AMENDED AND RESTATED NI 43-101 TECHNICAL REPORT, PRE-FEASIBILITY STUDY FOR THE DIABLILLOS Ag-Au PROJECT

Salta & Catamarca Provinces, Argentina

Prepared for

AbraSilver Resource Corp.

Report Date: May 29th, 2024.
Effective Date: March 7th, 2024.

Qualified Persons:

Luis Rodrigo Peralta, FAusIMM CP (Geo)- INSA
Joseph M. Keane, P. Eng., Q.P. (SME) - SGS
Miguel Fuentealba, P. Eng., Q.P. - Bmining
Johnny Canosa, P. Eng., Q.P. - SGS
William van Breugel, P. Eng., Q.P. - SGS

Important Notice

This report was prepared as a National Instrument 43-101 Technical Report for Abrasilver Resources Corporation ("AbraSilver") by a team of consultants contracted by AbraSilver ("the Team"). The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in the Team's services, based on:

1. Information available at the time of preparation.
2. Data supplied by outside sources as detailed herein.
3. The assumptions, conditions, and qualifications set forth in this report.

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Cautionary Statement

Certain information and statements contained in this report are "forward looking" in nature. Forward-looking statements include, but are not limited to: statements with respect to the economic and other parameters of the project; mineral resource and reserve estimates; the cost and timing of any development of the project; the proposed mine plan and mining methods; dilution and mining recoveries; processing method and rates and production rates; projected metallurgical recovery rates; infrastructure requirements; capital, operating and sustaining cost estimates; the projected life of mine and other expected attributes of the project; the net value per block value (NVB); taxation and royalties; capital; future metal prices; the project location; the timing of the environmental assessment process; changes to the project configuration that may be requested as a result of stakeholder or government input to the environmental assessment process; government regulations and permitting timelines; estimates of reclamation obligations; requirements for additional capital; environmental risks; and general business and economic conditions.

All forward-looking statements in this report are necessarily based on opinions and estimates made as of the date such statements are made and are subject to important risk factors and uncertainties, many of which cannot be controlled or predicted. In addition to, and subject to, such specific assumptions discussed in more detail elsewhere in this report, the forward-looking statements in this report are subject to the following assumptions:

- There being no signification disruptions affecting the development and operation of the project.
- Exchange rate assumptions being approximately consistent with the assumptions in the Report.
- The availability of certain consumables and services and the prices for power and other key supplies being approximately consistent with assumptions in the report.
- Labour and materials costs being approximately consistent with assumptions in the report.
- Assumptions made in mineral resource and reserve estimates, including, but not limited to, geological interpretation, grades, metal price assumptions, metallurgical and mining recovery rates, geotechnical and hydrogeological assumptions, capital and operating cost estimates, and general marketing, political, business, and economic conditions.

CERTIFICATE OF QUALIFIED PERSON

I, *Luis Rodrigo Peralta,* B.Sc. (Geo) FAusIMM CP (Geo), do hereby certify that I am author of the Sections; 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.17, 1.18, 1.19 (partial), 2 to 12, 14, 23 and 24, and partially for sections 25 and 26 of the Technical Report titled "Amended and Restated NI 43-101 Technical Report, Pre-Feasibility Study for the Diablillos Project, Salta & Catamarca Provinces, Argentina" prepared for AbraSilver Resource Corp. and dated May 29th, 2024.

1. My current work address is Virgen de Lourdes Oeste 1275, Capital, San Juan, Argentina, 5400.
2. I am an independent Senior Resource Geologist.
3. I graduated with a Bachelor of Science in Earth Sciences from the National University of San Juan, San Juan City, Argentina in 2008.
4. I am a registered Fellow and Chartered Professional in good standing of the Australasian Institute of Mining and Metallurgy, since 2010. FAusIMM membership number 304480.
5. I have practiced my profession continuously since 2008. My relevant experience includes over 15 years´ experience working in relevant open pit and underground mines in South America. I have advanced in position since exploration geologist, senior resource geologist to Technical Services Manager, overseen the Mineral Resource estimate at Casposo Mine, Cerro Vanguardia Mine, El Toqui Mine, Pirquitas Mine, Chinchillas Mine, and other projects. Also, I have worked as geologist consultant evaluating projects in South America in all their levels of study: green field exploration, brownfield exploration to resource definition and mining production.
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.
7. I am responsible for the preparation of sections 1.1, 1.2, 1.3, 1.4, 1.5, 1,6, 1.8, 1.17, 1.18, 1.19 (partial) 2 to 12, and sections 14, 23 and 24. Sections 25 and 26 partially.
8. I have previously participated in the preparation of three Technical Reports for this property, dated October 28th, 2021: January 3rd, 2022, and November 28th, 2022, as an independent senior consultant.
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
10. I am independent of AbraSilver Resource Corp. (the Issuer) applying all the tests in section 1.5 of National Instrument 43-101.
11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
12. I visited the Property from April 24th to May 03rd and from October 02nd to October 8th, 2023, for the purposes of this report.
13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 29TH day of May in 2024.

"Signed and Sealed"

Luis Rodrigo Peralta, Bachelor in Geology Science, FAusIMM CP (Geo).
Fellow of the Australian Institute of Mining and Metallurgy – Membership Number 304480.

CERTIFICATE OF QUALIFIED PERSON

I, *Joseph M. Keane*, P.Eng. do hereby certify that:

1. I am an Independent Mineral Processing Engineer Consultant and a Registered Member of the SME. I contributed to the report entitled "Amended and Restated NI 43-101 Technical Report, Pre-Feasibility Study for the Diablillos Project, Salta & Catamarca Provinces, Argentina" prepared for Abrasilver Resource Corp. and dated May 29th, 2024, as an associate of the following organization: SGS North America Inc., 3845 North Business Centre Drive, Tucson, Arizona 85705, Telephone: 520-579-8315, Fax: 520-579-7045, E-Mail: Joseph.Keane@sgs.com
2. This certificate specifically applies to the Technical Report referenced above.
3. I graduated with a degree of Bachelor of Science in Metallurgical Engineering from the Montana School of Mines in 1962. I obtained a Master of Science degree in Mineral Processing Engineering in 1966 from the Montana College of Mineral Science and Technology. In 1989, I received a Distinguished Alumni Award from that institution. I have worked as a metallurgical engineer for a total of 60 years since my graduation from university.
4. I am a member of the Society for Mining, Metallurgy, and Exploration, Inc. (SME# 1682600) and am a registered professional metallurgical engineer in Arizona (#12979) and Nevada #5462).
5. I visited the property on 13th to 14th September 2022.
6. I have not had prior involvement with the property considered in the Technical Report.
7. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.
8. I am responsible for Section 1.7, 1.11, 1.19 (partial), 13 and 17 and partially for sections 25 and 26 of the Technical Report, and I am the Qualified Person for matters relating to the information contained in that report section.
9. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
10. As of the date of this certificate, to the best of my knowledge, information, and belief, the technical report section for which I am responsible contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites assessable by the public.

Dated this 29TH day of May in 2024.

"Signed and Sealed"

Joseph M. Keane, P.E., Q.P.
SME Membership number 1682600 and Registered Professional metallurgical engineer in Arizona #12979 and Nevada #5462.

CERTIFICATE OF QUALIFIED PERSON

I, *Miguel Fuentealba Vergara*, P.Eng. (Mining) MAusIMM, do hereby certify that I am author of the Sections 1.9, 1.10, 1.19 (partial), 15 and 16 and partially for sections 25 and 26 of the Technical Report titled "Amended and Restated NI 43-101 Technical Report, Pre-Feasibility Study for the Diablillos Project, Salta & Catamarca Provinces, Argentina" prepared for AbraSilver Resource Corp. and dated May 29th, 2024.

1. My current work address is Lote B8, Santa Ana, Cayumapu, Valdivia, Chile.
2. I am an independent Senior Reserve Mining Engineer.
3. I graduated with a Professional degree in Mining Engineering from the University of Santiago of Chile (USACH), Santiago City, Chile in 1998.
4. I am a registered Member of the Australasian Institute of Mining and Metallurgy, since 2007. MAusIMM membership number 226663.
5. I am a registered Member of the Chilean Resources and Reserves Mining Commission, since 2010. Membership number 100.
6. I have practiced my profession continuously since 1998. My relevant experience includes over 25 years´ experience working in relevant open pit and underground mines in South America. I have advanced in position since mine planning engineer to Technical Services Manager, overseen the Mineral Reserve estimate at Cerro Vanguardia and Gualcamayo Mine in Argentine, Carmen de Andacollo Mine from Teck and Mantoverde Mine in Chile, Minera San Gregorio Gold Mine from Orosur in Uruguay, and other projects. Also, I have worked as senior mining consultant evaluating projects in South America.
7. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.
8. I am responsible for the preparation of sections 1.9, 1.10, 1.19 (partial), 15 and 16 and partially for sections 25 and 26 of the Technical Report.
9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
10. I am independent of AbraSilver Resource Corp. (the Issuer) applying all the tests in section 1.5 of National Instrument 43-101.
11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
12. I visited the Property from October 02nd to October 8th, 2023, for the purposes of this report.

1 I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this May 29TH day of May in 2024.

"Signed and Sealed"

____

Miguel Fuentealba Vergara, Professional Mining Engineer, MAusIMM (Mining Eng.), Q.P.
Member of the Chilean Commission for Resources & Reserves, Member Number 100.
Member of the Australian Institute of Mining and Metallurgy, Membership Number 226663.

CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled: "Amended and Restated NI 43-101 Technical Report, Pre-Feasibility Study for the Diablillos Ag-Au Project, Salta & Catamarca Provinces, Argentina", dated May 29th, 2024.

I, Johnny Canosa, P. Eng. of Surrey, British Columbia, Canada hereby certifies that:

a) I am a Senior Mine Engineer for SGS Canada Inc, - SGS Geological Services with an office at 10 Boul. de la Seigneurie Est, Suite 203, Blainville Quebec Canada, J7C 3V5. (www.geostat.com).

b) I am a graduate of Bachelor of Science in Mining Engineering from Saint Louis University, Baguio City Benguet, Philippines with diploma issue date on March 23, 1980.

c) I am a member of good standing of the Association of Professional Engineers of Ontario (license # 100509964) and the Association of Professional and Geoscientist of Alberta (license #93946).

d) My relevant experience includes more than 20 years of experience in mine engineering, mine planning and mining operation, including mine optimization, projects, open pit planning and scheduling, and mining consultancy.

e) I am a "Qualified Person" for purposes of National Instrument 43-101 (the "Instrument").

f) I have not personally inspected the Property.

g) I am an author of this report and responsible for sections, 1.12, 1.14, 1.19 (partial), 18 and 20 and partially for sections 25 and 26 of the Technical Report.

h) I have reviewed these sections and accept professional responsibility for these sections of this technical report.

i) I am independent of AbraSilver Resource Corp. (the issuer) as defined in Section 1.5 of National Instrument 43-101.

j) I have had no prior involvement with the subject property.

k) I have read the definition of qualified person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfil the requirements to be a qualified person for the purposes of National Instrument 43-101.

l) As at the effective date of the technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

m) I have read National Instrument 43-101, Form 43-101F1 and confirm that this technical report has been prepared in accordance therewith.

n) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Signed and dated this 29th day of May 2024 at Surrey, British Columbia, Canada.

"Original Signed and Sealed"

Johnny Canosa, P.Eng., SGS Canada Inc.

CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled titled " Amended and Restated NI 43-101 Technical Report, Pre-Feasibility Study for the Diablillos Project, Salta & Catamarca Province, Argentina" prepared for AbraSilver Resource Corp., dated May 29th, 2024, and with an effective date of March 7th, 2024.

I, William van Breugel, P. Eng. of Saskatoon, hereby certify that:

a) I am an Associate Mining Engineer for SGS Canada Inc, with an office located at 235 Ajawan Street, Christopher Lake, Saskatchewan, Canada,

b) I graduated from the University of Waterloo in 1990 (BaSc (Hons). Geological Engineering). I am a member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan (License #22452). I have worked as a mining engineer for over 33 years since my graduation from university. I have worked on precious metals, base metals, industrial commodities, and diamond projects including mine operations and property evaluations. I am a "Qualified Person" for purposes of National Instrume nt 43-101 (the "Instrument").

c) I have not conducted a site visit of the property.

d) I am an author of this report and responsible for sections 1.13, 1.15, 1.16, 1.19 (partial), Sections 19, 21 and 22 and partially for sections 25 and 26 of the Technical Report.

e) I have reviewed these sections, and I am the Qualified Person for matters related to the information contained in those report sections.

f) I am independent of AbraSilver Resource Corp. as defined in Section 1.5 of National Instrument 43-101.

g) I have had no prior involvement with the subject property.

h) I have read the definition of qualified person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfil the requirements to be a qualified person for the purposes of National Instrument 43-101.

i) As at the effective date of the technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

j) I have read National Instrument 43-101, Form 43-101F1 and confirm that this technical report has been prepared in accordance therewith.

Signed and dated this 29th day of May 2024 at Christopher Lake, Saskatchewan.

"Original Signed and Sealed"

William van Breugel, P.Eng.

1 EXECUTIVE SUMMARY

1.1 Property Description, and Location

The Diablillos property is located within the Puna region of Argentina, in the southern part of Salta Province along the border with Catamarca Province, approximately 160 km southwest of the city of Salta and 375 km northwest of the city of Catamarca. The property comprises 15 contiguous and overlapping mineral concessions acquired by AbraSilver in 2016.

The project site has good year-round accessibility through a 150 km paved road, followed by a well-maintained gravel road, shared with other adjacent projects.

1.2 History

The Diablillos property has been explored from the 1960s up to the present. Initial prospection was carried out by the Argentinian military while they were evaluating the Puna for porphyry-style copper deposits. Exploration directed specifically at Diablillos began around 1971. From 1984 to 1985 Shell with Billiton conducted rock chip sampling and geochemical surveying. In 1985 Billiton optioned the property. In 1987 Ophir conducted 34 rotary holes. The property was held by BHP until 1991. In 1992, Pacific Rim optioned the property and completed requirements to acquire 100%. Pacific Rim conducted exploration work until 1996, when Barrick Exploraciones Argentina SA, obtained an option on the shares of Pacific Rim and continued exploration, initiated preliminary environmental impact and metallurgical studies. In December 2001, Silver Standard Resources acquired all assets of Pacific Rim Corporation and continued exploration with ground magnetic surveying and drilling on most of the identified targets on the property.

The mining concessions at Diablillos were granted by the Government of Salta through an agreement with SSRM Mining ("SSRM", previously "SSRI") and Pacific Rim Mining Corporation Argentina SA, an Argentinian company, which is now 100% owned by Abrasilver, the registered owner of the Diablillos property. In September 2019, AbraPlata and Aethon entered a binding arrangement over the property. This transaction was supported by Silver Standard Resources who were the original vendor of the Diablillos property to AbraPlata. In March 2021, AbraPlata formerly changed its name to AbraSilver Resources Corporation.

On July 2021, Silver Standard Resources announced the sale of their royalty portfolio to EMX Royalties. This transaction included the 1% NSR held on the Diablillos project as well as a remaining US$7 million payment.

1.3 Geological Setting, Mineralization, and Deposit Types

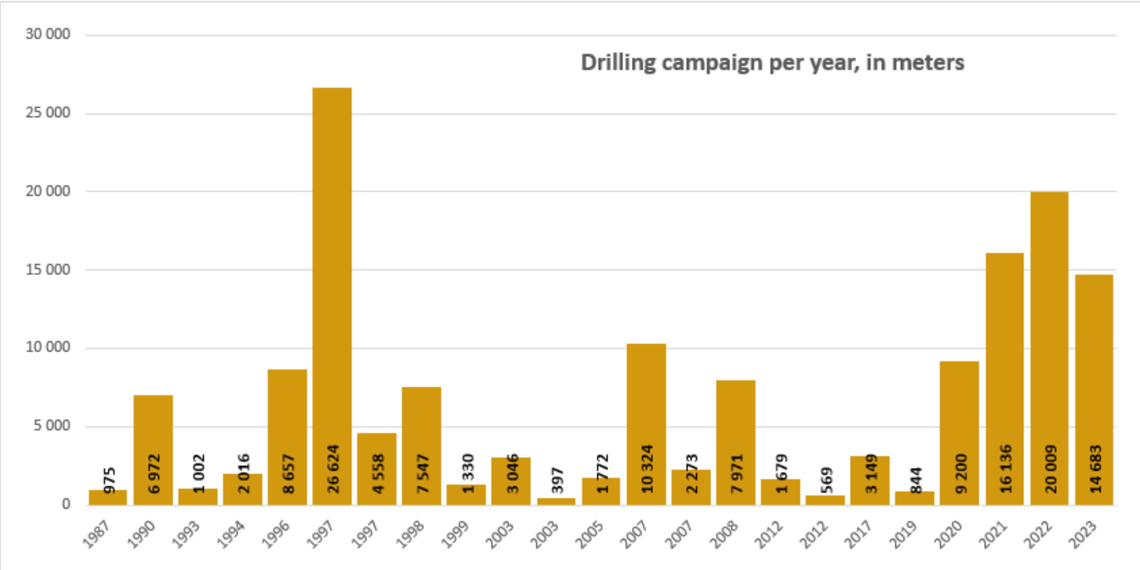
The Diablillos Project contains a weathered high-sulphidation epithermal silver-gold system hosted primarily in Tertiary volcanic and sedimentary rocks. Drilling to date has outlined several occurrences of epithermal silver-gold mineralization, being the Oculto zone, JAC zone, Laderas zone and Fantasma zone.

Several satellites zones of silver/gold-rich epithermal mineralization have been located within a 500 m to 1.5 km distance surrounding the Oculto/JAC epicentre. The focus of this Technical Report is on the Oculto, JAC, Fantasma and Laderas zones.

1.4 Exploration and Drilling

Exploration work on the Diablillos Project was conducted by several operators over the history of the Project, including 148,773 m of drilling in 753 drill holes, with 93,297 m of diamond drilling ("DDH"), and 55,476 m of reverse circulation drilling ("RC").

Total meters drilled by year are summarised in the graph below.



1.5 Sample Preparation, Analysis and Security

The sampling and analytical work for the 1996 to 2008 exploration programs was reviewed and it appears to have been conducted using industry standard practices. From 2008, the property was explored primarily by SSRM until 2017 when AbraSilver took ownership of the project. During this time all drilling, including core sampling and methodologies of collaring, surveying, logging, sampling, and chain of custody for the drilling campaigns was conducted in an appropriate manner consistent in general with industry best practice.

The number and orientation of drill holes and the sampling methods employed reflect an adequate representation of the mineralization at Oculto, JAC and the other orebodies identified to date. Core splitting and sampling were handled solely by dedicated owners' staff and being stored within secure settings. As the site is remote and was continuously supervised during drilling and sampling operations the chance of tampering was almost impossible.

Assaying was performed using conventional, industry standard methods, and by well-known independent commercial laboratories.

1.6 Data Verification

Mr. Peralta visited the Diablillos Project from April 24th to May 3rd and from October 2nd to October 8th, 2023, and conducted a general site inspection, including drill collar locations, core review, logging facility, logging procedures and camp facilities and a surface geology review on the JAC, Laderas, Fantasma and nearby areas. Cores from several drill holes were reviewed and compared with the logs. Collar locations were confirmed by handheld GPS.

Vertical cross sections and plan views with detailed geology, alteration and interpretation were discussed with AbraSilver geologists. Discussions included future exploration targets and near-term objectives. Based on Mr. Peralta's opinion, the site and information continued to be as described in previous Technical Reports, with well-maintained facilities and orderly core storage.

Site visits by Mr. Fuentealba (October 2nd to October 8th, 2023) and Mr. Keane (September 13th to September 15th, 2022) were carried out to verify the main aspects of the project, with a focus on mining methodology, processing, general layout, infrastructure, and environment, which were confirmed as compliant with best practices and in line with legislation.

1.7 Mineral Processing and Metallurgical Testing

In 2022, Abrasilver sent a total of forty-two test samples representing the Oculto mineralisation to SGS Lakefield for metallurgical testing. In early 2023, an additional fourteen test samples representing the JAC/Fantasma mineralisation were sent to SGS for additional metallurgical studies. Based on the latest Mineral Resource model, the Oculto orebody represents approximately 90% of the currently identified resource tonnage at the Diablillos project, while JAC/Fantasma represents approximately 10%.

The beneficiation investigations included comminution tests, mineralogical identifications, whole ore leach tests, gravity concentration, gravity tailing cyanidation testing, Merrill Crowe precipitation, cyanide destruction tests, sedimentation studies and rheology tests. For both Oculto and JAC mineralisation, the main host minerals are quartz, followed by minor amounts of alunite and iron oxide. Comminution tests indicated that Oculto is abrasive and hard regarding size reduction by grinding while JAC is much softer and less abrasive compared to Oculto.

The metallurgical studies indicated that the ore is amenable to conventional cyanide leaching and gravity recovery. Compared to other gold and silver deposits, the silver recovery of this material was quite high, reaching 80% for both Oculto and JAC mineralisation. Based on the test work on the Oculto mineralisation, the following key processing conditions are recommended.

- Primary grind size of 150 microns.
- Incorporation of gravity concentration and intensive cyanidation circuits.

- Retention time of cyanide leaching of the gravity tails of 36 hours, with a slurry density around 45% solids by weight.
- Six stages of Counter current Decantation (CCD) with a wash ratio of three is recommended to optimize the solubilized gold and silver recovery.
- One hour of retention time for cyanide destruction.

The process conditions described above also apply to the JAC/Fantasma mineralisation, except that the contained value of JAC/Fantasma is significantly higher than that of Oculto. This warrants a seven stage CCD process to optimize the gold and silver recovery from the solution phase of JAC mineralization. The JAC/Fantasma mineralization has a much higher content of silver than Oculto. Consequently, the reagent costs are also significantly higher, which increases the JAC/Fantasma total operating cost. If the future plant treats the blended ore with most of the feed from Oculto no major plant modifications would be required and the impact on the total capital cost would be very limited.

In late 2023, additional metallurgical tests were conducted on four different zones identified within the Oculto mineralization, being the Silver Enrichment, Shallow Gold, Deep Gold, and Northeast zones. Only gravity concentration and gravity tailings leaching tests were carried out. The metal recoveries were slightly higher than those of the composite sample. However, results were in a similar range to the composite studies, as shown in Table 1-1 below.

Table 1-1: Gravity Recovery and Gravity Tails Leach Recovery for Different mineralized zones.

Sample Composite	Gravity Au Distribution		Gravity Ag Distribution		Gravity Tailing Cyanidation Extraction		Overall Recovery Gravity + Cyanidation	
	Conc	Tail	Conc	Tail	Au	Ag	Au	Ag
	%	%	%	%	%	%	%	%
JAC & Fantasma	**17.3**	82.7	**9.1**	90.9	**81**	**87**	**84.3**	**88.2**
Silver Enrichment	**16.2**	83.8	**16.4**	83.6	**84**	**83**	**86.2**	**85.6**
Shallow Gold	**12.3**	87.7	**5.4**	94.6	**87**	**54**	**88.3**	**56.8**
Deep Gold	**8.6**	91.4	**3.3**	96.7	**82**	**82**	**83.7**	**82.6**
Northeast	**10.1**	89.9	**7.5**	92.5	**88**	**80**	**89.3**	**81.7**

A geo-metallurgical model has been developed segregating the deposit into five distinct domains, with overall LOM silver and gold recoveries **averaging 82.8% and 86.6%**, respectively.

1.8 Mineral Resource Estimate

The updated Mineral Resource estimate for the Diablillos Project, provided in Table 1-2 was estimated by Mr. Peralta, B.Sc., FAusIMM CP (Geo), independent senior resource geologist. The results are based on approximately 606 drill holes (historical and current) totalling 133,000 metres of drilling, including the latest Phase III drill campaign, conducted in 2022/23, which totalled 24,077 metres.

Gold and silver grades were estimated into the block model from Reverse Circulation Drill holes and Diamond Drill holes, including the recent drilling between 2022 to July 30th, 2023. Industry-standard estimation methodology was used, ordinary Kriging ("OK"); and bias was reviewed by using a parallel estimation with inverse square distance ("ID2"). Drill hole intervals have been composited to a length of 1m, which is the average sample length for core sampling. Grade capping has been applied to composited grade intervals on a case-by-case basis within each estimation domain. The estimation domains were defined using a combination of lithology domains, alteration domains, and oxide / sulphide state, defining a set of 18 domains for gold and silver for the Oculto zone and Laderas zone. For JAC and Fantasma zones iso-surface grade shells at 5 g/t AgEq were built, defining 4 zones for the JAC zone and 2 extra zones for Fantasma.

The Mineral Resource was summarized with an effective date of November 22nd, 2023, and has been estimated in alignment with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines (CIM, 2019), and the Mineral Resource estimate has been categorized in accordance with the CIM Definition Standards (CIM, 2014) and is comprised of Measured, Indicated and Inferred Mineral Resources as summarised in Table 1-3.

This Technical Report is considered by Mr. Peralta ("QP") to meet the stated requirements of a Mineral Resource estimate as defined in Canadian NI 43-101 regulations.

Table 1-2: Diablillos Mineral Resource Estimate – As of November 22nd, 2024.

Deposit	Zone	Category	Tonnes (000 t)	Ag (g/t)	Au (g/t)	AgEq (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)	Contained AgEq (k oz AgEq)
Oculto	Oxides	Measured	12,170	101	0.95	178	39,519	372	69,523
		Indicated	34,654	64	0.85	133	71,306	947	147,748
		Measured & Indicated	***46,824***	***74***	***0.88***	***145***	***111,401***	***1,325***	***218,335***
		Inferred	3,146	21	0.68	76	2,124	69	7,677
JAC	Oxides	Measured	1,870	210	0.17	224	12,627	10	13,452
		Indicated	3,416	198	0.12	208	21,744	13	22,808
		Measured & Indicated	***5,286***	***202***	***0.13***	***212***	***34,329***	***22***	***36,191***
		Inferred	77	77	-	77	190	-	190
Fantasma	Oxides	Measured	-	-	-	-	-	-	-
		Indicated	683	105	-	105	2,306	-	2,306
		Measured & Indicated	***683***	***105***	***-***	***105***	***2,306***	***-***	***2,306***
		Inferred	10	76	-	76	24	-	24
Laderas	Oxides	Measured	-	-	-	-	-	-	-
		Indicated	464	16	0.91	89	239	14	1,334
		Measured & Indicated	***464***	***16***	***0.91***	***89***	***239***	***14***	***1,334***
		Inferred	55	43	0.57	89	76	1	157
Total	Oxides	Measured	14,040	116	0.85	184	52,146	382	82,975
		Indicated	39,217	76	0.77	138	95,594	974	174,196
		Measured & Indicated	***53,257***	***87***	***0.79***	***151***	***148,275***	***1,360***	***258,087***
		Inferred	3,288	23	0.66	76	2,415	70	8,049

Notes for Mineral Resource estimate:

1. Mineral Resources are not Mineral Reserves and have not demonstrated economic viability.
2. The formula for calculating AgEq is as follows: Silver Eq oz = Silver oz + Gold oz x (Gold Price/Silver Price) x (Gold Price/Silver Price) x (Gold Recovery/Silver Recovery).
3. The Mineral Resource model was populated using Ordinary Kriging grade estimation within a three-dimensional block model and mineralized zones defined by wireframed solids, which are a combination of lithology and alteration domains. The 1m composite grades were capped where appropriate.
4. The Mineral Resource is reported inside a conceptual Whittle open pit shell derived using USD 24.00/oz Ag price, USD 1,850/oz Au price, 82.6% process recovery for Ag, and 86.5% process recovery for Au. The constraining open pit optimization parameters used were USD 1.94/t mining cost, USD 22.97/t processing cost, USD 3.32/t G&A cost, and average 51-degree open pit slopes.
5. The MRE has been categorized in accordance with the CIM Definition Standards (CIM, 2014).
6. A Net Value per block ("NVB") cut-off was used to constrain the Mineral Resource with the conceptual open pit. The NVB was based on "Benefits = Revenue-Cost" being positive, where, Revenue = [(Au Selling Price (USD/oz) - Au Selling Cost (USD/oz)) x (Au grade (g/t)/31.1035)) x Au Recovery (%)] + [(Ag Selling Price (US$/oz) - Ag Selling Cost (USD/oz)) x (Ag grade (g/t)/31.1035)) x Ag Recovery (%)] and Cost = Mining Cost (USD/t) + Process Cost (USD/t) + Transport Cost (USD/t) + G&A Cost (USD/t) + [Royalty Cost (%) x Revenue]. The NVB method resulted in an average equivalent cut-off grade of approximately 45g/t AgEq.
7. The Mineral Resource is sub-horizontal with sub-vertical feeders and has reasonable prospect for eventual economic extraction by open pit methods.
8. In-situ bulk density for each domain, defined by a combination of lithology and alteration domains, oxide / sulphide states.
9. All tonnages reported are dry metric tonnes and ounces of contained gold and silver are troy ounces.
10. Mining recovery and dilution factors have not been applied to the Mineral Resource estimates.
11. The Mineral Resource was estimated by Mr. Luis Rodrigo Peralta, B.Sc., FAusIMM CP (Geo), Independent Qualified Person under National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101").
12. Mr. Peralta is not aware of any environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues that could materially affect the potential development of the Mineral Resource.

13. All figures are rounded to reflect the relative accuracy of the estimates. Minor discrepancies may occur due to rounding to appropriate significant figures.

1.9 Mineral Reserve Estimate

The Mineral Reserve estimate for the Diablillos Project, provided in Table 1-3 was estimated by Mr. Fuentealba, MAusIMM, P. Eng. (QP) and is based on the Mineral Resource block model documented in the Mineral Resource estimate (Section 14 of this report). The Mineral Reserves are calculated using a combination of the ultimate open pit design (Section 15 of this report) and the production schedule (Section 16 of this report).

The Mineral Reserve estimate for the Diablillos Project, with an effective date of March 7th, 2024, has been estimated and classified based on the CIM's Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines (CIM, 2019) and is reported in accordance with the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101").

Maiden Proven & Probable ("P&P") Mineral Reserves containing 210 Moz of AgEq metal (42.3 Mt at 91 g/t Ag & 0.81 g/t Au) have been estimated.

Table 1-3: Mineral Reserve Estimate - Diablillos Project, Salta, Argentina. By category, all domains - As of March 7th, 2024.

Mineral Reserve (all domains)	Tonnage (000 t)	Au (g/t)	Ag (g/t)	AgEq (g/t)	Contained Ag (000 oz Ag)	Contained Au (000 oz Au)	Contained AgEq (000 oz AgEq)
Proven	12,364	0.86	118	185	46,796	341	73,352
Probable	29,930	0.80	80	142	76,684	766	136,267
Total Proven and Probable	**42,294**	**0.81**	**91**	**154**	**123,480**	**1,107**	**209,619**

Notes for Mineral Reserve Estimate:

1. Mineral reserves have an effective date of March 7th, 2024.
2. The Qualified Person for the Mineral Reserve Estimate is Mr. Miguel Fuentealba, P.Eng.
3. The mineral reserves were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Definition Standards for Mineral Resources and Reserves, as prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.
4. The mineral reserves were based on a pit design which in turn aligned with an ultimate pit shell selected from a Whittle TM pit optimization exercise. Key inputs for that process are:
   - Metal prices of USD 1,750/oz Au; USD 22.50/oz Ag
   - Variable Mining cost by bench and material type. Average costs are USD 1.94/t for all lithologies except for "cover", Cover mining cost of USD 1.73/t, respectively.
   - Processing costs for all zone, USD 22.97/t.
   - Infrastructure and G&A cost of USD 3.32/t.
   - Pit average slope angles varying from 37° to 60° depending on the geotechnical domain.
   - The average recovery is estimated to be 82.8% for silver and 86.6% for gold.
5. The formula for calculating AgEq is as follows: Silver Eq oz = Silver oz + Gold oz x (Gold Price/Silver Price) x (Gold Price/Silver Price) x (Gold Recovery/Silver Recovery).
6. The Mineral Reserve Estimate has been categorized in accordance with the CIM Definition Standards (CIM, 2014).
7. A Net Value per block ("NVB") cut-off was used to constrain the Mineral Reserve with the reserve pit [2]shell. The NVB was based on "Benefits = Revenue-Cost" being positive, where, Revenue = [(Au Selling Price (USD/oz) - Au Selling Cost (USD/oz)) x (Au grade (g/t)/31.1035)) x Au Recovery (%)] + [(Ag Selling Price (USD/oz) - Ag Selling Cost (USD/oz)) x (Ag grade (g/t)/31.1035)) x Ag Recovery (%)] and Cost = Mining Cost (USD/t) + Process Cost (USD/t) + Transport Cost (USD/t) + G&A Cost (USD/t) + [Royalty Cost (%) x Revenue]. The NVB method resulted in an average equivalent cut-off grade of approximately 46g/t AgEq.
8. In-situ bulk density was read from the block model, assigned previously to each model domain during the process of mineral resource estimation, according to samples averages of each lithology domain, separated by alteration zones and subset by oxidation.
9. All tonnages reported are dry metric tonnes and ounces of contained gold and silver are troy ounces.
10. All figures are rounded to reflect the relative accuracy of the estimates. Minor discrepancies may occur due to rounding to appropriate significant figures.

1.10 Mining Method

Being a large, near-surface orebody, the Diablillos Project will be developed as an open pit mining operation. Waste and ore from the JAC and Oculto zones will be drilled and blasted, loaded by hydraulic shovels and loaders, and transported by haul trucks to external waste storage facilities (WSF), long-term stockpiles, or a run-of-mine (ROM) pad where it is fed to a primary crusher for mineral processing. The colluvium cover over the JAC zone only requires ripping and bulldozing prior to transporting by haul trucks.

An optimal processing throughput rate of 9,000 tonnes per day (tpd) was established at this stage in accordance with the raw water availability coming from the Barranquillas drainage system. Opportunities to further increase plant throughput with additional raw water supply will be reviewed at a later stage. This plant throughput rate became the basis of all subsequent mine planning with the objective of ensuring consistent feed to the processing plant. The project has several stockpile facilities to allow blending and continuous plant feed from the mine and to feed higher grade mineralisation to the mill while stockpiling low-grade for future processing.

The PFS considers only one mineral processing flowsheet based on previous process technologies trade-offs performed, being comminution and gravity recovery followed by intense cyanidation, tank leaching, Merrill Crowe recovery and foundry. Below cut-off grade mineralization present at Diablillos was treated as waste in this study, although a preliminary internal study indicated that it could be amenable to other low-cost processing technologies, and this will be confirmed by further test work. The current mine plan calls for grade control only to differentiate waste from ore and direct feed ore from stockpiled ore. Despite insufficient data to define another extraction process at this stage, a specific rock dump area has been set aside to stockpile below cut-off grade mineralization.

1.11 Recovery Methods

The metallurgical test work program indicated that the gold and silver will be recovered primarily through cyanidation followed by the Merrill Crowe process. The nameplate capacity for the process plant is 9,000 tpd which corresponds to 3.15 million tonnes per year based on 350 plant operating days per year. Based on the latest Mineral Resource estimate, this results in a mine life of approximately 13.5 years.

The process plant includes the following individual process circuits:

- Primary crushing: reducing the ROM material to a P80 of 150 microns.
- Coarse ore stockpile: with a live capacity of 13,000 tonnes.
- Grinding circuit: comprised of one SAG mill and one ball mill operating in closed circuit with hydro cyclones, reducing the particle size to approximately 150 microns. The hydro cyclones overflow will be thickened to around 45% solids by weight for the downstream tank leaching.

- Gravity Recovery and Intensive Cyanidation circuit: Two Gravity concentrators will be installed receiving a portion of hydro cyclones underflow, the gravity concentrate will be flushed into an intensive cyanidation circuit, with the gravity tails reporting back to the ball mill. The gold and silver recovered from the intensive cyanidation will be in the solution phase and report to the pregnant solution tank feeding the Merrill Crowe plant, while the solids tails report back to the ball mill circuit.
- Leaching tanks: a total of eight 15m x 20 m agitated slurry tanks will be installed to provide a total leaching retention time of 36 hours. Lime and cyanide will be dosed into the leaching tanks to maintain a slurry pH around 10.5 and a cyanide concentration around 1.5 grams per liter in the first of several tanks. Air will be sparged into the slurry tanks to maintain a proper Dissolved Oxygen (DO) level.
- Counter current Decantation (CCD) circuit: A total of six stages of CCD will be installed. The CCD thickeners underflow will be maintained around 55% solids by weight, and the wash ratio will be controlled at 3.0 to optimize the gold and silver recovery. For JAC material, due to the increased slurry viscosity, CCD thickener underflow will be maintained around 50% solids by weight. The overflow from the last stage CCD thickener will report to a clarifier, which further reduces the total suspended solids (TSS) level of the pregnant solution.
- Merrill Crowe circuit: The solution recovered from the CCD circuit will be stored in a pregnant solution tank which feeds the Merrill Crowe plant. The pregnant solution will be pumped through four diatomaceous earths (DE) coated solution clarifiers to reduce TSS levels to less than 1 ppm. The clarified solution will flow through two deaeration towers and reduce the solution DO level to approximately 0.5 ppm and then pumped through four precipitation filter presses by an inline booster pump. Zinc powder will be metered into the solution feed pipe to the filter presses to precipitate out gold and silver. The barren solution from the filter presses will be collected into a barren solution tank, then either recycled to the tank leach circuit or to the CCD circuit.
- Foundry: The precipitated cake will be transferred to a retort furnace to remove moisture and mercury, then mixed with flux and placed in a smelting furnace to obtain the doré. The generated slag will be crushed and recycled back to the grinding circuit for reprocessing.
- Tailings handling: The washed tailings solids from the CCD circuit will be pumped to the cyanide destruction circuit to minimize the cyanide content in the tailings stream. The detoxed tailings will report to the tailing's thickener and then to the tailings storage facility (TSF). The tailings thickener overflow and the supernatant from the TSF, if any, will be recovered to the process water circuit.

1.12 Project Infrastructure

Project infrastructure is mostly comprised of construction and operation service facilities to support plant operations. It has been designed to minimise footprint and distances while complying with safety requirements. Service facilities include:

- Construction and Operations camp with corresponding access control facilities to all different project areas, accommodation, canteen, medical and emergency stations, and main site offices.
- The contractor's yard will be established by relocating the current exploration camp, so as contractors' mobilization during construction and maintenance, mobilization costs and time can be reduced. The yard design will consider the installation of all utilities required for its operation, including water, power, and sewage networks.
- The service hub will be composed of the main maintenance steel building (i.e. truck-shop), main warehouse and lay-down area, plant and mine offices, metallurgical and chemical laboratories and the main fuel tanks farm, truck scale and fuel dispatch.
- Power to the project will be from a 20 MW hybrid power plant, composed of solar panels arrays and stationary diesel generators. The main diesel generators will be installed in a centralized location, while off-site facilities will be powered by mobile generator sets installed at each of their location.
- A Tailings Storage Facility (TSF) and Waste Rock Facilities (WRF) have been located at the closest possible location to the plant and to the mine, with adequate capacity to store the tailings and waste produced over the LOM. The TSF is of a cross valley type and will be fully lined and constructed in a number of phases using the downstream construction method.
- A raw water wellfield with sufficient capacity (Barranquillas district) has been identified, explored, and tested to secure process water availability in line with production and living requirements.
- Clay and concrete aggregate quarries have been identified and materials suitable for construction have been successfully tested.
- Internal roads have been designed in such a way that mine equipment and remaining traffic is always segregated.

Figure 1-1 shows a general view of the proposed project facilities and infrastructure.

Figure 1-1: Proposed project facilities general overview.

1.13 Market Studies and Contracts

There were no relevant market studies performed, as Diablillos will produce silver and gold Doré bars, which are a readily saleable.

Price assumptions for the economic analysis were 1,850 USD/oz and 23.5 USD/oz for gold and silver respectively.

No contracts have been signed for further project development, but the most important procurement packages were identified and classified as supply, construction, or service packages. This allowed current budgetary quotations to be sought for the capital and operating cost estimation and will serve as a firm basis for future procurement.

1.14 Environmental Studies, Permitting and Social or Community Impact

The detailed list of environmental and permitting requirements are presented in the relevant section of this report, to guide the company through the permitting process and receive approval of the joint committee to be set up by Catamarca and Salta provinces.

To ensure compliance the Provincial Secretariats of Mining perform regular site inspections.

Other sectorial permits that will be required from different government agencies include:

- Work authorization for foreign staff.
- On-site bulk fuel storage.
- Domestic and industrial effluents generation and disposal.
- Explosives storage and use.
- Chemical precursors storage and use.
- Raw water pumping and consumption.
- Mine operations.
- Communications.

In addition to the Project's current Environmental Impact Report ("EIR") for the Exploration Stage, the Project holds easements outlined in the following Table 1-4 and a permit to extract water from one well located at the Barranquillas water well field.

Table 1-4: Existing Servitudes

Type	File Number	Area (ha)
Water Easement	19332-2008	1
Water Easement	19333-2008	1
Water Easement	19334-2008	6
Camp & Road Easement	16225-1997	25
Road Easement	18927-07	36

On June 8th, 2022, AbraSilver announced the completion of a comprehensive Environmental Baseline Study with the purpose of gathering and analysing the relevant parameters within the area which may be affected by a future potential mine operation, its mitigation strategies and serve as a basis to develop the Environmental Impact Assessment ("EIA") report, which is currently in progress and is an essential part of the final approval process required for the ultimate construction of the project.

Within the framework of the environmental baseline preparation, three surveys were carried out at different times of the year to characterize flora, fauna, and limnology of the project's area of influence.

Other areas assessed and developed to set up the project Environmental Risks and Management Plan, were:

- Location and Access Routes.
- Climatology.
- Air quality.
- Water quality and surface water management.
- Hydrology.
- Hydrogeology.
- Soils
- Fauna and Flora.
- Ecosystems characterization.
- Protected areas identification
- Archaeology

A Risk Identification matrix and Risk Register will be prepared and included within the EIA, including all remediation and mine closure activities that can guarantee a regrading of surfaces leaving the project site resembling the original state as much as possible.

Key areas of environmental concerns which may impact on the project are amongst others:

- Residents living in the communities within the immediate area of influence of the project. (use of cyanide potassium, use of water, dialogue, and transparency, blasting effects on the environment, environmental and social impact of post-closure phases). Residents living in the communities within the immediate area of influence of the project with the following concerns: use of cyanide potassium, use of water, dialogue, and transparency, blasting effects on the environment, environmental and social impact of post-closure phases.
- Argentine citizens' concerns and image of the mining industry.
- Statements by non-governmental organizations (NGOs), politicians, and other opinion makers.
- Publications by Argentine media.
- Special requests by the Mining and Energy Secretariat of Salta province Production Ministry (Secretaría de Minería y Energía, Ministerio de Producción de la provincia de Salta) (DIA, Environmental Impact Declaration) and Mining Ministry o Catamarca when evaluating the EIA.

The two closest communities are Santa Rosa de los Pastos Grandes, approximately 90 km north of Diablillos, while La Redonda is the closest settlement in Catamarca province 5 Km south of the project.

As part of their social responsibility program, AbraSilver maintains regular contact and periodic meetings with local authorities, community members, and other local stakeholders to clarify concerns and assists in the development of local service providers to the Diablillos Project.

AbraSilver's community development plan consists of the following steps.

- Context Assessment
- Definition of Vision and Goals
- Development of the Strategies and Actions
- Allocation of the Resources and Responsibilities
- Monitoring and Evaluation of the Progress and Impact of the Community Plan
- Communication and Reporting the Outcomes and Achievements of the Community Plan.

As a result of these actions, the communities have expressed their support for the development of mining projects in general and for Diablillos in particular, as they consider the personal opportunities that development will bring.

1.15 Capital and Operating Costs

The capital and operating cost estimates presented in this PFS provide substantiated costs that can be used to assess the economics of the Diablillos project. The estimates are based on an open pit mining operation; the construction of a process plant; associated tailings storage facility, and infrastructure; as well as Owner's costs and contingency.

The capital and operating costs were evaluated on a project stand-alone, and 100% equity financed basis. Past expenditures to develop the project to Final Investment Decision (FID) were not included and considered sunk costs.

The estimates conform to Class 3 guidelines for a PFS-level estimate with a ± 25% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International), while the facilities and infrastructure design for a PFS-level estimate was based on the Australian Institute of Mining and Metallurgy guidelines, which require a higher degree of engineering progress.

1.15.1 CAPITAL COSTS

Budgetary quotations and factored estimates were used in this PFS. Due to the economic situation in Argentina, local quotations were normalized to US dollar (USD) values at the time of quotation and reported as such. Abra Silver canvassed vendors for the quotations. SGS conducted a thorough audit of the quotations received and is of the opinion that the costing is suitable for a PFS level of estimation.

The estimate includes mining, processing, onsite infrastructure, tailings and waste rock facilities, offsite infrastructure, project indirect costs, project delivery, owners' costs, and contingency.

The following parameters and qualifications were considered:

- No allowance has been made for exchange rate fluctuations. The Argentinian Peso is in a continuous state of change and any allowances for this are beyond the scope of this PFS.
- There is no escalation added to the estimate.
- Data for the estimates have been obtained from numerous sources, including:
    - Mine schedules.
    - PFS-level engineering design by SGS Bateman and the owners team.
    - PFS level engineering design for the TSF by Knight Piesold, as SGS subcontractor.
    - Topographical information, condemnation holes were obtained from site surveys.
    - Preliminary geotechnical investigations.

- Budgetary equipment quotes from suppliers based in the project's area of influence (i.e. Salta and NW region of Argentina), Argentina and from overseas, when pricing was not locally available.
- Budgetary costs from several local contractors for civil, concrete, steel, electrical, piping, and mechanical works.
- Data from similar recently completed studies and projects.

Major cost categories (permanent equipment, material purchase, installation, subcontracts, indirect costs, and Owner's costs) were identified and analysed. Approximately 80% of the capital costs were based on quoted prices and detailed budgeting by AbraSilver and as a result estimated contingency allowances were reduced. Over 60% of equipment, supplies, construction, and service procurement packages will come from local companies in order to comply with local regulations.

The capital cost summary is presented in Table 1-5 by WBS.

Table 1-5: Summary of Capital Costs by WBS

WBS	DESCRIPTION	Initial Capital (000 USD)	Sustaining Capital (000 USD)
00000	Project Preparation	8,047	334
01000	Permanent Site Facilities	28,093	
02000	Mine	39,275	14,948
03000	Process Plant	90,893	
04000	Reagents Storage and Preparation	6,035	
05000	Ancillary Systems	44,203	
06000	Site Wide - Piping	28,347	
07000	Site Wide - Electrical	19,464	
08000	Site Wide - I&C	3,668	
10000	TSF - Tailings Storage Facility	25,129	48,634
11000	Waste Dump ARD Handling		1,080
12000	Off Site Infrastructure	3,120	
20000	Construction Site Costs	42,651	
21000	Engineering And Construction Management - Site Supervision	5,139	
22000	Owners Costs During Construction	9,087	
	Total Initial Capital (No Contingency)	***353,152***	
30000	Contingencies	20,333	
50000	Sustaining Capex Total		64,996
60000	Mine Closure and Site Remediation		11,148
	Total Project Capital Costs	***373,480***	***76,143***

*Note: Values may not sum due to rounding. The sum of values aligns with those presented in the press release dated March 25th, 2024.

1.15.2 Operating Costs

Operating cost details are estimated from a combination of direct quotes and first principal calculations. As the tonnes moved in any particular year varies, average values may not sum to final totals. Total life of mine costs is based on averages of each WBS Area.

Table 1-6: Summary of Operational Costs by WBS

OPEX ITEMS	YEARLY AVERAGE COST (000 S$D)	TOTAL COST %	UNIT COST USD/ton (milled)
CAMP OPERATIONS AND SERVICE HUB	11,818	10.48%	3.70
MINE OPERATIONS	28,791	25.54%	9.01
PLANT OPERATIONS	22,426	19.89%	7.02
UTILITIES & OFF-SITE FACILITIES	29,000	25.72%	9.08
MAINTENANCE	10,113	8.97%	3.17
LOGISTICS	8,804	7.81%	2.76
G&A	1,789	1.59%	0.56
TOTAL OPEX	**112,745**	**100%**	**35.29**

1.16 Economic Analysis

The financial parameters used in the PFS-Financial model are summarized in Table 1-7.

Table 1-7: Summary of financial parameters used in the PFS-Financial Model.

METAL PRICES		
Au	USD/oz	1,850.00
Ag	USD/oz	23.50
Au / Ag price ratio		78.72
PERCENTAGES PAYABLE ON METAL PRICES		
Percent payable Au	%	99.8
Percent payable Ag	%	99.8
SMELTING AND REFINING		
Au	USD/oz	4.00
Ag	USD/oz	0.70
TAXES AND ROYALTIES		
Net Smelter Return Royalty (EMX)	%	1.00
Royalty	%	3.00
Municipal Tax	%	0.60
Transaction tax (in)	%	0.60
Transaction tax (out)	%	0.60
Provincial Gross Income Tax	%	5.00
Federal Profit Tax	%	35.00
Export Duty Au	%	8.00
Export Duty Ag	%	4.50
Export Duty Refund Au	%	1.50
Export Duty Refund Ag	%	1.50

The economic analysis was performed assuming a 5% discount rate. The pre-tax NPV (net present value) discounted at 5% is USD 995.1 million; the IRR (internal rate of return) is 39.2%, and payback period is 1.9 years.

On a post-tax basis, the NPV discounted at 5% is USD 493.7 million, the IRR is 25.6%, and the payback period is 2.4 years from start of production. The life of mine silver equivalent production is shown in Figure 1-2. A summary of project economics is shown graphically in Figure 1-3 and listed in Table 1-8. The analysis was done on an annual cashflow basis; the cashflow output is shown Table 1-9.

Figure 1-2: Recovered Silver equiv. ounces versus Average Annual Silver equiv. grades (g/t).

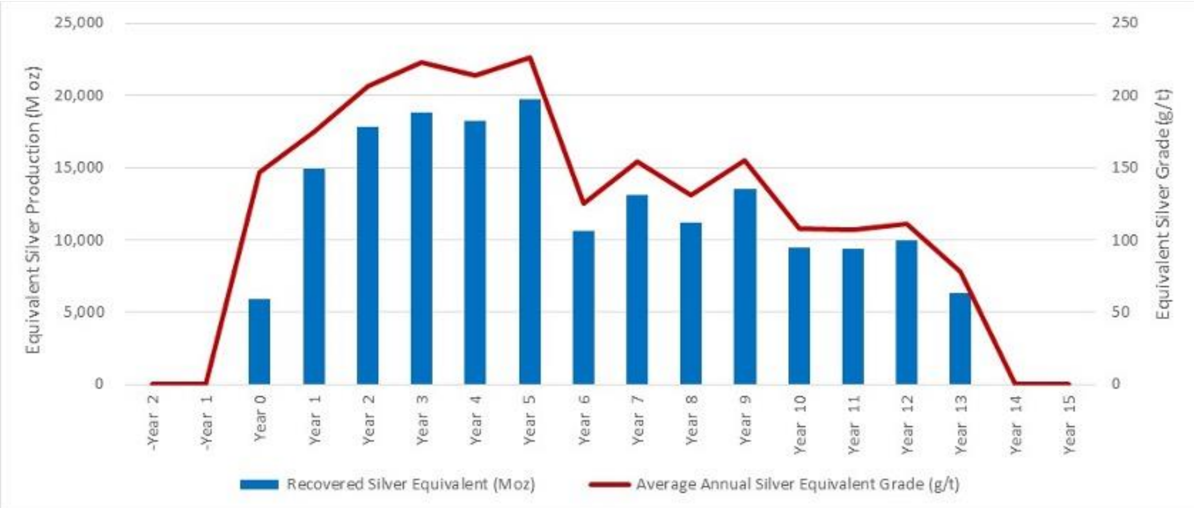
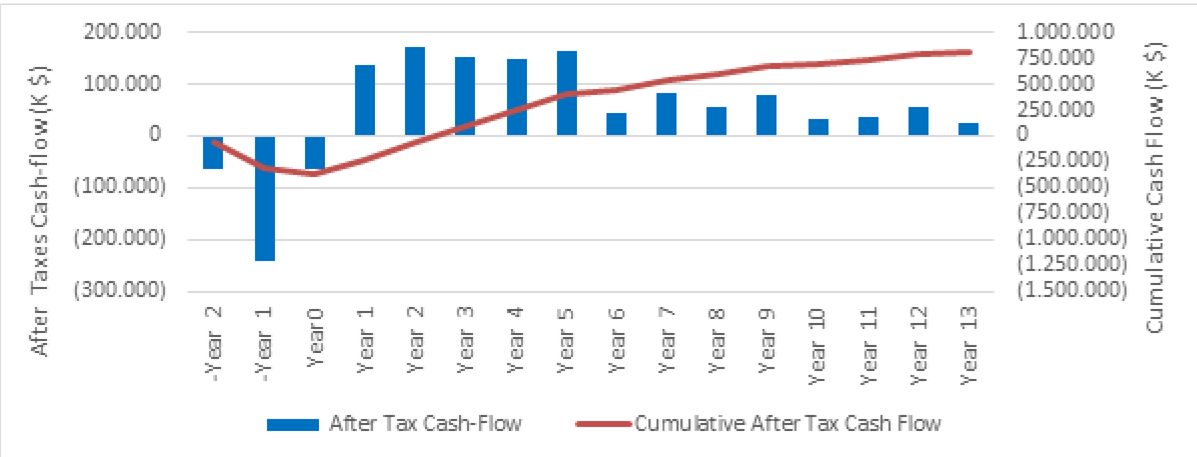


Figure 1-3: LOM Prod. After-Tax Cash Flow versus Cum. After-Tax Cash-Flow.



A sensitivity analysis was conducted on the base case post-tax NPV and IRR of the project using the following variables: mining cost, process cost, total capital cost, and silver and gold prices.

Figures 1-4 and Table 1-10 show the sensitivity analysis which revealed that the project is most sensitive to changes in metal prices and metallurgical recovery. In all cases examined, the post-tax NPV is positive.

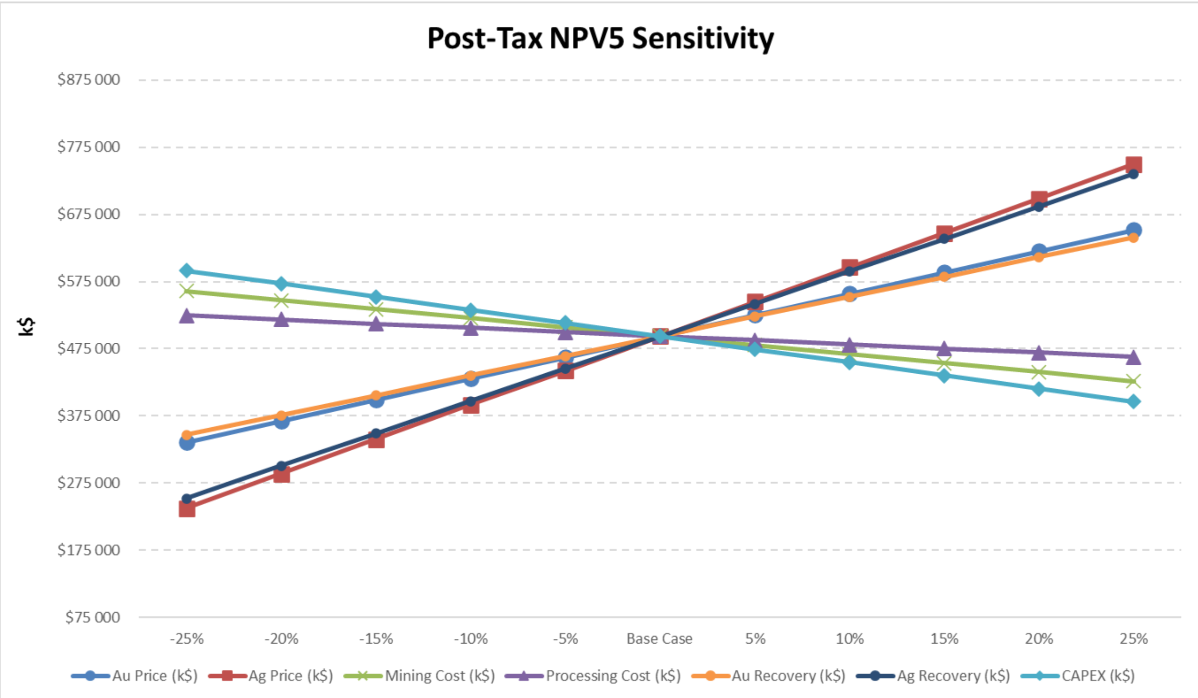


Figure 1-4: Post-Tax NPV5 Sensitivity Analysis Results.

Table 1-8: Post-Tax NPV5 Sensitivity Analysis Results summary.

Variation	Au Price (000 USD)	Ag Price (000 USD)	Mining Cost (000 USD)	Process Cost (000 USD)	Au Recovery (000 USD)	Ag Recovery (000 USD)	CAPEX (000 USD)
-25%	335,976	237,881	560,641	524,602	346,716	252,280	591,350
-20%	367,531	289,055	547,262	518,431	376,123	300,574	571,830
-15%	399,086	340,228	533,884	512,261	405,529	348,868	552,310
-10%	430,640	391,402	520,506	506,090	434,936	397,162	532,790
-5%	462,195	442,576	507,128	499,920	464,343	445,455	513,269
Base Case	**493,749**	**493,749**	**493,749**	**493,749**	**493,749**	**493,749**	**493,749**
5%	525,304	544,923	480,371	487,579	523,156	542,043	474,229
10%	556,858	596,096	466,993	481,408	552,562	590,337	454,709
15%	588,413	647,270	453,614	475,238	581,969	638,631	435,189
20%	619,967	698,444	440,236	469,067	611,376	686,924	415,669
25%	651,522	749,617	426,858	462,897	640,782	735,218	396,148

A summary of the complete economic analysis is shown in Table 1-9 below:

Table 1-9: Economic Analysis Summary

ITEM	UNIT	VALUE
Life of Mine (LOM)	*years*	13.5
Total mineralized material mined (Includes Yr. 0)	*M tonnes*	42.3
Total contained silver (Includes Yr. 0)	*M oz*	123.5
Total contained gold (Includes Yr. 0)	*M oz*	1,107.5
Strip ratio (excludes pre-stripping)	*Waste:Ore*	6.4
Throughput	*Tpd*	9,000
Head Grade - silver (First 5 years / LOM)	*g/t*	91 / 91
Head Grade - gold (First 5 years / LOM)	*g/t*	0.51 / 0.81
Recoveries - silver (First 5 years / LOM)	*%*	84.4 / 82.8
Recoveries – gold (First 5 years / LOM)	*%*	85.2 / 86.6
Average Annual Production - silver (First 5 years / LOM)	*Moz*	14.5 / 7.7
Average Annual Production – gold (First 5 years / LOM)	*K oz*	44.0 / 7.7
AISC (LOM) – silver equivalent (First 5 years / LOM)	*$/oz AgEq*	9.97 / 12.40
Initial Capital Cost	***$ M***	**373.5**
Sustaining Capital Cost	***$ M***	**65.0**
Pre-Tax NPV @5%	***$ M***	**995.1**
Pre-Tax IRR	***%***	**39.2%**
Post-Tax NPV @5%	***$ M***	**493.7**
Post-Tax IRR	***%***	**25.62%**

1.17 Adjacent Properties

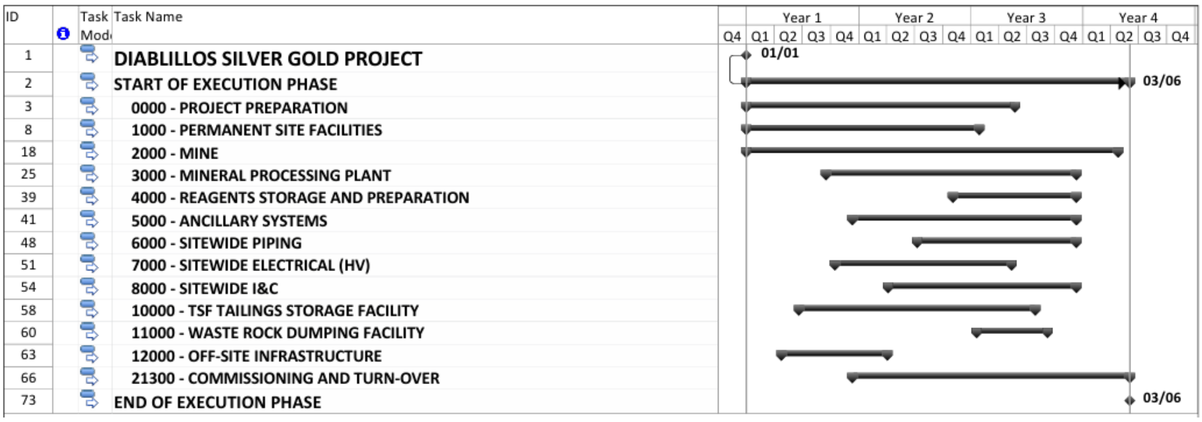
Adjacent properties are mostly focused on developing lithium projects, with three currently under construction (Sal de Vida - Arcadium Lithium, Centenario-Ratones – Eramine Sudamérica and Sal de Oro – Posco), while Arcadium Lithium, formerly Livent/FMC, has been in production since the nineties. Other lithium projects are in early development stages. Consequently, these projects will not be competing for resources during construction with Diablillos.

Only a joint venture between Salta Exploraciones and Litio Minera Argentina has a small production from an artesian brine well but is focused on expanding production on the Diablillos Salar, which may compete for resources.

Metallic projects are mostly in early exploration stages and no competition for resources is expected from them.

1.18 Other relevant data and information

A preliminary Project Execution Plan and Procedures Handbook has been outlined (Figure 1-5), detailing execution strategy, its related procedures, and a milestone schedule to identify the critical path and key long lead items to secure timely turn-over to operations.



1.19 Conclusions, Recommendations, Opportunities

1.19.1 Conclusions:

The current PFS shows that Diablillos is at a well-advanced project that warrants advancement to a Definitive Feasibility Study ("DFS"). This is supported by the following positive factors:

- The robust Mineral Resources estimate described in this report, together with the associated exploration targets with potential to the expand the Mineral Resource base.
- The high conversion factor from the current Mineral Resources into Mineral Reserves of 90%.
- The high average recoveries rate of 82.8% for silver and 86.6% for gold.
- A conventional open pit operation with a mill throughput of 9,000 tpd and a mine life of approximately 13.5 years, with potential for expansion.
- A conventional silver/gold processing plant flowsheet design incorporating crushing, grinding, gravity concentration, an intense cyanidation circuit, cyanide leaching with oxygen addition, counter current decantation washing thickeners and Merrill-Crowe precious metal recovery from solution followed by on-site smelting to doré bars.
- Very positive and supportive relationships with nearby communities.
- A comprehensive Environmental Baseline Study and a work in progress Environmental Impact Assessment ("EIA") to be submitted later this year.
- Attractive project economics

It is the consensus of the authors of this report that this project has sufficient data available and has undergone the necessary rigour, regarding technical planning and design, to proceed to the detailed engineering phase with the objective of moving to a Definitive Feasibility Study ("DFS").

1.19.2 Recommendations:

Based on the completed Mineral Resources estimate the following exploration tasks are recommended:

- Improve the structural knowledge of the deposits with surface mapping of outcrops, and/or with information from oriented drill core or televiewer methods to determine the physical and elastic properties of each of the identified geotechnical domains.
- Improve the structural knowledge of the deposit based on interpretation of faults and lineaments combined with magnetometry, to define potential areas for exploration.
- Additional geotechnical holes should be drilled to increase open pit slope stability knowledge and improve slope angles.
- Water table reconnaissance drilling should be carried out to determine dewatering requirements during mining operations.
- In-fill drilling should continue at Oculto in areas of current Indicated Mineral Resources where confidence could be improved to Measured category.
- In-fill drilling should continue in areas of current Inferred Mineral Resources where confidence could be improved to Indicated or Measured categories.
- Carry out definition drilling in the northeast of Oculto, using both in-fill and step-out holes.
- Definition drilling should be carried out between the Oculto and Fantasma zones to determine continuity between them.
- Definition drilling should be carried out between the Oculto and Fantasma zones, and between the JAC and Alpaca zones, to determine the continuity between the existing zones and potentially add resources.
- Twin hole drilling to confirm intercepts where uncertainty exists.
- Once the recommended drilling is completed a new Mineral Resource estimate should be completed to confirm the potential impact on the project.
- Evaluate the lower costs processing options that may allow mineralisation that is currently below cut-off grade to become economic and included in the Mineral Resource and Reserve estimates. This could include additional bottle roll tests and column leach studies. on mineralisation currently classified as sub-economic and considered as waste.
- An evaluation of mineralisation in the underlying sulphides could be carried out together with metallurgical test work.

The following tasks are recommended for the Definitive Feasibility Study:

- Review the mine plan in combination with additional geotechnical drilling to endeavour to reduce the strip ratio and improve the mine plan without compromising the open pit stability.
- Based on metallurgical tests, the JAC mineralisation behaves slightly differently from Oculto in the areas of comminution, CCD, solid/liquid separation, and slurry rheology.

It is recommended that these differences be further examined to optimise the processing by ore blending and detailed mine planning.

- The plant throughput of 9,000 metric tons per day was based on the current raw water availability granted by the Hydric Resources Secretary. A larger plant throughput has been discussed as possible but will require further exploration for water.
- Power is the second largest process operating cost, and further use of renewables is recommended, as well as trying to obtain power from sources cheaper than diesel fuel (natural gas pipeline, high voltage overland power lines, etc.) if availability becomes suitable for the project timeline.
- Review the Tailings Storage Facility design and perform another more detailed dam break studies commensurate with a DFS.
- Develop Detail Engineering for Bulk Earthworks and Construction Support facilities (i.e. roads and facilities platforms, camp and service hub, raw water supply, etc.) to allow for an immediate construction start after investment decision, while detail engineering for the rest of the plant and facilities can be performed during the first year of construction.

Table 1-10 presents a budget for the recommended tasks to perform:

Table 1-10: Recommended Tasks Budget Summary

Description	Cost in USD
Engineering & Preparation of a DFS Report	3,500,000
In-fill drilling, geotechnical drilling, twin holes drilling (approximately 5,000 meters @ USD 400/m average)	2,000,000
Additional step-out drilling (20,000 meters @ USD 400/m average)	8,000,000
Metallurgical test work, geotechnical test work, other studies	1,000,000
Total	**14,500,000**

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2 INTRODUCTION

This report was prepared as a National Instrument 43-101 Technical Report for Abrasilver Resources Corporation ("AbraSilver") by a team of consultants contracted by AbraSilver ("the Team") to complete a pre-feasibility study (PFS) of the Diablillos Project in conjunction with AbraSilver's geological, mining, process, and environmental consultants. The PFS was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

2.1 Purpose of Report

The purpose of this report is to publish a technical report on the Pre-Feasibility Study ("PFS") of the Diablillos Property summarizing:

- The land tenures, exploration history, and drilling.
- The mineral resource estimates are for Oculto, Laderas, Fantasma and JAC deposits.
- The mineral reserve estimates are for Oculto and JAC.
- A conceptual mine plan at a level to support a PFS.
- Recovery methods and process design at a level to support a PFS.
- The supporting infrastructure including power, buildings, tailings management facility, process plant, etc. to support the conceptual mine plan.
- The environmental permitting requirements for the Project.
- Capital and operating expenditure estimates for the Project.
- An economic analysis of the Project.
- Provide recommendations and budget for additional work.

2.2 Terms of Reference

AbraSilver engaged the services of the authors to write an independent NI 43-101 technical report on the Diablillos Property in the Puna region of Argentina. This report was prepared following NI 43-101 guidelines, Forms NI 43-101F1, and Companion Policy 43 101CP.

2.3 AbraSilver Resource Corp

AbraSilver's corporate offices is located in 220 Bay St., Suite 550, Toronto, ON M5J 2W4, and the Company is listed on the (TSX.V:ABTA; OTCQX: ABBRF). "AbraSilver" or the "Company" is an advanced-stage exploration company focused on rapidly advancing its 100%-owned Diablillos silver-gold project in the mining-friendly Salta province of Argentina.

2.4 Qualification of Consultant

The Consultants preparing this technical report are specialists in the fields of geology, exploration, mineral resource estimation, open pit mining, geotechnical, environmental, permitting, metallurgical testing, mineral processing, processing design, civil, mechanical, electrical, capital, and operating cost estimation, and mineral economics.

None of the Consultants or associates employed in the preparation of this report has any beneficial interest in AbraSilver. The Consultants are not insiders, associates, or affiliates of AbraSilver. The results of this technical report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between AbraSilver and the Consultants. The Consultants are being paid a fee for their work in accordance with normal professional consulting practice.

2.5 Report Responsibility and Qualified Persons

The following individuals, by virtue of their education, experience, and professional association, are considered Qualified Persons ("QPs") as defined in the NI 43-101 standard, for this report, and are members in good standing of appropriate professional institutions:

- Luis Rodrigo Peralta, Senior Resource Geologist, B. Sc., FAusIMM CP (Geo).
- Miguel Fuentealba Vergara, Senior Mining Engineer, MAusIMM.
- Joseph Keane, P.E., Independent Mineral Processing Engineer Consultant.
- William Van Breugel P. Eng., Principal Mining Consultant.
- Johnny Canosa, P.Eng., Senior Engineer, Mining.

The preceding QPs have contributed to the writing of this report and have provided QP certificates. The information contained in the certificates outlines the sections in this report for which each QP is responsible. Each QP has also contributed figures, tables, and portions of Sections 1 (Summary), 2, (Introduction), 3 (Reliance on other Experts), 25 (Interpretation and Conclusions), 26 (Recommendations), and 27 (References). Table 2-1 outlines the responsibilities for the various sections of the report and the name of the corresponding Qualified Person.

Table 2-1 - Report Responsibility Table.

Items	Description	Qualified Person	Company
Item 1	Summary	All QP's	All QP's
Item 2	Introduction	Luis Rodrigo Peralta	INSA
Item 3	Reliance on Other Experts	Luis Rodrigo Peralta	INSA
Item 4	Property Description and Location	Luis Rodrigo Peralta	INSA
Item 5	Accessibility, Climate, Local Resources, Infrastructure and Physiography	Luis Rodrigo Peralta	INSA
Item 6	History	Luis Rodrigo Peralta	INSA
Item 7	Geological Setting and Mineralization	Luis Rodrigo Peralta	INSA
Item 8	Deposit Types	Luis Rodrigo Peralta	INSA
Item 9	Exploration	Luis Rodrigo Peralta	INSA
Item 10	Drilling	Luis Rodrigo Peralta	INSA
Item 11	Sample Preparation, Analyses and Security	Luis Rodrigo Peralta	INSA
Item 12	Data Verification	Luis Rodrigo Peralta	INSA
Item 13	Mineral Processing and Metallurgical Testing	Joseph M. Keane	SGS
Item 14	Mineral Resource Estimates	Luis Rodrigo Peralta	INSA
Item 15	Mineral Reserve Estimates	Miguel Fuentealba Vergara	BMining
Item 16	Mining Methods	Miguel Fuentealba Vergara	BMining
Item 17	Recovery Methods	Joseph M. Keane	SGS
Item 18	Project Infrastructure	Johnny Canosa	SGS
Item 19	Market Studies and Contracts	William van Breugel	SGS
Item 20	Environmental Studies, Permitting and Social or Community Impact	Johnny Canosa	SGS
Item 21	Capital and Operating Costs	William van Breugel	SGS
Item 22	Economic Analysis	William van Breugel	SGS
Item 23	Adjacent Properties	Luis Rodrigo Peralta	INSA
Item 24	Other Relevant Data and Information	Luis Rodrigo Peralta	INSA
Item 25	Interpretation and Conclusions	All QP's	All QP's
Item 26	Recommendations	All QP's	All QP's
Item 27	References	All QP's	All QP's

2.6 Site Visits

The following bulleted list describes the Qualified Persons who visited the Property, the date of the visit, and the general objective of the visit:

- Luis Rodrigo Peralta, Senior Geologist, B. Sc., AbraSilver Independent Consultant visited the site from April 24th to May 3rd and from October 2nd to October 8th, 2023, for the purposes of this report.
- Joseph Keane, P.E., an Independent Mineral Processing Engineer Consultant, SGS, visited the site from September 13th to September 15th, 2022, for the purposes of this report.

- Miguel Fuentealba Vergara, BME, MAusIMM CP, BMining Chile, visited the site from October 2nd to October 8th, 2023, for the purposes of this report.
- Johnny Canosa and William van Breugel did not visit the project, as they relied on their SGS colleague Joseph Keane, who performed the site visit on their behalf.

2.7 Currency, Units of Measure, and Calculations

Unless otherwise specified or noted, the units used in this report are metric. Every effort has been made to clearly display the appropriate units being used throughout the report.

Currency is in US dollars (USD or $), unless otherwise noted.

This report includes technical information that required subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs consider them immaterial.

2.8 Effective Date

The issue date of this report is May 29th,2024. The effective date of the Diablillos Silver-Gold Project Fully Integrated PFS is March 7th, 2024.

As of the effective date of this report, the authors are not aware of any material fact or material change with respect to the subject matter of this technical report that is not presented herein, or which the omission to disclose could make this report misleading.

3 RELIANCE ON OTHER EXPERTS

The QPs (Qualified Persons) William Van Breugel, Johnny Canosa and Luis Rodrigo Peralta have reviewed and analysed data and reports provided by AbraSilver, together with publicly available data, drawing their own conclusions.

The QP who prepared this section of the report relied on information provided by experts who are not QPs. The QP believes that it is reasonable to rely on these experts, based on the assumption that the experts have the necessary education, professional designations, and relevant experience on matters relevant to the technical report.

- Mr. William Van Breugel and Johnny Canosa relied upon Knight Piésold for matters pertaining to the design, capital, and operating expenditures of the AbraSilver Project tailings dam and facility as disclosed in Section 18.7.
- Mr. William van Breugel relied upon data collected, summarized, and presented by AbraSilver for the areas of capital costs, operating costs, and financial modelling. A thorough audit of this data was conducted by Mr. van Breugel.
- Mr. Johnny Canosa has also relied upon information provided by Pacific Rim Mining Corporation Argentina S.A., a wholly owned local subsidiary of Abrasilver and its Environmental Consultants Elisa Cozzi & Asociados for the Environmental Report as disclosed in Section 20.
- Mr. Luis Rodrigo Peralta has relied on land tenure information provided by AbraSilver. This includes two letters of legal opinion regarding the validity of the tenure from the legal firm, Perez Alsina Consultores Mineros, of Buenos Aires (Perez Alsina, December 7th, 2023) and Estudio Jurídico Ponferrada & Vila Melo, of San Fernando del Valle de Catamarca (Ponferrada & Vila Melo, December 12th, 2023).
- Mr. Joseph Keane has relied on the Abrasilver internal report – Diablillos Site Kinetic Humidity Cells test – 2023.

The QPs have assumed, and relied on the fact, that all the information and existing technical documents listed in References Section 27 of this report are accurate and complete in all material aspects. While the QPs reviewed all the available information presented, they cannot guarantee its accuracy and completeness. The QPs reserve the right, but will not be obligated, to revise the report and conclusions, if additional information becomes known after the date of this report.

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

4 PROPERTY, DESCRIPTION AND LOCATION

The Diablillos property is located in the high Puna and Altiplano region of north-western Argentina (Figure 4 1). It is approximately 160 km southwest of the city of Salta and 375 km northwest of the city of Catamarca, along the border between the Provinces of Salta and Catamarca, Argentina (Figure 4 2). The property encompasses an area of 11,403 ha (28,177 acres). The geographic coordinates at the centre of the property are 25°18' South latitude and 66°50' West longitude.

4.1 Land tenure.

Mr. Peralta has relied on land tenure information provided by AbraSilver. This includes two letters of legal opinion regarding the validity of the tenure from the legal firm, Perez Alsina Consultores Mineros, of Buenos Aires (Perez Alsina, December 7th, 2023) and Estudio Juridico Ponferrada & Vila Melo, of San Fernando del Valle de Catamarca (Ponferrada & Vila Melo, December 12th, 2023).

Despite AbraSilver's understanding that its title to the Diablillos concessions in Salta should ultimately prevail, in 2017 AbraSilver acquired and effectively consolidated ownership and control of any and all overlapping, and potentially conflicting mineral rights granted by the Mining Judge of Catamarca on the same area of the Diablillos properties. With this acquisition AbraSilver eliminated any potential title risk, particularly if the provincial border dispute remains unresolved or the disputed area is being granted in the future to Catamarca, since it currently holds title to all mining concessions and rights from both provinces.

The mining concessions (called "concesiones mineras" in the Argentine Mining Code) consist of 15 contiguous and overlapping mineral claims, some of them registered as a mining block "Grupo Minero Diablillos" through a different file number that includes several rights of ways and water easements. Additionally, the company has added 2 mining claims for logistics purposes that are approximately 70 km to the northwest of the main block and has recently registered 5 new claims near the main block, but not contiguous, as listed in Table 4 1 and shown in Figure 4 2. The Project lies within an area disputed by the Provinces of Salta and Catamarca, however mining concessions covering the Project have been granted by both provinces in this area of dispute. The concessions were first granted by the Mining Judge of Salta but were subsequently overlapped by concessions applied for and later granted by Catamarca province. In a 1985 judicial precedent, concerning a similar case but in the Salar de Diablillos neighbouring project, the Supreme Court of Argentina ruled in favour of the prevailing competence of the Mining Judge of Salta, who was first to grant the concessions. Pacific Rim Mining Corporation Argentina S.A., current subsidiary of AbraSilver, applied for the Diablillos concessions in 1994 in the Province of Salta, prior to concessions granted by the Mining Judge of Catamarca, claimed in 2004 in said province for properties overlapping the Diablillos concessions. The Argentine Mining Code establishes that the first claim applying for a concession to be registered has precedence over subsequent claims. This precedence is consistent with the ruling of the Supreme Court of Argentina and, hence, it has proven to be a valid argument that may be used in a potential lawsuit to decide the applicable competence of the Salta and Catamarca provinces involved in the border dispute.

It is worth mentioning that the Diablillos project has always been subject to the competence of Salta authorities for all main permits, controls and compliance under the Argentine Mining Code and provincial regulations. There is a common understanding between Salta and Catamarca provinces with few interferences with the project by Catamarca authorities. Salta competence over Diablillos has not been judicially disputed by Catamarca since the aforementioned ruling by the Supreme Court of Argentina in 1985.

However, the Governments of Salta and Catamarca are fully aware of the need to resolve competence issues and grant legal certainty for mining investors in the disputed area. Accordingly, due to the construction announcement made by POSCO ARGENTINA S.A.U. regarding its lithium project “Sal de Oro”, both Governments reached at an agreement this year to facilitate, and foster said project, which is partially lying within the border dispute area and neighbouring to the Diablillos project. According to this agreement, the Provinces of Salta and Catamarca will share royalties and taxes in equal portions. The mining, environmental and policing of the project will be managed by an Interprovincial Authority integrated by officers of both provinces. This agreement, although still subject to the approval of the provincial Congresses of Salta and Catamarca, is a good precedent for Diablillos. It is a mechanism to deal with these issues until the border conflict is finally resolved by the National Congress.

Table 4-1 lists the concessions granted by both Salta and Catamarca. Due to the overlapping of the claim groups, the areas could be misleading. Figure 4-3 shows the Salta concessions while Figure 4-4 shows the Catamarca concessions. The overall property area depicted in Figure 4-5 is approximately 11,403 ha.

Table 4-1: Mineral Tenure

Tenement ID		Type	Area (ha)	Date of Grant	Expiry Date
File N°	Name				
Diablillos - Catamarca Province					
629/P/2009	Condor Yacu Este	Exploitation Concession	1880.14	12-03-10	N/A (2, 3)
408/M/2003	Cerro Bayo	Exploitation Concession	1500.00	10-06-04	N/A (2, 3)
550/M/2004	Cerro Bayo I	Exploitation Concession	1500.00	30-11-04	N/A (2, 3)
220/A/2007	Dorotea	Exploitation Concession	718.07	27-02-08	N/A (2, 3)
139/A/2013	Dorotea I	Exploitation Concession	2673.52	17-05-16	N/A (2, 3)
Diablillos - Salta Province					
"Grupo Minero Diablillos" File 18,691 (1)					
11749	Los Corderos	Exploitation Concession	598.65	13-02-84	N/A (2, 3)
11750	Pedernales	Exploitation Concession	599.00	14-04-86	N/A (2, 3)
11751	Renacuajo	Exploitation Concession	600.80	15-02-84	N/A (2, 3)
11964	Relincho I	Exploitation Concession	624.66	29-04-85	N/A (2, 3)
11965	Relincho II	Exploitation Concession	430.70	29-04-85	N/A (2, 3)
11966	Relincho III	Exploitation Concession	668.10	29-04-85	N/A (2, 3)
16031	Alpaca I	Exploitation Concession	300.00	03-07-98	N/A (2, 3)
14840	Fantasma (1)	Exploitation Concession	598.42	14-10-94	N/A (2, 3)
19541	Alpaca (1)	Exploitation Concession	3498.86	15-04-10	N/A (2, 3)
21384	La Carito	Exploitation Concession	142.59	N/A (7)	N/A (2, 3)
745705	Alpaca III	Exploitation Concession	3149.54	N/A (5)	N/A (2, 3)
745714	Alpaca VI	Exploitation Concession	3227.75	N/A (5)	N/A (2, 3)
745720	Alpaca VII	Exploitation Concession	3426.75	N/A (5)	N/A (2, 3)
Easements					
16225	Road and camp easement	Easement	25.00	N/A	N/A
18927	Road easement	Easement	36.00	N/A	N/A
19332	Water easement	Easement	1.00	N/A	N/A
19333	Water easement	Easement	1.00	N/A	N/A
19334	Water easement	Easement	6.00	N/A	N/A
752594	Water easement	Easement	4.00	N/A	N/A
752595	Water easement	Easement	4.00	N/A	N/A

Notes:

(1) Mortgaged in favour of Silver Standard Resources INC. Registered on 11/6/18. For USD 15,050,000. Expiration: 08/08/37

(2) The Mining Concession does not expire, as long as the concessionaire fulfils all maintenance conditions under the regulations.

(3) All Mining Concessions and Discovery Claims are in force.

(4) Acquired recently. Awaiting formal registration in the name of Pacific.

(5) Requested as new Discovery Claims recently. Awaiting formal concession to Pacific.

(6) Pocitos properties are located approx. 70km to the north-northwest of Diablillos and were added for logistics purposes only.

(7) Vacant mine requested by Pacific and awaiting formal concession.

(8) Next canon due on December 31, 2023, for 1st semester 2023.

On November 1st, 2016, AbraSilver Resource Corp. ("AbraSilver'), formerly AbraPlata Resource Corp. ("AbraPlata") and Angel BioVentures Inc. originally acquired the mining concessions granted by the Government of Salta through an agreement with SSRM Mining ("SSRM") and Pacific Rim Mining Corporation Argentina S.A. an Argentinian company and the registered owner of the Diablillos property. Under this agreement, AbraSilver acquired, through the merger with Huayra Minerals Corporation, certain subsidiaries of SSRM, including Pacific Rim Mining Corporation Argentina S.A. As consideration for the payment concessions, SSRM received USD 6.35 million in cash payments and 24.15 million in AbraSilver common shares comprising 17.65% of the issued and outstanding common shares at that time.

To fulfil the terms of the agreement, AbraPlata is required to make a cash payment of USD 7 million on construction start-up or at the fifth anniversary. (July 31st, 2025).

In addition to these payments, SSRM is entitled to receive 1.0% net smelter return ("NSR") royalty on production from the project.

As of September 6th, 2017, AbraSilver completed the definitive documentation necessary to acquire a 100% equity interest in Minera Cerro Bayo SA ("Cerro Bayo"), the owner of the conflicting mineral rights granted by the government of Catamarca, thereby indirectly acquiring ownership and control of the conflicting mineral interests. As consideration, AbraSilver will pay US$3.325 million in cash (USD 0.96 million paid) and issue 500,000 (Issued) common shares of the company to the shareholders of Cerro Bayo in instalments over a five-year period. On September 11, 2019, AbraPlata and Aethon Minerals Corporation ("Aethon") entered into a binding agreement whereby AbraPlata acquired all the issued and outstanding shares of Aethon. The transaction value was approximately $10.9 million on a fully diluted in-the-money basis, and Aethon and AbraPlata shareholders received approximately 46% and 54% of the combined entity, respectively.

SSRM, the original vendor of the Diablillos property to AbraPlata, supported the Transaction and, agreed to defer the Diablillos property payment of USD 7 million on one of the earlier dates:

- Commercial Production starts in any of all parts of the Diablillos Concessions.
- Or July 31st, 2025.

On March 4th, 2021, AbraPlata formerly changed its name to AbraSilver Resource Corp.

On July 29,2021 SSRM announced that it had sold their royalty portfolio to EMX Royalties. This transaction includes the 1% NSR on Diablillos project as well as the remaining USD 7 Million payment which is due in 2025 (or upon commercial production).

Argentinian Mining Concessions are granted in perpetuity, under certain conditions, which must be met by the property holder. Among these conditions is the requirement for an annual canon payment to the province, to be paid in two instalments due on June 30 and December 31 of each year. AbraSilver reports that the total annual amount of the canon is approximately

US$4,800. A letter of legal opinion stated that the canon had been fully paid for 2023 (Zaballa Carchio, 2021) The next instalment will be due on June 30, 2024.

The surface rights for the concessions are not held by AbraSilver. Under the Argentine Mining Code, a mining concession grants its holder an easement right over the concession area and therefore owners of surface rights cannot prevent the holder of a mining concession from accessing and developing the property. Unless the land is fiscal, the owners are entitled to an indemnity for the easement granted, to cover any disturbance or loss of use of the land due to mining activities. The holder of the concession typically would negotiate an agreement with the surface owner. If they are unable to agree, an appropriate compensation will be determined by the Court. The Diablillos concessions are on fiscal lands owned by the Province of Salta and therefore no compensation is required according to the Argentine Mining Code.

AbraSilver either has or can readily acquire all required permits to conduct any proposed work on the property. The Biannual Update of the Environmental Impact Report, allowing drilling activities and any other exploration activity related was renewed, and lodged with the Provincial Secretary of Mines of Salta on April 27, 2021. On April 04th, 2022 DIA - Declaración de Impacto Ambiental (Environmental Impact Declaration) was granted, allowing the company to perform any exploration activities and a term of 24 months to present the corresponding renewal for the next two years (2024-2025). The next renewal of the Environmental Impact Report was filed on October 24th, 2023, at the same time in Salta and Catamarca provinces.

At the time of writing the report, the author was informed that environmental permits are in good standing to execute any exploration activity.

Mr. Peralta is not aware of any other significant factors or risks that may affect access, title, or the right or ability to perform the proposed work program on the property.

Figure 4-1: Property location. Source: Abrasilver Resource Corp. 2023.

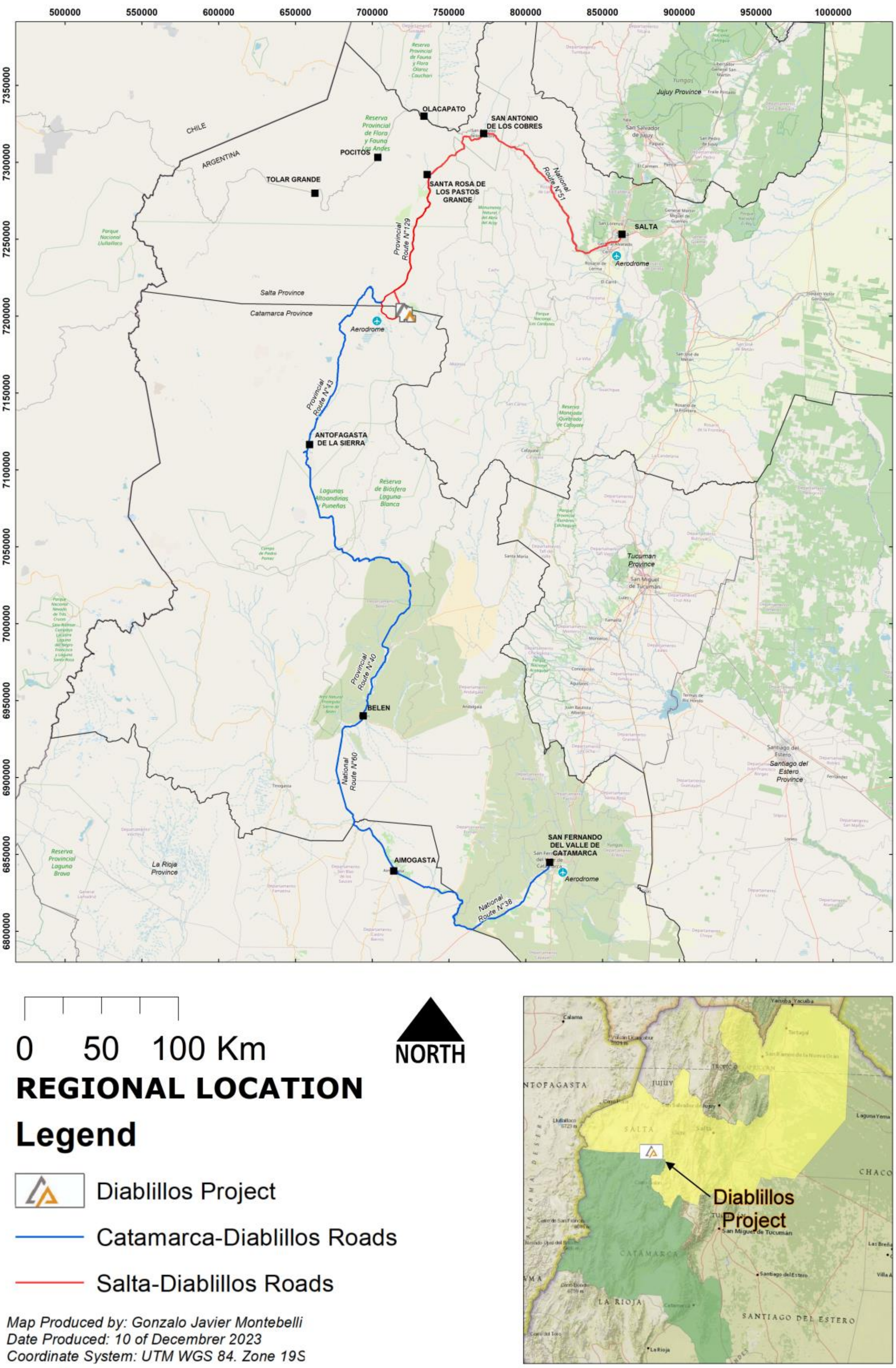


Figure 4-2: Detailed property location. Source: Abrasilver Resource Corp. 2023.

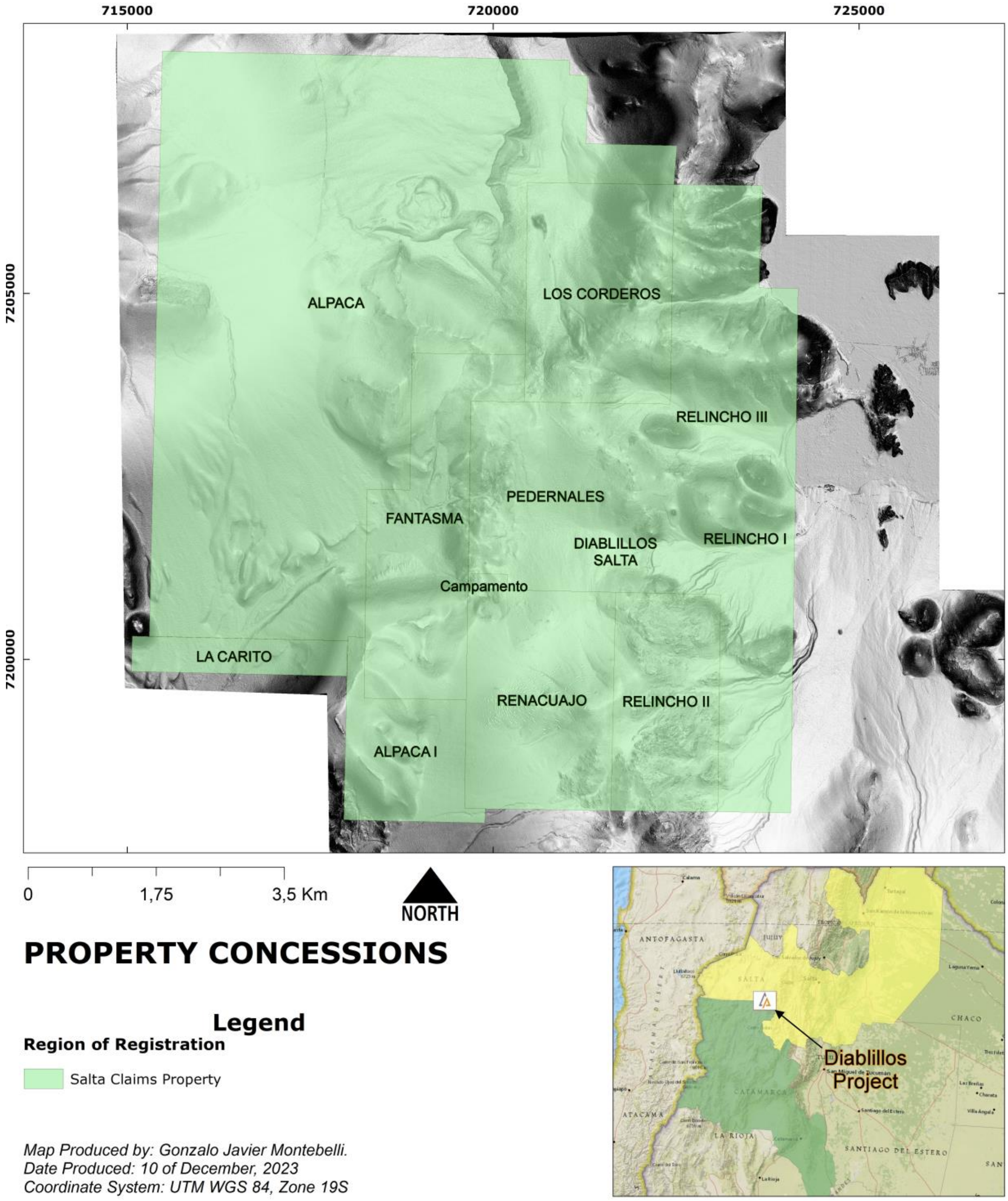


Figure 4-3: Salta Property Claims. Source: AbraSilver Resource Corp. 2023.

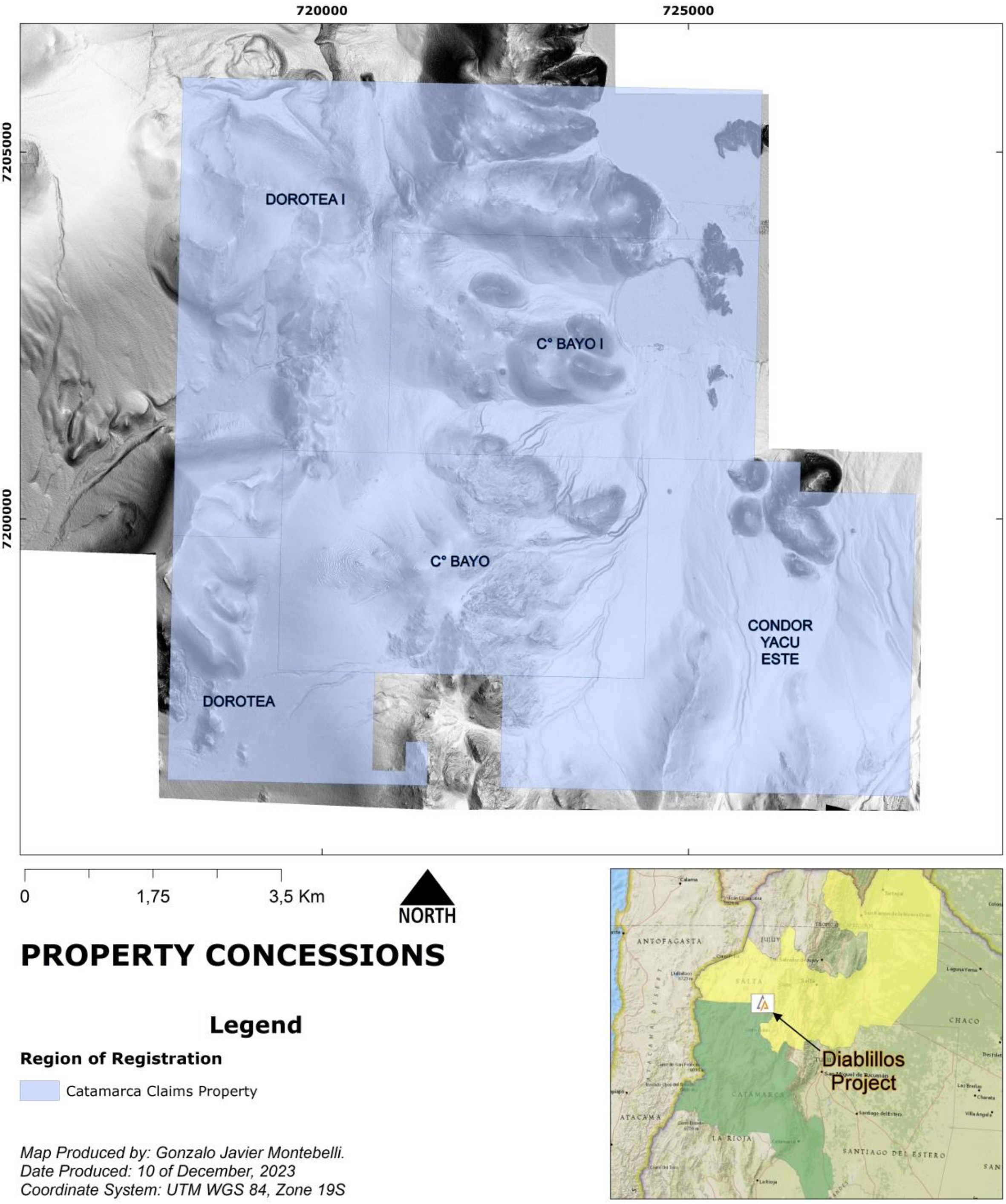


Figure 4-4: Catamarca Property Claims. Source: AbraSilver Resource Corp. 2023.

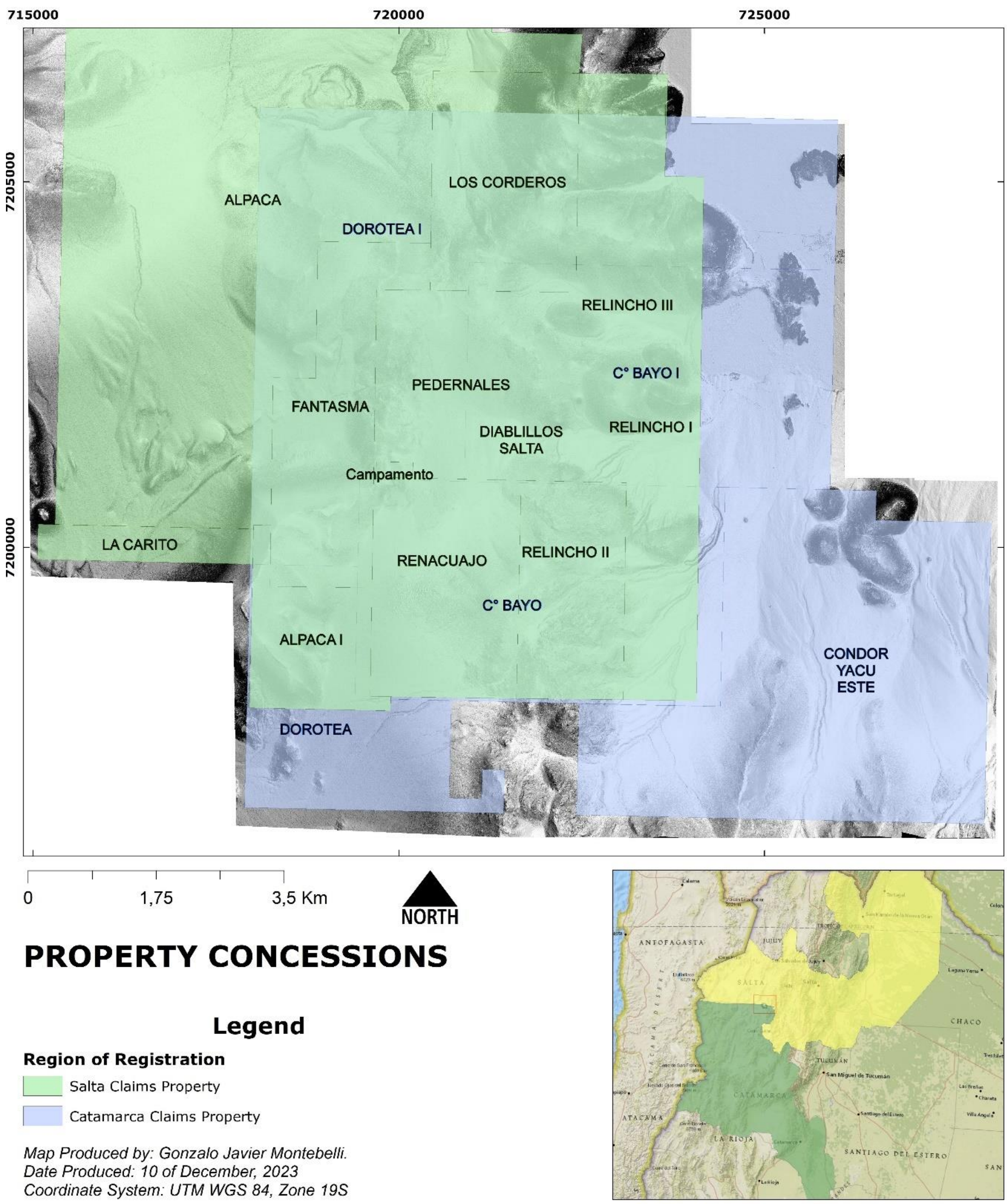


Figure 4-5: Total Property Claims, Salta & Catamarca provinces. Source: AbraSilver Resource Corp. 2023.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, PHYSIOGRAPHY

5.1 Accessibility

The Diablillos property is accessible from the City of Salta via the Town of San Antonio de Los Cobres along National Highway 51 (see Figure 5-1). There is a secondary all-weather gravel road that leads south to Santa Rosa de Los Pastos Grandes and then on to the property. The distance from Salta to the property is approximately 320 km, a driving time of five to six hours. An alternate route is via the town of Pocitos on Provincial Route 17. This is the primary road access to the Borax Argentina`s Tincalayu borate operations, located a few kilometres southwest of the Diablillos property on the northeastern margin of the Salar del Hombre Muerto. A secondary route from the city of Catamarca, is via Provincial Route 60 to Aimogasta, then National Route 40 to Hualfin and finally, Provincial Route 43 to Antofagasta de la Sierra and a gravel road to Diablillos.

