega-structural feature believed to be the result of continental-scale northeast to southwest extension that produced through down-faulting a series of northwest to southeast trending half grabens and tectonic basins (von Gosen et. al. 2004). Granitoid rocks of the basement in northern Chubut Province belong to the Palaeozoic age Mail Choique and Lipetren formations. Locally these rocks were exposed at surface in windows through the overlying Mesozoic age volcanic and sedimentary rocks. At Navidad the Mesozoic sequence consists of the Lonco Trapial Formation and overlying Cañadón Asfalto Formation. The latter of these formations hosts the Navidad mineralisation.

Deposit Geology

Navidad mineralisation is epithermal, as demonstrated by widespread open space-filling crustiform and cockade textures in the gangue minerals (carbonate, barite) and sulphide assemblages. The abundance of base metals, combined with carbonate-rich gangue, suggests that the deposit is intermediate, rather than low, sulphidation in style. Typical high sulphidation sulphides and gangue minerals are absent, but there is rare late stage kaolinite and minor hydrothermal alunite that implies late ingress of a hypogene acid fluid.

Project Status PRELIMINARY ECONOMIC ASSESSMENT

Company's Announcement

Aug. 2022. The company reported Mineral Reserves and Mineral Resources.



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NAVIDAD

Contact

Investors & Media Inquiries

T: +1 (604) 806-3191

ir@panamericansilver.com**Resources and Reserves 2022**

RESOURCES	Tonnage (Mt)	Metal Content		
		Ag (MOz)	Pb (kt)	Cu (kt)
M & I	155.2	632.4	1,326	71
Inferred Resources	45.9	119.4	262	9

Technical and Economic Information

Estimated average production (Year 1-5) : Silver: 19.8 MOz

Product to obtain: Concentrate

CAPEX: 760 M USD

Estimated LOM: 17 years

Mining Method: Open pit

Sources Consulted

<https://www.panamericansilver.com/es/news/pan-american-silver-reports-mineral-reserves-and-mineral-resources-as-at-june-30022/><https://www.panamericansilver.com/operations/south-america/navidad/><https://www.panamericansilver.com/assets/Operations-documents/2e445fea82/Navidad-Technical-Report.pdf>

Thank you



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