Most of the local roads are gravel ones and can be traversed by two-wheel drive vehicles with high clearances, however, during rainy periods, sections of the access roads are subject to flooding and small landslides. Four-wheel drive vehicles are required for access of many areas within the property.

Road maintenance is performed by the "Dirección de Vialidad de Salta" (Salta Province Highway Authority). Notably a plan was recently announced to the Pastos Grandes community that a permanent base was being considered there to handle maintenance of provincial road N°129. This road connects San Antonio de Los Cobres with the Salar del Hombre Muerto. The Diablillos project is approximately 19 Km to the south-east of this road. If this project comes to fruition, it will improve site access and reduce the length of the road that will have to be considered for maintenance.

The existence of good quality airstrips is being reported on the Salar del Hombre Muerto, 10 Km southwest of the property, at the Arcadium Lithium (formerly "Livent Corporation") Salar del Hombre Muerto lithium mine operations, approximately 40 km west of the Diablillos property and at the Posco lithium mine approximately 15 Km to the Northwest of the properties.

Additionally, it should be noted that the Salta government has expressed an interest in building a "Mining Logistic Centre" in the town of Olacapato. This project seeks to improve the local mining infrastructure. The scope has been noted to include an airport, industrial area, transportation, processing, service facilities, commercial premises, accommodation, parking facilities and a health centre. While the Diablillos project does not rely on this infrastructure there would be considerable benefits if it progresses. It is also a good sign of the commitment to mining projects by regional authorities.

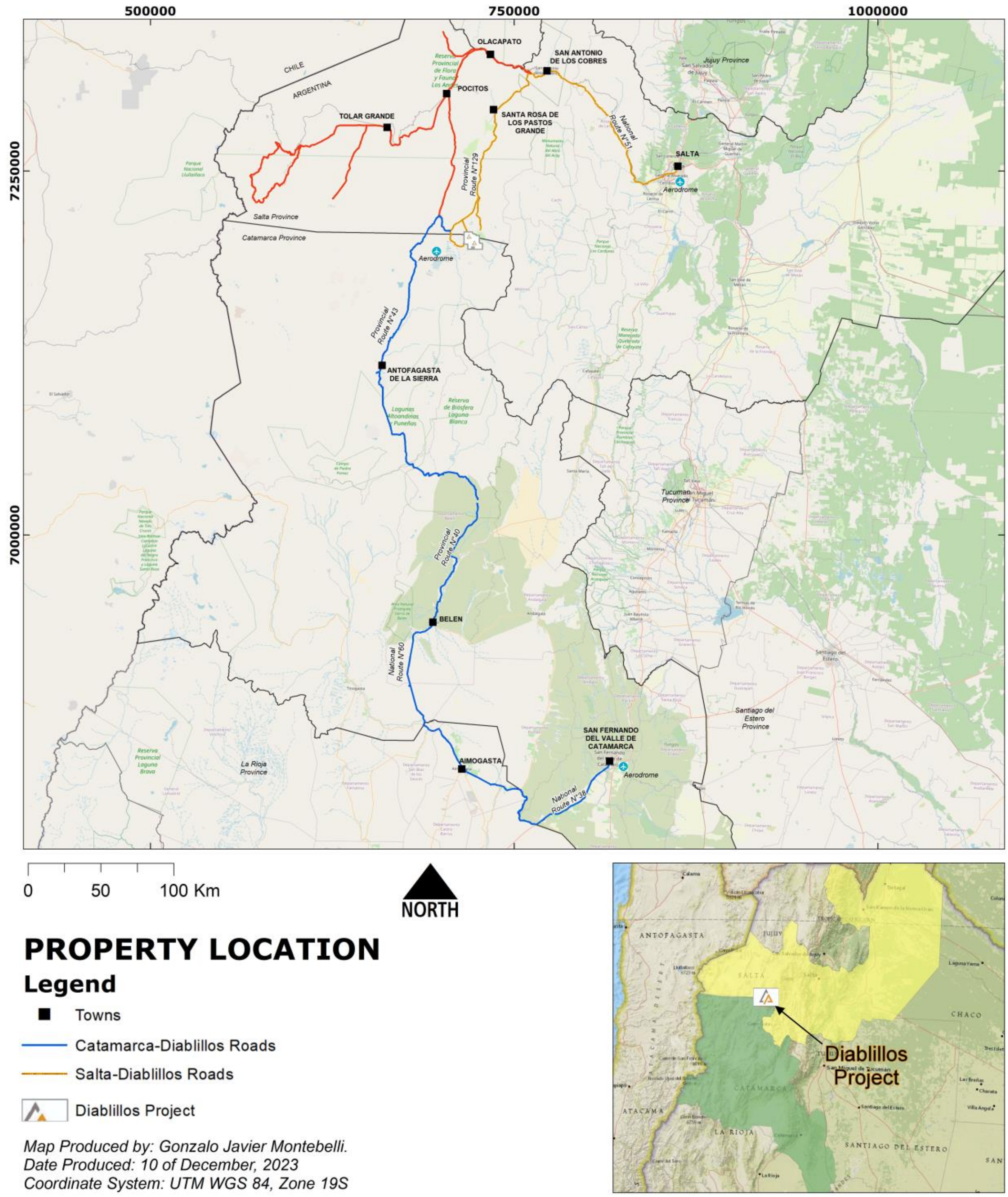


Figure 5-1: Accessibility to the property. Source: Abrasilver Resource Corp. 2023.

5.2 Physiography

The property is located within the "Puna" physiographic region, an Andean highland with broad valleys separating mountain ranges exceeding 3,500 m.a.s.l. The Puna extends southwards from central Peru, across the altiplano of Peru and Bolivia, and south along the spine of the Andes separating northern Chile and Argentina. Elevations on the property range from 4,100 m.a.s.l. to 4,650 m.a.s.l. Although located at high elevation, local relief is moderate to gentle.

Vegetation is sparse, typically comprising upland grasses and stunted shrubs.

5.3 Climate

The climate is arid, with annual precipitation less than 200mm per year. However, in some years, no precipitation was registered.

In the region, the only reliable meteorological data comes from Fenix meteorological station. Owned by Minera del Altiplano S.A., located in the western basin of the Salar del Hombre Muerto, approximately 45 Km SW of the Diablillos Project. According to historical data mean annual precipitation was 82.2 mm / year considering the 1992 to 2020 periods.

Rain falls mainly during February and March. Temperatures measured in the Project area range from a minimum of -26°C to a maximum of 32°C, with an annual average of 5.1°C. Strong north-western and western winds of more than 45 km/h are common in the area, especially during winter and spring. Site conditions for structural design and other tasks were detailed in the specific Design Criteria.

5.4 Local resources

Salta is the largest city in the region, and is serviced by daily commercial flights, major highways, and a narrow-gauge railway to Antofagasta, Chile. It is the principal source of supplies, fuel, and equipment for the property. The nearest permanent communities are San Rosa de Los Pastos Grandes and San Antonio de Los Cobres with estimated populations of 150 and 1,500 inhabitants, respectively. Limited basic supplies and some fuel may be purchased in San Antonio de Los Cobres.

The town of Pocitos is located approximately 100 km north of the property and is the nearest access point to the railway, as to the electrical power grid. Two solar plants have opened approximately 130 Km North of the property operated out of Pocitos and Olacapato.

A gas pipeline has recently been completed from Pocitos towards the Salar de Hombre Muerto Lithium mine, and a derivation valve has been placed on its trace at a distance 24 Km from the Diablillos property.

Furthermore, a second pipeline is planned by the Government of Salta as per Decree N°248/21 issued on March 23, 2021, declaring the "GASODUCTO PRODUCTIVO SALTEÑO

("GPS") (Salta Productive Gas Pipeline) of public interest and empowering Energy and Mining Resources of Salta (Recursos Energéticos y Mineros de Salta SA - "REMSA"), the state-owned energy and mining company of Salta to carry out the call for Public Bidding of the GPS. AbraSilver is in close contact with the Government to secure the future use of natural gas from this pipeline if sufficient capacity becomes available. Therefore, until further notice AbraSilver considers the use of hybrid power generation (diesel + photovoltaic) as alternative sources of energy to secure the reliable supply of power to the facilities.

Drilling by AbraSilver has additionally identified an aquifer near Oculto in the upper part of the Barranquillas valley basin. Two broad diameter holes drilled by Conhidro have encountered substantial aquifers which are extensions of other ones previously discovered by exploration drill holes 4 and 5. Holes 6 and 7 are 12-inch diameter rotary holes and hole 7 in particular has a sequence of gravels with abundant fresh water in excess of 50m. The hole was drilled in a water easement currently held by AbraSilver. It is believed this aquifer holds sufficient water to support operations for the life of the project. Permission has been granted for use of the water only for exploration.

5.5 Infrastructure

There is a small exploration camp at Diablillos, with accommodation for approximately 80 people. The property has good access to local resources of power, water, and personnel for mining operations as mentioned in the previous section.

There are large areas adjacent to the Diablillos deposit that could potentially serve as areas for tailings impoundment, waste rock disposal, and plant facilities. As stated in Section 4 of this report, AbraSilver Diablillos concessions are located on fiscal lands, and therefore no compensation is required according to the Argentine mining code.

6 HISTORY

This section was largely extracted from MP PEA (2022) which was in turn largely extracted from RPA (2018), with contributions from Ronning (1997) and Stein (2001). In the property's exploration history, particularly before 1980, the property extents and locations of work completed do not appear to be clearly known. Consequently, some of the work reported from those early years may not have been conducted within the boundaries of the Diablillos property.

6.1 Prior ownership

Exploration in the area surrounding Diablillos began in the 1960s, when the Directorate General of Military Manufacturing (Dirección General de Fabricaciones Militares), an arm of the Argentine military, evaluated the Argentine Puna for porphyry-style deposits of copper and/or molybdenum. Exploration directed specifically at Diablillos began around 1971, when the National Mining Secretary (Secretaría de Minería de la Nación "SMN") undertook geological and geochemical reconnaissance work in the area at a scale of 1:50,000. On December 31, 1971, the property was included in a federal government mineral reserve area for copper-molybdenum porphyry deposits, but this status expired in 1984 (Stein,2001).

Ronning (1997) reported that Abra de Mina, an Argentinean prospecting partnership, acquired the ground which now constitutes the Diablillos property in the late 1970s. Stein (2001) and Wardrop (2009), however, report that this occurred in 1984. Stein further reported that, at that time, the rights to the adjacent Condor Yacu property were held by Manfredo Arheit, of Buenos Aires.

Shell C.A.R.S.A, a joint venture between Shell and Billiton, explored in the area from 1984 to 1987, and optioned Diablillos in 1985.

The Ophir Partnership Ltd. ("Ophir"), a U.S. limited partnership, optioned the property in early 1987. Minera Utah International Ltd., a subsidiary of Broken Hill Proprietary Ltd. ("BHP"), began preliminary reconnaissance exploration in the area the following year, and by late 1989 had concluded agreements with Ophir and Abra de Mina. The property was held by BHP until September 1991, when the option agreement with Abra de Mina was terminated.

In 1992, Pacific Rim optioned the property from Abra de Mina, and completed the option requirements to acquire 100% of the property on July 1, 1997 (Stein, 2001). Pacific Rim conducted exploration work until 1996, when Barrick Exploraciones Argentina S.A., a wholly owned subsidiary of Barrick Gold Corporation ("Barrick"), obtained an option on the shares of Pacific Rim Mining Corporation Argentina S.A. Barrick continued exploration and initiated preliminary environmental impact and metallurgical studies.

SSRM acquired all assets of Pacific Rim Mining Corporation Argentina S.A. in December 2001, for a staged total of US$3.4 M, paid as a combination of cash and shares.

On November 1st, 2016, the Company closed a Share Purchase Agreement dated August 23rd, 2016, as amended, and restated on March 21st, 2017, and further amended on September 11th, 2019, with SSRM and Fitzcarraldo Ventures Inc. pursuant to which Huayra Minerals Corporation acquired from SSRM all of the issued and outstanding shares of Pacific Rim Mining Corporation Argentina S.A., ABP Global Inc. ("BVI") and ABP Diablillos Inc. ("BVI"). Through the acquisition of the SSRM subsidiaries, the Company also acquired certain other exploration projects in Salta and Chubut Provinces, Argentina, in addition to the rights to Diablillos.

On September 11th, 2019, AbraPlata and Aethon entered into a binding arrangement agreement whereby AbraPlata acquired all the issued and outstanding shares of Aethon. The transaction value was approximately USD 10.9 million on a fully diluted in-the-money basis, and Aethon and AbraPlata shareholders received approximately 46% and 54% of the combined entity, respectively.

SSRM, the original vendor of the Diablillos property to AbraPlata, supported the Transaction and, agreed to defer the Diablillos property payment of USD 7 million to the earliest of the two following dates:

- Commercial Production starts in any or all parts of the Diablillos Concessions;
- Or July 31st, 2025.

On March 4th, 2021, AbraPlata formerly changed name to AbraSilver Resource Corp.

On July 29th, 2021, SSRM announced the sale of their royalty portfolio to EMX Royalties. This transaction included the 1% NSR held on Diablillos project as well as the remaining USD 7 million payment which is due in 2025 (or upon commencement of commercial production).

6.2 Exploration and development history

Work completed on the property throughout its history is summarized in Table 6-1.

Table 6-1: Exploration and Development work conducted. AbraSilver Resource Corp, 2023.

Diablillos Project History		
Year	**Operator**	**Description**
Pre 1983	Secretaría de Minería de la Nación	1,409 rock chip samples (includes 190 outcrop and 271 slope debris samples from Diablillos Sur)
1984-1987	Shell C.A.R.S.A	Rock geochemical survey; three Winkie drill holes
1987	Ophir Partnership	34 rotary drill holes (approximately 30 m deep) in the Corderos, Pedernales, Laderas, and Jasperoide areas
1988-1991	BHP	Geological mapping (1:1,000 to 1:7,500 scale); 380 rock chip samples; 1,200 m of bulldozer trenches; 56 air RC holes (6,972m)
1991	BHP	"Mineral Resource and Reserve Estimate" (see below)
1992-1993	Pacific Rim Mining Corporation	Five diamond drill holes (1,001.8 m) in the Oculto zone
1994	Pacific Rim Mining Corporation	148 km of chain and compass grid; geological mapping; 122 line-km of ground magnetic survey; 34 line-km of induced polarization (IP) survey; 213 hand auger samples; 2.5 km of trenching; 250+ rock chip samples; 12 diamond drill holes (2,016 m)
1996-1999	Barrick Gold Corp.	Geological mapping; surface sampling; RC drilling; CSAMT survey; mag survey; environmental impact study; metallurgical test work
1999	Pacific Rim Mining Corporation	Mineral Resource estimate
2001	D. M. Stein (Barrick)	MSc thesis
2001	Pacific Rim Mining Corporation	Mineral Resource estimate (see below)
2003	Pacific Rim Mining Corporation (for Silver Standard)	20 diamond drill holes (3,046 m)
2005	Pacific Rim Mining Corporation (for Silver Standard)	Five diamond drill holes each at Renacuajo and Alpaca, with a total of 10 diamond drill holes with 1,772m
2007	Pacific Rim Mining Corporation (for Silver Standard)	54 diamond drill holes (10,324 m) on Oculto; one hole (203 m) at Laderas; three holes (unknown length) at Pedernales; five holes (unknown length) at Los Corderos; four HQ-size diamond drill holes sampled for metallurgical tests
2008	Pacific Rim Mining Corporation (for Silver Standard)	52 diamond drill holes (7,971 m), three of these for geotechnical studies; additional metallurgical studies
2009	Silver Standard Resources Inc.	Mineral Resource Estimate
2011-2012	Silver Standard Resources Inc.	Internal Preliminary Economic Assessment, rock chip sampling, 1,679 m diamond drilling (19 holes)
2015	SSR Inc.	Internal Mineral Resource Estimate for Oculto. (Executed by MFW)
2016	SSR Inc.	Mineral Resource Estimate for Oculto. (Executed by RPA, 2016)
2017	AbraSilver	28 drillholes and a total of 3,148.5m (Fantasma), and redefining the geology and mineralization concepts
2018	AbraSilver	Preliminary Economic Assessment (PEA 2018) including updated Mineral Resource Estimate
2019	AbraSilver	Phase I Drilling campaign with 2 diamond drill holes (844 m) (Oculto deposit)
2020-2021	AbraSilver	Phase II Drilling campaign of 55 drillholes and a total of 15,143 m expanding the Oculto deposit to the north, west and east
2021	AbraSilver	Preliminary Economic Assessment (MP PEA 2021) including Mineral Resource Estimate
2021-2022	AbraSilver	Phase II - Part B - Drilling campaign of 84 drill holes and a re-logging campaign totalling 106 drill holes. Drilling extended the west and north breccias at the Oculto deposit and drilled the discovery hole at the JAC zone. Infill drilling converted “Indicated” resources to the “Measured” category at Oculto.
2022	AbraSilver	Updated Mineral Resource Estimate (MRE22)
2022-2023	AbraSilver	Phase III - Drilling campaign of approximately 110 drillholes at JAC zone, focused on defining a new high-grade deposit located southwest of Oculto

6.2.1 1970s to 2012

Throughout the Diablillos Project, several prospecting and exploration works have been carried out (Table 6 1) , with prospecting done by the National Mining Secretary (Secretaría de Minería de la Nación) and Shell C.A.R.S.A, which included geochemical rock sampling and mapping of the project geology.

Various exploration activities were subsequently followed up by Ophir Partnership, BHP, Pacific Rim Mining Corporation, Barrick Gold Corp, and Silver Standard Resources Inc between 1987 until 2012, consisting mainly of:

- Geological mapping.
- Rock chip sampling.
- Trenching.
- Geophysical studies: induced polarization (IP) survey, ground magnetic survey, CSAMT survey; mag survey.
- Drilling with diamond drill holes and rotary drill holes.
- Mineral Resource Estimation and metallurgical test work.

In 1990, BHP Utah drilled a single RC hole in the Fantasma zone.

In 2010, SSRI commissioned M3 Engineering and Technology Corporation (“M3”) to conduct a Preliminary Economic Assessment (“PEA”) on the Oculto zone, which was completed in June 2011. This report was for internal purposes and was not made public.

In 2011, SSRI re-sampled historical trenches at Fantasma and the following year, drilled four diamond holes at Fantasma. These holes intersected mineralization, but the drilling was not extensive enough to result in a Mineral Resource Estimate for Fantasma.

6.2.2 2015

SSRI retained MFW to update the Mineral Resource estimate for Oculto.

6.2.3 2016

RPA subsequently audited the estimate and prepared a Technical Report, which was issued November 2016 (RPA, 2016). This Technical Report was filed on SEDAR and is available to the public.

6.2.4 2017

AbraPlata executed a drilling campaign that was designed to explore the Fantasma deposit, totalling 28 drill holes and 3,148.5 m.

6.2.5 2018

A Preliminary Economic Assessment ("PEA") was undertaken by RPA.

6.2.6 2019 to 2021

A drill campaign was designed to expand the Oculto deposit to the north, west and east. Targets were selected to track mineralized structures identified through geochemical, lithological and alterations analysis as well as structural maps of the zone.

Mineralised areas were re-interpreted based on the relation of vertical feeder structures to sub-horizontal permeability zones, with particular attention to the intersection of the Main and Cross breccias. Emphasis was also placed on defining zones of shallow mineralization shown on maps prepared by Nick Tate (2018).

Infill drilling was carried out to increase the confidence level of the Oculto zone enabling an expansion of resources in the Measured category.

Considering all drill holes throughout 2019, 2020 and the first part of 2021 up to hole DDH-21-021.

Overall, the 2019-2021 campaign contributed to advances into the geological model and a better understanding of the areas, behaviour, and continuity of mineralization.

6.2.7 2021

An updated mineral resource estimate was performed in October 2022 with effective date as October 28th, 2021, with a subsequent preliminary economic assessment with effective date January 13th, 2022. Both technical reports were performed by Mining Plus.

6.2.8 2021 to 2022

As mentioned in section 6.2.5, Phase II drilling campaign was designed to extend the North and West breccias and to recategorize into measured ones the current indicated resources. A total of 143 drillholes were included in Phase II, totalling 35,827 meters, from DDH-20-001 to DDH-22-040. In July 2022, AbraSilver decided to update the mineral resource estimate (MRE22) with effective date as November 28th, 2022.

6.2.9 2022 to 2023

Phase II drilling campaign was designed to extend some known areas and re-categorize resources. As part of this drilling campaign a set of brownfield exploration drillholes were performed in the surrounding area of Oculto. Hole DDH-22-019 was one of those, which lead to the discovery of the JAC zone after which the company decided to concentrate all resources in this zone for the second half of 2022 (Phase III) until July 2023. A total of 110 drillholes were drilled in the JAC zone. In August, AbraSilver decided to update the mineral resources of the

Diablillos project and produced a maiden mineral resource estimate for the JAC zone, object of the 2023 NI 43.101 report.

6.3 Past production

No prior production has been reported from the property.

7 GEOLOGICAL SETTING AND MINERALISATION

The following sections are largely taken from the MP PEA (2022) prepared by Mining Plus which was in turn taken from RPA PEA (2018) and from Wardrop (2009), which summarized descriptions of the regional and local geology in Ronning (1997), Stein (2001), and MDA (2001).

7.1 Regional geology

The Project is located in the Argentine Puna region, which is the southern extension of the Altiplano of southern Peru, Bolivia, and northern Chile. It is a high plateau, separating the Cordillera Oriental to the east and the Andean Cordillera (Cordillera Occidental) to the west.

The Cordillera Occidental is a modern volcanic arc formed by the subduction of the Nazca Plate below the continental South American Plate. The Cordillera Oriental, or Precordillera, is an older north-south trending mountain chain extending 1,000 Km from the Argentina-Bolivia borders to Neuquén. These domains are separated from one another by north-south trending regional scale faults (Figure 7-1), which are the dominant structural features of the entire region.

During the mid-Miocene Quechuan Orogeny, the subduction zone beneath the Puna gradually steepened as the South American plate overrode the Nazca plate. Extensive late Miocene to Pliocene volcanic activity occurred along the western margin of the Puna Plateau and along northwest-southeast conjugate structures. Easterly to northwest-southeast directed compression resulted in creation of reverse fault-bounded intra-arc basins, and uplift. Uplift began in the Early Miocene, with rapid uplift commencing in the Middle Miocene. It is estimated that since that time the southern Puna has undergone an elevation change in the order of 2,500 m. Presently, the average elevation in the southern Puna is approximately 4,000 m.a.s.l., with peaks reaching over 5,000 m.a.s.l.

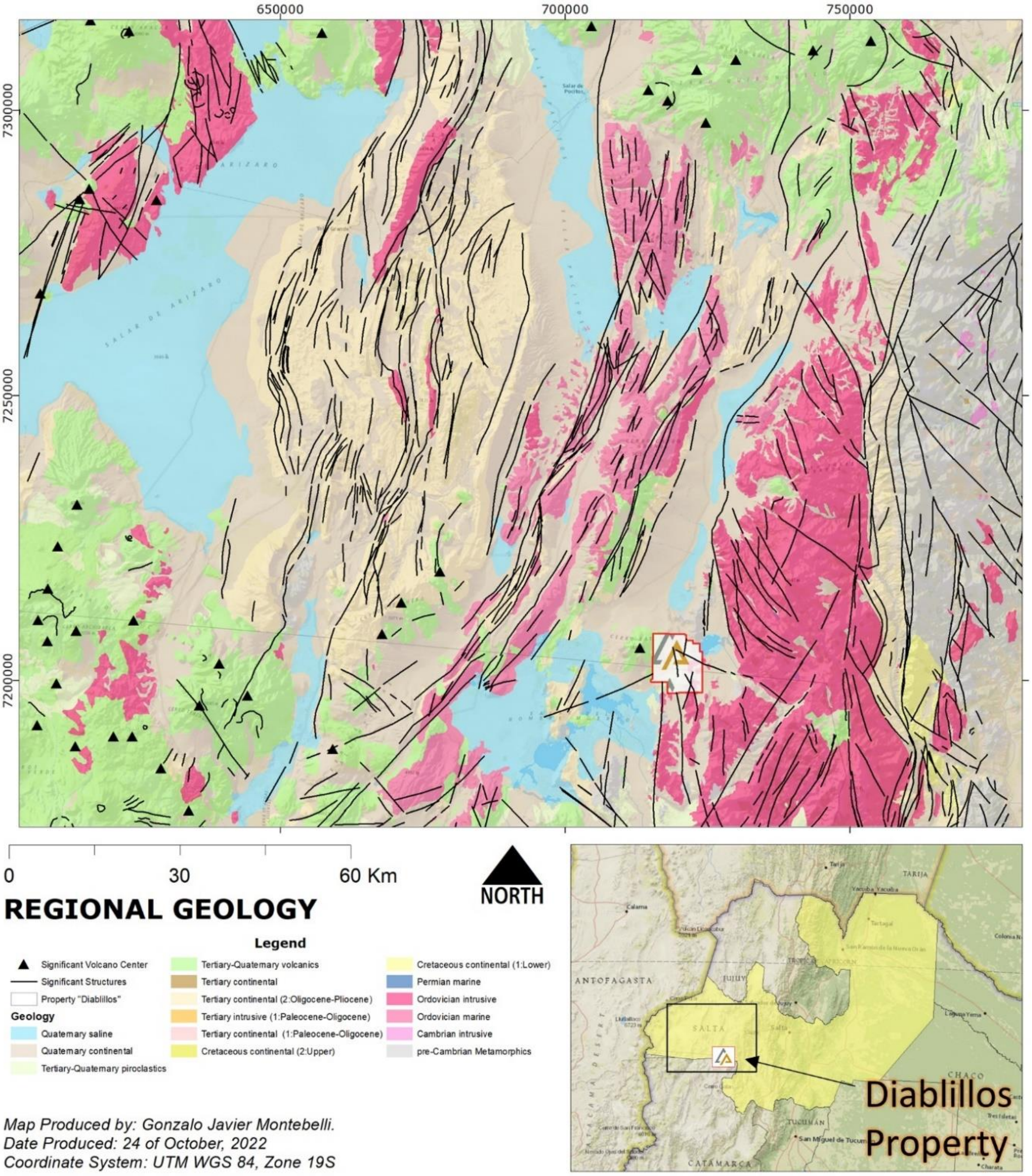


Figure 7-1: Regional geology, including faults. Source: Abrasilver Resource Corp., 2022.

7.2 Local geology

Diablillos lies close to the eastern margin of the Puna, close to the intersection of the north-south trending Diablillos - Cerro Galán fault zone with the north-westerly trending Cerro Ratones lineament (Figure 7-2). The Diablillos - Cerro Galán fault structure is one of several major north south brittle to ductile shear zones in the Puna that were formed during neoproterozoic and lower Palaeozoic tectonism, and then reactivated during the Mesozoic and Cenozoic. These zones are reportedly hundreds of kilometres long and several kilometres wide, within which there are anastomosing shears, sometimes bounding lenses of undeformed country rocks.

Ronning (1995) lists the following regional lithologic units occurring in the vicinity of the property:

- Stocks and Extrusive Domes:
    - 12 to 15 Ma-old sub-volcanic intrusive and extrusive, frequently associated with tephra deposits from low volume, plinian to phreatomagmatic eruptions. They are generally K_2O-rich dacitic rocks with biotite and occasional amphibole mafic phenocrysts, and accessory apatite, ilmenite, allanite, and tourmaline.

- Cerro Ratones Volcanics:
    - Reportedly of Oligocene age (30 ± 3 Ma), but a recent 40Ar/39Ar age of approximately 7 Ma for biotite from a flank unit at Cerro Ratones indicates a possible wider age range.

- Faja Eruptiva Granitoids:
    - Magmatic rocks of broadly Ordovician age, widespread in north-western Argentina, including a belt known as the Faja Eruptiva de la Puna Oriental, or simply the Faja Eruptiva. This belt extends from approximately 27° South latitude in Argentina to approximately 22° South latitude in southernmost Bolivia. In the Diablillos area, the Faja Eruptiva is spatially coincident with the Diablillos–Cerro Galán fault zone.

    - Rocks of the Faja Eruptiva form large and elongate bodies of porphyritic and equigranular, partly hypabyssal granitoids rich in sedimentary xenoliths. Near Diablillos, rocks assigned to the Faja Eruptiva contain feldspar phenocrysts up to 4 cm long. They follow a calc-alkaline differentiation trend and are peraluminous. Based on five U-Pb age determinations, the igneous rocks of the Faja Eruptiva are believed to be middle Ordovician.

- Ordovician Sediments:
  - The Faja Eruptiva intrudes and is folded with a sequence of Ordovician metasedimentary rocks. Near Diablillos, these rocks are phyllites, metasiltstones, and quartzites. Farther north, the Ordovician metasedimentary rocks contain late Ordovician fossils, in contradiction to the middle Ordovician radiometric ages for the Faja Eruptiva.

- Precambrian Units:
  - The pre-Ordovician basement of the eastern Puna has been termed the Pachamama Igneous-Metamorphic Complex. It consists of three subparallel north south belts 200 km long. The Diablillos property is situated near the western margin of the eastern belt, which comprises metamorphosed pelitic, psammitic, and granitic rocks that have been intruded by younger granitoids of the Faja Eruptiva.

Disseminated and vein occurrences of the northern and central Puna are characterized by base metal, gold, silver, tin, and antimony mineralization commonly associated with small, potassic-rich, Tertiary stocks and extrusive domes. These intrusive/extrusive features have been dated at 15 ± 2 Ma (Sillitoe, 1977, in Coira et al., 1993, quoted in Ronning, 1997). Elsewhere, the salars (salt flats) in the vicinity of Diablillos host borate and lithium occurrences.

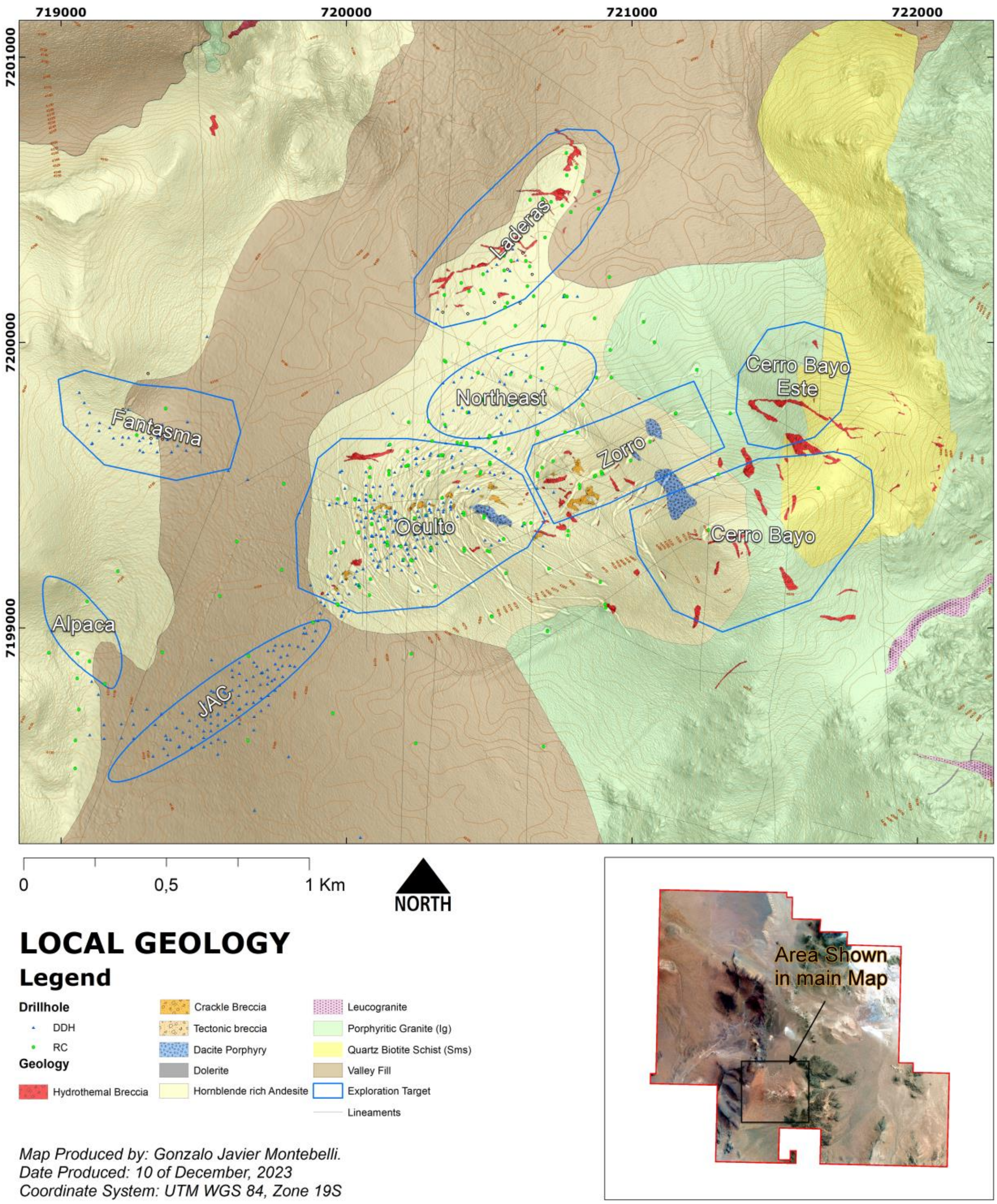


Figure 7-2: Simplified geology of Diablillos Project. Source: Modified by AbraSilver, based on Grosse y Guzmán (2017) and on geology maps from SEGEMAR and Schnurr et al. (2006).

7.3 Lithology

The Diablillos property hosts several zones of high - sulphidation epithermal alteration and mineralization with strong supergene overprinting. The main zone of mineralization, the Oculto zone, is hosted by a subaerial volcanic sequence, ranging in composition from pyroxene – hornblende to biotite - hornblende andesite (Figure 7-3). These volcanic rocks have been age dated by Stein (2001) and assigned to the Middle Miocene Tebequincho Formation. Basement rocks comprise Ordovician-age alkali - feldspar, porphyritic granite of the Complejo Eruptivo Oire and Neoproterozoic to Cambrian age metasedimentary rocks of the Complejo Metamorfico Rio Blanco. Small, altered dacitic bodies have also intruded the basement and andesitic sequence (Stein, 2001).

The volcanic rocks are spatially restricted to areas west of the Pedernales fault. They are divided into two groups by the Jasperoide fault, with younger andesite flows and tuffs to the west and older pyroclastic and apron-bedded breccias to the east. Hydrothermal breccias form pipes and dikes throughout the area from the Jasperoide fault in the west to the Demonio fault located just east of the eastern property boundary. The basement complex is exposed in most areas, except west of the Jasperoide fault.

Basement phyllites are restricted to the far north-western corner of the map area and to the east of the Demonio fault. The phyllites contain approximately 2% by volume quartz boudinage with molybdenum and iron oxide staining.

The Faja Eruptiva granite of the basement complex occupies a 1.5 km wide north-south strip through the centre of the map area. The granite contains numerous xenoliths of the quartz mica schist, and locally is sheared to ultra-mylonite's, which are subsequently pervasively silicified and injected with sheeted quartz veins. The largest of these shear zones forms a prominent ridge on Morro Eco, in the vicinity of the Cerro Viejo prospect (Figure 7-3).

The Faja Eruptiva granite is hosted in a quartz mica schist, located primarily west of the Pedernales fault, and limited to the east by the Demonio fault. The schist exhibits substantial deformation denoted by tight small-scale folding, which is enhanced on weathered surfaces by differential weathering of the layers. Where altered, the schist changes in appearance, becoming white in colour, with the alteration of the dark micas to light-coloured clays or possibly micas. In more intensely altered zones, the schist is completely silicified, imparting a sugary quartzite appearance on broken surfaces, however, the relic folded texture is maintained especially on weathered surfaces.

The basement complex is intruded by Tertiary stocks and dikes and mantled by their extrusive

equivalents. The stratigraphically lowest unit of the Tertiary volcanic units exposed between the Jasperoide and Pedernales faults consists of fragmental andesites (tuffs?), which generally are strongly clay altered and do not form natural exposures. The best artificial exposures observed are located at field station (fs) DW 38 on the DAR 6 drill platform. At this location, a fault, oriented at 000°/62°E, limits alteration to the west and has preserved a pod of fresher andesite fragmental. The fragmental is believed to be overlain by a lithic pyroclastic like one found on top of the Oculto zone. This pyroclastic unit is relatively rare and has only been found in outcrop in one locality, where it is observed resting on top of the andesite fragmental.

The uppermost rocks in the volcanic stratigraphic column are apron breccias. These are heterolytic breccias which form prominent exposures and are locally well bedded. The strike and dip of the bedding ranges from 110°/05°SW at la Trucha to 237°/22°NW at Guanaco, indicating a source to the east. A minimum of two distinct phreatic eruption events occurred, with the first dominated by clasts of andesite composition, followed by a more heterolytic clast event which included blocks from the earlier andesite. Locally, the apron breccias exhibit evidence of sedimentary reworking with channels and cross bedding.

Hydrothermal breccias crosscut all lithologies except for the younger andesites west of the Jasperoide fault and basement phyllites. The clasts in the hydrothermal breccias strongly reflect the host rock into which they were injected, although they nearly always contain clasts of Faja Eruptiva porphyritic K-spar granite. It is this cross-cutting of the andesite fragmental that was the primary criterion originally used by site geologists to differentiate the hydrothermal breccias from the apron breccia, which they can closely resemble. The hydrothermal breccias form isolated round to elongate pipes and dike structures. The largest of the exposed pipes measures 70 m by 150 m and is located at the north end of Cerro del Medio (Figure 7-3). The largest of the dike-like hydrothermal breccias is discontinuously exposed over a strike length of 550 m. These dikes form three sub-populations in respect to their strike and alteration. These sub-groups are listed below:

a. Striking 076° with strong silica-alunite alteration.
b. Striking 100° with strong silicic alteration.
c. Striking 167° with mixed silica and silica-alunite alteration.

Groups “a” and “b” are concentrated in the lower central part of the property. Group “c” is the least common and is restricted to the far eastern portion of the map area.

The Tertiary intrusives are largely quartz-feldspar porphyry and form small dikes and stocks on Cerro Viejo Este in the south-eastern corner of the map area. The porphyry exhibits a close spatial relationship to hydrothermal breccia; however, no clasts of the porphyry have been observed within the breccias even where enveloped by the porphyry.

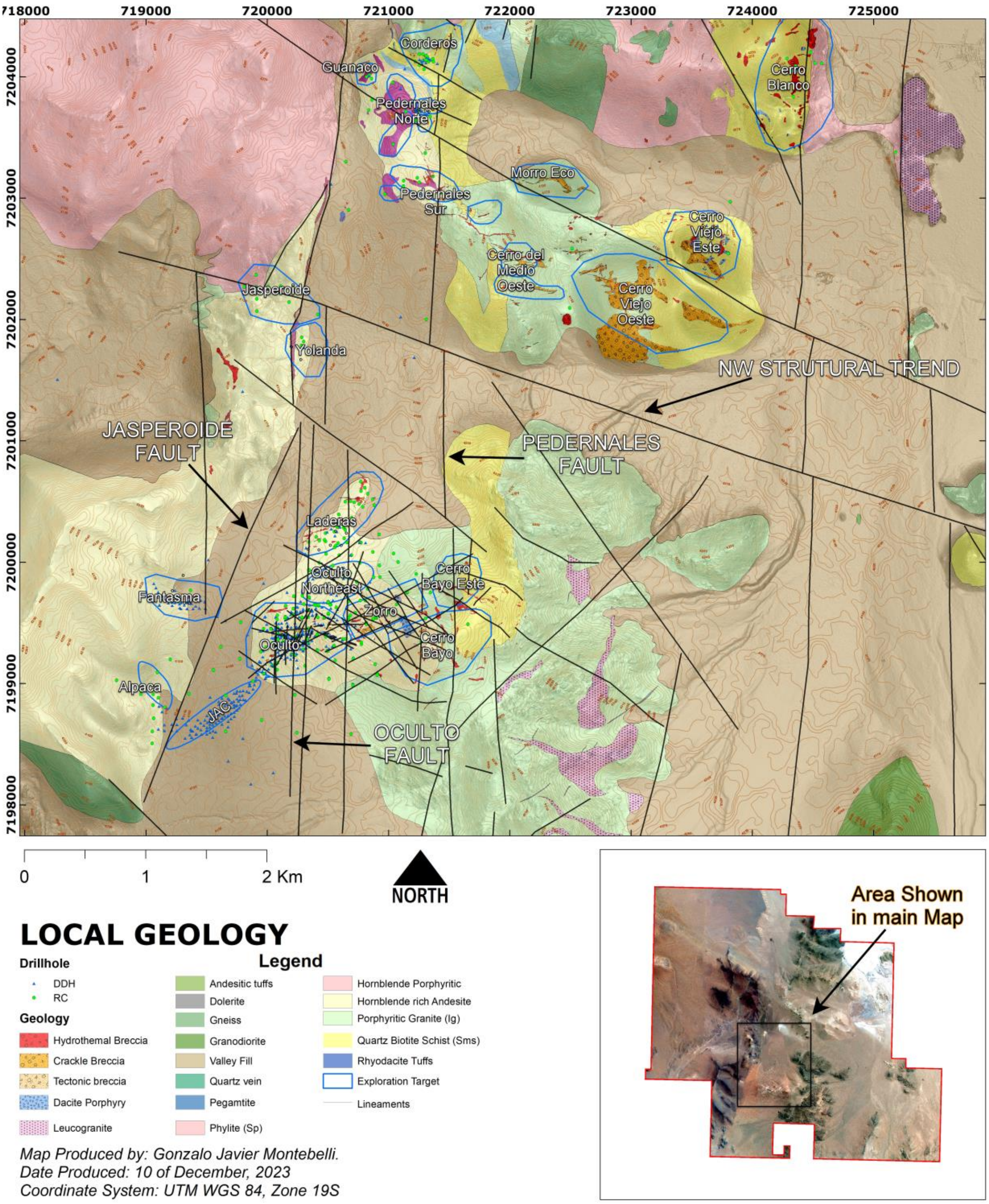


Figure 7-3: Main geologic aspect and lineaments of Diablillos Project. Source: Internal mapping from AbraSilver Resource Corp., 2023.

7.4 Structure

As stated above, Diablillos lies near the intersection of two regional fault structures: the north south Diablillos - Cerro Galán Fault, and the northwest trending Cerro Ratones lineament. Within the project area itself are two north-trending faults, the Pedernales, located in the central portion of the property, and the Jasperoid to the west (Figure 7-4). These faults bracket a wedge-shaped graben, within which most of the altered volcanic rocks occur. The graben ranges from 2.7 km wide at Oculto to 800 m wide at Pedernales, approximately 4.5 km to the north.

Numerous east-west and northwest-southeast structures branch from the main Diablillos - Cerro Galán corridor, and these faults are thought to have channelled local magmatic and hydrothermal activity. The northwest-trending structures appear to be related to regional movement along the Cerro Ratones lineament.

The Tertiary stratigraphy is generally flat lying to gently dipping. The underlying Ordovician and Precambrian rocks have been strongly deformed and metamorphosed during the Lower Palaeozoic Oclóyic Orogeny, which has resulted in a wide range of structural orientations.

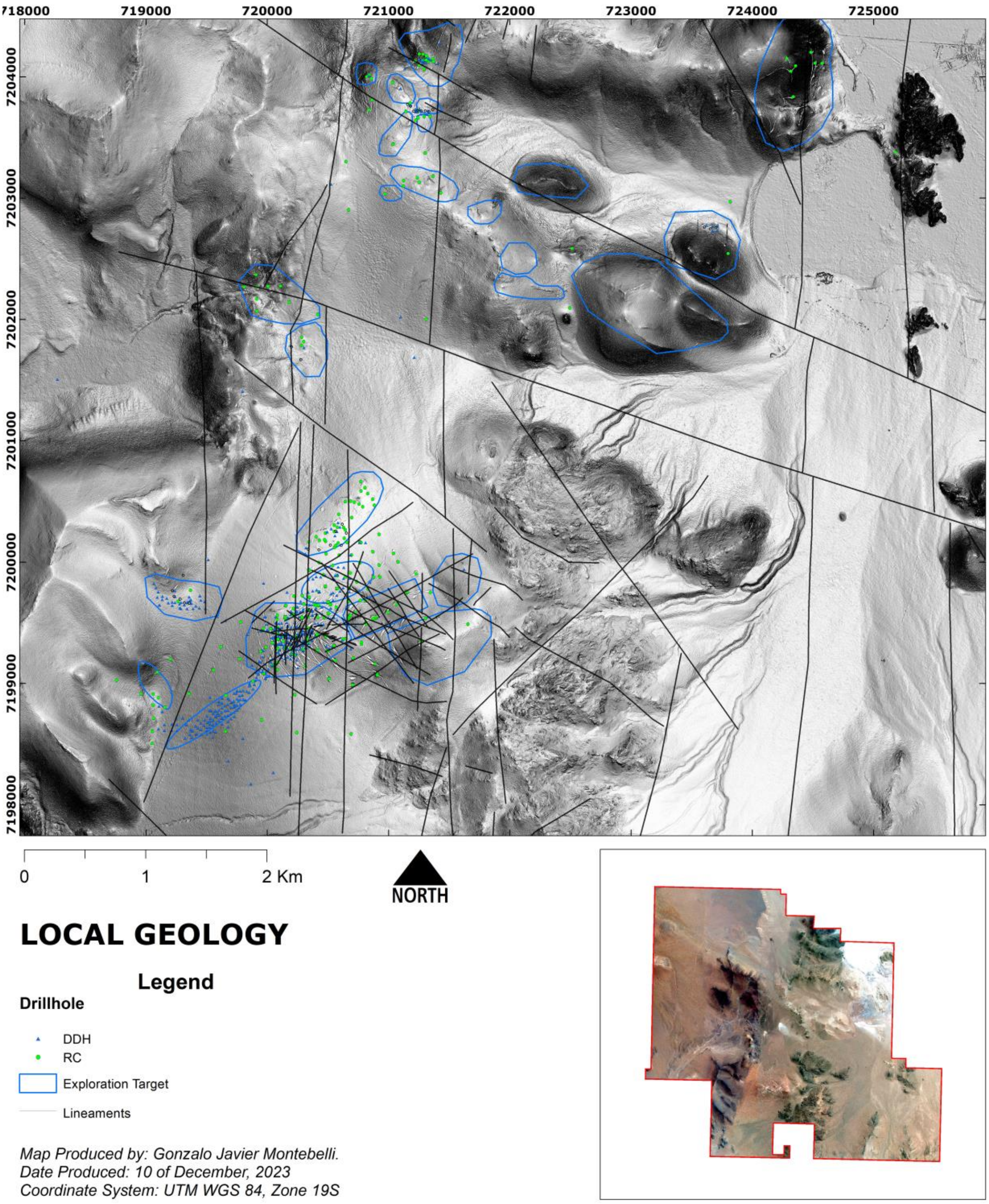


Figure 7-4: Main structural aspects and lineaments of Diablillos Project. Source: Internal mapping from Abrasilver Resource Corp., 2023.

7.5 Mineralization

There are several mesothermal, and epithermal precious and base metal occurrences situated along the trend of the Diablillos - Cerro Galán fault zone within the northern and central Puna, including Diablillos, Incahuasi, Cóndor Yacu, Inca Viejo, and Centenario (Figure 7-1 and Figure 7-2). Many of the mineral occurrences are spatially, and probably genetically, related to small Tertiary stocks and extrusive domes that are usually hydrothermally altered with disseminated and vein - hosted lead, zinc, silver, and gold (± tin, antimony, copper, and molybdenum) mineralization (Coira et al., 1993, quoted in Wardrop, 2009 and RPA, 2018).

There are several known mineralized zones on the Diablillos property, with the Oculto, JAC, JAC North, Fantasma, Laderas and Alpaca zones being the most important known to date (Figure 7-5). The known mineralized zones are:

1. Oculto (including the Oculto NE and Deep)
2. JAC and JAC North
3. Fantasma
4. Laderas
5. Alpaca
6. Pedernales including the Pedernales Sur subzone (including Truchas and Saddle showings) and Pedernales Norte subzone (including Vicuña, Corderos, Suri, and Guanaco showings).
7. Cerro Bayo
8. Cerro del Medio
9. Cerro Viejo
10. Cerro Viejo Este

Mineralization at Oculto and JAC zones is discussed below.

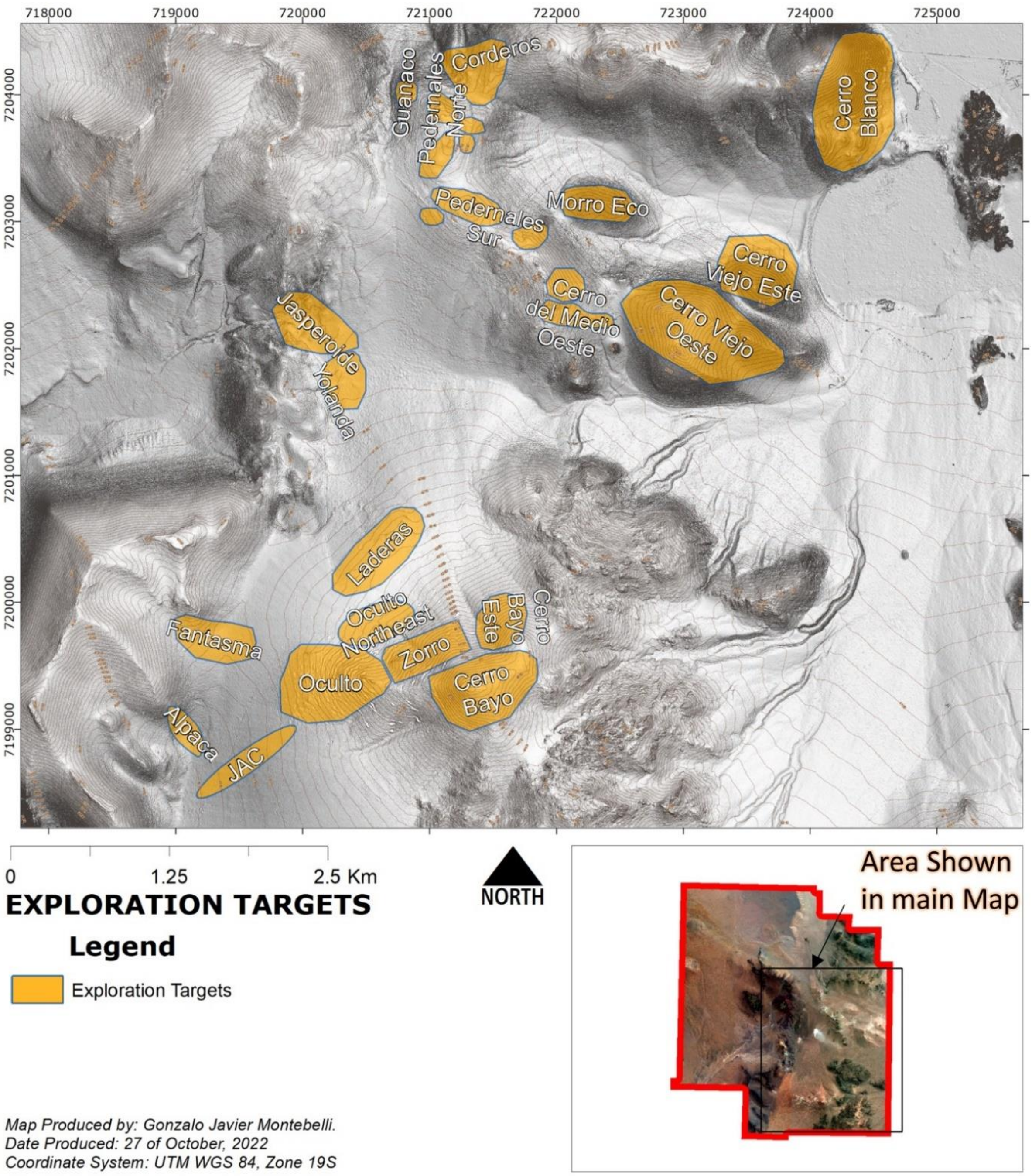


Figure 7-5: Diablillos Project mineral occurrences. Source: Internal mapping from Abrasilver Resource Corp., 2022.

Oculto and JAC are the main known deposits on the property and contain most of the present Mineral Resource. They are components of a high-sulphidation epithermal silver-gold deposits derived from remnant hot springs activity following Tertiary-age local magmatic and volcanic activity. They are evidenced at surface by a broad zone of intense acid leaching located on the flank of Cerro Bayo, although the economic mineralization does not outcrop. Host rocks at surface are hornblende porphyritic andesite which have been intruded by a dacite porphyry body (or bodies) which are hypothesized to be the thermal driver(s) for the mineralization (Tate, 2018). The andesites overlie a basement assemblage of phyllites and granitic rocks. At the contact between the andesite with the basement, there is a paleo - surface occupied by a discontinuous breccia unit of widely ranging thickness. Recent review of drilling results suggest that this unit appears to thicken along a trend corresponding to one of the predominant controlling structures to mineralization and that this zone is coincident with broader lateral extent of the mineralization. Tate (2018) suggests that the conglomerate filled a paleo - trough related to that structure, which later reactivated and provided a conduit for ore-forming fluids.

The deposits are strongly oxidized down to depths in the order of 300 m to 400 m below surface. In the oxide zone, precious metal mineralization consists of native gold, chlorargyrite, comparatively less common iodargyrite, and locally common bismuthinite (Stein, 2001). These minerals occur as fine-grained fracture fillings and vugs linings in association with quartz, jarosite, plumbojarosite, hematite, and goethite. Other accessory minerals include alunite, barite, native sulphur, and bismoclite.

Stein (2001) reported the occurrence of a high-grade zone at Oculto comprised of native gold, native silver, and acanthite with accessory chlorargyrite, iodargyrite, and jalpäite in the southwest extremity of the Oculto. Gangue minerals in this zone included quartz, alunite, jarosite, and iron oxides, along with intergrowths of barite.

Hypogene mineralization comprises vein and breccia-hosted sulphides and sulphosalts underlying the oxide zones. Primary sulphide and sulphosalt minerals include pyrite, galena, enargite, chalcopyrite, sphalerite, tennantite, and matildite. Accessory minerals include barite and alunite. Incipient supergene enrichment was observed by Stein (2001), with covellite partially replacing chalcopyrite and polybasite replacing tennantite. A review of the drilling results conducted by Tate (2018) has outlined a generally flat-lying zone of very high silver grades located between 100 and 120 m below surface. This zone has no apparent relationship with any contact or geological unit and so is viewed as a possible zone of supergene enrichment.

The precious metal mineralization throughout the mineralized system occurs as extremely fine grains along fractures and in breccias or coating the inside of vugs and weathered cavities. Mineral grains are very difficult to identity in core or hand specimen, and much of the identification of these minerals was done using electron microscope or microprobe.

Principal controls to alteration and mineralization are predominantly structural with some influence imparted by lithology (Figure 7-5, Figure 7-6 and Figure 7-7). Fluid flow propagated along predominantly east - north-easterly and north-easterly trending steep fractures as well as along the unconformable contact between basement granites and phyllites and the overlying Tertiary andesitic pile.

Gold-silver mineralization is observed to occur in tabular silica veins, disseminations in bleached and altered wall rocks, and siliceous hydrothermal breccias, and has propagated laterally along the trend of the conglomerate and the Tertiary-Ordovician contact. This has imparted a complex geometry to the deposit, with a broadly north-easterly trend consisting of steeply dipping, structurally hosted zones along with more horizontal tabular bodies. The mineralization occurs within a vertical range of 3,965 m.a.s.l. and 4,300 m.a.s.l., predominantly between elevations of 4,050 m.a.s.l. and 4,250 m.a.s.l.

The source of the mineralization in the epithermal system at the Oculto-JAC zones is interpreted as being a porphyry copper-gold intrusion at depth beneath the Oculto area. Evidence for this is the occurrence of porphyry intrusive style veining in rock fragments incorporated in silica breccias in the Oculto zone. Whereas precious metal mineralization in the oxide zone at Oculto includes both silver and gold, at JAC and other peripheral areas distal to the interpreted source, oxide mineralization is silver dominant, with very little gold. This zonation of metals is also evident within the underlying copper sulphide mineralization, with copper-gold at the Oculto zone and copper-silver at the JAC zone.

In the central and eastern portions of the property, up to an elevation of approximately 4,350 m.a.s.l., the upper Tertiary rocks exhibit evidence of a late, shallow steam-heated alteration, overprinting the earlier hypogene alteration (MDA, 2001, quoted in Wardrop, 2009). Late stage altered rocks have a light grey colour and porous texture with abundant kaolinite and white, finely crystalline alunite, minor opal, and occasional native sulphur. Hypogene alteration of the volcanic rocks differs slightly from that of the intrusive rocks at Diablillos, due largely to different host mineralogy.

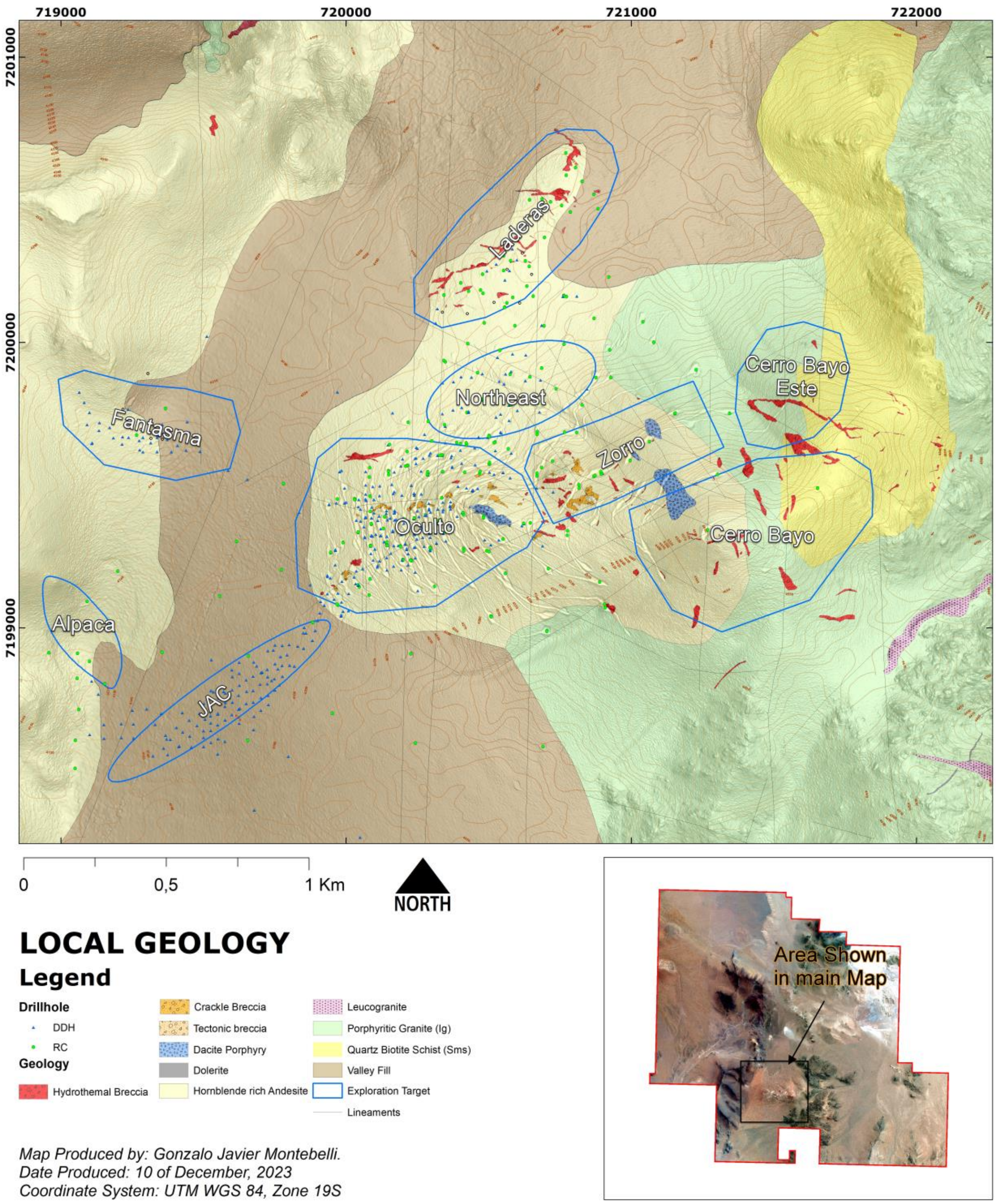


Figure 7-6: Oculto geology map. Source: updated from Ristorcelli and Ronning, 2001, with internal mapping from AbraSilver Resource Corp. 2023.

The alteration facies of volcanic and intrusive rocks mapped at Diablillos are as follows:

- Alteration Facies in Upper Volcanic Rocks
  - Propylitic: Mainly characterized by chlorite, usually with significant development of clay minerals. Propylitic alteration has been observed on the surface at the Pedernales Sur zone and subsurface at Laderas and Oculto zones.
  - Intermediate Argillic: More abundant than propylitic alteration with clay minerals being dominant.
  - Advanced Argillic: Argillic alteration occurs in most mineralized zones, typically comprising clay minerals, but at Oculto and Pedernales zones some alunite is present.
  - Quartz-Alunite: Alunite is typically the dominant or sole alteration mineral, sometimes completely replacing the protolith. Associated minerals identified in PIMA studies are dickite, pyrophyllite, and diaspore.
  - Vuggy Silica: The central core of the Oculto deposit consists of strongly developed vuggy silica, probably temporally related to late stage boiling epithermal fluids and steam alteration. Vugs may be lined or partly filled by pyrophyllite, dickite and diaspore, or by alunite.

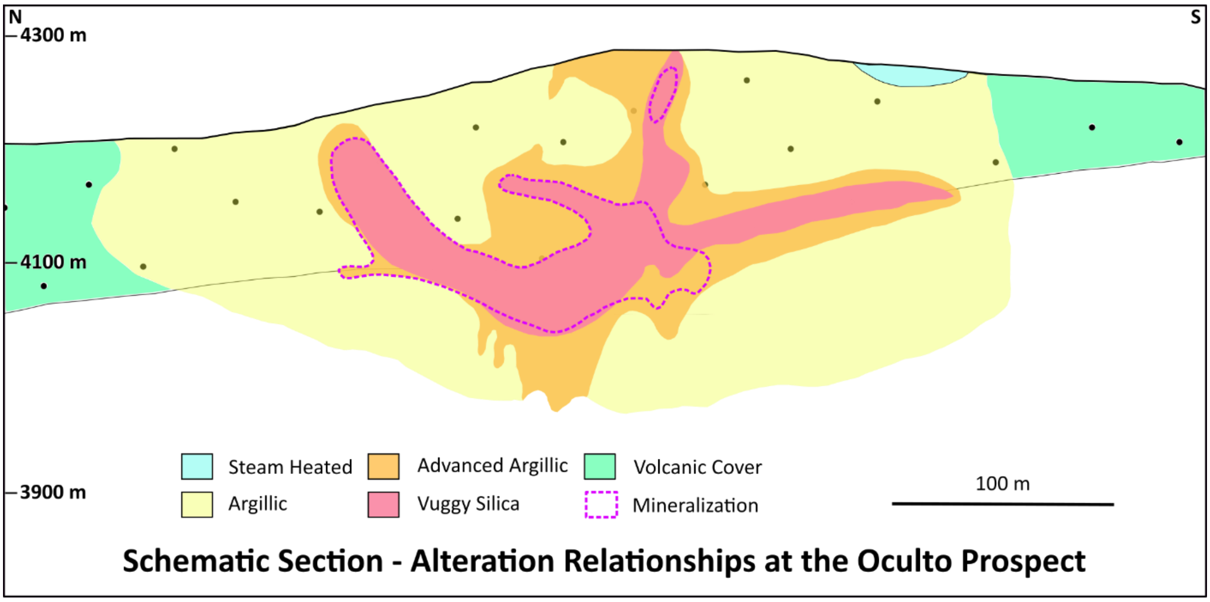


Figure 7-7: Oculto geology map. Source: Ristorcelli and Ronning, 2001

- Alteration Facies in Intrusive Rocks
  - Argillization: Occurs away from loci of hydrothermal activity as clay alteration of feldspars and biotitization of mafic minerals.
  - Alunitization: Alunite occurs as fine-grained or microcrystalline masses replacing feldspars and mafic minerals in the granitic rocks. Alunite also occurs with quartz as veinlets at times with jarosite.

- Silicification: Silicification is most pronounced adjacent to main hydrothermal fluid channels. Tabular bodies of silica have the appearance of quartz veins or veinlets but are really silicified granitoid rocks.

Figure 7-7 and Figure 7-8 shows the conceptual mineralization model and the property-wide distribution of alteration facies.

Alteration at Oculto is similar in style and mineralogy to many high sulphidation epithermal systems, consisting of a series of roughly concentrically zoned assemblages (Figure 7-7). The core of the deposit is predominantly vuggy silica ± alunite surrounded by a zone of pervasive alunite and clay alteration, which in turn grades outwards into kaolinite with illite, smectite, and chlorite (Stein, 2001). Pervasive chlorite alteration underlies the mineralization in the southwest portion of the deposit. A steam-heated zone of alunite-clay-opal is preserved above 4,330 m.a.s.l. and occurs in outcrop in the central portion of the deposit.

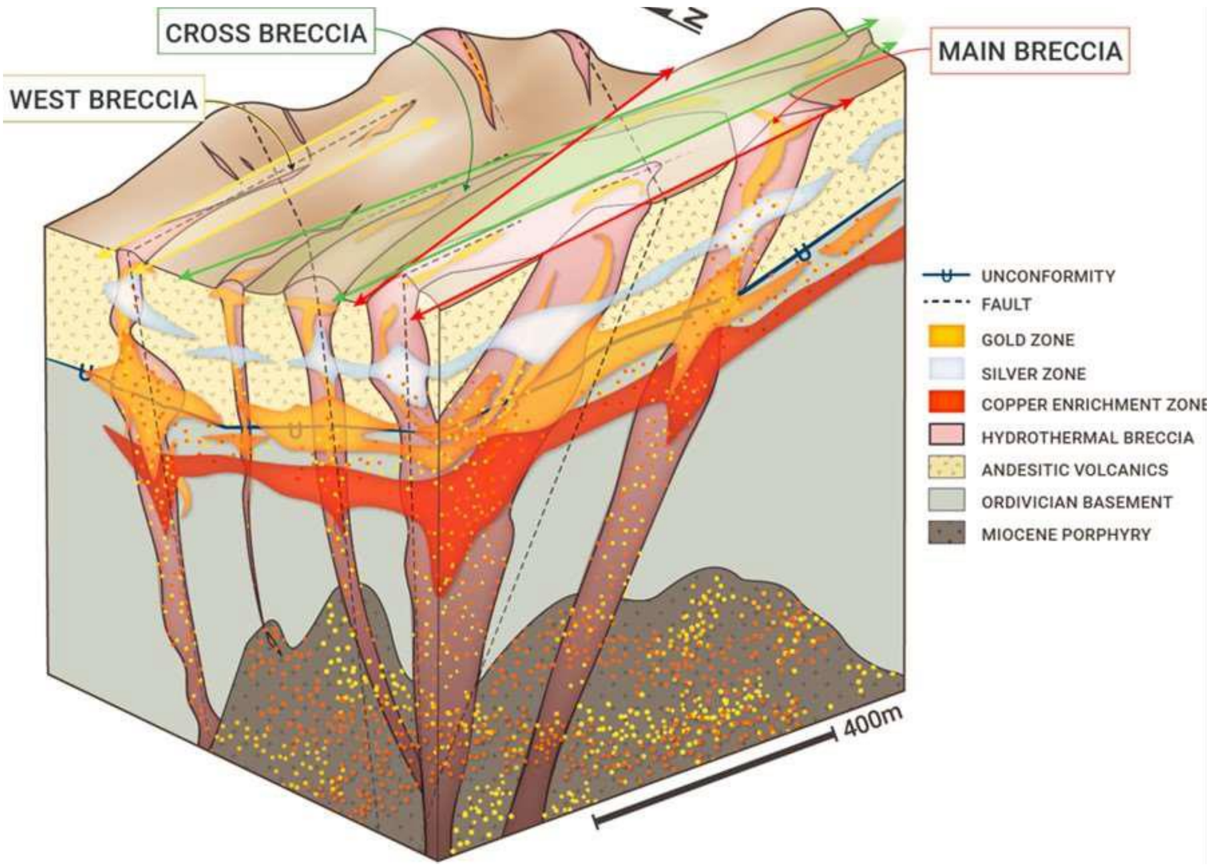


Figure 7-8: Oculto conceptual mineralization model. Source: Abrasilver Resource Corp., David O'Connor, 2019.

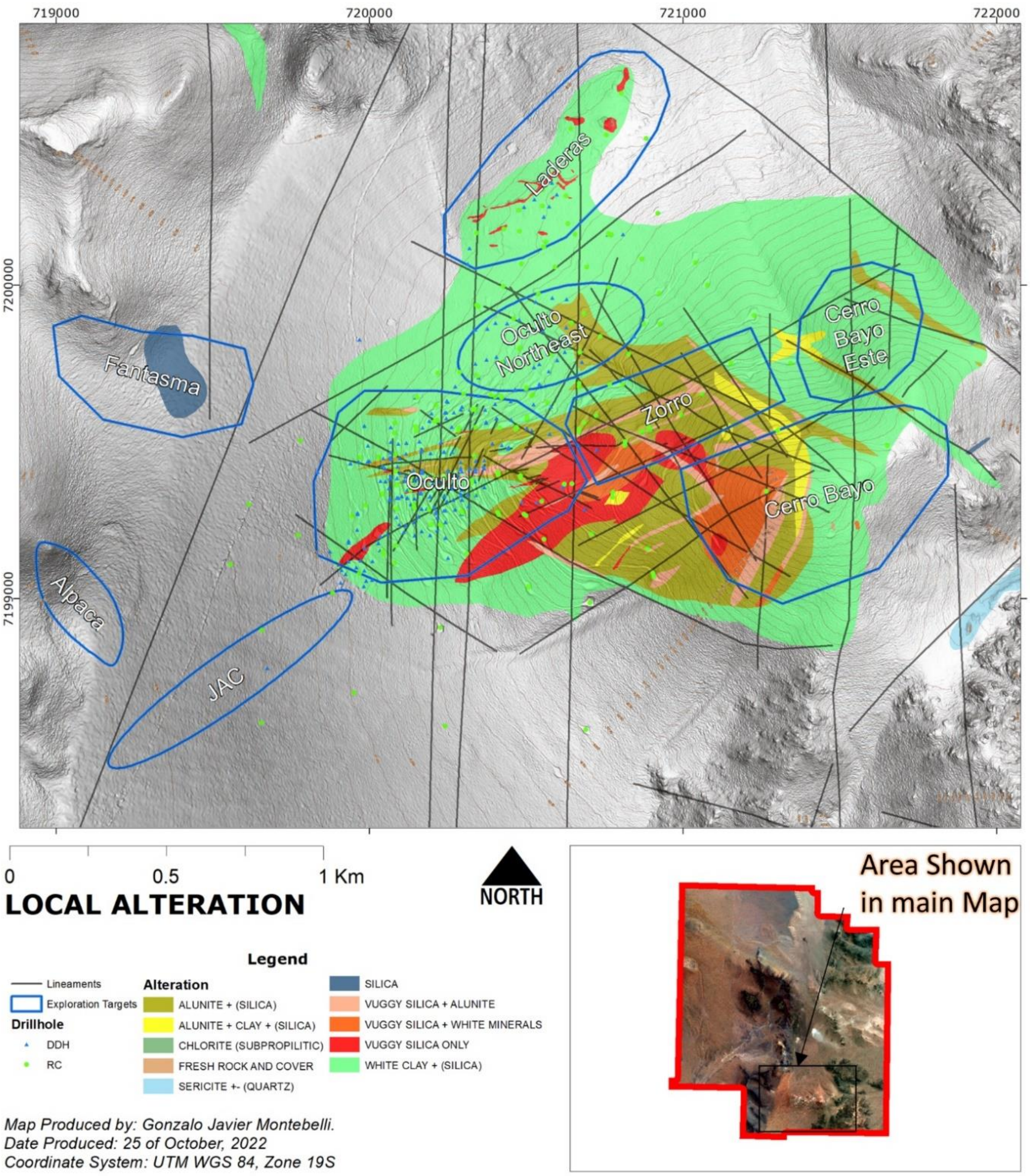


Figure 7-9: Alteration at Oculto. Source: modified from Ristorcelli and Ronning, 2001 with internal mapping of AbraSilver Resource Corp., 2022.

8 DEPOSIT TYPES

The Diablillos deposits are parts of a high - sulphidation epithermal silver - gold mineralized system derived from activity of hydrothermal fluids in a relatively shallow environment, often associated with fumaroles and hot springs. The principal mineralizing process is by convective flow of meteoric waters driven by remnant heat from intrusive activity at depth, often related to copper porphyry systems. The term “high - sulphidation” refers to the dissociation of magmatic SO_2 in aqueous solution into H_2SO_4 and H_2S resulting in a highly acidic environment responsible for the diagnostic assemblage of alteration facies typically seen in these deposits. Mineral occurrences are structurally and hydrostatically controlled, with deposition occurring as open space filling at or near the level at which boiling occurs or where hydrothermal fluids mix with meteoric waters. As such, they characteristically subtend a limited vertical range, except where cyclical healing and failure of fractures results in up and down migration of the boiling zone.

High-sulphidation epithermal mineral deposits form in subaerial volcanic complexes of intermediate to felsic composition often associated with shallow porphyry intrusions in island arc, back arc, or trans tensional tectonic regimes at convergent plate boundaries. Volcanic host rocks are typically andesitic to rhyodacitic flows and pyroclastic rocks and their subvolcanic intrusive equivalents. The age of most of these deposits is very close to that of the volcanic rocks and typically ranges from Tertiary to Quaternary, although much older examples are known.

Principal economic minerals include native gold, acanthite, electrum, chalcocite, covellite, bornite, and enargite/luzonite, with accessory pyrite, chalcopyrite, sphalerite, tetrahedrite/tennantite, galena, marcasite, arsenopyrite, silver sulphosalts, and tellurides. Dominant gangue minerals are quartz and pyrite, occasionally with barite. Alteration is characterized by lateral and vertical zonation’s of silicic, advanced argillic, argillic, sericitic, and phyllitic facies. Rocks typically have a bleached appearance owing to the acidity of the mineralizing solutions. These deposits can encompass a wide range of geometries from large, lower-grade bulk-minable variants to smaller, higher-grade narrow vein types.

Subsequent to hydrothermal mineralization of the host rocks the upper 200-300 meters was oxidized by meteoric weathering. Cu and Ag sulphides may be partially remobilized, forming a thin silver enriched oxide layer, and an enriched copper sulphide layer at the base of oxidation, with secondary chalcocite coating and replacing primary pyrite and chalcopyrite mineralization.

Classic examples of high - sulphidation epithermal deposits from the Andes include Yanacocha (Peru); El Indio (Chile); Lagunas Nortes/Alto Chicama (Peru); Pierina (Peru); Veladero (Argentina); and Filo del Sol (Argentina).

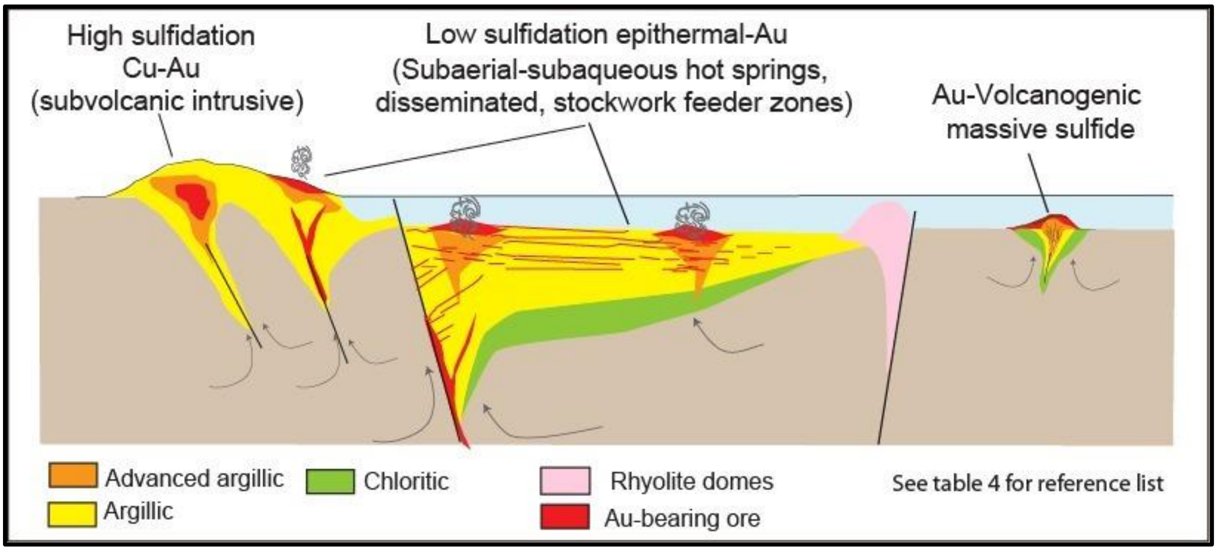


Figure 8-1: schematic model of high sulphidation deposits and its hydrothermal alterations. Gold deposits, USGS, 2012.

9 EXPLORATION

The following section is largely taken from NI 43.101 Technical Report on the Diablillos Project, Salta Province, Argentina, RPA (2018); NI 43-101 Technical Report Mineral Resource Estimate, Diablillos Project, MP (2021); NI 43-101 Preliminary Economic Assessment Technical Report, Diablillos Project, Mining Plus PEA (2022) and NI 43.101 Technical Report Mineral Resource Estimate, Diablillos Project, Luis Rodrigo Peralta's MRE (2022) and MRE (2023).

There are several known mineralized areas in the Diablillos Project, with the Oculto and JAC zones currently the most important, and on which resources were estimated. Additional resources were estimated at the Fantasma zone, which was based on historical drilling, and a small resource estimated at the Laderas zone. Exploration targets can be broadly grouped into those located in and around the current Mineral Resources and those which are further afield (Figure 9-1). Many of these targets have been mapped, trenched, and drilled by former operators of the Projects. This work is summarized in the section of this report entitled History.

There are several known mineralized zones on the Diablillos Project, with the Oculto and JAC zones currently the most important. Exploration targets can be broadly grouped into those located in and around the current Mineral Resources and those which are further afield (Figure 9 1). Many of these targets have been mapped, trenched, and drilled by former operators of the Projects. This work is summarized in the section of this report entitled History.

Since acquiring the property, AbraSilver has continued with exploration work which, in 2017, included reconnaissance, geological mapping, and diamond drilling (at Fantasma). The diamond drilling is described in Section 10 of this report. Geological mapping and an overall review of exploration data was carried out by AbraSilver consulting geologist, Nick Tate.

Targets remote from the present resources are generally thought of as longer-term exploration projects whereas the closer targets are considered as potentially adding resources in the near term. Close-range, nearer-term targets would include the Oculto and Fantasma deposits themselves, Laderas, Alpaca and the JAC target discovered in 2022. Most of the longer-term distal targets, except for Yolanda, are aligned along a curving trend and are collectively known as the Northern Arc zones (Figure 9 1). These zones include the Cerro Viejo Este and Oeste, the Cerro del Medio Norte, Pedernales, and Corderos areas. This group of prospects lies approximately three to four kilometres north-northeast of the centre of the Oculto deposit. All encompass epithermal silver-gold targets similar in style to Oculto, and one, Cerro Viejo, shows potential for porphyry mineralization.

9.1 Extensions to known Deposits.

Oculto and JAC have been by far the most intensively explored prospects in the project area. A total of 606 RC and DDH holes were included in the Mineral Resource estimate, and many more have been drilled in the surrounding area. In both AbraSilver and author's opinion, several places within the Oculto and JAC zones require further drilling. There is a need for resource definition drilling to confirm and upgrade the existing classification (possible union between Oculto-JAC and Fantasma, Oculto to Laderas, Fantasma to Alpaca). In addition, there are several open-ended zones within the deposit area where there is potential to expand the resource base.

Tate (2018) has observed that a broadly horizontal zone of higher-grade gold mineralization occurs at or near the contact of the Tertiary volcanic rocks and the Ordovician basement assemblage. The zone, termed the Deep Gold zone ("DG") by Tate, is approximately 30 m thick and in certain places correlates well with the erosive breccia / conglomerate that occupies this contact. This contact zone is not yet thoroughly drilled laterally until its end and is viewed by AbraSilver as a target which could add Mineral Resources. In addition, recent drilling has shown that precious metal mineralisation extends at this horizontal level beyond the contact zone at the base of the Tertiary volcanic rocks into the underlying Ordovician basement assemblage.

Tate (2018) has also observed that a high-grade zone of silver ("SE") measuring approximately 40 m thickness occurs at a depth of between 100 m and 140 m below surface. Insofar as this zone is not coincident with any specific stratigraphic horizon, he proposes that it represents supergene enrichment which parallels the current or paleo water table. This also provides a significant vector for discovery of additional Mineral Resources, not only at Oculto, but at other prospects as well.

Two satellite bodies have been intersected by drilling on the eastern (Oculto Northeast) and north-eastern (Cerro Bayo Este & Zorro) margins of Oculto (see Figure 9 2). These zones are barely drilled and understood due to the small amount of drilling conducted on them but are coincident with surface exposures of breccia and to the two mineralized horizons proposed by Tate and clearly identified at the Oculto zone. As such, AbraSilver considers these targets to have significant potential to add mineral resources to the project with potential expansion to the northeast. The actual resources in these two zones are currently categorized as indicated and inferred.

Tate (2018) has also noted that there is potential along strike of two of the principals' controlling structures in the Oculto deposit. Potential exists to the southwest (JAC) along the northeast southwest (Shallow mineralization) and east-northeast (Shallow mineralization) striking fracture zones that traverse the deposit (see Figure 9 2).

The Fantasma zone is located one kilometre west of Oculto and has silver dominant mineralization, with very little gold. It is interpreted as being a distal part of the same high-sulphidation epithermal system. AbraSilver geologists have observed that the westerly-striking fault system at Oculto trends towards Fantasma (Figure 9 2), where it represents one of the key mineralizing structures for the Fantasma deposit. In AbraSilver's opinion, there is potential to expand the Fantasma deposit eastwards with additional drilling to connect with Oculto.

The recently discovered JAC deposit is centred about 500 meters to the southwest of the Oculto zone and is also silver dominant. The JAC mineralization strikes parallel to breccia zones at Oculto and is considered to be an extension of the high-sulphidation epithermal system. In AbraSilver's opinion there is potential to expand the shallow JAC deposit and an additional drilling program is planned.

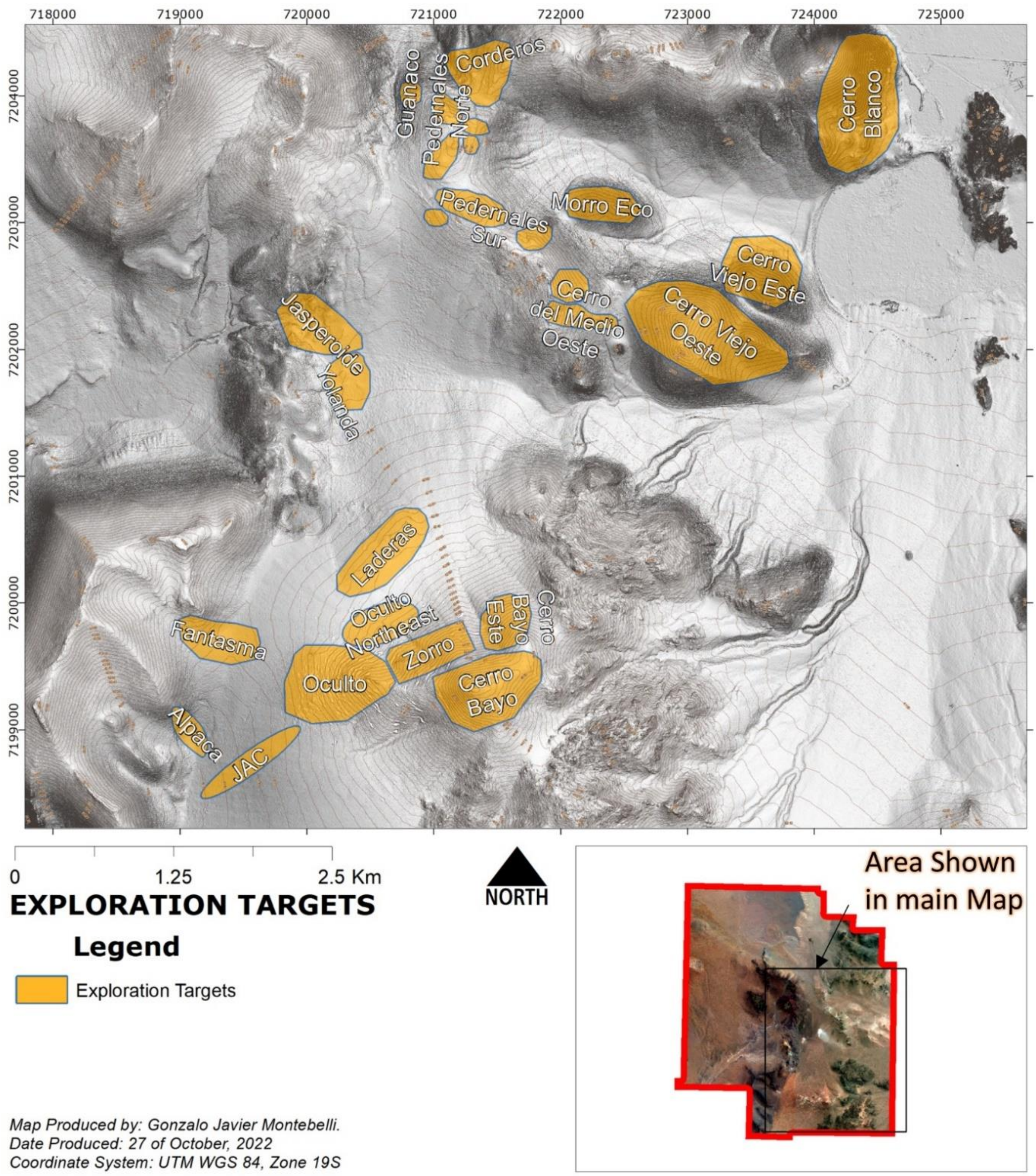


Figure 9-1: Exploration target areas at Diablillos Project. Source: AbraSilver Resource corp., 2022.

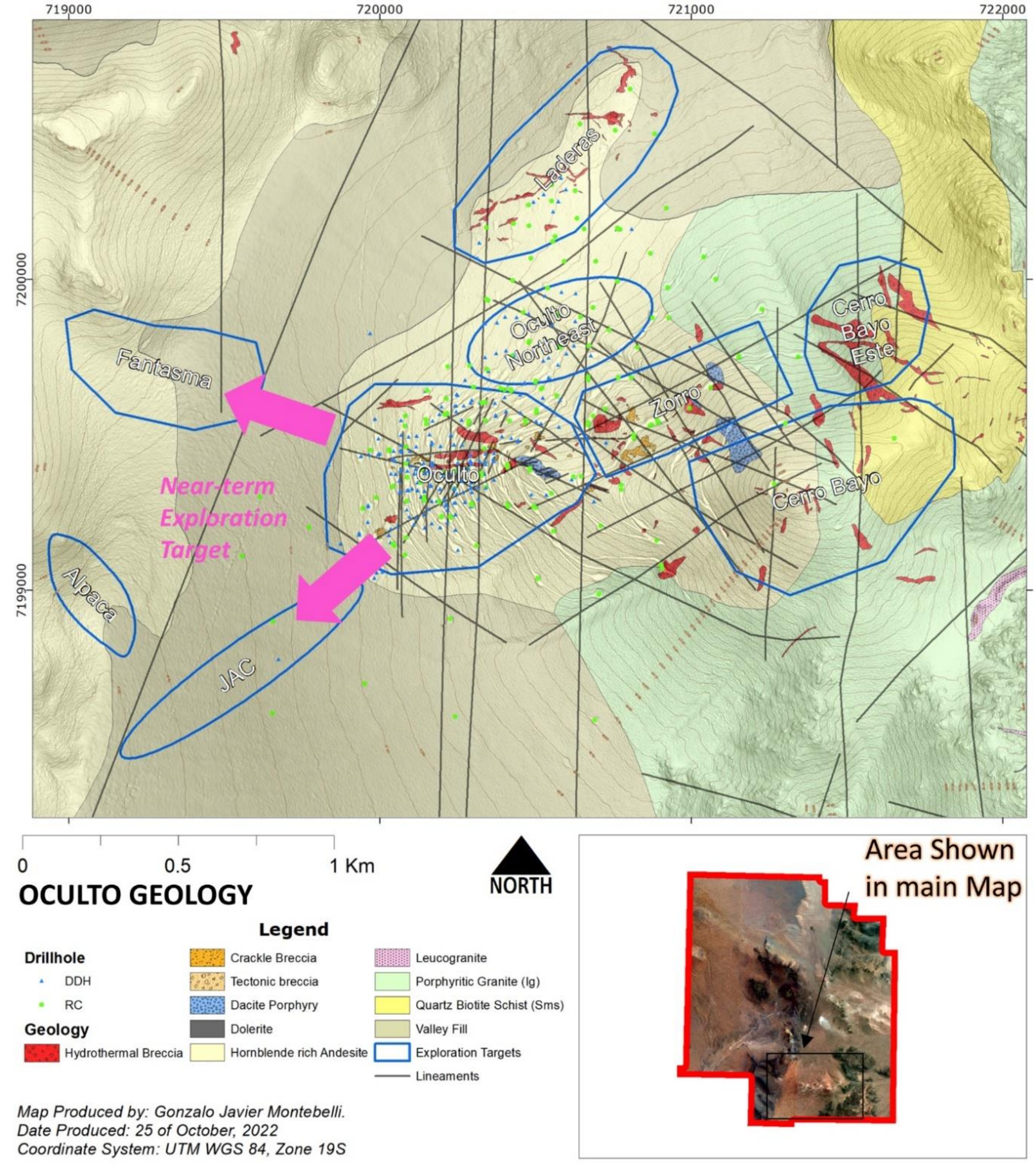


Figure 9-2: Near term exploration targets at Diablillos Project. AbraSilver Resource Corp., 2022.

9.2 Near-Term Exploration Prospects

In Tate´s reports (2018) and the author of this section´s opinion, the drilling done to date has not fully explored the potential of the surrounding targets of Oculto (Shallow mineralization, Oculto NE, Zorro, Alpaca and Laderas). AbraSilver drilling has identified additional target areas, with numerous opportunities to further expand the Mineral Resources within the existing deposits, as well as to explore for new mineralized zones through a step-out exploration drill campaign.

The Company is currently prioritizing and sequencing the various targets ahead of the next exploration campaign which will focus on drilling close to the Oculto-JAC zones. Targets are aimed at linear zones of low-magnetic intensity which are interpreted as being zones where upwelling hot acid hydrothermal fluids destroyed magnetite in the host rock, while at the same time depositing precious metal mineralization. This was the concept that led to the drilling and discovery of the JAC deposit.

The Laderas target lies immediately north of Oculto, along the trend of a prominent east west trending ridge (Figure 9 2). Geological mapping and review of the Laderas drill results conducted in 2017 indicated that gold and silver mineralization occurs where those vertical structures intersect favourable horizons (like the paleo-surface bx) there is potential for mineralization at depth within structurally controlled breccias hosted in Tertiary sedimentary and volcanic rocks like Oculto (Tate, 2017). Controlling structures are steeply dipping and strike in a wide range of orientations including east-northeast, northeast, northwest, west-northwest, and west. The northwest, west-northwest, and westerly striking structures dip at 75° to 85° to the south or southwest. The east-northeast and northeast striking structures appear to dip north-westerly. The mineralized zones are accompanied by silica-alunite alteration which rapidly grades outwards to alunite at the walls of the breccias.

Fantasma-Oculto zone. The small, shallow silver resource shown by historical drilling at Fantasma occurs at the northwest end of a linear zone of low magnetic intensity that extends for about one kilometre from the Oculto zone. AbraSilver drilled two reconnaissance holes in the middle of this magnetic anomaly, both of which intersected shallow silver mineralization and demonstrate the potential for continuity between the Oculto and Fantasma zones.

Historical drilling in the Alpaca zone intersected moderate grade silver mineralization (see Figure 9-2). The Alpaca zone is located approximately 200 meters northwest of the western end of the JAC resource and there is a northwest trending zone of low magnetic intensity connecting the two. Whereas the JAC resource follows an east-northeast trending magnetic low, the northwest anomaly extending from the JAC zone to the Alpaca zone is interpreted as being a conjugate set up of structures which hydrothermal fluids migrated and mineralized the host rocks. Drilling between Alpaca and JAC obtained a broad intercept of silver mineralization within granitoid basement rocks, demonstrating the extension of the mineralizing system of hydrothermal fluids beneath andesitic flows.

9.3 Planned Exploration

While there are various exploration targets at Diablillos, priority will be placed on converting Inferred Mineral Resources described in this report to the Measured and Indicated categories, and on targets considered to have the highest probability of adding high-grade mineralization to the present Mineral Resource base. These target areas include:

- JAC zone
- Fantasma zone
- Alpaca zone
- Laderas zone
- Extension and resource definition of Oculto surroundings
  - Oculto NE (definition)
  - Shallow mineralization (in Fantasma direction)
  - Shallow mineralization (in Alpaca direction)

This work will include re-logging of the historical core to ensure consistency with the new geological and alteration model.

In the author's opinion, the exploration targets defined by AbraSilver geologists at Diablillos are based on reasonable and sound geological observations and interpretations. The author recommends that the planned exploration work should be undertaken.

10 DRILLING

The following section is largely taken from NI 43.101 Technical Report on the Diablillos Project, Salta Province, Argentina, RPA (2018); NI 43-101 Technical Report Mineral Resource Estimate, Diablillos Project, MP (2021); NI 43-101 Preliminary Economic Assessment Technical Report, Diablillos Project, MP PEA (2022) and NI 43.101 Technical Report Mineral Resource Estimate, Diablillos Project, LRP MRE (2022) and MRE (2023).

Prior to AbraSilver acquisition of the Project, previous operators drilled 476 RC and DDH, including 26 trenches on the property for an aggregate length of 87,594.55 meters. BHP Utah drilled a single RC hole in the zone in 1990. Much of all this work was already discussed in the History section (Section 6) of this report. The descriptions for drilling prior to AbraSilver acquisition were largely taken from Wardrop (2009), MDA (2001), M3 (2011) and RPA (2018).

Most of the earlier drilling was carried out on the Oculto zone. Since acquisition of the Project in 2016, AbraSilver has carried out drilling mainly at the Oculto and JAC zones, with reconnaissance holes in other areas including Laderas, Fantasma, Alpaca and the Northern Arc areas. A total of 606 holes were used in preparation of this Mineral Resource Estimate. Figure 10 1 shows the locations of the collars for all holes at Diablillos. Table 10 1 lists the holes by year, type and meters drilled per year. Graph 10-1 shows the total length drilled by year.

The Oculto, JAC, Fantasma and Laderas zones are shown in Figure 10-2 and Figure 10-3, along with the 606 holes used in the Mineral Resource estimate.

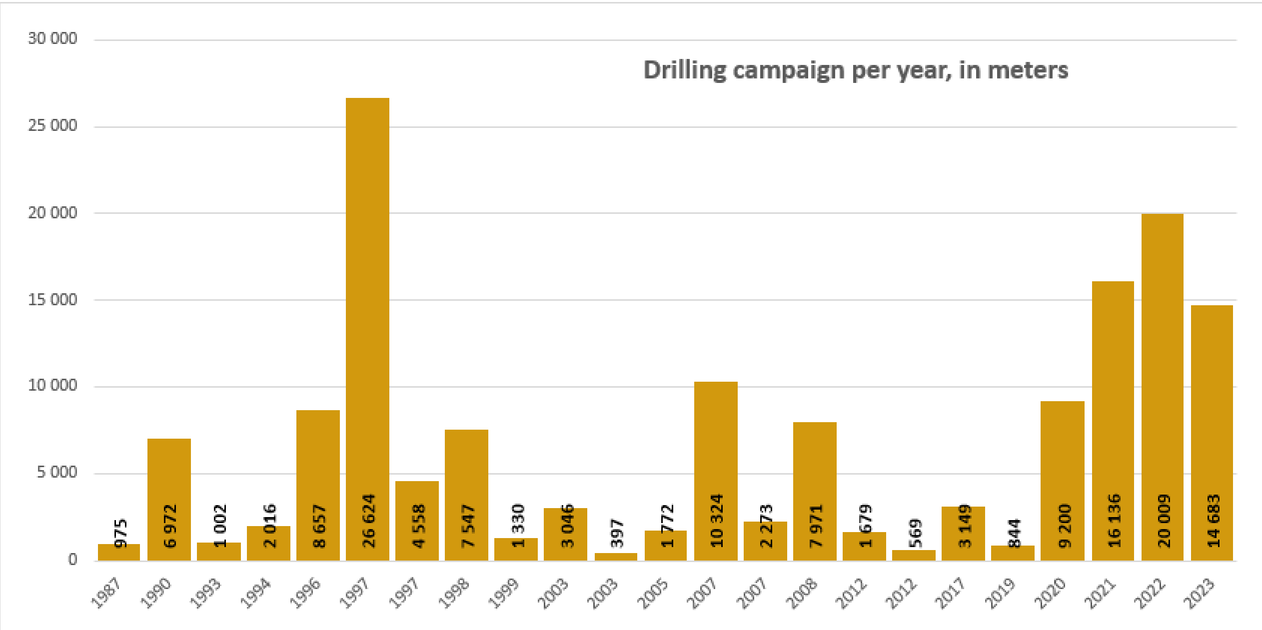


Figure 10-1: Summary of drilling campaign per year at Diablillos Project, AbraSilver Resource Corp., 2023.

Table 10-1: Summary of drilling campaign by year, AbraSilver Resource Corp. – Diablillos Project

Drilling Campaign	Type of Hole	Number of Holes	Meters Drilled	Average Meters Drilled	Min Meters Drilled	Max Meters Drilled
1987	RC	34	975	29	3	34
1990	RC	56	6,972	125	50	250
1993	DDH	5	1,002	200	146	254
1994	DDH	12	2,016	168	25	255
1996	RC	32	8,657	271	140	400
1997	RC	102	26,624	261	49	413
1997	DDH	19	4,558	240	31	380
1998	RC	24	7,547	314	220	370
1999	DDH	5	1,330	266	191	450
2003	RC	20	3,046	152	48	282
2003	DDH	6	397	66	46	76
2005	RC	10	1,772	177	101	252
2007	DDH	54	10,324	191	31	365
2007	Trench	20	2,273	114	38	284
2008	DDH	52	7,971	153	40	355
2012	DDH	19	1,679	88	41	126
2012	Trench	6	569	95	47	145
2017	DDH	28	3,149	112	40	327
2019	DDH	2	844	422	380	464
2020	DDH	34	9,200	271	50	610
2021	DDH	69	16,136	233	50	451
2022	DDH	88	20,009	227	22	411
2023	DDH	82	14,683	179	30	245
Subtotal	RC	278	55,593	190	87	286
Subtotal	Trenches	26	2,841	104	43	214
Subtotal	DDH	475	93,297	201	80	341
Grand total		**779**	**151,732**	**189**	**79**	**313**

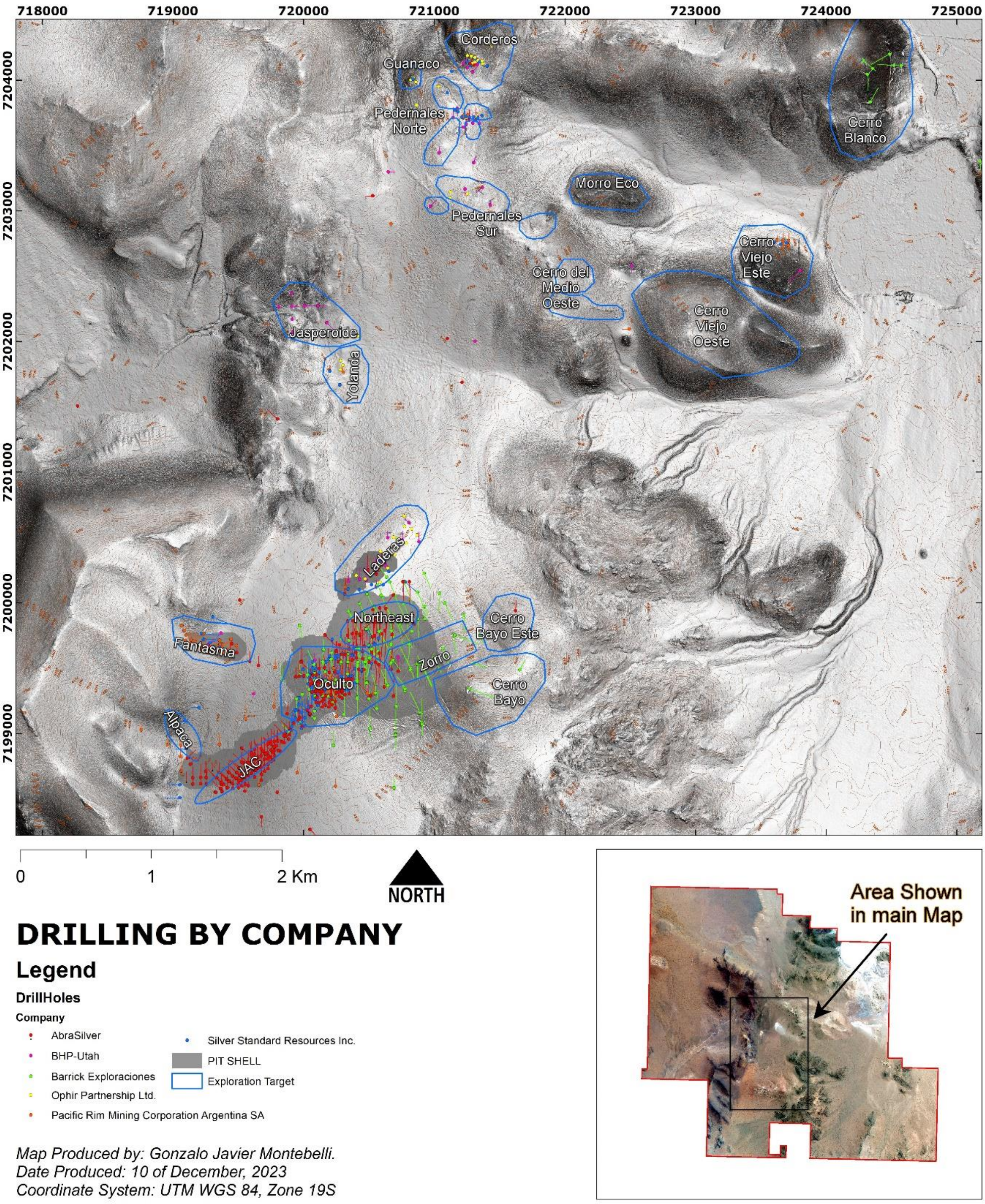


Figure 10-2: Diablillos drill hole locations by company. Source: AbraSilver Resource Corp., 2023.

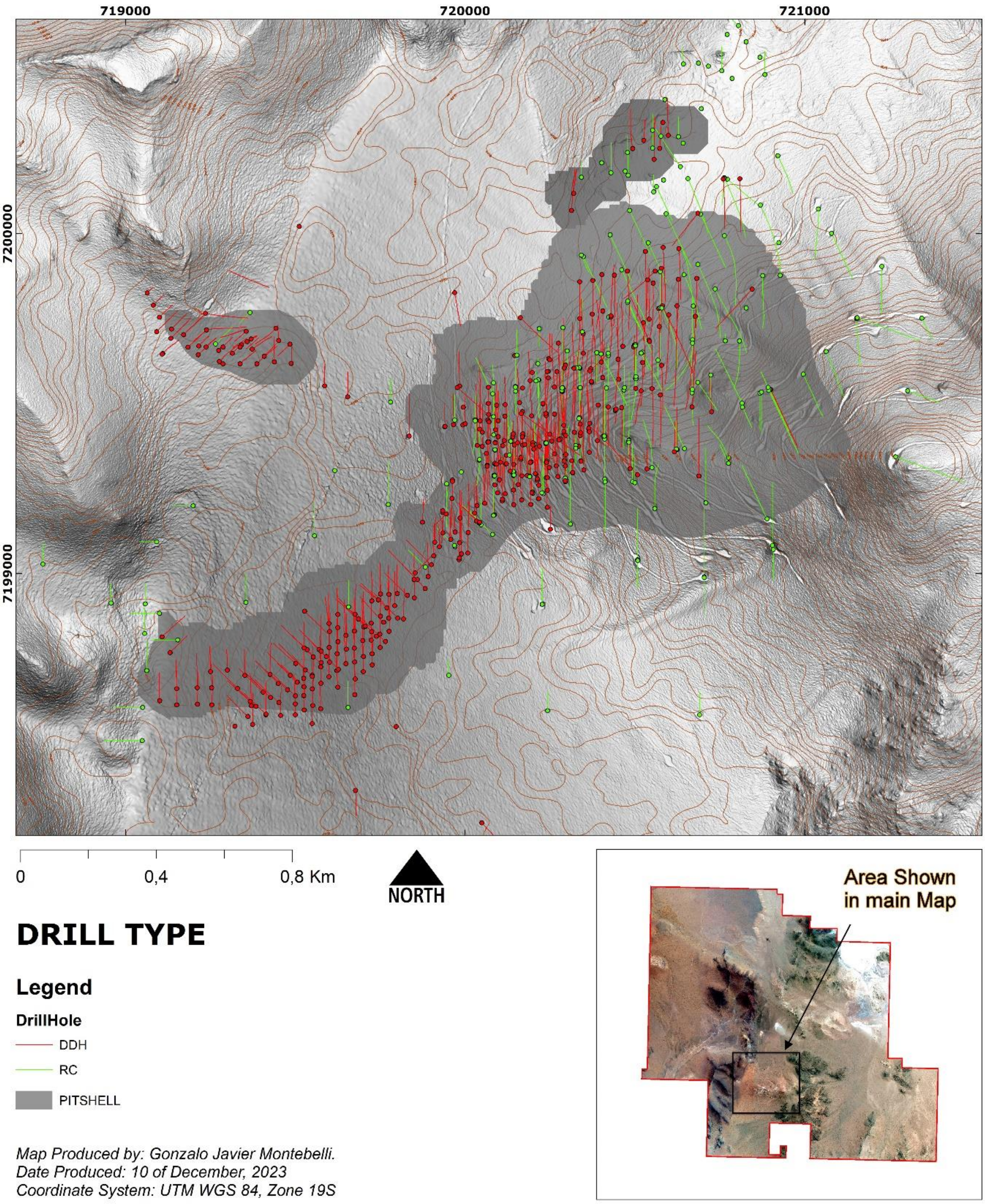


Figure 10-3: Oculto drill hole locations, coloured by type. Source: AbraSilver Resource Corp., 2022.

10.1 Drilling Campaign by Year

10.1.1 Drilling campaign 1987

Ophir drilled 34 shallow RC holes with an aggregate length of 975 m in several areas of the property, mostly at the Laderas zone. No drilling was conducted at Oculto zone. Drilling was carried out by contracting Dresser Atlas. No technical information could be found in the database regarding the hole sizes, surveys, or equipment used.

10.1.2 Drilling campaign 1990

In 1990, BHP drilled another 56 RC holes totalizing 6,972 m, six of which were in or around the Oculto zone. The drilling contractor for this work was also Dresser Atlas.

10.1.3 Drilling campaign 1993 - 1994

During 1993-1994, Pacific Rim completed 3,018 m of DDH drilling in 17 holes, contracting Connors Argentina. Holes were generally collared as HQ and subsequently reduced to NQ. The program was entirely focused on the Oculto zone, with holes oriented along sections aligned north-south as well as at approximately 155°/335°. All holes were inclined at dips between -45° and -65°. Drilling conditions were reportedly poor, with several holes failing to reach their target (Wardrop, 2009). Holes DDH-094-008 and DDH-094-008b were abandoned at 24 m and 57 m, respectively, and holes DDH-094-006 and DDH-094-011 were terminated due to rods twisting off in the holes (M3, 2012). There does not appear to have been routine downhole surveys conducted in these holes, although reportedly acid dip tests were performed on holes DDH-094-001 and DDH-094-004.

10.1.4 Drilling campaign 1996 - 1997

Barrick drilled 134 RC holes totalling 35,281 m and 19 diamond drill holes totalling 4,558 m, entirely at the Oculto zone. Drilling was conducted along both north-south and 155° section planes. The program included twinning four RC holes with diamond holes to check the results of the RC drilling. Boytec Boyles Bros. was the drilling contractor, with RC holes drilled using Drillteck D40K and Ingersoll Rand TH75 machines, and hole diameters were 5 ¼ in. (13.34 cm). Holes were oriented at inclinations ranging from -47° to vertical. Most holes encountered water, which required collection of wet samples. Samples were collected every meter down the hole, and composites were collected every five metres for PIMA analysis. A truck mounted Longyear 44 rig was used for diamond drilling. The holes were collared as HQ and reduced at 200 m downhole to NQ. Downhole surveys were done either with a Reflex Maxibor or simply with acid dip tests. Acid tests were conducted every 50 m downhole, while Maxibor readings were made every ten meters.

10.1.5 Drilling campaign 1998

Barrick drilled 24 RC holes totalizing 7,547 m. Drilling was conducted along both north-south and 155° section planes. Boytec Boyles Bros. was the drilling contractor, RC holes were drilled using Drillteck D40K and Ingersoll Rand TH75 machines, and hole diameters were 5 ¼ in. (13.34 cm).

10.1.6 Drilling campaign 1999

Barrick drilled 5 DDH holes totalling 1,330 m, entirely at the Oculto zone. Drilling was conducted along both north-south and 155° section planes. A truck mounted Longyear 44 rig was used.

10.1.7 Drilling campaign 2003

Pacific Rim, on behalf of SSRI, drilled 3,443.2 m in 26 holes, 20 reverse circulation holes and 6 diamond drill holes primarily on the Oculto zone, as well as at Corderos, Alpaca and Pedernales zones. The drilling contractor was Patagonia Drill Mining Services (Patagonia). Most of the holes were inclined along north direction. Only 10 reverse circulation holes have been included in this mineral resource estimation, as the rest the rest were drilled in the previous mentioned target. The survey methods used was not provided.

10.1.8 Drilling campaign 2005

Ten reverse circulation drill holes totalling 1,772 m were drilled by Pacific Rim/SSRI, five of them targeted Oculto and the other five the Alpaca zone. The holes were drilled contracting Patagonia Drilling. All holes were inclined ranging from -60 to -70 degrees, with south direction for the Oculto zone and west direction for the Alpaca zone.

10.1.9 Drilling campaign 2007

Pacific Rim/SSRI drilled 54 diamond holes, totalling 10,324 meters. Drilling was carried out by Major Drilling. Eight of these holes, the LC and PN series, were not drilled at the Oculto zone. The balance was drilled along the north-south oriented section planes, at inclinations ranging from vertical to -45°. The inclined holes were directed both north and south. Four of the Oculto holes provided sample material for metallurgical testing.

Drill collars were surveyed by differential GPS, with downhole surveys taken at 50 m intervals. The downhole survey instrument type was not reported in the documentation provided, but as both azimuth and dip information were recorded, the author infers that an instrument such as the Maxibor was used.

Eight holes were reportedly abandoned or terminated due to difficult drilling conditions.

10.1.10 Drilling campaign 2009

In 2009, a total of 7,911 m of HQ diamond drilling was completed at Oculto zone in 52 holes by Pacific Rim/SSRI in 2009, with Major Drilling as the contractor. All but two holes were drilled along the north-south section orientation. These two, DDH-08-067 and DDH-08-067A, were oriented at azimuth 335° (i.e., the 155° section planes). Three holes, the KP series, were drilled for geotechnical purposes. The rest of the holes were intended for resource definition at Oculto. Collar locations for holes DDH-08-063 to DDH-08-071 were surveyed by differential GPS. The balance, DDH-08-072 to DDH-08-108, was surveyed by compass and tape from existing collars. Even though, AbraSilver re-measured every hole with differential GPS, updating collar coordinates during the 2020 drilling campaign, as all holes were properly marked in the field. Downhole surveys were collected at 50 m intervals, again presumably with a Maxibor or similar instrument.

10.1.11 Drilling campaign 2012

Pacific Rim/SSRI drilled 19 holes, totalling 1,679 m on the Fantasma, Laderas, Cerro Viejo, and Pedernales zones. The work was conducted under contract by CAP S.A. Since these holes were not drilled at Oculto and do not affect the Mineral Resource estimate, they are not discussed in detail.

10.1.12 Drilling campaign 2017

AbraPlata drilled 28 diamond holes at Diablillos in 2017, totalling 3,149 meters, all on the Fantasma zone. Fantasma is a satellite body of silver-rich epithermal mineralization located under a thin cover of topsoil, approximately 800 m west of Oculto. BHP Utah drilled a single RC hole on the zone in 1990. Barrick excavated six trenches but the sampling results from them have been lost. In 2011, SSRI cleaned out and re-sampled the trenches, and the following year, drilled four diamond holes (see Table 10-1). These holes intersected mineralization, but the drilling was not extensive enough to permit an estimate of Mineral Resources for the Fantasma zone. The 2017 drilling program was successful in expanding and confirming the extent and tenor of the silver mineralization and forms the basis of the estimate described in RPA´s Technical Report, 2018.

10.1.13 Drilling campaign 2019

AbraSilver drilled 2 diamond holes at Diablillos Project in 2019, totalling 844 meters, both in the Oculto zone. A new interpretation of the project was given following Tate’s visit to the Diablillos project, and these two holes were drilled to test for vertical feeders up which gold and silver mineralizing fluids migrated and permeated laterally along favourable horizons.

10.1.14 Drilling campaign 2020

AbraSilver drilled 34 diamond holes at the Diablillos Project in 2020, totalling 9,200 meters, with two at the Laderas zone, three at the Oculto Northeast zone and the rest in the Oculto area. All were designed to test the new conceptual basis of the deposit and were oriented in the north-south vertical orientation, dipping between 60° to 65°. Almost all holes intercepted economic mineralization. The first five holes were executed by drilling contractor FORACO, and the rest, with HIDROTEC PERFORACIONES. The core size of all holes was HQ diameter. Collar locations were surveyed using differential GPS with RTK system, and the collar orientations were determined with a compass. Downhole surveys were conducted at intervals of 20 meters from collar to end of hole, using GYRO CHAMP tool.

10.1.15 Drilling campaign 2021

AbraSilver drilled 69 diamond holes at the Diablillos Project in 2021, totalling 16,136 meters. Two were drilled at the Corderos zones, three at the Fantasma zone, one at the Jasperoide zone, two at the Laderas zone, two at the Pedernales zone and two at the valley geophysics anomaly. The rest were drilled at the Oculto zone. All of them were oriented in the north-south vertical orientation, dipping between 60° to 65°. Almost all the hole's intercepted economic mineralization. All holes were drilled by drilling contractor HIDROTEC PERFORACIONES. Core size for all holes was HQ diameter. Collar locations were surveyed using differential GPS with RTK system, and the collar orientations were determined with a compass. Downhole surveys were conducted at intervals of 20 meters from collar to end of hole, using GYRO CHAMP tool.

10.1.16 Drilling campaign 2022

During the first semester of 2022 AbraSilver drilled 40 diamond holes at the Diablillos Project in the first half of 2022, totalling 10,491.2 meters. Five were drilled for geotechnical purposes at the Oculto zone, five as condemnation holes and one (DDH-022-019), which was the discovery hole for the JAC zone. The rest were drilled at the Oculto zone. All holes were oriented in the north-south vertical orientation, dipping between 60° to 85°. Almost all holes intercepted economic mineralization. All holes were drilled by drilling contractor HIDROTEC PERFORACIONES. Core size for all holes was HQ diameter. Collar locations were surveyed using differential GPS with RTK system, and the collar orientations were determined with a compass. Downhole surveys were conducted at intervals of 20 meters from collar to end of hole, using GYRO CHAMP tool.

During the second semester of 2022 AbraSilver drilled 48 diamond holes at the Diablillos Project in 2022, second semester, totalling 9,536 meters, with two of them as condemnation, one for water exploration and the rest of them at the JAC zone. Most of them were oriented in the north-south vertical orientation, dipping between 60° to 85°. Almost all holes intercepted economic mineralization. All holes were drilled by drilling contractor HIDROTEC PERFORACIONES. Core size for all holes was HQ diameter. Collar locations were surveyed using differential GPS with RTK system, and the collar orientations were determined with a compass. Downhole surveys were conducted at intervals of 20 meters from collar to end of hole, using GYRO CHAMP tool.

10.1.17 Drilling campaign 2023

AbraSilver drilled 82 diamond holes at the Diablillos Project in 2023, totalling 9,536 meters. All but four were drilled at the JAC zone. Holes DDH-23-076 and DDH-23-077 were drilled at the Alpaca zone, with DDH-23-078 and DDH-23-079 drilled at the Fantasma zone. Most of them were oriented in north-south vertical orientation, dipping between 60° to 85°. Almost all holes intercepted economic mineralization. All holes were drilled by drilling contractor HIDROTEC PERFORACIONES. Core size for all holes was HQ diameter. Collar locations were surveyed using differential GPS with RTK system, and the collar orientations were determined with a compass. Downhole surveys were conducted at intervals of 20 meters from collar to end of hole, using GYRO CHAMP tool.

10.2 Discussion and conclusions

The author of this section, Mr. Peralta, visited the site while AbraSilver was drilling at the JAC zone. The author reviewed drilling procedures, core samples and methodologies of collaring, surveying, logging, sampling, and chain of custody for the drilling campaigns from 2020 to 2023.

In the author’s opinion, all drilling conducted by AbraSilver was completed in an appropriate manner consistent with common industry practice.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

The following section is largely taken from RPA (2018), MP (2021) and MP PEA (2022). Information on the sample preparation and analysis procedures used prior to AbraSilver acquisition of the project and was taken from an internal Technical Report to SSRI prepared by M3 (2011), and from MDA (2001). Also, internal historical reports have been used as Ristorcelli (1997) and Barrick Exploraciones SA (1998).

11.1 Pre-1996

The core and chip logging, sampling, and analytical protocols used for holes drilled prior to 1996 were not documented in the information provided to the author.

11.1.1 RC Drilling

Cuttings from every meter were collected and stored for logging and archiving.

11.1.2 Diamond drilling

Core was logged on site for lithology, alteration, mineralogy, and geotechnical data and then marked by the logging geologist for sampling. Sample intervals ranged from 0.5 m to 1.5 m in length but were typically one meter, with breaks for lithology or structural features.

Samples comprised half-cores, cut by using a diamond saw, with the remaining half placed in the boxes for storage. The core and photograph archive were stored in Salta, while in 2017 cores were transported to site and re-conditioned in new wooden boxes whenever needed.

11.1.3 Analyses

According to historical report done by Ristorcelli (1997), original samples were sent to SGS Lab and during 1997, a check sampling was carried out in order to validate the database up to that date. Both rejects and pulps were sent to Chemex Labs for check analysis. The pulp sample results were 4.5% higher for gold in the SGS analysis and 2.9% higher for silver, as described in an available report.

11.2 1996 – 1999 (Barrick)

11.2.1 RC Drilling

Cuttings from every meter were collected and stored for logging and archiving. Composite samples of every five meters of cuttings were collected and submitted for PIMA scans.

Dry samples were split at the drill with a cyclone, with one quarter sent for analysis and the remainder stored at site. Most holes encountered water, which required wet sampling. Initially, wet cuttings were split using a wet splitter, however, this was found to be unsatisfactory owing to the inadequate volume of sample material collected. Barrick personnel considered the samples to be inadequate if less than 25% of the total recovered cuttings were collected or if total recovery was less than 50%. From hole RC-096-022 onward, if the split volume was too low, the entire volume of cuttings was sent to the laboratory, where they were split after drying.

11.2.2 Diamond drilling

Core was logged on site for lithology, alteration, mineralogy, and geotechnical data and then marked by the logging geologist for sampling. Sample intervals ranged from 0.5 m to 1.5 m in length but were typically one meter, with breaks for lithology or structural features. The marked core was photographed and sent for sampling. Samples comprised half-cores, cutting by a diamond saw, with the remaining half placed in the boxes for storage. The core and photograph archive are reportedly stored in Salta. In 2017, cores were transported to site and re-conditioned in new wooden boxes as required.

11.2.3 Analyses

Bondar Clegg Ltda. in Coquimbo, Chile ("Bondar Clegg") analysed samples from drill holes RC-96-001 through RC-97-53 for gold and silver. Samples from RC-97-54 through RC-97-122 were analysed for gold and silver by SGS, Minerals Division, in Santiago, Chile ("SGS Santiago"). The 1998 samples, RC-98-123 through RC-98-146 continued to be analysed by SGS, but in their laboratory in Mendoza, Argentina. Barrick's quality control program uncovered problems with the precision of results from the Mendoza analyses and the majority of the 1998 samples were re-analysed by SGS, Santiago. Corrected data was incorporated into the final database.

At the laboratory, samples were dried at a maximum of 60°C, crushed to 90% passing through a Tyler 10 mesh screen, and split down to a 1,000 g sub-sample. The entire 1,000 g sample was pulverized to 95% passing a Tyler 150 mesh sieve. The pulp was riffled down to a 250 g pulp for assay. The remaining 750 g of pulp material was returned to Barrick.

Gold and silver analyses were generally by fire assay ("FA") with a gravimetric finish, with some of the analyses done by ICP Atomic Emission Spectroscopy ("ICP-AES"). It is not known what accreditations were held by Bondar Clegg or SGS in the period in question, however, in author's opinion these laboratories were, and continue to be, recognized in the industry as legitimate and reputable analytical firms. Bondar Clegg has since been acquired by ALS Chemex in Mendoza, Argentina ("ALS Chemex"), which has ISO 9001:2000 certification.

11.2.4 Metallurgical sampling

Holes DDH-097-012 to DDH-097-016, inclusive, were sampled in their entirety and sent to Lakefield Research Chile S. A. ("Lakefield") in Santiago, Chile, for metallurgical testing.

11.3 2007 – 2008 (Pacific RIM for Silver Standards Resources)

11.3.1 Logging

During 2007, a total of 54 diamond drillholes were done, totalling 10,324.3 meters and 2,272.4 meters of trenches. The data from the trenches were not considered for the Resources and Reserves estimates. In 2008, 52 diamond drillholes were drilled, totalling 7,970.95 meters.

For both drilling campaign the core was transported by truck to the logging facility on site where it was washed and photographed. Digital images were uploaded daily to the on-site computer.

Core was logged for recovery and RQD. Artificial breaks in the core caused by drilling or handling were ignored for the RQD determinations. Marbled sections were lightly tapped with a hammer and, if they remained intact, they were included as intact intervals for RQD measurement.

Logging was conducted for lithology, structure, alteration, and mineralogy, and the data transcribed onto spreadsheets for entry into a Gemcom database.

The logging geologist marked the core for sampling. Sample intervals were limited to a minimum of 0.5 m and a maximum of 2.0 m with breaks for lithology and mineralization. An attempt was made to constrain the samples to 1.5-meter lengths and extend them to the 2.0 meter maximum only where contacts were encountered.

11.3.2 Sampling

Samples were split using a manual blade splitter, with one half retained for archiving and one half sent for assay. The samples were placed in plastic bags, sealed with plastic straps, and then stored within a locked area in the logging facility prior to shipment. Samples remained under the supervision of the project geologist while in storage. Individual sample bags were placed in woven nylon rice bags for shipment by truck to ALS Chemex in Mendoza.

The remaining core was cross stacked in chronological order, then shipped to the SSRI warehouse in Salta. In 2017, cores were transported to site and re-conditioned in new wooden boxes if required.

11.3.3 Sample preparation and analyses.

Upon arrival at the ALS Chemex laboratory, the core samples were logged into the database system, placed into a stainless-steel tray, and dried for approximately four to eight hours at approximately 100°C, depending on moisture content. Samples were processed through primary and secondary crushers to at least 70% passing a 2 mm (Tyler 10 mesh) screen. Standard crushing practice also included repeatedly cleaning the equipment prior to, during, and after each sample batch using coarse quartz material, and air cleaning the crushers after each sample. The crushed material was then riffle-split down to approximately 250 g to 500 g, depending on the requested analysis, and the remaining coarse reject material was returned to Pacific Rim for storage and possible future use.

The 250 g to 500 g sub-sample material was processed in a disk pulveriser to 85% passing a 75 µm (Tyler 200 mesh) screen. A 250 g pulp sample was collected and sent for analysis. All samples were initially analysed by ICP mass spectroscopy ("ICP-MS") for 48 elements, after digestion in nitric, perchloric, and hydrofluoric acids.

Gold analyses by FA on a 30 g aliquot with an atomic absorption finish ("AA") were performed on samples between 0.005 g/t Au and 10 g/t Au. For assays above 10 g/t Au, FA with a gravimetric finish was employed. Silver samples with ICP-MS assays greater than 200 g/t Ag were also re-run by FA with a gravimetric finish.

11.4 2017-2023 (AbraSilver Resource Corp.)

11.4.1 Logging

Core were delivered daily to the logging area located at the camp. AbraSilver geologists inspected and re-aligned the core, photographed each box, and measured the recovery, RQD and PLT. Logging was conducted for lithology, alteration, and mineralogy. All information logged was captured in spreadsheets.

11.4.2 Sampling

Sampling was conducted at 1.5-meter intervals in weakly mineralized zones, reducing to one metre where mineralization was more intense. Breaks were also introduced at obvious contacts. The core was split using a core diamond saw, with one half taken for assay and the other placed back in the box for storage.

The samples were then bagged and placed into larger rice bags, along with assay QA/QC materials, then shipped to SGS Argentina SA in Salta ("SGS Salta"). Each shipment was accompanied by a manifest listing the contents of the rice bags and instructions for the laboratory. A copy of the manifest was retained at site, and another sent to AbraSilver's main office in Buenos Aires. An additional separate copy was sent to the laboratory.

The core and samples were continuously in the custody of AbraSilver personnel or authorized designates. As the site is located in a very remote area, for the duration of the program, all cores and samples were under full-time supervision of AbraSilver staff.

11.4.3 Sample preparation and analyses.

All samples received at SGS Salta, preparation lab in Campo Quijano, were prepared, and then the pulp sachet was directly dispatched to their facility in Lima, Peru, for final analysis. The samples were dried at 100°C, then passed through a jaw crusher to 90% passing a -10-mesh screen. A 250 g split was processed in a ring and puck pulveriser to 95% passing -140 mesh.

All samples were analysed using a multi-element technique consisting of a four-acid digestion followed by ICP/AES detection, gold being analysed by 0g Fire Assay with an AAS gravimetric finish. Silver results greater than 100g/t were re analysed using four acid digestion with an ore grade AAS gravimetric finish.

Lima and Campo Quijano laboratories returned the pulps and the rejects to Diablillos where they are stored.

11.5 Quality assurance/Quality control

Quality Assurance ("QA") consists of collecting evidence to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical method(s) used to have confidence in the Mineral Resource estimation. Quality control ("QC") consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the exploration drilling samples. In general, quality assurance/quality control ("QA/QC") programs are designed to prevent or detect contamination and allow analytical precision and accuracy to be quantified. In addition, a QA/QC program can disclose the overall sampling – assaying precision of the sampling method itself.

Accuracy is assessed by a review of assays of certified reference materials ("CRMs"), and by check assaying at outside accredited laboratories. Assay precision is assessed by reprocessing duplicate samples from each stage of the analytical process from the primary stage of sample splitting, through sample preparation stages of crushing/splitting, pulverizing/splitting, and assaying.

11.5.1 Pre-AbraSilver QA/QC

The QA/QC programs conducted since the beginning of the project have been reported by AMC Consultants Pty Ltd. ("AMC"), M3 (2011), Wardrop (2009), RPA (2018), MP (2021) and MP PEA (2022). All these reports refer to internal third-party studies, as Bruce Goad (1994), Ristorcelli (1997), Barrick (1998). Therefore, the author has summarized the information provided.

1993 Drilling Campaign

BHP-Utah implemented a protocol for a field duplicate to be taken at the ten percentage of the total population. Also, a selection of high-grade pulp sample was sent to Canada (Chemez Lab, Vancouver). Original and duplicate reject sample were assayed at SGS Chile Ltd.

During March 18th, 1994, the entire 1993 drilling campaign was reviewed by Bruce Goad from Inukshuk Exploration Inc., producing an internal report summarizing logging, sampling, and assaying protocols. Also, the report includes original certificates for each hole and a comparative table for duplicates. In the author's opinion, the sampling and analytical work for this program appear to have been conducted in an appropriate fashion, using methods commonly in use in the industry. Assaying was done using conventional, industry standard methods, and by well-known independent commercial laboratories.

1996 – 1999 Drilling Campaign

Barrick initially implemented a protocol for a field duplicate to be taken once every ten samples, and for selected samples to be re-assayed at a secondary laboratory. In 1998, a revised set of procedures for the RC drilling were implemented based upon recommendations by Smee and Associates Consulting Ltd. These procedures were as follows:

- Every 20 m, a field duplicate was collected, assigned a new sample number, and inserted into the sample stream.
- One standard and one blank were inserted every 40th samples.

The standard material was obtained from Barrick's Pascua Project in Chile, while the blank comprised gneiss from a bulk material supplier. Five samples of the blank material were sent to each of three laboratories to confirm that they were not mineralized.

2007 – 2008 Drilling Campaign

Assay QA/QC protocols were established by Pacific Rim, working on behalf of SSRI. One control sample, consisting of one of either a blank, standard, or field duplicate, was inserted every 20th sample. Check assays at a secondary laboratory, Assayers Canada in Vancouver, were also conducted at a rate of no less than one in twenty.

A total of 6,561 duplicates or repeats, representing 11.54% of the database compiled during the period, were collected up to 2007. A further 600 duplicates representing 7.23% of the database, were taken during 2007 and 2008. Also, during 2007 and 2008, 952 standards and blanks were inserted into the sample stream, representing 11.47% of the database accumulated in that period.

Wardrop (2009) reported that, in 2009, C. Vallat reviewed the assay 2007-08 QA/QC data for SSRI. No concerns or issues were reported from this review, and the database was declared suitable for use in Mineral Resource estimation.

11.6 Discussion of pre-AbraSilver assays QA/QC

In author's opinion, the sampling and analytical work for the programs between 1996 and 2008 appear to have been conducted in an appropriate fashion, using industry standard practices. Assaying was done using conventional, industry standard methods, and by well-known independent commercial laboratories. The number and orientation of the drill holes, and the sampling methods employed are such that the samples should be representative of the mineralization at Oculto, JAC, etc. Cuttings, core, and samples were handled solely by operator personnel or their contractors and kept in a reasonably secure setting. The site is remote and was attended continuously during the drilling and sampling operations, so the chance of tampering is very low.

The author notes that a manual blade splitter has been used for much of the sampling. These devices, if used properly, can perform satisfactorily, however, a diamond saw is generally superior in producing unbiased samples, although sometimes the diamond blade can wash out the fine material. Consequently, the author recommends that for future drilling programs, a diamond saw splitter be acquired and employed.

The author concludes that the QA/QC protocols applied for most of the drilling at Oculto meets a reasonable minimum standard. The only concern noted was with the precision of some assay results of SGS in Mendoza . The insertion rate for control samples appears to have been adequate, however, detailed reports of QA/QC results should be produced in future, as the information is spread in different internal documents, most of them on paper. It is recommended that these reports be located, if possible, and kept as reference for future technical reports and audits.

In the author's opinion, the sampling and analytical work on Oculto is acceptable for use in Mineral Resource estimation.

11.7 AbraSilver QA/QC

11.7.1 Period 2017 to 2021

AbraSilver assay QA/QC protocols included insertion of blanks, standards (two types), and core duplicates into the sample stream. Blanks were inserted at a rate of approximately one for every 25 samples, and core duplicates were taken approximately once every 25 samples.

Two standards, from a batch dating back to the 2012 drilling, were inserted at a rate of one in 25 samples. This standard, PM 1122 SR-I & STRT-04, were commercial reference material prepared by WCM Minerals, of Burnaby, BC, Canada, and SMEE & Associates Consulting Ltd., of North Vancouver, B.C., Canada respectively.

The specifications of the standard are listed in Table 11-1.

Table 11-1: Certified reference materials (CRM).

CERTIFIED REFERENCE MATERIAL						
	PM-1122			STRT-04		
ELEMENT	Au	Ag	Cu	Au	Ag	Cu
UNIT	[g/t]	[g/t]	[ppm]	[g/t]	[g/t]	[ppm]
Expected Value	1.37	168	6,500	0.86	27	24,740
Two Standard deviation	0.08	11	162	0.03	3	480

A total of 926 blanks, representing 5.9%, 450 standards (2.9%), 750 core duplicates (4.8%) and 74 reject duplicates were submitted during the program. From a total of 15,750 samples taken, the overall QA/QC samples represent 13.52% of the total population of samples taken during the drilling program. Only 4 samples were detected with no description, representing no significant quantity. Industry best practice recommends at least 10% of the total population.

A summary of the QA/QC can be found in Table 11-2.

Table 11-2: Summary of AbraSilver QA/QC Counting.

Sample Type	Count	Percentage	STRT-04	PM 1122 (SR-I)	Core	Reject	Pulp
Number of samples	15,750	100%					
Original	13,620	87%					
Blank	926	5.9%					
CRM	450	2.9%	262	188			
Duplicate	750	4.8%			676	74	0
Validation	4	0%					

Lower detection limits for the ICP-AES analyses were 0.5 g/t Ag and 5.0 ppb Au. AbraSilver protocol for definition of a blank's failure is ten times the detection limit. No blanks returned values that met this definition, while two blank sample retuned a gold value greater than five times the detection limit and one blank sample returned a silver value greater than five times the detection limit.

The gold performance and silver performance in blanks can be seen in Figure 11-1 and Figure 11-2.

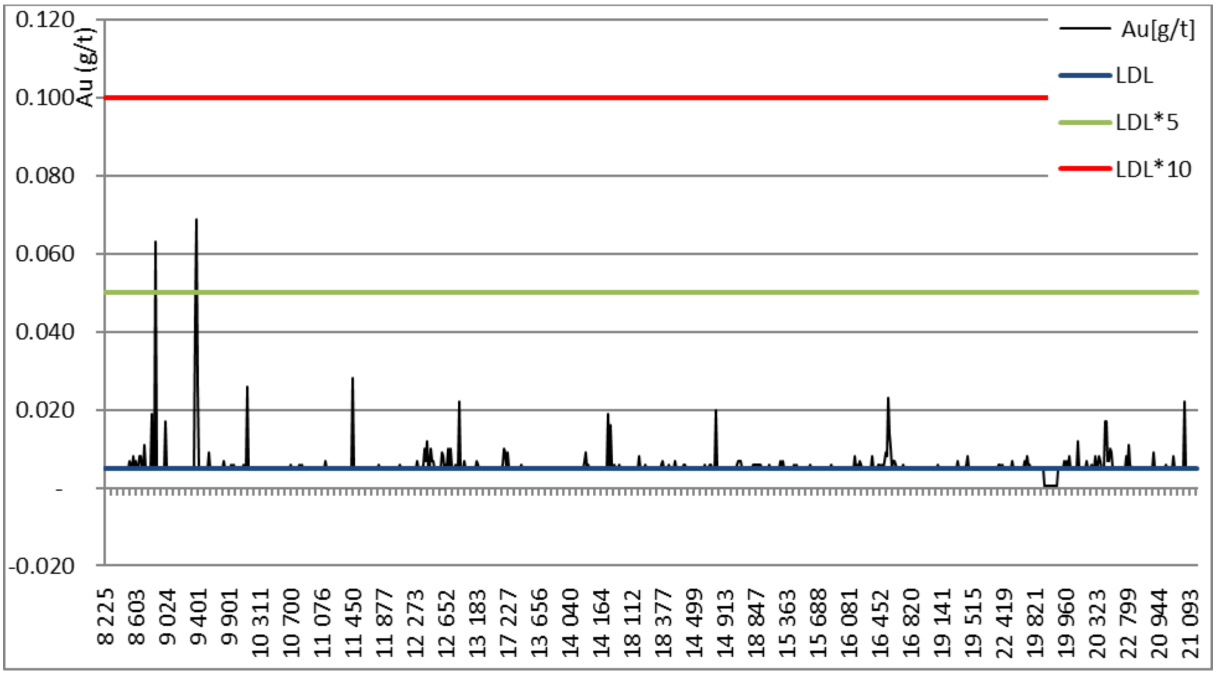


Figure 11-1: Internal reference material, blank, gold performance.

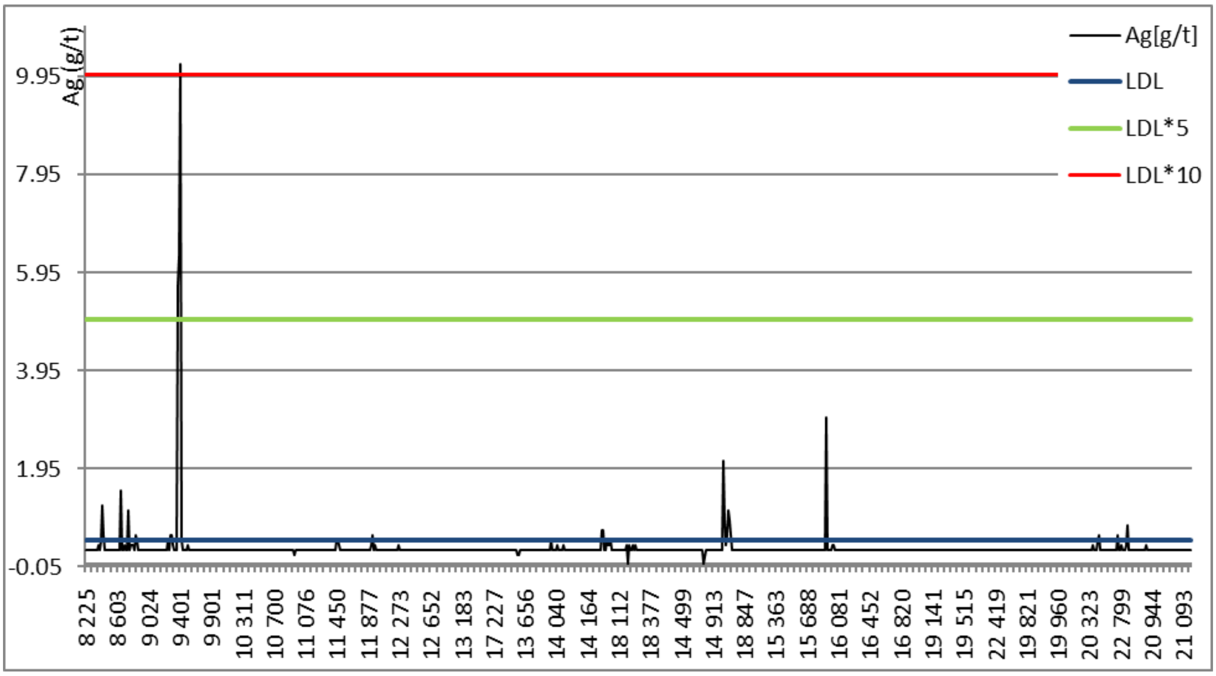


Figure 11-2: Internal reference material, blank, silver performance.

AbraSilver defines a reference material ("CRM") failure as a value that differs from the recommended value by more than 5% which represent approximately three times the standard deviation.

Four standards returned values outside of this 5% error limit for CRM STRT-04, three for gold and one for silver. In addition, for CRM PM11, none of the standards returned values outside of this 5% error limit.

The gold performance and silver performance for the CRM STRT-04 can be seen in Figure 11-3 and Figure 11-4 for the other CRM, in Figure 11-5 and Figure 11-6.

Core duplicates were obtained from splitting half cores into two separate samples equivalent to 1/4 core, each one bagged and labelled separately. Core duplicates reflect all levels of errors from its first splitting to analytical error. These features are evidenced in Figure 11-7 and Figure 11-8 which show the moderate to high variability. The core duplicates were observed to agree quite closely with the original assays for gold and silver.

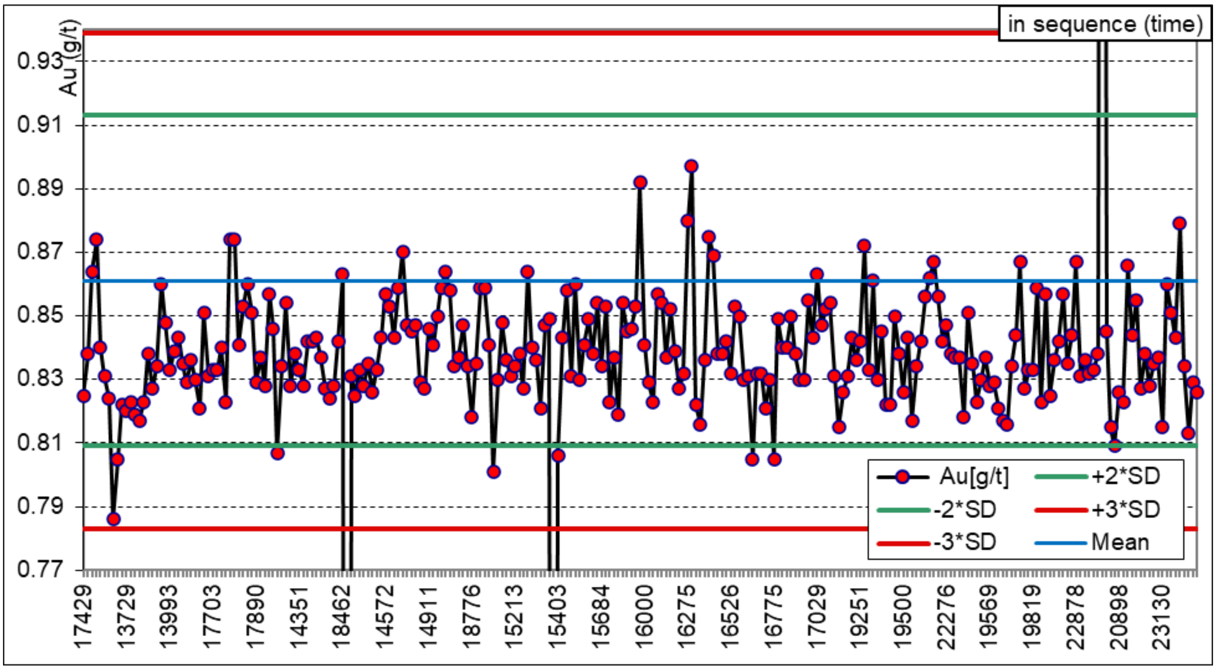


Figure 11-3: Certified reference material STRT-04, gold performance.

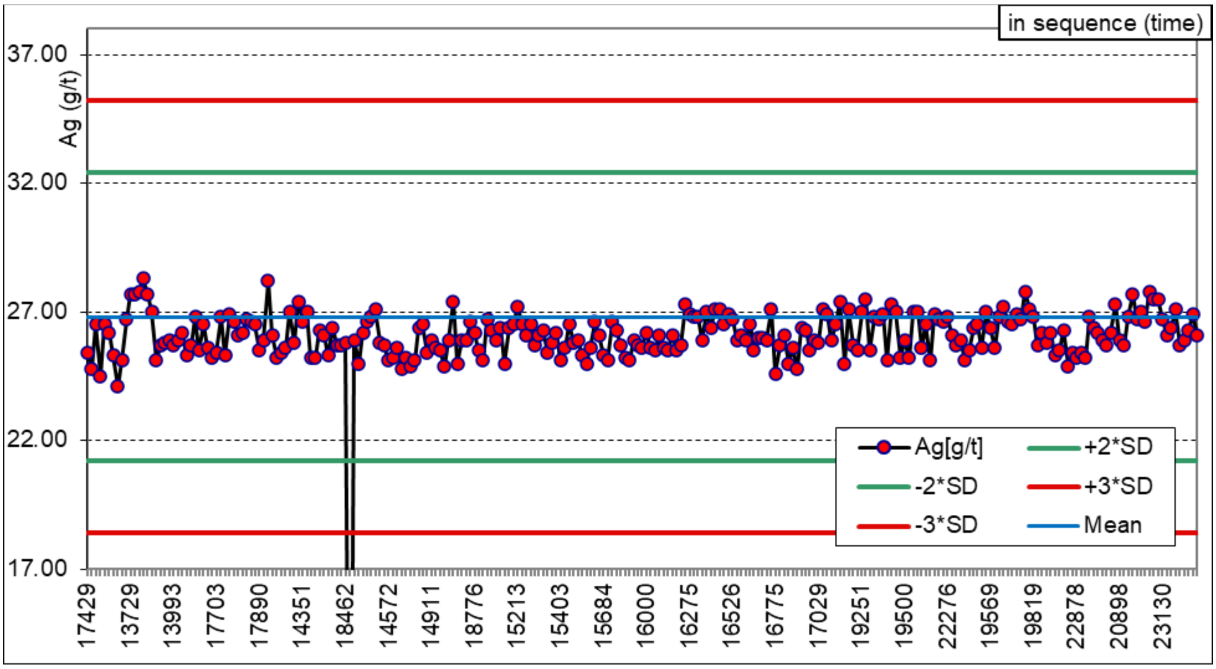


Figure 11-4: Certified reference material STRT-04, silver performance.

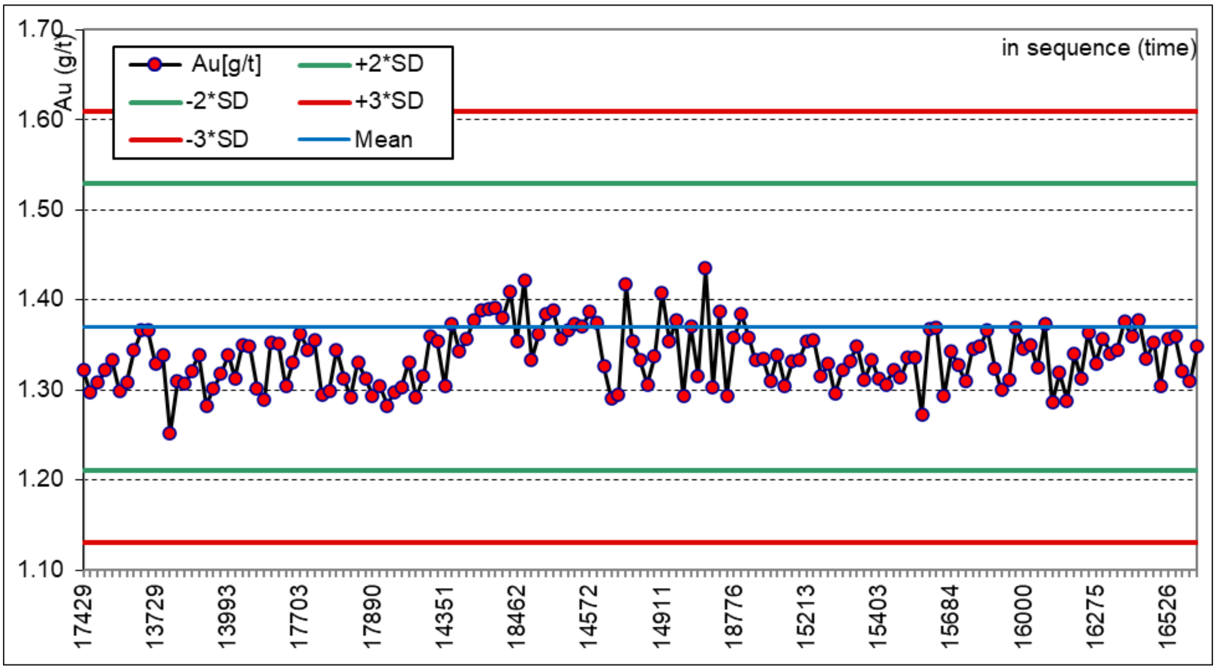


Figure 11-5 Certified reference material PM 1122, gold performance.

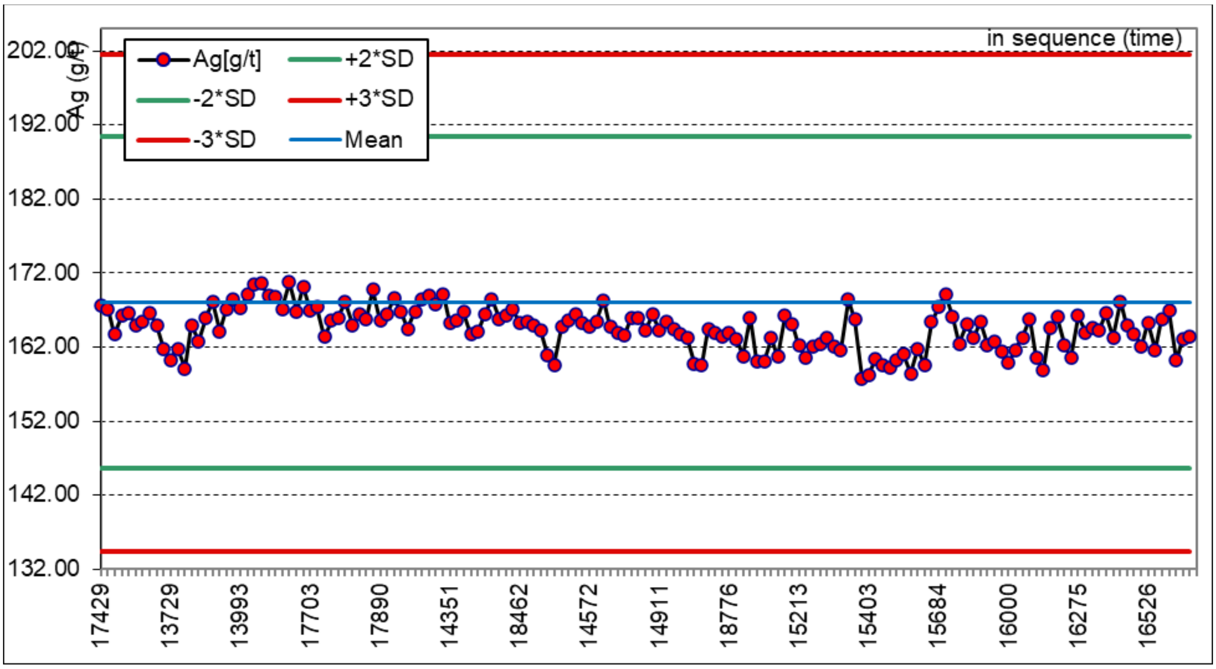


Figure 11-6: Certified reference material PM 1122, silver performance

Core duplicates were obtained from splitting half cores into two separate samples equivalent to 1/4 core, each one bagged and labelled separately. Core duplicates reflect all levels of errors from its first splitting to analytical error. These features are evidenced in Figure 11-7 and Figure 11-8 which show the moderate to high variability. The core duplicates were observed to agree quite closely with the original assays for gold and silver.

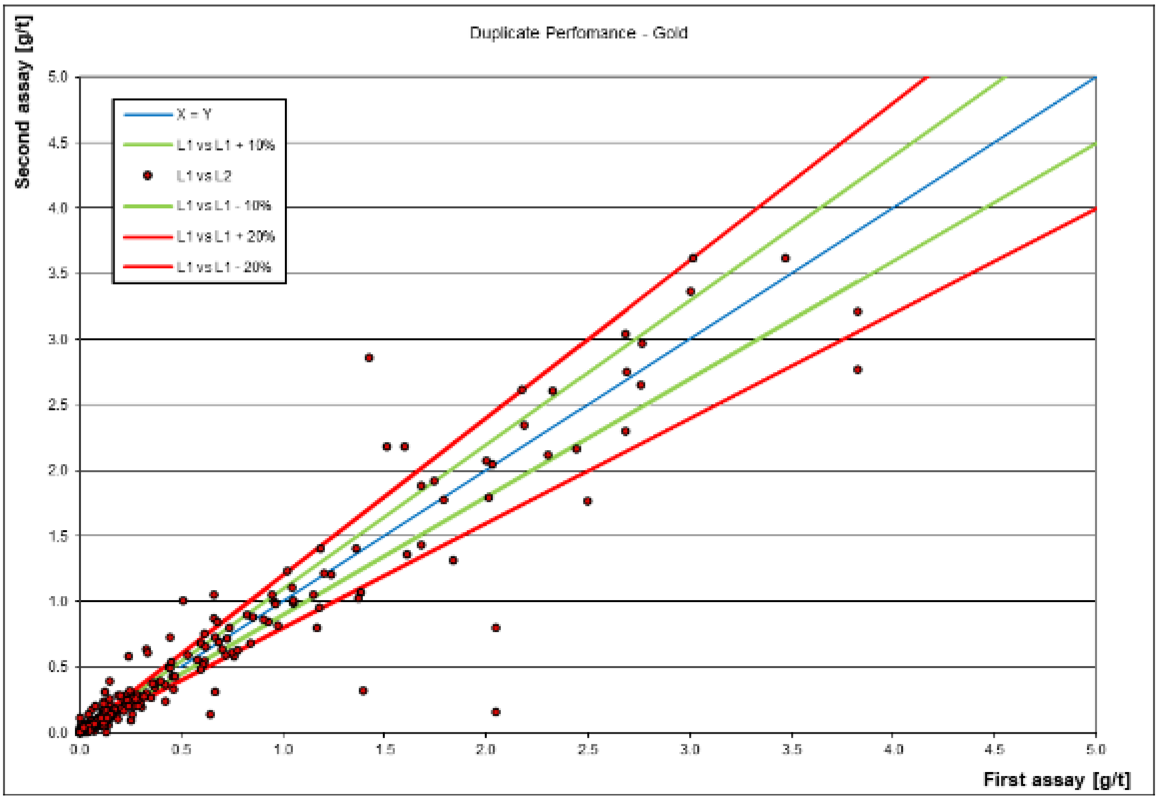


Figure 11-7: RMA Scattergram for duplicate performance of gold.

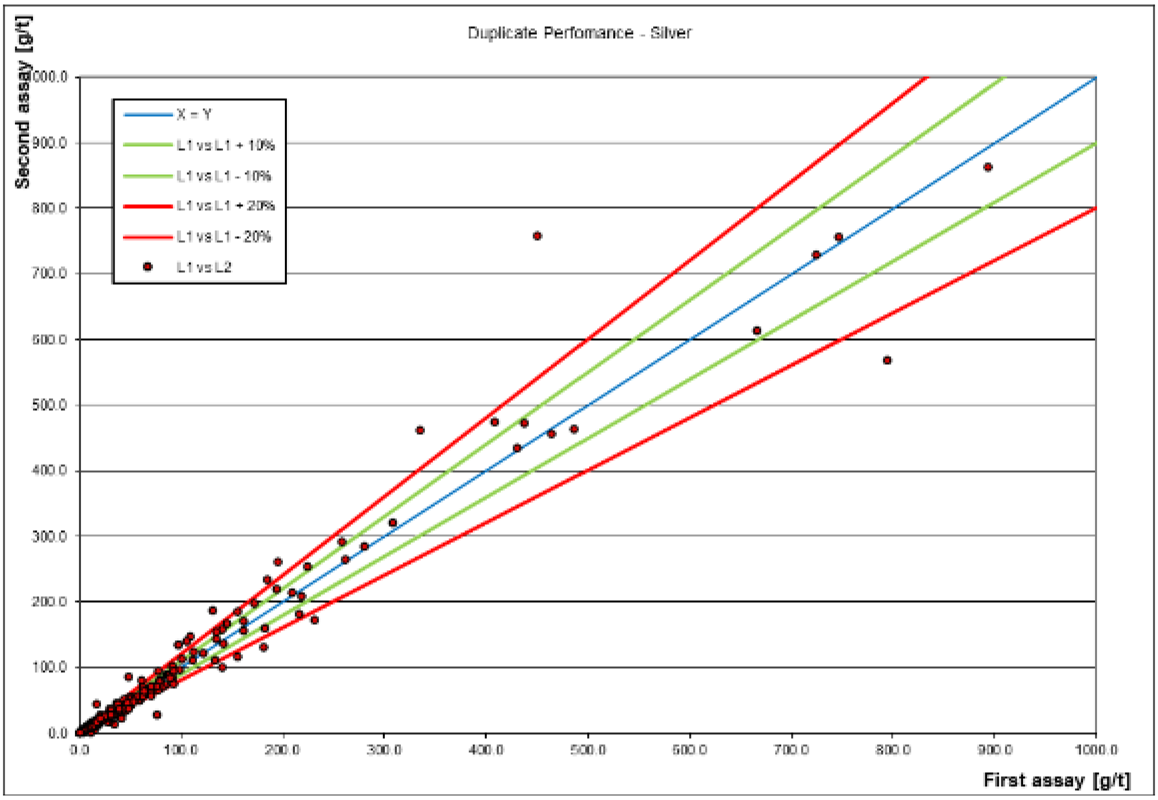


Figure 11-8: RMA Scattergram for duplicate performance of silver.

11.7.2 Period 2021 to 2022 (First Semester)

Due to problems with CRM supplier and due to the complexity of finding a reference material with oxidised matrix over the entire range of gold and silver values at the project, AbraSilver decided to generate its own internal reference material.

Three types of internal refence material (IRM) were generated in order to comply with high grade to low grade mineralization. IRM was generated based on 50 kilos of rejects returned by the laboratory (SGS)following assay of samples. The reference material was returned to SGS Lab to be processed in a disk pulveriser to 85% passing a 75 µm (Tyler 200 mesh) screen. Then, the total 50 kilos were homogenized and divided into 500 individual sachets of 100-gr aliquots. A total of thirty samples were sent to certified laboratories to carry out round robin testing. Ten samples were sent to ALS Chemex, ten samples to Alex Stewart Assayers and the ten samples to SGS Lab. Once the assays were received a statistical analysis was performed to determine the expected value and the two-standard deviation for future use.

The same protocol of insertion for the three types of control samples was continued, as used in 2017-2021, and described above, with the insertion of blanks, standards (one of the three types), and core duplicates into the sample stream. IRM were inserted at a rate of one for every 25 samples, blanks were inserted at a rate of approximately one for every 25 samples, and core duplicates were taken approximately once every 25 samples, with two IRM used for each CRM.

The specifications of the standard are listed in Table 11-3.

Table 11-3: Certified reference materials.

CERTIFIED AND INTERNAL REFERENCE MATERIAL								
	STRT-04 (Certified)		ASDBL_Au-Ag_H01 (Internal)		ASDBL_Au-Ag_M01 (Internal)		ASDBL_Au-Ag_L01 (Internal)	
ELEMENT	Au	Ag	Au	Ag	Au	Ag	Au	Ag
UNIT	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]
Expected Value	0.86	27	3.092	358	0.904	109	0.436	39
Two Standard deviation	0.03	3	0.12	6	0.068	4	0.040	2

During the 2021-2022 program the following reference materials were submitted: 959 blank samples (7.24%),219 STRT-04 standards (2.18%), 76 H01 (1.2%), 83 M01 (1.25%) and 98 L01 (1.35%); with a total of 701 core duplicates and 1 rejected duplicate (5.51%). Of the 14,633 samples taken the general QA/QC samples represent 16.51% of the total population of samples submitted. Industry best practices recommend at least 10% of the total population.

A summary of the QA/QC program can be visualized in Table 11-4.

Table 11-4: Summary of AbraSilver QA/QC counting.

Sample Type	Count	Percentage	STRT-04	Core	Reject	Pulp
Number of samples	14,633	100%				
Original	12,948	89%				
Blank	959	7.2%				
CRM	219	2.2%	473			
ASDBL_Au-Ag_H01	76	1.2%				
ASDBL_Au-Ag_M01	83	1.3%				
ASDBL_Au-Ag_L01	98	1.4%				
Duplicate	706	5.5%		705	1	0
Validation	7	1%		705	1	0

Lower detection limits for the ICP-AES analyses were 0.5 g/t Ag and 5.0 ppb Au. AbraSilver protocol for definition of a blank's failure is ten times the detection limit. No blanks returned values that met this definition, while two blank sample retuned a gold value greater than five times the detection limit and two blank sample returned a silver value greater than ten times the detection limit.

The gold performance and silver performance in blanks can be seen in Figure 11-9 and Figure 11-10.

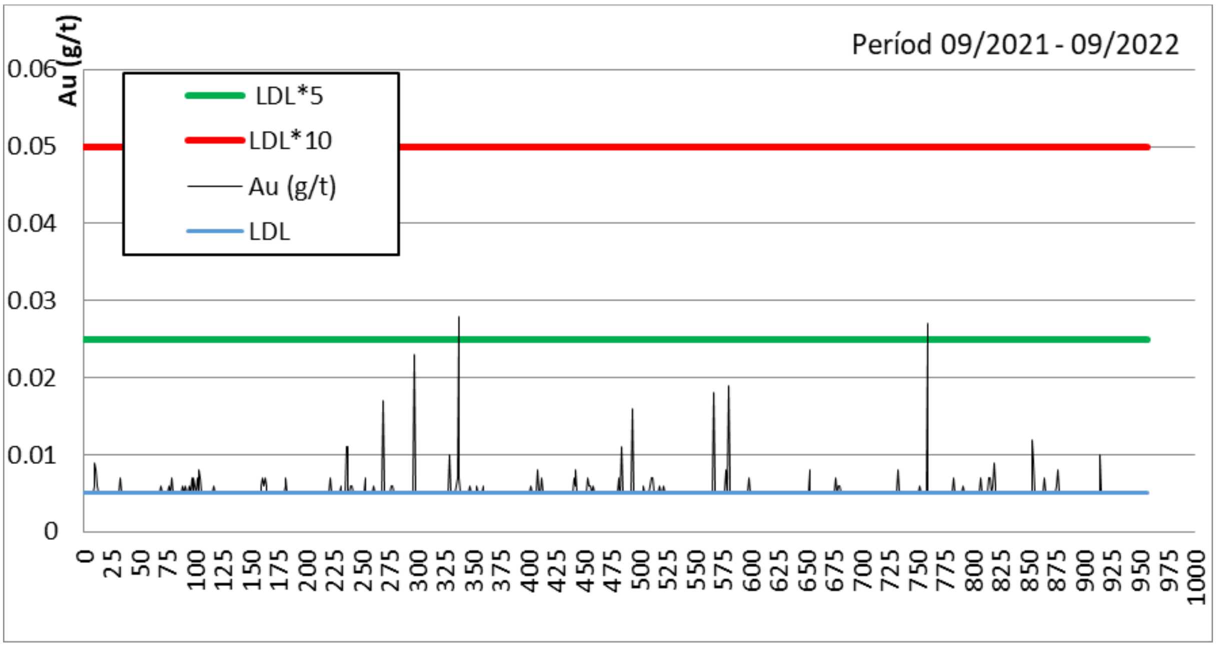


Figure 11-9: Internal reference material, blank, gold performance.

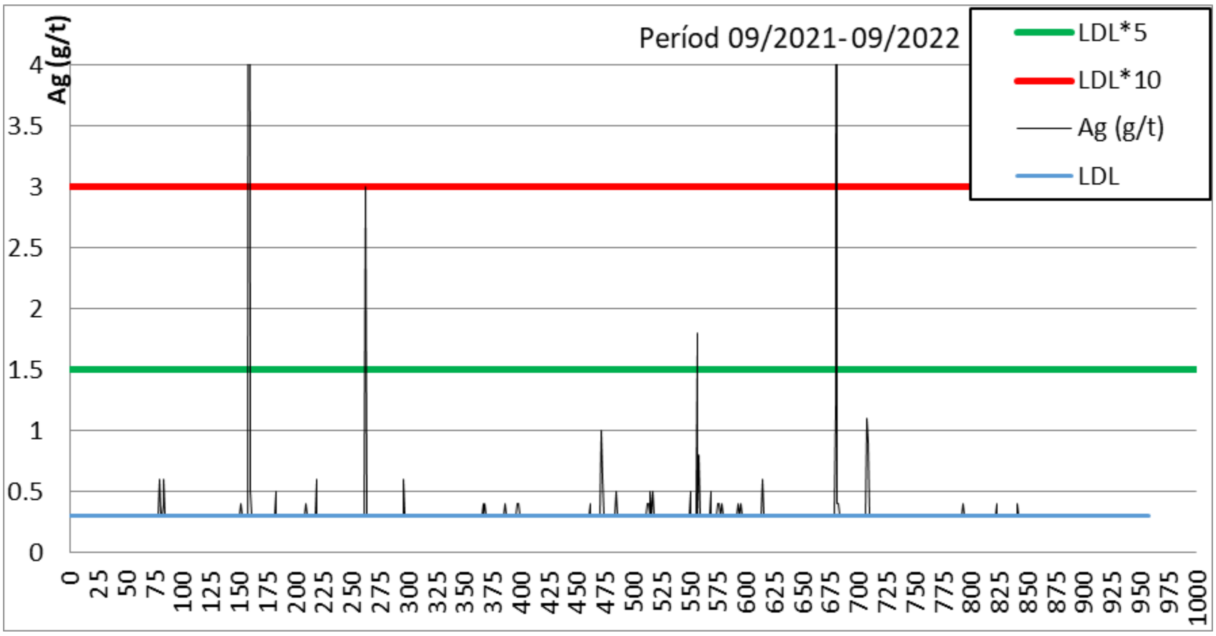


Figure 11-10: Internal reference material, blank, silver performance.

AbraSilver defines a reference material ("IRM") failure as a value that differs from the recommended value of more than three times the standard deviation, which is approximately 5% of the expected value.

For the analysis of CRM STRT-04, one standard returned a value outside this 5% error limit in Gold, and no standards exceeded the limit in silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-11 and Figure 11-12.

For the analysis of IRM H01, two standards returned a value outside this 5% error limit in gold, and seven standards exceeded the lower limit in silver.

For the analysis of IRM M01, only one standard exceeded the limit for gold and none for silver. And finally, for the analysis of IRM L01, only one exceeded the limit value for gold and none for silver.

The gold and silver performance for IRM H01, M01 and L01 can be seen in Figure 11-13 to Figure 11-18.

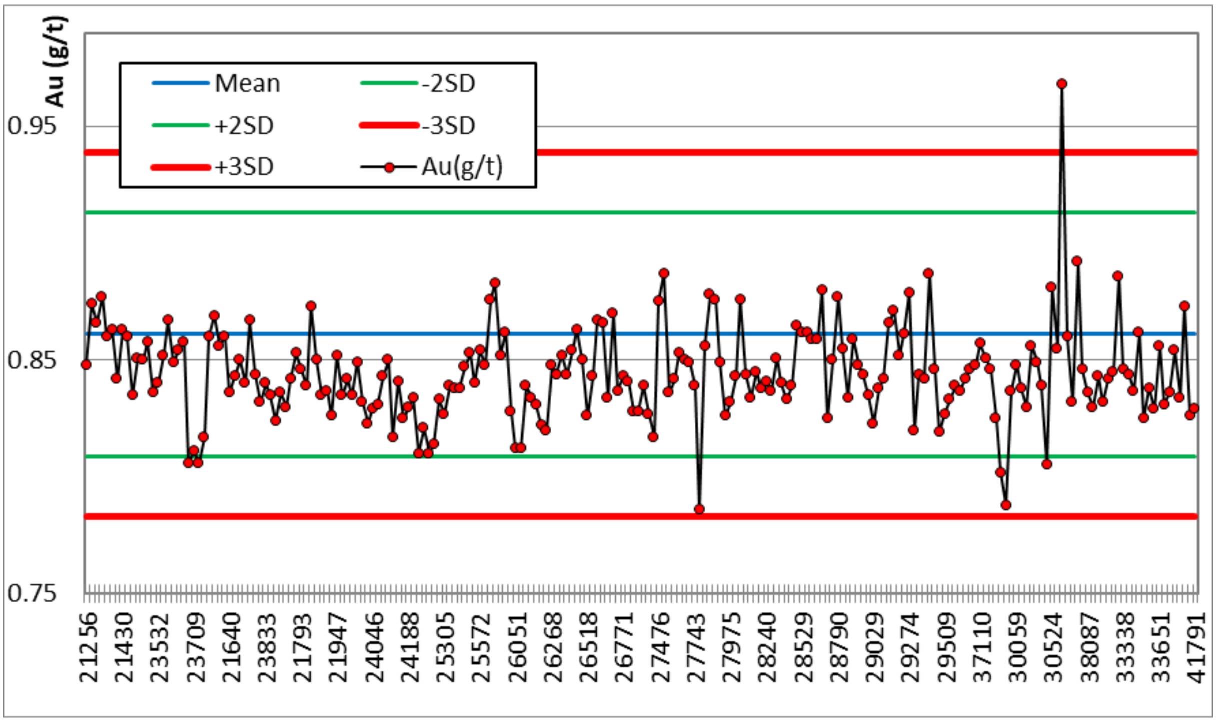


Figure 11-11: Certified reference material STRT-04, gold performance.

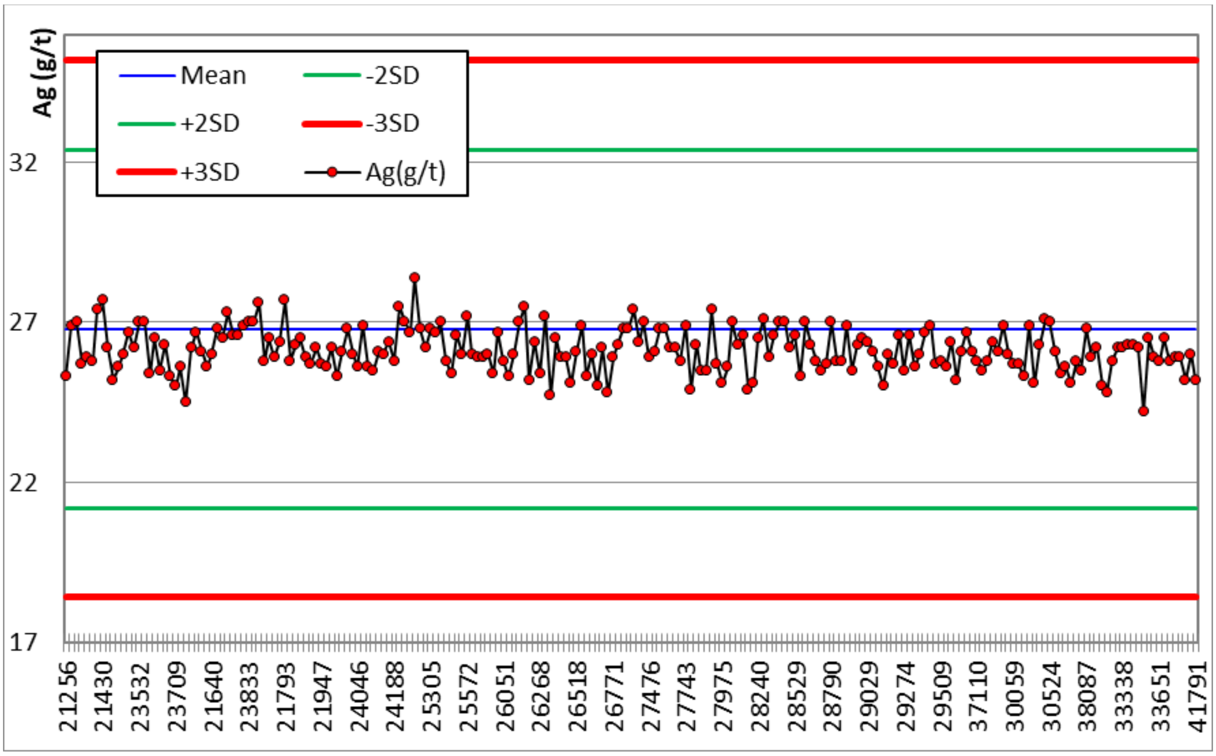


Figure 11-12: Certified reference material STRT-04, silver performance.

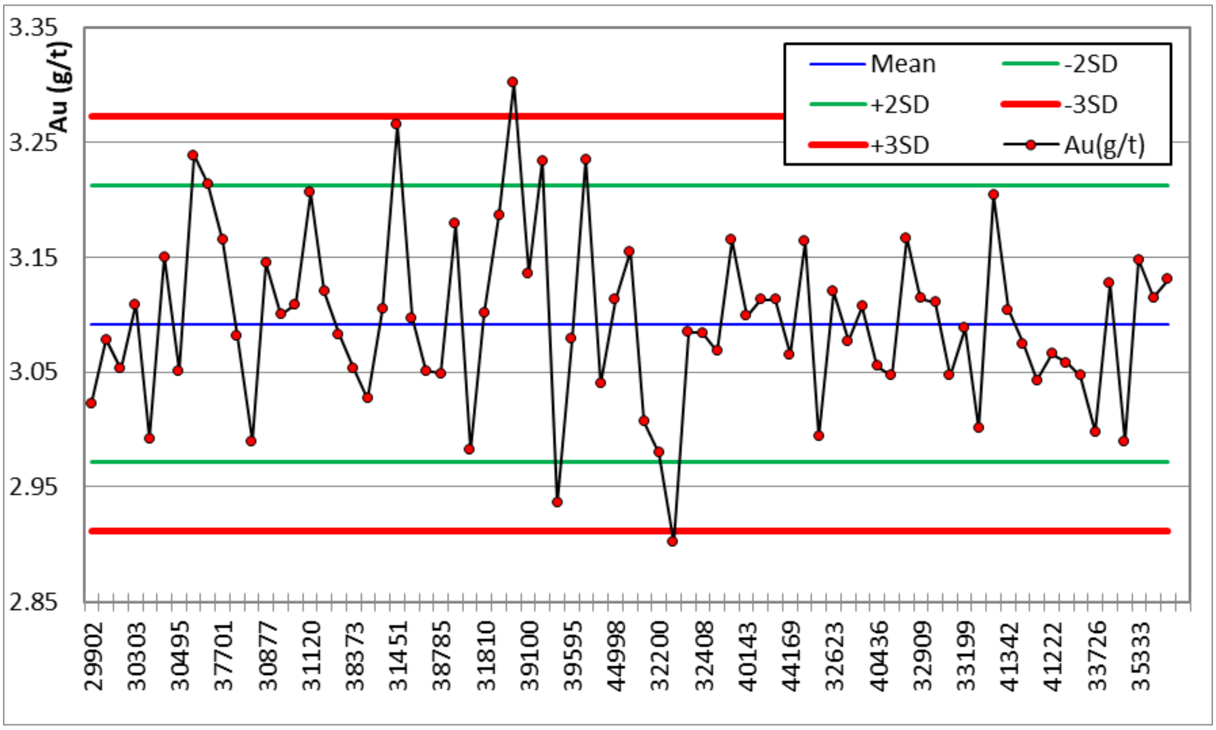


Figure 11-13: Internal reference material H01, gold performance.

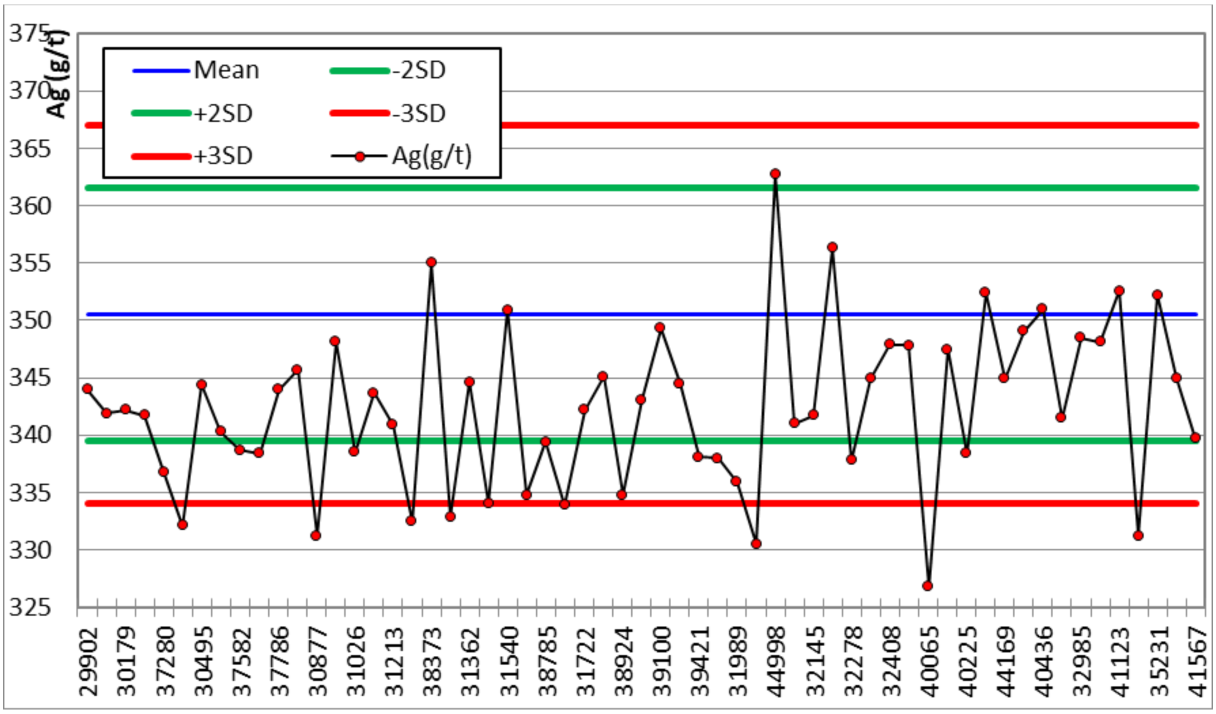


Figure 11-14: Internal reference material H01, silver performance.

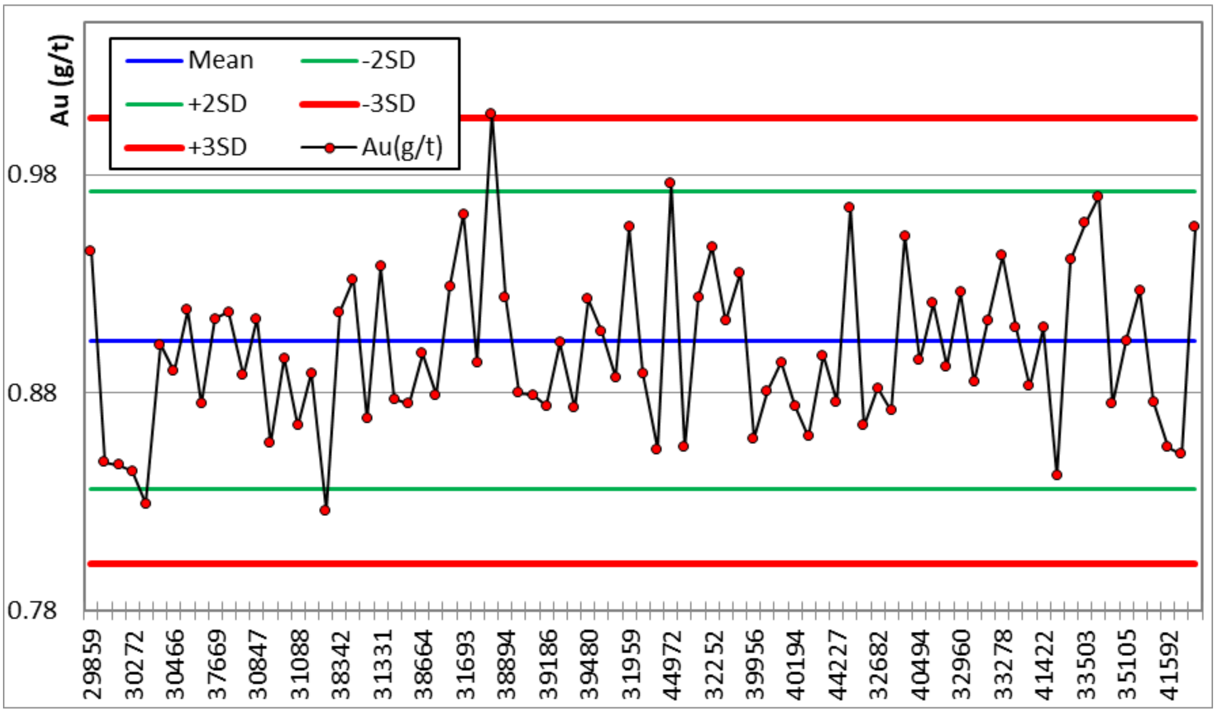


Figure 11-15: Internal reference material M01, gold performance.

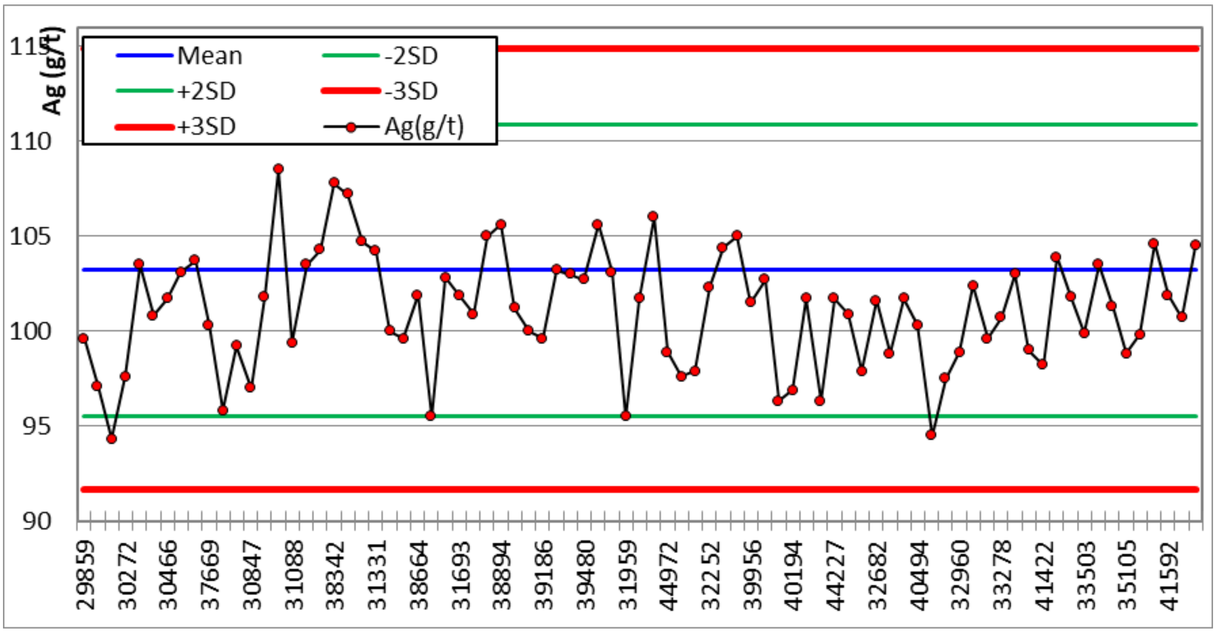


Figure 11-16: Internal reference material M01, silver performance.

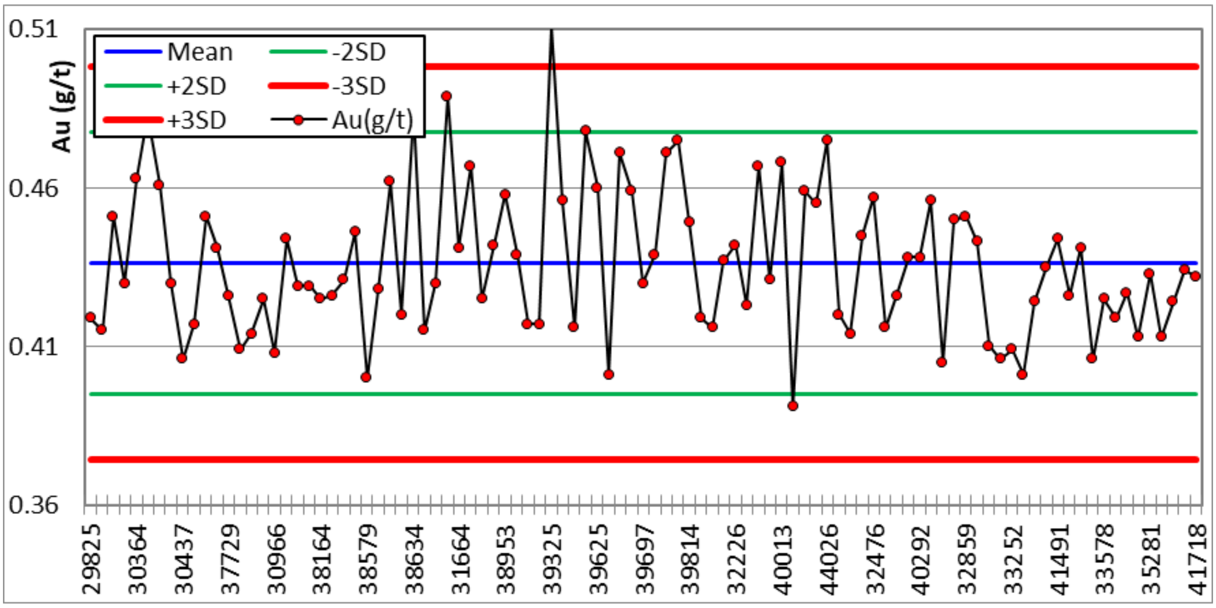


Figure 11-17: Internal reference material L01, gold performance.

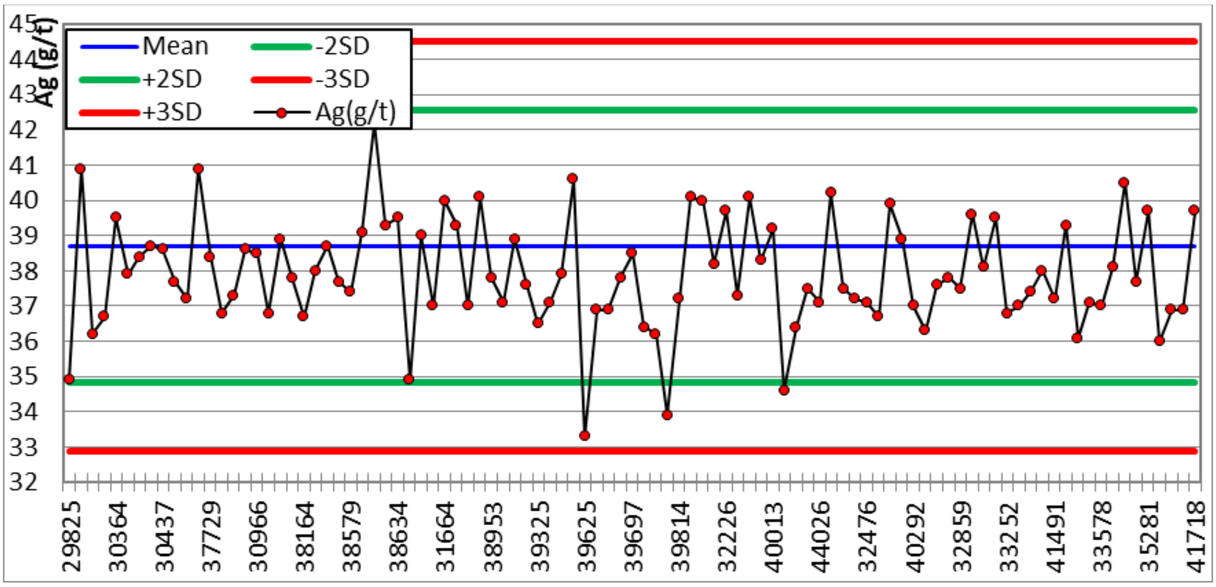


Figure 11-18: Internal reference material L01, silver performance.

Core duplicates were obtained by dividing half the core into two separate 1/4 core equivalent samples, each bagged and labelled separately. Core duplicates reflect all error levels from its first split to analytical error. These features are evidenced in Figure 11-19 and Figure 11-20 showing moderate to high variability.

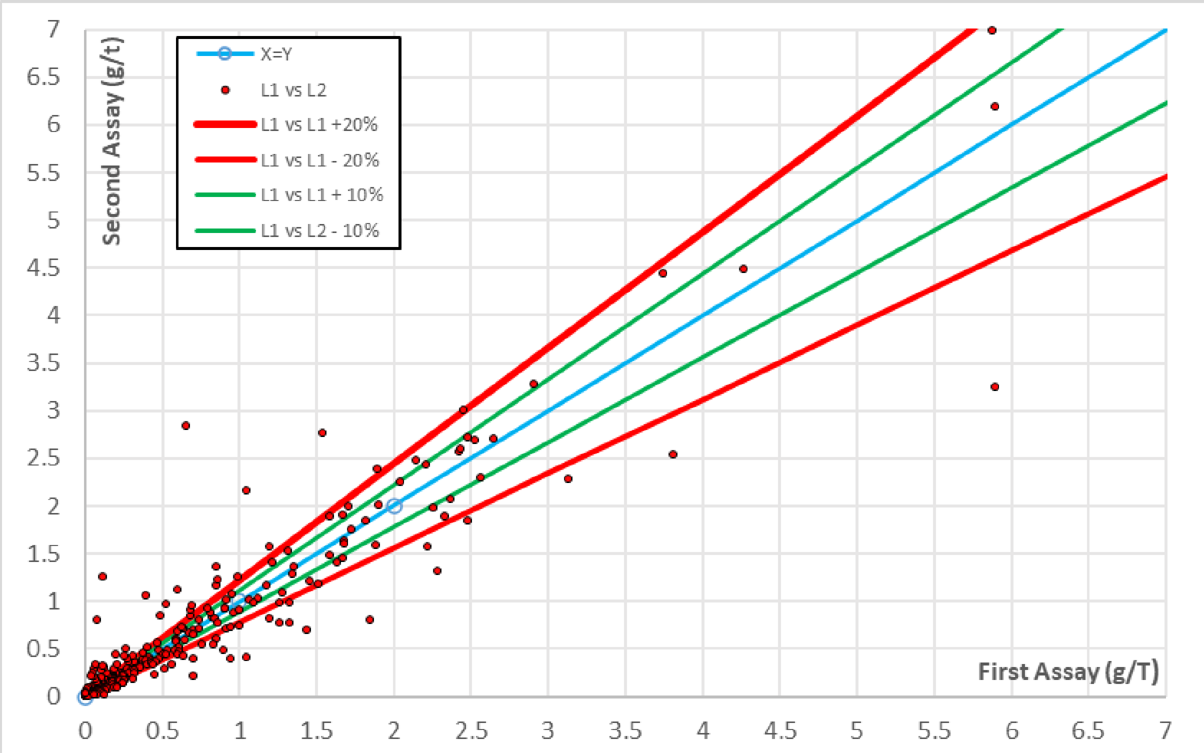


Figure 11-19: RMA Scattergram for duplicate performance of gold.

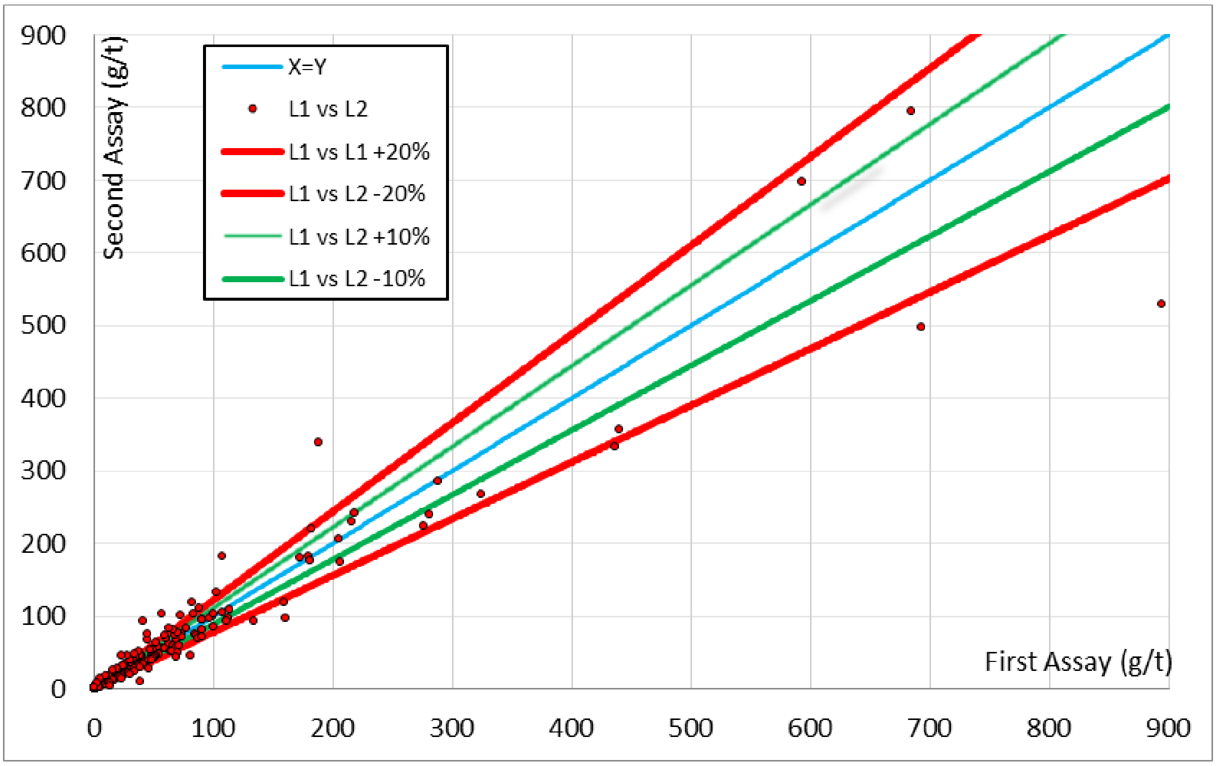


Figure 11-20: RMA Scattergram for duplicate performance of silver.

Based on this review and data analysis, the author concludes that the gold and silver accuracy during the 2017-2022 drilling exploration campaigns were acceptable. Blank samples were assayed and most of them yielded values either below the detection limits or below the five times detection limit line, therefore, no obvious gold and silver cross contamination was identified during sample preparation at laboratory. The RMA scattergram plots for gold and silver shows good fit between the check assays and the original assays, although, a few outliers have been observed due to high variability in the style of mineralization of the deposit.

The author has concluded that the assay QA/QC protocols implemented by AbraSilver were consistent and no concerns were evident with the assay QA/QC analyses.

11.7.3 Period 2022 (Second Semester) to 2023

Three types of internal refence material (IRM) were generated to comply with high grade to low grade mineralization. IRM were generated based on 50 kilos of rejects returned by the laboratory (SGS) following assay of samples. The reference material was returned to SGS Lab to be processed in a disk pulveriser to 85% passing a 75 µm (Tyler 200 mesh) screen. Then, the total 50 kilos were homogenized and divided into 500 individual sachets of 100-gr aliquots. A total of thirty samples were sent to certified laboratories to carry out round robin testing. Ten samples were sent to ALS Chemex, ten samples to Alex Stewart Assayers and ten to SGS Lab. Once the assays were received a statistical analysis was performed to determine the expected value and the two-standard deviation for future use.

The specifications of the internal reference material are listed in Table 11-4.

In addition, five types of certified reference material (CRM) were used in this period, compromising the range from high to low grade mineralization. The specifications of the standard are listed in Table 11-5.

The same protocol of insertion for the three types of control samples was continued, as used in 2021-2022, and described above, with insertion of blanks, standards (one of the three types), and core duplicates into the sample stream. IRM and CRM were inserted at a rate of one for every 25 samples, blanks were inserted at a rate of approximately one for every 25 samples, and core duplicates were taken approximately once every 25 samples, with two IRM used for each CRM.

Table 11-4: Internal Reference Materials.

INTERNAL REFERENCE MATERIAL						
	ASDBL_Au-Ag_H01		ASDBL_Au-Ag_M01		ASDBL_Au-Ag_L01	
ELEMENT	Au	Ag	Au	Ag	Au	Ag
UNIT	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]
Expected Value	3.092	358	0.9039	103.21	0.436	38.70
Two Standard deviation	0.12	4.58	0.034	3.849	0.040	1.935

Table 11-5: Certified reference materials.

Certified Reference Material										
	STRT-04		AuOx41		PLSUL59		AuOx-18		AuOx-33	
ELEMENT	Au	Ag	Au	Ag	Au	Ag	Au	Ag	Au	Ag
UNIT	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]	[g/t]
Expected Value	0.861	26.8	0.57	8.30	0.52	2 988	2.88	77.80	1.68	554.00
Two Standard deviation	0.026	2.8	0.04	0.44	0.05	44.71	0.20	1.93	0.10	16.65

During the 2022-2023 drilling campaign the following reference materials were submitted: 803 blank samples, (6.0%), 40 STRT-04 standards (0.26%), 34 AuOx41 (0.22%), 29 PLSUL59 (0.19%), 50 AuOx-18 (0.32%), 53 AuOx-33 (0.34%), 99 H01 (0.64%), 115 M01 (0.74%) and 137 L01 (0.88%); with a total of 539 core duplicates. Of the 15,506 samples taken the general QA/QC samples represent 12.10% of the total population of samples submitted. Industry best practices recommend at least 10% of the total population.

A summary of the QA/QC program can be visualized in Table 11-6.

Table 11-6: Summary of AbraSilver QA/QC counting.

	Sample Type	Count	Percentage
	Number of samples	15506	100%
	Original	13607	87.75%
	Blank	803	5.18%
	Duplicate	539	3.48%
IRM	ASDBL_AU-AG_H01	99	0.64%
	ASDBL_AU-AG_M01	115	0.74%
	ASDBL_AU-AG_L01	137	0.88%
CRM	AuOx41	34	0.22%
	PLSUL59	29	0.19%
	AuOx-18	50	0.32%
	AuOx-33	53	0.34%
	STRT-04	40	0.26%

Lower detection limits for the ICP-AES analyses were 0.5 g/t Ag and 5.0 ppb Au. AbraSilver's protocol for definition of a blank's failure is ten times the detection limit. No blanks returned values that met this definition, while two blank sample retuned a gold value greater than five times the detection limit and two blank sample returned a silver value greater than ten times the detection limit.

The gold performance and silver performance in blanks can be seen in Figure 11-21 and Figure 11-22.

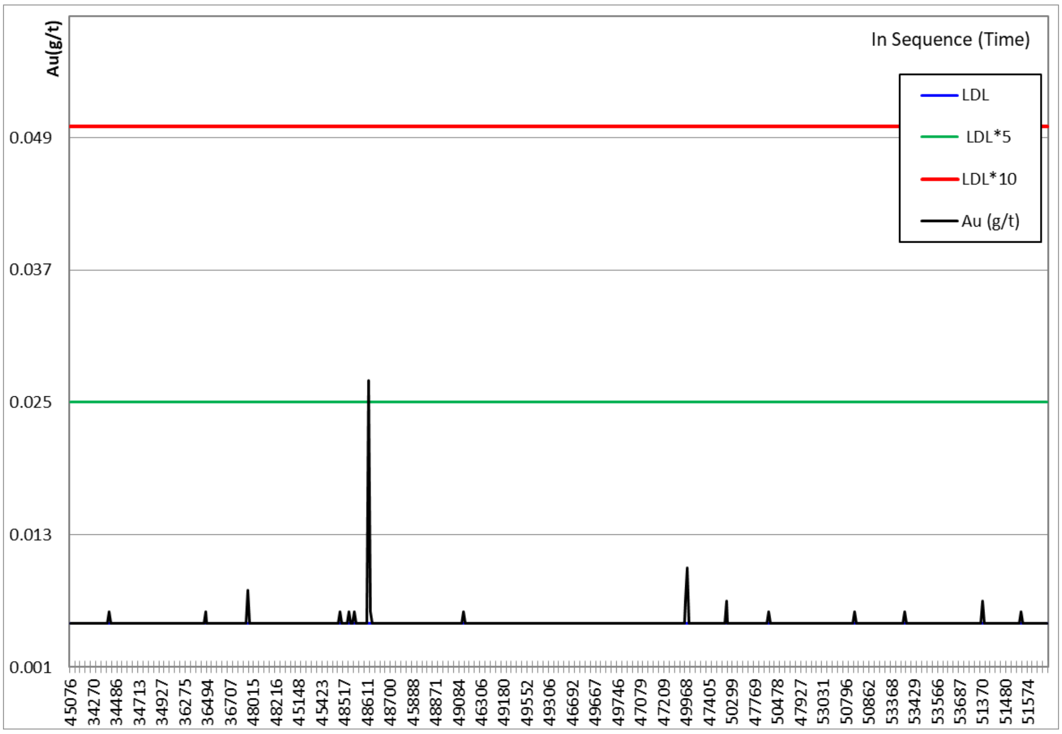


Figure 11-21: Internal reference material, blank, gold performance.

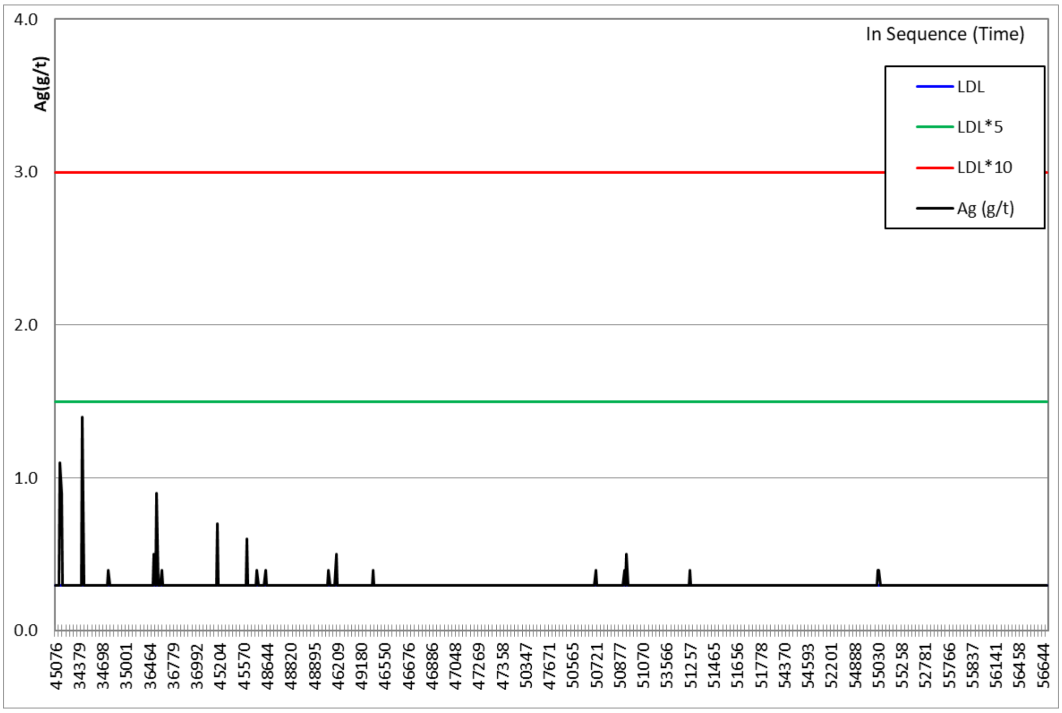


Figure 11-22: Internal reference material, blank, silver performance.

AbraSilver defines a reference material ("IRM or CRM") failure as a value that differs from the recommended value by more than 5%, which is approximately three times the standard deviation.

For the analysis of CRM STRT-04, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-23 and Figure 11-24.

For the analysis of CRM AuOx-41, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-25 and Figure 11-26.

For the analysis of CRM PLSUL59, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-27 and Figure 11-28.

For the analysis of CRM AuOx-18, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-29 and Figure 11-30.

For the analysis of CRM AuOx-33, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-31 and Figure 11-32.

For the analysis of IRM ASDBL_H01, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-33 and Figure 11-34.

For the analysis of IRM ASDBL_M01, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-35 and Figure 11-36.

For the analysis of IRM ASDBL_L01, none of the samples returned a value outside this 5% error limit in gold and silver. The gold and silver performance for CRM STRT-04 can be seen in Figure 11-37 and Figure 11-38.

Batches including failures, were re-assayed by the laboratories and the correct assay was uploaded into the database.

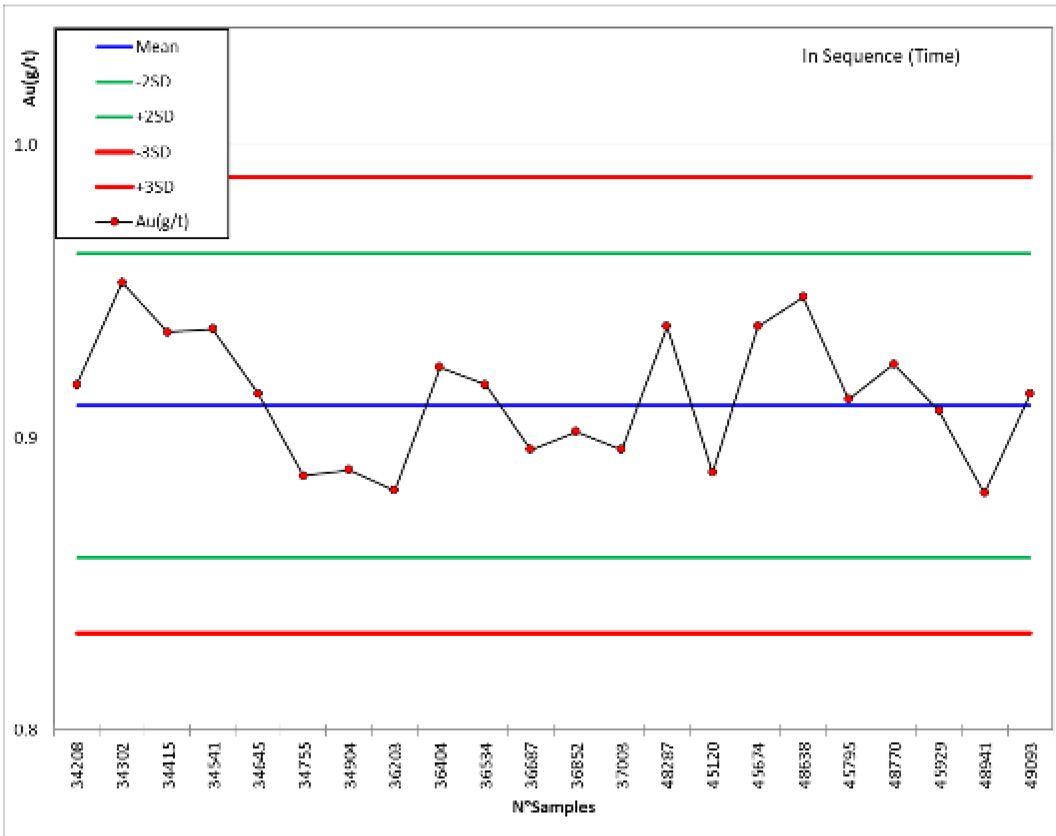


Figure 11-23: Certified reference material STRT-04, gold performance.

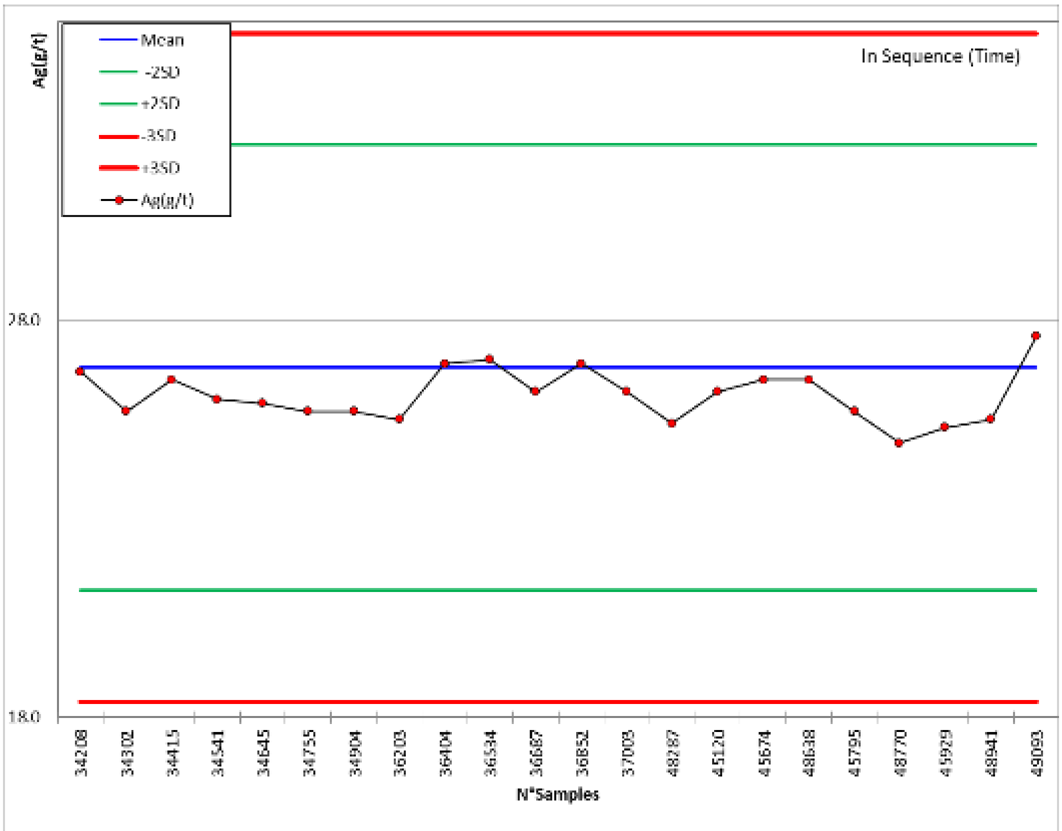


Figure 11-24: Certified reference material STRT-04, silver performance.

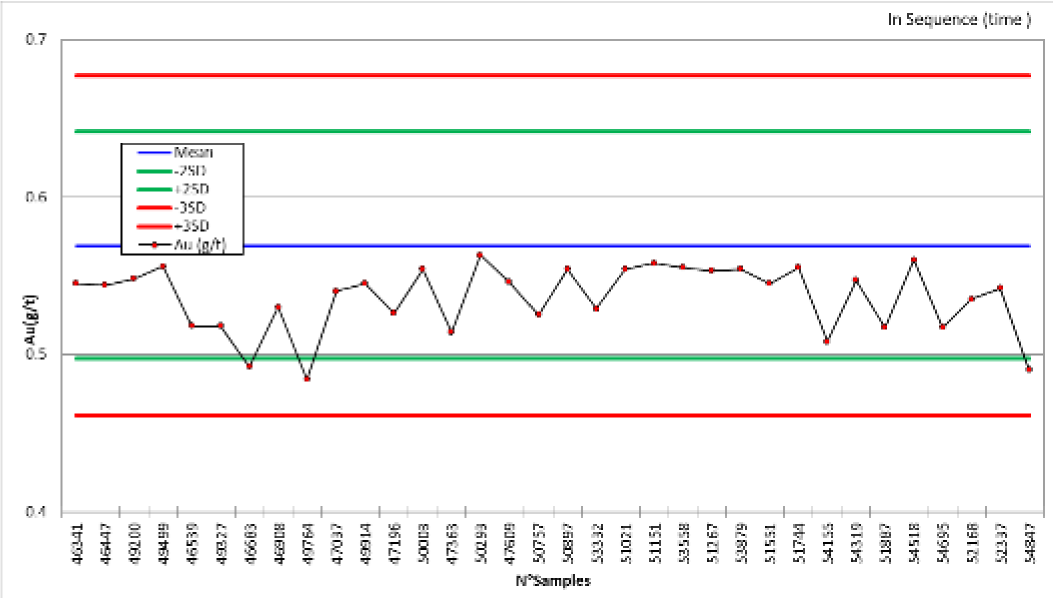


Figure 11-25: Certified Reference Material AuOx-41, gold performance.

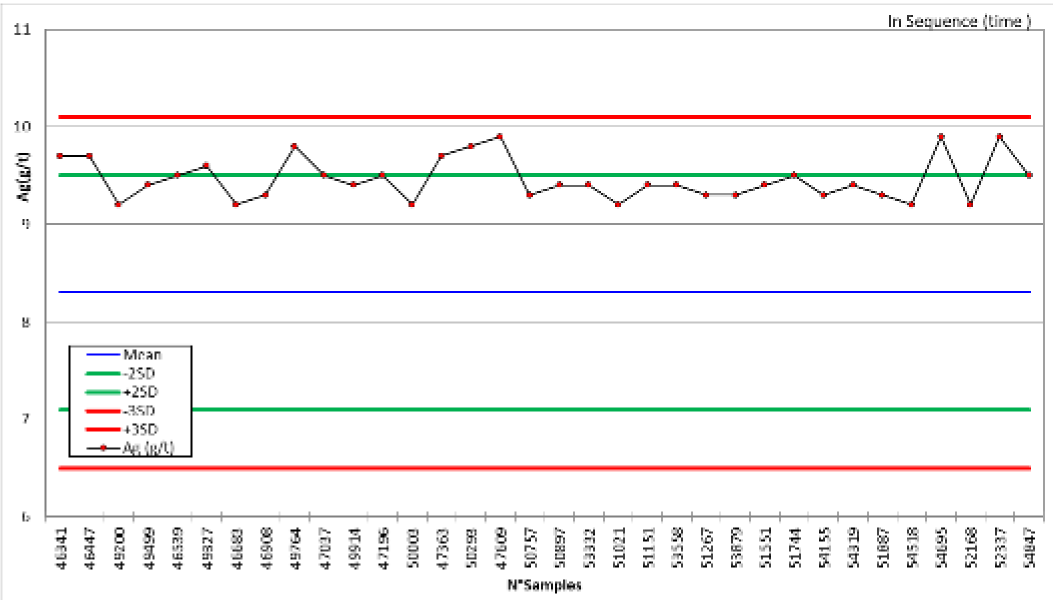


Figure 11-26: Certified Reference Material AuOx-41, silver performance.

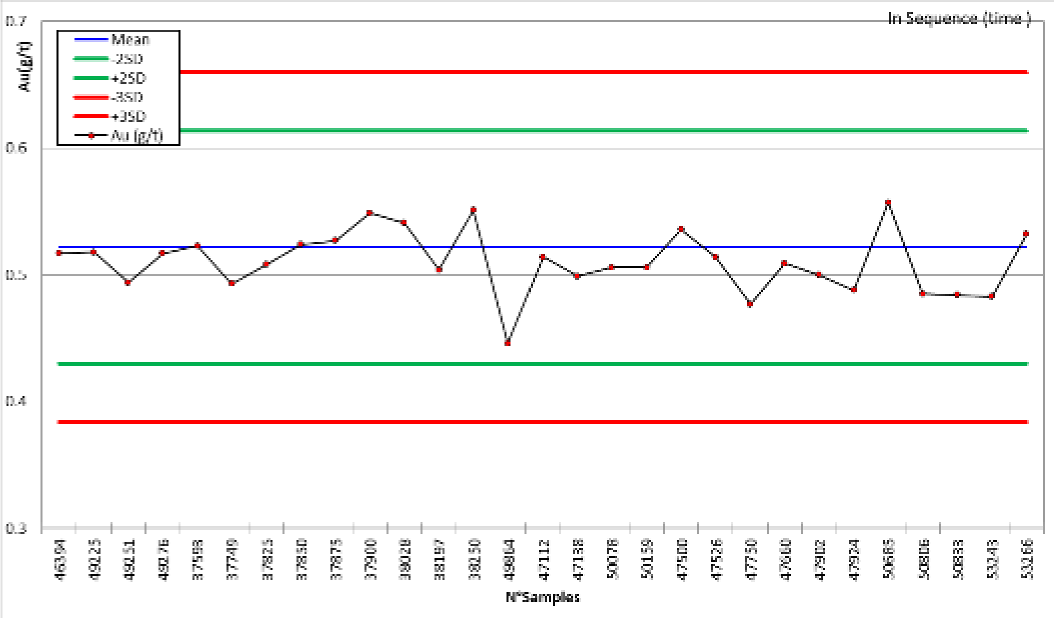


Figure 11-27: Certified Reference Material PLSUL59, gold performance.

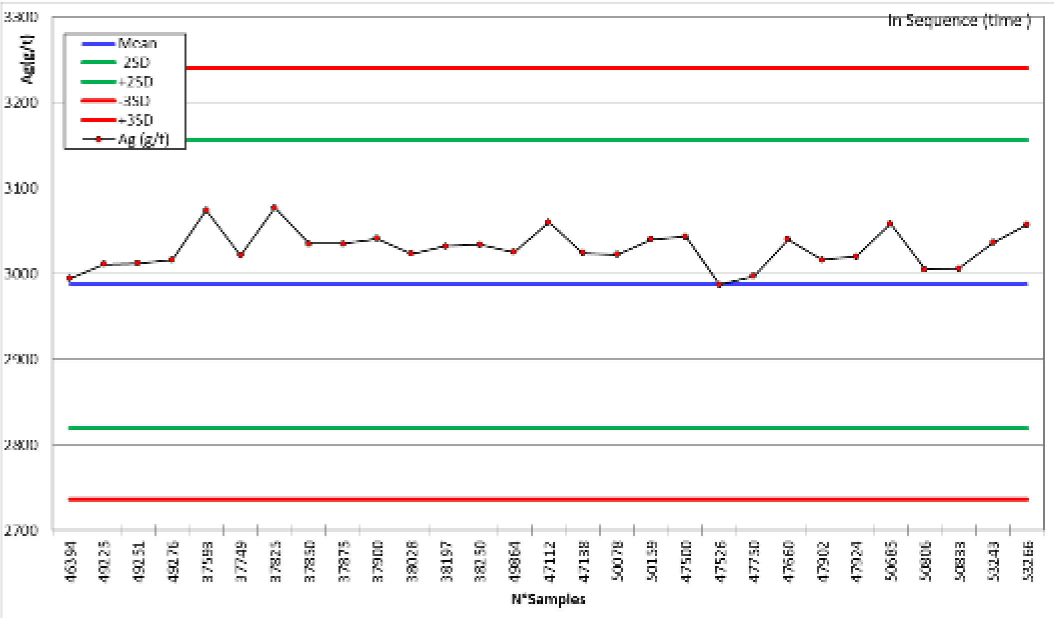


Figure 11-28: Certified Reference Material PLSUL59, silver performance.

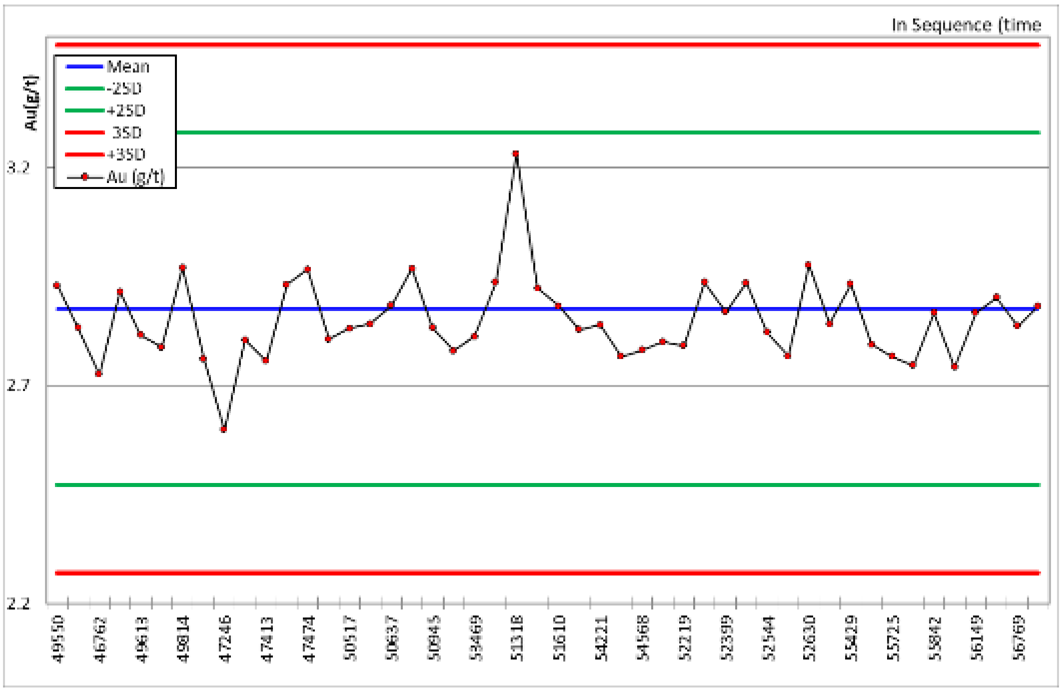


Figure 11-29: Certified Reference Material AuOx-18, gold performance.

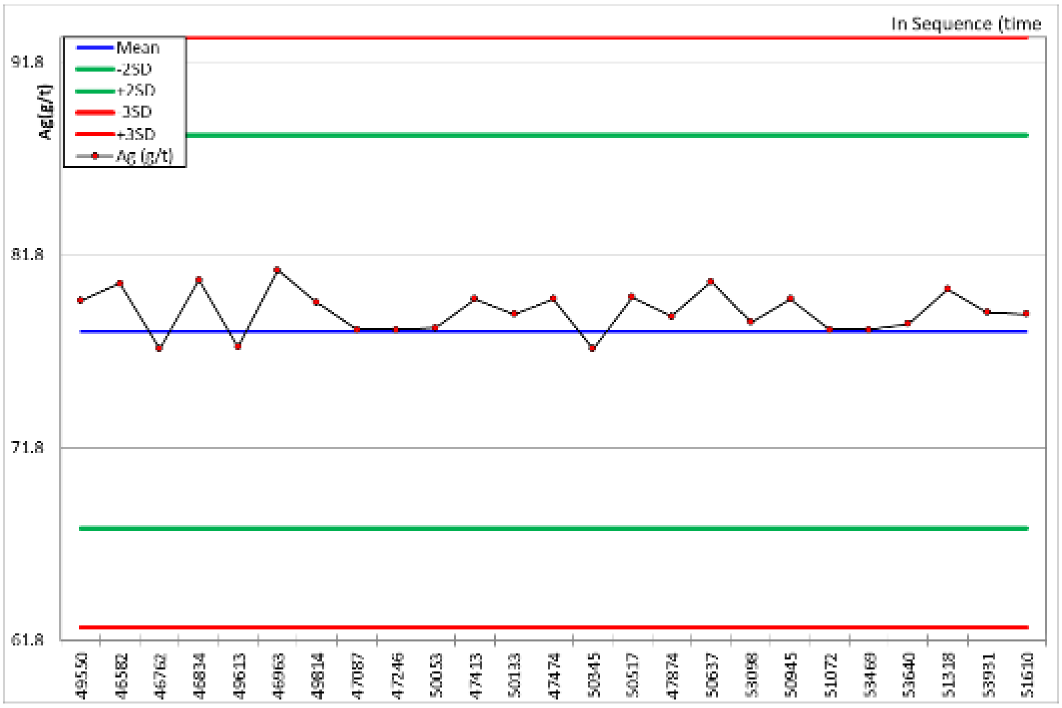


Figure 11-30: Certified Reference Material AuOx-18, silver performance.

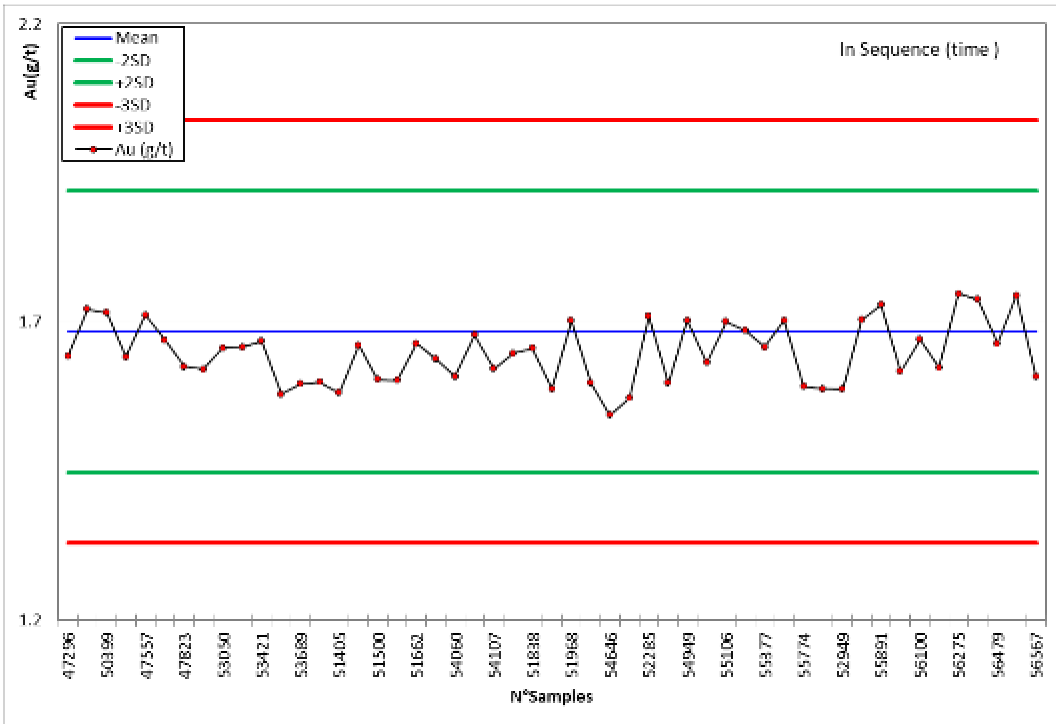


Figure 11-31: Certified Reference Material AuOx-33, gold performance.

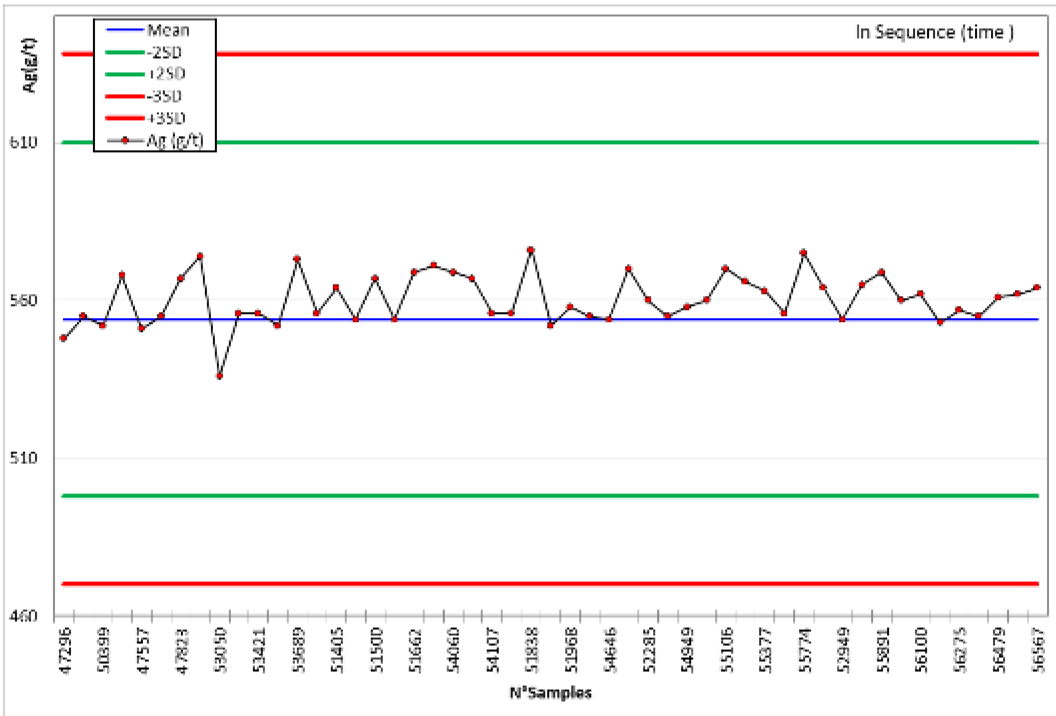


Figure 11-32: Certified Reference Material AuOx-33, silver performance.

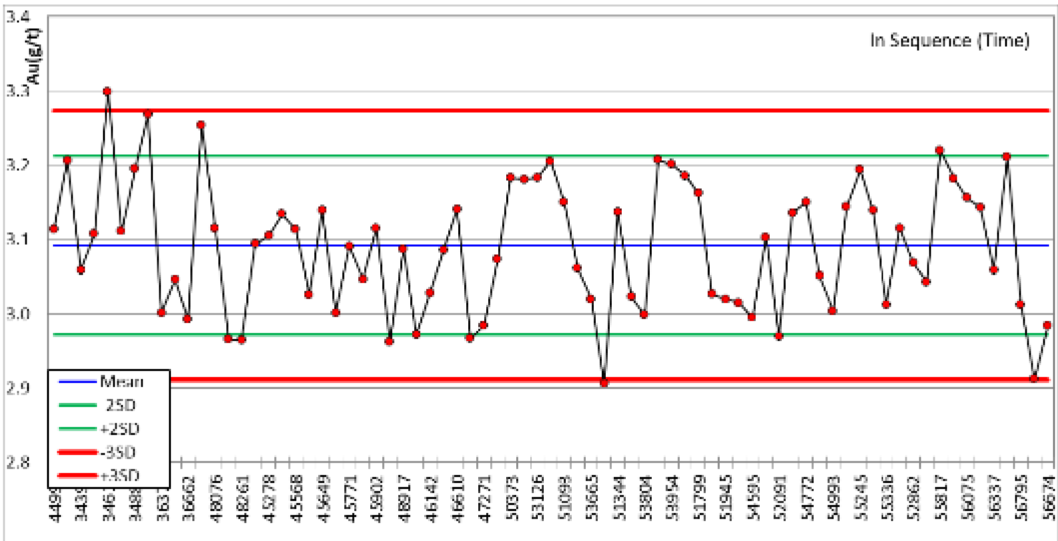


Figure 11-33: Internal Reference Material ASDBL_H01, gold performance.

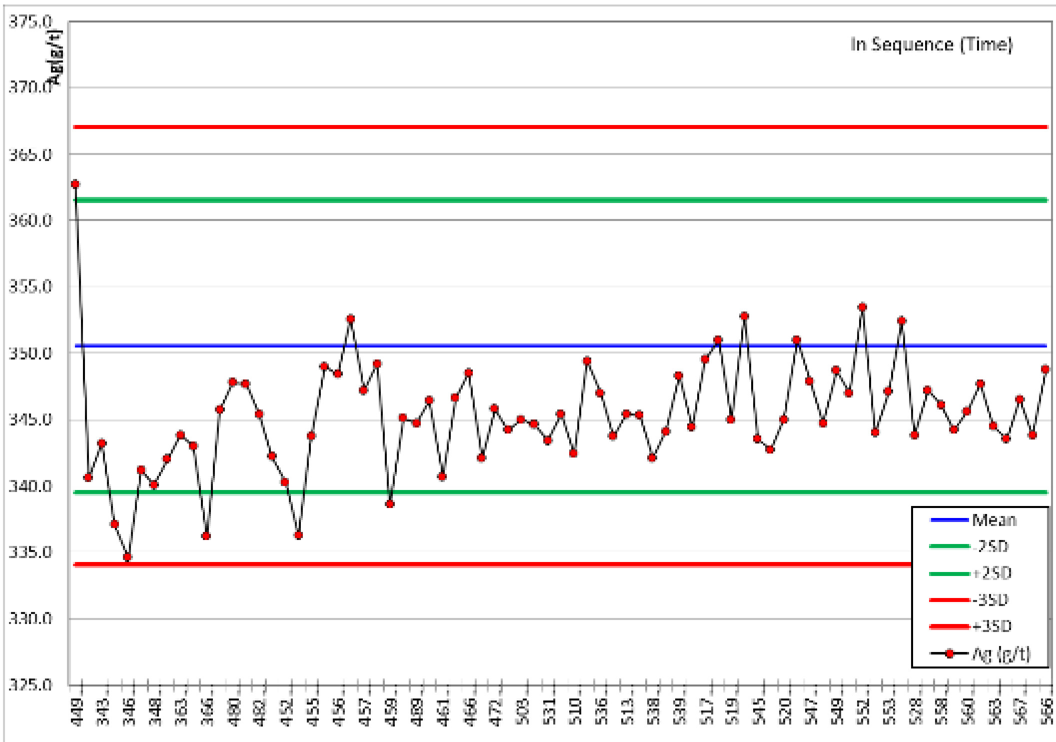


Figure 11-34: Internal Reference Material ASDBL_H01, silver performance.

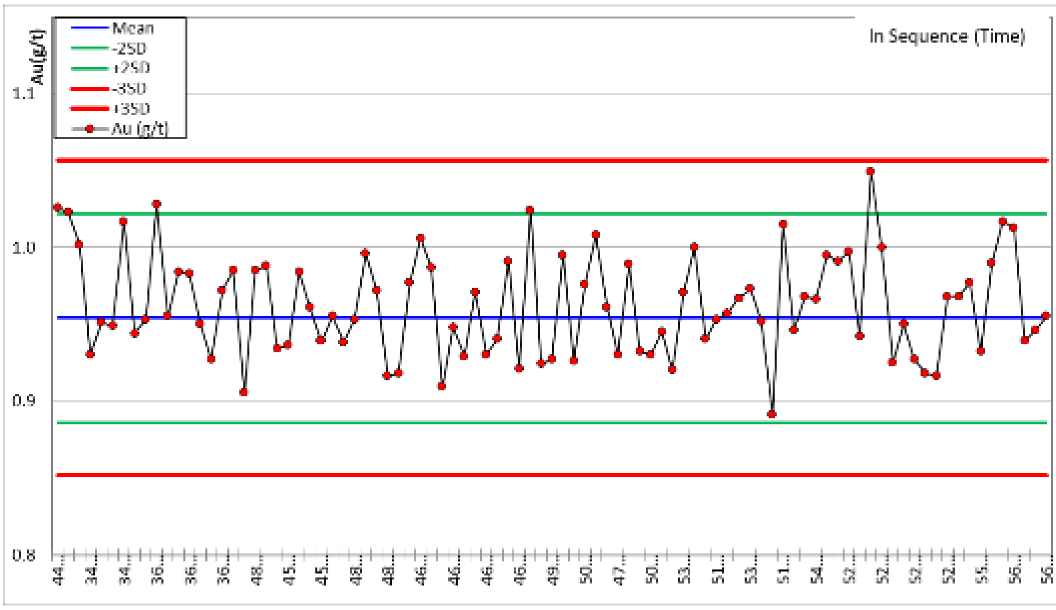


Figure 11-35: Internal Reference Material ASDBL_M01, gold performance.

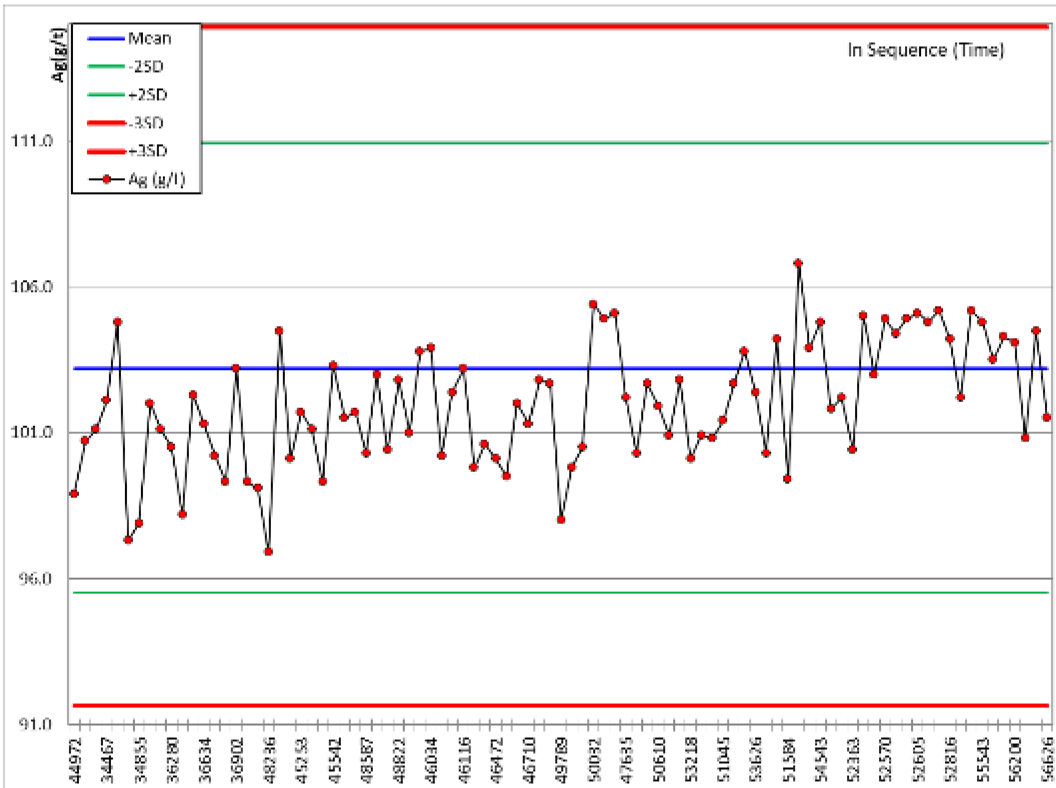


Figure 11-36: Internal Reference Material ASDBL_M01, silver performance.

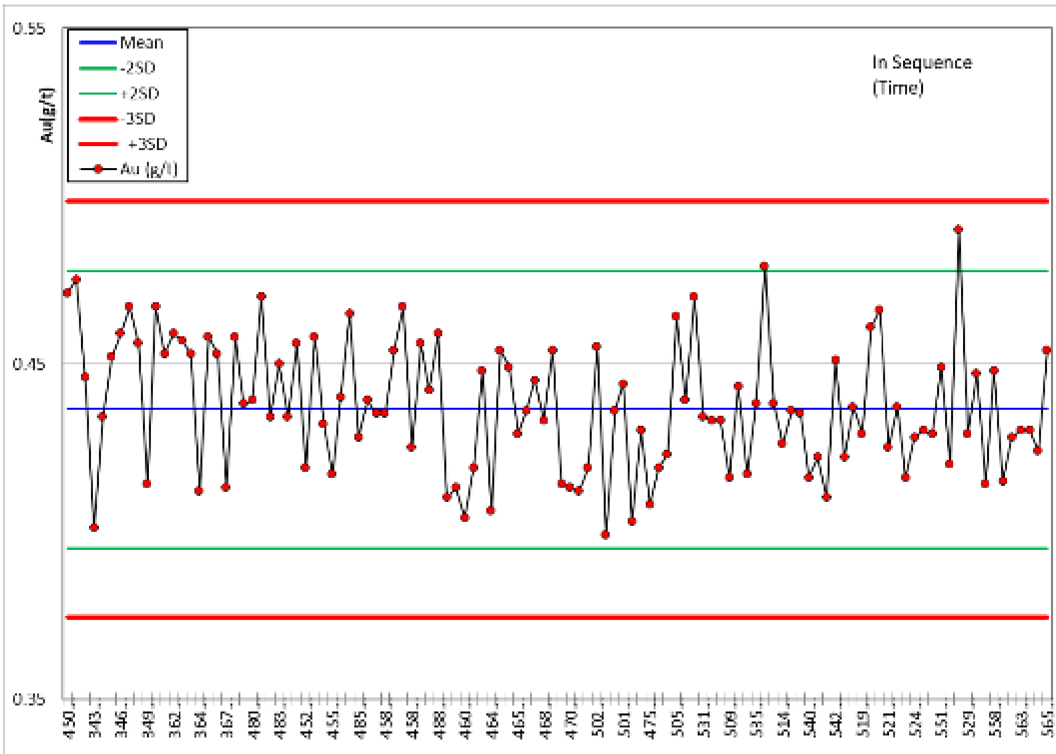


Figure 11-37: Internal Reference Material ASDBL_L01, gold performance.

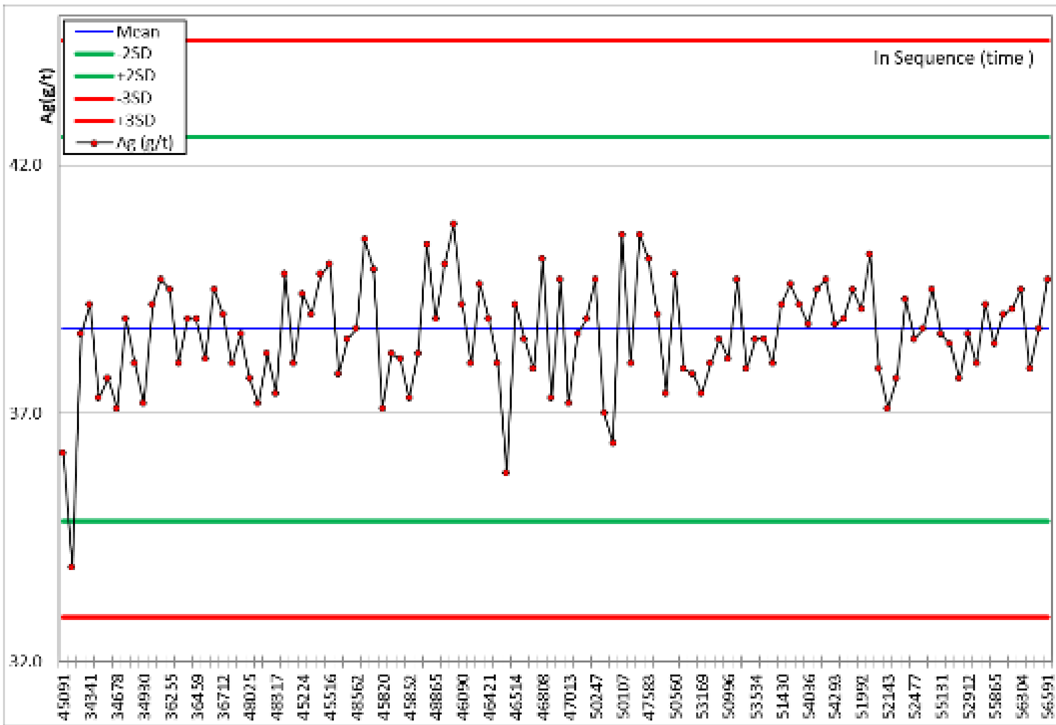


Figure 11-38: Internal Reference Material ASDBL_L01, silver performance.

Core duplicates were obtained by dividing half the core into two separate 1/4 core equivalent samples, each bagged and labelled separately. Core duplicates reflect all error levels from its first split to analytical error. These features are evidenced in Figure 11-39 and Figure 11-40 with the RMA scattergrams and the Min-Max vs Hyperbolic Method scattergrams (Figure 11-41 and Figure 11-42), showing low to moderate variability.

Thomson Howarth analysis was performed over the six types of reference materials, with no bias detected.

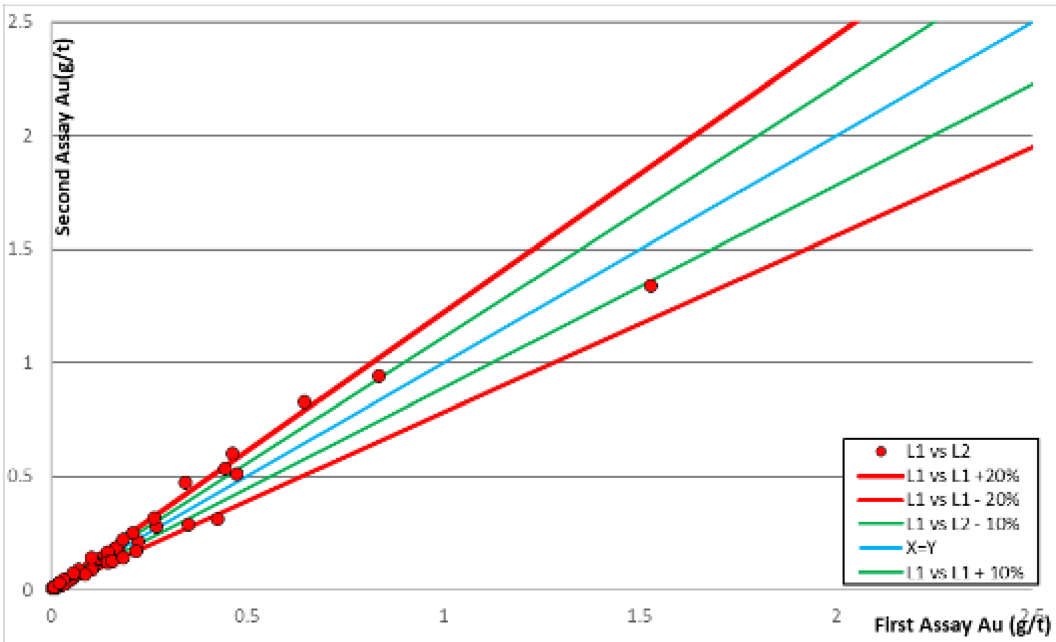


Figure 11-39: RMA Scattergram for duplicate performance of gold.

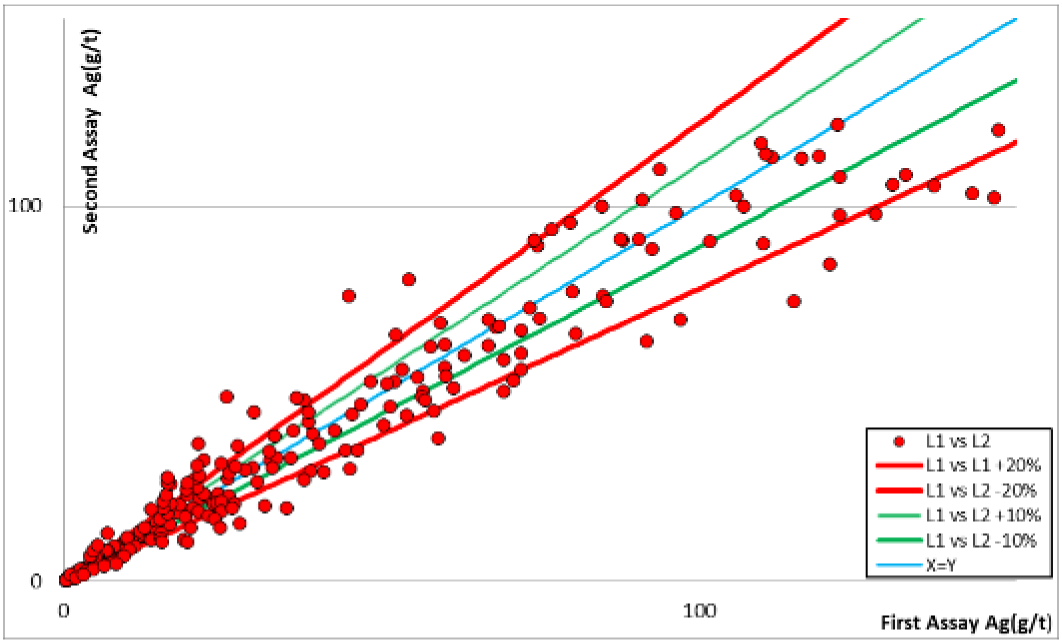


Figure 11-40: RMA Scattergram for duplicate performance of silver.

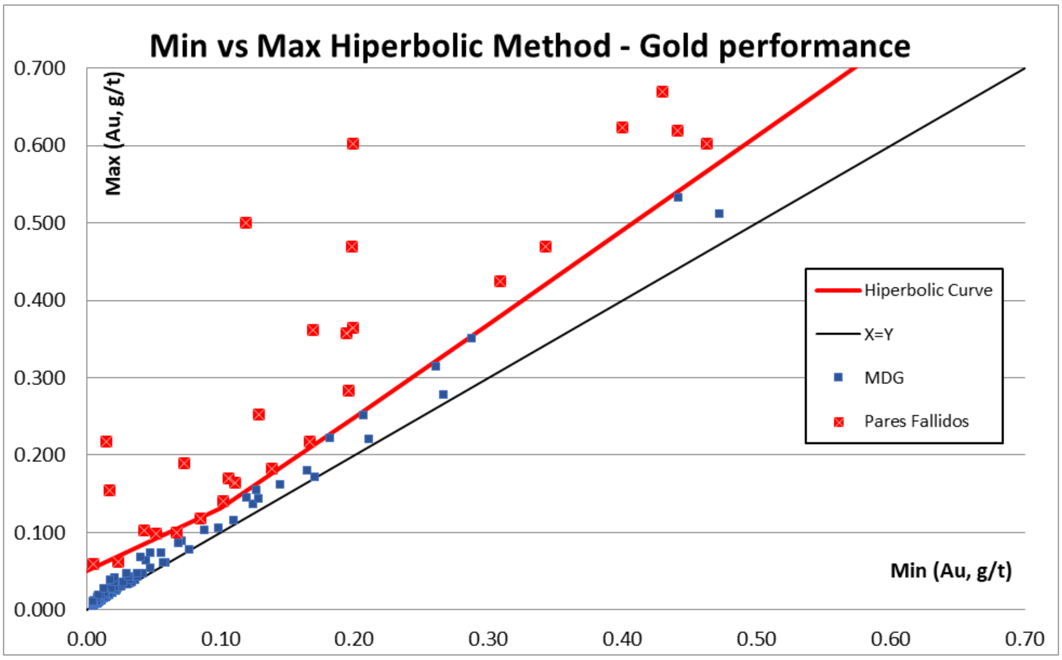


Figure 11-41: Min-Max vs Hyperbolic Method Scattergram for duplicate performance of gold.

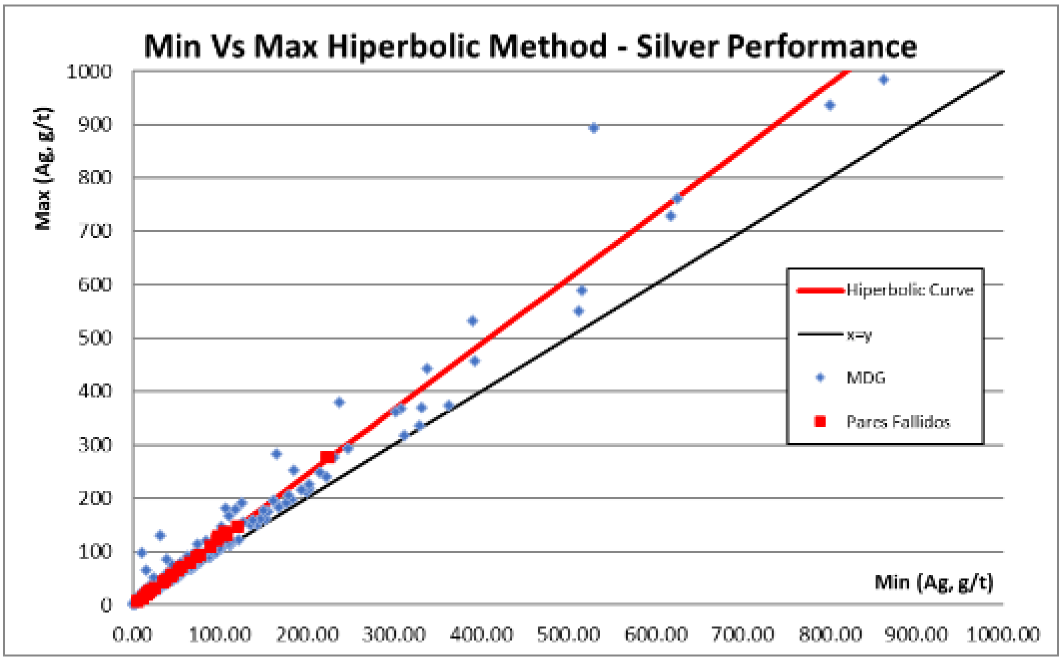


Figure 11-42: Min-Max vs Hyperbolic Method Scattergram for duplicate performance of silver.

Based on this review and data analysis, the author concludes that the gold and silver accuracy during the 2022-2023 drilling exploration campaigns were acceptable. Blank samples were assayed and most of them yielded values either below the detection limits or below the five times detection limit line, therefore, no obvious gold and silver cross contamination was identified during sample preparation at laboratory. The RMA and Min-Max vs Hyperbolic

Method scattergram plots for gold and silver shows good fit between the check assays and the original assays, although, a few outliers have been observed due to high variability in the style of mineralization of the deposit.

The author has concluded that the assay QA/QC protocols implemented by AbraSilver were adequate for resource estimation. No concerns were evident with the assay QA/QC analyses.

12 DATA VERIFICATION

The QP has reviewed the data compilation and has audited the drill hole database. Part of the scope of work of the audit included reviewing:

- Collar locations.
- Downhole survey.
- Assays.
- Coincident samples.
- Twin holes.
- Bulk Density.

The review also included checking 10% back to source data entry for collar location, survey, assay, density, and comparison analysis in the case of the assay. The purpose is to try to detect some errors and bias in different drilling campaigns, drilling types and analytical methods.

12.1 Collar review.

12.1.1 Collar location.

The review is based on 606 drillholes with a total depth of 129,647 meters. (see Table 12-1), the average depth of drilling is 209 meters with a maximum of 334 meters, indicating that drillholes are not very deep and deposits have been explored at shallow levels. There are 203 holes corresponding to drilling of reverse circulation air (“RC”) with a total of 47,359 meters drilled and 375 holes drilled with diamond (“DDH”) with a total of 65,096 meters drilled.

Drilling campaigns expressed by year can be visualized in Table 12-1.

Table 12-1: Drill campaign summary by year.

Drilling Campaign	Type of Hole	Number of Holes	Meters Drilled	Average Meters Drilled	Min Metters Drilled	Max Metters Drilled
1987	RC	13	378	29	14	31
1990	RC	25	3,483	142	71	250
1993	DDH	5	1,002	200	146	254
1994	DDH	12	2,016	168	25	255
1996	RC	32	8,540	266	113	400
1997	RC	94	24,651	262	49	413
1997	DDH	15	3,514	234	31	380
1998	RC	24	7,547	314	220	370
1999	DDH	5	1,330	266	191	450
2003	RC	10	1,716	171	84	282
2005	RC	5	1,044	209	150	252
2007	DDH	46	9,804	213	31	365
2008	DDH	48	6,941	144	40	355
2012	DDH	7	659	94	41	125
2017	DDH	28	3,149	112	40	327
2019	DDH	2	844	422	380	464
2020	DDH	33	9,144	271	50	610
2021	DDH	59	14,571	246	50	451
2022	DDH	66	15,272	231	101	401
2023	DDH	77	14,043	182	122	245
Subtotal	RC	203	47,359	199	100	285
Subtotal	DDH	375	65,096	226	98	371
Grand total		**606**	**129,647**	**209**	**97**	**334**

12.1.2 Check 10% back to source data.

As the MRE was only executed for the Oculto, JAC, Fantasma and Laderas zones, the coordinates consider only holes inside the block model area (described in Section 14), identified by the "Area" field in the collar table, and tagged within the Oculto, JAC, Fantasma and Laderas zones. Additionally, an outline surrounding these zones was drawn to cross check all holes in this area.

This check includes details of the topographic survey of 606 drillholes corresponding to 78% of total collars. The remaining 22% are drillholes outside the area of this MRE.

None of the drillholes reviewed presented differences between the original log and the collar survey coordinates contained in the database.

12.1.3 No transcribed coordinates

All the drilling was presented with valid coordinates. None of the holes had an absence of collar survey or final depth.

12.1.4 Max depth versus sampling and logging tables

The author carried out a review of the different drilling tables, not finding any discrepancy between the listed maximum depth and the sampling or logging tables.

Table 12-2 shows the number of records per logging table. Please note that:

- The drillholes have been selectively sampled, and not all have been sampled until the end of the hole or continuously.
- Not all drillholes have a log until the end of hole depth.
- Some drillholes have unlogged intervals.
- 91% of total meters drilled have been sampled.

Table 12-2: Number of records per logging table.

Tables	Number of Holes	Number of Records
Collars	606	606
Surveys	606	8,126
Assays	606	95,913
Lithology	606	8,108
Alteration	606	11,389
Geotech	455	60,789
SG	167	1,897

12.1.5 Identifying collars > 2m above or below topography

A comparison of the drillhole collar elevation with respect to the topographic surface was executed. Less than 1% of the drillholes show a difference greater than 2 meters with respect to the topography, and 95.9% show a difference of less than 2m.

Where the discrepancy is greater than 2m, it is recommended that the drillhole be projected onto topography and consider an Inferred classification. Only one historical hole presented a greater difference relating to the surface topography.

12.2 Downhole Surveys

12.2.1 Downhole Surveys station analysis

For the revision of the survey table, drillholes without downhole survey have been excluded from the final database. The depth, dip and azimuth columns have been used for all drillholes that have been selected inside the previously discussed area. Details of survey station, listed by year are shown in Table 12-3.

The author highlights the following from the review:

- All azimuth values are between 0 and 360.
- All dips are between -90 to -35 degrees.
- 4% of drillholes have 1 station point of downhole survey.

- 28% of drillholes have 2 station points of downhole survey.
- 67% of drillholes have more than 2 station points of downhole survey.
- No duplicated values are presented in the data used for the MRE.

Drillholes with a single measurement and greater depth than 100 meters are not considered for a Measured categorization.

Table 12-3: Summary of collars > 2m above or below topography

Drilling Campaign	Number of Holes	Number of records	Number of holes			% Hole with deviation measurement
			1 Downhole survey	2 Downhole surveys	>2 Downhole surveys	
1987	13	26	0	13	0	
1990	25	50	0	23	0	
1993	5	10	0	5	0	
1994	12	24	0	12	0	
1996	32	373	1	24	7	1
1997	109	1,683	1	67	41	5
1998	24	1,235	0	13	11	
1999	5	293	2	0	3	
2003	10	10	10	0	0	
2005	5	5	5	0	0	
2007	46	228	2	1	43	9
2008	48	172	2	13	33	11
2012	7	145	0	0	3	
2017	28	162	0	0	28	
2019	2	87	0	0	2	5
2020	33	273	0	0	33	
2021	59	869	0	0	56	
2022	66	2,894	0	0	66	
2023	77	1,815	0	0	77	
Grand total	**606**	**10,354**	**23**	**171**	**403**	**31**
Percentage			**4%**	**28%**	**67%**	

12.2.2 Kink Analysis

Kink analysis was performed over the 606 drillholes selected to be used in the MRE.

Kink analysis evaluates drillholes per year that have not passed the deviation analysis of survey points. This is when the change in azimuth is greater than 10 degrees, the change in dip limit is greater than 10 degrees or the angle of the drillhole is greater than 10 degrees.

A total of 32 drillhole survey point measurements have a deviation greater than 10 degrees. These 32 deviations represent less than 1% over the 10,354 points of observation.

After a detailed review and verification against the original certificate for each drillhole that have did not passed the kink analysis, the conclusion is not to exclude any of the previous holes. The error in all cases was due to mistyping at the time of entering the information into the database or vertical holes with misinterpretations in the kink analysis. All errors were corrected.

12.2.3 Assessing any corrections applied

No global correction is suggested as most data in the downhole survey table is accurate and presents no meaningful deviation. The exception was in the second decimal place corrections.

It is suggested that holes with only one point station should not be used to categorize resources at a higher confidence level than inferred, except for historical holes that have been validated in a recent campaign, and where the geological and alteration profile fits with recent models. In those cases, the confidence in hole trace is high.

As rounding issues are considered low, no correction should be applied for an MRE. However, it is suggested that original record measurements should be reloaded into the database.

12.3 Assays

12.3.1 Checking back to source data

The project has changed ownership (Refer to section 7 – History) and database systems throughout the last 35 years. Consequently, some of the historical data is incomplete in terms of flagging in the database, certified reference materials, blanks, and duplicates. However, the modern era of the project, spanning the last twenty years, has used exploration methodologies in line with industry best practices.

Check back to source analysis has been carried out on the 2019 to 2023 drilling campaigns. For the remainder of the campaigns, gold and silver values have been verified using independent sampling of pulps and cores of the historical drillholes. (Refer to NI43101 Technical Report – Mining Plus PEA 2022, Section 12 – Data Verification, Independent sampling check)

The author has checked against Abrasilver database approximately 2.9% of batch certificates back to source data which comprises approximately 1,350 samples out of a total of 46,445.

The following conclusions are noted:

- The assay table includes 46,445 records of which 25,854 have gold values including 20,585 with zero value.
- The assay table includes 46,445 records of which 42,178 have silver values including 4,267 with zero value.
- Zero records are null values.
- No negatives or non-numeric values were identified.
- The detection limit was replaced with a half of the value, however, during the check back to source no data was detected below the detection limit.

The author has observed that there is no duplicate sample code.

12.3.2 Overlapping intervals and length of samples

No overlapping samples were detected during the process of auditing the database.

No typing error in the intervals were identified.

12.3.3 Coincident samples

No coincident samples were detected.

12.3.4 Comparison analysis of different types of data

No comparisons have been made for this report as it was done in a previous NI 43.101 technical report made by Mining Plus, MRE (2021). Even though, the conclusions of that analysis are quoted below.

- *The comparison of RC vs DDH was performed within a limited area including the main mineralization. Results indicate that the sample results from RC drilling closely match those from diamond drilling and no bias is evident.*
- *The comparison of the 2008 and 2020 drilling campaigns is shown certain differences, mainly with the 2020 drilling campaign. This was attributed to the intercept of economic mineralization with significant values, causing mean, upper, and lower quartiles to be higher than the 2008 drilling campaign. It was thus concluded this was not evidence of bias.*

12.3.5 Twinned Drill Holes

No analysis of twin holes has been made for this report as it was done in the previous NI 43.101 report made by Mining Plus, MP (2021). However, that study was not conclusive, and the author recommends a detailed analysis to verify whether bias exists between RC and DDH drilling.

12.4 Mr. Peralta (QP) Site Visits

Mr. Peralta visited the Diablillos Project from April 24th to May 3rd and from October 2nd to October 8th, 2023, and conducted a general site inspection, including drill collars, cores, logging facility, logging procedures and camp. Core from several drill holes were reviewed and compared to the logs. Collar locations were confirmed by handheld GPS.

In the author's opinion, the site was found to be as described in the Technical Reports, the facilities were well-maintained, and the core storage was orderly.

During the author's second visit, from October 2nd, 2023, to October 8th, 2023, an inspection was made of the surface geology at the JAC, Laderas and Fantasma zones and nearby, as well as the zones discussed in Section 9. Several core samples were reviewed from the Fantasma and Laderas zones and compared with logs. Additionally, collar locations were confirmed for recent drilling at JAC zone. Vertical cross sections and plans views with detailed geology, alteration and interpretation were discussed with AbraSilver geologists. Discussions included future exploration targets and near-term objectives.

In the author's opinion, the site continued to be as described in the Technical Reports, with well-maintained facilities and orderly core storage. (see Figure 12-1)

Figure 12-1: Drill core storage facility at site. Source: Abrasilver 2023.

12.5 Discussion

In Mr. Peralta's opinion, the database is reasonably free from errors and suitable for the use in the estimation of Mineral Resources.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

The Diablillos property owned by AbraSilver Resource Corp is in the Puna region of Argentina, in the southern part of Salta province, approximately 160 km southwest of the city of Salta. It is a gold and silver deposit which has demonstrated good metal recovery through laboratory-scale cyanidation test work. Previous metallurgical test work has been carried out at a number of different laboratories between 1996 and 2021, and a more thorough metallurgical test that was conducted by SGS Lakefield has also been completed in 2022 and 2023 respectively.

This section summarizes both the previous and the latest test work completed by SGS. The objective of this program is to support the Pre-Feasibility Study (PFS).

13.1 Historical Test Work

Barrick 1996 – 1998

The Initial test program was organized by Barrick and carried out by Lakefield Research in 1996. A series of bottle roll cyanidation tests indicated that the material tested was amenable to cyanidation, with gold recovery ranging from 70% to 99% and silver recovery varying between 50% to 99%.

In 1998, Barrick organized a precious metal recovery program that included both bottle roll studies and column tests. This program confirmed that the sample material being studied was not appropriate for heap leach processing and an additional test program was recommended to study the potential application of cyanide leaching and precious metal doré bullion production by the Merrill Crowe Process.

Additional testing was conducted in 2007 employing material from the deposit that had a wide range of head grades. In this investigation the gold head grade varied from 0.3 g/t to 10 g/t and the silver head grade varied from 10 to 3,700 g/t. The following relevant conclusions were drawn from this test program:

- All samples tested were amenable to processing by cyanidation with generally acceptable gold and silver extraction levels. Sodium cyanide consumption was in the range of 1 kg/t to 4 kg/t.
- Gold recoveries were typically in the range of 80% to 85%, and silver recoveries averaged around 82%.
- The Bond Work Index for the sample suite tested varied between 11 kwh/t and 17.7 kwh/t.
- Gangue mineralogy did not significantly impact the cyanidation process.
- Gold occurs as metallic grains 3 to 4 microns in size and are typically associated with softer sulphate and iron oxide minerals.
- Silver minerals were coarser in size and consisted of acanthite, chlorargyrite, and iodargyrite.

Silver Standard Resources 2008 - 2009

Five composite core samples were submitted to Process Research Associates for metallurgical studies in May 2008. The first phase test work effort resulted in the following observations and conclusions:

- The sulphide content of the submitted samples ranged between 0.2% to 2.7%.
- The Bond Ball Mill Work Index varied between 12.6 to 19.1 kwh/t.
- Bottle roll testing produced gold recoveries between 69% to 91% and silver recoveries between 73% to 94%. This test series indicated that precious metal recoveries from finely ground samples were relatively insensitive to particle size.
- Bottle roll tests on the crushed coarser samples exhibited considerably lower precious metal recoveries; however, column testing was still recommended for the evaluation of precious metal extraction of low-grade material, possibly by heap leaching.
- Flotation tests indicated that this technique is not applicable to the ore suite tested. Gravity concentration is recommended depending on the grade of the material being processed.
- Site water is recommended for use in additional testing programs.

In 2009, a second phase of test work was conducted, including 48-hour bottle roll tests of 53 samples of Oculto mineralization, bottle roll testing with site water, and two column leach tests using composite samples, which gave the following conclusions.

- The variability tests indicated, on average, a gold recovery of 88% and a silver recovery of 74% after 48 hours of leach can be expected on ball mill ground samples. Most of the precious metals were dissolved during the first 24 hours.
- A cyanide concentration at 2 g/L was used during the variability testing and the cyanide consumption averaged 2.9 kg/mt after 48 hours. It is expected the cyanide consumption will be somewhat lower in an industrial setting.
- Silver was observed to leach more rapidly than gold and to generally reach maximum dissolution within 24 hours. For samples having higher gold grades, the gold dissolution appeared to continue beyond 48 hours. Therefore, it is recommended to consider gravity concentration prior to cyanidation in future studies.
- Site water was used in these leaching studies. Site water did not have an adverse impact upon metal recovery; however, several slurry samples exhibited increased viscosity with site water.
- Two column tests were conducted, one with high grade feed and the other with low grade material. The column tests showed considerably lower precious metal recoveries than bottle roll tests on the same materials. The high-grade material having a head grade of 1.27 g/t Au and 589 g/t Ag had recoveries of 65% for gold and 63% for

silver. The low-grade material having a head grade of 0.28 g/t Au and 36.3 g/t Ag had recoveries of 56% for gold and 37% for silver.

Aethon Minerals 2019

In 2019 Aethon Minerals selected eight additional samples which were sent to the ALS metallurgy lab for testing. The samples were from the earlier campaigns in the years of 1997-1999, 2007 and 2008. Average head grades were quite high, at 3.75 ppm of gold and 445 ppm of silver. One sample had a high copper content and was tested by both flotation and cyanidation. The flotation study gave good metal recovery; however, the concentrate had very low copper grade at 2.5% by weight. Additional cleaner flotation significantly reduced the metal recovery in the laboratory test.

For the other seven samples, bottle roll cyanide leaching generally gave very good precious metal recoveries, averaging 87% gold recovery and 91% silver recovery after 24 hours.

AbraSilver 2021

In 2021, AbraSilver sent to the ALS Metallurgy laboratory in Kamloops, British Columbia a total of 56 intercepts samples, which were collected during the drilling program between 2019 and 2020. These samples were all designated as oxide or partial oxide material. The samples collected had an average head grade of 1.17 ppm of gold and 116 ppm of silver, which is an average content somewhat higher than the resource model indicated. The content of copper is quite low averaging around 0.01%. The mineralogy study indicated a very high level of silica present in the whole rock. The geochemical ICP indicated relative high levels of arsenic, antimony, mercury, and lead in the sample.

The SMC (SAG Milling Comminution) test indicated an average Axb value of 58.2, considered to be medium hard material in terms of this SAG milling parameter. The Abrasion Index averaged 0.33. The Bond Work Index (BWI) of the material averaged 15.1 kwh/tonne. The range of the above comminution numbers for the individual samples tested is noted to be quite wide, with Axb values varying between 28 and 127, the Abrasion Index values varying between 0.01 to 0.74, and the BWi observations varying between 9.3 to 21.8 kwh/tonne.

QEMSCAN tests were conducted on all the sample intercepts. It was found that the major mineral component of most samples was quartz. The next abundant mineral is alunite, having a content up to 45% in some intercepts. Overall, the material studied exhibits a large variability in the mineralogical constituents.

Based on the observations from the test work organized by Silver Standard during 2008 and 2009, some test conditions were modified as listed below:

- The grind sizes for bottle roll tests were targeted at P80 values of 100 µm and 150 µm rather than the previous 75 µm.
- The sodium cyanide concentration was controlled at 1 g/L and then allowed to decay to 0.75 g/L.

- A leach time of 24 hours was employed with the solution being sampled and assayed at 1, 2 and 6 hours.
- Oxygen was sparged into the leach bottles at the time intervals of 0, 1, 2 and 6 hours as required in order to consider high-altitude effects.

The leach test results indicated that there was no significant difference in metal recovery between grind sizes of 100 µm and 150 µm. Silver recovery appears to have more variation than gold, possibly due to the large variation in silver head grade of the individual samples. The sedimentation tests indicated that this material exhibited fast settling and produced a clear liquid overflow.

An effort was made to predict the metal recovery based on the head grade of the material; however, the regression equation comparing the head grade with metal recovery had a low R-Squared value.

13.2 Sample Selection and Preparation

In July 2022, a total of forty-two ore samples were received by SGS Lakefield from the AbraSilver Resource Diablillos project for a PFS testing program. Sixteen comminution composite samples were prepared representing four different rock types and were labelled Shallow Gold, Silver Enrichment, Deep Gold, and Northeast.

Each of the 42 variability samples was crushed to 30 mm, and a certain amount of each sample was collected to form the 16 comminution composite samples. After removing the required amount of material for each composite sample for the SMC test, the remaining material from each composite sample was further crushed to 19 mm. Material having a size distribution between 12.5 mm to 19 mm was subjected to Abrasion Index testing and the remaining sample was further crushed to 6 mesh (3.4) mm for Ball Mill Bond Work Index tests.

The sample remaining after comminution testing was crushed to minus 10 mesh (2mm) to form the composite sample and variability samples to be used for the metallurgical tests. The details of sample selection and management are listed in Table 13-1.

In 2023, an additional fourteen samples were received from Abrasilver representing the JAC Fantasma deposit for a PFS level testing program. Each of the twelve JAC and two of the Fantasma samples as received were subjected to comminution tests. Each individual sample was crushed to 30 mm and a single 17 kg sample was removed from each of the JAC and Fantasma samples for comminution tests. From the 17 kg of sample material, the required number of larger fragments were removed for SAG Mill Comminution (SMC) tests and the remaining sample in each composite was crushed to -19 mm and screened at 12.5 mm. 1.6 kg of -19 mm/+12.5 mm material was removed from each sample for abrasion index testing. The remaining sample was combined, crushed to -6 mesh for Bond Ball Mill Index testing.

After removing comminution test samples, the remaining material was crushed to through 10 mesh, and then riffled into various test charges for subsequent metallurgical testing. The JAC and Fantasma sample preparation summaries are presented in Table 13-2 and Table 13-3 below.

Table 13-1: Sample Preparation Summary

Variability Sample ID	Total Weight kg	Weight To Remove For Comminution kg	Comminution Composite ID	Weight To Remove For Master Composite kg	Weight Remaining For Variability Sample kg
ME0077	10.4	1.1	Shallow Gold Comp #1	1.0	10.0
ME0091	12.1	6.0		2.0	10.0
ME0092	18.0	0.4		0.0	10.0
ME0094	13.6	2.0		1.6	10.0
ME0095	13.0	2.0		1.0	10.0
ME0097	14.7	3.0		1.7	10.0
ME0111	15.5	3.0		2.5	10.0
ME0072	14.1	2.0	Silver Enrichment Comp #1	2.1	10.0
ME0073	9.6	0.6		0.0	9.0
ME0081	16.6	4.0		2.6	10.0
ME0093	24.8	12.0		2.8	10.0
ME0101	9.5	0.5	Silver Enrichment Comp #2	0.0	9.0
ME0104	12.4	2.0		0.4	10.0
ME0105	18.7	7.7		1.0	10.0
ME0106	14.3	3.0		1.3	10.0
ME0107	15.5	3.5		2.0	10.0
ME0074	11.4	1.0	Tesoro Gold Comp #1	0.4	10.0
ME0082	10.4	10.0		3.3	10.0
	12.9				
ME0110	20.9	6.0		4.9	10.0
ME0078	24.4	10.0	Tesoro Gold Comp #2	4.4	10.0
ME0079	25.7	7.0		8.7	10.0
ME0080	23.0	23.0	Tesoro Gold Comp #3 & Tesoro Gold Comp #4	5.6	10.0
	15.6				
ME0103	21.0	6.0		5.0	10.0
ME0108	17.0	5.0		2.0	10.0
ME0083	10.8	0.8	Tesoro Gold Comp #5	0.0	10.0
ME0084	17.2	4.0		3.2	10.0
ME0096	15.6	2.5		3.1	10.0
ME0102	24.6	7.0		7.6	10.0
ME0109	15.3	2.5		2.8	10.0
ME0112	14.9	17.0	Tesoro Gold Comp #6	2.8	10.0
	14.9				
ME0075	15.8	5.0	North East Comp #1	0.8	10.0
ME0076	15.5	5.0		0.5	10.0
ME0085	19.8	5.0		4.8	10.0
ME0089	14.8	2.4		2.4	10.0
ME0086	24.7	9.0	North East Comp #2	5.7	10.0
ME0099	20.0	8.0		2.0	10.0
ME0087	17.0	17.0	North East Comp #3	2.4	10.0
	12.4				
ME0090	20.3	17.0	North East Comp #4	8.8	10.0
	15.3				
ME0098	17.2	17.0	North East Comp #5	2.0	10.0
	11.8				
ME0100	16.5	10.0	North East Comp #6	6.6	10.0
	10.1				
ME0113	23.9	7.0		6.9	10.0
ME0114	7.1	17.0	North East Comp #7	6.3	10.0
	13.3				
	12.9				

Table 13-2: JAC Sample Preparation Summary

Sample ID	Box #	Weights kg	Remove For Comminution (SMC, BWI, AI) kg	Remove For JAC Master Composite kg	Remaining For Individual Met/Min Sample kg
ME0115	1	11.6	17.0	8.0	13.5
	2	11.4			
	3	15.5			
ME0116	1	17.0	17.0	8.0	9.0
	2	17.0			
ME0117	1	12.3	17.0	8.0	37.9
	2	11.4			
	3	15.5			
	4	12.2			
	5	11.5			
ME0118	1	13.8	17.0	8.0	5.5
	2	16.7			
ME0119	1	14.5	17.0	8.0	16.2
	2	12.8			
	3	14.0			
ME0120	1	18.0	17.0	8.0	11.0
	2	18.0			
ME0121	1	13.3	17.0	8.0	5.0
	2	16.7			
ME0122	1	15.0	17.0	8.0	8.3
	2	18.3			
ME0123	1	14.7	17.0	8.0	5.7
	2	16.0			
ME0124	1	17.8	17.0	8.0	6.8
	2	14.0			
ME0125	1	17.6	17.0	8.0	7.6
	2	15.0			
ME0126	1	20.0	17.0	8.0	13.5
	2	18.5			
JAC Master Composite Total Weight				96.0	

Table 13-3: Fantasma Sample Preparation Summary

Sample ID	Box #	Weights kg	Remove For Comminution (SMC, BWI, AI) kg	Remaining For Individual Met/Min Sample kg
ME0127	1	18.0	17.0	26.2
	2	11.7		
	3	13.5		
ME0128	1	18.5	17.0	34.0
	2	19.3		
	3	13.2		

13.3 Mineralogy

All 42 variability samples and the Master Composite sample from Oculto material received in 2022 were subjected to Quantitative Evaluation of Materials by Scanning Electron Microscopy (QEMSCAN) and Particle Mineral Analysis (PMA). The 42 variability samples were also subjected to TESCAN Integrated Mineral Analyzer (TIMA) analysis.

The master composite sample was split into five size fractions for QEMSCAN-PMA analysis, which were +150 µm, -150/+106 µm, -106/+45 µm, -45/+10 µm, and -10 µm. The overall results for the Master composite sample showed a weight percent distribution grouped into a major amount of 76.3% for quartz, a moderate amount of 10.2% for alunite, minor amount of 4.48% for jarosite and 2.96% for iron oxides, as well as trace amounts of minerals less than 2%. There is a minor amount of pyrite in the material present in the form of free pyrite and pyrite associated with silicates.

All 42 variability samples were subjected to QEMSCAN-PMA employing one size fraction, -300/+3 µm. Most of variability samples had quartz as the major component (>30% by weight), with six samples having alunite as the major component and only one sample having muscovite as the major mineral. Moderate amounts (10-30%) of alunite, iron oxides, jarosite and clay minerals were present in the variability samples. The major percentage of pyrite (>30%) was in the form of free pyrite (30 samples), pyrite associated with silicates (8 samples), and complex mineral assemblages (15 samples).

The TIMA analysis performed on the variability samples indicated that most of gold grains are in the form of native gold averaging approximately 82% by weight, followed by electrum averaging around 18% by weight. The major silver minerals were iodargyrite (averaging around 42.4%) and chlorargyrite (averaging around 31.8%). Other silver minerals present were acanthite and oxidized acanthite (averaged 18.8%) and silver/oxidized silver (averaged around 6.3%). The TIMA analysis also indicated the major silver mineral associations were in the form of quartz/feldspar, complex and liberated silver.

In 2023, additional mineralogy tests were performed on the fourteen variability samples together with a JAC composite sample. QEMSCAN and PMA analysis indicated that the major non-sulphide minerals are quartz, alunite, and iron oxides. Based on the five size fractions (+150 µm, -150/+106 µm, -106/+45 µm, -45/+10 µm, and -10 µm), the overall reconciliated results for the JAC composite indicated a weight percent distribution grouped into a major amount of 64% for quartz, a moderate amount of 10.5% for iron oxides, minor amount of 2.26% for muscovite, 3.98% for kaolinite, 3.04% for ilmenite/rutile and 7.88% for alunite, as well as trace amounts of several other minerals less than 2%. For the sulphide minerals, based on the five size fractions of the JAC composite sample, the overall reconciliated results indicated a weight percent distribution grouped into a major amount of 38.7% for free pyrite, a moderate amount of 25.8% for pyrite and silicates and 22.6% complex pyrite, minor amounts of 6.02% for liberated pyrite, 2.39% for pyrite-sulphates and 2.43% for pyrite-oxides, as well as trace amounts of other minerals.

The QEMSCAN-PMA mineralogical examination was completed on each of the fourteen variability samples at the single size fraction of -300/+3 µm. All individual samples except two had quartz as the major component (>30% by weight). Moderate amounts (10-30%) of alunite, kaolinite, iron oxides and muscovite are also present in these variability samples. The major percentage of pyrite (>30%) was in the form of free pyrite (four samples), pyrite and silicates (four samples), and complex pyrite assemblages (ten samples).

The TIMA analysis of the fourteen samples with respect to silver deportment determined that the major silver minerals (>30%) were silver/oxidized silver for two samples, chlorargyrite for five samples, and iodargyrite for nine samples.

13.4 Sample Characterization

Head sample analyses were completed on the Master Composite sample and 42 variability samples to determine the precious metal concentration as well as the content of other key elements. Assays performed include gold and silver fire assay, sulphur speciation by LECO, copper by atomic absorption, and ICP scan analysis.

The composite sample had an average gold grade of 2.06 ppm and a silver content of 119 ppm. The 42 variability samples had a much larger variation in the gold and silver head grade, with gold varying between 5.54 ppm down to below detection limit, and silver varying between 882 ppm to less than 2 ppm.

The sulphur speciation analysis performed on the Master Composite sample indicated that the total sulphur is 2.73% and sulphide sulphur is 0.86%. The total carbon was 0.05% and total organic carbon was less than the detection limit of 0.05%. The mercury content averaged 1.4 ppm. Between the 42 variability samples, most of samples had low organic carbon content below the detection limit. The content of sulphide sulphur varied between 0.06% and 4.47%, and the mercury content varied between 8.2 ppm to below the detention limit of 0.3ppm. The characterization studies indicated that this material is not preg robbing; however, ore horizons may exhibit refractory characteristics.

The whole rock analysis on the Master Composite sample indicated that most of the material was SiO2 with average content of 74.2%, followed by iron oxide averaging 5.9% and aluminium oxide averaging 4.5%. The ICP scan performed on the Master Composite sample indicated 1080 ppm of arsenic, 280 ppm of bismuth, and 2820 ppm of lead.

In 2023, the additional fourteen variability samples and the JAC composite sample were tested to determine the gold and silver concentration as well as the content of other key elements. The gold fire assay of the JAC composite sample was 0.11 g/t and the fourteen variability samples ranged from below detection limit to 0.55 g/t gold. The silver grade analysis was performed by both the fire assay method and acid digestion/atomic absorption analysis. The JAC composite sample had a silver head grade of 148 g/t and the fourteen variability samples ranged from less than 6 g/t to 353 g/t silver.

The sulphur speciation analysis performed on the JAC Composite sample indicated that the total sulphur is 1.98% and sulphide sulphur is 1.50%. This sulphide level may indicate that the material possesses some refractory characteristics. The total carbon was 0.02% and total organic carbon was less than the detection limit of 0.05% indicating this material is unlikely to be preg robbing. The samples were dried at 40°C to avoid volatilization of the mercury content of the JAC composite sample, with3.9 ppm of Hg.

The whole rock analysis confirmed that most of the mineral in the material is SiO2. The JAC composite sample contains 64.7% SiO2, followed by 11.9% of Fe2O3 and 6.53% Al2O3. Semi-quantitative ICP scan analysis was performed on both the JAC composite and the fourteen variability samples. For the JAC composite, ICP indicated 838 ppm of Arsenic, 161 ppm of copper, 4880 ppm of lead, and 105 ppm of zinc. For the variability samples, the arsenic level ranged from 58 to 4270 ppm, copper ranged from 15 to 1160 ppm, lead ranged from 144 to 15300 ppm, and zinc ranged from 9 to 585 ppm.

13.5 Comminution

A total of sixteen composite samples from the Oculto zone as received in 2022 were prepared for the comminution testing program, including SAG Mill Comminution (SMC), Bond Ball Mill Index (BWI), and Bond Abrasion Index (AI) tests.

The Axb parameters for the SMC tests performed on the sixteen composite samples ranged from 42.8 to 77.2, with an average value of 56.2. This value indicated that this material is medium hard with respective to SAG milling. The detailed comminution test results are summarized in the Table 13-4 as below.

The Bond Ball Mill Work Index test showed that the BWI of the material varied between 12.4 to 19.1 kWh/mt, with an average value of 15.80 kwh/mt, which equates to medium hard in terms of ball mill grinding. The abrasion index (AI) of the material varies between 0.2 to 1.2, with an average value of 0.66. The comminution studies conducted to date are sufficient for sizing of comminution equipment.

In 2023, additional comminution tests were completed on the JAC material. Based on the test results of fourteen variability samples, the Axb parameters from the SMC tests ranged from 29.4 to 210.5, with an average value of 126.8. This value indicated that this material is very soft with respective to SAG milling. The detailed comminution test results are summarized in the Table 13-5 as below.

The Bond Ball Mill Work Index test showed that the BWI of the JAC material varied between 10 to 22.5 kWh/mt, with an average value of 15.1 kwh/mt, which equates to medium hard in terms of ball mill grinding. The abrasion index (AI) of the material varies between less than 0.02 to 0.46, with an average value of 0.10. This material on average is much softer than Oculto material and also much less abrasive, therefore, the mill sizing based on Oculto material is still appropriate for the current study.

Table 13-4: Comminution Test Result Summary

Sample Name	A x b	DWI (kWh/m^3)	SCSE (kWh/t)	Relative Density	BWi, kwh/mt	Ai, g
Shallow Gold Comp #1	77.226	3.06	7.56	2.36	14.0	0.235
Silver Enrichment Comp #1	57.760	4.11	8.34	2.39	13.8	0.497
Silver Enrichment Comp #2	53.947	4.29	8.64	2.32	18.1	0.817
Deep Gold Comp #1	51.359	4.94	8.69	2.53	15.0	
Deep Gold Comp #2	52.920	4.73	8.58	2.51	16.6	1.171
Deep Gold Comp #3	66.420	3.67	7.89	2.44	15.5	
Deep Gold Comp #4	75.152	3.29	7.53	2.49	15.2	0.624
Deep Gold Comp #5	42.824	5.77	9.36	2.48	16.1	
Deep Gold Comp #6	68.306	3.66	7.79	2.5	12.4	0.195
North-East Comp #1	43.470	5.63	9.31	2.44	16.0	0.506
North-East Comp #2	45.832	5.31	9.1	2.44	16.9	0.770
North-East Comp #3	44.578	5.62	9.21	2.52	16.4	0.993
North-East Comp #4	60.372	4	8.18	2.42	18.0	0.736
North-East Comp #5	45.079	5.42	9.16	2.46	19.1	0.987
North-East Comp #6	55.132	4.34	8.49	2.39	17.0	0.625
North-East Comp #7	59.075	4.05	8.27	2.39	12.7	0.452
Average	56.200		8.51		15.8	0.66

Table 13-5: Comminution Test Result Summary – JAC

Sample Name	A x b	DWI (kWh/m3)	SCSE (kWh/t)	Relative Density	BWi, kwh/mt	Ai, g
ME-0115	122.0	2.2	6.41	2.63	13.6	0.063
ME-0116	137.4	1.6	6.75	2.15	16.3	0.085
ME-0117	181.4	1.1	6.62	2.03	12.2	0.028
ME-0118	73.6	3.0	7.88	2.23	16.4	0.077
ME-0119	116.6	1.7	7.40	2.01	16.3	0.042
ME-0120	106.0	1.9	7.59	2.01	16.9	0.059
ME-0121	90.1	2.1	8.33	1.90	10.0	0.053
ME-0122	210.5	0.9	6.59	1.97	16.0	0.020
ME-0123	184.5	1.1	6.52	2.06	12.3	0.076
ME-0124	185.8	1.2	6.16	2.22	11.7	0.033
ME-0125	166.0	1.3	6.43	2.16	10.6	0.000
ME-0126	65.9	3.4	8.11	2.27	17.8	0.273
ME-0127	59.4	3.7	8.49	2.23	22.5	0.459
ME-0128	75.4	2.9	7.93	2.18	18.2	0.121
Average	126.8	2.02	7.23		15.1	0.099

13.6 Gravity Concentration Test

The test work conducted in 2009 implied that coarse gold may be present for some higher gold grade material. Therefore, a three stage Extended Gravity Recoverable Gold (E-GRG) separation test was conducted on the Master Composite sample as prepared in 2022. The grind sizes for each stage were 605 µm, 215 µm and 82 µm respectively. The gravity test results are summarized in Table 13-6 and Table 13-7 as below.

Table 13-6: E-GRG Test Au Results Summary for Oculto Material

Grind Size	Product	Mass		Assay	Units	Dist'n
		g	%	Au (g/t)	Au	%
P_{80} = 605 µm	Stage 1 Conc	94.1	0.47	37.9	3,568	**9.3**
	Sampled Tails	302.7	1.51	1.72	521	**1.36**
P_{80} = 215 µm	Stage 2 Conc	100.3	0.50	28.6	2,866	**7.5**
	Sampled Tails	307.9	1.54	1.65	509	**1.33**
P_{80} = 82 µm	Stage 3 Conc	76.5	0.38	27.4	2,093	**5.5**
	Final Tails	19,119	95.6	1.51	28,792	**75.1**
	Totals (Head)	20,000	100.0	**1.92**	38,349	**100.0**
	Knelson Conc	271	1.35	31.5	8,527	**22.2**

Table 13-7: E-GRG Test Ag Results Summary

Grind Size	Product	Mass		Assay	Units	Dist'n
		g	%	Ag (g/t)	Ag	%
P_{80} = 605 µm	Stage 1 Conc	94.1	0.47	2,743.5	258,163	**10.2**
	Sampled Tails	302.7	1.51	105.51	31,937	**1.26**
P_{80} = 215 µm	Stage 2 Conc	100.3	0.50	3,417.1	342,739	**13.5**
	Sampled Tails	307.9	1.54	98.35	30,282	**1.19**
P_{80} = 82 µm	Stage 3 Conc	76.5	0.38	626.6	47,933	**1.9**
	Final Tails	19,119	95.6	95.74	1,830,494	**72.0**
	Totals (Head)	20,000	100.0	**127**	2,541,548	**100.0**
	Knelson Conc	271	1.35	2,395	648,835	**25.5**

These GRG numbers of 22.2 for gold and 25.5 for silver indicate that a gravity gold recovery circuit is necessary and therefore recommended for the process design. For the process design, a recommendation is made to include a gravity concentrator treating 50% or more of the cyclone underflow at a grind size at 150 µm. The precious metal recovery is expected to be around 10.1% for gold and 7.8% for silver.

In 2023, a three stage E-GRG separation test was also conducted on the JAC composite sample, with the grind sizes at each stage of 619 µm, 249 µm and 64 µm respectively. The gravity test results are summarized in Table 13-8 as below.

Table 13-8: E-GRG Test Results Summary for JAC Composite

P_{80} Grind Size	Product	Mass		Gold			Silver		
				Assay	Units	Dist'n	Assay	Units	Dist'n
µm	ID	g	%	g/t	mg	%	g/t	mg	%
619	Stage 1 Conc	79.9	0.40	3.44	275	**10.3**	7,494	598,747	**17.8**
	Sampled Tails	262.2	1.31	0.15	38.4	1.4	123	32,242	1.0
249	Stage 2 Conc	97.0	0.49	1.81	176	**6.6**	5,369	520,745	**15.5**
	Sampled Tails	300.0	1.50	0.09	25.7	1.0	109	32,604	1.0
64	Stage 3 Conc	85.6	0.43	2.49	214	**8.0**	441	37,760	**1.1**
	Final Tails	19,175	95.9	0.10	1,935	72.7	111	2,137,051	63.6
	Totals (Head)	20,000	100.0	**0.13**	2,663	100.0	**168**	3,359,149	100.0
	Knelson Conc	262.5	1.31	2.53	664	**24.9**	4,409	1,157,252	**34.5**

The GRG numbers of 24.9% for gold and 34.5% for silver indicate that a gravity recovery circuit will be beneficial to the metals recoveries and is therefore recommended in the process flowsheet. Additional gravity Knelson concentrator testing was conducted, which resulted in 17.3% of gold recovery and 9.1% silver recovery, based on a concentrate mass pull of 0.06%.

13.7 Bulk Cyanide Leach Test

13.7.1 Cyanidation Testing on the Master Composite Sample

Cyanidation testing was performed on the Master Composite sample from Oculto to determine the optimum operational conditions. The test conditions that were explored include grind size, pulp density, reagent dosage, pre-aeration, leach time, and the impact of site water.

The gold recoveries were all in a very similar range during the optimization tests, with the gold recovery varying between 82% and 87%, and silver recovery varying between 79% to 87%. The sodium cyanide consumption ranged from 0.29 to 2.39 kg/mt, and the lime consumption ranged from 0.51 to 1.57 kg/mt. The site water was used to repeat the optimum test conditions, and it was found that the site water, which was more brackish than tap water and had a pH around 5.5, did not impact either gold or silver recovery. From the optimization test work, it was determined that the following test parameters will be recommended as the optimal:

- Grind size P80 of 150 µm.
- Pulp density of 45% solids by weight in the tank leach.
- Pulp pH between 10.5 to 11.
- Leach aeration with air sparging throughout the test.
- Total leach retention time of 48 hours.
- Initial sodium cyanide concentration of 1.5 g/L.

Based on the above test conditions, the bulk cyanidation test performed on this Master Composite sample had approximately 85% of gold recovery and 82-84% of silver recovery at the end of 48 hours of leaching. The cyanide consumption averaged at 1.68 kg/t and lime consumption averaged at 0.55 kg/t.

In 2023, additional cyanidation optimization tests and bulk cyanidation tests were repeated on the JAC composite sample. All optimization tests were conducted with four hours of pre-aeration before cyanide leach due to the presence of sulphide material. There are several tests having Dissolved Oxygen (DO) below 4 ppm and above 3 ppm during pre-aeration. Although not ideal, industry experience has indicated that this level of DO may not have significant negative impact on the leaching kinetics. Optimization tests explored the impact of grind size, cyanide concentration, pulp density, and leaching time. The gold recovery varied between 81% to 88%, while the silver recovery varied between 84% to 88%. The cyanide consumption ranged from 0.73 to 1.81 kg/t, and the lime consumption ranged from 2.73 to 3.16 kg/t, and averaged 2.94 kg/t. The leaching parameters established through optimization tests are the same as those of the bulk leach test conducted on the Oculto composite sample as above described.

13.7.2 Cyanidation Test on Variability Samples

Using the optimal test conditions from the cyanidation tests on the Master Composite sample, cyanidation tests were repeated on the variability samples. The metal recoveries and reagent consumptions for each ore zone are summarized in the Table 13-9 below.

Table 13-9: Oculto Variability Samples Cyanidation Test Result Summary

Ore Zone	Au Rec. %			Ag Rec. %			NaCN Kg/mt			CaO Kg/mt		
	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min
Shallow Gold	74	97	29	45	89	24	0.51	0.85	0.21	1.26	2.50	0.47
Silver Enrichment	83	93	71	72	95	35	0.92	1.24	0.40	2.00	6.43	0.92
Tesoro Gold	84	97	69	82	90	68	1.21	2.26	0.39	1.59	3.27	0.46
North-East	84	93	51	76	89	37	0.79	1.34	0.30	0.93	1.68	0.28

The above table reveals that a large variability in cyanidation results exists for the individual samples that constitute the Ore Zone composite samples. Likewise, a wide variation in the cyanide consumption is apparent. Though a total 48 hours of leaching duration was used during the variability tests, statistical analysis indicated that a total 36 hours of leaching time would be sufficient to provide maximum metals recovery.

In 2023, additional fourteen variability sample from JAC and Fantasma zone were tested based on the same testing condition recommended from the JAC composite optimization tests. The metal recoveries and reagent consumption from each variability sample are summarized in the Table 13-10 below.

Table 13-10: JAC & Fantasma Variability Samples Cyanidation Test Result Summary

Deposit	Sample	CN Residue P80	Reagent Consumption kg/t of CN Feed		% Au Extraction	% Ag Extraction
			NaCN	CaO	Hours	Hours
ID	ID	µm	kg/t	kg/t	48	48
JAC	ME0115	142	1.08	6.01	78	70
	ME0116	143	2.99	2.83	78	64
	ME0117	134	1.14	3.79	78	56
	ME0118	155	0.84	2.46	78	92
	ME0119	141	0.75	2.05	89	72
	ME0120	146	0.79	2.47	78	72
	ME0121	152	0.77	3.30	85	93
	ME0122	164	0.87	2.63	78	63
	ME0123	149	1.10	2.59	88	88
	ME0124	137	0.50	2.37	87	78
	ME0125	163	0.61	3.19	78	60
	ME0126	151	1.43	1.72	79	89
Fantasma	ME0127	136	0.82	3.07	77	54
	ME0128	161	0.84	3.28	77	60

13.7.3 Cyanidation Tests on Gravity Tails Samples

The gravity tailings produced from the gravity separation tests performed on the Oculto Master Composite sample were subjected to cyanidation tests. A total of nine gravity tailings cyanidation tests were conducted, with eight tests directed toward optimization of the leach conditions and the last test repeating the optimum test conditions using site water. The gold recovery ranged from 82% to 85%, and the silver recovery ranged from 78% to 82%. The cyanide consumption was between 0.29 and 1.7 kg/mt, and the lime consumption varied between 0.7 and 1.53 kg/mt. The optimization testing did not indicate any significant impact upon metal extraction of grind size, nor the elevated DO level or pre-aeration. The leaching conditions as developed based on the whole ore cyanidation optimization testing of Oculto composite samples are still valid for gravity tailings cyanidation, with a total leaching time at 36 hours.

As the gravity tailings cyanidation will be more representative of the future plant operation, the gold and silver recovery of the tank leach circuit to be installed in the plant is estimated based on the gravity tailings cyanidation tests, which gave 83% gold recovery and 79.8% silver recovery at 36 hours leach retention time. The average cyanide consumption of this test is

0.78 kg/mt of plant feed, and the lime consumption is 0.79 kg/mt, which will be used to predict the cyanide and lime consumption in the plant.

For the JAC composite, after gravity separation tests, a total of seven gravity tailings cyanidation tests were conducted to optimize the leaching conditions. By the end of 48 hours of leaching time, the gold recoveries ranged from 78% to 89%, while the silver recoveries ranged from 84% to 93%. The cyanide consumption varied between 0.76 to 1.88 kg/t, and lime consumption varied between 2.09 to 2.47 kg/t. This set of tests did seem to indicate that a finer grind size can improve the metals recoveries, however based on the leaching kinetics this apparent recovery increase may not be statistically significant. The elevated cyanide concentration tests seem result in a better gold recovery but a lower recovery for silver. The elevated DO with injection of oxygen did not appear to improve the metal recoveries, however it did reduce the cyanide consumption, likely due to the oxidation of sulphide and sulphur material in the ore. The addition of lead nitrate did not appear to improve the metal recovery. The leaching duration of 36 hours seems sufficient for JAC composite gravity tailings. The leaching conditions for the JAC gravity tailings are to be similar to Oculto gravity tailings leaching, under which conditions the gold recovery is expected to be around 83.8% and silver recovery around 84.9%. The associated cyanide consumption is around 1.52 kg/t and lime consumption around 2.19 kg/t. Compared to the Oculto material, the increased cyanide consumption is mostly due to the much higher silver content in the material, and the increased lime consumption may be due to the higher sulphide sulphur content.

13.8 CCD Test

A CCD circuit will be installed to recover the pregnant solution from the leached slurry after cyanidation. To estimate the requirements for the CCD circuit design, the CCD process has been simulated using a METSIM model, with the following operational parameters:

- Slurry density of fresh feed at 45% solids by weight.
- CCD thickener underflow density at 55% solids by weight.
- The CCD stage efficiency is assumed to be 85%.
- Various numbers of CCD stages.
- Several selected CCD wash ratios.

With an increase in the number of CCD stages and/or an increase in the wash ratio, the metal recoveries will increase; however, the associated capital cost will also increase. Therefore, there is a trade-off between maximizing the metal recoveries and the increase in capital cost. A high-level optimization of the CCD design has been performed, based on a high-level estimation of the capital cost associated with CCD and Merrill Crowe plant at a constant ore head grade and cyanidation circuit recovery. Based on the optimization study, six stages of CCD with a wash ratio of 3 is recommended based on the estimated pregnant solution tenor produced from Oculto material.

A similar exercise was also conducted for the JAC material. The only operational parameter that differed from Oculto material is the CCD thickener underflow density, which will be controlled around 50% solids by weight rather than 55%. Based on expected solution tenor from CCD feed, and associated capital cost, a total of seven stages of CCD with a wash ratio of 3.0 is recommended for JAC material.

13.9 Merrill Crowe Test

A Merrill Crowe test was conducted to confirm the efficiency of the Merrill Crowe process. The pregnant solution obtained from the gravity tailings bulk leach in the laboratory was diluted with water in a ratio of 3:1 to simulate the pregnant solution recovered from the CCD circuit. The solution tenor produced in the laboratory has similar chemical characteristics to the METSIM fluid flow simulation.

Based on the solution tenor, zinc dust was added to the solution at various ratios of the calculated stoichiometric amount. The solution was sparged with nitrogen for 30 minutes to minimize the dissolved oxygen (DO) level in the solution before adding zinc dust. The metal recoveries are summarized in Table 13-11 below.

Table 13-11: Merrill Crowe Test Result Summary – Oculto Material

Product ID	Zinc Stoichiometric Addition Times	Test Volume L	Assays, mg/L Au mg/L	Ag mg/L	Extraction Au %	Ag %
MC-1 Barren	1	2	<0.05	0.48	100	97.8
MC-2 Barren	3	2	<0.05	0.16	100	99.3
MC-3 Barren	5	2	<0.05	0.05	100	99.8
MC-4 Barren	10	2	<0.05	<0.03	100	100
MC-5 Barren	15	2	<0.05	<0.03	100	100
BL-1A Diluted PLS	-	-	0.37	21.6	-	-

Based on the laboratory test, the pregnant solution acquired from this ore was amenable to treatment by the Merrill Crowe process and can attain very high metal recovery by the zinc dust precipitation procedure. Based on the test results and industry standard practices, a zinc dust stoichiometric ratio for precipitation of 5 is recommended. Consequently, for every unit weight of combined gold and silver, a 1.5-unit weight of zinc dust will be required.

For JAC composite, additional Merrill Crowe testing was conducted on the pregnant leach solution (PLS) obtained from the bulk leach test. The PLS was diluted with water simulating a wash ratio of 3:1 from the CCD circuit, then clarified and de-aerated before adding the zinc dust. The zinc addition was added to the diluted PLS at stoichiometric ratio of 1, 3, 5, 10 and 15, the lead nitrate was also added at a quarter of the amount of zinc dust. The metal recoveries associated with each zinc dust addition are summarized in Table 13-12 below.

Table 13-12: Merrill Crowe Test Result Summary – JAC Material

Product ID	Zinc Stoichiometric Addition Times	Test Volume L	Assays, mg/L Au mg/L	Ag mg/L	Extraction Au %	Ag %
MC-1 Barren	1	2	<0.05	13.0	100	50.6
MC-2 Barren	3	2	<0.05	4.32	100	83.6
MC-3 Barren	5	2	<0.05	0.98	100	96.3
MC-4 Barren	10	2	<0.05	0.12	100	100
MC-5 Barren	15	2	<0.05	<0.03	100	100
BL-3 Diluted PLS	-	-	<0.05	26.3	-	-

For the PLS obtained from JAC material, the required zinc stoichiometric addition to achieve satisfactory metal recovery is somewhere between 5 and 10, slightly higher than that of the Oculto material. This is likely due to the effect of elevated copper in the PLS from JAC material.

13.10 Cyanide Destruction Test

Cyanide destruction testing was performed on the leach tailings slurry obtained from the laboratory test program, with the purpose of minimization of the Weak Acid Dissociable (WAD) cyanide in the plant effluent slurry to below 1 ppm. The cyanide destruction method used in the test was the INCO process, which utilizes sulphur dioxide or sodium metabisulfite, copper sulphate and air to oxidize the WAD cyanide. The key parameters of the process are reagent dosage and retention time.

The test indicated that approximately 4.7 grams of equivalent sulphur dioxide will be required for every gram of WAD cyanide (CNWAD) in the solution to reduce final WAD cyanide concentration below 1 ppm and roughly one hour of retention time will be required. The copper addition was not essential to minimize the WAD cyanide during the test.

The same cyanide destruction test was also performed on the simulated CCD tailings produced from the JAC composite sample. The test used 45% solids slurry and a retention time of one hour. Due to the elevated copper naturally occurring in the solution, no copper was added. The test indicated between 4 and 5 grams of equivalent sulphur dioxide for every gram of WAD cyanide will be sufficient to reduce the WAD cyanide concentration below 10 ppm.

13.11 Sedimentation and Rheology Tests

To provide the design basis for the CCD and the sedimentation processes, solid/liquid separation and rheology tests were performed on the leached slurry tails and detoxed slurry. The particle size of the test sample was measured at 150 µm, and the particle specific gravity was 2.75. The slurry pH from the detoxed tailings was 8.5 and that of the leached tails was 10.5.

The preliminary static settling studies indicated utilization of a 15 g/t of flocculant dosage at a unit area of 0.03 m^2/tpd for detoxed tailings, and 11 g/t of flocculant dosage at a unit area of 0.05 m^2/tpd for leached tailings.

Both detoxed tailings and leached tails were further subjected to the dynamic thickening tests. For detoxed tailings, with the increase of unit area from 0.05 to 0.1 m^2/tpd, the underflow density increased from 57.8% to 63.2% solids by weight. This indicated that with an increase in thickener diameter the thickener underflow density can reach 60% solids by weight or above.

For the slurry coming from the tank leach, the dynamic thickening test indicated that at a unit area of 0.05 m^2/tpd, the thickener underflow can achieve 64% solids by weight. At a unit area of 0.05 m^2/tpd and a flocculant dosage of 15 g/t, the thickener overflow TSS can achieve 50-70 ppm. As the thickener overflow Total Suspended Solids (TSS) is critical to the Merrill Crowe process, an additional clarifier after CCD circuit is recommended in the process design to further reduce the solution TSS.

The Critical Solids Density (CSD) of both detoxed tailings and leached tailings are very similar, between 67% to 68% solids by weight, which also confirms that 60% solids thickener underflow will be readily achieved assuming proper thickener design.

Sedimentation and rheology tests were also repeated on the leach slurry tails and detoxed slurry from JAC material. The particle size of the sample was measured at 162 µm, with the specific gravity around 2.6. The slurry pH varied between 9 and 10. The static settling test indicated a 0.08 m^2/tpd unit area with 20 g/t of flocculant for leached tailings and a 0.05 m^2/tpd unit area with 76 g/t of flocculant for detoxed tailings. The flocculant used was Magnafloc 338, the same as the sedimentation testing for Oculto material.

For the leached tailings, the indicated unit areas were between 0.06 to 0.08 m^2/tpd with the dynamic thickening test, with the flocculant dosage maintained at 30 g/t. The overflow TSS were between 42 to 130 mg/L, and the underflow density varied between 31.2% to 61.1%. At an underflow density at 61.1%, the slurry was difficult to pump, and the yield stress reached 228 Pa.

For the detoxed tailings slurry, the indicated unit areas were between 0.06 to 0.10 m^2/tpd with the dynamic thickening test, with the flocculant dosage maintained at 50 g/t. The overflow TSS was between 110 to 221 mg/L, and the underflow density varied between 36.2% to 50.6%. With extended thickening for 30 minutes, the underflow density can be increased from 46.2% to 54.4%, corresponding to a yield stress from 4 Pa to 34 Pa respectively. The Critical Solids Density (CSD) of both detoxed tailings and leached tailings are in a similar range, between 55% to 60% solids by weight. In the process design, it is recommended that the underflow density being controlled around 50% solids by weight.

13.12 Additional Metallurgical Tests on Samples of Four Zones of the Oculto Deposit

In late 2023, per a request from Abrasilver, SGS Lakefield prepared four master composite samples representing four different zones of the Oculto deposit identified as Shallow Gold, Silver Enrichment, Tesoro Gold and North-East. Head assays and sulphur speciation of these four zones were measured and are summarized in Table 13-13 below.

Table 13-13: Head Assays and Sulphur Specification of Four Oculto Zones

Element	Shallow Gold	Silver Enrichment	Tesoro Gold	North-East
Au, g/t	1.10	1.45	2.60	1.91
Ag, g/t	54.0	151.0	124.0	76.9
Total Sulphur, %	3.94	3.61	3.33	2.10
Sulphide sulphur, %	2.05	1.57	1.21	0.57

Only a single gravity test and a single gravity tailings cyanidation test were conducted for each composite sample. The test report was completed by Lakefield on October 6, 2023. This test report was also used as the basis for the Abrasilver Mineral Resource Estimate (MRE) report issued by Abrasilver on December 10, 2023. The zone of "Deep Gold" in Abrasilver MRE report refers to Tesoro Gold as noted in the Lakefield Test Report.

The laboratory scale gravity concentration tests were performed on the four master composite samples employing a Knelson MD-3 concentrator and a Mozley mineral separator. The Mozley concentrate was used to represent the field gold and silver recovery. All gravity tests were conducted employing a single grind size of approximately 150 microns. The gravity tests result is summarized in Table 13-14 below.

Table 13-14: Gravity Tests Summary of Four Oculto Zones

Sample ID	Grind Size, µm	Mozley Concentrate			Metal Recovery		Tailing Assay		Head Grade (calc'd)	
		Mass pull, %	Au (g/t)	Ag (g/t)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)
Shallow Gold	150	0.10	247	26,247	16.2	16.4	1.27	132	1.51	158
Silver Enrichment	142	0.09	152	2,776	12.3	5.4	1.02	45.4	1.16	48.0
Tesoro Gold	151	0.10	235	4,407	8.6	3.3	2.46	126	2.69	130
North-East	160	0.12	149	5,237	10.1	5.2	1.58	76	1.75	82.1

The tailings from each of the gravity tests were then subjected to cyanidation tests employing the optimum leaching conditions developed from Lakefield Test report 1 which was based on the Master Composite Sample representing the whole Oculto material. The following test conditions were employed for individual gravity tailings cyanidation tests.

- Grind size P80 approximately 150 microns.
- Pulp density of 45% solids by weight.
- Pulp pH between 10.5 to 11.
- Initial sodium cyanide concentration of 1.5 g/L.
- Four hours of pre-aeration and continuing aeration throughout the leaching test.
- Total leach retention time of 48 hours.

The gravity tailings cyanidation test results for each Oculto zone are summarized in Table 13-15 below.

Table 13-15: Gravity Tailings Cyanidation Test Summary of Four Oculto Zones

Test Sample	Grind Size, P80, µm	Reagent Consumption kg/t of CN Feed		Metal Recovery (48 hours)		Head Grade (calc'd)	
		NaCN, kg/t	CaO, kg/t	Au (%)	Ag (%)	Au, g/t	Ag, g/t
Shallow Gold	156	1.12	1.62	83.5	82.8	1.27	127
Silver Enrichment	143	0.79	1.34	86.6	54.3	1.08	50
Tesoro Gold	150	1.72	1.30	82.2	82.0	2.69	129
North-East	156	0.92	0.71	88.1	80.2	1.69	77.2

The gravity tailings recoveries do show a modest amount of gold extraction variability between the four different zones. It is noted that the overall the silver recoveries are generally in a similar range with the metal extractions experienced with the Oculto Master Composite sample with the exception of the silver extraction of the Silver Enrichment sample.

13.13 Environmental Testing

Modified Acid-Base Accounting (ABA) test, Net Acid Generation (NAG) test, and Toxicity Characteristic Leaching Procedure (TCLP) analysis were conducted on the leached tailings, cyanide destructed tailings, and 24 tailings samples from cyanidation variability tests.

The modified ABA test indicated that the material is acid generating and will have a net acid producing potential as evidenced by the NP/AP ratios all being less than one, ranging from 0.02 to 0.74. The Net Neutralization Potential, which is calculated by subtracting the Acid Potential (AP) from the Neutralization Potential (NP), ranged from -0.8 to -304.7 ton of $CaCO_3$ per 1000 tons of material. The NAG test indicated that the acidity level ranged from 4 to 325 mg/L as $CaCO_3$, while the alkalinity level was generally less than detection limit (< 2mg/L as $CaCO_3$) to 15 mg/L as $CaCO_3$. These results further indicated that the solids are acid generating. However, to evaluate the potential acid generating impact of leached tailings at the mine site, a more thorough testing and studies are recommended, including the kinetic humidity cell test, and the consideration of other factors including local precipitation at the mine site.

TCLP testing was completed on the same sample suite to determine the mobility of inorganic contaminants present in the material. The results are listed in Table 13-16, Table 13-17, and Table 13-18 as below.

For the JAC composite sample and JAC variability samples, the modified ABA static tests indicated that this material is acid generating, the net acid producing potential all being less than one, ranging from -0.01 to 0.47. The Net NP ranged from -9.3 to -164 ton of $CaCO_3$ per 1000 tons of material.

The NAG test for JAC material indicated that the acidity level ranged from 7 to 495 mg/L as $CaCO_3$, while the alkalinity level was generally less than detection limit (< 2mg/L as $CaCO_3$). TCLP testing was completed on the same sample to determine the mobility of inorganic contaminants present in the material. The results are listed in Table 13-16, and Table 13-17 below.

During 2023 Abrasilver performed kinetic humidity cell tests on site, to evaluate the potential acid generating impact of waste rocks for all six geometallurgical domains equivalent to 25 years under site conditions. The test work confirmed that only one single domain (i.e. Deep Gold) produces ARD (Refer to Abrasilver internal report – Diablillos Site Kinetic Humidity Cells Test 2023).

Table 13-13: Toxicity Characteristics Leaching Procedure Summary #1 – Oculto

Measurement ID	Unit	MC Leach Tailing	MC CND Tailing	ME0072 CN-23 Tailing	ME0073 CN-24 Tailing	ME0074 CN-25 Tailing	ME0075 CN-26 Tailing	ME0076 CN-27 Tailing	ME0077 CN-28 Tailing	ME0078 CN-29 Tailing
Sample Weight	g	100	100	100	100	100	100	100	100	100
Ext Fluid	#1 or #2	1	1	1	1	1	1	1	1	1
Ext Volume	mL	2000	2000	2000	2000	2000	2000	2000	2000	2000
Final pH	no unit	5	5	4.97	5.04	4.99	4.97	4.98	4.97	4.98
Hg	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.846	0.775	1.12	0.452	0.339	0.456	0.943	1.28	0.497
As	mg/L	0.0096	0.0131	0.0018	0.0242	0.0011	0.0019	0.0011	0.0009	0.0015
Ag	mg/L	< 0.00005	0.00006	< 0.00005	< 0.00005	0.0018	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Ba	mg/L	2.82	0.818	2.53	0.0642	0.436	3.18	1.55	2.11	2.85
Be	mg/L	0.00057	0.00043	0.000100	0.000080	0.000080	0.000070	0.000100	0.000040	0.000090
B	mg/L	0.064	0.058	0.055	0.090	0.074	0.058	0.065	0.087	0.074
Bi	mg/L	0.00782	0.00675	0.00007	< 0.00001	0.00014	0.00012	< 0.00001	< 0.00001	0.262
Ca	mg/L	39.8	45.4	30.2	107	40.4	20.9	23.4	16.4	28.8
Cd	mg/L	0.00029	0.00032	0.000220	0.00115	0.000990	0.000690	0.000690	0.000340	0.000360
Co	mg/L	0.00318	0.00314	0.000750	0.226	0.00413	0.00352	0.00783	0.00147	0.00169
Cr	mg/L	0.00518	0.00545	0.00322	0.00196	0.00185	0.00610	0.00281	0.00643	0.00479
Cu	mg/L	0.0082	0.328	0.0021	0.0039	0.0474	0.0097	0.0042	0.0028	0.0083
Fe	mg/L	4.02	0.66	0.130	0.260	0.380	1.25	0.060	0.480	0.520
K	mg/L	2.43	3.11	1.44	6.53	4.08	1.30	3.30	2.08	1.38
Li	mg/L	0.02	0.0129	0.0130	0.0120	0.0133	0.0058	0.0132	0.0130	0.0032
Mg	mg/L	2.7	2.98	0.910	3.04	1.57	0.580	0.600	0.670	0.590
Mn	mg/L	7.34	7.87	0.738	0.412	0.329	0.370	0.685	0.188	0.368
Mo	mg/L	0.0001	0.00004	0.00029	0.00011	0.00011	0.00006	0.00009	0.00005	< 0.00004
Na	mg/L	1318	1327	-	-	-	-	-	-	-
Ni	mg/L	0.014	0.0095	0.0049	0.0551	0.0088	0.0079	0.0100	0.0068	0.0112
P	mg/L	< 0.003	0.01	< 0.0003	< 0.0003	< 0.0003	< 0.0003	0.010	< 0.0003	< 0.0003
Pb	mg/L	0.0688	0.0533	0.01987	0.00257	0.00836	0.0161	0.00620	0.143	0.514
Sb	mg/L	0.007	0.0134	< 0.0009	< 0.0009	< 0.0009	0.0052	< 0.0009	< 0.0009	< 0.0009
Se	mg/L	0.00012	0.00023	0.00008	0.00024	0.00007	< 0.00004	< 0.00004	0.00017	< 0.00004
Sn	mg/L	0.00027	0.00013	0.00013	0.00015	0.00011	0.00019	0.00020	0.00010	0.00009
Sr	mg/L	0.127	0.0981	0.0543	0.0789	0.0655	0.147	0.295	0.101	0.167
Ti	mg/L	0.00991	0.00239	0.00028	0.00766	0.00199	0.00049	0.00248	0.00089	0.00074
Tl	mg/L	0.00085	< 0.000005	0.000190	0.006960	0.000360	0.000890	0.00234	0.000680	0.00133
U	mg/L	0.00113	0.00141	0.000800	0.00576	0.00113	0.00155	0.00955	0.000750	0.00259
V	mg/L	0.00024	0.00012	0.00006	0.00016	0.00008	0.00016	0.00008	0.00009	0.00010
W	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Y	mg/L	0.00221	0.00255	0.00070	0.00857	0.00138	0.00112	0.00119	0.00046	0.00132
Zn	mg/L	0.296	0.38	0.032	0.086	0.039	0.041	0.034	0.028	0.012

Table 13-17: Toxicity Characteristics Leaching Procedure Summary #2 – Oculto

Measurement ID	Unit	ME0080 CN-31 Tailing	ME0081 CN-32 Tailing	ME0082 CN-33 Tailing	ME0083 CN-34 Tailing	ME0086 CN-37 Tailing	ME0089 CN-39 Tailing	ME0091 CN-41 Tailing	ME0093 CN-43 Tailing	ME0094 CN-44 Tailing
Sample Weight	g	100	100	100	100	100	100	100	100	100
Ext Fluid	#1 or #2	1	1	1	1	1	1	1	1	1
Ext Volume	mL	2000	2000	2000	2000	2000	2000	2000	2000	2000
Final pH	no unit	4.98	4.98	4.97	4.99	4.95	5.02	5.02	5.01	5.00
Hg	mg/L	0.00037	0.00003	< 0.00001	0.00055	< 0.00001	< 0.00001	0.00001	0.00001	0.00015
Al	mg/L	0.707	0.948	0.63	1.06	0.284	0.626	4.48	1.08	0.830
As	mg/L	0.0651	0.0014	0.0195	0.0023	0.0028	0.0009	0.0032	0.0012	0.0006
Ag	mg/L	0.0004	< 0.00005	< 0.00005	0.0052	0.00007	< 0.0005	0.00072	< 0.0005	0.00054
Ba	mg/L	1.93	2.67	3.23	1.03	2.2	0.499	1.88	1.43	1.68
Be	mg/L	< 0.000007	< 0.000007	< 0.000007	0.000043	< 0.000007	0.000060	0.000170	0.000070	0.000060
B	mg/L	0.106	0.223	0.611	0.146	0.08	0.103	0.282	0.119	0.118
Bi	mg/L	0.00195	0.0001	0.00009	0.00156	0.00023	0.00004	0.00012	0.03179	0.00026
Ca	mg/L	38	33.5	22.3	42.3	12	29.7	62.2	31.2	31.0
Cd	mg/L	0.000269	0.000047	0.000131	0.000038	0.00014	0.000072	0.000240	0.000210	0.000130
Co	mg/L	0.00174	0.000875	0.000962	0.000905	0.0018	0.000720	0.001100	0.000920	0.000740
Cr	mg/L	0.00268	0.00298	0.0041	0.00401	0.00426	0.00343	0.00539	0.00509	0.00469
Cu	mg/L	0.0063	0.0005	0.0076	0.0019	0.0079	0.0015	0.0064	0.0015	0.0012
Fe	mg/L	1.35	0.075	0.254	0.11	0.542	0.090	1.76	0.210	0.110
K	mg/L	4.45	1.85	2.27	6.74	1.52	4.99	7.29	3.61	3.25
Li	mg/L	0.0094	0.0116	0.0123	0.009	0.0154	0.0051	0.0117	0.0041	0.0068
Mg	mg/L	0.694	0.753	0.783	0.88	0.393	0.650	3.42	0.680	0.820
Mn	mg/L	0.226	0.114	0.303	0.135	0.393	0.119	0.09917	0.161	0.110
Mo	mg/L	0.00049	0.00007	0.0003	0.0001	< 0.00004	0.00020	0.00026	0.00014	0.00020
Na	mg/L	1511	1483	1477	1467	1486	1480	1370	1430	1440
Ni	mg/L	0.0068	0.0034	0.0055	0.0037	0.0062	0.0047	0.0067	0.0054	0.0057
P	mg/L	0.027	0.04	0.029	0.022	0.007	0.020	0.040	0.030	0.020
Pb	mg/L	0.171	3.42	0.00597	0.212	0.00651	0.01076	1.29	0.401	1.11
Sb	mg/L	0.0014	0.0011	0.0013	< 0.0009	0.0014	0.0014	0.0027	0.0011	0.0015
Se	mg/L	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	0.00070	0.00177	0.00163	0.00065
Sn	mg/L	0.0004	0.0001	0.00021	0.00019	0.00011	0.00031	0.00044	0.00039	0.00037
Sr	mg/L	0.0811	0.249	0.0747	0.107	0.171	0.08461	0.364	0.229	0.275
Ti	mg/L	0.00785	0.00123	0.00123	0.00121	0.00092	0.00095	0.04663	0.00360	0.00394
Tl	mg/L	0.000696	0.000646	0.000172	0.00112	0.000757	0.000460	0.000860	0.003960	0.004890
U	mg/L	0.000841	0.000468	0.00127	0.00124	0.000703	0.000590	0.001210	0.001240	0.001180
V	mg/L	0.00037	0.00008	0.00015	0.00011	0.00005	0.00009	0.01347	0.00024	0.00021
W	mg/L	0.00011	0.00003	0.00004	< 0.00002	< 0.00002	< 0.00002	0.00004	0.00008	0.00005
Y	mg/L	0.00027	0.00076	0.00045	0.00052	0.00037	0.00024	0.00114	0.00041	0.00035
Zn	mg/L	0.013	0.005	0.015	0.003	0.012	< 0.002	0.011	0.012	0.012

Table 13-14: Toxicity Characteristics Leaching Procedure Summary #3 – Oculto

Measurement ID	Unit	ME0095 CN-45 Tailing	ME0097 CN-47 Tailing	ME0099 CN-49 Tailing	ME0102 CN-52 Tailing	ME0105 CN-55 Tailing	ME0110 CN-60 Tailing	ME0112 CN-62 Tailing	ME0113 CN-63 Tailing
Sample Weight	g	100	100	100	100	100	100	100	100
Ext Fluid	#1 or #2	1	1	1	1	1	1	1	1
Ext Volume	mL	2000	2000	2000	2000	2000	2000	2000	2000
Final pH	no unit	5.01	4.97	4.99	4.97	5.01	5.01	5.03	5.01
Hg	mg/L	0.00008	< 0.00001	0.00003	< 0.00001	0.00002	0.00001	0.00074	0.00003
Al	mg/L	1.37	0.729	0.991	0.332	0.968	0.64	2.79	1.22
As	mg/L	0.0006	0.0025	0.0059	0.0056	0.0033	0.015	< 0.002	< 0.002
Ag	mg/L	0.00016	0.00011	0.0004	0.00013	0.00011	< 0.0005	0.0024	0.0008
Ba	mg/L	1.48	3.44	2.36	2.7	1.94	2.75	0.408	2.40
Be	mg/L	0.000120	0.00023	0.00012	0.00031	0.00004	0.00009	< 0.00007	< 0.00007
B	mg/L	0.102	0.105	0.099	0.086	0.126	0.11	0.16	0.13
Bi	mg/L	0.00015	0.00022	0.00088	0.00036	0.00007	0.01042	0.00016	0.00015
Ca	mg/L	24.8	15.1	30.1	18.9	34.3	34.4	42.4	32.8
Cd	mg/L	0.000090	0.00053	0.0015	0.00118	0.00067	0.00008	0.00013	0.00022
Co	mg/L	0.000650	0.00149	0.00123	0.00184	0.00203	0.00159	0.00101	0.00126
Cr	mg/L	0.00510	0.00758	0.00815	0.011	0.00595	0.0067	0.0074	0.0059
Cu	mg/L	0.0019	0.0096	0.0029	0.0064	0.0044	0.017	0.005	0.004
Fe	mg/L	0.170	0.65	0.08	0.46	0.08	0.27	0.21	0.22
K	mg/L	3.02	1.27	1.84	2.07	4.02	1.69	6.70	2.10
Li	mg/L	0.0083	0.0119	0.0103	0.0018	0.0071	0.004	0.004	0.022
Mg	mg/L	0.860	0.69	0.8	0.58	0.84	0.68	0.77	0.81
Mn	mg/L	0.121	0.26	0.211	0.379	0.236	0.472	0.157	0.268
Mo	mg/L	0.00021	0.00098	0.00097	0.00095	0.00054	0.0005	< 0.0004	< 0.0004
Na	mg/L	1400	1500	1400	1400	1400	1450	1450	1490
Ni	mg/L	0.0039	0.0092	0.0086	0.0092	0.0104	0.013	0.005	0.010
P	mg/L	0.030	0.09	0.28	0.26	0.15	< 0.03	0.03	0.03
Pb	mg/L	0.287	0.102	0.00633	0.0049	3.32	0.03347	0.254	0.0906
Sb	mg/L	0.0013	0.0034	0.0018	0.0026	0.0014	< 0.009	< 0.009	< 0.009
Se	mg/L	0.00049	0.00502	0.0121	0.0113	0.00112	0.0005	0.0009	0.0015
Sn	mg/L	0.00032	0.00064	0.00033	0.00046	0.00028	< 0.0006	< 0.0006	< 0.0006
Sr	mg/L	0.112	0.0703	0.116	0.09	0.0946	0.06093	0.05853	0.197
Ti	mg/L	0.00292	0.00801	0.0197	0.0146	0.0228	0.0022	0.0119	0.0022
Tl	mg/L	0.002160	0.00034	0.0008	0.0017	0.00189	0.00111	0.00119	0.00175
U	mg/L	0.002590	0.00089	0.00166	0.00066	0.00072	0.00132	0.00090	0.00220
V	mg/L	0.00027	0.00039	0.00093	0.00076	0.0004	0.0002	0.0001	0.0001
W	mg/L	0.00003	0.00038	0.00012	0.00024	0.00007	< 0.0002	< 0.0002	< 0.0002
Y	mg/L	0.00033	0.00075	0.00063	0.0004	0.00073	0.00051	0.00028	0.00043
Zn	mg/L	< 0.002	0.016	0.024	0.036	0.014	< 0.02	< 0.02	< 0.02

Table 13-15: Toxicity Characteristics Leaching Procedure Summary #1 - JAC

Measurement ID	Unit	JAC Comp Leach BL-3 Tailing	JAC Comp CND-BL-3 Tailing	ME0115 CN-86 Tailing	ME0116 CN-87 Tailing	ME0117 CN-88 Tailing	ME0118 CN-89 Tailing	ME0119 CN-90 Tailing	ME0120 CN-91 Tailing
Sample Weight	g	100	100	100	100	100	100	100	100
Ext Fluid	#1 or #2	1	1	1	1	1	1	1	1
Ext Volume	mL	2000	2000	2000	2000	2000	2000	2000	2000
Final pH	no unit	5.00	5.01	5.08	5.00	5.01	5.02	4.99	5.03
Hg	mg/L	0.0001	0.001	< 0.00001	0.0001	0.0001	0.00181	0.00002	0.00044
Al	mg/L	0.56	0.726	0.23	0.110	0.230	0.090	0.120	0.14
As	mg/L	0.012	0.0144	< 0.002	0.0080	< 0.002	0.0020	0.0170	0.0210
Ag	mg/L	< 0.0005	0.00117	0.00	< 0.0005	< 0.0005	< 0.0005	0.00	< 0.0005
Ba	mg/L	1.89	0.834	1.34	0.4800	1.840	2.03	2.20	3.16
Be	mg/L	0.00014	0.00011	0.001520	0.001830	0.001590	0.001640	0.001700	0.001650
B	mg/L	0.14	0.214	0.130	0.110	0.090	0.120	0.050	0.080
Bi	mg/L	0.133	0.268	0.00021	0.07	0.02920	0.00076	0.31	0.07
Ca	mg/L	90	76.1	115.0	55	83.0	60.8	58.6	72.4
Cd	mg/L	0.00151	0.00241	0.000310	0.00333	0.002280	0.000610	0.002400	0.000710
Co	mg/L	0.0645	0.0527	0.001920	0.178	0.08680	0.00983	0.06800	0.01500
Cr	mg/L	0.0035	0.00344	0.00430	0.00210	< 0.0008	0.00210	0.00280	0.01990
Cu	mg/L	0.018	0.631	0.0030	0.0280	0.0170	0.0480	0.0050	0.0150
Fe	mg/L	0.96	1.78	0.350	0.840	1.120	0.37	1.080	3.150
K	mg/L	4.94	4.1	3.77	1.52	6.12	3.12	1.81	2.19
Li	mg/L	0.016	0.0106	0.0030	0.0030	0.0070	0.0060	0.0030	0.0070
Mg	mg/L	2.82	2.05	2.620	0.99	2.53	1.430	1.000	1.060
Mn	mg/L	0.898	0.778	0.979	0.351	0.357	0.323	0.285	0.498
Mo	mg/L	0.0004	0.0004	0.00070	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Na	mg/L	1540	1510	1460	1340	1290	1250	1260	1290
Ni	mg/L	0.045	0.044	0.0100	0.0990	0.0590	0.0120	0.0390	0.0250
P	mg/L	0.05	0.04	0.06	0.07	< 0.03	< 0.03	< 0.03	< 0.03
Pb	mg/L	0.717	0.594	0.14200	10.40000	0.07100	0.1510	3.01000	0.523
Sb	mg/L	0.014	0.0129	< 0.009	0.06	< 0.009	< 0.009	0.03	0.01
Se	mg/L	0.0009	0.00077	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sn	mg/L	< 0.0006	0.0111	0.00110	0.00180	0.00080	0.00160	0.00270	0.00140
Sr	mg/L	0.152	0.137	0.1480	0.0471	0.0968	0.105	0.072	0.094
Ti	mg/L	0.0493	0.0607	0.00200	0.00880	0.00610	0.00900	0.01920	0.02260
Tl	mg/L	0.00428	0.00358	0.002560	0.034100	0.002250	0.001540	0.00373	0.002110
U	mg/L	0.00251	0.00269	0.001480	0.00321	0.00328	0.00153	0.00296	0.001380
V	mg/L	0.0011	0.00171	0.00070	0.00050	0.00060	0.00050	0.00070	0.00090
W	mg/L	0.0012	0.00144	0.00	0.00	0.00	0.00	0.00	0.00
Y	mg/L	0.00146	0.00149	0.00171	0.00085	0.00188	0.00102	0.00167	0.00084
Zn	mg/L	0.05	0.089	< 0.02	0.090	0.040	0.040	0.050	0.030

Table 13-20: Toxicity Characteristics Leaching Procedure Summary #2 - JAC

Measurement ID	Unit	ME0121 CN-92 Tailing	ME0122 CN-93 Tailing	ME0123 CN-94 Tailing	ME0124 CN-95 Tailing	ME0125 CN-96 Tailing	ME0126 CN-97 Tailing	ME0127 CN-98 Tailing	ME0128 CN-99 Tailing
Sample Weight	g	100	100	100	100	100	100	100	100
Ext Fluid	#1 or #2	1	1	1	1	1	1	1	1
Ext Volume	mL	2000	2000	2000	2000	2000	2000	2000	2000
Final pH	no unit	5.05	5.04	4.98	5.01	5.03	5.02	5.03	5.04
Hg	mg/L	0.00033	0.00006	0.02659	0.00003	0.00002	0.00168	0.00008	0.00003
Al	mg/L	0.1	0.980	0.20	0.10	0.490	0.96	0.38	0.28
As	mg/L	0.009	0.0120	< 0.002	0.0040	0.0030	0.0030	< 0.002	< 0.002
Ag	mg/L	< 0.0005	< 0.0005	0.03850	< 0.0005	0.00150	< 0.0005	< 0.0005	< 0.0005
Ba	mg/L	2.85	2.710	2.49	2.76	0.51	1.84	2.56	2.14
Be	mg/L	0.0015	0.001620	0.001490	0.001710	0.001680	0.001570	0.00171	0.00205
B	mg/L	0.13	0.520	0.120	0.160	0.120	0.070	0.32	0.16
Bi	mg/L	0.136	0.29200	0.74700	0.22400	0.00264	0.02100	0.00072	0.00082
Ca	mg/L	85.4	82.3	56.8	62.0	102.0	48.7	88.8	90.3
Cd	mg/L	0.00048	< 0.00003	0.000480	0.001150	0.001700	0.000080	0.00065	0.00164
Co	mg/L	0.0174	0.003560	0.002060	0.015800	0.003860	0.001120	0.0117	0.0113
Cr	mg/L	0.004	0.00200	0.00120	0.00410	0.00400	0.00550	0.0033	< 0.0008
Cu	mg/L	0.01	0.0070	0.0020	0.0160	0.0050	0.0030	0.005	0.003
Fe	mg/L	1.63	1.520	< 0.07	0.130	0.190	0.140	3.12	1.17
K	mg/L	2.32	3.82	2.99	3.53	4.92	4.78	3.61	4.69
Li	mg/L	0.009	0.0170	0.0090	0.0130	0.0150	0.0050	0.015	0.012
Mg	mg/L	1.5	3.050	0.96	1.240	4.180	0.770	3.7	4.34
Mn	mg/L	0.345	0.236	0.19100	0.571	0.814	0.167	0.618	1.36
Mo	mg/L	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0005
Na	mg/L	1280	1250	1260	1360	1320	1310	1330	1290
Ni	mg/L	0.027	0.0080	0.0060	0.0120	0.0070	0.0120	0.018	0.018
P	mg/L	0.03	0.100	< 0.03	0.100	0.090	< 0.03	0.09	0.1
Pb	mg/L	0.387	0.26100	1.90	0.283	0.02	0.514	0.0166	0.0143
Sb	mg/L	< 0.009	0.0150	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
Se	mg/L	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.00100	< 0.0004	< 0.0004	< 0.0004
Sn	mg/L	0.0018	0.00170	0.00080	0.00080	0.00110	0.00120	0.0006	0.0006
Sr	mg/L	0.087	0.34500	0.107	0.148	0.327	0.083	0.278	0.171
Ti	mg/L	0.0257	0.02030	0.00610	0.01860	0.00680	0.00260	0.0016	0.0058
Tl	mg/L	0.00246	0.001070	0.002490	0.002610	0.000380	0.001690	0.0014	0.0035
U	mg/L	0.0025	0.006270	0.001490	0.002010	0.000890	0.001430	0.00288	0.00184
V	mg/L	0.0006	0.00240	0.00050	0.00060	0.00120	0.00040	0.0003	0.0006
W	mg/L	0.0005	0.00	0.00040	0.00040	0.00030	0.00050	0.0004	0.001
Y	mg/L	0.00098	0.00126	0.00093	0.00160	0.00227	0.00037	0.00472	0.00441
Zn	mg/L	< 0.02	< 0.02	< 0.02	< 0.02	0.060	< 0.02	< 0.02	< 0.02

13.14 Additional Tests Conducted by AbraSilver

During 2022, AbraSilver also tested an alternative leaching reagent other than cyanide, as suggested by Clean Mining in Australia. The test was based on two identical samples, pulverized at a P80 size of 75 microns. The sample head grade was 2.29 g/t of gold and 379 g/t of silver. The slurry concentration was controlled at 40% solids by weight, and the solution was sampled and assayed at different time intervals to evaluate the leaching kinetics. This alternative leaching reagent was rejected by AbraSilver due to following two observations.

- Compared to 90% gold recovery and 80% silver recovery with cyanide leaching, the alternative reagent only achieved 78% gold recovery and 54% - 65% of silver recovery at best.
- More critically, the alternative reagent appeared to be not stable during the leaching procedure. Without replacing the solution after 24 hours of leaching, both gold and silver recovery drastically dropped after 24 hours, which implied that the precious metals extracted may have precipitated out during the process. This instability of the reagent makes the field application unrealistic.

AbraSilver also organized coarse bottle roll and column tests in Peru in 2022, with the objective to evaluate the possibility of applying a heap leach process. A total four samples were tested, each with different head grade in terms of gold and silver content. For the coarse bottle rolls test, the crush size was 3/8” and ½” respectively., Each bottle roll study utilized 4 kg of sample and the slurry density was 50% solids by weight. The cyanide concentration was controlled at 2,000 ppm and the total leach time was 96 hours. There were no significant extraction differences between the two crush sizes; however, the metal recovery varied significantly between the different sample test materials. Between the four samples tested, the gold recovery ranged from 43% to 78%, and silver recovery ranged from 8% to 69%.

For the column tests, the crush sizes employed were 3/8” and ½” respectively. All four sample materials were agglomerated with 0.5% of cement by weight and a specified amount of lime was added. The columns used for the test were all 4” in diameter. The cyanide concentration in the leach solution was controlled at 1,000 ppm and irrigation rate was controlled at 12 liter/hour/m^2. The total leach cycle in the lab was 60 days. At the end of the leach cycle, the solids were washed, and metallurgical balance was calculated. The gold recoveries were mostly in the range of 62% to 69%, except that sample 4 had a gold recovery around 72% for the ½” crush size and 86% for the 3/8” crush size. The silver recoveries varied significantly between the samples, and were between 50-52% for sample 1, around 9% for sample 2, between 32-38% for sample 3, and 70-75% for sample 4.

When comparing the coarse bottle roll tests to the column tests, the column tests on average gave better metal recoveries. However, even considering the column tests, the metal recoveries were still significantly lower than the metal recoveries experienced on the ground samples. Based on the metal recovery differences, AbraSilver elected to employ grinding and CCD rather than heap leaching as the process design for this project.

13.15 Metals Recovery

The gravity gold recovery, intensive cyanidation, and tank leach will be employed in this process. Therefore, the overall metal recovery of the process will depend on the performance of the following three-unit operations:

- Gravity recovery circuit
- Tank leach circuit on gravity tails
- CCD circuit

The metal recoveries were estimated using the test work conducted on the Master Composite sample, which is considered to be more representative of the orebody. The cyanidation tests on the tailings from the gravity test conducted on the Master Composite sample indicated that the average recovery is around 83% for gold and 79.8% for silver. The gravity test indicated that approximately 10.1% gold and 7.8% of silver can be recovered to the gravity concentrate. The gravity concentrate will report to an intense cyanidation circuit, which typically has very high leach recovery. The metal recovery from the intense cyanidation circuit is assumed to be 99% for gold and 97% for silver, which is supported by test work and is in line with industry benchmarks.

Based on the recommended CCD circuit design, approximately 99.6% of gold and silver in the pregnant solution after tank leach will be recovered to the Merrill Crowe process. Though the Merrill Crowe process will not achieve 100% of dissolved metal recovery, the barren solution will be recycled to the leach tanks as makeup water or to the CCD circuit as wash water. Consequently, the minor amount of dissolved gold and silver not captured in the Merrill Crowe will eventually report to the precipitate.

The metal recoveries at each process unit operation were incorporated into the METSIM simulation, and the total metal recovery is estimated at 84.7% for gold and 81.2% for silver.

For the JAC material, the cyanidation tests conducted on the JAC composite gravity tailings sample indicated an average gold recovery of 83.8% and silver recovery of 84.9% specifying 36 hours retention time, with a grind size around 150 µm. The gravity tests indicated that 17.3% of gold and 9.1% silver can be recovered to the gravity concentrate. Based on the CCD circuit simulation employing seven stages of CCD with a wash ratio of 3, approximately 99.8% of gold and silver in the pregnant solution in the CCD feed can be recovered to the Merrill Crowe process feed solution. Based on these metal recoveries at each step, the overall metal recovery for JAC material is estimated at 86.6% for gold and 86.2% for silver.

13.16 Conclusions and Recommendations

An extensive test program was performed on the test sample sent by AbraSilver team, including both Oculto and JAC material. The sample was collected from different ore zones and deemed representative to the orebody under study. Overall, most of the orebody is oxide material and amenable to cyanidation and has a satisfactory metal recovery for both gold and silver.

The mineralogy test performed on both Oculto and JAC samples indicated that major components of the material are quartz, alunite, jarosite, and iron oxides. Pyrite minerals present are mainly free pyrite, liberated pyrite, or pyrite associated with hard silicates and complex pyrite. The gold was either in the form of native gold or electrum, and silver was mainly in the form of iodargyrite and chlorargyrite. There was a minor amount of sulphur; however, the quantity of sulphide minerals present was relatively low, approximately 0.86% sulphide sulphur for Oculto composite sample and 1.5% for JAC composite sample. The total carbon and organic carbon were below the analytical detection limits, indicating this material is unlikely to display any “preg-robbing” characteristics during processing.

The comminution tests conducted on Oculto indicated the test material is medium to medium hard in terms of SAG and ball mill grinding characteristics and is relatively abrasive which may result in elevated steel consumption in the comminution circuit. The JAC material is very soft with perspective of SAG mill grinding, media hard for ball mill grinding, and much less abrasive compared to Oculto material.

The gravity test performed on both the Oculto material and JAC material indicated the presence of gravity recoverable gold. The Oculto Master Composite sample indicated that approximately 10% of gold and 7.8% of silver can be recovered in a gravity concentrate, while the JAC composite sample indicated that around 17.3% of gold and 9.1% of silver can be recovered to the gravity concentrate. If the gravity gold and silver is not captured and reports to the tank leach, it is possible that a portion of the gravity recoverable gold and silver may be lost to the tailings. Therefore, a gravity gold recovery circuit and intensive cyanidation circuit are recommended to optimize precious metal recovery.

Due to a very high silver to gold ratio, Merrill Crowe is the most economical process option for this orebody. The Merrill Crowe test conducted on the diluted pregnant solution acquired from the cyanidation test further confirmed that Merrill Crowe process was very efficient in recovering the gold and silver from the solution. Due to the high silver to gold ratio, carbon adsorption is not recommended for the project.

The reagent consumption was moderate; based on the cyanidation test conducted on the gravity tailings from Oculto Master Composite sample, the cyanide consumption is approximately 0.78 kg/mt of material, and the lime consumption was about 0.79 kg/mt of the material. JAC material has much higher reagent consumption, approximately 1.52 kg/t of cyanide and 2.19 kg/t of lime. The residual cyanide in the slurry tailings will be destroyed with the INCO process, which utilizes sulphur dioxide as the effective component to minimize the WAD cyanide. Based on the cyanide destruction test on a simulated barren leach slurry, approximately 4.7 grams of equivalent sulphur dioxide is recommended for every gram of WAD cyanide in the solution, leading to less than one ppm of WAD cyanide in the Oculto detoxed tailings or less than 10 ppm of WAD cyanide in the JAC detoxed tailings.

The sedimentation test and rheology test indicated that Oculto and JAC material are quite different in term of sedimentation and rheology. For the Oculto material, the thickener underflow can readily achieve 60% solids by weight. To effectively conserve the water and maximize the CCD metals recovery, the tailings thickener underflow is recommended at 60% solids by weight and the CCD underflow density at 55% solids by weight. The JAC material not only requires a much higher flocculant dosage, and the maximum thickener underflow density is also much lower. To maintain the required flowability, the thickener underflow density for JAC material is recommended at 50% solids by weight.

Based on the test work, following process conditions are recommended:

- Primary grind size of 150 microns.
- Incorporation of gravity gold recovery circuit and intensive cyanidation for the gravity concentrate.
- The retention time of cyanide leach is recommended at 36 hours with a slurry density of 45% solids by weight.
- Six stages of CCD with a wash ratio of three is recommended to recover the pregnant solution from the leached slurry. If the plant will process JAC material only, seven stages of CCD with a wash ratio of three will be recommended.
- One hour of retention time for cyanide destruction in the tailings using 4.7 grams of sulphur dioxide per gram of WAD cyanide.

In the next stage of study, the following test work and considerations are recommended:

- Additional tests on the transitional ore and sulphide ore to estimate the metallurgical performance.
- Cyanidation tests based on grade are recommended to develop a recovery algorithm to further define and optimize the ore resource model.

14 MINERAL RESOURCE ESTIMATES

14.1 Summary

Mr. Luis Rodrigo Peralta, FAusIMM, CP (Geo), Senior Geologist and independent external consultant for AbraSilver, is responsible for the updated Mineral Resource estimate ("MRE") for the Oculto, JAC, Fantasma and Laderas zones of the Diablillos Project. The new Mineral Resource Estimate incorporates an update in metal prices and metallurgical recoveries for the Oculto zone, a review of the historical data of the Fantasma and the Laderas zones in order to produce an updated Mineral Resource estimate for the Oculto zone and a maiden Mineral Resource estimate for the JAC and Laderas zones.

The previous Mineral Resource Estimate dated November 28, 2022, was reported in the NI 43-101 Technical Report ("MRE22"), with drill holes dating from 1987 to 2022, with a database cut-off date of July 30th of 2022. The latest Mineral Resource Estimate dated November 22, 2023 (MRE2023) has now been included into this report.

All holes not drilled by AbraSilver are referred to as historical drillholes. AbraSilver Resource Corp. ("AbraSilver") completed diamond drill holes between 2017 to 2023 with a total of 265 drill holes with 57,022 m. The cut-off date for the diamond drill holes is July 30th of 2023).

The MRE has been based on a subset of the drilling data detailed in Section 10. Drill holes located outside of the Diablillos block model limit and drill holes without assay results have been excluded from the MRE. The subset of drilling data includes 606 drill holes with diamond and reverse circulation drill holes (341 as historical drillholes, and 265 as AbraSilver drillholes) totalling 129,647 meters of drilling.

Verification of drill data is summarised in Section 12 of the Technical Report. Mr. Peralta is satisfied that drill data was collected in alignment with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Mineral Exploration Best Practice Guidelines (CIM, 2018) and Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019), and that it is suitable for use in the Mineral Resource estimation.

Diablillos is a high sulphidation epithermal silver-gold deposit with strong supergene overprinting. The principal controls to alteration and mineralization are predominantly structural with a mixed influence imparted by lithology. The combination of this structural and alteration control has generated a steeply dipping and shallowly dipping zone control that has been considered in the new resource estimate. The estimation domains were defined using a combination of alteration domains with lithology domains, defining a subset of mixed domains for each lithology with each alteration suit.

Based on the drill hole database and a new 3D Model of lithology & alteration domains, a single block model was generated in MS MinePlan mining software. A statistical study of the gold and silver grade distribution and behaviour over each domain has been undertaken to inform grade interpolation in the block model. Gold and silver grades were estimated using Ordinary Kriging ("OK") and bias was reviewed using an Inverse Distance ("ID2"). Drill hole intervals have been composited to a length of 1 meter, which is the most common sample length used in logging over mineralized and waste zones. Grade capping has been applied to composited grade intervals on a case-by-case basis within each domain.

A new SG model has been built applied to the block model, based on measurements from 7,178 core samples. Bulk density was assigned to the block model as averages for each lithology domain and alteration domain, with oxidation / sulphide zone subsets. The average bulk density is 1.82 t/m^3 for cover material, 2.32 t/m^3 for mineralized material and 2.23 t/m^3 for waste material.

Mr. Peralta ("QP") has performed a visual comparison of block model sections against drill traces; a review of comparison statistics; and undertaken check estimates, and as such he is satisfied that the MRE is consistent with the CIM best practice guidelines (CIM, 2019).

The MRE for Diablillos deposit, with an effective date of November 22nd, 2023, has been constrained by an optimised Whittle open pit shell and is reported at an equivalent cut-off grade of approximately 45 g/t AgEq. The MRE has been categorized in accordance with the CIM Definition Standards (CIM, 2014) and comprises Measured, Indicated and Inferred Mineral Resources as summarised in Table 14-1.

To define the cut-off grade, a methodology was used based on a Net Value per Block ("NVB") calculation. The NVB was based on "Benefits = Revenue-Cost" being positive, where, Revenue = [(Au Selling Price (USD/oz) - Au Selling Cost (USD/oz)) x (Au grade (g/t)/31.1035)) x Au Recovery (%)] + [(Ag Selling Price (USD/oz) - Ag Selling Cost (USD/oz)) x (Ag grade (g/t)/31.1035)) x Ag Recovery (%)] and Cost = Mining Cost (USD/t) + Process Cost (USD/t) + Transport Cost (USD/t) + G&A Cost (USD/t) + [Royalty Cost (%) x Revenue]. The NVB method assumed a total mine operating cost of USD 28.23/t which results in an average equivalent cut-off grade of approximately 45g/t AgEq.

Table 14-1: Mineral Resource Estimate for the Diablillos Project by mineral zone and category - As of November 22nd, 2024.

Deposit	Zone	Category	Tonnes (000 t)	Ag (g/t)	Au (g/t)	AgEq (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)	Contained AgEq (k oz AgEq)
Oculto	Oxides	Measured	12,170	101	0.95	178	39,519	372	69,523
		Indicated	34,654	64	0.85	133	71,306	947	147,748
		Measured & Indicated	***46,824***	***74***	***0.88***	***145***	***111,401***	***1,325***	***218,335***
		Inferred	3,146	21	0.68	76	2,124	69	7,677
JAC	Oxides	Measured	1,870	210	0.17	224	12,627	10	13,452
		Indicated	3,416	198	0.12	208	21,744	13	22,808
		Measured & Indicated	***5,286***	***202***	***0.13***	***212***	***34,329***	***22***	***36,191***
		Inferred	77	77	-	77	190	-	190
Fantasma	Oxides	Measured	-	-	-	-	-	-	-
		Indicated	683	105	-	105	2,306	-	2,306
		Measured & Indicated	***683***	***105***	***-***	***105***	***2,306***	***-***	***2,306***
		Inferred	10	76	-	76	24	-	24
Laderas	Oxides	Measured	-	-	-	-	-	-	-
		Indicated	464	16	0.91	89	239	14	1,334
		Measured & Indicated	***464***	***16***	***0.91***	***89***	***239***	***14***	***1,334***
		Inferred	55	43	0.57	89	76	1	157
Total	Oxides	Measured	14,040	116	0.85	184	52,146	382	82,975
		Indicated	39,217	76	0.77	138	95,594	974	174,196
		Measured & Indicated	***53,257***	***87***	***0.79***	***151***	***148,275***	***1,360***	***258,087***
		Inferred	3,288	23	0.66	76	2,415	70	8,049

Notes for Mineral Resource Estimate:

1. Mineral Resources are not Mineral Reserves and have not demonstrated economic viability.
2. The formula for calculating AgEq is as follows: Silver Eq oz = Silver oz + Gold oz x (Gold Price/Silver Price) x (Gold Recove ry/Silver Recovery).
3. The Mineral Resource model was populated using Ordinary Kriging grade estimation within a three-dimensional block model and mineralized zones defined by wireframed solids, which are a combination of lithology and alteration domains. The 1m composite grades were capped where appropriate.
4. The Mineral Resource is reported inside a conceptual Whittle open pit shell derived using US$ 24.00/oz Ag price, US $1,850/oz Au price, 82.6% process recovery for Ag, and 86.5% process recovery for Au. The constraining open pit optimization parameters used were US $1.94/t mining cost, US $22.97/t processing cost, US $3.32/t G&A cost, and average 51-degree open pit slopes.
5. The MRE has been categorized in accordance with the CIM Definition Standards (CIM, 2014).
6. A Net Value per block ("NVB") cut-off was used to constrain the Mineral Resource with the conceptual open pit. The NVB was based on "Benefits = Revenue-Cost" being positive, where, Revenue = [(Au Selling Price (US$/oz) - Au Selling Cost (US$/oz)) x (Au grade (g/t)/31.1035)) x Au Recovery (%)] + [(Ag Selling Price (US$/oz) - Ag Selling Cost (US$/oz)) x (Ag grade (g/t)/31.1035)) x Ag Recovery (%)] and Cost = Mining Cost (US$/t) + Process Cost (US$/t) + Transport Cost (US$/t) + G&A Cost (US$/t) + [Royalty Cost (%) x Revenue]. The NVB method resulted in an average equivalent cut-off grade of approximately 45g/t AgEq.
7. The Mineral Resource is sub-horizontal with sub-vertical feeders and a reasonable prospect for eventual economic extraction by open pit methods.
8. In-situ bulk density was assigned to each model domain, according to samples averages of each lithology domain, separated by alteration zones and subset by oxidation.
9. All tonnages reported are dry metric tonnes and ounces of contained gold and silver are troy ounces.
10. Mining recovery and dilution factors have not been applied to the Mineral Resource estimates.
11. The Mineral Resource was estimated by Mr. Luis Rodrigo Peralta, B.Sc., FAusIMM CP (Geo), Independent Qualified Person under National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101").
12. Mr. Peralta is not aware of any environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues that could materially affect the potential development of the Mineral Resource.
13. All figures are rounded to reflect the relative accuracy of the estimates. Minor discrepancies may occur due to rounding to appropriate significant figures.

14.2 Drill Data

The MRE has been based on a subset of the drill hole database reported in Section 10 of the Technical Report. For working purposes a subset of drilling data has been built, including 606 drill holes, which consist of 375 diamond drill holes (“DDH”) with 65,096m and 203 reverse circulation drill holes (“RC”) with 47,359m, totalling 129,647 meters of drilling for the Oculto, Laderas, Fantasma and JAC zones.

Drill holes used in the MRE have been summarized in Table 14-2. Table 14-3 shows a summary of the excluded holes. Figure 14-1 and Figure 14-2 show the limit of the holes used in the Mineral Resource estimation by type of drilling and by company.

Table 14-2: Summary of a subset of the Drill Holes used in the Mineral Resource estimate.

Drilling Campaign	Type of Hole	Number of Holes	Meters Drilled	Average Meters Drilled	Min Metters Drilled	Max Metters Drilled
1987	RC	13	378	29	14	31
1990	RC	25	3,483	142	71	250
1993	DDH	5	1,002	200	146	254
1994	DDH	12	2,016	168	25	255
1996	RC	32	8,540	266	113	400
1997	RC	94	24,651	262	49	413
1997	DDH	15	3,514	234	31	380
1998	RC	24	7,547	314	220	370
1999	DDH	5	1,330	266	191	450
2003	RC	10	1,716	171	84	282
2005	RC	5	1,044	209	150	252
2007	DDH	46	9,804	213	31	365
2008	DDH	48	6,941	144	40	355
2012	DDH	7	659	94	41	125
2017	DDH	28	3,149	112	40	327
2019	DDH	2	844	422	380	464
2020	DDH	33	9,144	271	50	610
2021	DDH	59	14,571	246	50	451
2022	DDH	66	15,272	231	101	401
2023	DDH	77	14,043	182	122	245
Subtotal	RC	203	47,359	199	100	285
Subtotal	DDH	375	65,096	226	98	371
Grand total		**606**	**129,647**	**209**	**97**	**334**

Table 14-3: Drill Holes summary excluded of the resource estimate.

Zone / Holes	N° Holes	Reason
Alpaca	12	Outside Diablillos Block Model
Cerro Blanco	8	
Cerro Viejo Este	10	
Cerro Viejo Oeste	2	
Corderos	24	
Jasperoide	9	
Northern Arc Valley Fill	3	
Pedernales Norte	32	
Pedernales Sur	9	
Yolanda	7	
Oculto zone	8	Outside of block model limit
Condemnation and other purpose drillholes	50	Outside of block model limit
Total Excluded	**174**	

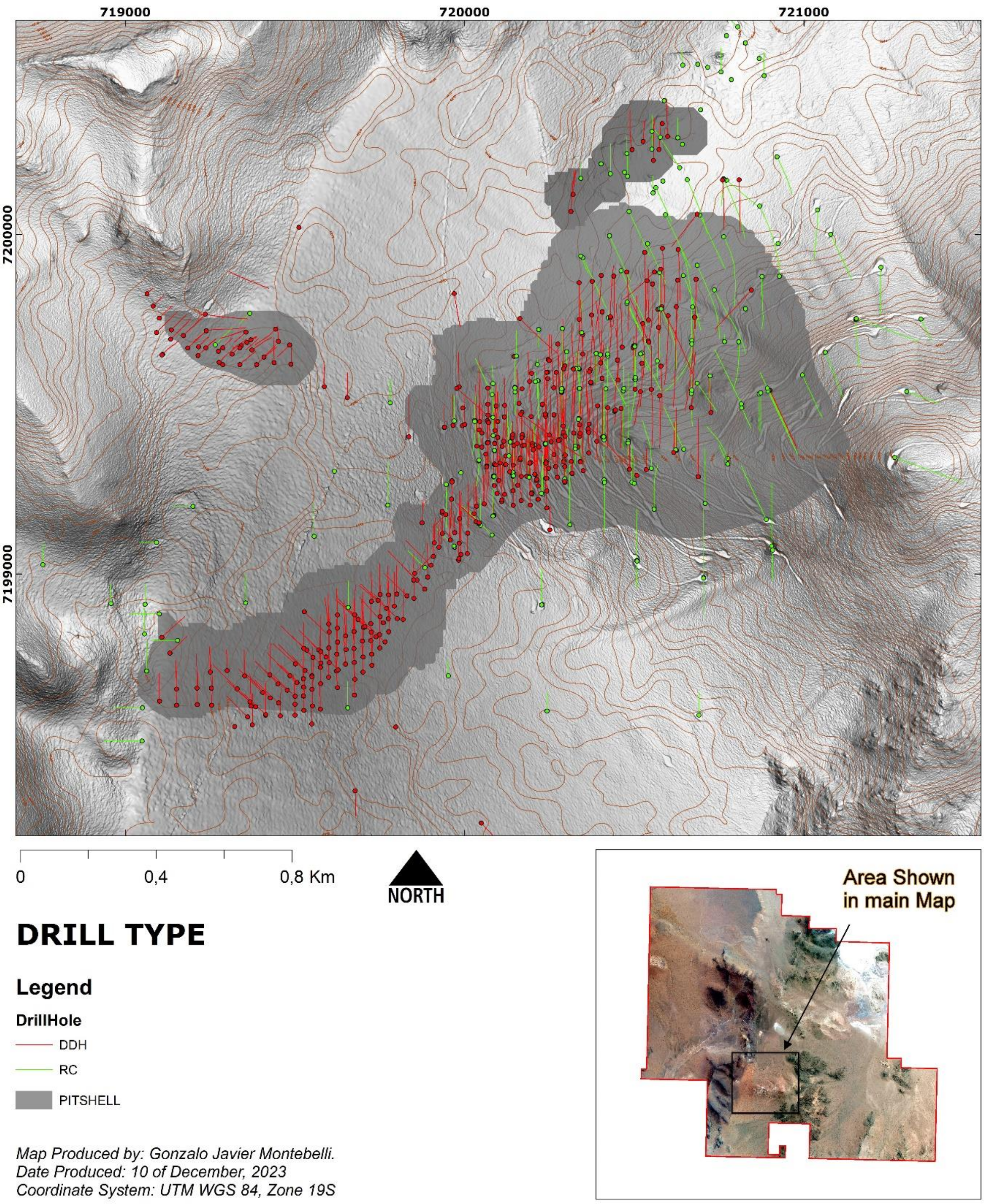


Figure 14-1: Plan view of the location of drill holes used in the estimation of resources coloured by drill type.

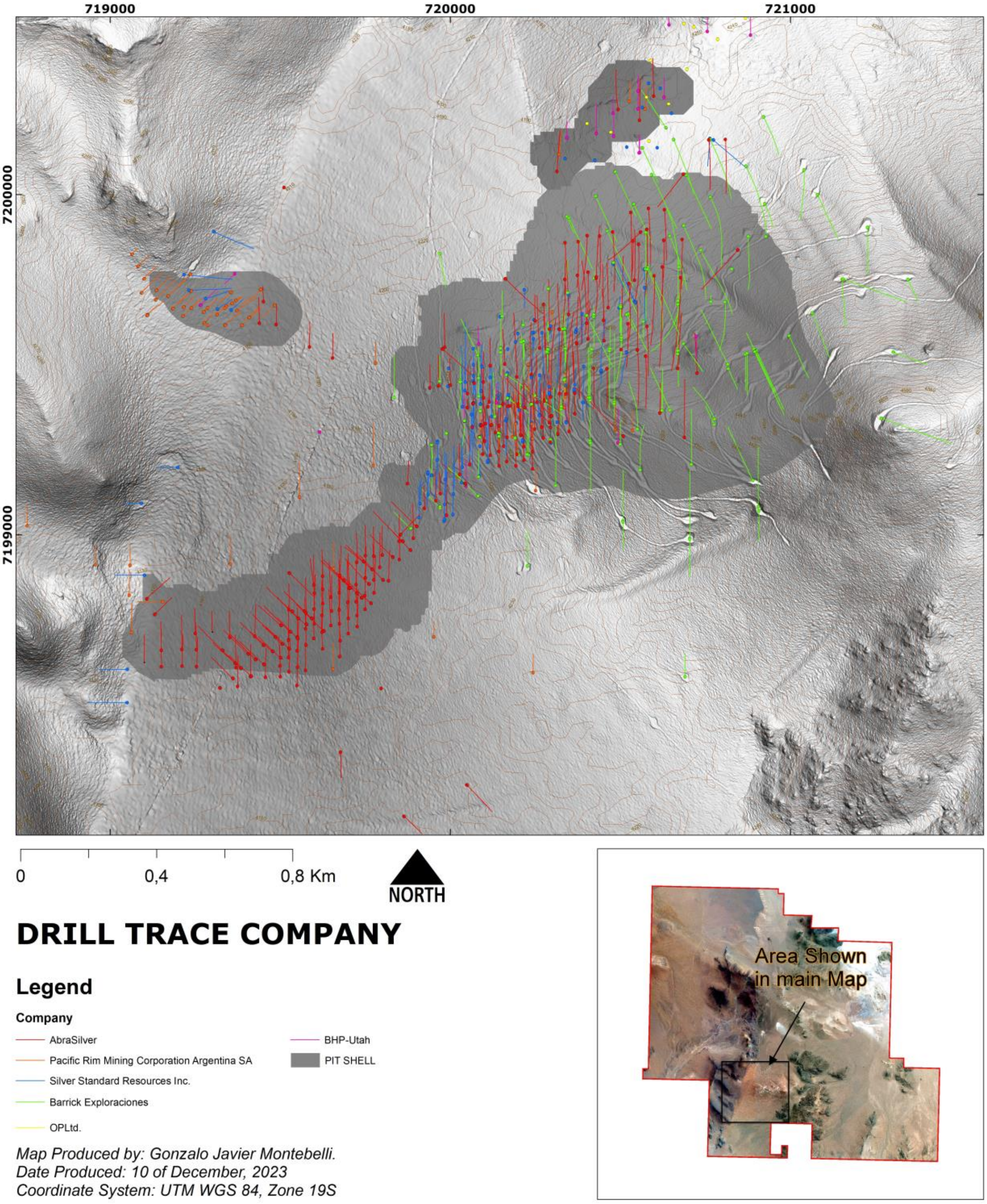


Figure 14-2: Plan view of drill hole collars used in the estimation of resources coloured by Company.

14.3 Geological Model

The Diablillos deposit is an epithermal silver-gold deposit with complex mineralization that has strong alteration and structural - stratigraphic control. The structures (main direction with N 45°E and cross direction with N 85°E) are steeply dipping feeders up which the mineralizing fluids ascended and migrated laterally along permeable horizons mainly at the contact zone between the volcanic rock and underlying basement rocks. The Oculto zone is strongly oxidized down to depths in the order of 300 m to 400 m, beneath which mineralization grades into a transitional zone (Oxides and Sulphides).At the Oculto and JAC deposits the oxide/sulphide interface is well known because of abundant drilling.

A high-grade zone of silver mineralisation approximately 20 m thick occurs at a depth of between 100 and 120 m below the surface and is believed to be a supergene enrichment zone. A broadly horizontal zone of higher-grade gold mineralization occurs at or near the contact between the volcanic rock and the underlying basement rocks. This zone is approximately 30 m thick and, in places, correlates well with an erosive level over the basement, which has been described as a regolith.

Relogging was done on historical 2007 – 2008 drilling to ensure consistency in lithology, alteration, and oxidation state codes. which was developed in conjunction with Mr Peralta (“QP”). This covers the area with the highest density of recent drilling and re-logging of nearby historical drill holes. The uncertainty of the model outside this zone is greater and mineralization controls are based only on the geological components. Mr. Peralta (“QP”) defined the estimation domains primarily based on a combination of alteration and lithology, with subdomains based on the oxidization level, and a subset of domains between oxide and sulphide levels. As no correlation between lithology and alteration types was found for the JAC zone, a simple grade shell of 5 g/t AgEq cut-off was built to capture most of the mineralized zones.

The boundary between oxidized and sulphides zones was constructed based on the newly relogged historical holes and recent drilling campaigns.

The three main lithologies present in the Diablillos Project are volcanic rocks, metasediments rocks and granitic intrusions, as described in previous section 7, and hydrothermal alteration that affect these are argillic, silica and vuggy silica alteration, which are coded Volcanic (1), Metasediment (2) and Granitic (3). The cover was coded as (10). The alterations were coded as Argillic (1), silica (2), vuggy silica (3), and oxidized rock coded (1) and deep sulphides (2). For the JAC zone domains were coded as inside the grade shell (51-61) and outside the grade shell as 52.

This coding is shown in table 14-4.

Table 14-4: Estimation domains and coding used.

Lithology (L)	Code	Alteration (A)	Code	Lithology + Alteration (LA)	Code	Oxide / Sulphide	(LA2)	Code
Cover	1		0		10		Cover	10
Volc (Vc)	2	Argillic (Ar)	1	Vc + Ar	21	Su	Vc+Ar+Su	211
						Ox	Vc+Ar+Ox	212
		Silica (Si)	2	Vc + Si	22	Su	Vc+Si+Su	221
						Ox	Vc+Si+Ox	222
		Vuggy silica (Vg)	3	Vc + Vg	23	Su	Vc+Vg+Su	231
						Ox	Vc+Vg+Ox	232
Meta sediments (Mt)	3	Argillic	1	Mt + Ar	31	Su	Mt+Ar+Su	311
						Ox	Mt+Ar+Ox	312
		Silica	2	Meta + Silica	32	Su	Mt+Si+Su	321
						Ox	Mt+Si+Ox	322
		Vuggy silica	3	Meta + Vuggy	33	Su	Mt+Vg+Su	331
						Ox	Mt+Vg+Ox	332
Granite (Gr)	4	Argillic	1	Granite + Arg	41	Su	Gr+Ar+Su	411
						Ox	Gr+Ar+Ox	412
		Silica	2	Granite + Silica	42	Su	Gr+Si+Su	421
						Ox	Gr+Si+Ox	422
		Vuggy silica	3	Granite + Vuggy	43	Su	Gr+Vg+Su	431
						Ox	Gr+Vg+Ox	432
JAC	5	IGS	1	Volc + IGS	51	Su	Vc+IGS+Su	511
						Ox	Vc+IGS+Ox	512
		OGS	2	Volc + OGS	52	Su	Vc+OGS+Su	521
						Ox	Vc+OGS+Ox	522
Fantasma	6	IGS	1	Volc + IGS	61	Ox	Vc+IGS	611
		OGS		Volc + OGS		Ox	Vc+OGS	612

Estimation domains are shown in Figure 14-3 and Figure 14-4.

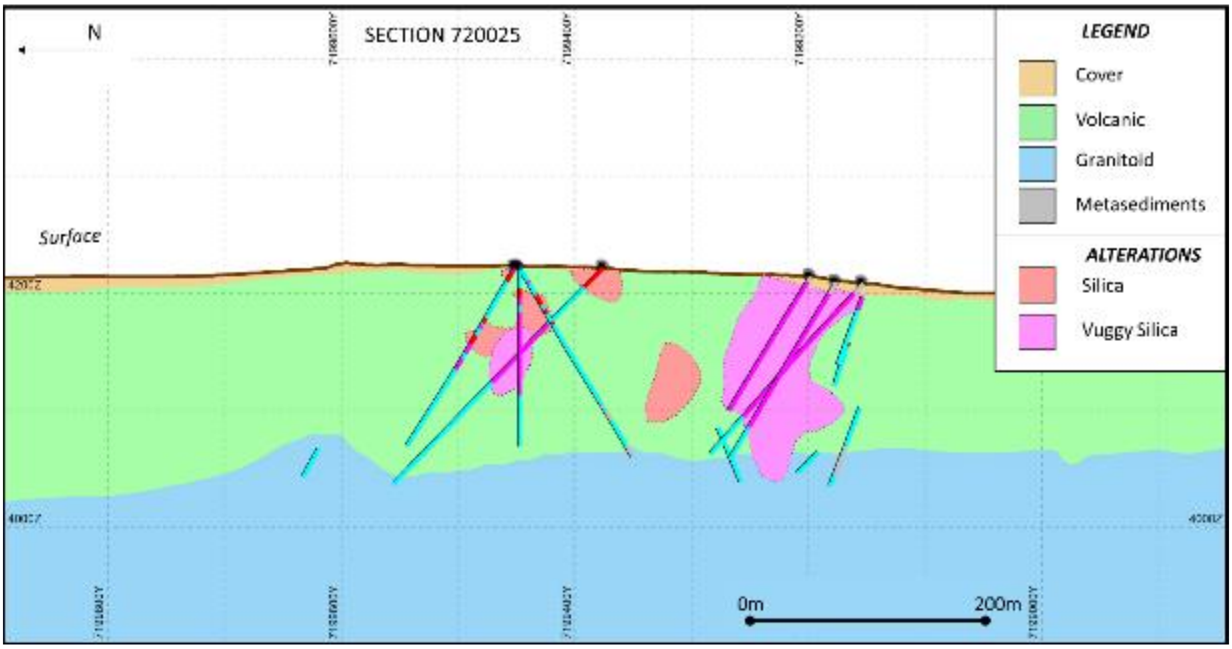


Figure 14-3: Vertical cross section N-S 720025, showing the lithology domains with superimposed alteration domains.

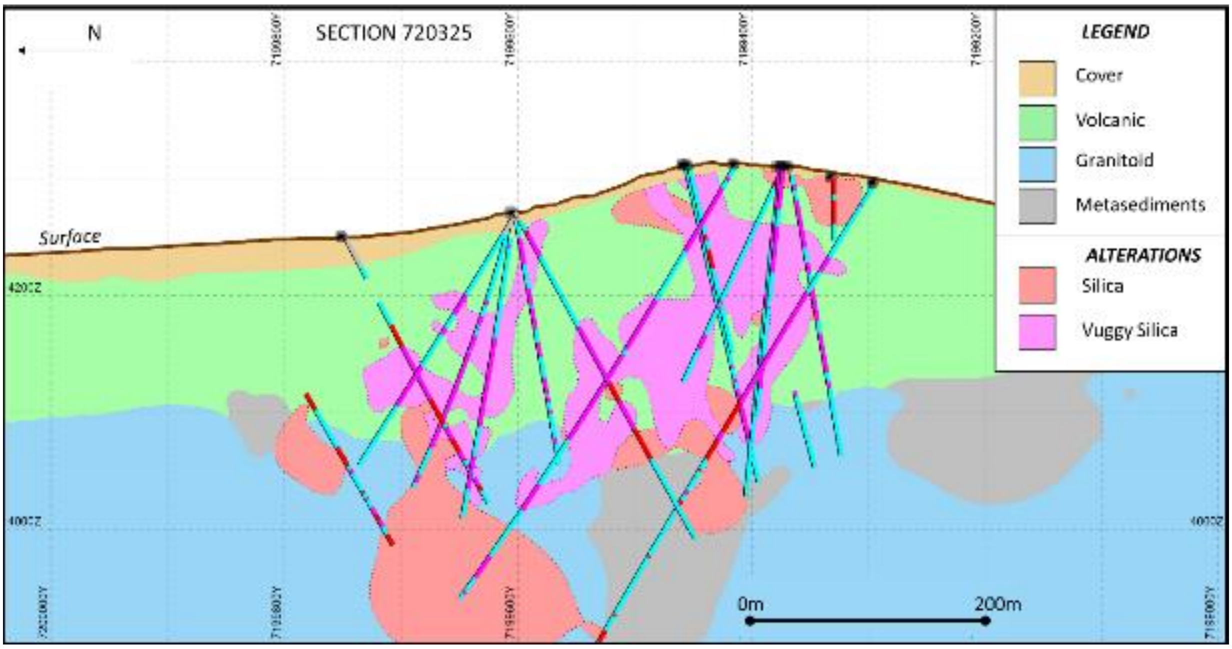


Figure 14-4: Vertical cross section N-S 720325, showing the lithology domains with superimposed alteration domains.

14.4 Exploratory Data Analysis

Gold and silver assay statistics and statistical plots were examined in relation to lithology and alteration, and domains classified to determine the most suitable approach for grade estimation.

Gold and Silver grade statistics by lithology and alteration grouping are presented in Table 14 5 and Table 14 6.

The table includes the coefficient of variation (CV = standard deviation ÷ mean) as a measure of grade variability. As a rule-of-thumb, CVs of composited samples should be ≤ 2 for typical linear estimation techniques, while CVs will be reduced slightly by compositing and treatment of the extreme high grade (top cut). In certain domains the CV is higher than 2 because the CV is strictly related to the arithmetic mean, and when the arithmetic mean is close to zero or zero, the CV loses meaning, since it can give very large values which do not necessarily imply a large dispersion of data.

Table 14-5: Gold Grade statistics by Lithological and Alteration combination.

Statistics / Code	211	212	221	222	231	232
Valid Data	711	26799	27	5919	9	14444
Total Data	714	26821	27	5921	9	14447
Minimum	0.01	0.00	0.01	0.00	0.01	0.00
Maximum	41.61	42.40	1.07	10.36	3.00	54.71
Mean	0.14	0.08	0.06	0.14	0.78	0.62
Variance	2.50	0.22	0.04	0.24	1.25	3.29
Standard Deviation	1.58	0.47	0.20	0.49	1.12	1.81
Coefficient Of Variation	11.6	5.7	3.6	3.4	1.4	2.9
Code	**311**	**312**	**321**	**322**	**331**	**332**
Valid Data	3518	3705	1221	1510	20	1049
Total Data	3520	3711	1221	1510	20	1049
Minimum	0.01	0.01	0.00	0.00	0.05	0.00
Maximum	31.60	21.48	116.00	31.19	3.63	23.34
Mean	0.37	0.36	0.45	0.64	0.62	0.79
Variance	1.07	0.85	12.26	2.88	0.76	2.54
Standard Deviation	1.47	0.92	3.50	1.70	0.87	1.59
Coefficient Of Variation	8.0	2.5	7.8	2.7	1.4	2.0
Code	**411**	**412**	**421**	**422**	**431**	**432**
Valid Data	6270	6402	631	914	217	890
Total Data	6285	6410	631	914	217	890
Minimum	0.00	0.01	0.01	0.01	0.00	0.01
Maximum	41.28	90.74	27.80	10.68	26.80	29.56
Mean	0.22	0.31	0.37	0.26	1.35	1.20
Variance	1.75	2.35	2.44	0.49	12.36	6.68
Standard Deviation	1.32	1.53	1.56	0.70	3.52	2.59
Coefficient Of Variation	5.9	5.0	4.3	2.7	2.6	2.2
Code	**511**	**512**	**521**	**522**	**611**	**612**
Valid Data	400	4892	2417	3538	1430	857
Total Data	400	4892	2417	3538	1688	862
Minimum	0.01	0.01	0.01	0.01	0.00	0.00
Maximum	4.45	44.49	0.17	0.34	0.10	0.04
Mean	0.09	0.09	0.01	0.01	0.00	0.00
Variance	0.12	0.56	0.00	0.00	0.00	0.00
Standard Deviation	0.35	0.75	0.00	0.01	0.00	0.00
Coefficient Of Variation	4.1	8.0	0.8	1.2	1.0	0.9

Table 14-6: Silver Grade statistics by Lithological and Alteration combination.

Statistics / Code	211	212	221	222	231	232
Valid Data	711	26800	27	5919	9	14427
Total Data	714	26821	27	5921	9	14447
Minimum	0.05	0.05	0.30	0.05	0.30	0.05
Maximum	652.00	11304.50	81.70	2266.90	50.00	13437.00
Mean	9.41	16.44	10.12	21.89	15.21	86.82
Variance	1384.18	24547.87	435.48	7108.05	414.09	117412.24
Standard Deviation	37.20	156.68	20.87	84.31	20.35	342.65
Coefficient Of Variation	4.0	9.5	2.1	3.9	1.3	4.0
Code	**311**	**312**	**321**	**322**	**331**	**332**
Valid Data	1759	3702	1221	1510	20	1046
Total Data	1760	3711	1221	1510	20	1049
Minimum	0.05	0.25	0.05	0.25	3.70	0.25
Maximum	893.00	770.00	327.00	170.00	28.20	1656.00
Mean	6.08	11.15	7.76	14.18	9.90	19.86
Variance	778.68	557.53	219.09	349.98	33.58	3800.98
Standard Deviation	27.90	23.61	14.80	18.71	5.79	61.65
Coefficient Of Variation	4.6	2.1	1.9	1.3	0.6	3.1
Code	**411**	**412**	**421**	**422**	**431**	**432**
Valid Data	6264	6397	631	914	217	883
Total Data	6285	6410	631	914	217	890
Minimum	0.01	0.05	0.05	0.30	0.05	0.10
Maximum	2700.00	1968.00	312.80	780.30	3245.00	1734.30
Mean	6.98	11.86	6.63	15.14	83.71	105.84
Variance	2790.04	2555.64	318.43	2479.77	71511.58	24408.89
Standard Deviation	52.82	50.55	17.84	49.80	267.42	156.23
Coefficient Of Variation	7.6	4.3	2.7	3.3	3.2	1.5
Code	**511**	**512**	**521**	**522**	**611**	**612**
Valid Data	400	4892	2417	3538	1430	857
Total Data	400	4892	2417	3538	1688	862
Minimum	0.30	0.30	0.25	0.25	0.10	0.70
Maximum	3637.00	32480.50	114.00	132.20	136.00	1237.00
Mean	133.24	125.69	0.85	1.69	1.76	50.22
Variance	102522.60	345835.90	15.60	22.80	44.87	9183.36
Standard Deviation	320.10	588.08	3.95	4.77	6.70	95.83
Coefficient Of Variation	2.4	4.7	4.6	2.8	3.8	1.9

It was concluded that gold and silver grade domaining based on modelled geologic variables is the most representative way to define and evaluate the deposit in terms of metal content and other related variables including specific gravity, geotechnical characteristics, metallurgical characteristics, and other mining parameters related to the host rocks in combination with hydrothermal alteration. The definition of estimation domains was carried out based on this combination of alteration and lithology, depending on the number of samples for each domain. These domains more adequately capture the different populations of grades in relation to the two main structural orientations of the deposit.

It is important to mention that certain domains with few samples have been merged with the closest domain in terms of geological characteristics. Domain 221 has been merged to 222, 231 to 232, 331 to 332 and 431 to 432.

14.5 Treatment of Missing / Absent Samples

Table 14-7 shows the percentage of sampled intervals (within the limits of the block model) separated by the lithology domains and cover material (10 and 211 to 612 respectively). It is highlighted that most of the domains have a high proportion of sampling, ranging from 77% of the meters drilled in the lower case to 100% in the most relevant domains, presenting high sampling percentage with a total average of 90%.

Unsampled intervals normally occur outside of the mineralized zones or in unaltered host rocks. The impact of these unsampled intervals are not considered significant for the Mineral Resource estimation. Table 14-7 shows the sampling percentage versus total meter drilled by domain.

Table 14-7: Sampling percentage summary by domain.

Domain	Total Sampled	Total Drilled	Proportion of sampling
10	2,553.13	5,704.63	45%
211	818.55	917.90	89%
212	32,377.41	38,759.78	84%
221			
222	7,374.23	7,955.89	93%
231			
232	18,196.89	23,562.28	77%
311	1,852.04	1,897.57	98%
312	4,189.77	4,480.88	94%
321	1,814.04	1,854.04	98%
322	1,828.32	1,994.35	92%
331			
332	1,543.97	1,649.41	94%
411	7,759.64	9,229.00	84%
412	7,010.71	7,035.10	100%
421	767.57	849.60	90%
422	1,049.15	1,077.75	97%
431			
432	1,544.75	1,815.13	85%
511	467.50	467.50	100%
512	5,234.60	5,234.60	100%
521	3,499.10	3,499.10	100%
522	4,375.15	4,375.15	100%
611	2,045.20	2,521.50	81%
612	1,015.87	1,025.87	99%

14.6 Compositing

The drill hole database has been coded with the estimation domains (Lith+Alt domain from 211 to 612) to achieve uniform sample support. The drill hole intervals were composited to a target length of 1 meter down hole as a multiple of common raw sampling intervals while honouring the estimation domain boundary.

A residual retention routine has been used where residuals are added back to the next adjacent interval. Most composite intervals are 1 meter, with a small number of composite intervals ranging from 1.0 to 1.6 meter (Figure 14-5 and Figure 14-10).

Summary statistics for global population non-composite and composite are presented in Tables 14-8, Table 14-9 and Table 14-10.

Table 14-8: Summary statistics, global population for non-composite and composite data. Oculto and Laderas zones.

Statistics	Length	
	Non-composited	Composited
Valid Data	85,508	104,630
Total Data	85,508	104,630
Minimum	0.08	0.03
Maximum	9	1
Mean	1.135	0.999
Variance	0.075	0
Standard Deviation	0.274	0.02
Coefficient Of Variation	0.242	0.02

Table 14-9: Summary statistics, global population for non-composite and composite data. JAC zone.

Statistics	Length	
	Non-composited	Composited
Valid Data	11,422	20,795
Total Data	11,422	20,795
Minimum	0.5	0.7
Maximum	4	1.003
Mean	1.212	1
Variance	0.082	0
Standard Deviation	0.286	0.002
Coefficient Of Variation	0.236	0.002

Table 14-10: Summary statistics, global population for non-composite and composite data. Fantasma zone.

Statistics	Length	
	Non-composited	Composited
Valid Data	2,573	3,889
Total Data	2,573	3,889
Minimum	0.5	1
Maximum	3	1.005
Mean	1.391	1
Variance	0.398	0
Standard Deviation	0.631	0.001
Coefficient Of Variation	0.454	0.001

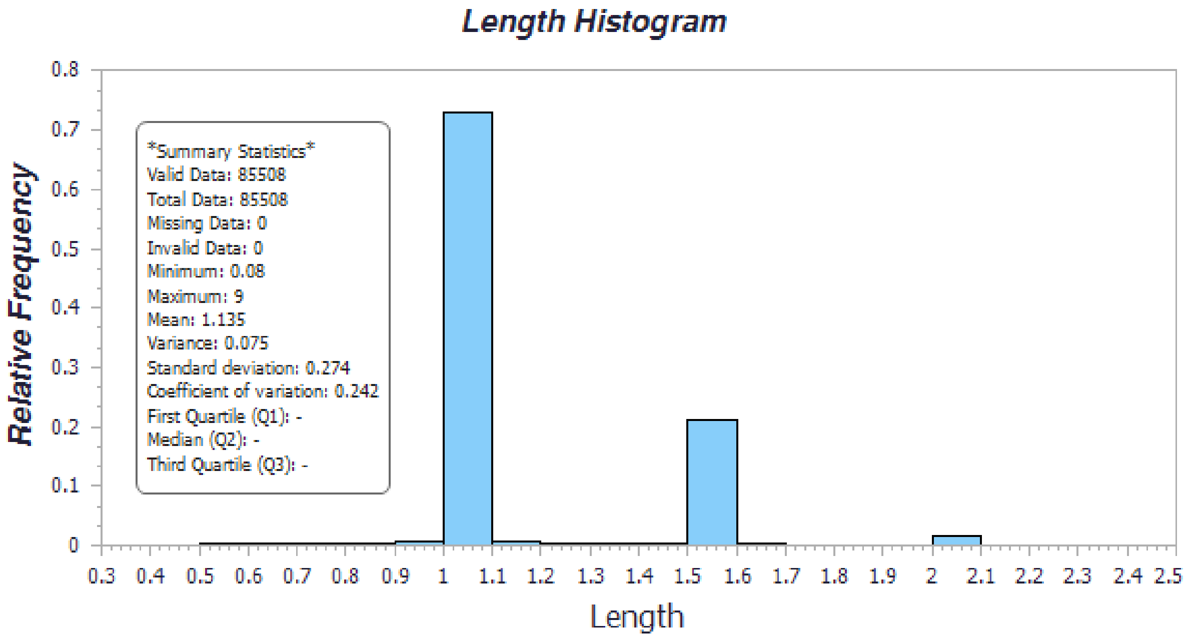


Figure 14-5: Non-composited Sample Data - Samples length. Oculto and Laderas zones.

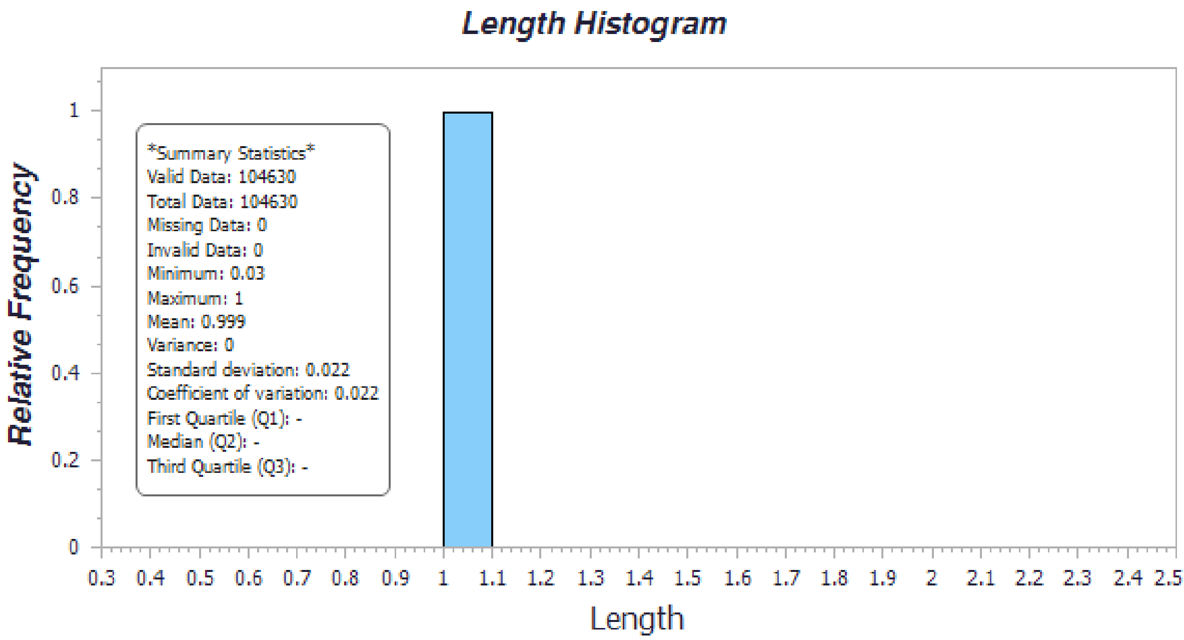


Figure 14-6: 2 m Composite Data - Sample intervals. Oculto and Laderas zones.

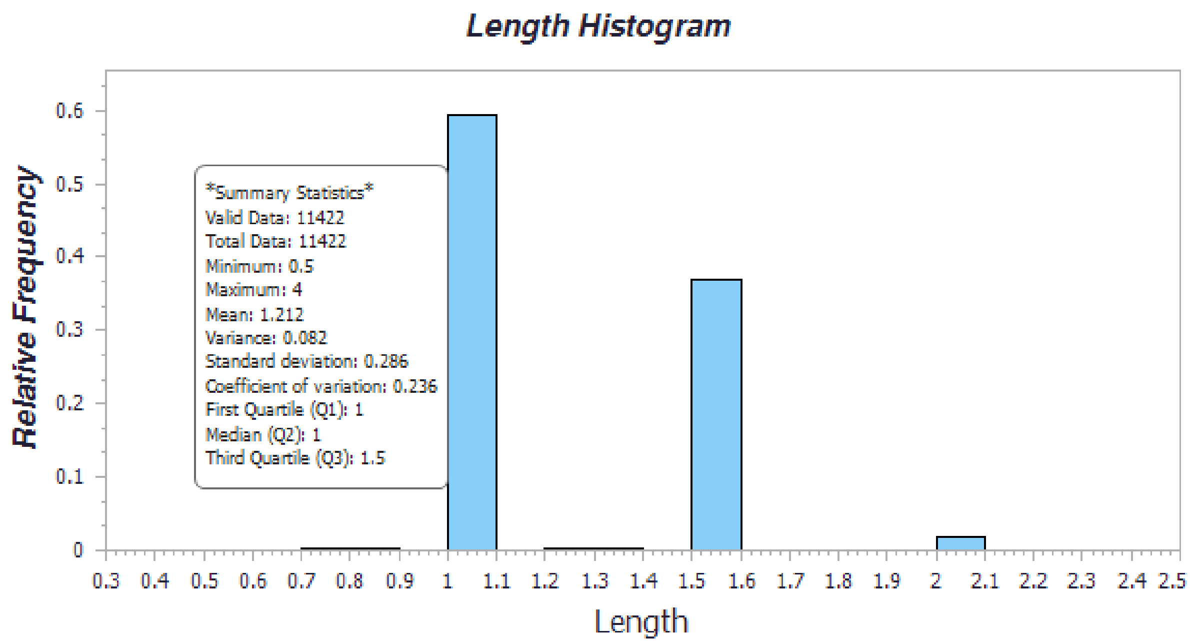


Figure 14-7: Non-composited Sample Data - Samples length. JAC zone.

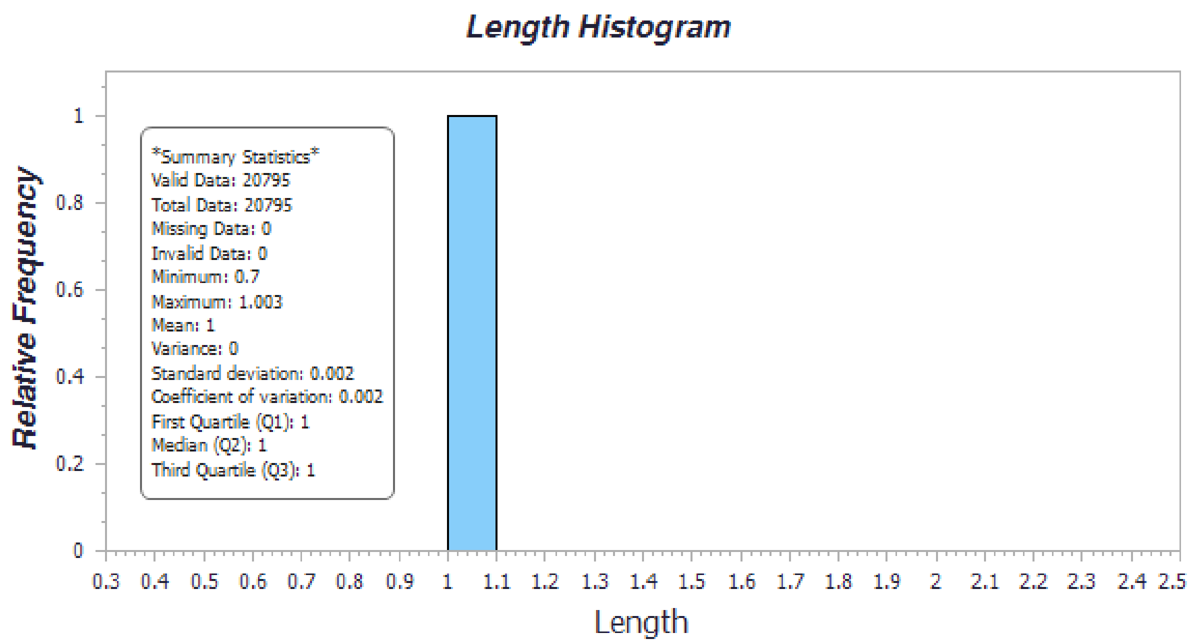


Figure 14-8: 2 m Composite Data - Sample intervals. JAC zone.

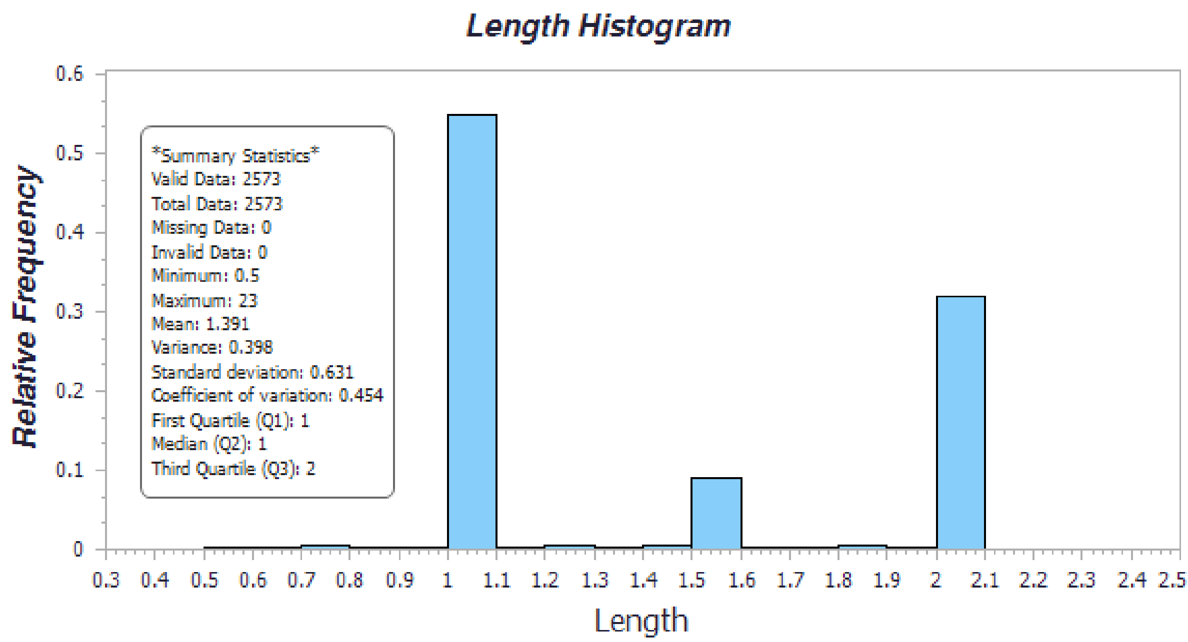


Figure 14-9: Non-composited Sample Data - Samples length. Fantasma zone.

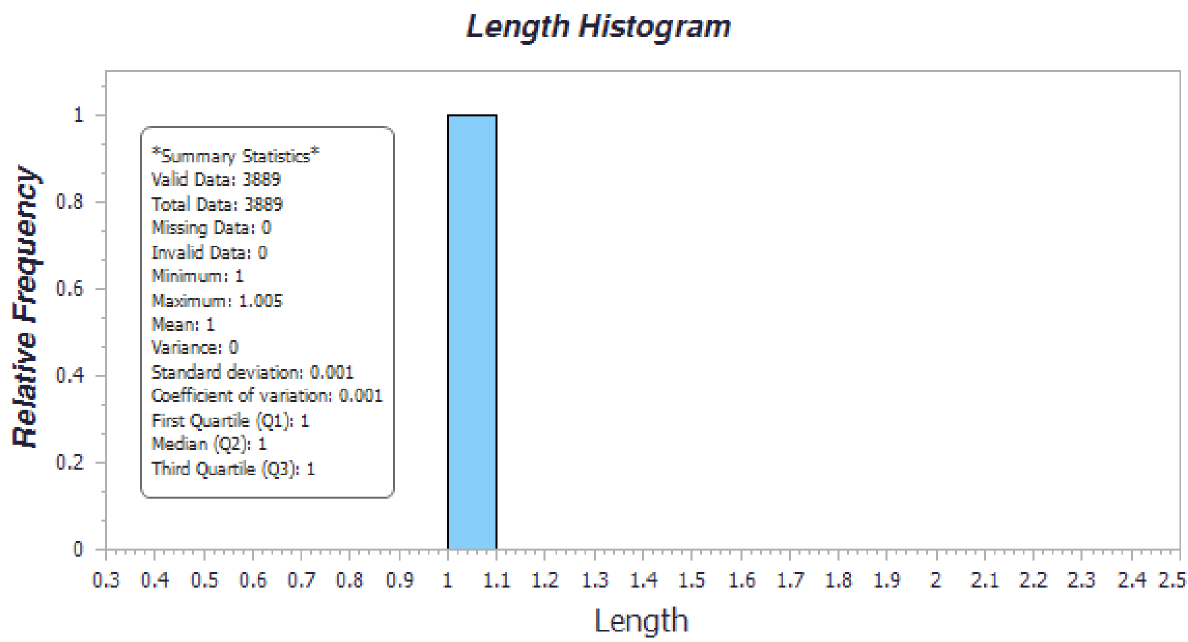


Figure 14-10: 2 m Composite Data - Sample intervals. Fantasma zone.

Summary statistics for raw data weighted by length (non-composited or raw) and composited sample intervals by estimation domains are presented in Table 14-11 and Table 14-12.

Table 14-11: Summary statistics for each gold domain of composite - Au g/t

Au Domain	Number of samples		Mean grade			Std Dev		Coeff Variation	
	Raw	Compos	Raw	Compos	Diff	Raw	Compos	Raw	Compos
211	711	871	0.14	0.11	-0.02	1.58	1.43	11.67	12.55
212	26,799	29,402	0.08	0.08	0.00	0.47	0.45	5.67	5.65
222	5,919	6,761	0.14	0.14	-0.01	0.49	0.47	3.45	3.45
232	14,444	16,310	0.62	0.57	-0.04	1.81	1.57	2.94	2.73
311	1,759	1,855	0.18	0.18	-0.01	0.73	0.71	3.99	3.99
312	3,705	3,798	0.36	0.37	0.01	0.92	0.92	2.55	2.50
321	1,221	1,281	0.45	0.46	0.01	3.50	3.43	7.80	7.48
322	1,510	1,641	0.64	0.64	0.00	1.70	1.65	2.66	2.59
332	1,049	1,025	0.79	0.82	0.03	1.59	1.64	2.01	2.00
411	6,270	7,214	0.22	0.21	-0.02	1.32	1.25	5.91	6.09
412	6,402	6,463	0.31	0.30	-0.01	1.53	1.38	4.99	4.60
421	631	660	0.37	0.33	-0.03	1.56	1.46	4.26	4.39
422	914	949	0.26	0.26	0.01	0.70	0.71	2.72	2.67
432	890	937	1.20	1.21	0.01	2.59	2.53	2.15	2.10
511	400	468	0.09	0.10	0.01	0.35	0.38	4.09	3.98
512	4,892	5,253	0.09	0.09	0.00	0.75	0.73	7.98	7.90
521	2,417	3,841	0.01	0.01	0.00	0.00	0.00	0.76	0.71
522	3,538	4,394	0.01	0.01	0.00	0.01	0.01	1.25	1.05
611	1,430	1,933	0.00	0.00	0.00	0.00	0.00	1.01	0.93
612	857	927	0.00	0.00	0.00	0.00	0.00	0.87	0.90

Table 14-12: Summary statistics for each silver domain of composite - Ag g/t

Ag Domain	Number of samples		Mean grade			Std Dev		Coeff Variation	
	Raw	Compos	Raw	Compos	Diff	Raw	Compos	Raw	Compos
211	650	826	6.98	6.32	-0.66	25.28	24.52	3.62	3.88
212	28,013	32,592	15.85	14.97	-0.88	139.95	130.62	8.83	8.72
222	6,259	7,393	22.06	21.66	-0.40	88.38	82.07	4.01	3.79
232	15,561	18,058	86.20	83.66	-2.54	338.15	306.48	3.92	3.66
311	1,866	2,054	5.51	5.26	-0.25	14.87	14.20	2.70	2.70
312	3,921	4,181	10.97	11.05	0.08	18.35	18.25	1.67	1.65
321	1,551	1,809	7.37	7.07	-0.30	13.29	12.67	1.80	1.79
322	1,735	1,926	14.90	14.99	0.09	19.98	19.98	1.34	1.34
332	1,420	1,540	18.09	18.19	0.10	44.50	20.05	2.46	1.34
411	6,574	7,785	6.89	6.24	-0.65	44.97	41.39	6.53	6.64
412	6,817	6,863	11.64	11.76	0.12	42.78	42.68	3.67	3.63
421	666	761	7.13	6.58	-0.55	17.98	16.85	2.52	2.56
422	979	1,047	14.72	14.93	0.21	45.66	44.90	3.10	3.01
432	1,383	1,522	84.09	81.25	-2.84	148.38	142.62	1.76	1.76
511	400	468	133.24	140.47	7.23	320.19	342.94	2.40	2.44
512	4,892	5,253	125.69	125.31	-0.38	588.08	572.77	4.68	4.57
521	2,417	3,841	0.85	0.80	-0.05	3.95	3.67	4.64	4.59
522	3,538	4,349	1.69	1.64	-0.05	4.78	4.50	2.84	2.75
611	1,430	1,933	1.76	1.38	-0.38	6698.00	4.89	3.82	3.55
612	857	932	50.22	53.28	3.06	95.83	96.25	1.91	1.81

14.7 Top Cutting

Top cutting, or capping of outlier grades, was determined for each estimation domain. Several steps have been undertaken to determine the requirement for top cutting and to ascertain the reliability and spatial clustering of the high-grade composites. The top cutting assessment considered the following:

- Review of the composite data to identify data that deviates from the general data distribution. This was completed by examining the cumulative distribution function.
- Comparison of the percentage of metal and data of the Coefficient of Variation ("CV") affected by top cutting.
- Visual 3D review to assess the clustering of the high-grade composite data.
- Based on the assessment, appropriate top cuts were determined for each estimation domain. The application of top cuts resulted in minor reductions in mean gold and silver grades.

Table 14-13 and Table 14-14 summarizes uncut and cut gold and silver statistics of composite for each estimation domain. Examples of top cut analysis have been provided in Figure 14-11 and Figure 14-14.

Table 14-13: Top cut statistics by gold domain – Au g/t composite data.

Au Domain	Number of samples		Mean grade			Top-cut value	Std Dev		Coeff Variation		Max Un-cut value	Top cut %ile
	Un-cut	Top-cut	Un-cut	Top-cut	% Diff		Un-cut	Top-cut	Un-cut	Top-cut		
211	836	2	0.11	0.07	-36.4%	5.00	1.46	0.33	13.43	4.99	41.61	7.2%
212	32,317	12	0.07	0.07	0.0%	12.00	0.41	0.33	5.60	4.61	42.40	1.6%
222	7,358	8	0.13	0.13	0.0%	8.00	0.46	0.45	3.46	3.41	10.36	0.3%
232	17,882	5	0.56	0.56	0.0%	27.00	1.57	1.50	2.77	2.67	54.71	0.5%
311	2,008	12	0.18	0.17	-5.6%	12.00	0.69	0.61	3.92	3.55	15.80	2.1%
312	4,074	4	0.38	0.37	-2.6%	12.90	0.98	0.91	2.59	2.45	21.48	1.0%
321	1,725	1	0.44	0.40	-9.1%	60.00	2.99	1.81	6.84	4.46	116.00	7.4%
322	1,914	2	0.71	0.70	-1.4%	21.00	1.71	1.59	2.42	2.27	31.19	1.2%
332	1,426	2	0.79	0.78	-1.3%	15.00	1.58	1.49	2.01	1.90	23.34	1.1%
411	7,788	2	0.21	0.21	0.0%	27.00	1.26	1.20	6.03	5.81	41.28	1.0%
412	6,866	2	0.31	0.30	-3.2%	31.00	1.37	1.11	4.41	3.68	58.32	2.3%
421	700	1	0.37	0.37	0.0%	25.00	1.60	1.53	4.30	4.17	27.80	1.1%
422	1,035	2	0.26	0.26	0.0%	7.50	0.69	0.64	2.67	2.51	10.68	1.5%
432	1,543	4	1.04	1.03	-1.0%	21.00	2.44	2.29	2.34	2.23	27.66	1.4%
511	468	4	0.10	0.09	-10.0%	2.67	0.38	0.34	3.98	3.70	2.67	5.0%
512	5,253	1	0.09	0.09	0.0%	21.18	0.73	0.49	7.90	5.57	21.18	4.8%
521	3,481	2	0.01	0.01	0.0%	0.10	0.00	0.00	0.71	0.55	0.10	0.5%
522	4,394	2	0.01	0.01	0.0%	0.12	0.01	0.00	1.05	0.78	0.12	8.0%
611	1,933	0	0.01	0.01	0.0%	0.10	0.01	0.01	0.83	0.83	0.10	0.0%
612	932	0	0.01	0.01	0.0%	0.04	0.01	0.01	0.81	0.81	0.04	0.0%

Table 14-14: Top cut statistics by silver domain – Ag g/t composite data.

Au Domain	Number of samples		Mean grade			Top-cut value	Std Dev		Coeff Variation		Max Un-cut value	Top cut %ile
	Un-cut	Top-cut	Un-cut	Top-cut	% Diff		Un-cut	Top-cut	Un-cut	Top-cut		
211	836	1	7.02	6.81	-3.0%	475	31.86	27.89	4.54	4.09	31.86	3.0%
212	32,331	3	15.09	14.88	-1.4%	6800	143.90	130.90	9.54	8.80	11,305.00	1.4%
222	7,358	1	21.81	21.50	-1.4%	2497	93.50	80.81	4.29	3.76	4,754.00	1.4%
232	17,879	6	81.61	80.47	-1.4%	6100	264.60	262.10	3.61	3.26	11,269.00	1.4%
311	2,008	2	5.78	5.33	-7.8%	300	26.18	14.33	4.53	2.69	893.00	7.7%
312	4,074	2	11.40	11.21	-1.7%	300	22.88	18.30	2.01	1.63	770.00	1.7%
321	1,725	2	7.46	7.30	-2.1%	200	15.80	12.92	2.12	1.77	345.30	2.1%
322	1,914	2	15.24	15.09	-1.0%	200	22.16	20.33	1.45	1.35	348.00	1.0%
332	1,426	1	18.36	17.98	-2.1%	1125	54.41	44.00	2.96	2.45	1,656.00	2.0%
411	7,782	2	6.39	6.26	-2.0%	1800	47.82	41.41	7.48	6.61	2,700.00	2.0%
412	6,865	2	12.31	12.12	-1.5%	1250	50.67	44.33	4.11	3.66	1,968.00	1.6%
421	700	1	6.86	6.75	-1.6%	240	18.93	17.37	2.76	2.57	312.80	1.5%
422	1,035	2	15.41	15.17	-1.6%	650	48.87	45.40	3.17	2.99	780.30	1.5%
432	1,539	2	82.52	81.27	-1.5%	1529	160.60	142.20	1.95	1.75	3,245.00	1.5%
511	468	2	140.50	137.60	-2.1%	2500	343.30	317.80	2.44	2.31	3,637.00	2.1%
512	5,253	3	125.30	119.10	-4.9%	7000	572.80	336.00	4.57	2.82	32,481.00	4.9%
521	3,481	2	0.80	0.78	-2.5%	70	3.67	3.24	4.59	4.14	114.00	2.1%
522	4,394	2	1.64	1.62	-1.2%	76	4.50	4.05	2.75	2.50	132.20	1.2%
611	1,933	2	1.38	1.36	-1.4%	90	4.89	4.89	3.56	3.56	114.00	1.5%
612	932	1	53.28	53.03	-0.5%	1000	96.30	93.39	1.81	1.76	1,237.00	50.0%

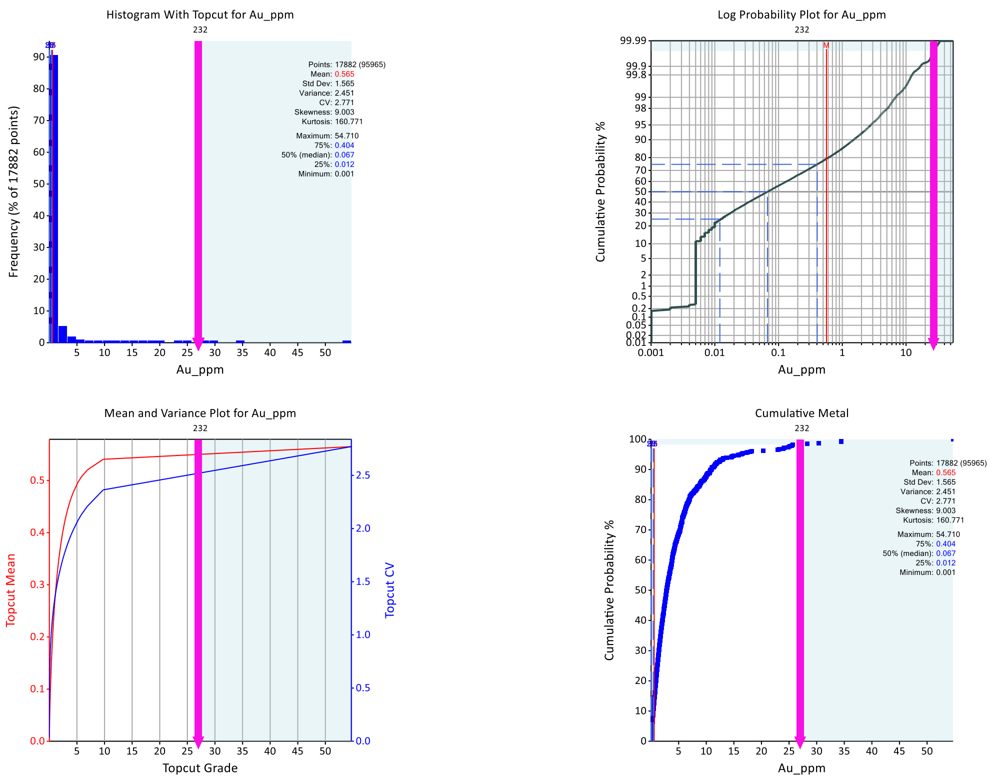


Figure 14-11: Example of the top cut analysis – Gold domain 232.

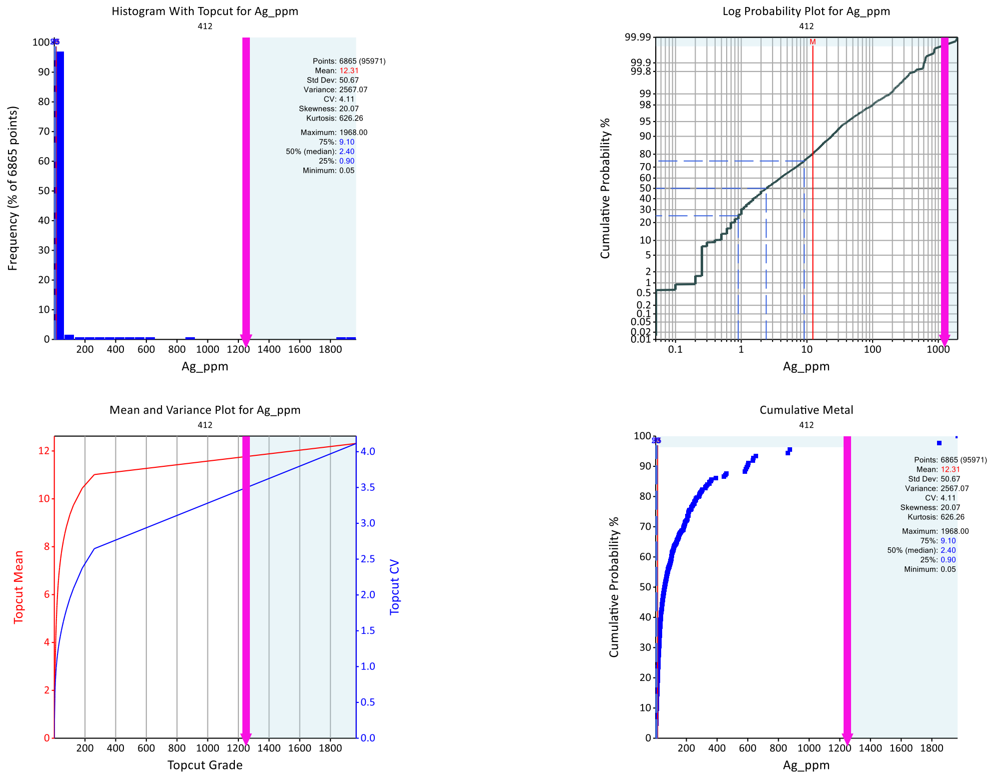


Figure 14-12: Example of the top cut analysis – Silver domain 412.

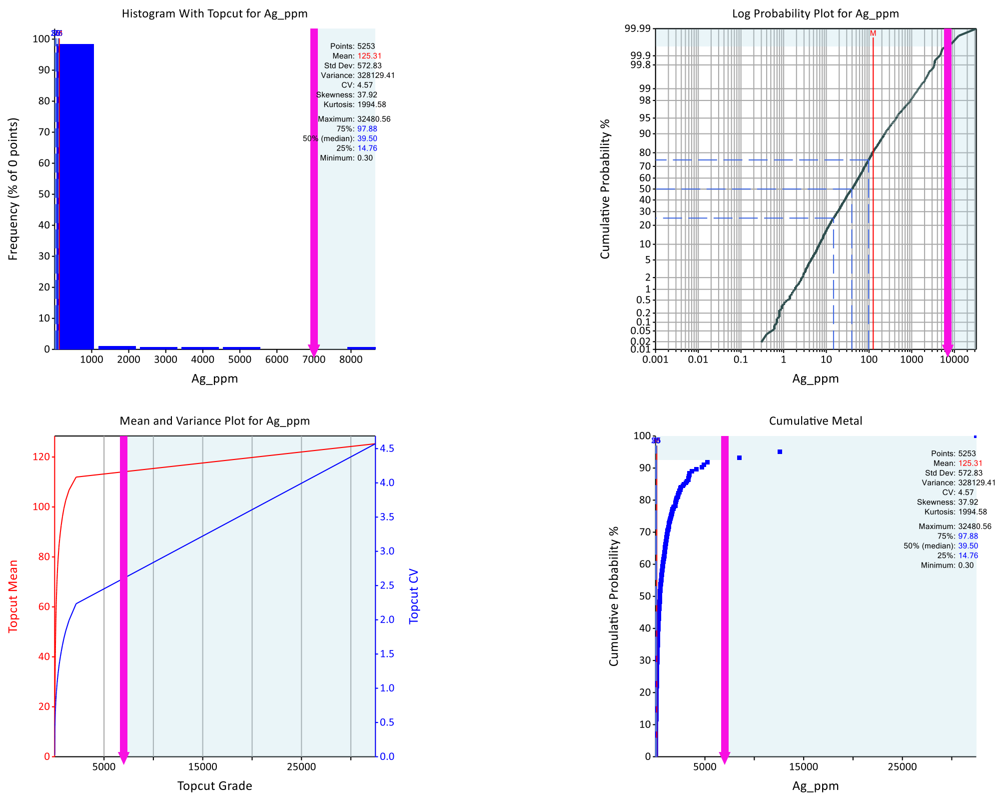


Figure 14-13: Example of the top cut analysis – Silver domain 512.

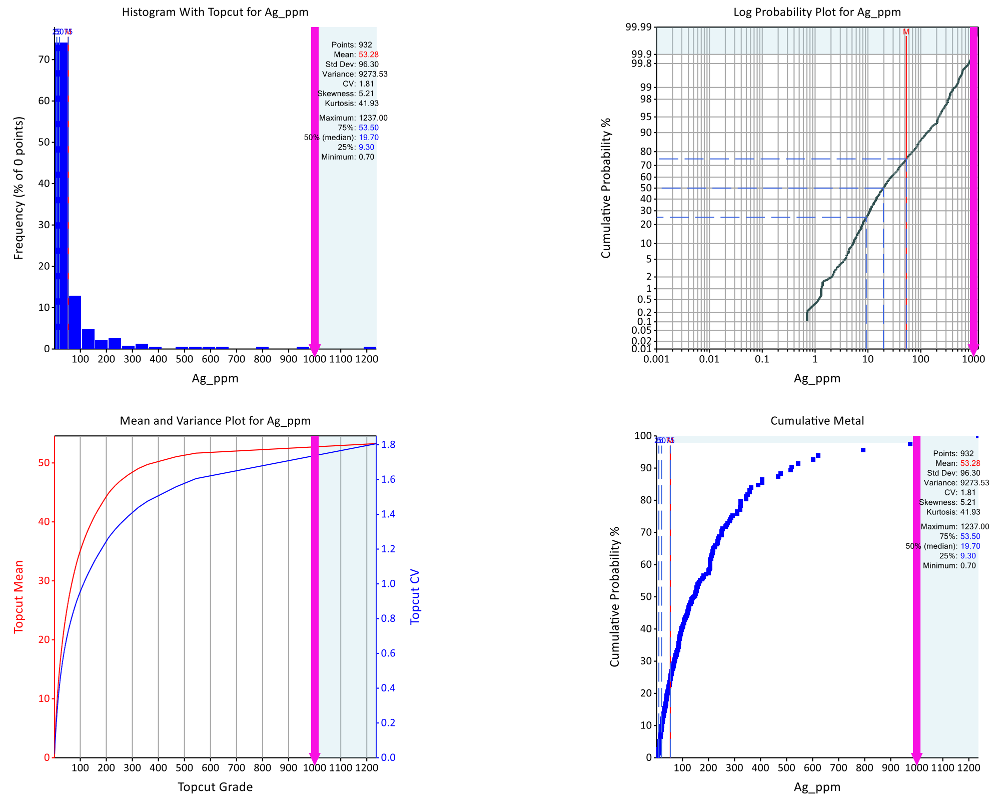


Figure 14-14: Example of the top cut analysis – Silver domain 612.

14.8 Bulk Density Determination

A new dry bulk density model has been built based on a new set of 7,178 samples taken over the drilling performed from 2019 – 2023, measured at site by AbraSilver geologists and performed by the unwrapped core method.

A discussion was conducted in the previous PEA, in which a comparison of Unwrapped Core method versus Waxed Core method concluded the following:

> *Comparisons between Waxed Core and Unwrapped Core methods by ALS have shown that each method has similar results with a difference of 1%. Demonstrating that the Unwrapped Core method is an acceptable method for determining in-situ bulk density.*

The model is based on measurements preformed on 6,807 core samples by using the Unwrapped Core method (performed by AbraSilver) to determine the in-situ bulk density. The samples were selected every 5 meters from the database for 2019 to 2021 drilling campaign database and from the 2021 to 2023 drilling campaign logs.

This Unwrapped Core method is outlined below:

1. *Dry sample is weighed in air (Mdry).*

2. *Dry sample is weighed immediately upon submersion in water (Mini).*

3. The sample is left submerged and weighed again sometime later (Msat in water).

4. The sample is removed from the water and immediately weighed (Msat).

The in-situ bulk density is determined from the following formulae:

Mass of contained water (Mwater) = Msat - Mdry

Volume of contained water (Vwater) = Mwater / Density of water (ρ_W)

Volume of sample (Vsamp) = Vwater + ((Mdry – Msat in water) / ρ_W) Bulk Density = Mdry / Vsamp

The QP considers that the sample sets selected are appropriate to determine the in-situ bulk density of the Diablillos mineralisation. A summary of the bulk densities applied to each code domain are shown in Table 14-15.

Table 14-15: In-situ bulk density applied into the block model.

Statistics / Code Domain	211	212	221	222	231	232
Valid Data	67	1671	19	643	4	2094
Total Data	67	1671	19	643	4	2094
Minimum	1.57	1.50	2.16	1.63	2.25	1.60
Maximum	2.74	3.04	2.82	2.74	2.79	3.39
Variance	0.07	0.05	0.02	0.04	0.04	0.03
Standard Deviation	0.27	0.22	0.15	0.19	0.20	0.17
Coefficient Of Variation	0.12	0.10	0.07	0.08	0.08	0.07
Range	1.17	1.54	0.66	1.11	0.54	1.79
Mean	**2.22**	**2.19**	**2.35**	**2.30**	**2.57**	**2.30**
Code Domain	**311**	**312**	**321**	**322**	**331**	**332**
Valid Data	86	147	214	98	8	233
Total Data	86	147	214	98	8	233
Minimum	2.36	1.98	2.23	1.89	2.36	1.46
Maximum	3.27	2.74	3.43	3.19	2.74	2.70
Variance	0.03	0.02	0.04	0.03	0.01	0.02
Standard Deviation	0.17	0.15	0.19	0.18	0.11	0.14
Coefficient Of Variation	0.06	0.06	0.07	0.07	0.04	0.06
Range	0.91	0.76	1.20	1.30	0.38	1.24
Mean	**2.66**	**2.42**	**2.70**	**2.53**	**2.60**	**2.41**
Code Domain	**311**	**312**	**321**	**322**	**331**	**332**
Valid Data	380	99	37	85	15	127
Total Data	380	99	37	85	15	127
Minimum	1.76	1.80	2.42	1.94	2.04	1.84
Maximum	2.84	2.68	2.85	2.80	2.82	2.64
Variance	0.03	0.02	0.01	0.02	0.05	0.02
Standard Deviation	0.16	0.13	0.09	0.15	0.23	0.14
Coefficient Of Variation	0.06	0.06	0.03	0.06	0.09	0.06
Range	1.08	0.88	0.43	0.86	0.78	0.80
Mean	**2.51**	**2.41**	**2.64**	**2.49**	**2.47**	**2.30**
Code Domain	**511**	**512**	**521**	**522**	**611**	**612**
Valid Data	19	312	160	185	34	70
Total Data	19	312	160	185	34	70
Minimum	1.71	1.29	1.48	1.53	1.83	1.9
Maximum	5.14	2.92	3.04	4.48	2.45	2.63
Variance	0.53	0.05	0.08	0.14	0.03	0.02
Standard Deviation	0.73	0.23	0.28	0.37	0.16	0.15
Coefficient Of Variation	0.31	0.11	0.12	0.16	0.07	0.06
Range	3.43	1.63	1.56	2.95	0.62	0.73
Mean	**2.33**	**2.05**	**2.39**	**2.33**	**2.30**	**2.20**

14.9 Variography

Traditional Variograms or Correlogram Variograms were chosen to model the gold and silver grade continuity as they were found to give better structures. The correlogram variogram considers both the distance between sample pairs and the local means of the head and tail values. Meaning that for each set of data pairs, it grabs all the head values and calculates their mean and grabs all the tail values and calculates their mean. Correlograms were used when traditional variogram were found to be noisy.

The Snowden Supervisor and MS Sigma software were employed to generate variogram maps and traditional or correlogram variograms with a 2 or 3 structured spherical model and nugget effect; to recreate the spatial continuity and knowledge of the geology of the deposit. The nugget effect and sill contributions were derived from down-hole experimental variograms followed by final model fitting on directional variogram plots.

The traditional variogram or correlogram for the gold and silver variable were modelled for each estimation domain.

Table 14 16 and Table 14 17 show the variograms modelled. Example of variogram maps are shown in Figure 14 15 and Figure 14 18.

An example of the variogram models (gold domain 232, silver domain 232, silver domain 512 and silver domain 612) (Figure 14 19 to Figure 14 22) with their respective 3D view are presented from Figure 14 23 to Figure 14 26.

Table 14-16: Variogram models used for gold domains – Summary.

Gold domains	Y (Az)	X (Az)	Z (Az)	Dip Y	Dip X	Dip Z	A1	A2	A3
211	151.10	106.80	51.70	-24.30	57.70	-19.80	151.12	-24.31	111.87
212	214.00	125.00	101.00	-6.00	13.00	-76.00	-145.40	-5.68	166.90
222	232.80	146.20	90.60	-15.90	11.50	-70.10	-127.12	-15.95	168.00
232	220.00	133.20	93.80	-11.70	15.10	-70.70	-139.99	-11.68	164.55
311	193.30	103.30	-63.40	-0.20	-0.70	-89.30	-166.74	-0.16	-179.33
312	187.70	98.50	58.10	-6.10	7.30	-80.50	-172.27	-6.08	172.71
321	203.30	113.30	-89.30	0.20	-0.50	-89.40	-156.67	0.22	-179.48
322	207.30	118.50	75.60	-7.80	8.50	-78.40	-152.65	-7.75	171.40
332	-16.10	265.80	-0.20	59.30	-7.00	-29.70	-16.05	59.30	-166.26
411	196.80	107.40	-80.00	1.90	-15.70	-74.10	-163.17	1.93	-164.24
412	179.30	91.90	81.70	-4.50	30.50	-59.10	179.26	-4.49	149.42
421	119.30	103.40	200.80	46.50	-42.40	-8.00	119.33	46.52	-101.69
422	58.10	240.90	148.70	-26.10	-63.90	-1.10	58.13	-26.11	-91.20
432	216.60	127.10	113.80	-2.40	10.50	-79.30	-143.37	-2.41	169.52
511	20.00	211.50	118.70	60.00	29.50	5.00	61.00	101.00	109.00
512	130.00	56.10	359.10	67.00	92.00	54.00	67.00	92.00	54.00
521	340.00	232.50	137.20	60.00	9.80	28.00	21.00	43.00	34.00
522	300.00	39.40	310.60	70.00	3.40	-19.70	25.00	29.00	49.00
611	110.00	20.00	290.00	50.00	0.00	40.00	40.00	40.00	40.00
612	200.00	111.80	65.40	10.00	-9.80	75.90	28.00	50.00	51.00

Table 14-17: Variogram models used for silver domains – Summary.

Silver domains	Y (Az)	X (Az)	Z (Az)	Dip Y	Dip X	Dip Z	A1	A2	A3
211	262.50	172.60	155.20	-1.50	4.70	-85.00	-97.51	-1.47	175.27
212	214.90	126.20	101.70	-5.70	13.00	-75.80	-145.09	-5.70	166.94
222	232.30	145.70	90.40	-16.10	11.80	-69.80	-127.74	-16.11	167.69
232	220.00	133.20	93.80	-11.70	15.10	-70.70	-139.99	-11.00	164.55
311	193.30	103.30	-63.40	-0.20	-0.70	-89.30	-166.74	-0.16	-179.33
312	187.70	98.50	58.10	-6.10	7.30	-80.50	-172.27	-6.08	172.71
321	203.30	113.30	-89.30	0.20	-0.50	-89.40	-156.67	0.22	-179.48
322	207.30	118.50	75.60	-7.80	8.50	-78.40	-152.65	-7.75	171.40
332	-16.10	265.80	-0.20	59.30	-7.00	-29.70	-16.05	59.30	-166.26
411	196.80	107.40	-80.00	1.90	-15.70	-74.10	-163.17	1.93	-164.24
412	179.30	91.90	81.70	-4.50	30.50	-59.10	179.26	-4.49	149.42
421	119.30	103.40	200.80	46.50	-42.40	-8.00	119.33	46.52	-101.69
422	58.10	240.90	148.70	-26.10	-63.90	-1.10	58.13	-26.11	-91.20
432	216.70	127.10	114.20	-2.40	10.50	-79.30	-143.34	-2.36	169.48
511	285.00	187.30	92.00	50.00	6.40	39.30	59.00	52.00	185.00
512	50.00	203.30	45.70	10.00	-58.50	-29.50	50.00	71.00	110.00
521	280.00	17.70	293.00	50.00	6.40	-39.30	30.00	71.00	99.00
522	340.00	170.60	79.40	70.00	19.70	3.40	112.00	123.00	94.00
611	100.00	167.80	26.00	20.00	-46.00	-37.20	40.00	40.00	40.00
612	10.00	107.70	23.00	50.00	6.40	-39.30	20.00	35.00	14.00

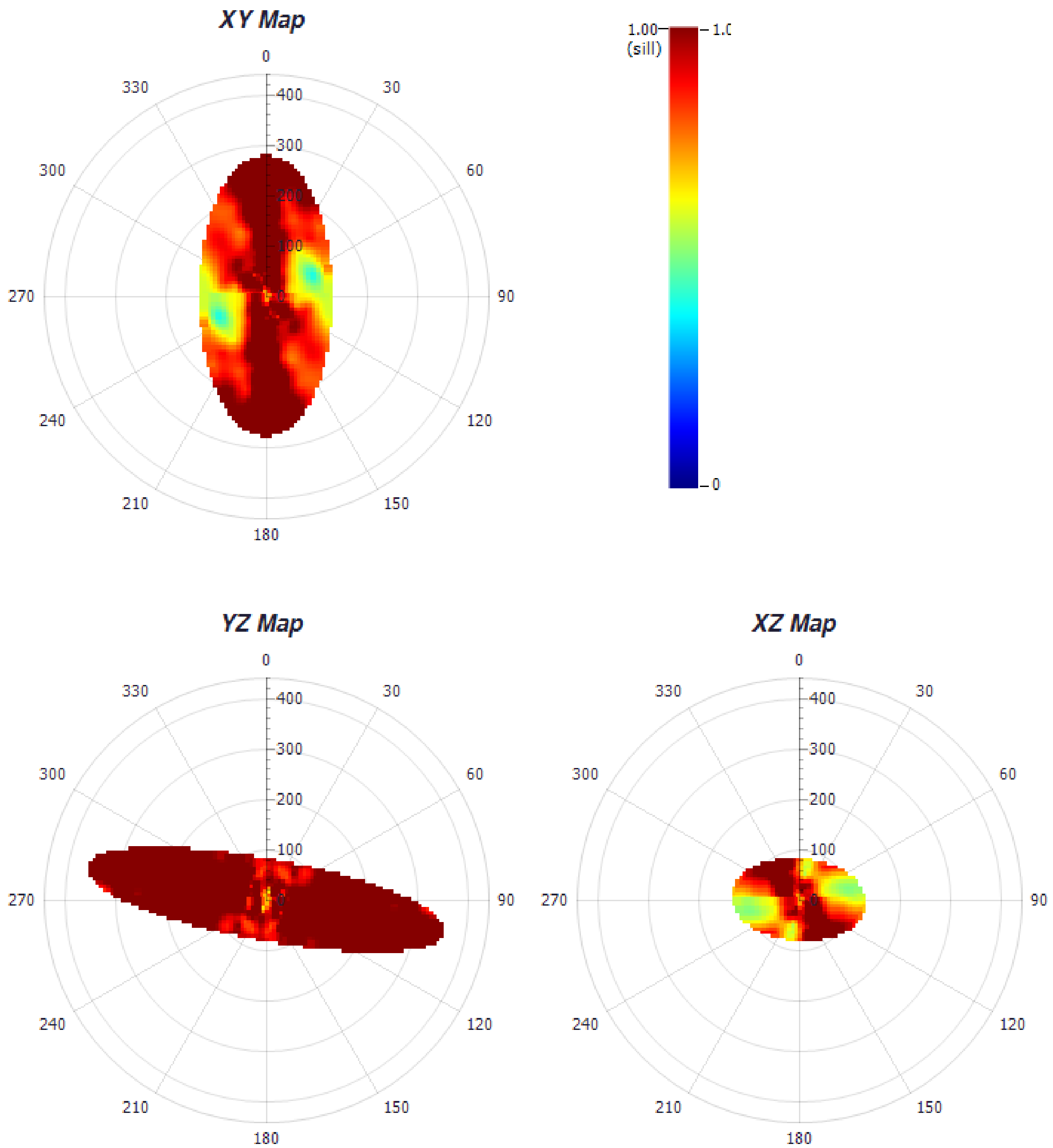


Figure 14-15: Gold domain 232 – Variogram Map.

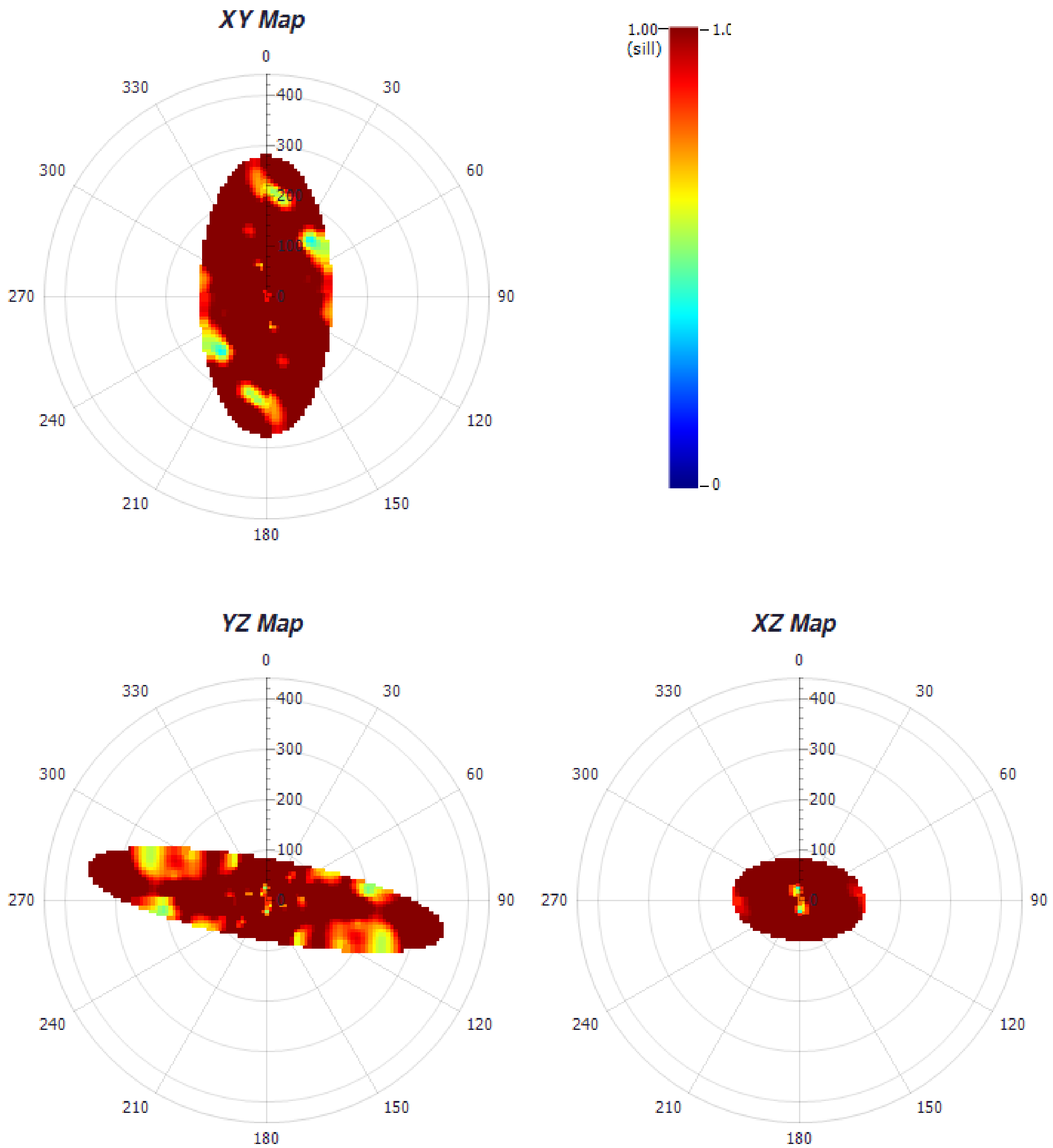


Figure 14-16: Silver 232 –Variogram Map.

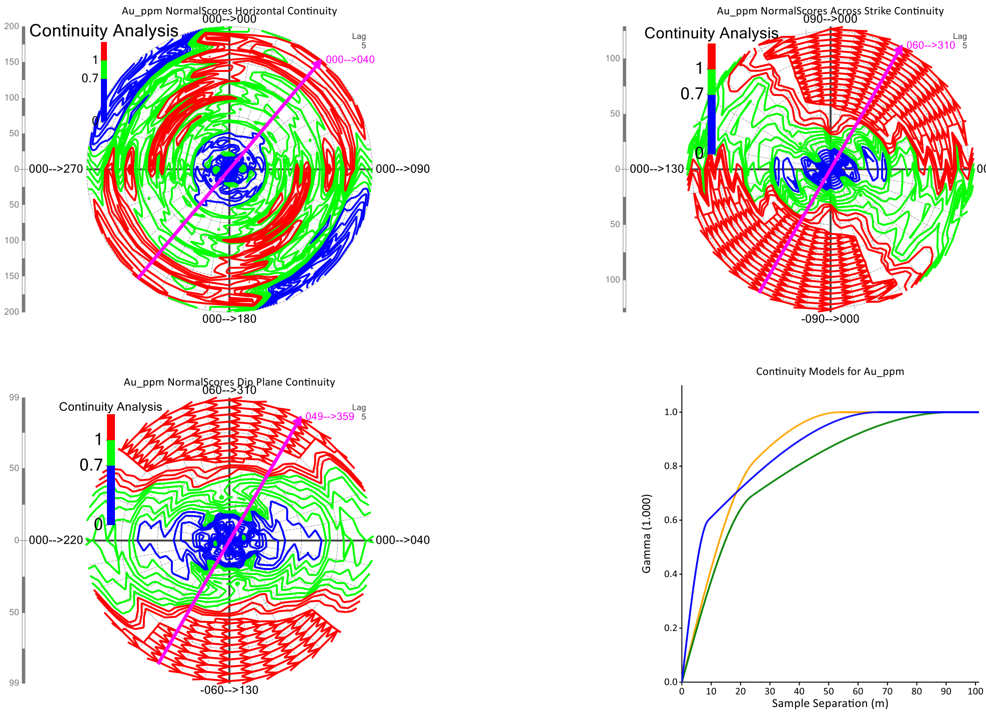


Figure 14-17: Silver 512 –Variogram Map.

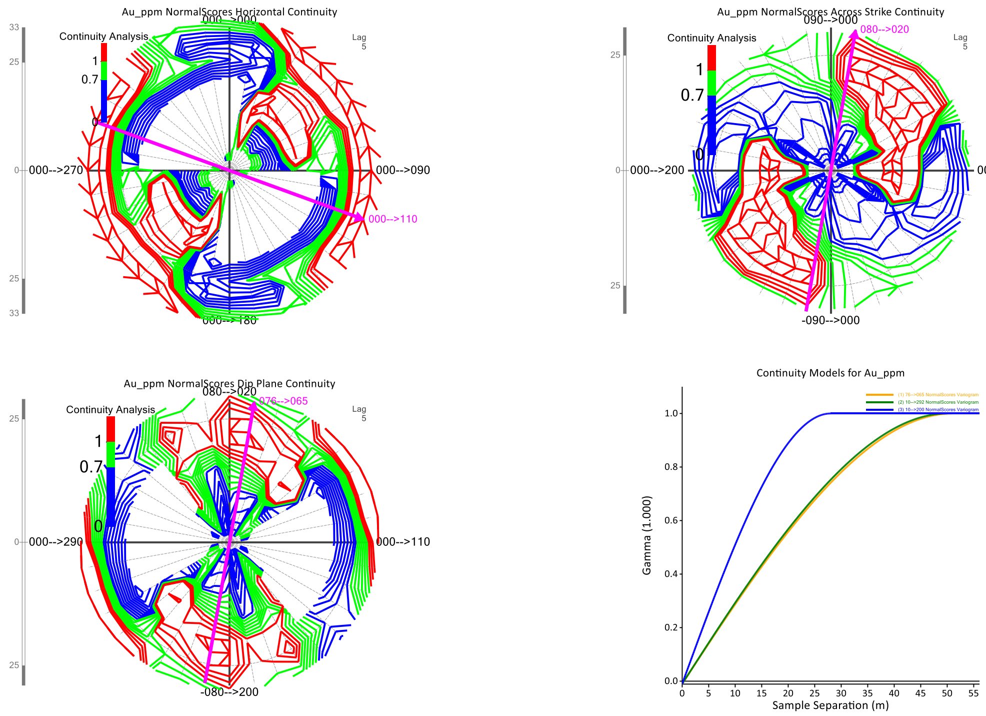


Figure 14-18: Silver 612 –Variogram Map.

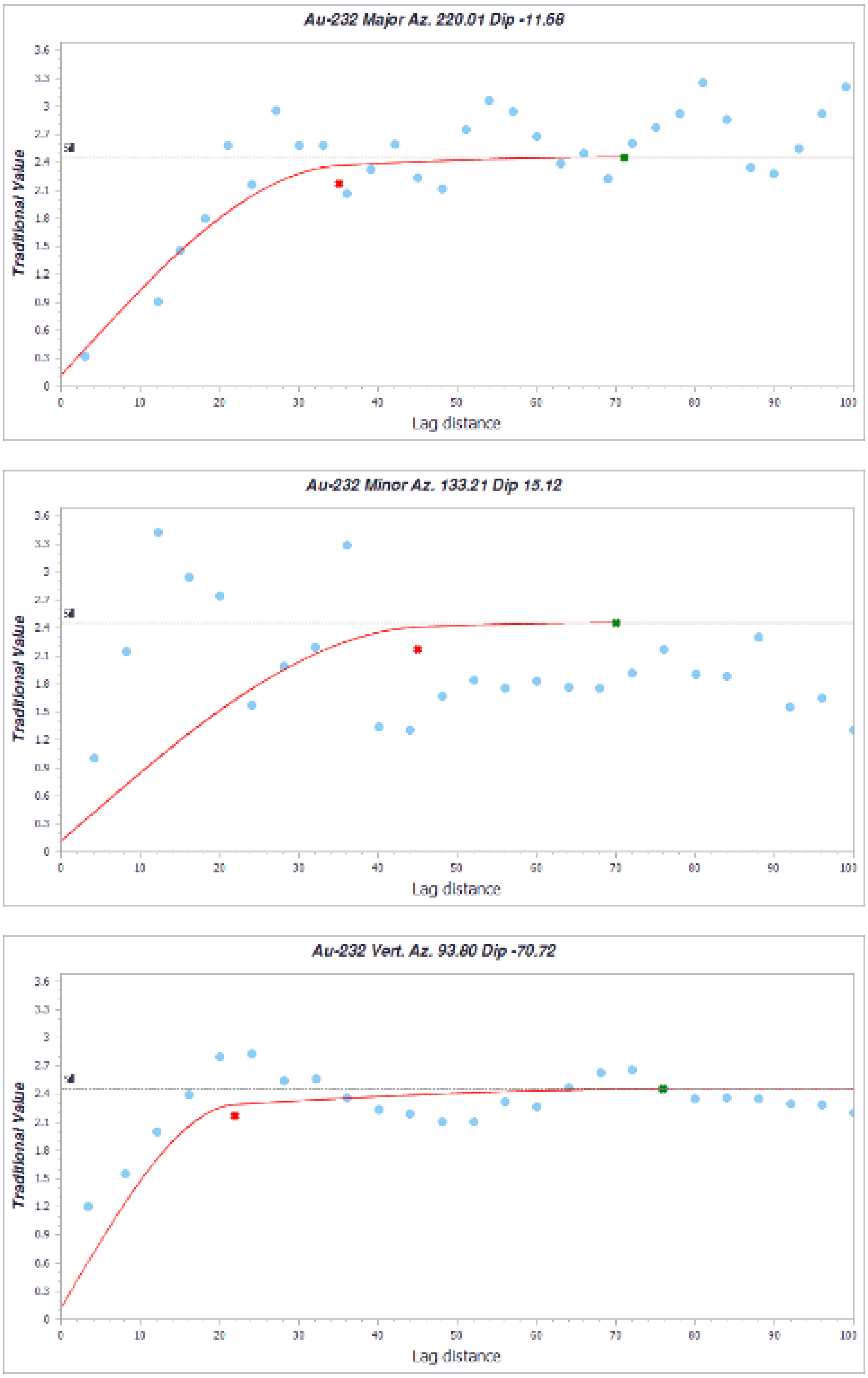


Figure 14-19: Gold domain 232 – Traditional Variogram Model for Gold

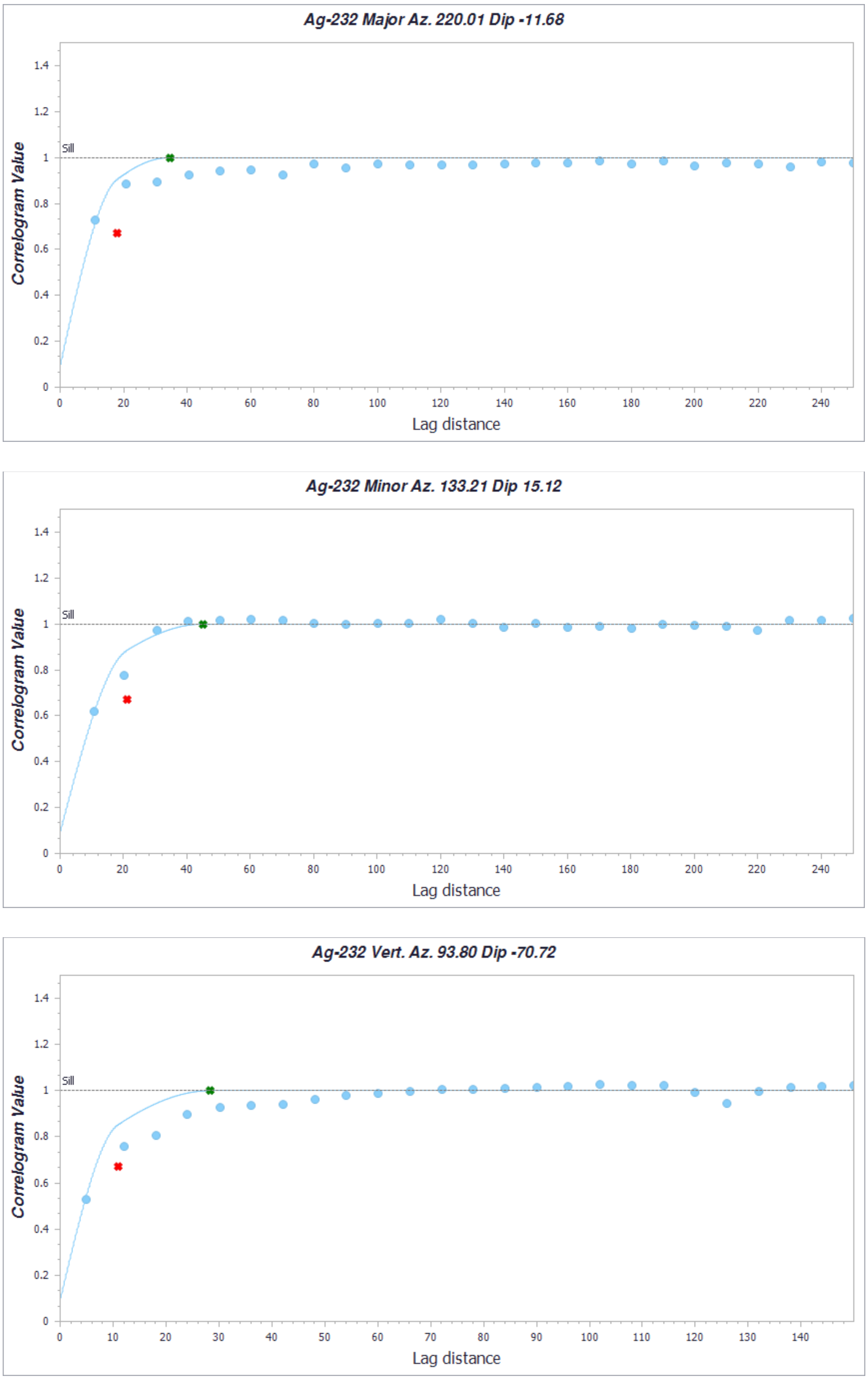


Figure 14-20: Silver domain 232 – Correlogram Variogram Model for silver

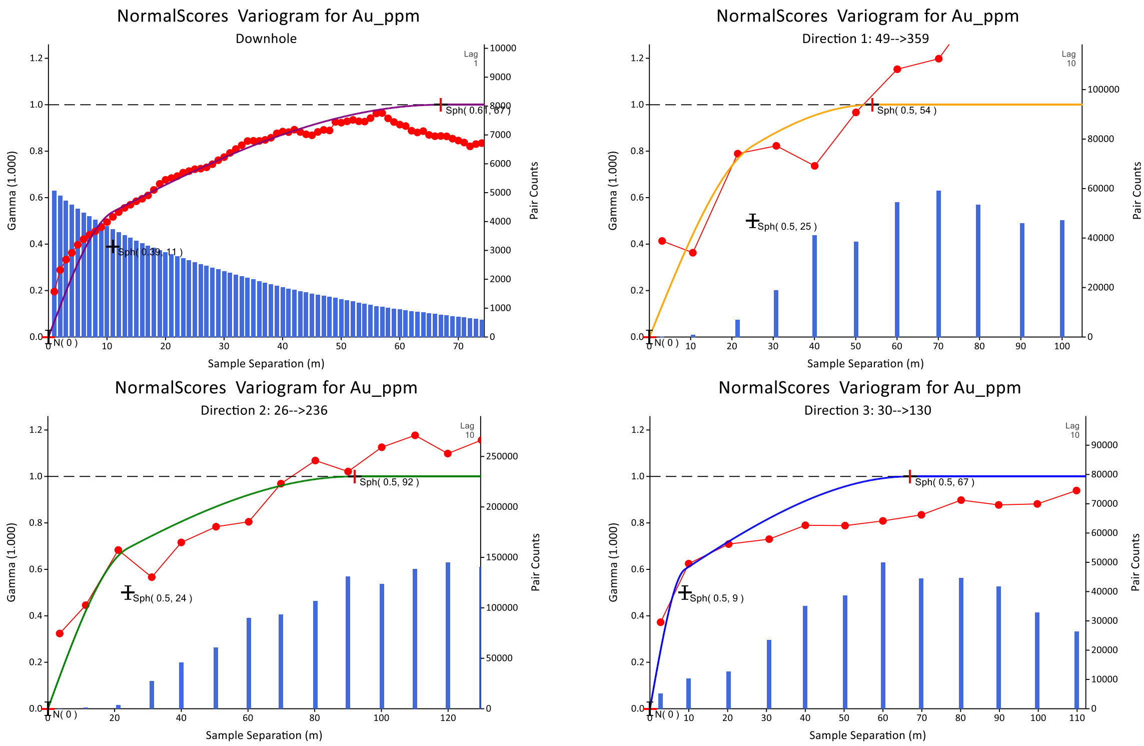


Figure 14-21: Silver domain 512 – Normal Score Variogram Model for silver.

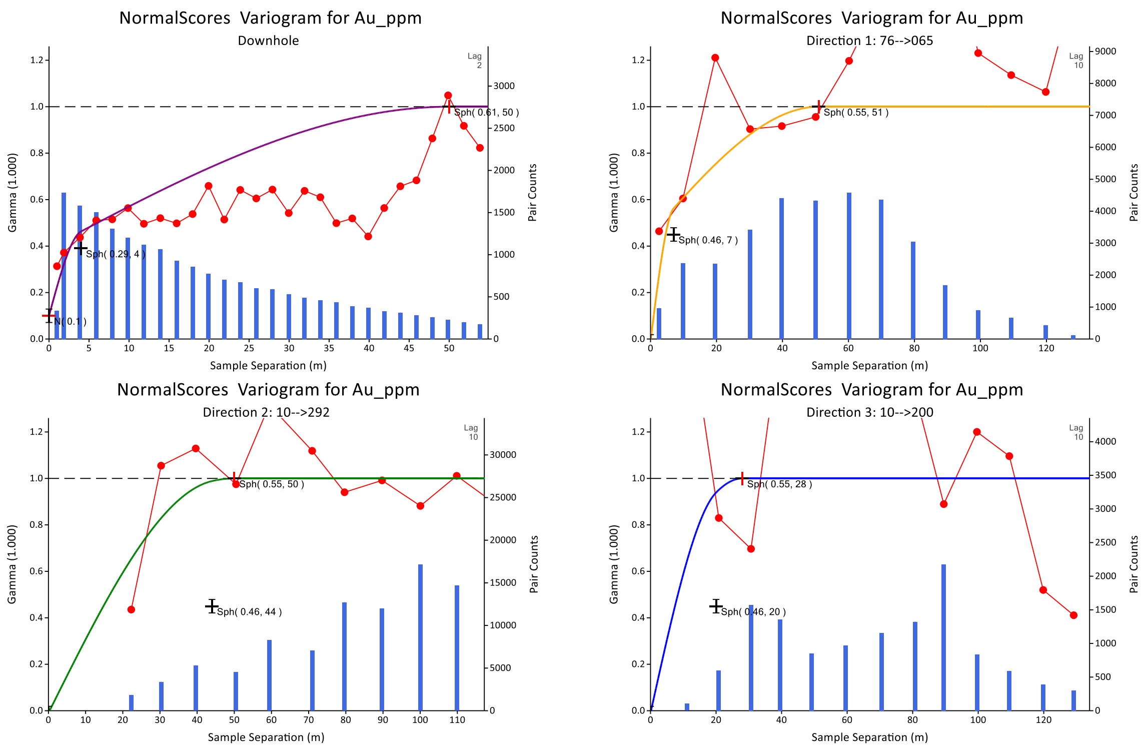


Figure 14-22: Silver domain 612 – Normal Score Variogram Model for silver

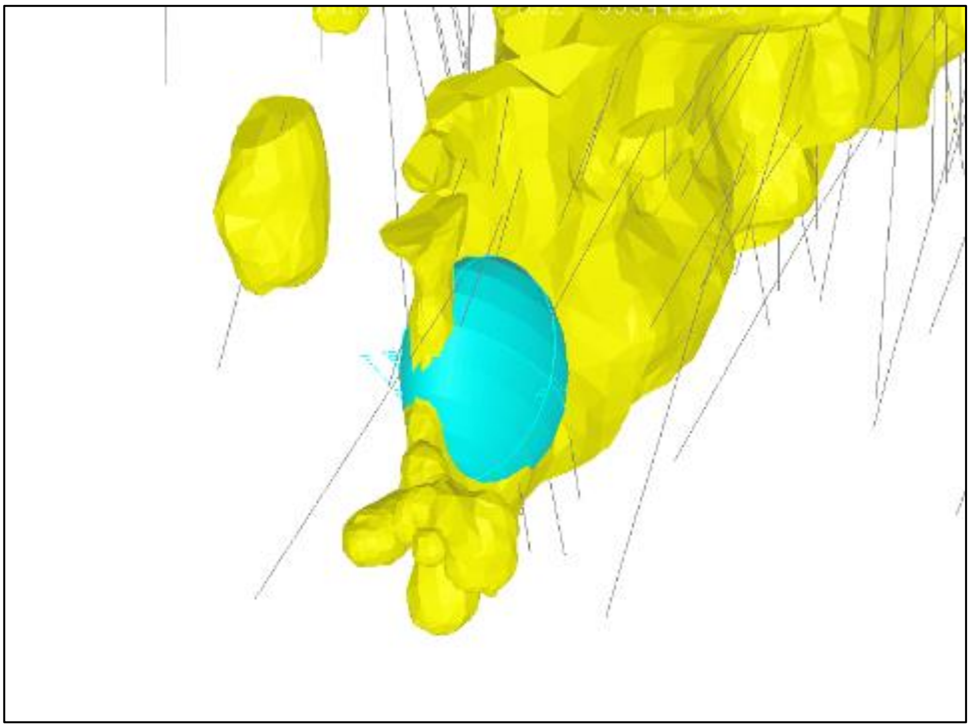


Figure 14-23: Gold domain 232 – 3D view of Traditional Variogram Model for gold.

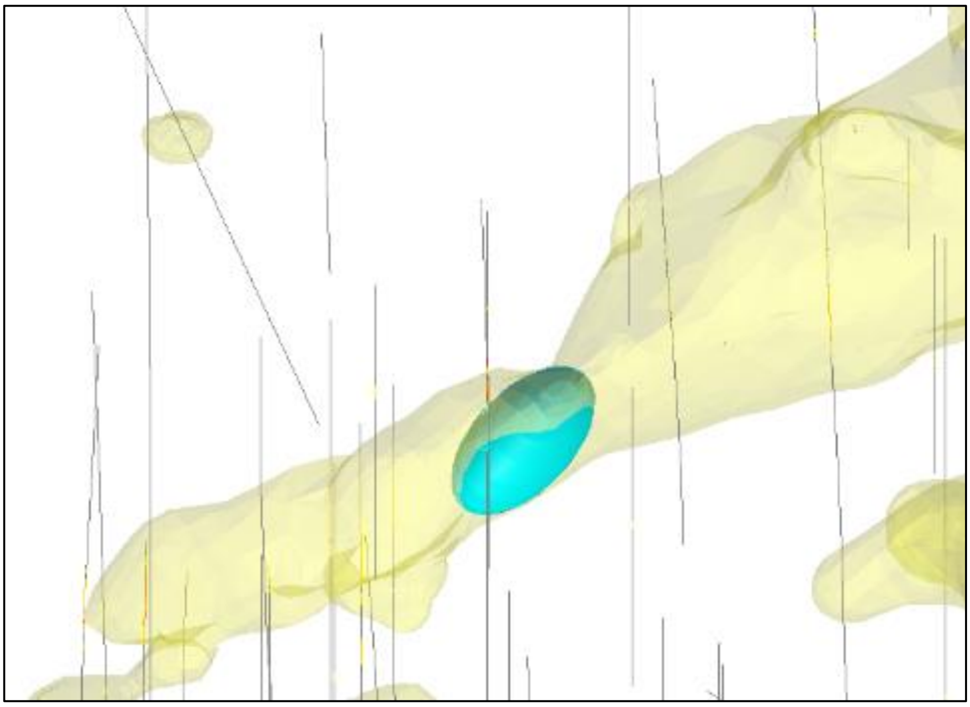


Figure 14-24: Silver domain 232 – 3D view of Correlogram Variogram Model for silver.

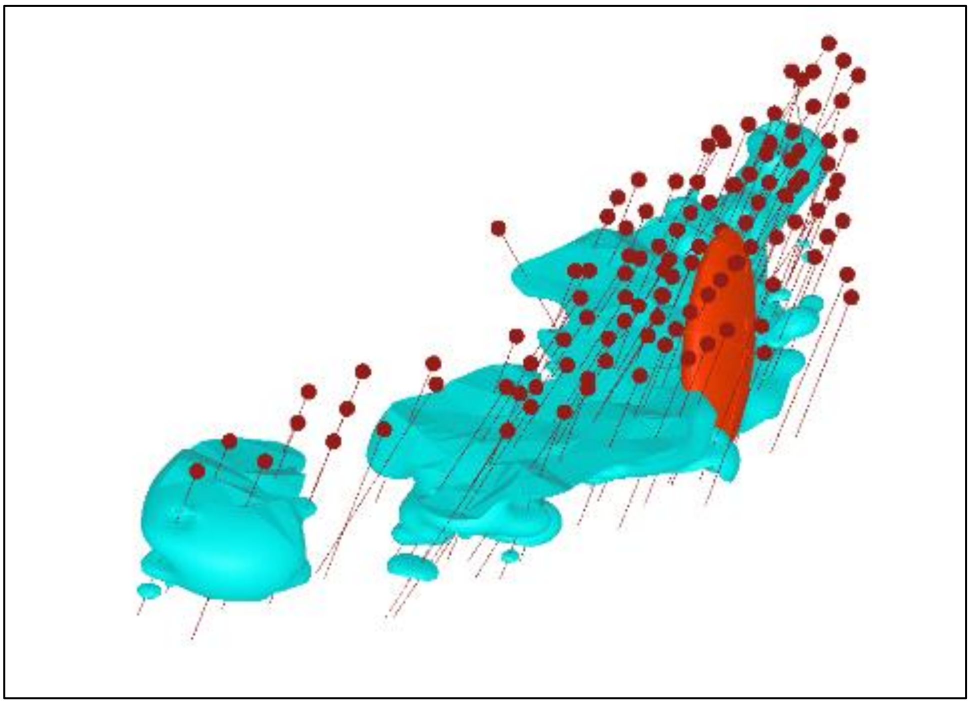


Figure 14-25: Silver domain 512 – 3D view of Normal Score search ellipse model for silver.

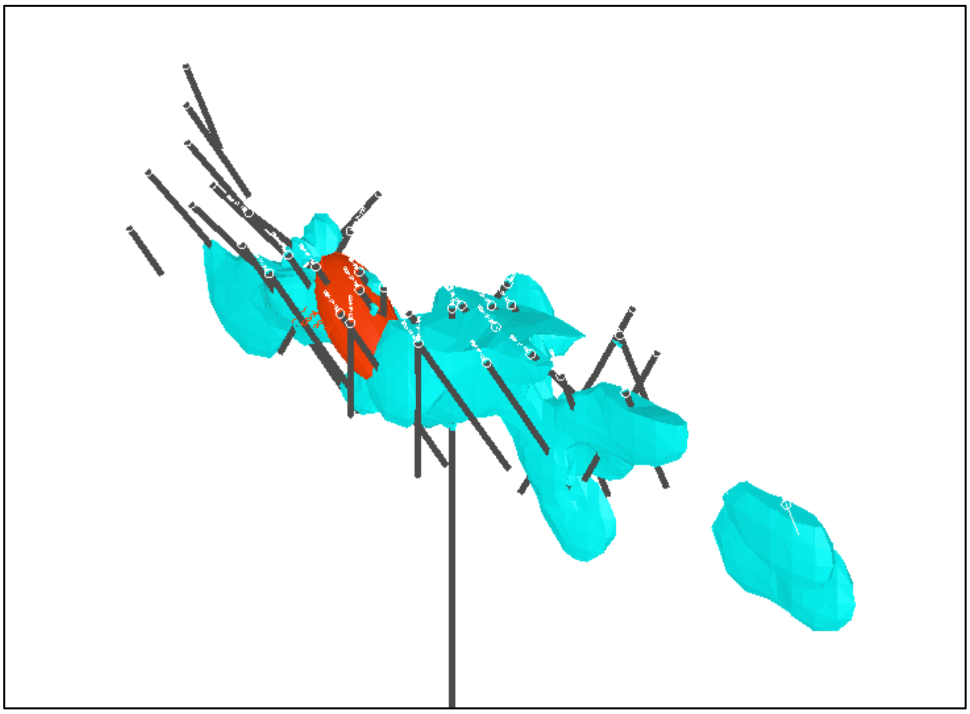


Figure 14-26: Silver domain 611 – 3D view of Normal Score search ellipse model for silver.

14.10 Block Model

A three-dimensional block model was constructed for the project, covering all the interpreted mineralized zones. This includes waste material to aid any future optimisation studies and topsoil material.

14.11 Model Construction and Parameters

MS MinePlan commercial mining software package was used for the block model. The selected block size was based on the geometry of interpreted domains, data configuration and expected mining method. A parent cell size of 10 mE x 10 mN x 10 mRL was selected with no sub-blocking. Sufficient variables were included in the block model *(DBL-23.dat)* construction to enable grade estimation. No block rotation was used.

This block model is considered a mine planning version, and it was used for reporting estimated Mineral Resources. The topographic surface was used to constrain the upper extent of the block model. The block model construction parameters are displayed in Table 14-18:

Table 14-18: Block model parameters

	X	Y	Z
Block Model Origin	718,710	7,197,840	3,800
Block Model Maximum	722,020	7,201,010	4,750
Total extent (m)	3,310	3,170	950
Block Size	10	10	10
Number of blocks	331	317	95

14.12 Grade Estimation

Grade estimation was performed using the Ordinary Kriging ("OK") function provided with MS MinePlan.

The block model was coded from the geological solids with the number of codes assigned to each estimation domains as mentioned. The average distance to composites, Kriging Variance and Estimation Pass were store in the block model for a later used in the determination of the resource classification.

14.13 Estimation Methods

The sample search strategy was based upon analysis of the variogram model anisotropy, mineralisation geometry and data distribution.

The first pass range was calculated based on the ratios 2.5 : 2 : 1, of average range of sill 0.7 (close to 28m in the strike). That was obtained as the average of the major range in all domain models of the combined mineralized domain. Mr. Peralta considers that 30 meters is a common range in precious metals in this type of deposit.

The search strategy used in the block model is described in Table 14-19 and Table 14-20, additionally the following is noted:

- For all estimated domains, no octant search was applied.
- For all estimated domains, no coordinate transformation was applied.
- A minimum of 1 composite per block was used.
- A maximum of 4 composites per drill hole were used.
- A high-grade restriction in the second and third pass was applied, restricting the number of composites to be used per block to 14 composites.
- In the case of the cover domain (10), some economic grades were presented that are part of the mineralized structure. However, this was interpreted as un-transported loose material without transport, so no estimation was performed for this domain.

Table 14-19: Gold domains search parameters.

					First Pass			Second Pass			Third Pass		
Gold domains	Rotation 1st	Rotation 2nd	Rotation 3rd	Nugget Effect	Major Range	Minor Range	Vertical range	Major Range	Minor Range	Vertical range	Major Range	Minor Range	Vertical range
211	151.10	106.80	51.70	0.07	28	16	27	56	32	54	70	40	68
212	214.00	125.00	101.00	0.09	25	80	20	50	160	40	63	200	50
222	232.80	146.20	90.60	0.08	16	22	22	32	44	44	40	55	55
232	220.00	133.20	93.80	0.13	35	45	22	70	90	44	88	113	55
311	193.30	103.30	-63.40	1.13	30	30	16	60	60	32	75	75	40
312	187.70	98.50	58.10	2.13	44	50	12	88	100	24	110	125	30
321	203.30	113.30	-89.30	3.13	24	36	7	48	72	14	60	90	18
322	207.30	118.50	75.60	4.13	60	30	20	120	60	40	150	75	50
332	-16.10	265.80	-0.20	5.13	28	11	7	56	22	14	70	28	18
411	196.80	107.40	-80.00	6.13	12	17	11	24	34	22	30	43	28
412	179.30	91.90	81.70	7.13	10	16	5	20	32	10	25	40	13
421	119.30	103.40	200.80	8.13	60	20	26	120	40	52	150	50	65
422	58.10	240.90	148.70	9.13	12	18	25	24	36	50	30	45	63
432	216.60	127.10	113.80	10.13	20	25	11	40	50	22	50	63	28
511	20.00	211.50	118.70	0.00	76	80	60	152	160	120	190	200	150
512	130.00	56.10	359.10	0.00	25	24	9	50	48	18	63	60	23
521	340.00	232.50	137.20	0.38	32	27	9	65	54	18	81	68	23
522	300.00	39.40	310.60	0.10	35	25	12	70	50	24	88	63	30
611	110.00	20.00	290.00	0.00	20	20	20	40	40	40	50	50	50
612	200.00	111.80	65.40	0.57	51	50	28	102	100	56	128	125	70

Table 14-20: Silver domains search parameters.

					First Pass			Second Pass			Third Pass		
Silver domains	Rotation 1st	Rotation 2nd	Rotation 3rd	Nugget Effect	Major Range	Minor Range	Vertical range	Major Range	Minor Range	Vertical range	Major Range	Minor Range	Vertical range
211	262.50	172.60	155.20	0.10	40	20	6	80	40	11	100	50	14
212	214.90	126.20	101.70	0.00	30	7	20	60	14	40	75	18	50
222	232.30	145.70	90.40	0.17	18	14	40	36	28	80	45	35	100
232	220.00	133.20	93.80	0.13	18	21	11	36	42	22	45	53	28
311	193.30	103.30	-63.40	0.00	11	35	9	22	70	18	28	88	23
312	187.70	98.50	58.10	0.17	33	42	8	66	84	16	83	105	20
321	203.30	113.30	-89.30	0.09	11	24	8	22	48	16	28	60	20
322	207.30	118.50	75.60	0.08	41	50	12	82	100	24	103	125	30
332	-16.10	265.80	-0.20	0.00	8	8	10	16	16	20	20	20	25
411	196.80	107.40	-80.00	0.16	12	27	14	24	54	28	30	68	35
412	179.30	91.90	81.70	0.00	19	24	4	38	48	8	48	60	10
421	119.30	103.40	200.80	0.17	65	39	32	130	78	64	163	98	80
422	58.10	240.90	148.70	0.15	114	32	48	228	64	96	285	80	120
432	216.70	127.10	114.20	0.15	62	40	20	124	80	40	155	100	50
511	285.00	187.30	92.00	0.00	55	51	15	110	102	30	138	128	38
512	50.00	203.30	45.70	0.60	47	36	17	94	72	34	118	90	43
521	280.00	17.70	293.00	0.24	19	26	16	38	52	32	48	65	40
522	340.00	170.60	79.40	0.63	89	52	33	179	104	66	223	130	83
611	100.00	167.80	26.00	0.00	5	20	23	10	40	46	13	50	58
612	10.00	107.70	23.00	0.10	3	34	1	6	68	2	8	85	3

14.14 Metal Risk Review

No metal risk analysis was performed to evaluate the impact of metal loss due to the capping of extreme gold and silver grades, as the capping average for all estimation domains was performed simultaneously with the capping analysis. The metal loss calculated over the composite represents no more than 2.5 %.

14.15 Parent Cell size sensitivity

No parent cell size sensitivity was performed at this time since it was completed in the previous NI 43-101 (MP PEA 2022). The author considers that the conclusion of that analysis is correct, and it is important to mention that the dilution impact of a 10 mE x 10 mN x 10 mRL block model for Mineral Resource estimation and reporting is acceptable for an open pit and is similar to other projects with similar characteristics.

14.16 Model Validation

14.16.1 Visual Inspection

Block grades were compared visually with supporting drill data on section and plan maps observing a good fit with the composites; an example section of block grades and composite is included in Figures 14-27 to 14-30, for blocks and composites within the Mineral Resource open pit.

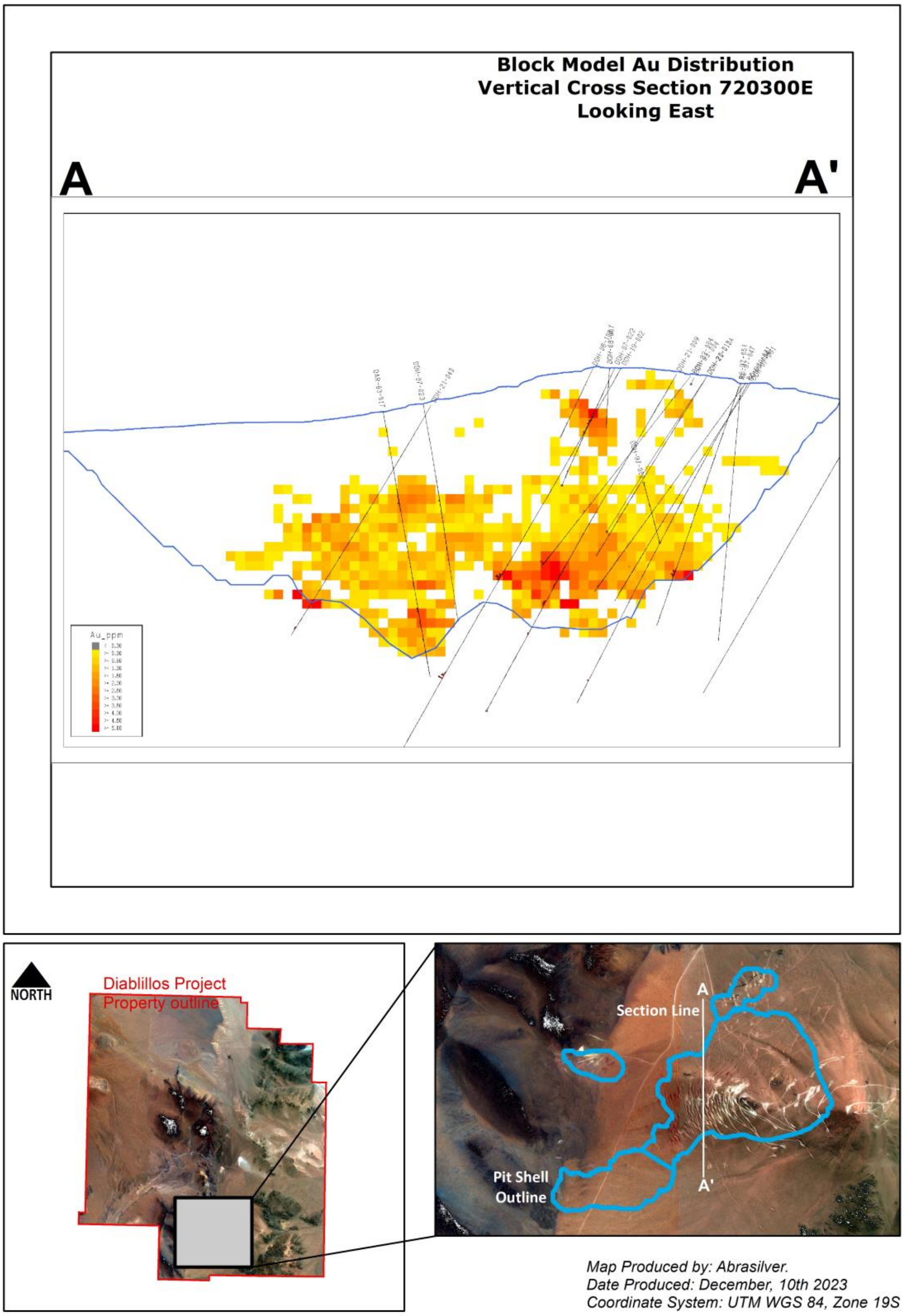


Figure 14-27: Section 720300- E with Block model 10 mE x 10 mN x 10 mRL and composite for gold.

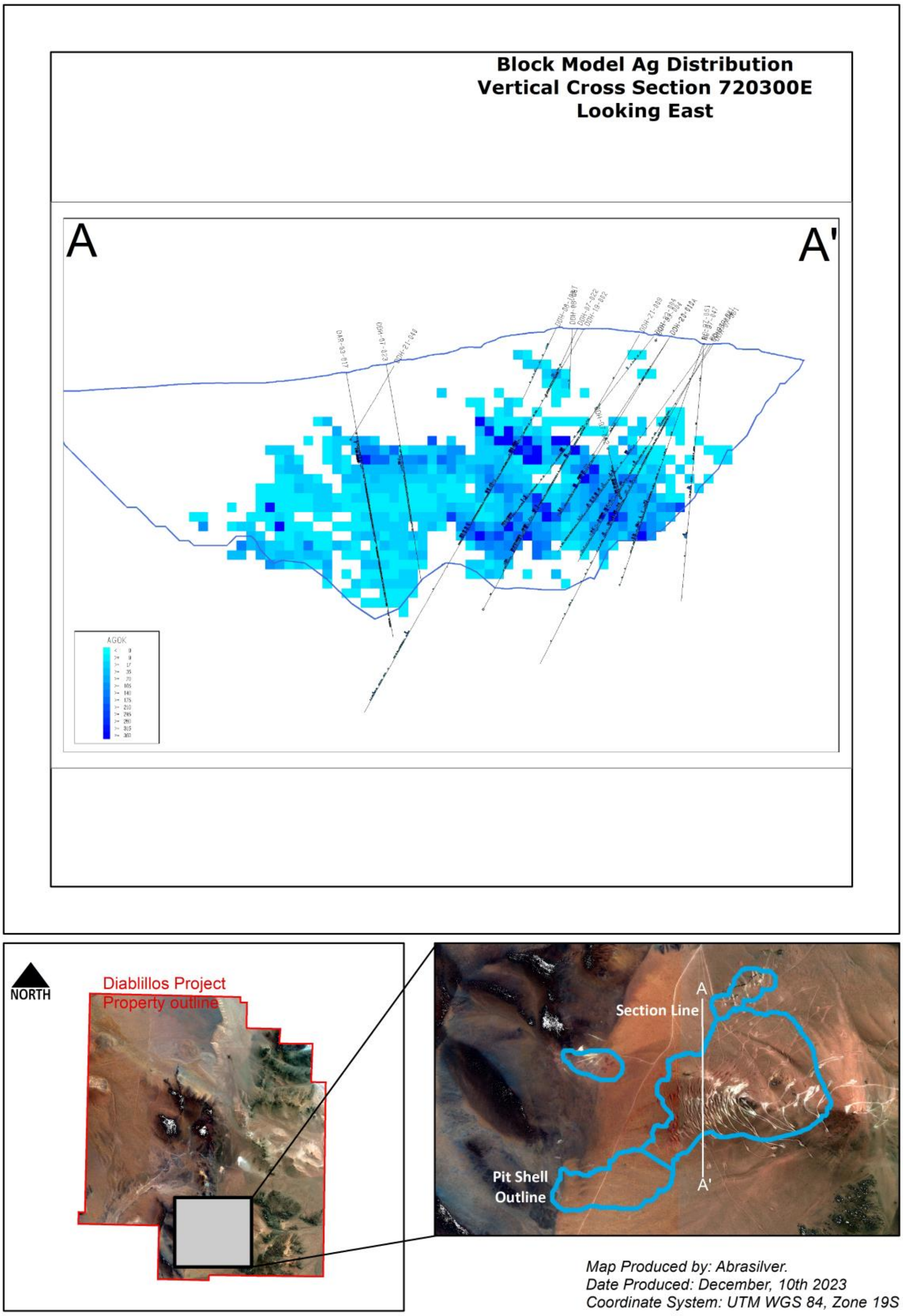


Figure 14-28: Section 720300- E with Block model 10 mE x 10 mN x 10 mRL and composite for silver.

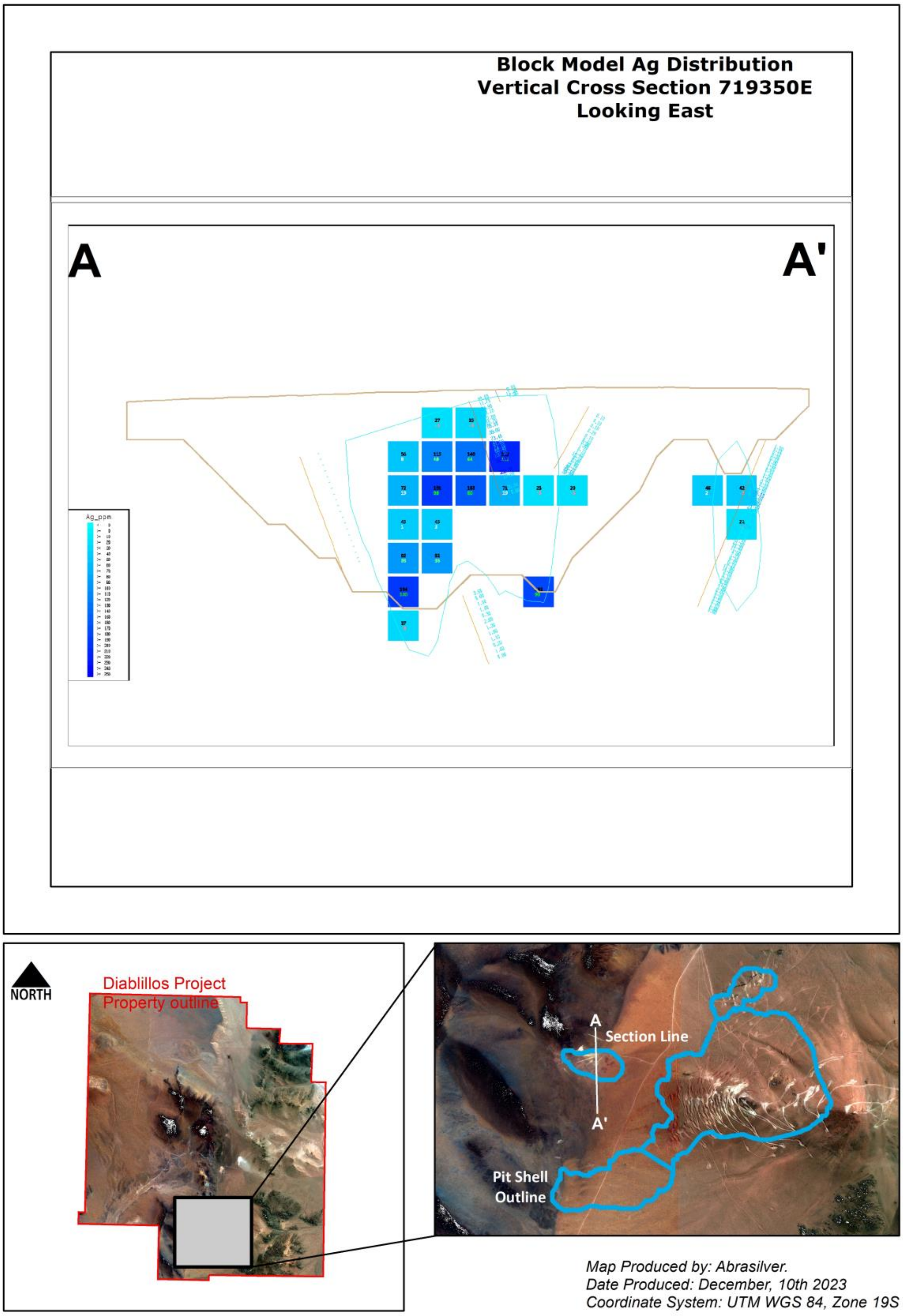


Figure 14-29: Section 719350-E with Block model 10 mE x 10 mN x 10 mRL and composite for silver.

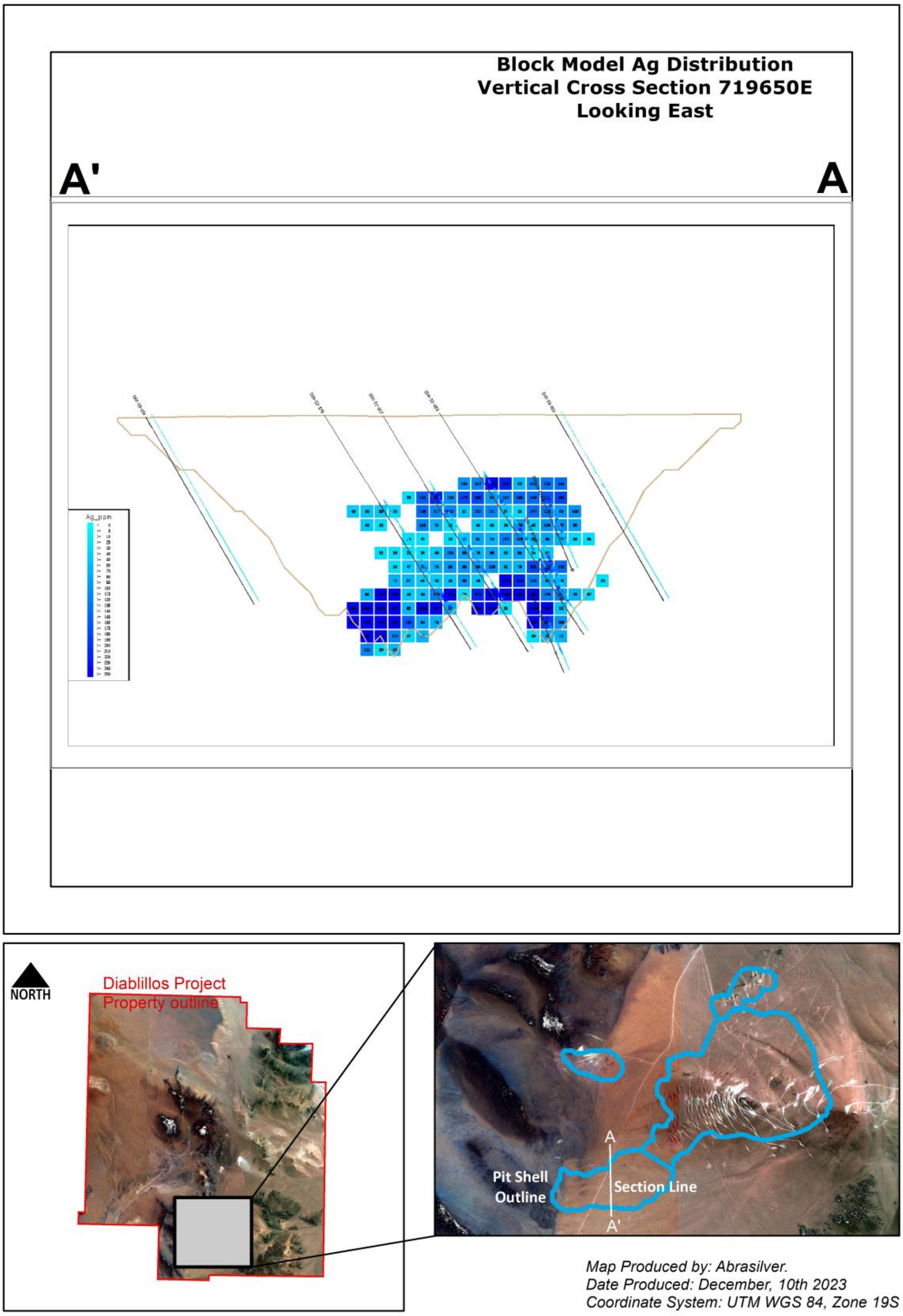


Figure 14-30: Section 719650-E with Block model 10 mE x 10 mN x 10 mRL and composite for silver.

14.16.2 Trend plots validation

Validation trend plots or swath plots are presented to graphically display a comparison of the mean grade of the estimated grades in the block model against the results. The models were divided into slices by directions (Easting, Northing and RL) and average grades were calculated for the various domains. Comparisons were made of the combined mineralised domains.

Figure 14-31 shows that the grade by OK estimation is appropriately smooth as compared to the native composite data.

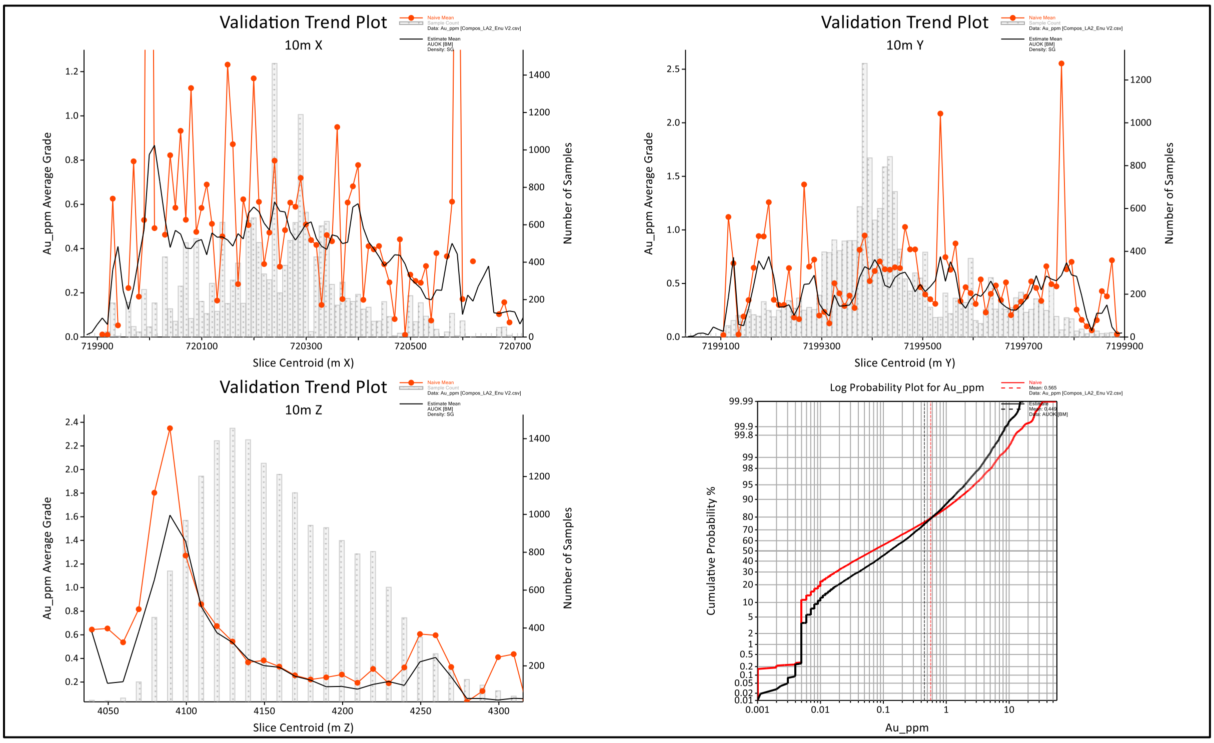


Figure 14-31: Swath Plots comparing native data versus estimated data. Estimates for gold in the mineralized domain 212.

14.17 Mineral Resource Classification and Criteria

The Mineral Resource has been categorised as a combination of Measured, Indicated and Inferred Resources that reflect lessening uncertainty about geological evidence, hole spacing, and data quality. Mineral Resources were classified considering the following information:

- Confidence of the geological information that was used in the estimation.
- QA / QC results, holes with deviation measurements, historical and recent holes.
- Hole spacing.
- Estimate search passes.
- Wireframe to restrict the estimation passes.

After visual inspection of these models, a set of solids were built to code the block model followed by a smoothing step, where the resources were classified as:

- Measured: Blocks within a halo of 30 m around the Abrasilver holes and relog holes that contain more than 3 downhole station measurements are classified as measured. These blocks are seen in recent drilling by AbraSilver. A good proportion of historical holes have deviation measurements.
- Indicated: Blocks within a halo of 70m around AbraSilver holes and relog holes that contain more than 3 downhole station measurements are classified as indicated. These blocks are also well seen in recent drilling by AbraSilver, but the drilling spacing normally is more than 30m.
- Inferred: Blocks within a halo of 120m around the Abrasilver holes are classified as inferred. Some mineralized areas are seen in recent drilling by Abrasilver, but the drilling spacing normally is more than 70m.
- Blocks based on isolated holes, broadly spaced holes at depth, and blocks beyond the end of the hole were classified as geological exploration potential (outside of wireframes) and are not included in the reported Mineral Resources.

Figure 14-32 shows the wireframe used to restrict the classification of Mineral Resources in vertical cross section. Figure 14-33 shows an overall 3D view of the wireframe used in the classification. Note: red colour represents Measured resources, light blue colour represents Indicated resources and yellow colour represents Inferred resources.

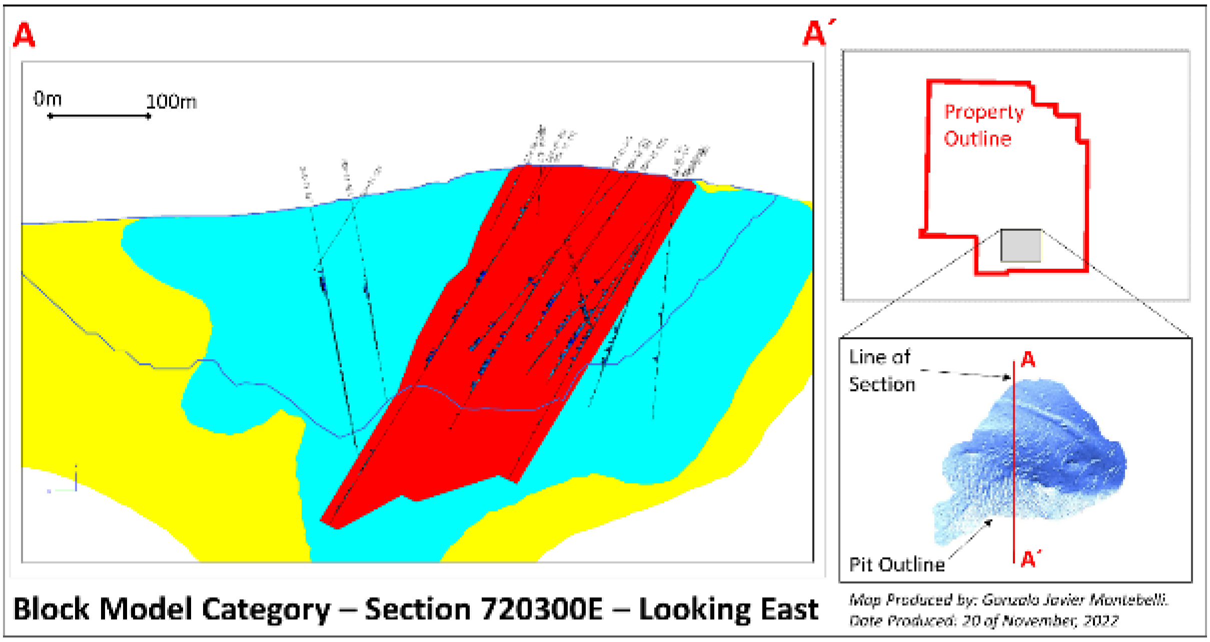


Figure 14-32: Vertical cross section 720300- E showing the wireframe used to categorize the block model.

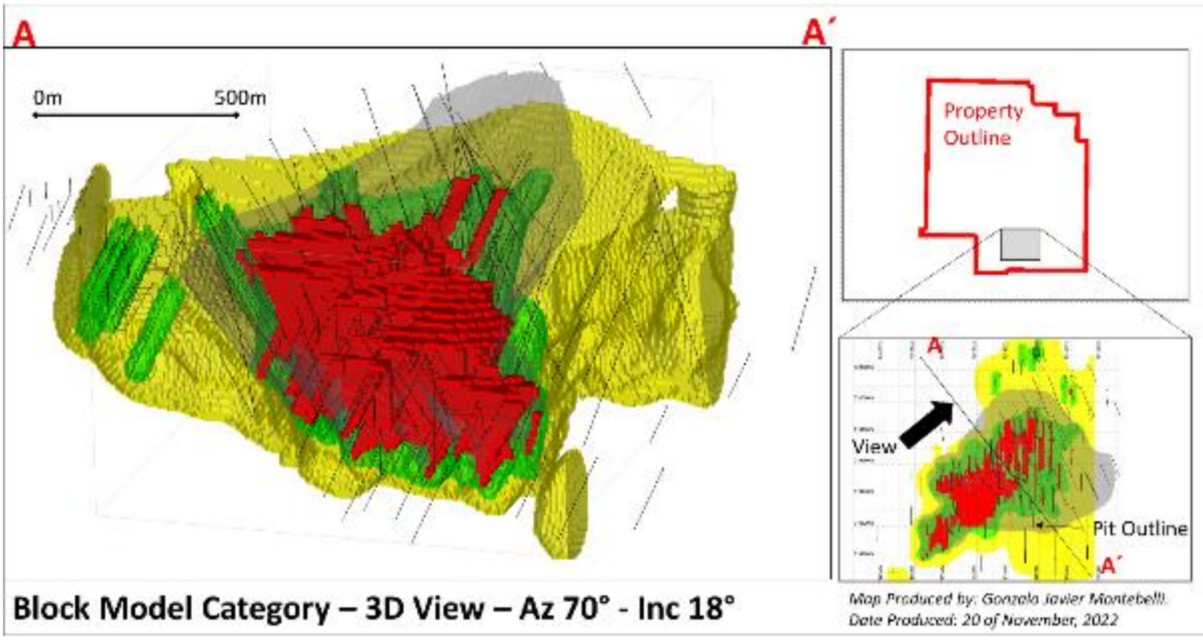


Figure 14-33: 3D view showing the wireframe used to categorize the block model.

14.18 Mineral Resource Statement

The Mineral Resource Estimate ("MRE") for the Diablillos Project, with an effective date of November 22, 2023, has been estimated and classified based on the CIM's Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines (CIM, 2019) and is reported in accordance with the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101").

Mineral Resources at the Diablillos Project are considered as potentially mineable by an open pit method. They are estimated based on drilling conducted prior to AbraSilver and more recent drilling by the Company between 2019 and 2023. The Mineral Resource includes an updated resource for the Oculto and Laderas Fantasma zones and a maiden mineral resource estimate for JAC zone. The Mineral Resource is reported inside a Whittle based on Net Value per Block valuation, with an average cut-off grade equivalent to 45 g/t silver equivalent, based on a gold price of US$1850/oz and a silver price of US$24/oz, with mining costs and metallurgical recoveries provided by AbraSilver. The economics parameters such as metal prices and mining cost are used for the purpose of this report, they are considered conservative in relation to current prices.

The Qualified Person ("QP") for the MRE is Mr. Luis Rodrigo Peralta, B.Sc., FAusIMM CP (Geo), Independent Qualified Person under NI 43-101.

The following is a summary of the estimation process:

- Grades for diamond and reverse circulation drill holes (606 drill hole) were composited to 1.0 meter.
- The estimation domains were defined using a combination of alteration and lithology domains, defining a subset domain for gold and silver.
- Grade capping has been applied to composited grade intervals on a case-by-case basis within each estimation domain.
- The traditional or correlogram variograms for the gold and silver variable were modelled for those estimation domains with sufficient data to be modelled.

The Mineral Resource was estimated with Ordinary Kriging ("OK") and bias was reviewed using an Inverse Distance squared estimate (ID2) for comparisons.

The estimation was completed using block model in MS MinePlan mining software.

- The grade was estimated for parent cells with dimensions of 10 mE x 10 mN x 10 mRL.
- The bulk density applied to the block model is based on 6,807 drill core samples. The average of the samples contained in each domain, have been assigned to each wireframes model and finally assigned to the block model.

- The final block model is 10 mE x 10 mN x 10 mRL for Mineral Resource optimization and reporting.

The MRE comprises Measured, Indicated and Inferred Mineral Resources as summarised in Table 14-21. The block model “DBL-23.dat” was used to report with constraints fields: “ORE = 1”, “P22OX = 1”, and “CLASS = 1, 2 and 3” with the proportion of the model below the topographical surface.

Table 14-21: Diablillos Project Mineral Resource Estimate, by mineral zone and classification - As of November 22th, 2023.

Deposit	Zone	Category	Tonnes (000 t)	Ag (g/t)	Au (g/t)	AgEq (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)	Contained AgEq (k oz AgEq)
Oculto	Oxides	Measured	12,170	101	0.95	178	39,519	372	69,523
		Indicated	34,654	64	0.85	133	71,306	947	147,748
		Measured & Indicated	***46,824***	***74***	***0.88***	***145***	***111,401***	***1,325***	***218,335***
		Inferred	3,146	21	0.68	76	2,124	69	7,677
JAC	Oxides	Measured	1,870	210	0.17	224	12,627	10	13,452
		Indicated	3,416	198	0.12	208	21,744	13	22,808
		Measured & Indicated	***5,286***	***202***	***0.13***	***212***	***34,329***	***22***	***36,191***
		Inferred	77	77	-	77	190	-	190
Fantasma	Oxides	Measured	-	-	-	-	-	-	-
		Indicated	683	105	-	105	2,306	-	2,306
		Measured & Indicated	***683***	***105***	***-***	***105***	***2,306***	***-***	***2,306***
		Inferred	10	76	-	76	24	-	24
Laderas	Oxides	Measured	-	-	-	-	-	-	-
		Indicated	464	16	0.91	89	239	14	1,334
		Measured & Indicated	***464***	***16***	***0.91***	***89***	***239***	***14***	***1,334***
		Inferred	55	43	0.57	89	76	1	157
Total	Oxides	Measured	14,040	116	0.85	184	52,146	382	82,975
		Indicated	39,217	76	0.77	138	95,594	974	174,196
		Measured & Indicated	***53,257***	***87***	***0.79***	***151***	***148,275***	***1,360***	***258,087***
		Inferred	3,288	23	0.66	76	2,415	70	8,049

Notes for Mineral Resource Estimate:

1. Mineral Resources are not Mineral Reserves and have not demonstrated economic viability.
2. The formula for calculating AgEq is as follows: Silver Eq oz = Silver oz + Gold oz x (Gold Price/Silver Price) x (Gold Price/Silver Price) x (Gold Recovery/Silver Recovery).
3. The Mineral Resource model was populated using Ordinary Kriging grade estimation within a three-dimensional block model and mineralized zones defined by wireframed solids, which are a combination of lithology and alteration domains. The 1m composite grades were capped where appropriate.
4. The Mineral Resource is reported inside a conceptual Whittle open pit shell derived using USD 24.00/oz Ag price, USD 1,850/oz Au price, 82.6% process recovery for Ag, and 86.5% process recovery for Au. The constraining open pit optimization parameters used were USD 1.94/t mining cost, USD 22.97/t processing cost, USD 3.32/t G&A cost, and average 51-degree open pit slopes.
5. The MRE has been categorized in accordance with the CIM Definition Standards (CIM, 2014).
6. A Net Value per block ("NVB") cut-off was used to constrain the Mineral Resource with the conceptual open pit. The NVB was based on "Benefits = Revenue-Cost" being positive, where, Revenue = [(Au Selling Price (USD/oz) - Au Selling Cost (USD/oz)) x (Au grade (g/t)/31.1035)) x Au Recovery (%)] + [(Ag Selling Price (USD/oz) - Ag Selling Cost (USD/oz)) x (Ag grade (g/t)/31.1035)) x Ag Recovery (%)] and Cost = Mining Cost (USD/t) + Process Cost (USD/t) + Transport Cost (USD/t) + G&A Cost (USD/t) + [Royalty Cost (%) x Revenue]. The NVB method resulted in an average equivalent cut-off grade of approximately 45g/t AgEq.
7. The Mineral Resource is sub-horizontal with sub-vertical feeders and a reasonable prospect for eventual economic extraction by open pit methods.
8. In-situ bulk density was assigned to each model domain, according to samples averages of each lithology domain, separated by alteration zones and subset by oxidation.
9. All tonnages reported are dry metric tonnes and ounces of contained gold and silver are troy ounces.
10. Mining recovery and dilution factors have not been applied to the Mineral Resource estimates.
11. The Mineral Resource was estimated by Mr. Luis Rodrigo Peralta, B.Sc., FAusIMM CP (Geo), Independent Qualified Person under National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101").
12. Mr. Peralta is not aware of any environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues that could materially affect the potential development of the Mineral Resource.

13. All figures are rounded to reflect the relative accuracy of the estimates. Minor discrepancies may occur due to rounding to appropriate significant figures.

14.19 Reasonable Prospects for Eventual Economic Extraction Requirement

An open pit optimization was conducted using the MS MinePlan Pit Optimizer module software to constrain the Mineral Resource estimate with “reasonable prospects for eventual economic extraction” by open pit mining methods to satisfy the requirement of NI 43-101 and the Mineral Resource and Mineral Reserves Best Practices Guidelines (CIM, 2019).

The oxide material has reasonable prospects of economic extraction based on Net Value per Block, assuming mine operating costs of USD 28.23/t resulting in an average cut-off grade equivalent of approximately 45 g/t AgEq. The “Net Value per Block” methodology use the single next formula below:

Net Value per Block (NVB) *= Income - Cost*

Being positive where:

Income *= [(Au Selling Price (USD/oz) - Au Selling Cost (USD/oz)) x (Au grade (g/t)/31.1035)) x Au Recovery (%)] + [(Ag Selling Price (USD/oz) - Ag Selling Cost (USD/oz)) x (Ag grade (g/t)/31.1035)) x Ag Recovery (%)]*

And

Cost *= Mining Cost (USD/t) + Process Cost (USD/t) + Transport Cost (USD/t) + G&A Cost (USD/t) + [Royalty Cost (%) x Revenue]*

Inputs for the formula are listed in Table 14-22.

Table 14-22: Optimization Parameters.

OP Optimization Parameters	Unit	Value (9,000 tpd)
Overall Pit Slope Angle - Oculto	Degrees	51
Mining cost	USD per tonne	1.94
Processing cost	USD per tonne	22.97
G&A cost	USD per tonne	3.32
Mining Recovery	%	100
Mining Dilution	%	0
Gold metal price	USD / oz	1,850
Silver metal price	USD / oz	24
Cut-off grade (based on Net Value per Block)	AgEq	Approx 45
Transport cost	USD per tonne	0.25
Metallurgical Recovery for Gold	%	86.5
Metallurgical Recovery for Silver	%	82.6
Royalties (over incomes)	%	3
Block size		10 x 10 x10

Metallurgical recoveries used in the Whittle analysis are based on the metallurgical model described in the previous section 13, with an average silver recovery of 78.9% and an average gold recovery of 86.3%.

AbraSilver has conducted a detailed analysis of metallurgy to have enough confidence in the estimation domains. Mr. Peralta agrees that for this stage of study, the confidence, and the level of information of metallurgical testing is enough; however, with the new information a detailed geo-metallurgical model could be developed.

14.20 Mineral Resource Estimate Sensitivity

The QP also evaluated the optimised open pit constrained Measured & Indicated Mineral Resource estimate for Oculto, JAC, Laderas and Fantasma at a range of operational costs between +25% and -25% and their corresponding approximate cut-off grade between 33 g/t AgEq and 55 g/t AgEq as per the Table 14-23 and Figure 14-34 and Figure 14-35.

Table 14-23: NVB and cut-off grade sensitivity of Measured & Indicated Mineral Resources

Delta	OPEX [$/Tn]	Approx Cut Off Grade [g/t AgEq]	Tonnes (000 t)	Ag (g/t)	Au (g/t)	Silver Metal Contained (M. Oz)	Gold Metal Contained (M. Oz)
-25%	21.17	33	65,217	74.78	0.68	156.80	1.44
-20%	22.58	35	62,404	77.23	0.71	154.95	1.42
-15%	24.00	37	59,877	79.56	0.73	153.16	1.40
-10%	25.41	39	57,392	82.01	0.75	151.33	1.39
-5%	26.82	42	55,192	84.35	0.77	149.67	1.37
0%	28.23	45	53,256	86.53	0.79	148.16	1.35
5%	29.64	46	51,326	88.84	0.81	146.60	1.34
10%	31.05	48	49,414	91.27	0.83	145.00	1.32
15%	32.46	50	47,654	93.64	0.85	143.48	1.30
20%	33.88	52	45,997	96.01	0.87	141.99	1.29
25%	35.29	55	44,427	98.33	0.89	140.46	1.27

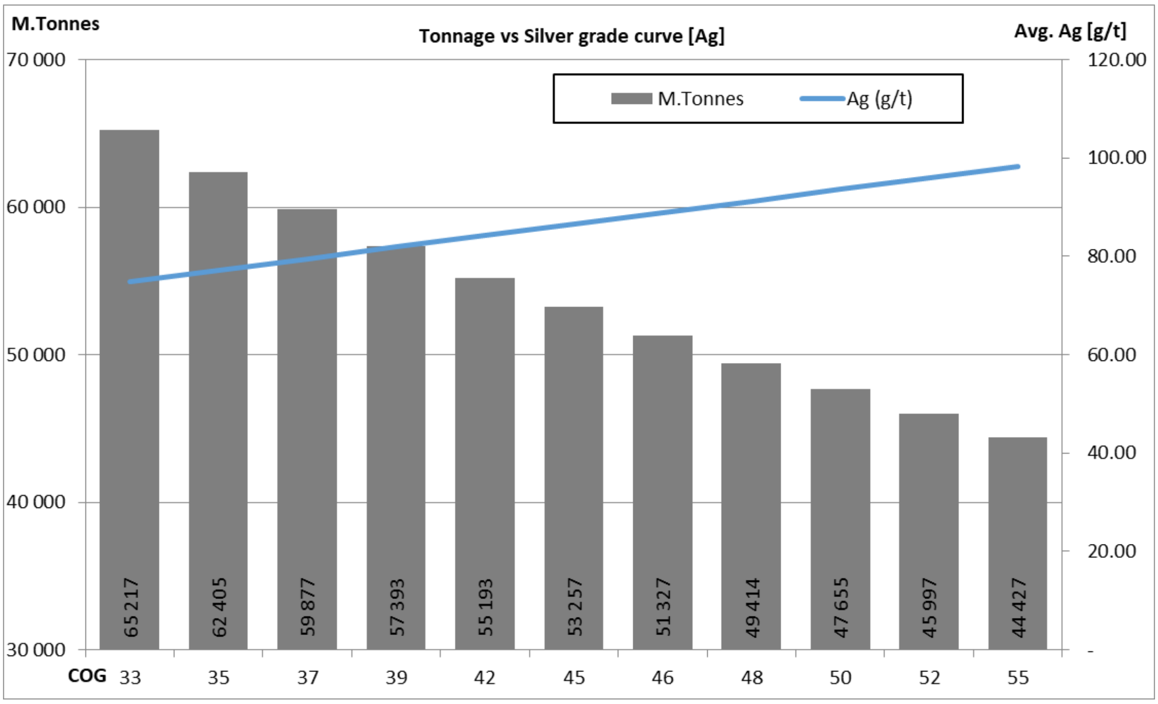


Figure 14-34: Cut-off sensitivity analysis for Measured & Indicated category, silver grade.

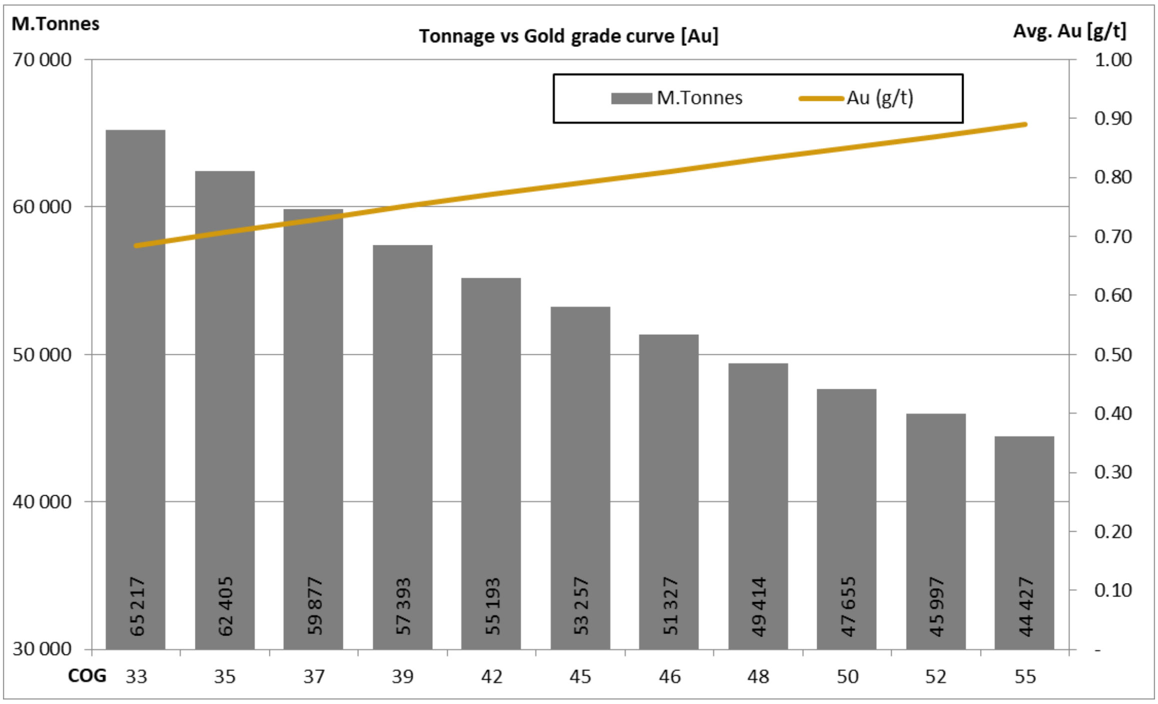


Figure 14-35: Cut-off sensitivity analysis for Measured & Indicated category, gold grade.

The sensitivity tables presented above demonstrate that changes to key parameters such as operating costs have a limited effect on the contained metal in the Mineral Resource. For example, a 20% increase in the NVB operating costs and cut-off grades results in a less than 5% loss of contained silver and gold metal and demonstrates the robust and high-grade nature of the Diablillos mineralisation. Although the base case employs an operating cost estimate of USD 28.23/tonne, resulting in a cut-off grade of approximately 45 g/t AgEq, it is believed that at all the sensitivities presented a significant Mineral Resource will meet the reasonable prospects for eventual economic extraction definition.

14.21 Comparison with previous Oculto Estimate

The current Oculto, JAC, Fantasma and Laderas Mineral Resource estimate is not directly comparable to the previous Mineral Resource estimate by this author (MRE22) due to:

- New holes in the JAC zone intercepted a new resource.
- The new drillholes corroborated with previously estimated mineralization allowing classification of measured resources.
- A new methodology is used to define ore and waste. "Net Value per Block, (NVB), which incorporates metal prices, metallurgical recoveries, and all related operational costs such as mining cost, processing cost and G&A, instead of a fixed cut-off grade for the entire project.
- This mineral resource estimate includes the Fantasma Laderas zones.
- The mineral resource estimate reported represents an extension of the old Oculto pit shell to the southwest and no superposition or increment of resources is noted.
- Different metal price assumptions, in 2022 MRE: silver price at USD 25.00/oz & gold price at USD 1,750/oz compared to 2023 MRE: silver price at USD 24.00/oz & gold price: USD1,850/oz.

Mr. Peralta ("QP") compared both resources reported, both directly and mathematically. The result of this comparison is detailed in Table 14-24.

Current Mineral Resources at Oculto under the same pit shell of 2021 and the cut-off grade have increased the tonnage (+11%) and metal content in gold (+17%) and silver (+18%) with an increase in silver grade and gold grade.

In Mr. Peralta's opinion, the cause for the change has been the new drilling that has determined new resources with economic grades (low to moderate grades) of silver in the NE zone of the pit shell resource combined with the other factors previously explained.

Table 14-24: Difference between previous Mineral Resources estimate 2022 and current Mineral Resource estimate.

	Category	Tonnes (000 t)	Ag (g/t)	Au (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)
Current MRE Nov. 2023	*Measured & Indicated*	*53,257*	*87*	*0.79*	*148,275*	*1,360*
	Inferred	3,288	23	0.66	2,415	70
Prior MRE Oct. 2022	*Measured & Indicated*	*51,314*	*66*	*0.79*	*109,370*	*1,297*
	Inferred	2,216	30	0.51	2,114	37
Variance (%)	*Measured & Indicated*	*4%*	*32%*	*0%*	*36%*	*5%*
	Inferred	48%	-23%	29%	14%	89%

14.22 Mineral Resource Risk Assessment

Mr. Peralta has not detected any significant risks that could impact the Mineral Resources in a material way. However, the following minor risks are mentioned:

- Historical drilling does not have logs consistent with current drilling which generates imprecision in geological models in areas with little or no recent drilling.
- The lithology and alteration models may undergo new adjustments due to the vertical and horizontal controls that exist in the deposit which have not been fully modelled due to its complexity.
- The presence of copper in the transition zone from oxidized levels to sulphides levels needs to be reviewed in greater detail to understand its impact on metallurgical recoveries and potential recoverable Mineral Resources.
- Other elements such as arsenic, bismuth, and antimony, are present in the deposit and their impact should be reviewed in future metallurgical studies. There is no relationship between these elements with gold and silver, suggesting that the mineralogy of these elements is not related.
- The price of metals and variations in production costs are considered a risk inherent in any mining project.

15 MINERAL RESERVE ESTIMATES

This section provides details of the Mineral Reserve estimation methodology performed at the Diablillos Property, in January 2024, based on the updated Mineral Resources Estimate with effective date November 22nd, 2023, as well as adjustments made to account for the updated metallurgical test work and new geo-metallurgical model, geotechnical evaluations, and mining and processing operating costs.

Mr. Fuentealba, on behalf of Bmining, was contracted by AbraSilver to conduct the mine engineering and Mineral Reserve estimation for the Diablillos Project. Mr Fuentealba adopted standard mine planning processes to determine the Mineral Reserve estimate for this surface mineable project. The following describes those processes, their input, and the Mineral Reserve outcome.

Mineral Resources have been reported in three categories, Measured, Indicated, and Inferred. The Mineral Reserve estimate has considered only Measured and Indicated Mineral Resources as these categories have sufficient geological confidence to be considered Mineral Reserves according to CIM, 2014 definitions. Under some circumstances Measured Mineral Resources can become Proven Mineral Reserves and Indicated Resources Probable Reserves.

15.1 Introduction

The preparation of the Mineral Reserve has been based on the Mineral Resource, performed by Luis Rodrigo Peralta, FAusIMM CP (Geo), information based on the geotechnical drilling campaign executed in 2022 by AbraSilver and validated by a geo-mechanical expert from Bmining, new metallurgical information gathered from metallurgical test work performed during 2023 and described in Section 13 of this report and AbraSilver's direct personnel who provided the necessary data to complete this Technical Report.

Mr. Peralta provided a block model which included the information of the Mineral Resource estimate, preliminary geotechnical data, and relevant data regarding previous studies, while a topography digital terrain model, metallurgical information and reports related to metallurgical test works, mining operational cost, processing cost and cost of sales were provided by AbraSilver and its consultants. Metal price assumptions were based on an average roll back five-year period methodology.

Mr. Miguel Fuentealba (QP) reviewed the Mineral Resource reported in Table 14 1, the metallurgical parameters incorporated in the block model described in Section 13 of this report and internal geotechnical report provided by AbraSilver, deeming the baseline information provided by the parties to be sufficient for a Pre-Feasibility (PFS) study and for the use in the Mineral Reserve Estimate.

This report is based on information gathered by Mr. Fuentealba (QP) during the site visit conducted between October 4th to October 7th, 2023, also the information listed below has been reviewed:

- Discussions with Abra Silver personnel during the PFS stage
- Inspection of the geology and alteration including drill cores
- Areas included in Mineral Resource pit shell.
- Current roads, proposed haulage roads and future infrastructure locations
- Review of the Mineral Resource block model
- Review of the two metallurgical report (SGS Lakefield, Pete Pit DiLauro, 2023) and related information.
- Additional relevant information from public sources

15.2 Mine Design Input Parameters

This section describes the key assumptions, parameters, and methodology for the open pit optimization for mineral reserve and mine design input parameters used, considering that the Mineral Reserves are an estimate of the tonnage to be mined and processed from the designed open pit and stockpiles.

15.2.1 Metal Prices

Metal sales prices used for the mineral reserve open pit optimization stage were US$ 1,750 (one thousand seven hundred and fifty US dollar) per ounce of gold and US$ 22.5 (twenty-two point five US dollars) per ounce of silver.

Reliable price forecasting is uncertain due to fluctuations in the global economy, but these prices compare well with their performance over the last five year, as shown in Figure 15.01 and Figure 15.02, in parallel, a roll back five-year period techniques was performed to confirm the metal price assumptions used arriving to similar prices.

Figure 15-01: gold price performance over the last five years.

Figure 15-02: silver price performance over the last five years.

It should be noted that metal sales prices impact on the Mineral Reserve process and the subsequent mine plan. Therefore, revenue from gold sales corresponds to approximately 41% of the total and income from silver sales accounts for the remaining 59%.

15.2.2 Mineral Resource Model

A Mineral Resource block model in *.csv format was received from Mr. Peralta, named "DBL23-BM.csv". It is a regular, non-rotated model with the following characteristics:

Table 15-01: Block model parameters

	X	Y	Z
Block Model Origin	718,710	7,197,840	3,800
Block Model Maximum	722,020	7,201,010	4,750
Total extent (m)	3,310	3,170	950
Block Size	10	10	10
Number of blocks	331	317	95

The model contains relevant information such as densities (SG), lithology, alteration, litho-alteration domain, grades, metallurgical recovery, and other fields necessary to estimate the Mineral Resources as shown in Table 15.02.

Table 15-02: Block model fields.

Variable	Default Value	Description	MIN	MAX	Precision
XC		X coordinate			
YC		Y coordinate			
ZC		Z coordinate			
AU		Final gold in g/t	0	999	0.001
AUOK		Gold estimate with OK, capping applied	0	999	0.001
AUID		Gold estimate with ID, capping applied	0	999	0.001
AG		Final silver in g/t	0	99999	0.01
AGOK		Silver estimate with OK, capping applied	0	99999	0.01
AGID		Silver estimate with ID, capping applied	0	99999	0.01
AGEQ		Silver Equivalent (AU*70+AG)	0	99999	0.01
AUEQ		Gold Equivalent (AG/70+AU)	0	999	0.001
SG		Bulk density	0	50	0.01
CUOK		Copper estimate with OK, no capping applied			
CLASS		Category: 1= Measured, 2= Indicated and 3=Inferred 4=Uncathegorized	0	5	1
P22OX		0=Outside Oxide Pit Shell, 1= Inside Oxide Pitshell 2= Transition 3=Sulphide	0	5	1
P22OS		0=Oxide, 1=Sulphide	0	10	1
LITW		Lihological Code 1=Cover 2=Volcanic 3=Metasedi 4=Granitoides	0	10	1
ALTW		Alteration Code: 1=Argillic 2=Silica 3=Vuggy	0	10	1
OX_ST		Oxidation State: 1=Oxide 2=Transition 3=sulphides	0	10	1
NSAM		Number of samples used for estimation	0	25	1
ORE		ORE: 0=waste 1=ore; if NVBR1>0	0	10	1
WASTY		Waste type: 1=A 2=B 3=C	0	10	1
RQD		Rock Quality	0	100	1
RMR		Rock Mass rating	0	100	1
SMR		Slope Mass Rating	0	100	1
GEOT		Final Wall: -30:20 Default value set to 10	0	100	1
GEOTS		Geotech Sector: S1=1 S2=2 S3=3 S4=4 S5=5 S6=6	0	100	1
LAW		Combination of Lith_Code + Alt_Code	0	100	1
LA2W		Combination of Lith_Code + Alt_Code + Oxidation State	0	1000	1
KVAU		Block variance (AUOKC)	0	25	0.01
KVAG		Block variance (AGOKC)	0	25	0.01
TOPO		Topo			
RCOD		Recovery domain Shallow=1 Silver=2 Deep=3 NE=4 JAC=5 Fan=6	0	10	1
DEST		Destiny Waste=1 Tank Leach Process Plant=2 Heap Leach=3	0	10	1
NVBR1		Net Value per Block for Resources	0	100000	0.01
INC		Income	0	99999	0.01
COST		Mining Cost + Processing Cost + G&A + Etc.	0	99999	0.01
AUREC		Gold metal recovery, based on Geomet domain.	0	99999	0.01
AGREC		Silver metal recovery, based on Geomet domain.	0	99999	0.01

An inspection of the block model was conducted by plotting some sections with the Mineral Resource categories and grade estimation, together with the drill holes in the vicinity. According to this general review, the model is suitable for use in a Mineral Reserve Estimate. An isometric view of the block model with the Mineral Resource categories is shown in Figure 15.03. Green cells represent Measured category, red cells represent Indicated category, and light blue cells represent Inferred Mineral Resources respectively.

The variable density corresponds to the SG field shown in Table 15.02 and ranges from 0 to 2.7 according to the type of lithology and alteration. Air blocks has been assigned a density of 0.

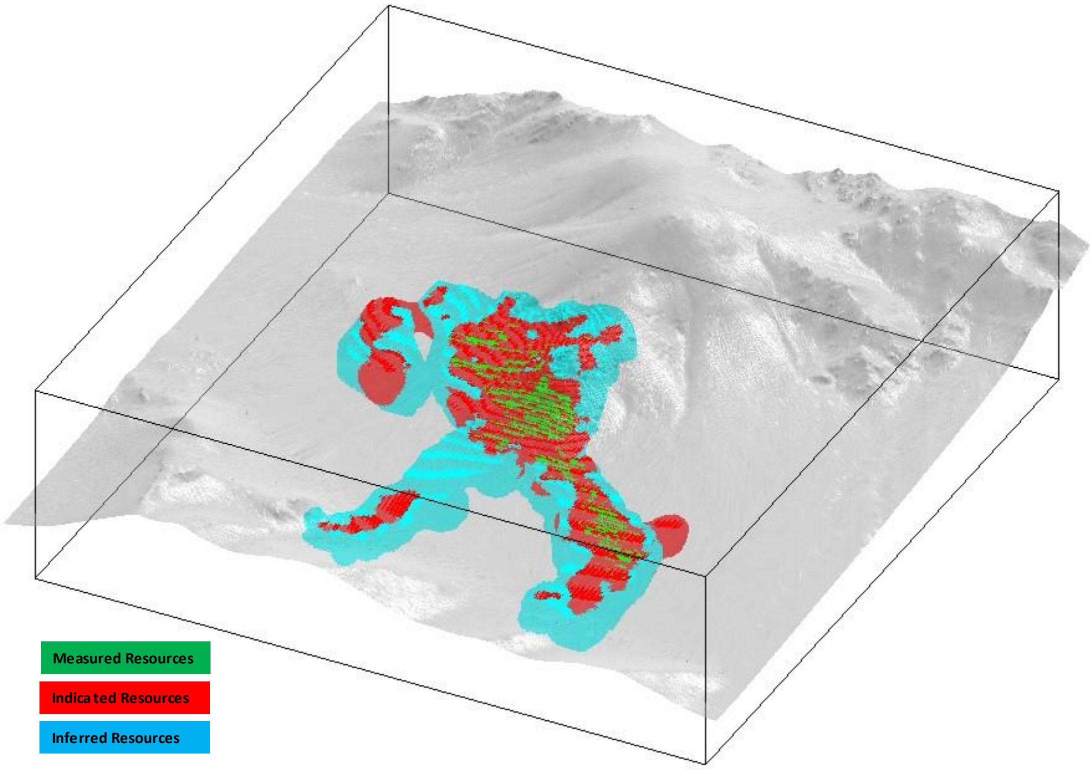


Figure 15-03: Three-dimensional overview of the Mineral Resource block model.

To define the final economic limit of surface mining and the mining sequence for the subsequent design of operational phases, an exercise was developed to define the final extraction limit with the Mineral Resource model following the economic and geotechnical parameters provided by the AbraSilver.

The process of defining the final extraction limit was carried out using Whittle Four X software, which is based on the industry standard using the Lerchs & Grossman pit optimization algorithm. This software generates a set of three-dimensional envelopes (nested pits), associated to increasing prices of the elements of interest (Silver and Gold) (Revenue Factor - RF) that determines a series of nested pits.

Open pit optimization considers the value of the block based on revenue, mine costs (calculated per block based on a deepening factor), process costs, G&A costs, and royalties.

15.2.3 Topography

The starting topography of the project corresponds to the "DTM-5m.msr" file that considers the general topography as of September 13th, 2023, which is shown in the following Figure 15.04. Since this is a non-operating project, the topography can be considered as on December 31st, 2023.

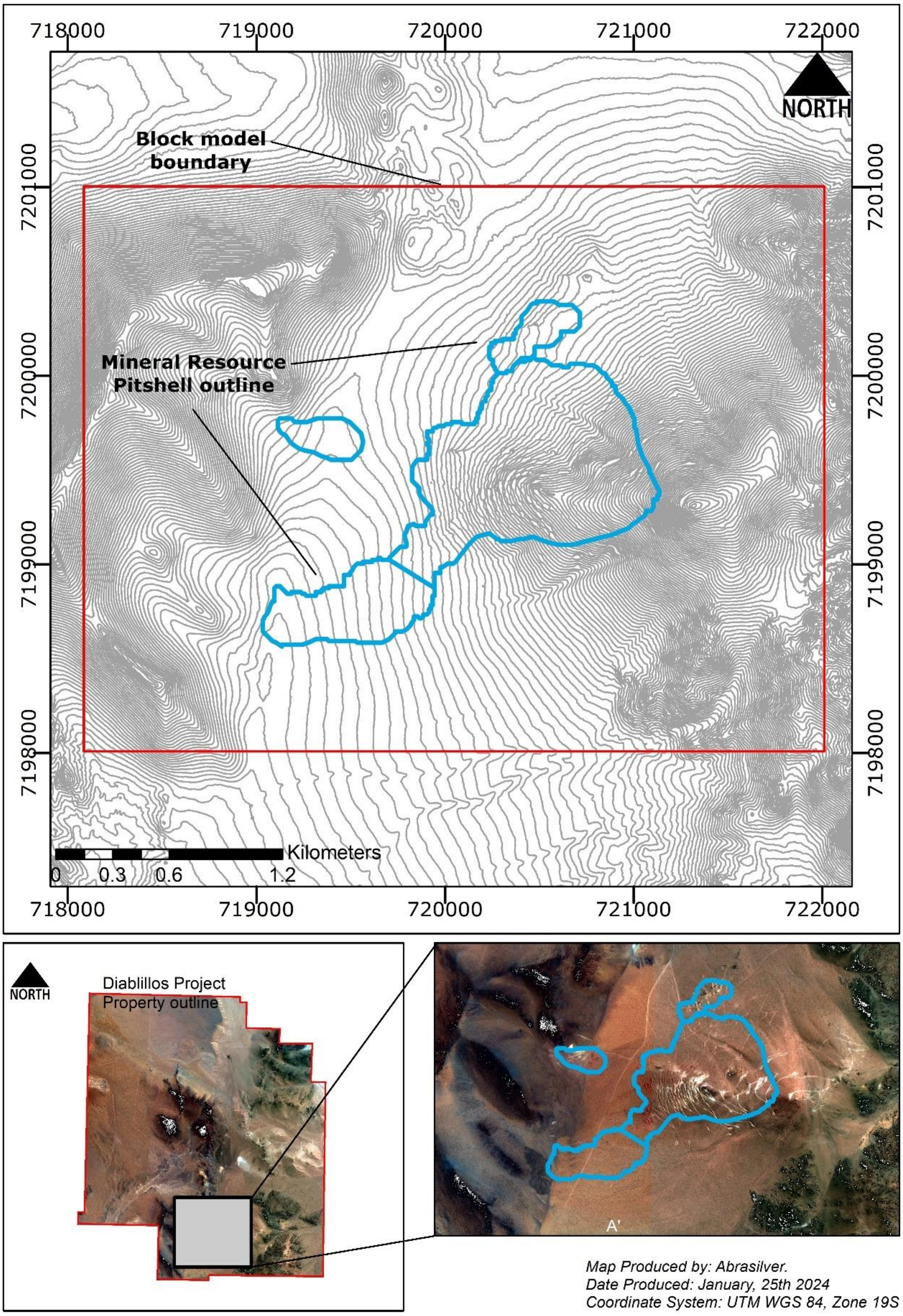


Figure 15-04: Starting topography of the project.

15.2.4 Geotechnical Pit Slope Assessment and Design Guidance

A set of geotechnical information was received from AbraSilver, collected during different drilling campaigns. This information includes geotechnical rock testing as well as geotechnical logs gathered simultaneously with geological logging of the cores. This information was used to compile a recommendation of overall slope angles to be used in the open pit optimization process. The working area has been divided into 8 geotechnical domains by AbraSilver, as described in Section 14. Each of these areas incorporates different structural, lithological and alteration characteristics.

Figure 15 5 shows these geotechnical domains mentioned above. It should be noted that blocks lacking geotechnical zone coding were coded as code 11. In addition, an overall angle of 53° is assigned to this geotechnical zone for use in the Mineral Resource open pit optimization. The overall angles for each geotechnical zone are presented in Table 15 3.

Table 15-03: Overall slope angle by geotechnical domain.

Geotechnical Zone	Overall Angle (°)
1	60
2	49
3	54
4	53
5	53
6	53
7	60
8	53
10	37
11 (No data)	53

During the review of the geotechnical information, the open pit shell generated during the Mineral Resource estimate and conversation with Mr. Peralta and AbraSilver personnel, was observed that certain geotechnical domains present a height greater than 350 meters (Domains S2 and S3 particularly). As per the recommendation of Mr. Fuentealba and the geotechnical expert who had collaborated with Bmining, the authors recommend at least one ramp passing through each pit wall.

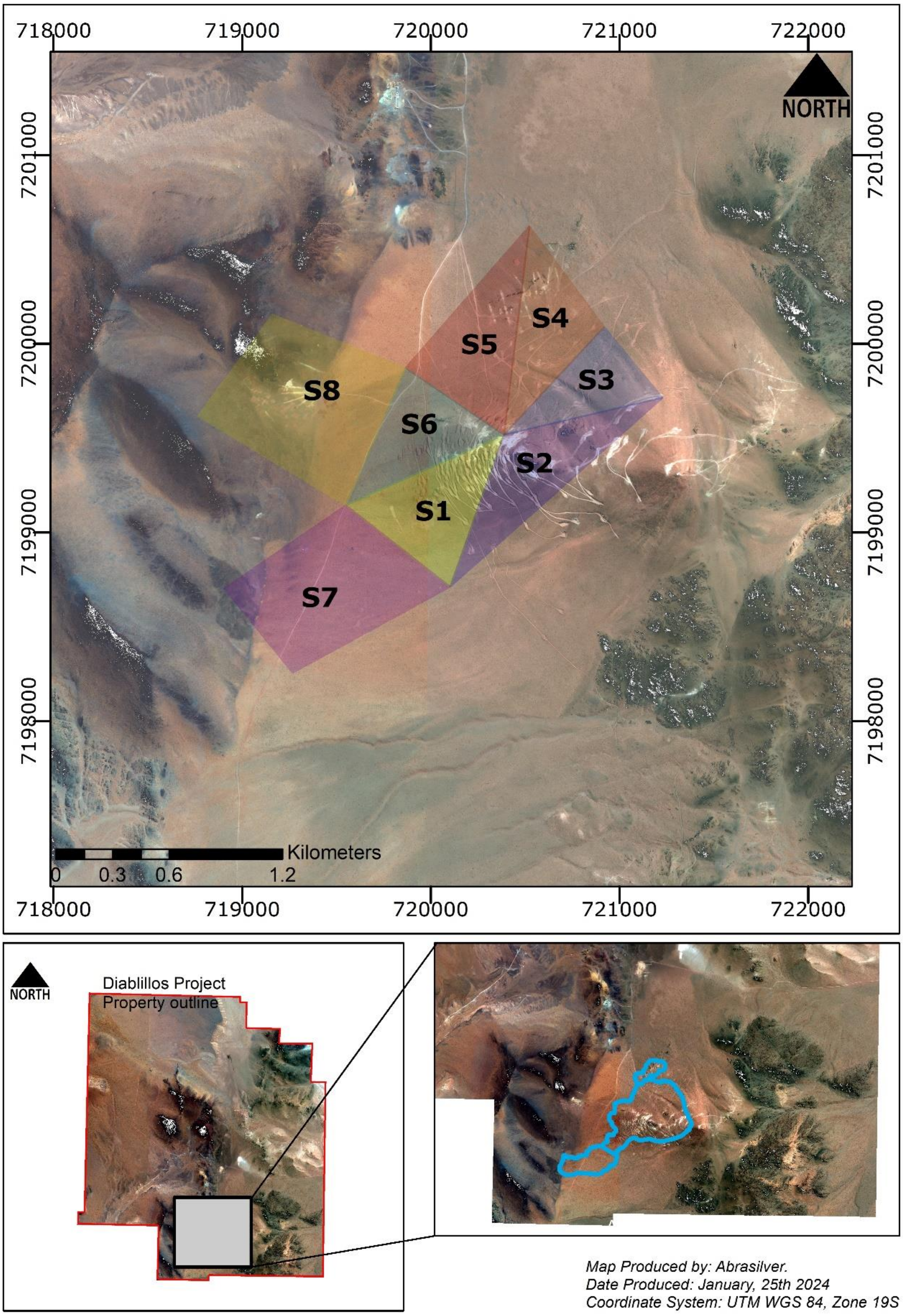


Figure 15-05: Geotechnical domains.

The general parameters used for the open pit design are shown schematically in Figure 15.06, while Table 15.04 shows the design parameters in detail.

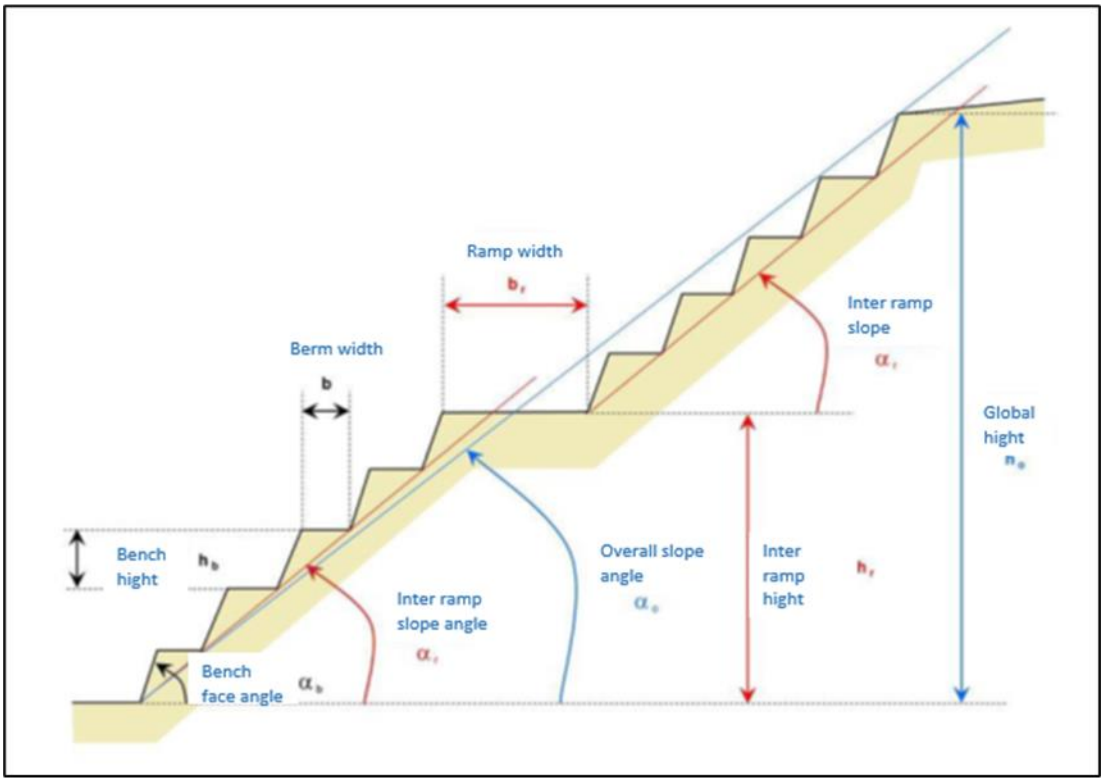


Figure 15-06: Schematic open pit design parameters.

Table 15-04: Open Pit Design Parameters.

Geotechnical Zone	Bench height	Bench face angle	Ramp width	Slope ramp	Geotechnical berm	Berm width	Inter-ramp slope angle (°)	Geotechnical height
S1	10	80	22	10%	12	4.5	57.6	120
S2	10	60	22	10%	13	5	45.0	120
S3	10	75	22	10%	12	4.5	54.5	120
S4	10	75	22	10%	12	4.5	53.4	120
S5	10	75	22	10%	12	4.5	53.4	120
S6	10	75	22	10%	12	4.5	53.4	120
S7	10	75	22	10%	12	4.5	57.8	120
S8	10	75	22	10%	12	4.5	53.4	120
10	10	75	22	10%	12	11.76	34.7	120
11 (No information)	10	80	22	10%	12	4.5	53.4	120

According to the stability analysis performed and described in section 16.9.2, the overall slope angles could be higher in some pit walls, but this will depend on the availability of more geotechnical tests that AbraSilver could execute to validate this proposal, particularly for cover material.

15.2.5 Mineral Processing Methods

The background of the proposed mineral processing method was obtained from the document "DSP-PFS-GEN-0000-DC-009-B - Criterio de Diseño – Proceso.docx" (Process Design Criteria). All metallurgical tests indicate that gold and silver mineralization treatment with intense cyanide leaching in tanks with the use of Merrill Crowe zinc precipitation recovery is the preferred process. The process begins with the size reduction of the ore coming from the mine using a primary jaw crusher and a semi-autogenous grinding (SAG) mill, a pebble crusher, and a ball mill circuit to reduce the ore size to 80 percent down to size (P80) of 150 microns. The ground material will be leached with cyanide in a series of eight leaching tanks. The rich solution will be recovered through a counter current decant (CCD) circuit and then processed through the Merrill Crowe process.

The proposed treatment capacity is 9,000 metric tonnes per day; however, it can be expanded upon additional water availability and further analysis.

15.2.6 Operating Cost Used for Block Value

The economic parameters used to define the final open pit operating limit are presented in the table 15-05.

Table 15-05: Economic parameters for open pit optimization.

Variable	Value	Unit
Mine Cost		
Base	1.94	USD/t
Cover*	1.73	USD/t
MCAF	MB Variable	-
Plant Cost		
Process	22.97	USD/t min
G&A	3.32	USD/t min
Metals Price		
Au	1,750	USD/toz
Ag	22.5	USD/toz
Other Parameters		
Au Recovery	MB Variable	%
Ag Recovery	MB Variable	%
Royalty	3%*Revenues	USD

**Note: The "cover" mine cost refers to a type of material characterized in the block model, which will not require the application of unitary drilling and blasting operations because the material of this lithology can be mined directly using mining equipment, therefore, it has a lower mine cost than the base.*

To capture the effect of mine deepening on mine cost, a mine cost adjustment factor (MCAF) has been applied as a function of the mining elevation.

The factors to be used in the MCAF calculation equation has been based on an elevation of 4,280masl (if they are above or below this elevation), the variable affecting the MCAF are shown in Table 15.06:

Table 15-06: Incremental mine cost by elevation.

Elevation	Mine Cost
>4.280	Mine Cost*(((Elevation – 4,280) /10) *0.008+1)
4,280	Mine Cost
<4,280	Mine Cost*(((4,280 - Elevation) /10) *0.005+1)

15.2.7 Mining Dilution

Diablillos Project is a disseminated orebody with relatively clear ore/waste contacts. In consideration of blast movement and ore boundary, the shape of the deposit and the structurally constrained grade distribution for each lithology and sector (Oculto, JAC, Fantasma, Laderas) large dilutions are not expected in the opinion of Mr. Fuentealba; however, a dilution factor has been applied using a methodology in conjunction with Mr. Peralta considering 7.5% dilution for each face ore block in contact with face waste block.

For this PFS, the following methodology has been developed to estimate the dilution.

Step 1
NVB values are calculated.

Step 2
Coding all blocks inside the reserve pitshell as ore and waste, based on NVB.

Step 3
The number of neighboring blocks is calculated for ore and waste.

Step 4
Dilution is assigned to each block: each side block 7.5%.

Step 5
Density of ore diluted blocks are modified to account for the additional material.

Step 6
Density of waste diluted blocks are modified to account for the reduced material, taken as dilution into ore blocks.

Step 7
Validation of mass balance and reporting the final ultimate pit design.

A new NVB Value is then calculated using diluted grades. This diluted model was used for reporting tonnages and grades by phases and periods. As expected, the isolated blocks incur more dilution compared with blocks that are either adjoining other ore blocks or are entirely inside the orebody.

15.2.8 Ore Loss

This engineering stage has considered full 100% mining recovery with no ore losses. A future stage for Diablillos Project should consider the application of minor ore losses in blasting and loading, mis-routed material, operational deviations, and human errors.

15.2.9 Gold and Silver Recovery

The recovery of gold and silver for the current stage of the project is defined by the "recovery domain" (RCOD) field in the block model and are as defined in Section 13 of this report, Mineral Processing and Metallurgical Testing. Recovery values for each recovery domain are listed in table 15.07.

Table 15-07: Gold (Au) and Silver (Ag) Recovery.

RCOD	Variable	Value	Unit
1 (Shallow gold domain)	Au Recovery	88.25	%
	Ag Recovery	56.77	%
2 (Silver Enrichment domain)	Au Recovery	86.17	%
	Ag Recovery	85.62	%
3 (Deep Gold domain)	Au Recovery	83.73	%
	Ag Recovery	82.59	%
4 (Northeast domain)	Au Recovery	89.30	%
	Ag Recovery	81.69	%
5 (JAC domain)	Au Recovery	84.29	%
	Ag Recovery	88.18	%
6 (Fantasma domain)	Au Recovery	84.29	%
	Ag Recovery	88.18	%

In addition, a recovery value of 0% gold and silver is considered for all blocks that have no coding in the recovery domain variable (air blocks).

15.2.10 Block Valuation and Cut-off Grade

Prior to determining the variable that will define the blocks that can be processed and those that cannot, each block must be valued to determine which blocks provide a positive profit, based on ***Profit = Revenue - Cost***

The valuation of each block is explained according to the formula below for ***Revenue***:

$$Revenue = \frac{(P_{Au} - CV_{Au}) * G_{Au} * R_{Au} + (P_{Ag} - CV_{Ag}) * G_{Ag} * R_{Ag}}{31.1035}$$

Where:

PAu: Price of Gold (US$/oz)

CVAu: Gold cost of sales (US$/oz)

GAu: Gold grade (g/t)

RAu: Gold recovery (%)

PAg: Price of Silver (US$/oz)

CVAg: Silver cost of sales (US$/oz)

GAg: Silver grade (g/t)

RAg: Silver recovery (%)

Cost has been defined according to the next formula:

$$Cost = MC + PC + G\&A + Royalty * Revenue$$

Where:

MC: Mining Cost (US$/t)

PC: Processing Cost (US$/t min)

G&A: Administrative cost (US$/t min)

Royalty: 3%

Profit Considerations:

All blocks with a negative profit and those described in table 15.08 has been defined as waste material.

Table 15-08: Blocks classified and costed as waste rock.

Case	Profit
Block with Inferred category or no data	Negative mining cost
Blocks with no data	Negative mining cost
Block classified as sulphide	Negative mining cost
Block coded as "Cover" type	Negative mining cost

Using the formulas shown above, blocks were classified in the block model to define the pit shell for Mineral Reserve. Although a NVB formula has been used for the Mineral Reserves, an average cut-off grade of approximately 46 g/t AgEq was determined as the minimum grade to send for processing. This silver equivalent cut-off grade varies according to the position in the pit shell and lithology and alteration, been in some cases higher, up to 52 g/t AgEq and in other areas, lower, approximately to 40 g/t AgEq. The use of a silver equivalent cut-off grade has only been calculated to allow a direct comparison to previous studies done for Diablillos Project.

In addition, for reporting purposes of the mining plan, a cut-off grade of 15 g/t AgEq was used to identify and stockpile separately from the waste rock below cut-off grade mineralisation that could potentially be treated with a lower operating cost process, such as heap leaching for example.

15.3 Open Pit Optimization

To define the final open pit limit and the mining sequence for the subsequent design of operational phases, an exercise was developed to define the final extraction limit using the “DBL23-BM.csv” Mineral Resource block model and following the economic and geotechnical parameters provided by AbraSilver.

The process of defining the final extraction limit is carried out using Whittle commercial software, using the Lerchs & Grossman algorithm. This software generates a set of three-dimensional envelopes (nested pits), associated to increasing prices of the elements of interest (Silver and Gold) (Revenue Factor - RF) that determines a series of nested pits.

Open pit optimization considered the value of the block, shown in the previous sections, based on revenue, mine costs (calculated per block based on a deepening factor), process costs, G&A costs, and royalties. A range of revenue factors of 0.11 with increments of 0.01 were used to perform 89 pit shell optimizations. This means that the price of the metals was modified from 0.1 times as the base price to 1.0 times the base price with 0.01 increments, that is, from 175 US$/oz to 1,750 US$/oz for gold and 2.25 US$/oz to 22.5 US$/oz for silver.

15.3.1 Optimization Results

Using the foregoing input parameters, the pit optimization results in Figure 15.07 were derived. The chart presents the impact of increasing revenue factors (metal prices) on pit size and pit value. The variable used to determine the final open pit was calculated by crossing the category, oxidation state, recovery domain, lithology, and profit of the block.

The cross-reference of the items described above, which will determine the blocks that may enter the process, is presented in Table 15.09.

Table 15-09: Optimization variable definition (OREW).

OREW	Category	Oxidation State	RCOD	Lithology	Block Profit
1	Meas + Ind	Oxide	1 – 6	All except cover	>0
0	Block that fails to meet at least 1 of the above conditions to be sent for processing.				

The results of the open pit optimization are presented in Table 15-10.

Table 15-10: Open pit optimization results.

Pit	Minimum RF	Maximum RF	Total Rock (000 t)	Ore (000 t)	Au (g/t)	Ag (g/t)	AgEq (g/t)
1	0.11	0.12	2,387	26	0.16	3343	3356
2	0.13	0.13	2,389	28	0.15	3116	3128
3	0.14	0.14	12,960	456	1.43	978	1100
4	0.15	0.15	22,984	1,039	1.15	772	866
5	0.16	0.16	27,993	1,469	1.32	660	767
6	0.17	0.17	36,610	2,149	1.52	577	699
7	0.18	0.18	46,674	2,857	1.52	535	659
8	0.19	0.19	47,046	3,061	1.48	512	634
9	0.20	0.20	48,688	3,383	1.48	483	604
10	0.21	0.21	49,223	3,583	1.46	466	586
11	0.22	0.22	49,731	3,756	1.44	453	571
12	0.23	0.23	52,425	4,050	1.38	441	555
13	0.24	0.24	63,588	5,173	1.46	390	509
14	0.25	0.25	64,788	5,464	1.44	377	495
15	0.26	0.26	65,208	5,696	1.41	367	483
16	0.27	0.27	68,277	6,126	1.36	356	468
17	0.28	0.28	71,478	6,498	1.30	349	456
18	0.29	0.29	73,864	6,951	1.28	336	441
19	0.30	0.30	76,114	7,206	1.25	331	434
20	0.31	0.31	78,148	7,610	1.24	320	422
21	0.32	0.32	79,306	7,943	1.21	312	412
22	0.33	0.33	79,953	8,177	1.19	307	405
23	0.34	0.34	83,979	8,682	1.19	296	394
24	0.35	0.35	88,662	9,257	1.16	288	383
25	0.36	0.36	90,042	9,674	1.13	280	373
26	0.37	0.37	94,059	10,262	1.12	270	364
27	0.38	0.38	100,280	10,964	1.13	260	353
28	0.39	0.39	101,159	11,315	1.11	255	347
29	0.40	0.40	101,904	11,619	1.09	251	341
30	0.41	0.41	102,205	11,917	1.08	247	336
31	0.42	0.42	119,232	13,677	1.13	224	317
32	0.43	0.43	119,822	14,010	1.12	220	312
33	0.44	0.44	157,586	17,853	1.24	181	285
34	0.45	0.45	159,340	18,388	1.23	178	280
35	0.46	0.46	165,637	19,398	1.19	174	273
36	0.47	0.47	167,070	19,997	1.17	171	268
37	0.48	0.48	168,560	20,582	1.16	168	264
38	0.49	0.49	169,626	21,138	1.14	164	260
39	0.50	0.50	180,936	22,602	1.14	157	252
40	0.51	0.51	181,193	23,057	1.13	155	249
41	0.52	0.52	182,491	23,572	1.12	153	246
42	0.53	0.53	183,687	24,152	1.11	150	243
43	0.54	0.54	183,957	24,662	1.09	148	239
44	0.55	0.55	187,141	25,500	1.08	145	235
45	0.56	0.56	188,063	26,014	1.07	143	232
46	0.57	0.57	195,979	27,029	1.07	139	228
47	0.58	0.58	197,928	27,709	1.06	137	225
48	0.59	0.59	199,215	28,357	1.05	134	222
49	0.60	0.60	199,294	28,772	1.04	133	220
50	0.61	0.61	202,986	29,470	1.03	131	217

51	0.62	0.62	206,594	30,311	1.02	129	214
52	0.63	0.63	206,827	30,783	1.01	128	212
53	0.64	0.64	207,503	31,311	1.00	126	210
54	0.65	0.65	208,374	31,822	0.99	125	208
55	0.66	0.66	209,074	32,305	0.98	124	206
56	0.67	0.67	209,467	32,763	0.97	123	204
57	0.68	0.68	210,409	33,235	0.97	121	202
58	0.69	0.69	211,503	33,756	0.96	120	200
59	0.70	0.70	212,197	34,277	0.95	119	198
60	0.71	0.71	212,620	34,661	0.94	118	197
61	0.72	0.72	214,673	35,290	0.94	116	195
62	0.73	0.73	215,090	35,751	0.93	115	193
63	0.74	0.74	215,306	36,201	0.92	114	191
64	0.75	0.75	215,490	36,606	0.92	113	190
65	0.76	0.76	238,262	38,923	0.92	108	185
66	0.77	0.77	238,693	39,374	0.91	107	184
67	0.78	0.78	239,790	39,874	0.91	106	182
68	0.79	0.79	240,632	40,390	0.90	105	181
69	0.80	0.80	250,363	41,357	0.90	104	179
70	0.81	0.81	250,845	41,826	0.90	103	178
71	0.82	0.82	251,215	42,249	0.89	102	176
72	0.83	0.83	251,358	42,684	0.88	101	175
73	0.84	0.84	251,649	43,140	0.88	100	174
74	0.85	0.85	252,130	43,572	0.87	100	173
75	0.86	0.86	252,360	43,983	0.87	99	172
76	0.87	0.87	253,637	44,513	0.86	98	170
77	0.88	0.88	255,995	45,103	0.86	97	169
78	0.89	0.89	260,863	45,905	0.85	96	167
79	0.90	0.90	260,949	46,306	0.85	96	166
80	0.91	0.91	261,388	46,769	0.84	95	165
81	0.92	0.92	261,562	47,181	0.84	94	164
82	0.93	0.93	261,833	47,587	0.83	94	163
83	0.94	0.94	263,854	47,922	0.83	93	163
84	0.95	0.95	264,829	48,017	0.83	93	163
85	0.96	0.96	264,966	48,071	0.83	93	162
86	0.97	0.97	267,703	48,217	0.83	93	162
87	0.98	0.98	268,381	48,289	0.83	93	162
88	0.99	0.99	268,993	48,383	0.83	93	162
89	1.00	1.00	269,368	48,450	0.83	93	162

**Note:* Tonnages and grades reported are totals, i.e., cumulative and do not represent the incremental contribution of each open pit.*

**Note:* All figures are rounded to reflect the relative accuracy of the estimates. Minor discrepancies may occur due to rounding to appropriate significant figures.*

The pit-by-pit graph for each nested pit and its corresponding cash flow is shown in Figure 15.07. The histogram bar portion of the chart shows the pit shell quantities, with ore in yellow and waste in grey. The lines represent variations of pit net present value (NPV) before initial capital cost based on metal price assumptions and discount factors. The Best-Case line (blue) shows the NPV if each pit shell is mined incrementally up to the current pit shell, while the Worst-Case line (red) shows the NPV if the current pit shell is mined a bench at a time. While neither one of these cases is realistic, with appropriate pit phasing, mine planners are typically able to achieve value curves between the two, and closer to the Best Case. That was the objective of the third line, the Specified Case (green).

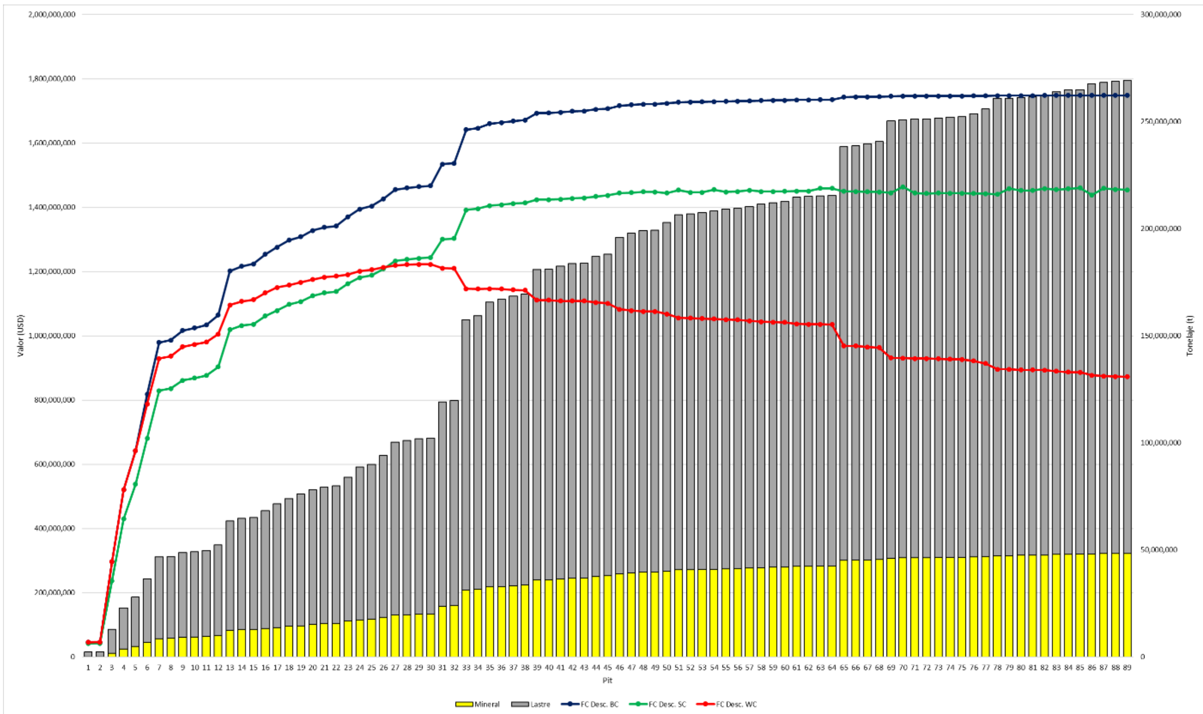


Figure 15-07: Pit by pit optimization.

After the definition and selection of the optimal Mineral Reserve pit shell a cross check validation was executed, Mineral Resource classified as Inferred have been excluded.

A total of 48.45 Mt grading 0.83 g/t Au and 93 g/t Ag in Measured and Indicated Mineral Resource categories within the reserve optimised open pit shell were obtained, while the metal content is 1.28 Moz Au and 145 Moz Ag or 244 Moz AgEq, as shown in Table 15-11.

Table 15-11: Measured and Indicated Mineral Resources contained in optimal open pit shell.

Resources	Tonnage (000 t)	Au (g/t)	Ag (g/t)	AgEq (000 Oz)
Measured	13,557	0.87	119	83,837
Indicated	34,894	0.81	82	169,086
Measured + Indicated	**48,450**	**0.83**	**93**	**252,924**

The Figure 15.08 shows the solid of the optimal pit shell used to estimates the contained Measured and Indicated Mineral Resources. Also dimensions of the Mineral Reserve optimal pit shell can be visualized. Additionally, the final and optimal pit shell (RF = 1.0) is profiled to display its extent as shown in Figure 15-09 to Figure 15-11.

Note that Figure 15-11, Section AA' shows that the final pit is deeper towards A' in the northeast of Oculto. Figure 15.14, Section BB' shows that the final pit is deeper towards B' in the southeast of Oculto and Figure 15.15, Section CC' shows that the final pit has constant depth across JAC.

Figure 15-08: Solid of the Reserve Optimal pit shell used for reporting estimates of Measured and Indicated Mineral Resources.

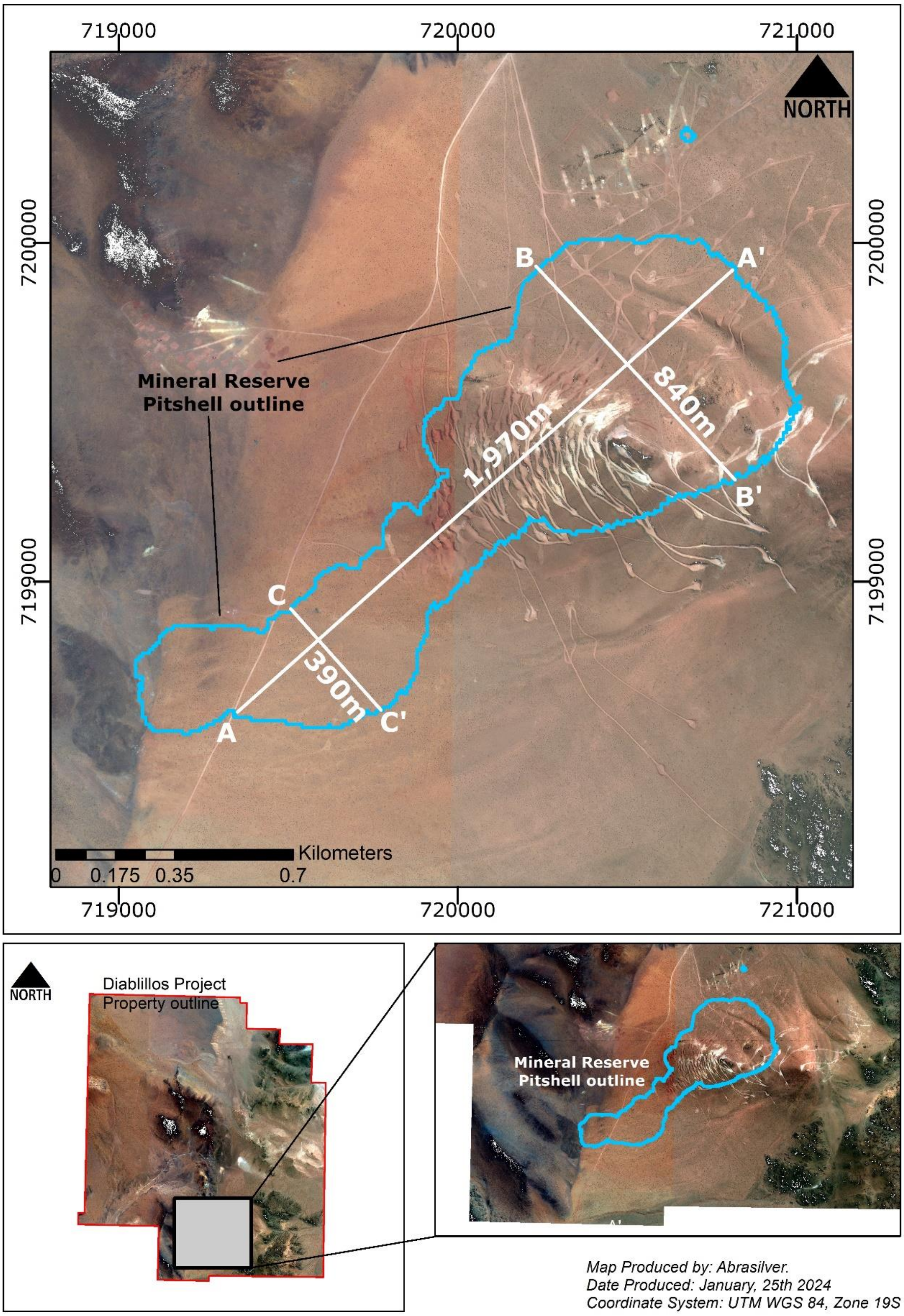


Figure 15-09: Optimal reserve pit shell (RF = 1.0). Section AA'.

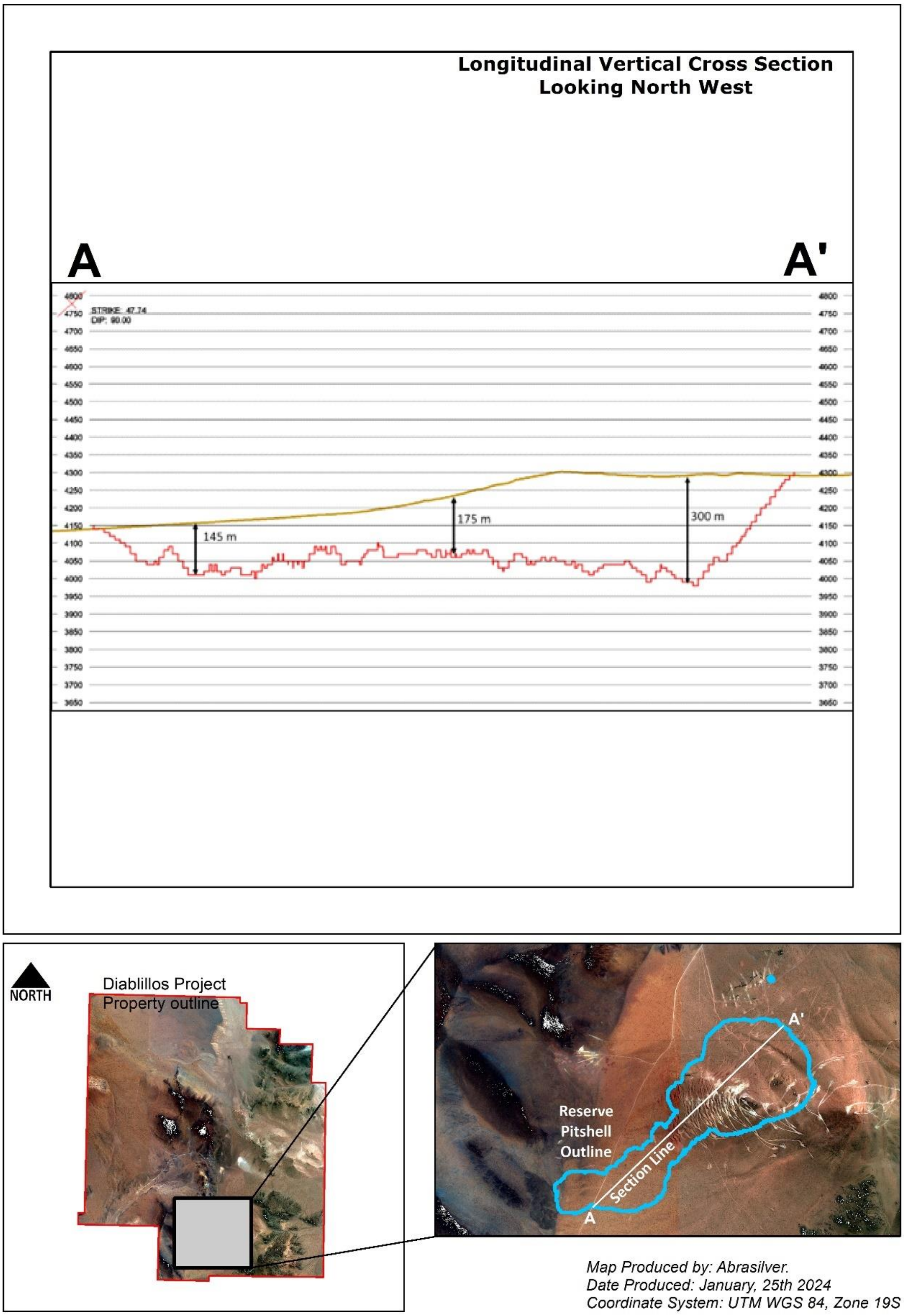


Figure 15-10: Optimal reserve pit shell (RF = 1.0). Section BB'.

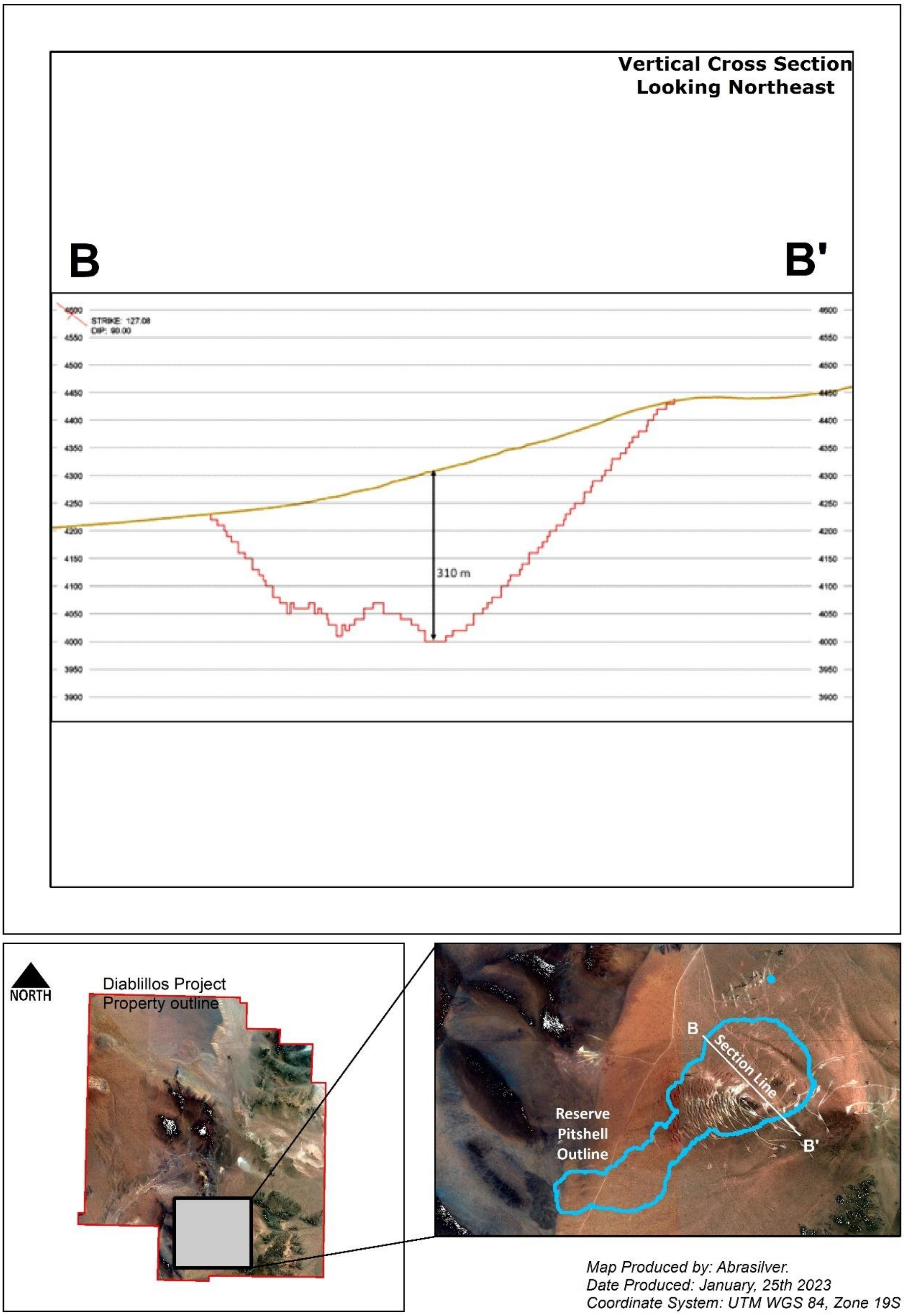
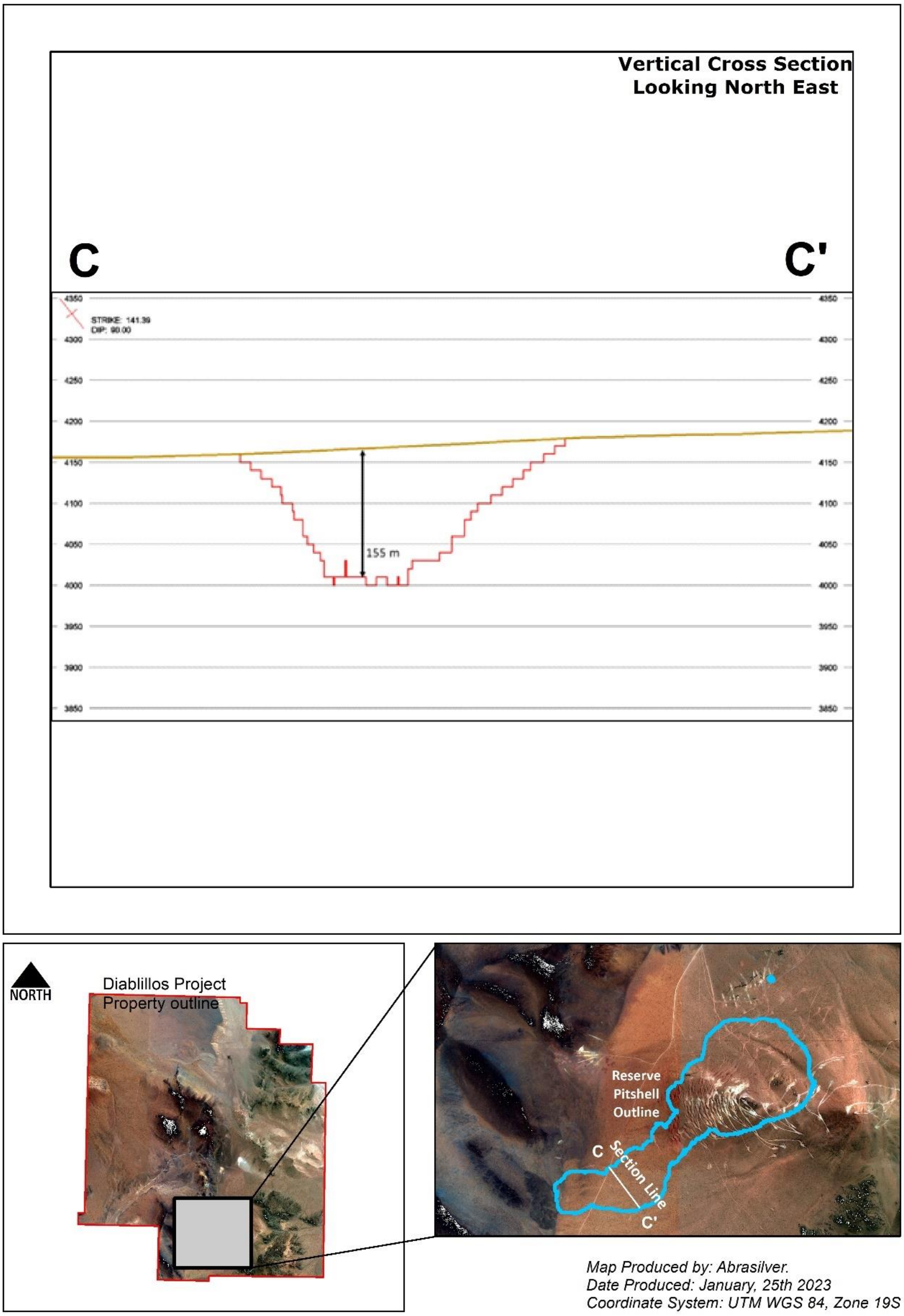


Figure 15-11: Optimal reserve pit shell (RF = 1.0). Section CC'.



15.4 Mineral Reserve Pit Design

15.4.1 Parameters Relevant to Mine Design

15.4.1.1 Selective Mining Unit Size

During the 2020 PEA, Mining Plus conducted a heterogeneity study on drill core data to assess the impact of block size and mining scale on parameters such as average grade above cut-off and percent waste entrained in ore. The conclusion of the study was that the Diablillos Project was relatively insensitive to mining scale, with at most 6% waste in ore at a mining scale (bench height) of 15 meters. Smaller benches reduced this diluting effect, but only by two percent to four percent allowing for the productivity necessary for a medium to large operation like Diablillos Project.

This study was not repeated at the PFS stage, but the results were reviewed, and bench heights of 10 m have been selected.

15.4.1.2 Geotechnical Pit Wall Design

The PFS-level pit wall design criteria for this study were provided above in Section 15.2.4 and Figure 15-05. These criteria have been followed in the open pit design.

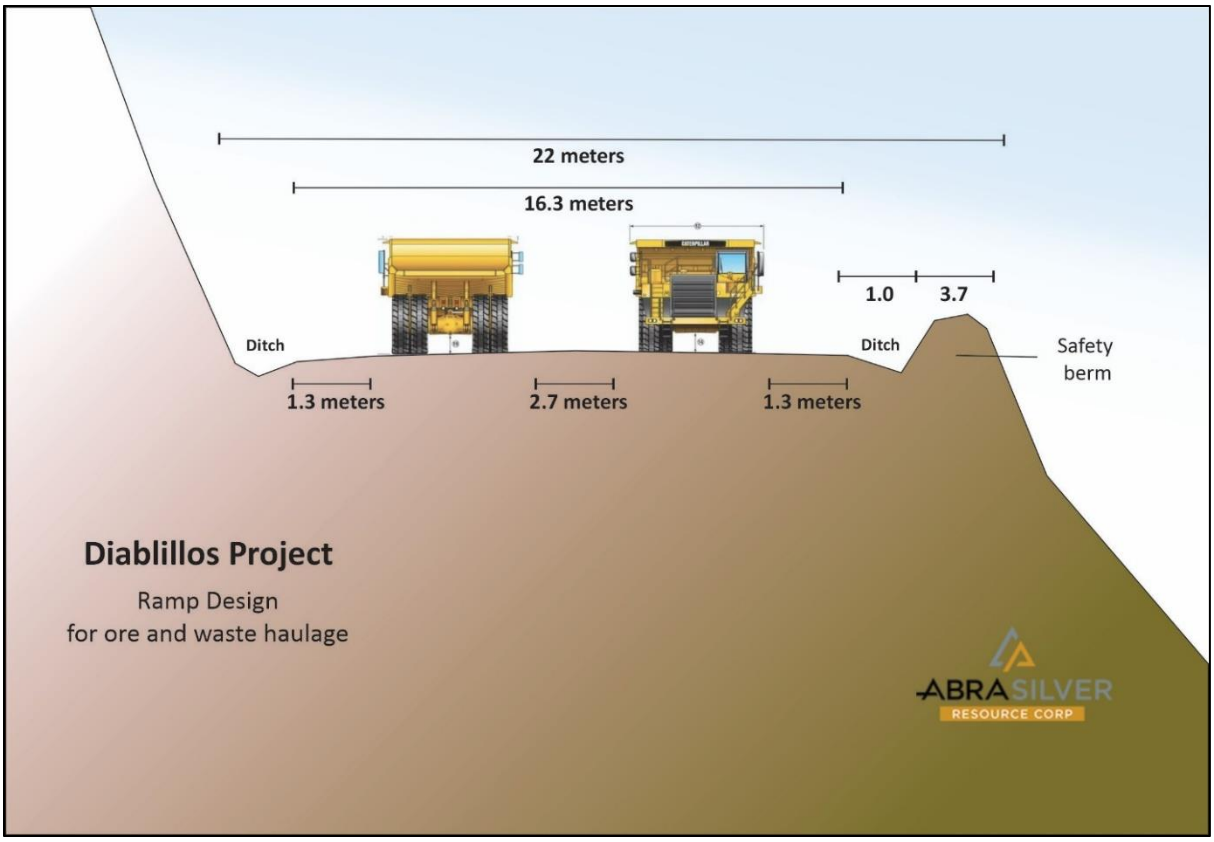
15.4.1.3 Haul Road Design

Haul roads within the open pit were designed according to international mine design standards for safe and productive haulage, whereby the road running surface is 3.0 times the width of the widest vehicle using the road. A safety berm on the downslope side of the road is designed to be 75% of the height of the tire of the largest vehicle on the road and an additional allowance is left on the upslope side of the road for a drainage ditch and running utilities lines, including potential pit dewatering pipes. The parameters used in the haul road design are summarized in Table 15-12 and a typical road cross section is illustrated in Figure 15-12 below. Haul roads are designed at a maximum gradient of 10% throughout most of the pit.

Table 15-12: Two-way haul road design parameters.

Parameter	Units	Value
Haul truck model		CAT 777B
Haul truck width	Meters	5.5
Tire specifications		27.00R49
Tire outer diameter	Meters	2.7
Berm height	Meters	2.2
Safety Berm width	Meters	4.7
Ditch width	Meters	1.0
Safety Margin	Meters	1.3
Central Spacing	Meters	2.7
Total design width	Meters	22.0

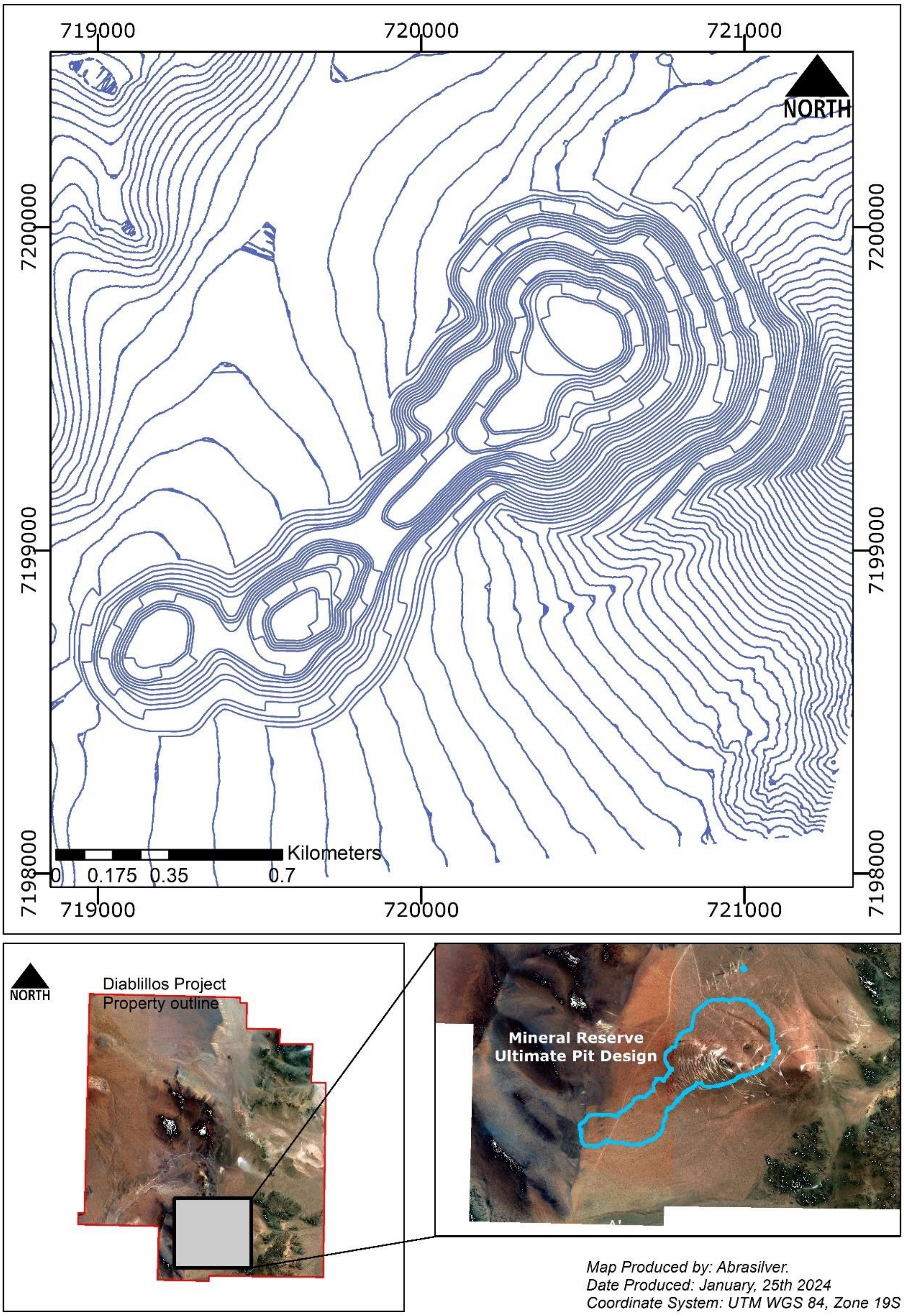
Figure 15-12: Typical haul road cross-section.



15.4.2 Mineral Reserve Pit Design

Mr. Fuentealba designed the ultimate open pit for Diablillos Project Mineral Reserves in alignment with pit shell 89 from the open pit optimization analysis. The design is provided in Figure 15 13. Compared to pit shell #89, the ultimate open pit design has 17% less contained silver equivalent metal, which is considered an acceptable variance in such designs.

Figure 15-13: Diablillos Project Ultimate pit design.



15.5 Mining Reserve Estimate

15.5.1 Strategic Mine Planning

Several strategic mine planning scenarios were developed to meet the required cover material needs during the construction stage of infrastructure such as the ROM pad, TSF wall, camp, truck shop, and process plant platforms. In addition, the construction of the road to the waste dump and main roads considered using cover material and waste rock. Finally, preference was given to stockpiling below cut-off grade mineralisation that could be used for an eventual potential secondary lower cost processing technique. A stockpile was designed for this material with the capacity to store approximately 20 million metric tonnes to separate it from the rest of pure waste material while this project advances in time. Further studies are required to determine whether this currently below cut-off grade mineralisation can be treated economically.

15.5.2 Selection of Theoretical Phases

The selection of theoretical phases was made based on the proposed processing capacity, which at 9,000 tpd corresponds to 3,150,000 tonnes per year, based on the assumption of 350 plant operating days per year.

The criterion adopted was that each phase contains enough ore to feed the plant for 2-3 years periods.

To determine the amount of ore in each nested pit, the tonnage capacity estimates of the envelope must be calculated with the planning prices, given that the ore reported in Table 15 10 corresponds to the ore tonnage contained in the open pit considering the price of the elements multiplied by the pit Revenue Factor.

The Table 15-13 shows the adjusted tonnage capacity estimate of the nested pits:

Table 15-13: Nested pit tonnage capacity estimates at planning prices.

Pit	Total Rock (000 t)	Ore (000 t)	Waste (000 t)	Strip Ratio	Au (g/t)	Ag (g/t)	AgEq (g/t)
1	2,387	81	2,306	28.46	0,20	1123	1139
2	2,389	83	2,306	27.71	0,20	1104	1120
3	12,961	1,698	11,263	6.63	0,90	309	395
4	22,986	3,728	19,257	5.17	0,60	275	329
5	27,995	4,967	23,027	4.64	0,66	254	311
6	36,612	6,783	29,829	4.40	0,76	237	302
7	46,676	8,627	38,049	4.41	0,79	230	298
8	47,047	8,712	38,335	4.40	0,79	229	298
9	48,690	9,174	39,515	4.31	0,80	225	294
10	49,225	9,332	39,892	4.27	0,80	224	292
11	49,732	9,528	40,204	4.22	0,79	222	290
12	52,427	9,980	42,446	4.25	0,78	221	287
13	63,589	12,450	51,139	4.11	0,80	203	270
14	64,789	12,735	52,054	4.09	0,80	201	269
15	65,210	12,856	52,353	4.07	0,80	200	268
16	68,278	13,464	54,814	4.07	0,78	199	264
17	71,480	13,789	57,691	4.18	0,77	199	264
18	73,866	14,415	59,451	4.12	0,77	195	259

19	76,116	14,551	61,565	4.23	0,77	195	260
20	78,150	15,226	62,924	4.13	0,76	191	255
21	79,308	15,529	63,779	4.11	0,76	189	253
22	79,955	15,649	64,305	4.11	0,75	189	252
23	83,981	16,689	67,292	4.03	0,75	182	245
24	88,664	17,367	71,296	4.11	0,74	180	242
25	90,044	17,700	72,343	4.09	0,74	178	240
26	94,061	18,554	75,506	4.07	0,74	174	237
27	100,283	19,581	80,702	4.12	0,75	169	233
28	101,161	19,790	81,371	4.11	0,75	169	232
29	101,907	19,964	81,942	4.10	0,75	168	231
30	102,208	20,095	82,112	4.09	0,75	167	230
31	119,235	23,834	95,401	4.00	0,78	149	214
32	119,825	24,012	95,812	3.99	0,78	148	213
33	157,588	31,360	126,228	4.03	0,86	121	193
34	159,343	31,707	127,636	4.03	0,86	120	193
35	165,640	32,749	132,891	4.06	0,84	120	191
36	167,073	33,010	134,063	4.06	0,84	120	190
37	168,563	33,439	135,124	4.04	0,84	119	189
38	169,629	33,843	135,785	4.01	0,84	118	188
39	180,939	35,931	145,007	4.04	0,84	113	184
40	181,196	36,039	145,156	4.03	0,84	113	184
41	182,494	36,327	146,166	4.02	0,84	112	183
42	183,690	36,765	146,924	4.00	0,84	112	182
43	183,960	36,878	147,082	3.99	0,84	111	182
44	187,143	37,580	149,563	3.98	0,84	110	180
45	188,066	37,921	150,144	3.96	0,84	109	180
46	195,982	39,051	156,930	4.02	0,84	107	178
47	197,931	39,399	158,531	4.02	0,84	106	177
48	199,218	39,722	159,496	4.02	0,84	106	176
49	199,297	39,763	159,533	4.01	0,84	106	176
50	202,989	40,191	162,797	4.05	0,84	105	176
51	206,597	40,683	165,913	4.08	0,83	105	175
52	206,830	40,764	166,066	4.07	0,83	105	175
53	207,506	40,892	166,614	4.07	0,83	104	175
54	208,377	41,030	167,347	4.08	0,83	104	174
55	209,077	41,238	167,839	4.07	0,83	104	174
56	209,470	41,340	168,129	4.07	0,83	104	174
57	210,412	41,505	168,906	4.07	0,83	104	173
58	211,506	41,773	169,733	4.06	0,83	103	173
59	212,200	41,936	170,264	4.06	0,83	103	172
60	212,623	42,031	170,591	4.06	0,83	103	172
61	214,676	42,337	172,339	4.07	0,83	102	172
62	215,093	42,449	172,643	4.07	0,82	102	171
63	215,310	42,528	172,781	4.06	0,82	102	171
64	215,493	42,613	172,879	4.06	0,82	102	171
65	238,265	45,182	193,083	4.27	0,83	97	167
66	238,696	45,322	193,373	4.27	0,83	97	167
67	239,793	45,443	194,350	4.28	0,83	97	167
68	240,635	45,565	195,070	4.28	0,83	97	166
69	250,366	46,231	204,135	4.42	0,83	96	166
70	250,848	46,294	204,553	4.42	0,83	95	166
71	251,218	46,360	204,858	4.42	0,83	95	165
72	251,361	46,405	204,956	4.42	0,83	95	165
73	251,653	46,466	205,186	4.42	0,83	95	165
74	252,133	46,569	205,564	4.41	0,83	95	165
75	252,363	46,644	205,719	4.41	0,83	95	165
76	253,641	46,789	206,851	4.42	0,83	95	165
77	255,999	47,004	208,994	4.45	0,83	95	164
78	260,866	47,395	213,471	4.50	0,83	94	164
79	260,952	47,430	213,522	4.50	0,83	94	164
80	261,391	47,524	213,867	4.50	0,83	94	164
81	261,566	47,580	213,986	4.50	0,83	94	163
82	261,837	47,636	214,201	4.50	0,83	94	163
83	263,857	47,922	215,935	4.51	0,82	93	163
84	264,833	48,017	216,815	4.52	0,82	93	163

85	264,970	48,071	216,898	4.51	0,82	93	162
86	267,706	48,217	219,489	4.55	0,82	93	162
87	268,385	48,289	220,096	4.56	0,82	93	162
88	268,997	48,383	220,613	4.56	0,82	93	162
89	269,372	48,450	220,921	4.56	0,82	93	162

**Note: Tonnages and grades reported are totals, i.e., cumulative and do not represent the incremental contribution of each open pit.*

***Note: All figures are rounded to reflect the relative accuracy of the estimates. Minor discrepancies may occur due to rounding to appropriate significant figures.*

Based on the tonnage estimate of the open pits and the criteria adopted for the phase selection, the open pits chosen as theoretical phases can be visualized in Table 15-14.

Table 15-14: tonnage capacity estimate of theoretical phases

Pit	Total Rock (000 t)	Ore (000 t)	Overburden (000 t)	Feed Years	Au (g/t)	Ag (g/t)	AgEq (g/t)
6	36,612	6,783	29,829	2.2	0.77	237	302
17	34,867	7,006	27,861	2.2	0.78	162	227
31	47,754	10,044	37,710	3.2	0.79	80	145
36	47,838	9,176	38,662	2.9	1.00	44	128
60	45,549	9,021	36,528	2.9	0.79	41	107
89	56,748	6,418	50,330	2.0	0.80	27	94

In addition, a series of vertical cross section have been prepared of the selected theoretical phases to display their extent. It can be visualized in Figure 15-14 to Figure 15-17.

The first theoretical phase is observed to have 2 independent cones. The mining growth trend of the following phases is, to a greater extent, towards the northeastern sector of the mineralization. In section AA', horizontal growth of the theoretical phases is observed in greater proportion than vertical growth in Oculto and JAC zones. In section BB', horizontal and vertical growth of the theoretical phases is observed in the Oculto zone. No significant horizontal and vertical mining growth of the theoretical phases is observed in section CC' at JAC zone.

It is important to mention that the theoretical phases are a guide for the operationalization of the open pit. However, the boundaries of each theoretical phase may not coincide with the operational phase, mainly due to operational widths that must exist between contiguous phases.

Figure 15-14: Theoretical Phases.

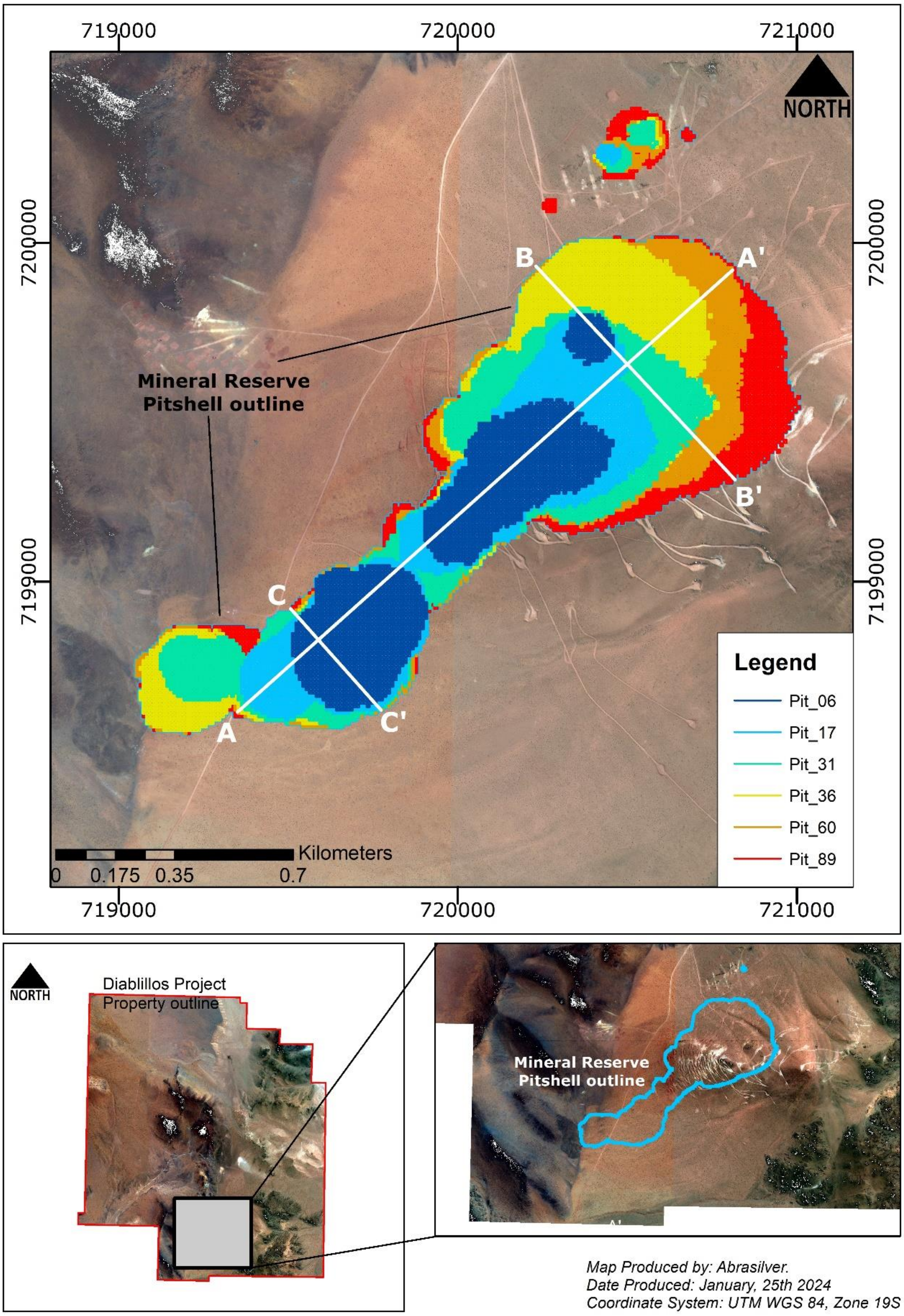


Figure 15-15: Theoretical Phases, vertical section AA'.

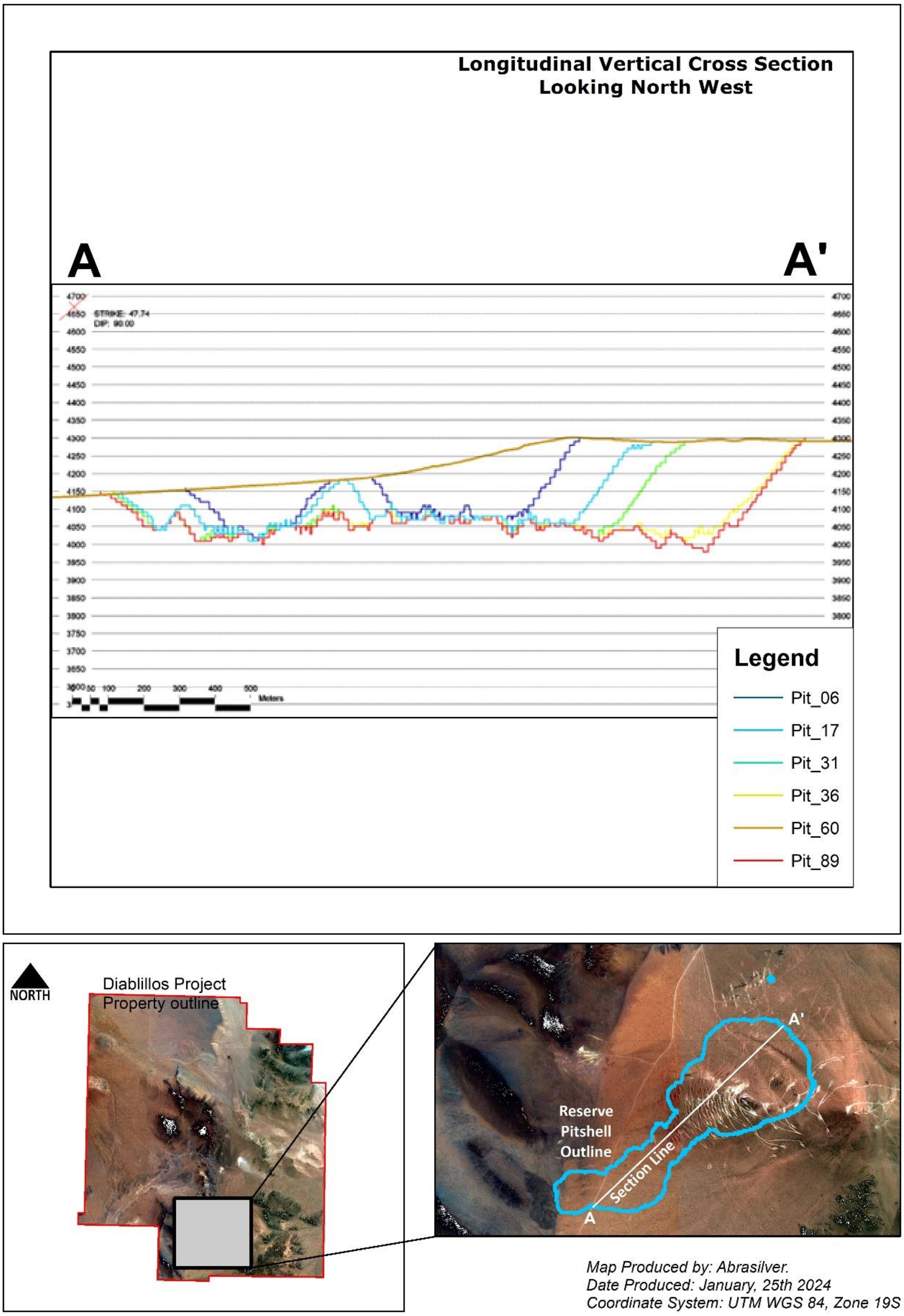


Figure 15-16: Theoretical Phases, vertical section BB'.

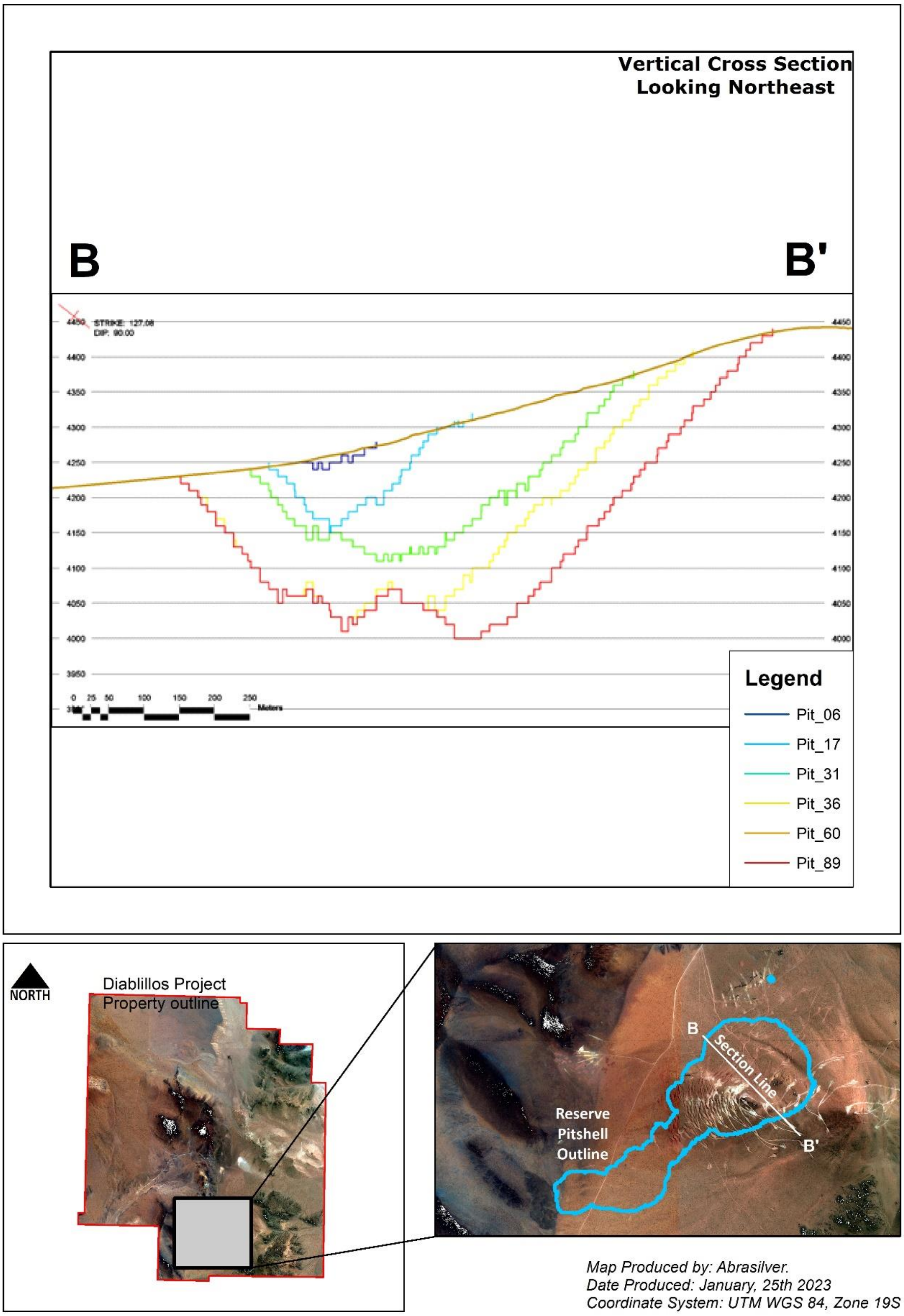
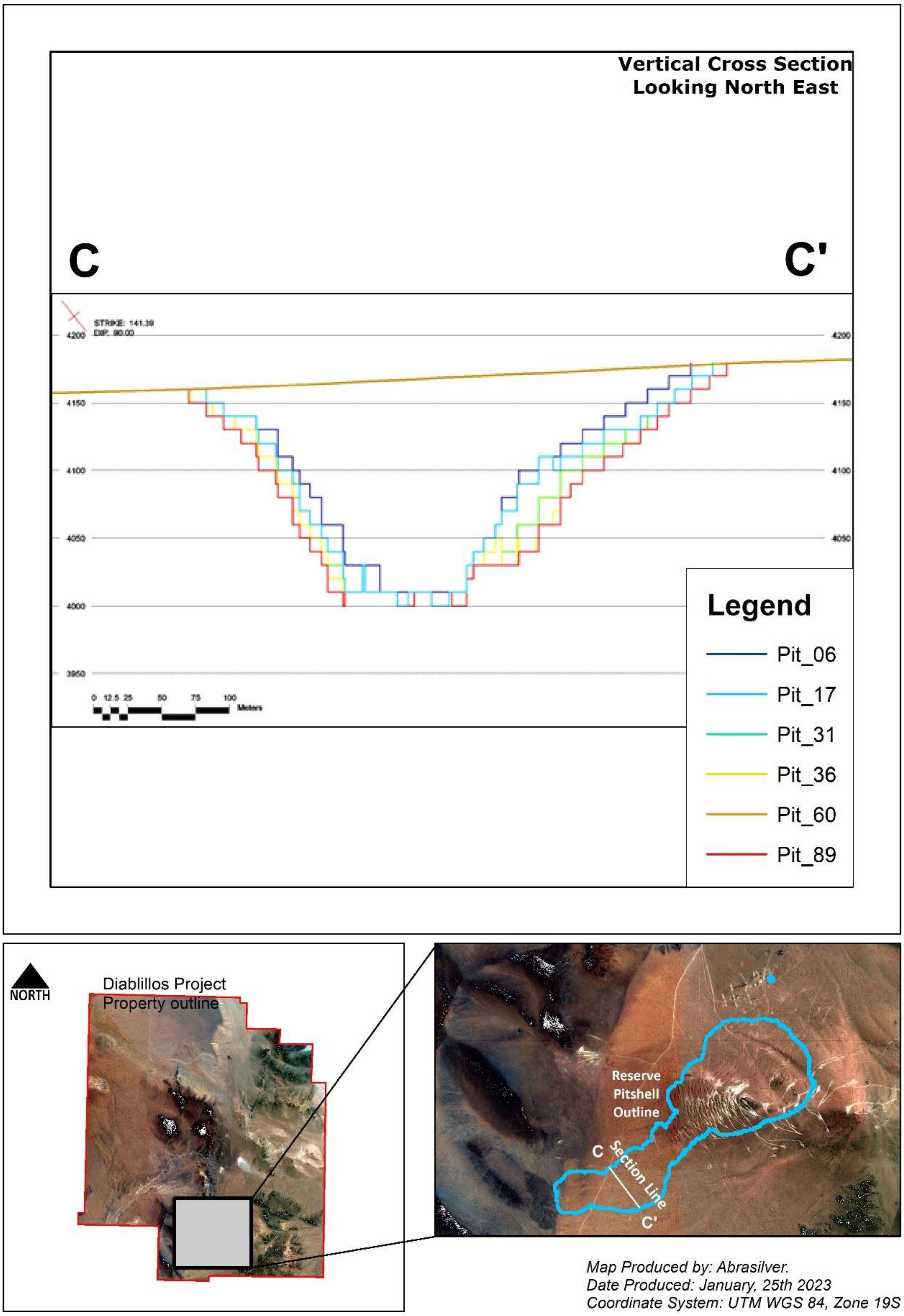


Figure 15-17: Theoretical Phases, vertical section CC'.



15.6 Mineral Reserve Statement

The Mineral Reserve estimate for the Diablillos Project, provided in Table 15-15 has been estimated by Mr. Fuentealba, MAusIMM, P. Eng. (QP) and is based on the Mineral Resource block model documented in the Mineral Resource estimate (Section 14 of this report). The Mineral Reserves are calculated using a combination of the ultimate open pit design (Section 15.4.2) and the production schedule (Section 16.2).

The Mineral Reserve Estimate for the Diablillos Project, with an effective date of March 7th, 2024, has been estimated and classified based on the CIM's Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines (CIM, 2019) and is reported in accordance with the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101").

Table 15-15: Mineral Reserve Estimate Statement for the Diablillos Project, Salta, Argentina. By category, all domains. - As of March 7th, 2024.

Mineral Reserve (all domains)	Tonnage (000 t)	Au (g/t)	Ag (g/t)	Ageq (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)	Contained AgEq (k oz AgEq)
Proven	12,364	0.86	118	185	46,796	341	73,352
Probable	29,930	0.80	80	142	76,684	766	136,267
Total Proven and Probable	**42,294**	**0.81**	**91**	**154**	**123,480**	**1,107**	**209,619**

Notes for Mineral Reserve Estimate:

1. Mineral reserves have an effective date of March 7th, 2024.
2. The Qualified Person for the Mineral Reserve Estimate is Mr. Miguel Fuentealba, P.Eng.
3. The mineral reserves were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Definition Standards for Mineral Resources and Reserves, as prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.
4. The mineral reserves were based on a pit design which in turn aligned with an ultimate pit shell selected from a Whittle TM pit optimization exercise. Key inputs for that process are:
   - Metal prices of USD 1,750/oz Au; USD 22.50/oz Ag
   - Variable Mining cost by bench and material type. Average costs are USD 1.94/t for all lithologies except for "cover", Cover mining cost of USD 1.73/t, respectively.
   - Processing costs for all zone, USD 22.97/t.
   - Infrastructure and G&A cost of USD 3.32/t.
   - Pit average slope angles varying from 37° to 60° depending on the geotechnical domain.
   - The average recovery is estimated to be 82.6% for silver and 86.5% for gold.
5. The formula for calculating AgEq is as follows: Silver Eq oz = Silver oz + Gold oz x (Gold Price/Silver Price).
6. The Mineral Reserve Estimate has been categorized in accordance with the CIM Definition Standards (CIM, 2014).
7. A Net Value per block ("NVB") cut-off was used to constrain the Mineral Reserve with the reserve pit shell. The NVB was based on "Benefits = Revenue-Cost" being positive, where, Revenue = [(Au Selling Price (USD/oz) - Au Selling Cost (USD/oz)) x (Au grade (g/t)/31.1035)) x Au Recovery (%)] + [(Ag Selling Price (USD/oz) - Ag Selling Cost (USD/oz)) x (Ag grade (g/t)/31.1035)) x Ag Recovery (%)] and Cost = Mining Cost (USD/t) + Process Cost (USD/t) + Transport Cost (USD/t) + G&A Cost (USD/t) + [Royalty Cost (%) x Revenue]. The NVB method resulted in an average equivalent cut-off grade of approximately 46g/t AgEq.
8. In-situ bulk density was read from the block model, assigned previously to each model domain during the process of mineral resource estimation, according to samples averages of each lithology domain, separated by alteration zones and subset by oxidation.
9. All tonnages reported are dry metric tonnes and ounces of contained gold and silver are troy ounces.
10. Mining recovery and dilution factors have not been applied to the Mineral Resource estimates.
11. All figures are rounded to reflect the relative accuracy of the estimates. Minor discrepancies may occur due to rounding to appropriate significant figures.

15.7 Factors Affecting Mineral Reserve Estimates

Various technical and economic factors can affect the Mineral Reserve estimate, such as dilution, metal prices, off-site costs, metallurgical recoveries, open pit slope designs, capital, and operating cost estimates. In the opinion of Mr. Fuentealba (QP), the factors affecting the Mineral Reserve have been adequately considered. The main factors affecting the Mineral Reserve reported in this section are:

- Metal sales prices, particularly silver price, account for a 58% share of total revenues.
- A more aggressive open pit design parameter according to future geotechnical study may mean a decrease of waste rock and lower strip ratio.

The Mineral Reserves estimate has considered all known legal, political, environmental, or other risks that could materially affect the potential development of the Mineral Reserves, as discussed in various sections of this Technical Report.

15.8 Comments on Section 15 from the QP

This section represents the technical and economic conditions based on the data received and generated during the Pre-Feasibility Study of the Diablillos Project. This document is valid as of March 25th, 2024. Given the nature of the mining business, the conditions may be modified due to advances in technology and/or the global or national economic situation within the country where the project will be developed. Accordingly, the results of the study may vary.

A margin of error must be considered due to the rounding of figures used in the process; however, in the opinion of the QP, these are negligible.

Neither Bmining nor Mr. Fuentealba (the QP) are privileged persons, associates, or affiliates of Abra Silver, or each of its respective subsidiaries or affiliates in connection with the Project.

The project has many possibilities of expanding its Mineral Reserves by investing in geotechnical drilling and subsequent rock testing as well as further exploration and infill drilling. There are sectors of the open pit that can be modified with a greater overall slope angle, and this would allow a reduction in waste handling and a lower strip ratio. It may also be possible to convert some currently below cut-off grade mineralization to Mineral Resource and Reserve with a lower cost processing technique such as heap leaching for example.

16 MINING METHODS

Being a large, near-surface orebody, the Diablillos Project will be developed as an open pit mining operation. Waste and ore will be drilled and blasted, loaded by hydraulic shovels and loaders, and transported by haul trucks to external waste storage facilities (WSF), long-term stockpiles, or a run-of-mine (ROM) pad where it is fed to a primary crusher for mineral processing.

An optimal processing throughput rate of 9,000 tonnes per day (tpd) was established on the raw water availability coming from the explored Barranquillas district. This plant throughput rate became the basis of all subsequent mine planning targeting to secure plant saturation at nominal capacity. The project has several stockpile facilities to allow for an increase in mining capacity to forward higher grade material to the mill while stockpiling low-grade material.

The PFS considers only one mineral processing flowsheet, which is comminution, gravity recovery followed by intense cyanidation, tank leaching, Merrill Crowe recovery and foundry. Below cut-off grade marginal mineralization present at Diablillos, is currently being treated as waste in the PFS, although a preliminary internal study performed, showed that it could be amenable to other low-cost processing technologies, which could be confirmed by further test work to be completed in the near future. Thus, the current PFS calls for grade control to only differentiate waste from ore and direct feed ore from stockpiled ore. In spite of insufficient data to define another extraction process at this stage, a specific waste rock dump area has been reserved to stock that mineralization in case the company may pursue the option of another processing technology in the future should conditions warrant.

16.1 Introduction

This section will describe the operational design of the mining phases and the planning considered to declare the Mineral Reserves of the Diablillos Project. The Diablillos ore bodies are feasible to mine through open pit mining, while the Merrill Crowe method is suitable for processing.

16.2 Mine Design Criteria

Benches in each open pit phase will be mined to a height of 10 meters for all types of material. A 30-meter-wide transport ramp with a 10% slope will be used to allow off-road trucks of 100 metric tonnes to travel in both directions (double track). This width considers safety berms, rainwater ditches, and minimum centre separation. Figure 16-01 shows the profile of the internal mine haulage ramp and Figure 16-02 shows the diagram for the directional turns. A 13-meter decoupling berm is considered every 120 meters of slope height when no ramp passes through the wall. The average inter-ramp angles for the different pit walls range from 34.7 to 57.8 degrees, for the less competent material called "cover" and the more competent material, respectively. A summary of the open pit design parameters is shown in Table 16-01.

Figure 16-01: Typical haul road cross-section.

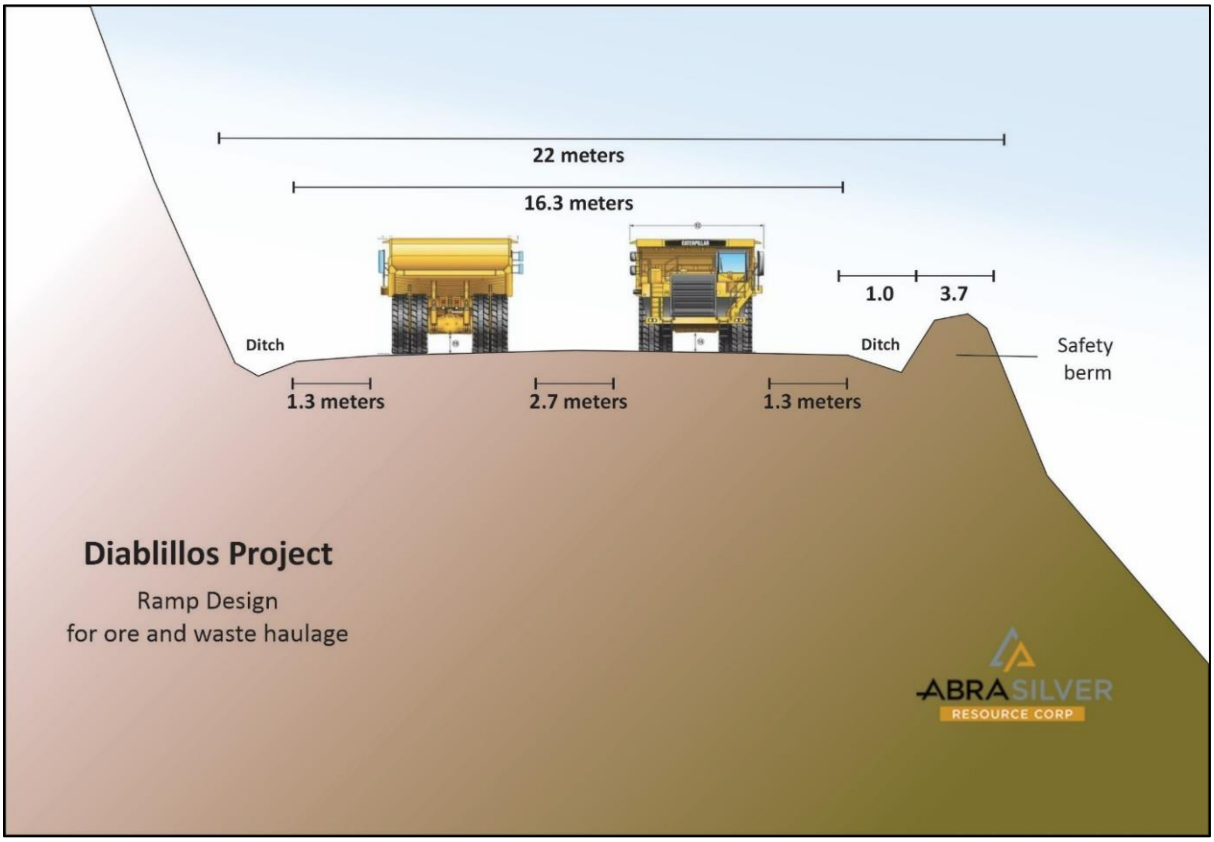


Figure 16-02: Typical haul road turning radius.

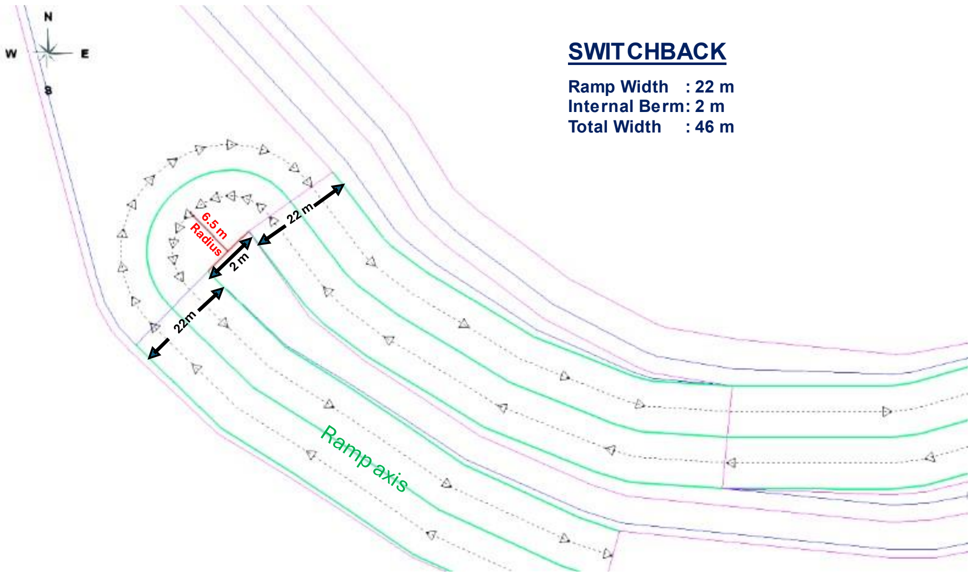


Table 16-01: Pit design parameters.

Parameter	Units	Value	Comments
Bench height	Meters	10	
Bench face angle	Degrees	60-80	According to geotechnical zone
Berm width	Meters	4.5-11.76	According to geotechnical zone
Geotechnical berm	Meters	12-13	Each 120m of high
Inter ramp slope angle	Degrees	34.7-57.8	
Ramp width	Meters	22	Allows for double lane traffic
Maximum slope	%	10	

16.2.1 Final Open Pit Design

The final designed operating open pit has an approximate azimuth of 49 degrees in a southwest to northeast direction. Its dimensions are 2,350 meters long by 1,170 meters wide, its deepest part reaches 4,000 meters above sea level in the sector known as Oculto, which is also the highest part of the slope at approximately 600 meters above sea level. The final open pit also considers a minimum of two pit exits in any period to comply with the legislation in force.

Figure 15-03 shows the final pit design with its dimensions.

Figure 15-04 shows the Oculto sector, which, due to its height, involves 6 geotechnical decoupling berms and 5 ramp passes. A total of 64 benches contains the highest wall.

Figure 16-03: Final pit design.

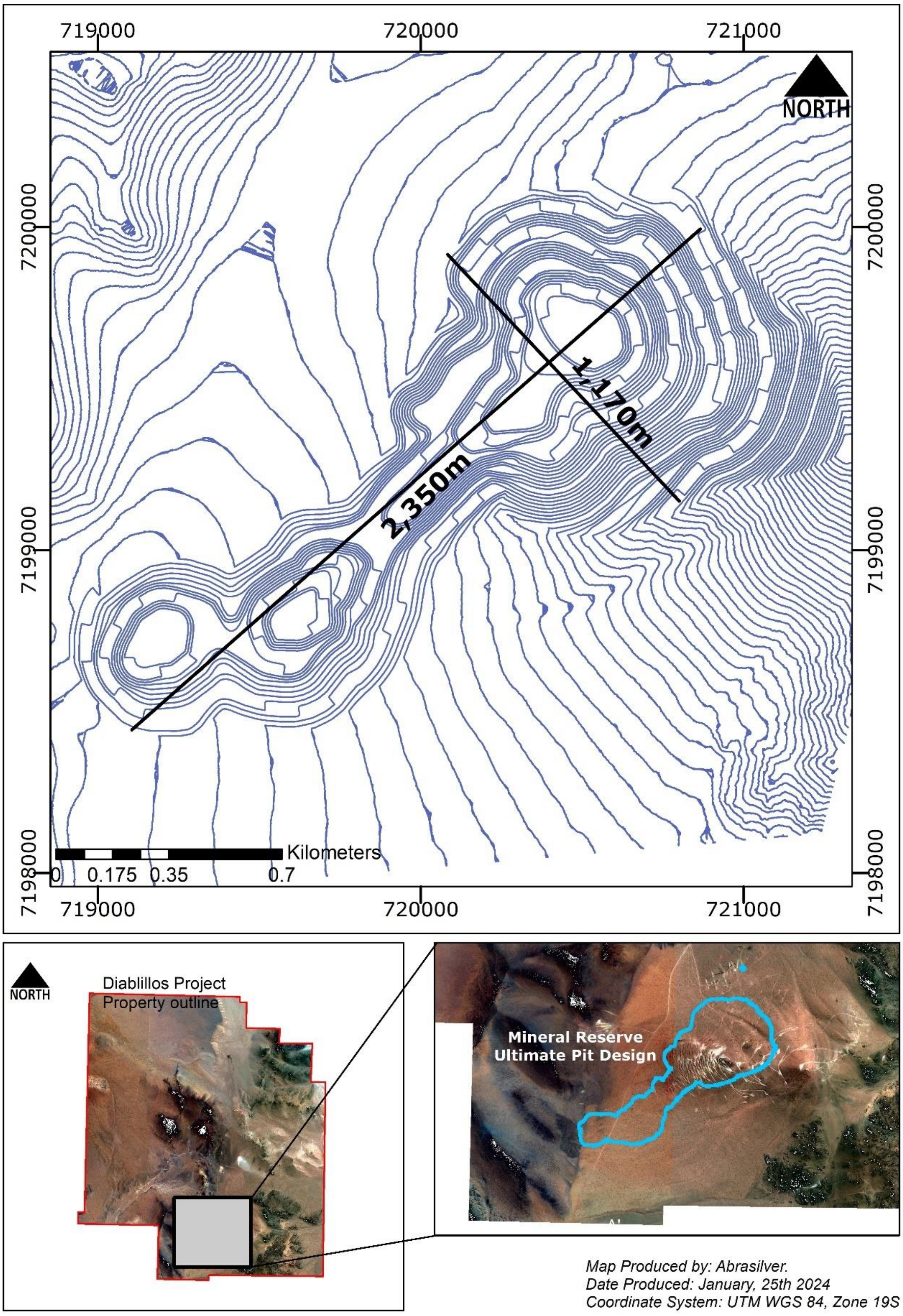
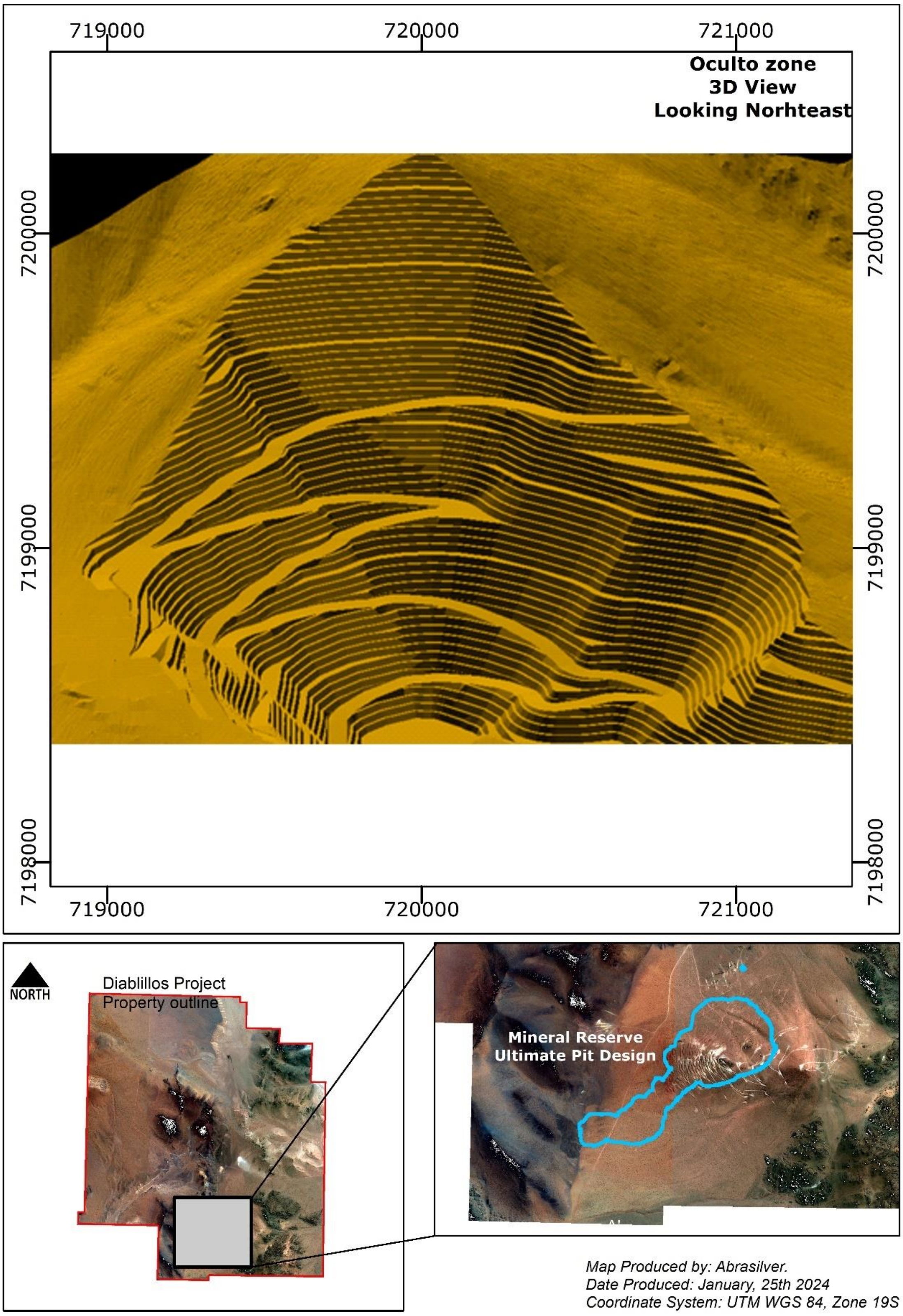


Figure 16-04: Oculto zone, final pit design.



16.2.2 Operating Phase Design

As mentioned in Section 15 of this report, after selecting the theoretical phases that follow the economic sequence, the six operating phases of the project were designed. In addition, to align the mining plan with the construction plan and to have the necessary material to build the platforms for the main infrastructure, a Phase 0 was defined, which exclusively extracts the material type "cover", in the southwest sector of the mine. The operating phases are shown in Figure 16-5.

The tonnage estimates of the material that meets the conditions set out in Table 15-9 of Section 15 represents the Proven and Probable Mineral Reserves, which are shown below in Table 16-2 by operating phase. In addition, Table 16-3 shows the waste rock of each phase.

Table 16-02: Proven and Probable Mineral Reserves by operating phase.

Proven Reserves							
Phase	Tonnage (000 t)	Au (g/t)	Ag (g/t)	AgEq (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)	Contained AgEq (k oz AgEq)
1	3,950	0.60	173	219	21,985	75	27,864
2	317	0.10	176	183	1,793	0.9	1,869
3	2,408	0.76	166	225	12,873	58	17,453
4	3,032	1.07	82	165	7,990	104	16,085
5	1,381	1.25	27	124	1,184	55	5,516
6	1,273	1.13	24	111	968	46	4,562
Total	**12,364**	**0.86**	**118**	**185**	**46,796**	**341**	**73,352**

Probable Reserves							
Phase	Tonnage (000 t)	Au (g/t)	Ag (g/t)	AgEq (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)	Contained AgEq (k oz AgEq)
1	4,437	0.52	170	210	24,248	73	29,970
2	1,238	0.07	181	186	7,191	2	7,396
3	4,073	0.57	134	178	17,527	75	23,373
4	9,439	0.85	62	127	18,693	256	38,639
5	4,115	1.15	26	116	3,457	152	15,334
6	6,626	0.96	26	101	5,565	205	21,552
Total	**29,930**	**0.80**	**80**	**142**	**76,684**	**766**	**136,267**

Proven & Probable Reserves							
Phase	Tonnage (000 t)	Au (g/t)	Ag (g/t)	AgEq (g/t)	Contained Ag (k oz Ag)	Contained Au (k oz Au)	Contained AgEq (k oz AgEq)
1	8,387	0.55	171	214	46,233	149	57,835
2	1,555	0.07	180	185	8,984	3	9,265
3	6,482	0.64	146	196	30,401	134	40,826
4	12,471	0.90	67	136	26,684	360	54,725
5	5,496	1.18	26	118	4,642	208	20,851
6	7,900	0.99	26	103	6,534	251	26,115
Total	**42,294**	**0.81**	**91**	**154**	**123,480**	**1,107**	**209,619**

Figure 16-04: Oculto zone, final pit design.

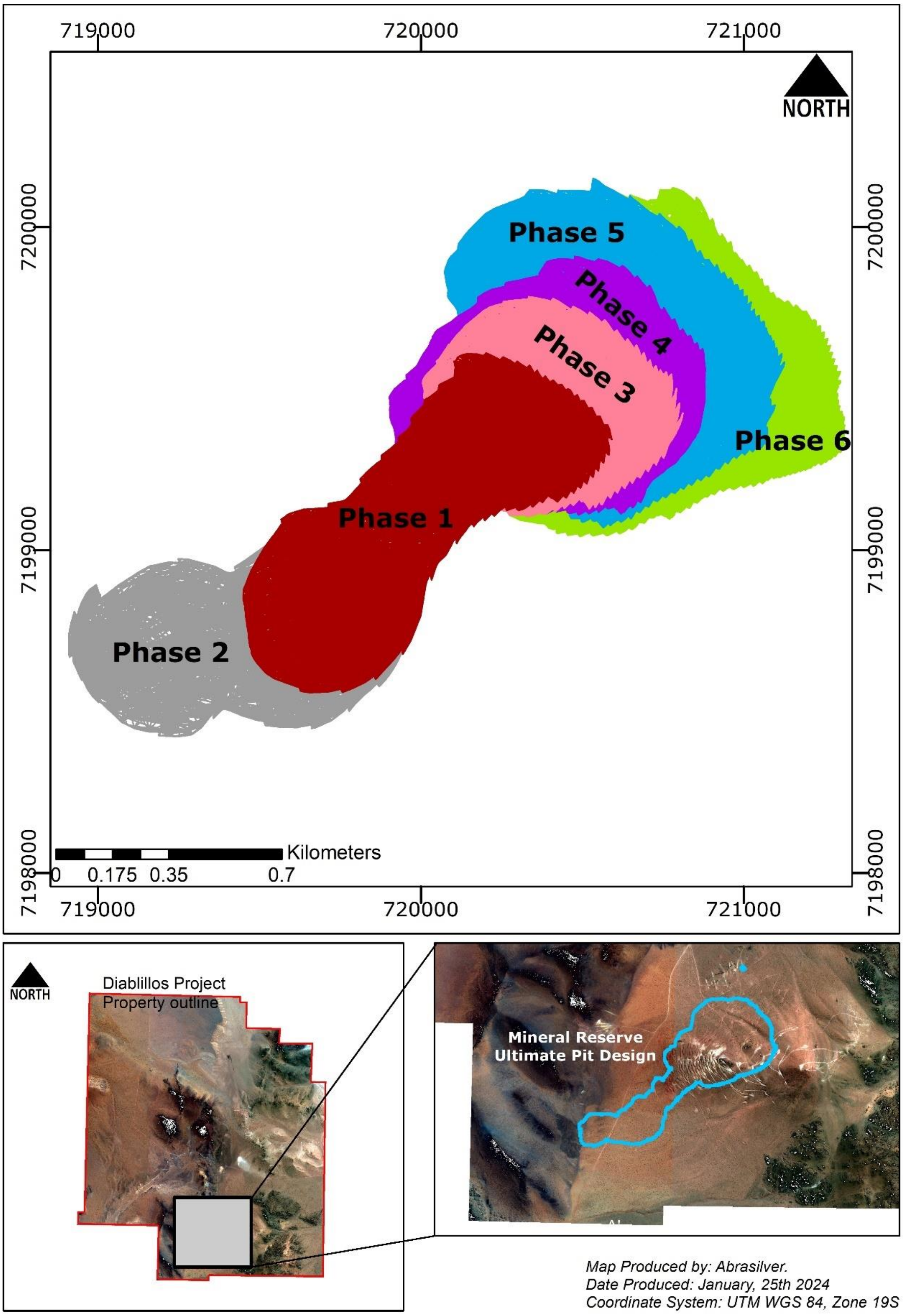
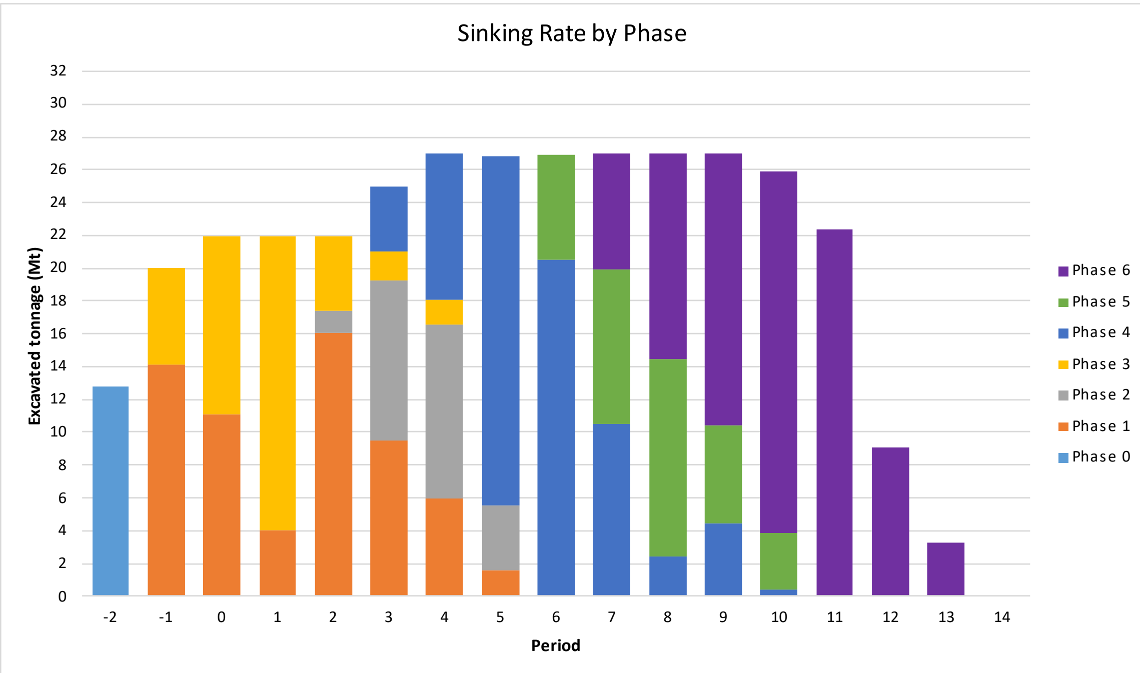


Table 16-03: Waste rock by phase.

Waste (000 t)			
Phase	Cover	Rock	Total
0	12,748	3	12,751
1	14,947	38,935	53,882
2	14,079	10,048	24,127
3	3,988	32,086	36,074
4	6,976	52,811	59,787
5	6,422	25,429	31,844
6	4,463	80,577	85,040
Total	**63,623**	**239,889**	**303,505**

Also, movement by phase and period can be visualized in Figure 16-05.

Figure 16-05: Mining rate per phase.



16.3 Mining Plan

The overall project life will be 16 years, when including 2 pre-production years called periods -2 and -1. During year 0 or third year of project execution, the feed ramp-up to the process plant will begin, until the full average mining rate of 25 to 27 million tonnes is achieved.

16.3.1 Pre-Production Activities

During the pre-production stage, the following main infrastructure platforms backfill will be performed; the camp, contractors' yard, service hub, processing plant and ROM pad platforms including the main roads to the north waste dump and the TSF.

Cover material requirements:

- Contractors' camp and yard 88,000 m^3.
- Service Hub and main access road 310,000 m^3.
- Process plant platform 915,000 m^3.
- Rom pad platform 1,880,000 m^3.

Due to the demand of cover material for the pre-production stage, it was necessary to design a Phase 0 only considering this type of material. Phase 0 is shown in Figure 16-7 below.

Figure 16-06: Platforms for facilities, infrastructure, and roads.

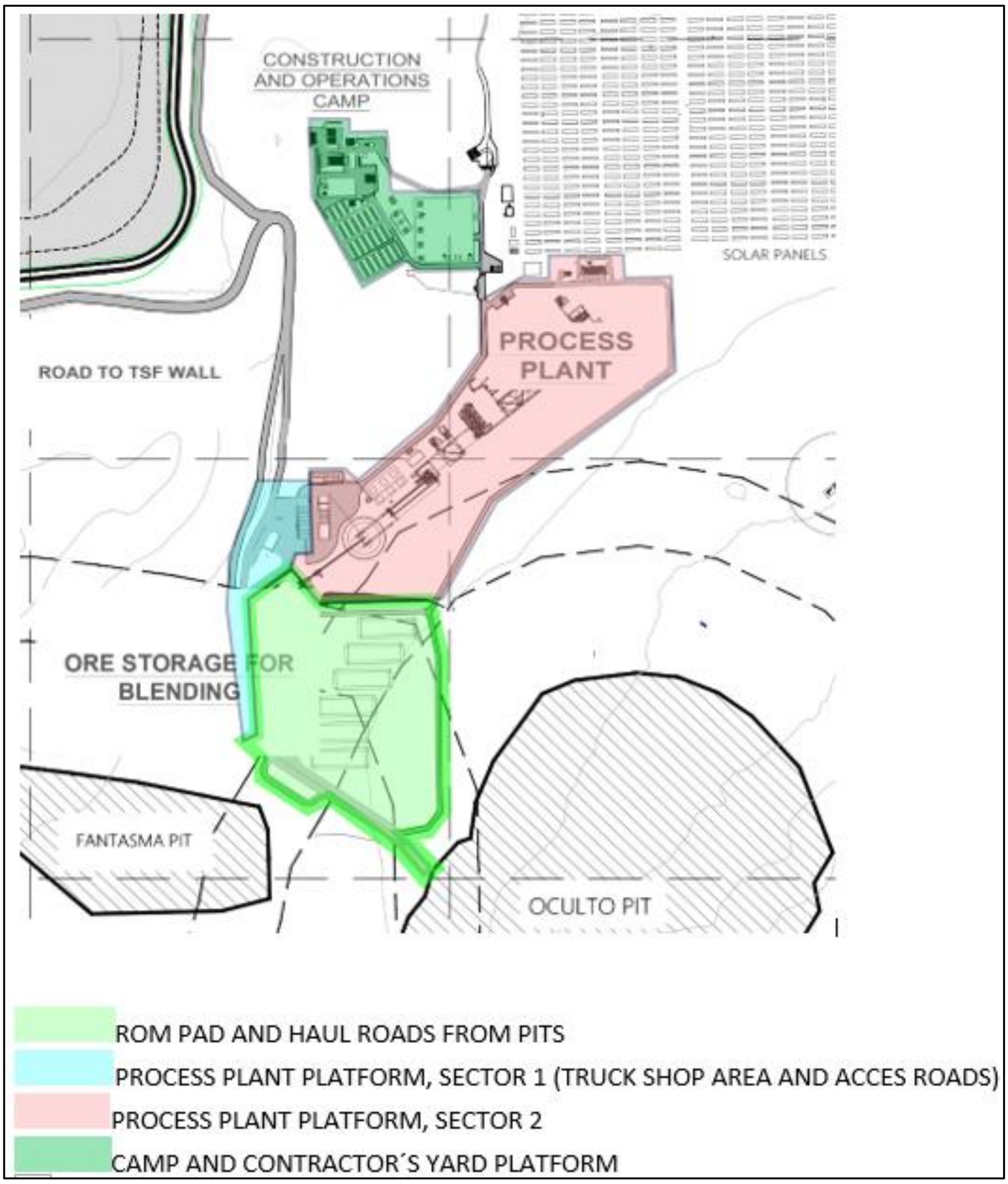
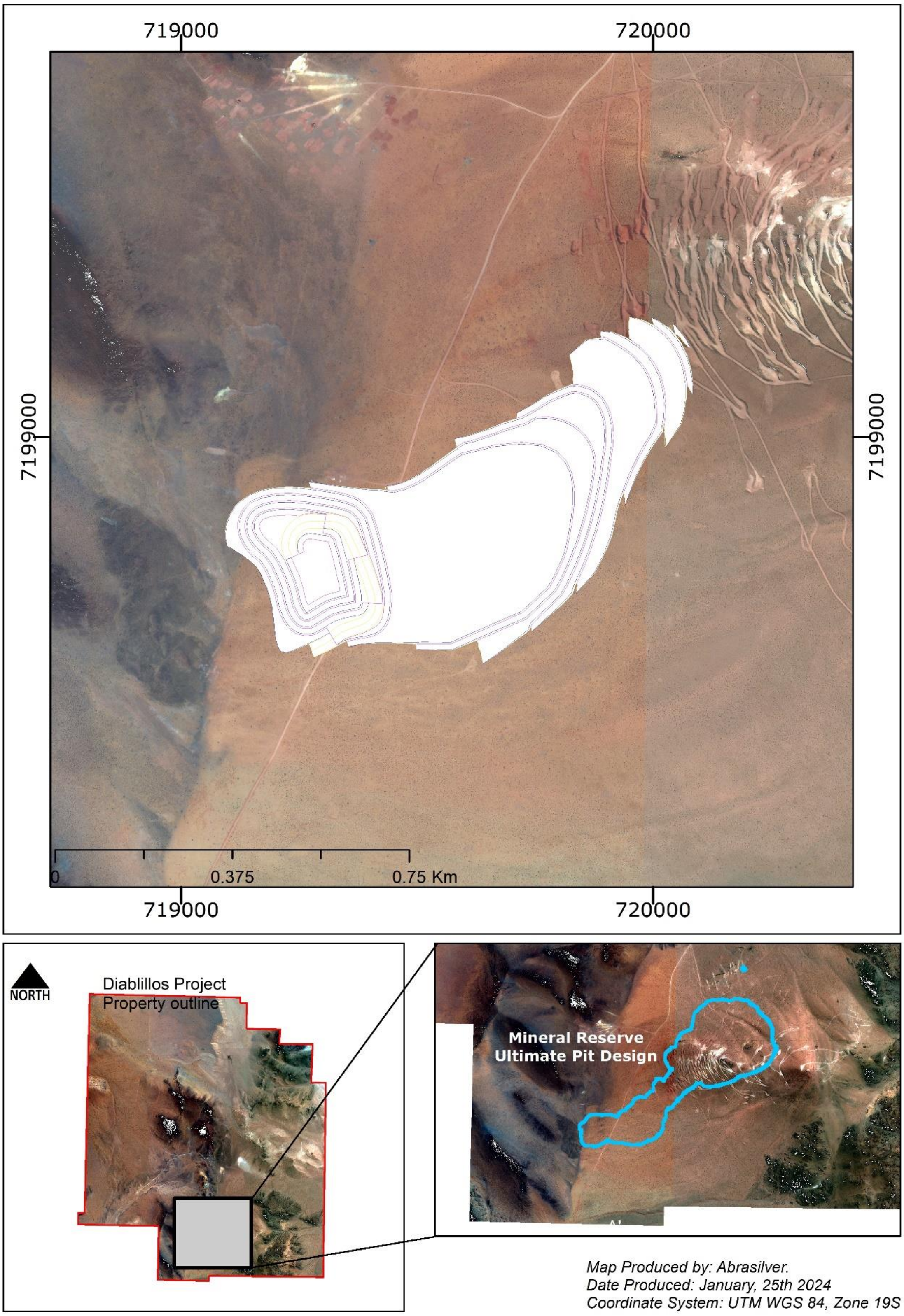


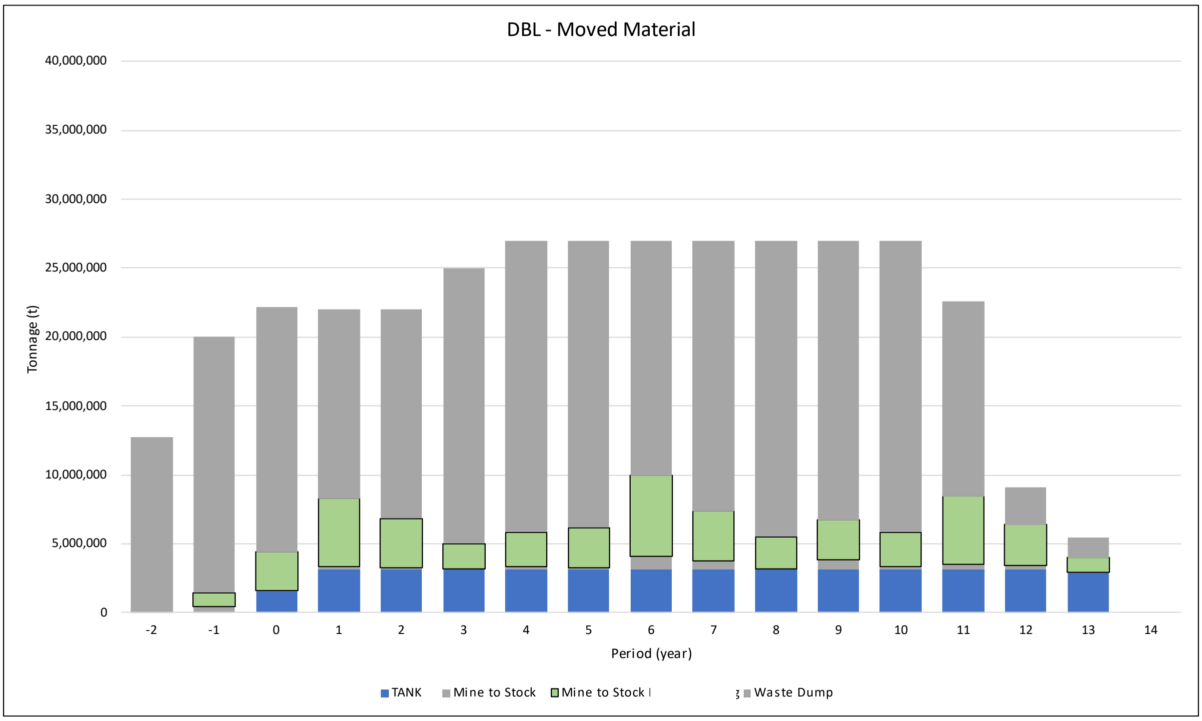
Figure 16-07: Phase 0 full cover.



16.3.2 Mine Plan

The production plan considers a strategy that meets the need for cover for the first period (-2 construction) and in the second and third period (-1 and 0), stockpiles the ore that can be obtained to start feeding from period 0. Starting in period 1, the plant will be fed at full capacity between ore direct from the mine and stockpiles. Figure 16-08 shows the material moved per period while Figure 15-09 shows the material mined per period.

Figure 16-08: Material moved per period.



The Process Plant will generally be fed directly from the mine; however, in some of the years it will be necessary to stockpile ore beforehand in order to complete its total capacity. Figure 16 11 shows that in periods in orange it is necessary to feed from the stockpiled material.

Figure 16-09: Material mined per year.

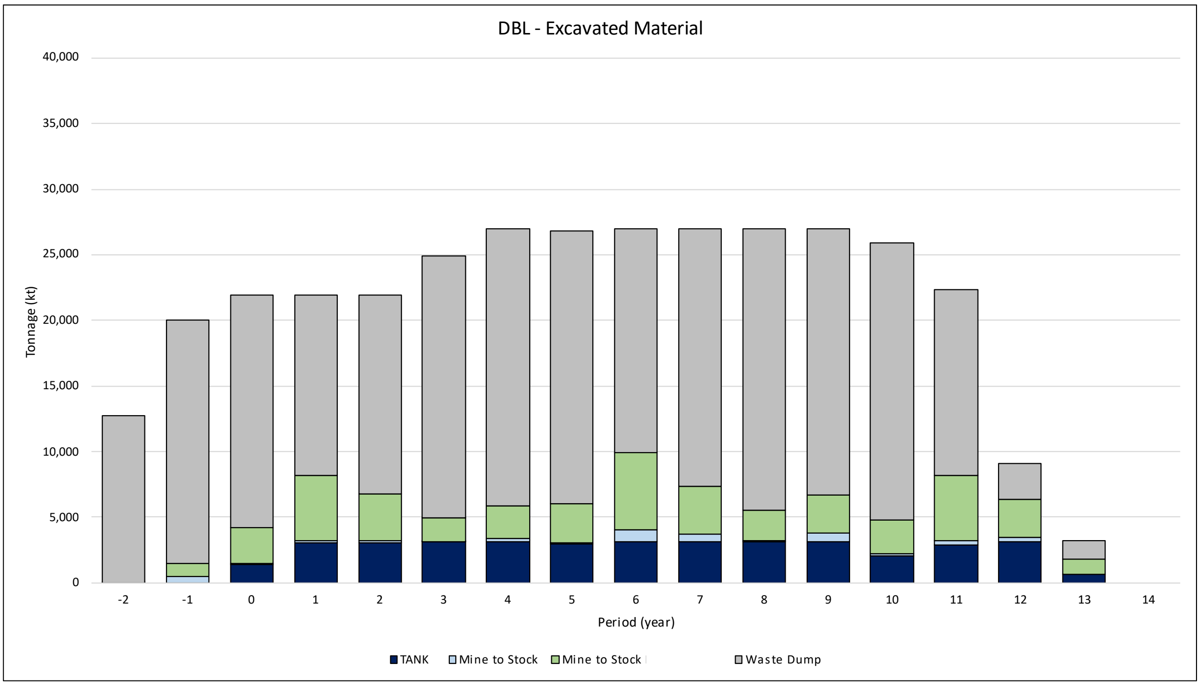


Figure 16-10: Mine to process plant vs stockpile to process plant.

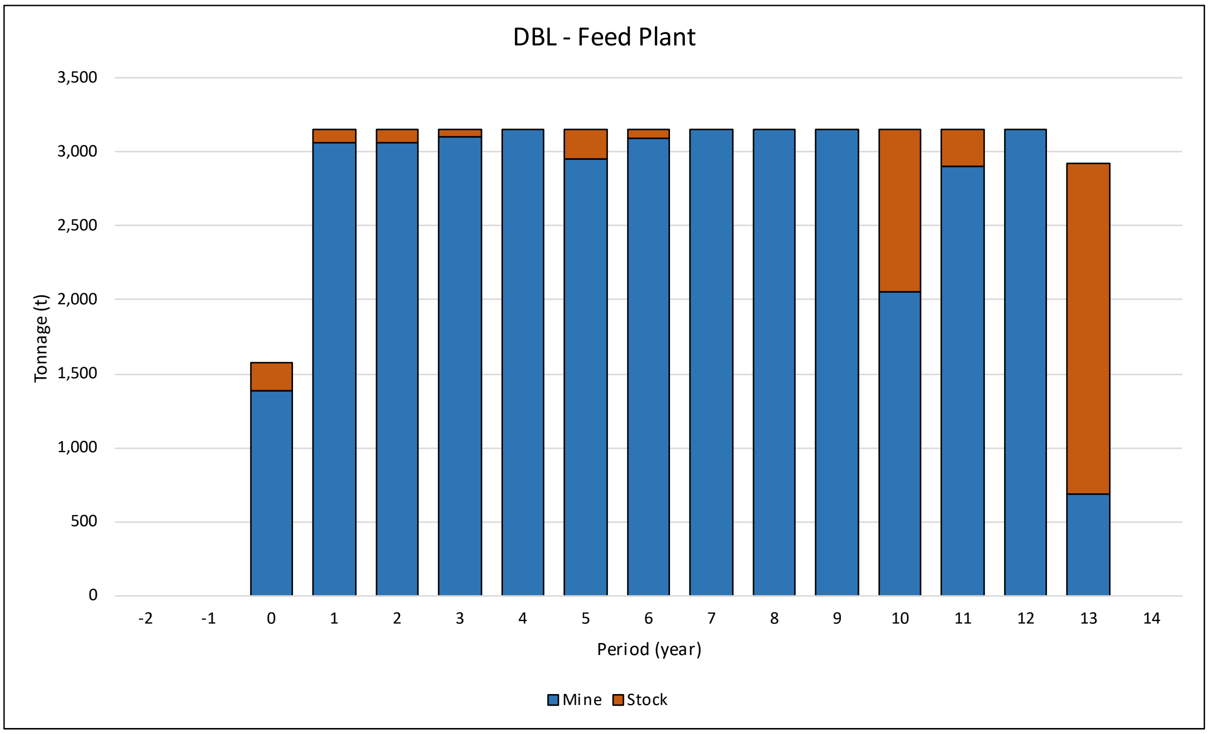


Table 16 4 shows the total movement per period and the process plant feed grades while Table 16 5 shows the production plan in detail, with the ore from the different geo-metallurgical domains separately due to their different metallurgical recoveries for gold and silver. In addition, Table 16 6 shows separately the waste rock considered as cover that can be extracted using mining equipment alone and the waste rock that must be drilled and blasted for subsequent extraction with mining equipment.

Table 16-04: movement by period.

					Mine to Stock	Mine to Marginal Stock	Stock to Process Plant	Mine to Waste Dump	Total Rock
Period	Tonnage (000 t)	Au (g/t)	Ag (g/t)	AgEq (g/t0	Tonnage (000 t)	Tonnage (000 t)	Tonnage (000 t)	Tonnage (000 t)	Tonnage (000 t)
-2	0	-	-	0	-	0	-	12,751	12,751
-1	0	-	-	0	444	1,025	-	18,531	20,000
0	1,575	0.85	80	146	67	2,746	190	17,765	22,153
1	3,150	0.32	149	174	164	4,972	90	13,725	22,011
2	3,150	0.54	164	206	125	3,573	90	15,152	22,000
3	3,150	0.75	164	222	42	1,840	50	19,968	25,000
4	3,150	0.61	165	213	223	2,471	-	21,156	27,000
5	3,150	0.34	200	226	126	2,916	200	20,808	27,000
6	3,150	0.64	75	125	954	5,840	53	17,056	27,000
7	3,150	1.09	68	153	571	3,668	-	19,611	27,000
8	3,150	1.04	49	130	59	2,311	-	21,480	27,000
9	3,150	1.49	38	154	687	2,869	-	20,294	27,000
10	3,150	1.00	29	107	179	2,528	1,100	21,142	27,000
11	3,150	0.90	35	106	331	4,984	248	14,121	22,586
12	3,150	1.19	17	110	278	2,973	-	2,676	9,077
13	2,919	0.64	28	77	-	1,079	2,229	1,471	5,470
14	-	-	-	-	-	-	-	-	-
Total	**42,294**	**0.81**	**91**	**154**	**4,250**	**45,795**	**4,250**	**257,709**	**350,048**

The "Mine to Marginal Stock" column shows mineralization that is below cut-off grade material with marginal grade for the current process but attractive for possible implementation of a secondary process such as heap leaching for example. A sector located directly west of JAC will be available for stockpiling this mineralization, with a capacity of 20 million tonnes. Hence, it is possible to wait until period 5 to start this secondary process considering that the payback period of upfront investment will have been already recovered. The waste rock to ore ratio is currently at 7.18 but could be further decreased if this secondary process materializes and additional stability study of the open pit allows for overall wall angles increase.

Table 16-05: Mine movement by period.

Material/Period	-2	-1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
Ore Total to Plant	-	-	1,575,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	2,919,159	-	42,294,159
Au (g/t)	-	-	0.85	0.32	0.54	0.75	0.61	0.34	0.64	1.09	1.04	1.49	1.00	0.90	1.19	0.64	-	0.81
Ag(g/t)	-	-	79.69	149.43	163.73	163.65	165.41	199.57	75.15	68.38	48.96	37.58	29.10	35.45	17.46	27.57	-	90.81
Mine to Plant	-	-	1,385,000	3,060,000	3,060,000	3,100,000	3,150,000	2,950,000	3,097,058	3,150,000	3,150,000	3,150,000	2,050,000	2,902,492	3,150,000	689,857	-	38,044,407
Au (g/t)	-	-	0.80	0.29	0.53	0.75	0.61	0.34	0.64	1.09	1.04	1.49	1.27	0.94	1.19	1.05	-	0.84
Ag(g/t)	-	-	87.89	153.24	167.53	165.65	165.41	209.76	75.58	68.38	48.96	37.58	24.60	35.38	17.46	14.07	-	97.16
Ore Shallow (t)	-	-	691,378	155,619	1,095	-	-	9,838	429,738	11,623	-	-	-	-	-	-	-	1,299,291
Au (g/t)	-	-	1.10	0.41	0.83	-	-	0.52	0.90	0.38	-	-	-	-	-	-	-	0.94
Ag(g/t)	-	-	81.43	139.11	14.50	-	-	60.86	54.81	70.19	-	-	-	-	-	-	-	79.22
Ore Silver Enrichment (t)	-	-	693,622	2,813,776	2,394,974	99,337	-	540,532	1,802,006	264,672	-	-	5,693	2,978	-	-	-	8,617,590
Au (g/t)	-	-	0.50	0.29	0.57	0.54	-	0.60	0.64	0.30	-	-	0.48	0.88	-	-	-	0.48
Ag(g/t)	-	-	94.32	153.17	185.74	228.01	-	61.89	70.88	100.47	-	-	125.83	34.43	-	-	-	133.74
Ore Deep Gold (t)	-	-	-	-	555,281	2,461,084	1,617,045	243,729	105,913	2,357,019	1,427,808	1,382,637	195,466	95,720	69,364	1	-	10,511,066
Au (g/t)	-	-	-	-	0.49	0.93	1.10	0.35	0.68	1.24	1.42	1.41	1.23	1.12	1.17	0.83	-	1.12
Ag(g/t)	-	-	-	-	91.88	172.99	204.68	350.62	70.85	70.30	67.22	54.72	17.55	13.74	16.28	11.50	-	118.34
Ore NE (t)	-	-	-	90,605	-	-	5,745	796,216	759,402	516,686	1,722,192	1,767,363	1,848,840	2,803,794	3,080,636	689,856	-	14,081,336
Au (g/t)	-	-	-	0.18	-	-	0.07	0.40	0.49	0.81	0.73	1.56	1.27	0.93	1.19	1.05	-	1.03
Ag(g/t)	-	-	-	179.52	-	-	88.73	127.84	99.16	43.14	33.82	24.17	25.03	36.11	17.48	14.07	-	37.51
Ore JAC (t)				-	108,650	539,579	1,527,210	1,359,685										3,535,124
Au (g/t)	-	-	-	-	0.02	0.01	0.10	0.19	-	-	-	-	-	-	-	-	-	0.12
Ag(g/t)	-	-	-	-	154.29	120.68	124.12	292.35	-	-	-	-	-	-	-	-	-	189.22
Stock to Plant (t)	-	-	190,000	90,000	90,000	50,000	-	200,000	52,942	-	-	-	1,100,000	247,508	-	2,229,303	-	4,249,752
Au (g/t)	-	-	1.24	1.10	0.71	0.56	-	0.37	0.31	-	-	-	0.49	0.49	-	0.52	-	0.55
Ag(g/t)	-	-	19.92	19.85	34.61	39.60	-	49.22	50.13	-	-	-	37.50	36.38	-	31.75	-	33.93
Ore Shallow (t)	-	-	165,612	67,212	42,265	16,659	-	39,257	8,092	-	-	-	67,241	13,679	-	89,567	-	509,585
Au (g/t)	-	-	1.22	1.16	1.12	1.12	-	1.12	1.12	-	-	-	0.76	0.76	-	0.76	-	1.04
Ag(g/t)	-	-	20.84	21.69	21.84	21.84	-	21.84	21.84	-	-	-	33.92	33.92	-	33.92	-	25.54
Ore Silver Enrichment (t)	-	-	24,388	22,788	42,535	24,553	-	68,992	19,305	-	-	-	157,965	33,586	-	229,655	-	623,765
Au (g/t)	-	-	1.36	0.93	0.38	0.31	-	0.30	0.26	-	-	-	0.35	0.34	-	0.34	-	0.40
Ag(g/t)	-	-	13.67	14.41	45.33	48.32	-	46.92	48.50	-	-	-	42.21	42.32	-	42.06	-	41.20
Ore Deep Gold (t)	-	-	-	-	-	3,231	-	10,874	2,242	-	-	-	288,714	60,821	-	645,413	-	1,011,295
Au (g/t)	-	-	-	-	-	0.40	-	0.36	0.36	-	-	-	0.49	0.49	-	0.57	-	0.54
Ag(g/t)	-	-	-	-	-	32.39	-	37.45	37.45	-	-	-	36.50	35.98	-	27.02	-	30.42
Ore NE (t)	-	-	-	-	5,200	2,049	-	13,117	5,678	-	-	-	518,044	125,582	-	1,174,044	-	1,843,714
Au (g/t)	-	-	-	-	0.09	0.09	-	0.09	0.11	-	-	-	0.56	0.54	-	0.54	-	0.54
Ag(g/t)	-	-	-	-	50.78	50.78	-	55.05	53.52	-	-	-	33.41	32.05	-	29.56	-	31.15
Ore JAC (t)				-	-	3,507	-	67,761	17624.9				68035.42	13840.43		90624.86	-	261,394
Au (g/t)	-	-	-	-	-	0.06	-	0.07	0.06	-	-	-	0.06	0.06	-	0.06	-	0.06
Ag(g/t)	-	-	-	-	-	63.07	-	68.19	65.42	-	-	-	65.42	65.42	-	65.42	-	66.11
Ore Mine to Stock (t)	-	444,189	66,699	163,943	124,989	41,563	223,348	126,369	954,171	570,824	59,109	686,738	179,149	330,770	277,892	-	-	4,249,752
Au (g/t)	-	1.24	0.59	0.16	0.19	0.17	0.09	0.11	0.37	0.53	0.34	0.78	0.43	0.47	0.73	-	-	0.55
Ag(g/t)	-	19.92	19.58	55.40	51.78	44.28	66.50	53.32	45.33	31.06	32.18	22.90	25.81	24.28	13.62	-	-	33.93
Marginal Low Grade to Stock HL (t)	50	1,024,552	2,746,475	4,971,950	3,572,945	1,840,485	2,470,774	2,916,000	5,839,540	3,668,483	2,310,539	2,869,299	2,528,437	4,983,725	2,972,619	1,079,146	-	45,795,017
Au (g/t)	0.01	0.14	0.11	0.09	0.08	0.07	0.04	0.11	0.12	0.16	0.13	0.18	0.18	0.16	0.22	0.23	-	0.13
Ag(g/t)	21.85	9.30	14.81	19.32	20.71	22.78	25.55	17.01	17.59	15.73	17.23	13.08	12.97	13.43	9.43	8.18	-	16.36
Waste to Waste Dump (t)	12,751,164	18,531,260	17,765,317	13,725,301	15,152,066	19,967,953	21,155,879	20,807,632	17,056,289	19,610,693	21,480,351	20,293,963	21,142,414	14,121,120	2,676,428	1,471,271	-	257,709,099
Waste Shallow	85,502	13,241,350	5,193,160	1,596,246	42,533	-	-	292,859	1,797,493	62,139	-	-	-	-	-	-	-	22,311,282
Waste Silver Enrichment	1,577,367	4,906,868	10,525,626	11,009,222	6,322,935	3,065,813	5,338,905	8,225,092	4,583,315	2,003,365	2,174,486	2,297,171	2,286,782	443,306	-	-	-	64,760,253
Waste Deep Gold	363,905	-	36,465	28,327	1,882,421	2,815,480	1,686,438	267,952	1,772,874	2,555,009	526,918	1,264,663	163,150	1,379,501	96,123	23,221	-	14,862,446
Waste NE	-	105,579	1,154,361	553,186	-	1,180,410	3,245,525	8,867,710	8,776,624	14,854,202	18,725,667	16,410,830	18,595,058	12,037,356	2,529,857	1,021,632	-	108,057,997
Waste JAC	10,467,101	-	745,827	522,013	6,740,943	12,252,533	10,475,132	3,058,407	-	-	-	-	-	-	-	-	-	44,261,955
Waste No Information	257,289	277,463	109,878	16,309	163,233	653,717	409,878	95,612	125,983	135,978	53,280	321,299	97,425	260,957	50,448	426,418	-	3,455,166
SR		44	14	6	6	7	7	8	6	6	7	6	11	6	2	4	-	7.18
Total Movement	12,751,214	20,000,000	22,153,491	22,011,195	22,000,000	25,000,000	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000	22,585,614	9,076,939	5,469,576	-	350,048,028
*Cover (t)	12,751,214	5,959,453	3,757,466	1,722,943	7,218,977	11,887,468	5,106,229	4,105,869	4,822,764	3,610,694	512,429	1,660,927	508,570	-0	-	-0	-	

** Included in sending to Waste Dump*

16.3.3 Pit Design by Phases

Figures 16-11 to 16-17 show the topography wit discounted phases.

Figure 16-11: Phase 0, final pit design.

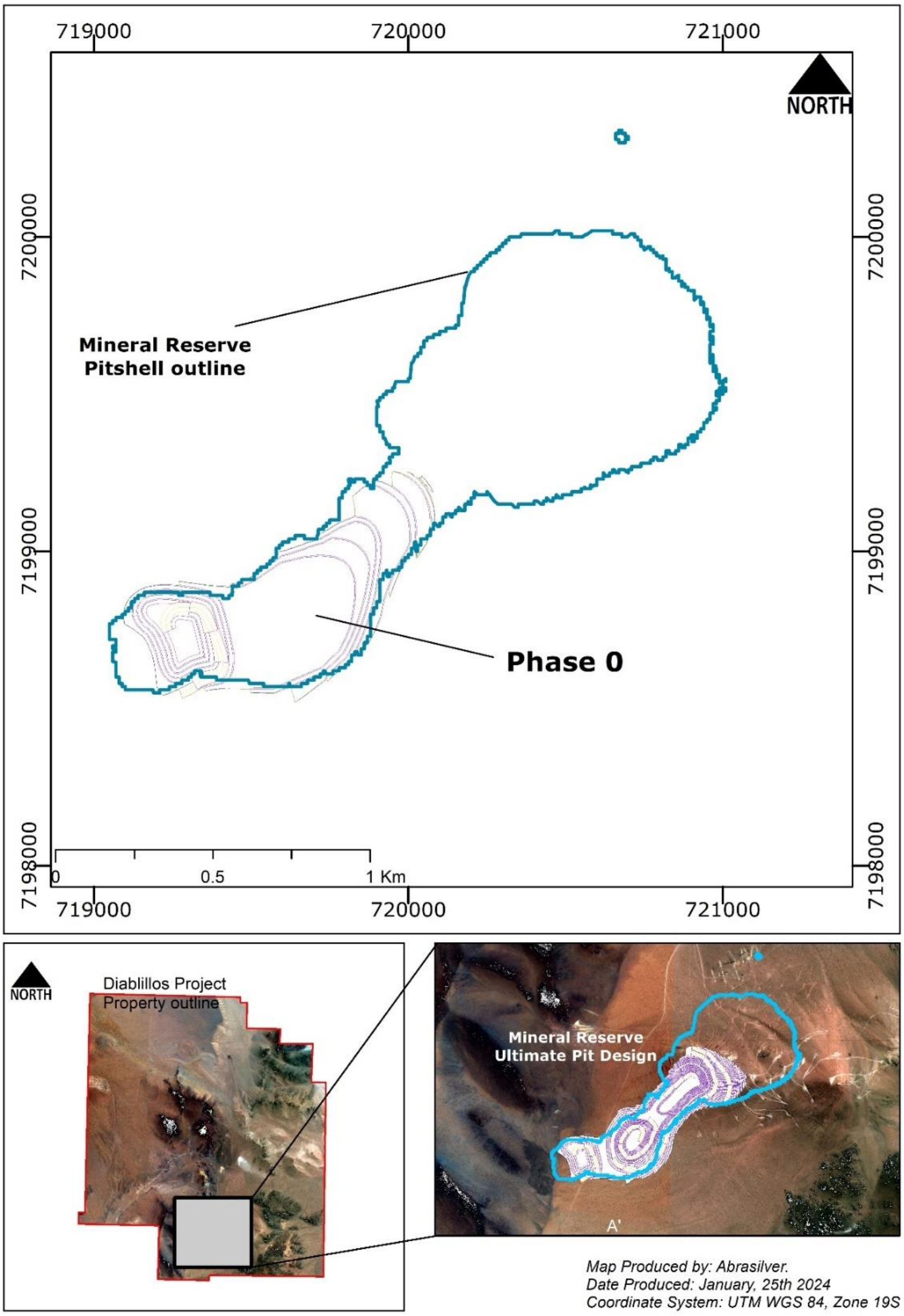


Figure 16-12: Phase 1, final pit design.

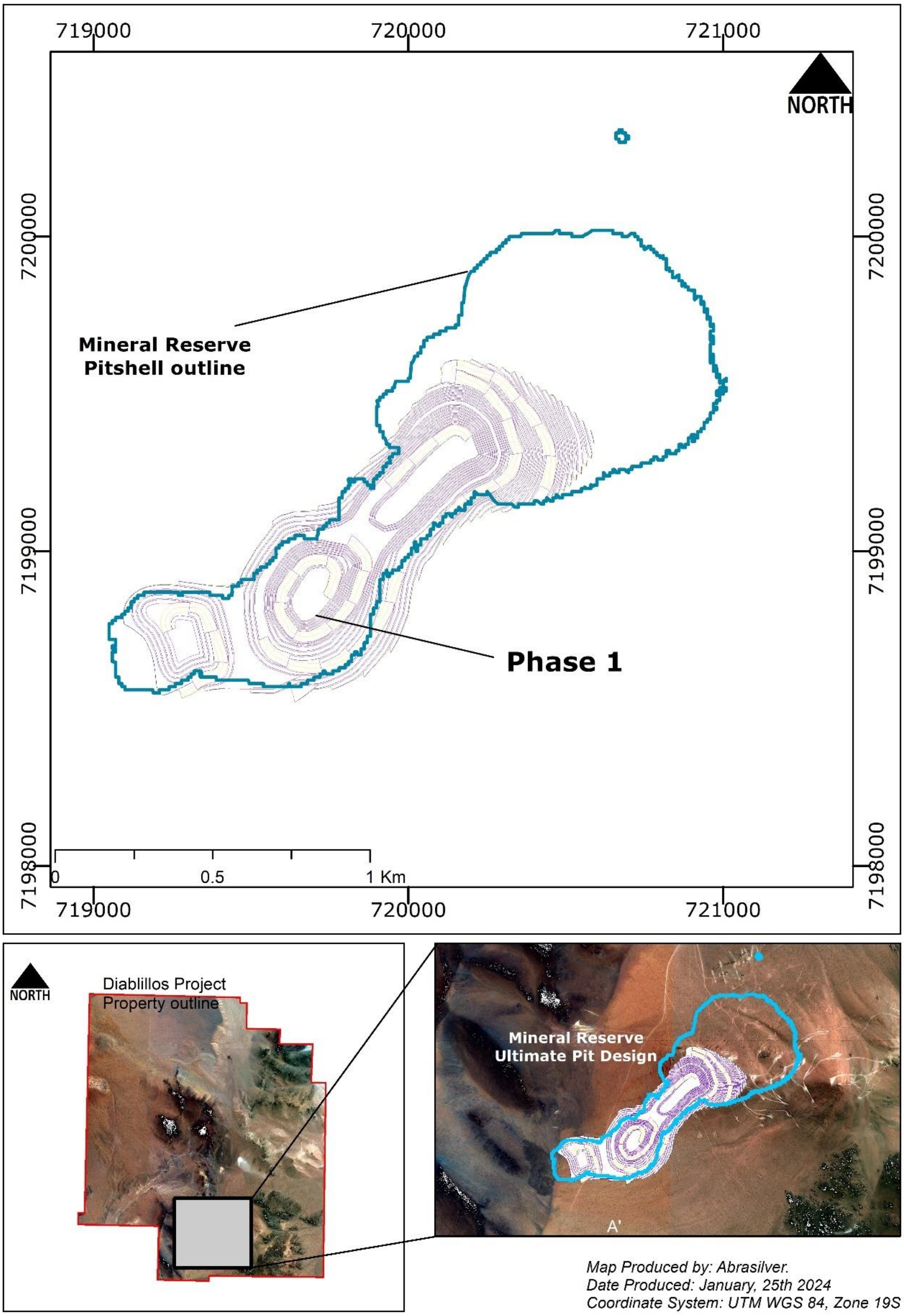


Figure 16-13: Phase 2, final pit design.

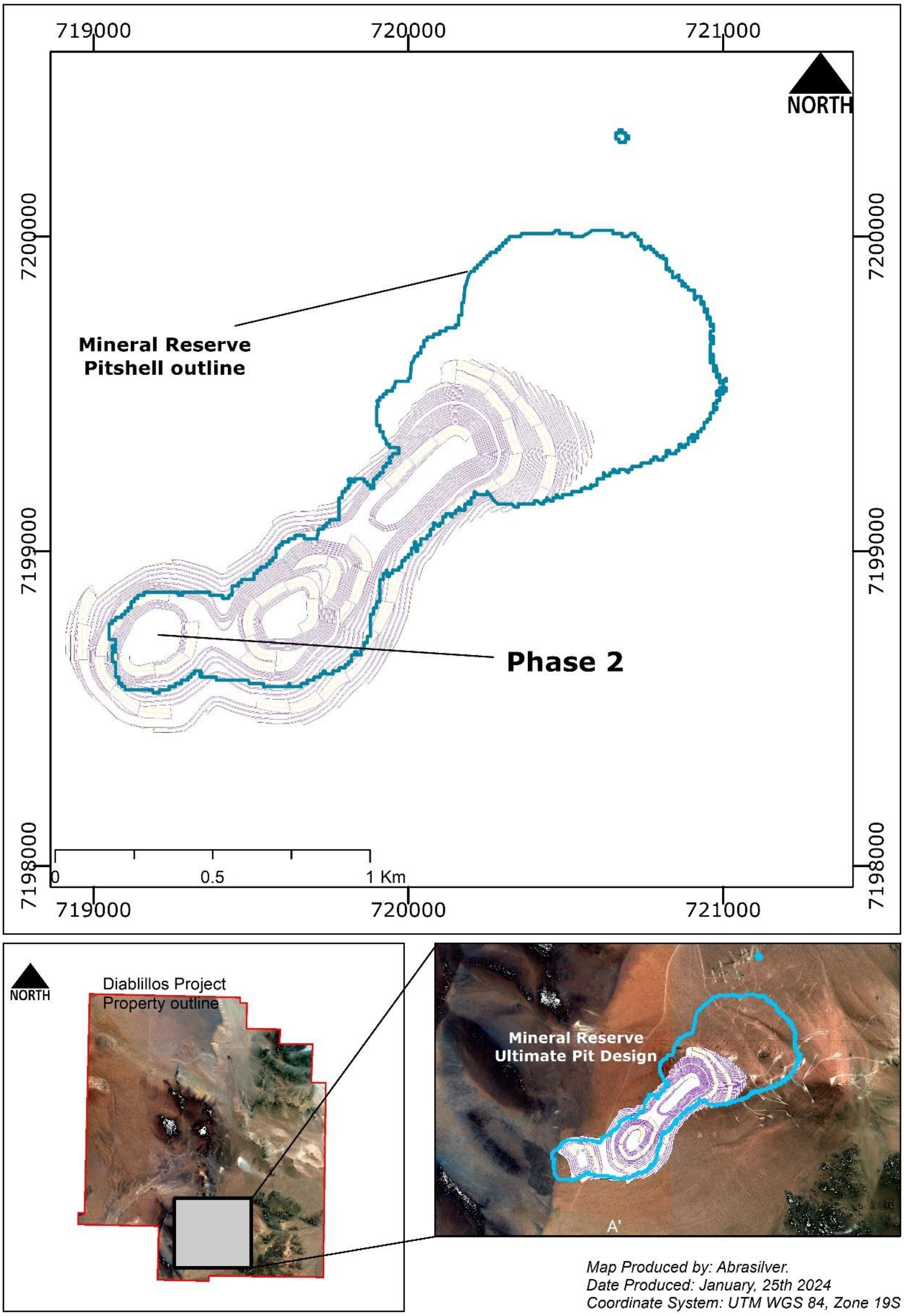


Figure 16-14: Phase 3, final pit design.

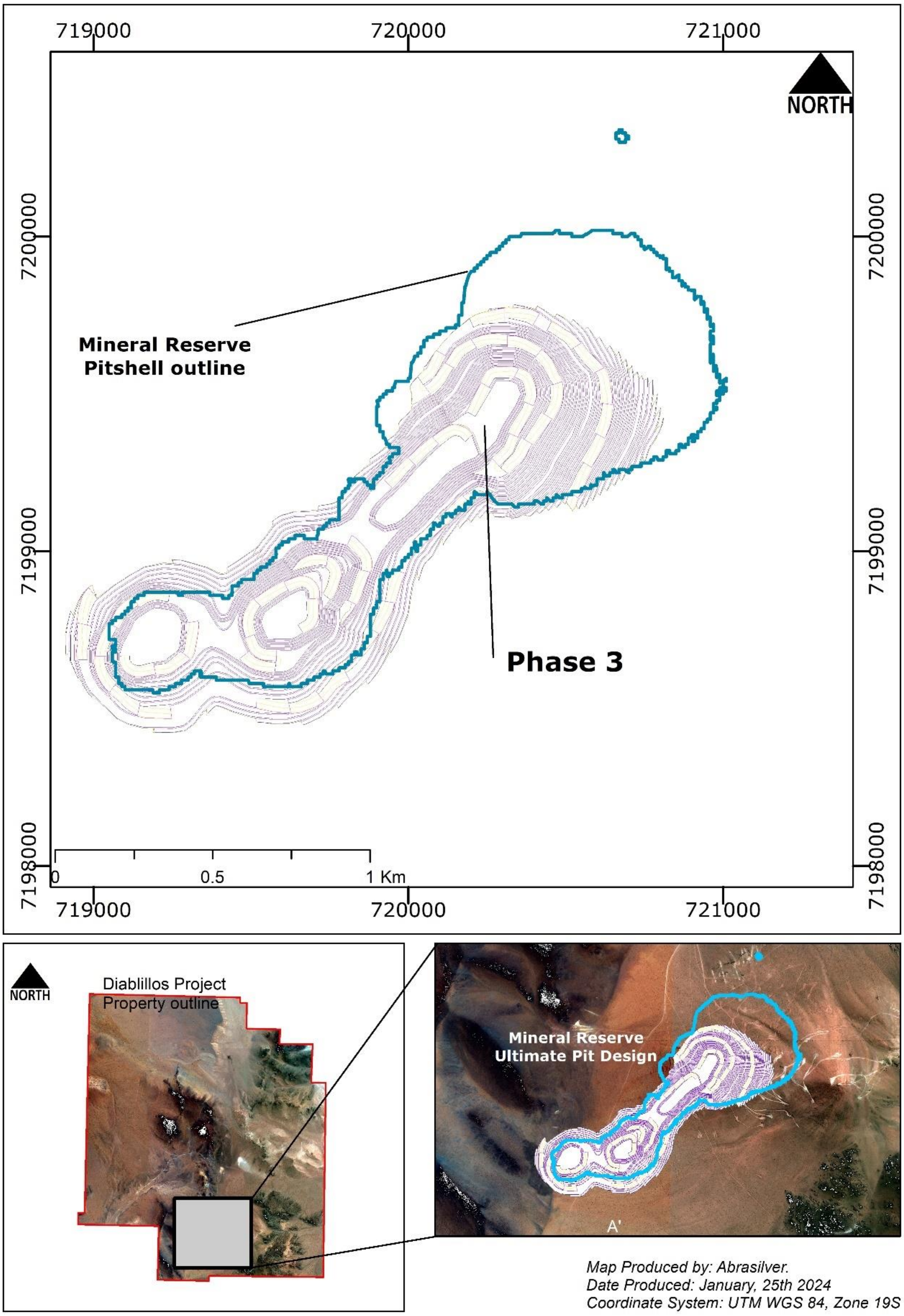


Figure 16-15: Phase 4, final pit design.

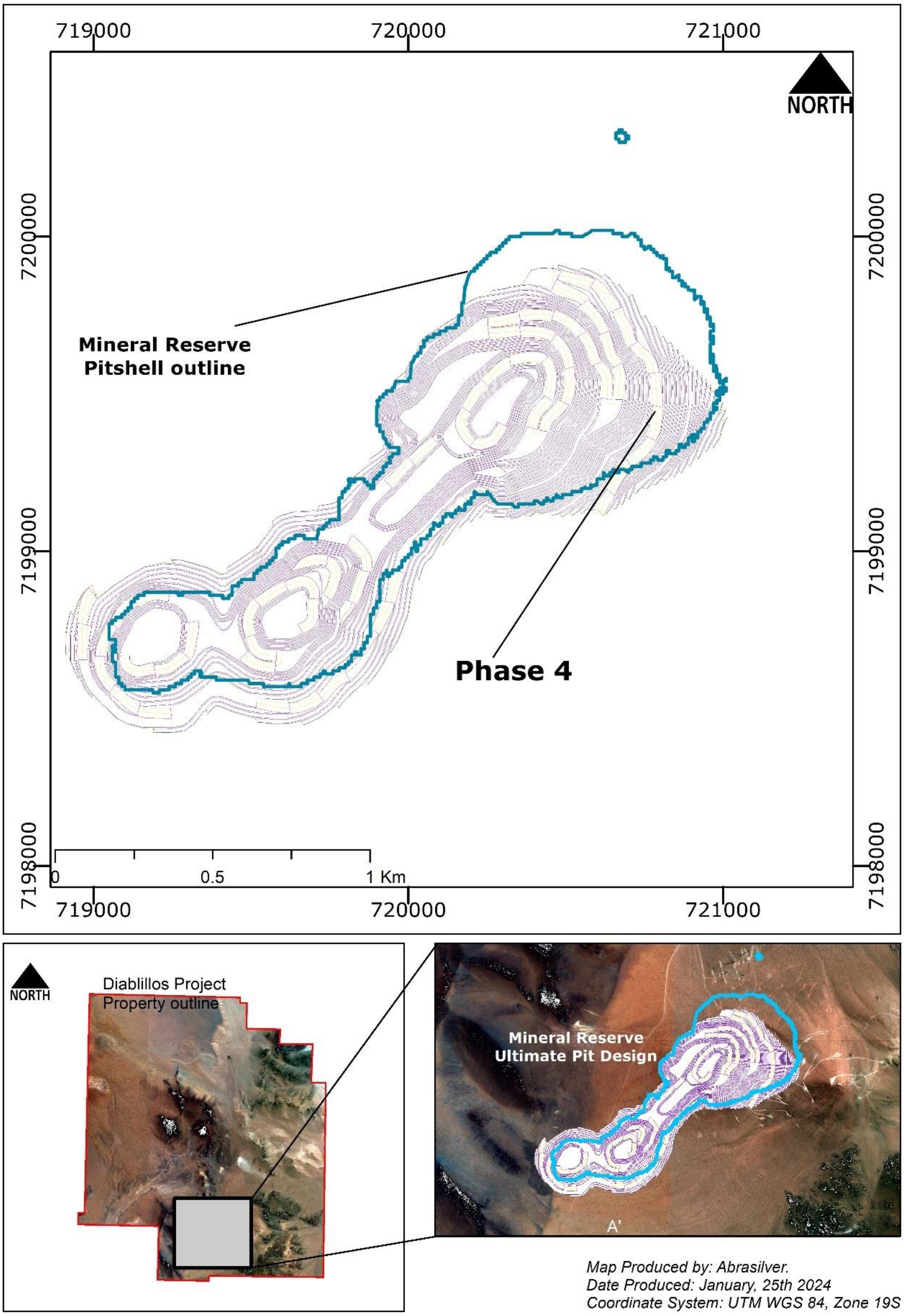


Figure 16-16: Phase 5, final pit design.

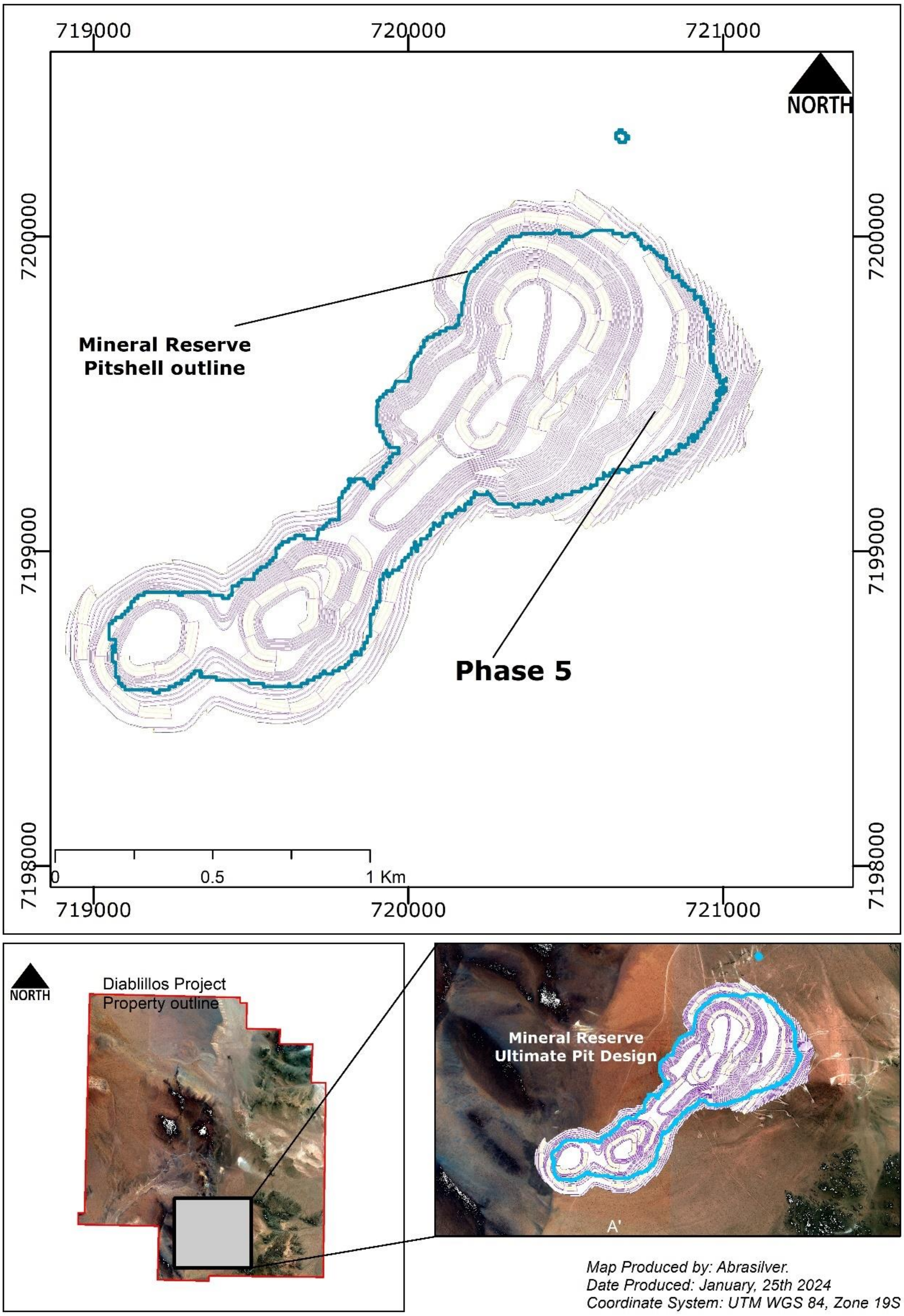
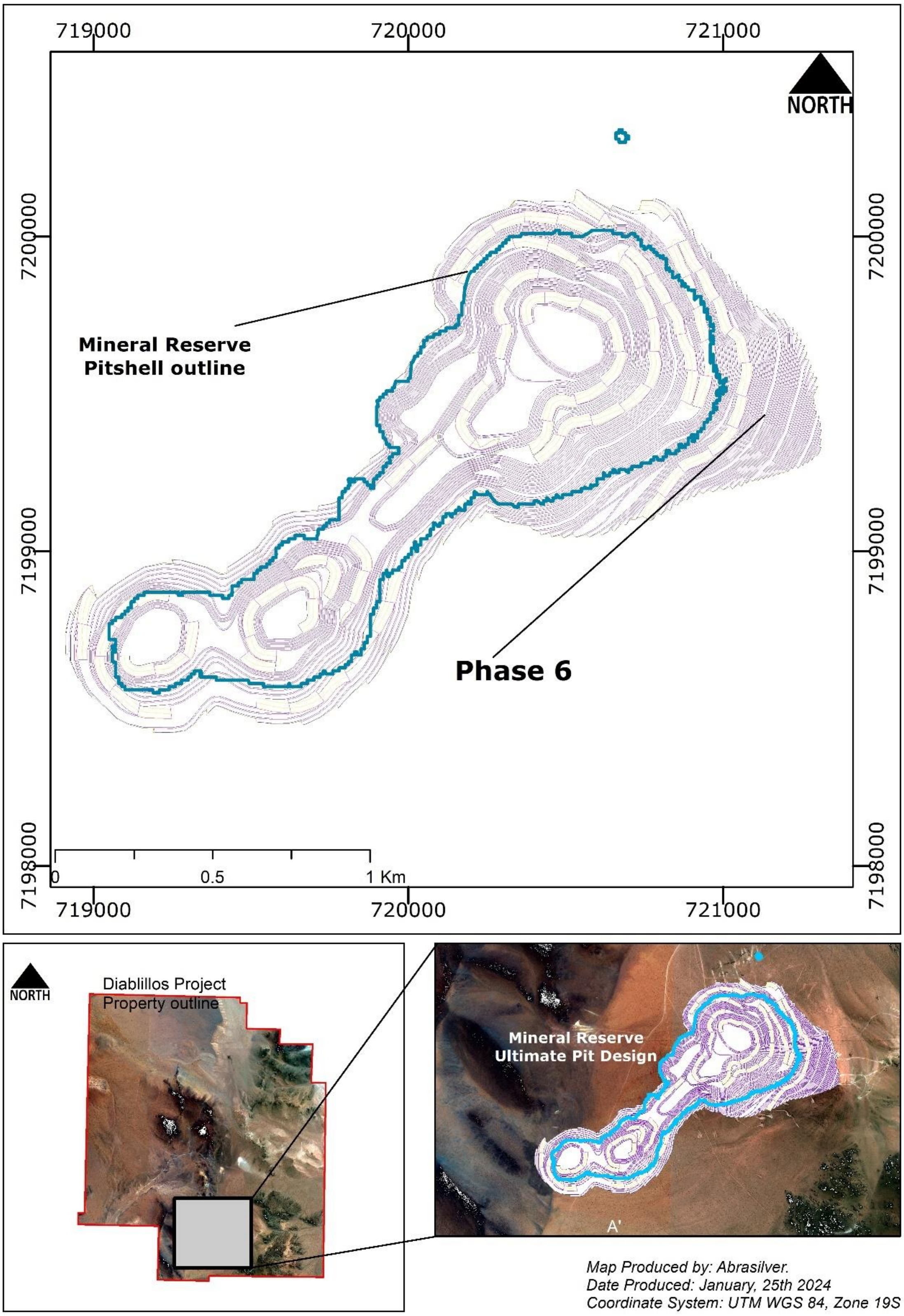


Figure 16-17: Phase 6, final pit design.



16.3.4 Mine Access

Access haul roads between the primary crusher, waste dump rock storage facilities and active mining areas are designed according to two-way haul road parameters described in Section 16-2. One difference is that 3.5 times the largest haulage vehicle width was used to have an overall width of 30 m for haul roads external to the pit.

A crusher access pad and ROM pad consisting of consolidated cover material will fill the valley between the crusher and the pit to facilitate haulage (Section 16.8). Additional waste will be mined to fill the crusher and ROM pad to allow traffic to avoid the area on a bypass road.

The initial haul road network will be designed as primarily fill roads using run-of-mine waste rock material for construction and bedding. The roads are designed to contour up the existing topography at a maximum gradient of 10%.

A small fill ramp will be built in the eastern area of the ultimate pit in a local steep topographic area to allow haul trucks to continually gain elevation as they travel to the East Main Dump (EMD).

16.4 Waste Dumps

Two waste rock dumps facilities (WRDF) have been designed in order to stock non-economical materials. The main WRDF one will be in the east sector of the mine while the secondary one will be located in the north sector of the mine. The mining plan shows a need for dumps of 326 million tonnes, so the capacity would be covered with the design of both dumps. Table 6 shows the design parameters used. Table 16-06 shows the parameters used during the design.

Table 16-06: Mine movement by period.

Design parameters		
		Units
Capacity	326	Mtn
Lift high	20	Meters
Lift Slope Angle	37	Meters
Overall Angle	27	Degrees
Berm width	40	Meters
Ramp width	30	Meters
Density	1.8	Tn/m^3
Slope	4 to 10	%

16.4.1 East Main Dump

The East Main Dump has a capacity of 309 million metric tonnes, or 94% of the required capacity according to the mining plan, while the North Dump will accommodate the remaining tonnage, waste which will be used during the remediation phase to cover the tailings.

The haulage road from the mine to East Main Dump will be built during the production stage, for which the use of 9.7 million tonnes of waste rock was estimated. The main dump will receive waste rock until its full capacity is reached, although the north dump will be used as an emergency dump in case the main road to the east dump becomes blocked.

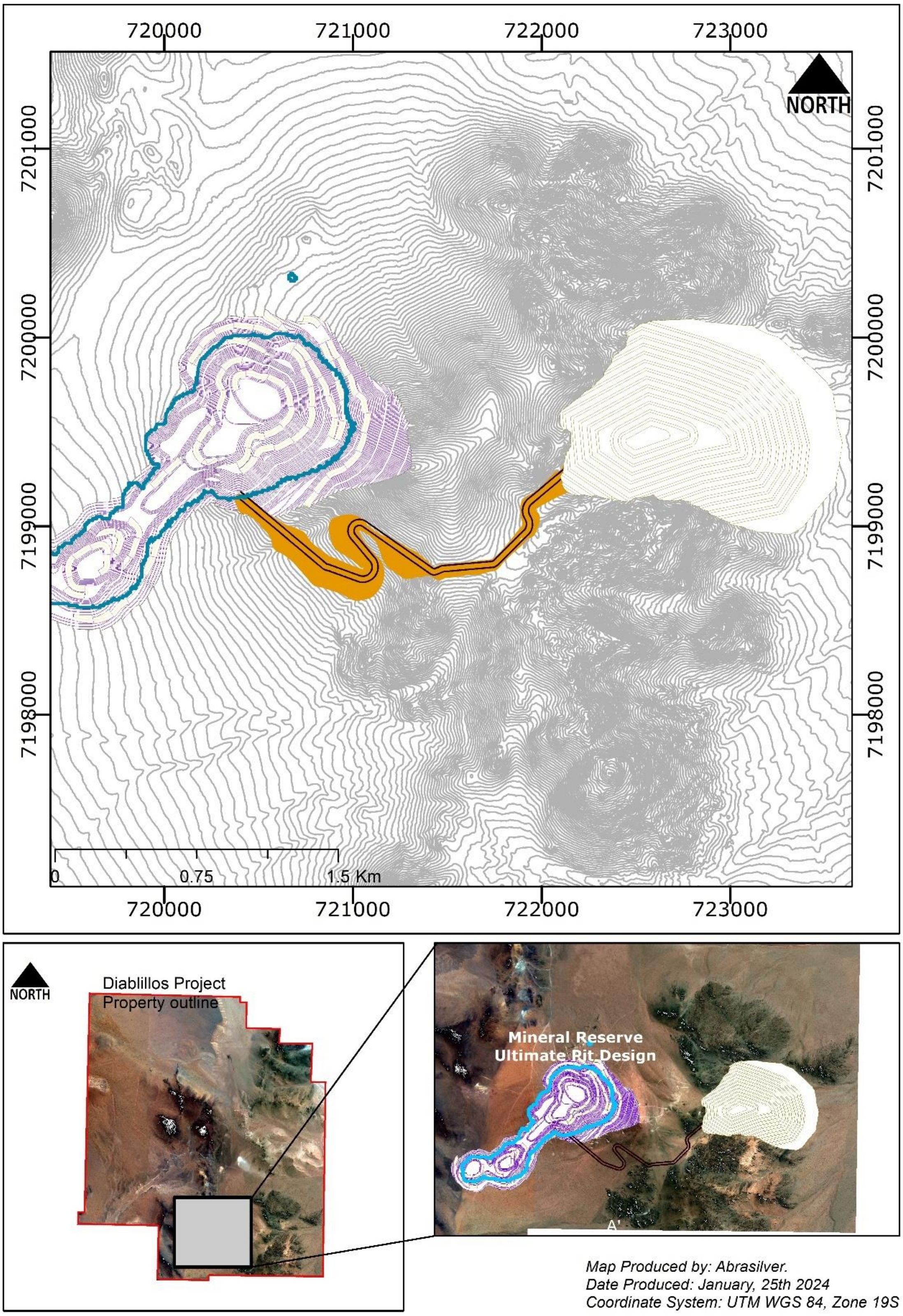
The ARD producing waste (only deep gold zone waste rock) will only be embedded within the East Main Dump, while the North one will only receive non-ARD producing waste.

Further waste dumps stability analysis should be performed, by taking into consideration how they will be filled over time.

The location of the main east dump has been primary selected according to the underlaying soil characteristics of a granitoid basement for improved stability, shortest distance to the open pit and adequate distance from the property's boundaries.

Figure 16-10 shows the location of the East Main Dump and the haulage ramp from the pit.

Figure 16-22: East main dump and haulage ramp from pit.



16.4.2 North Secondary Waste Dump

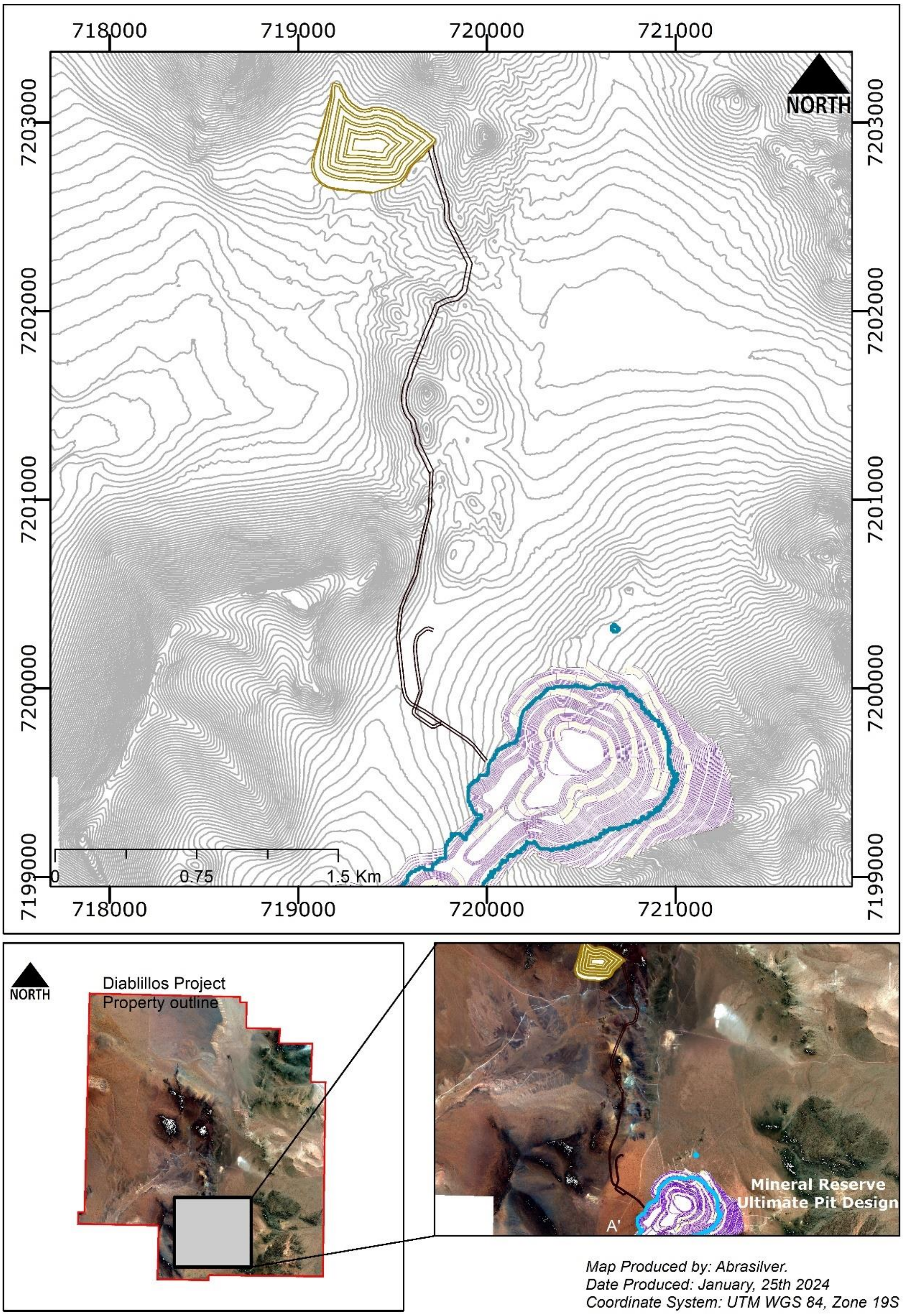
The North Secondary Dump has a capacity of over 17 million metric tons, or almost 6% of the required capacity according to the mining plan.

At a later stage, a stability analysis should be performed considering how it will be filled over time.

Location for the secondary waste dump has been selected as it will serve as an emergency dump if the waste open pit exit ramp is eventually blocked, so as not to stop operations, to backfill the aggregates quarry and its distance to the TSF for future tailings cover at mine remediation phase.

Figure 16-11 shows the location of the North Secondary Dump and the haulage ramp from the pit.

Figure 16-23: North secondary waste dump and haulage ramp from pit.



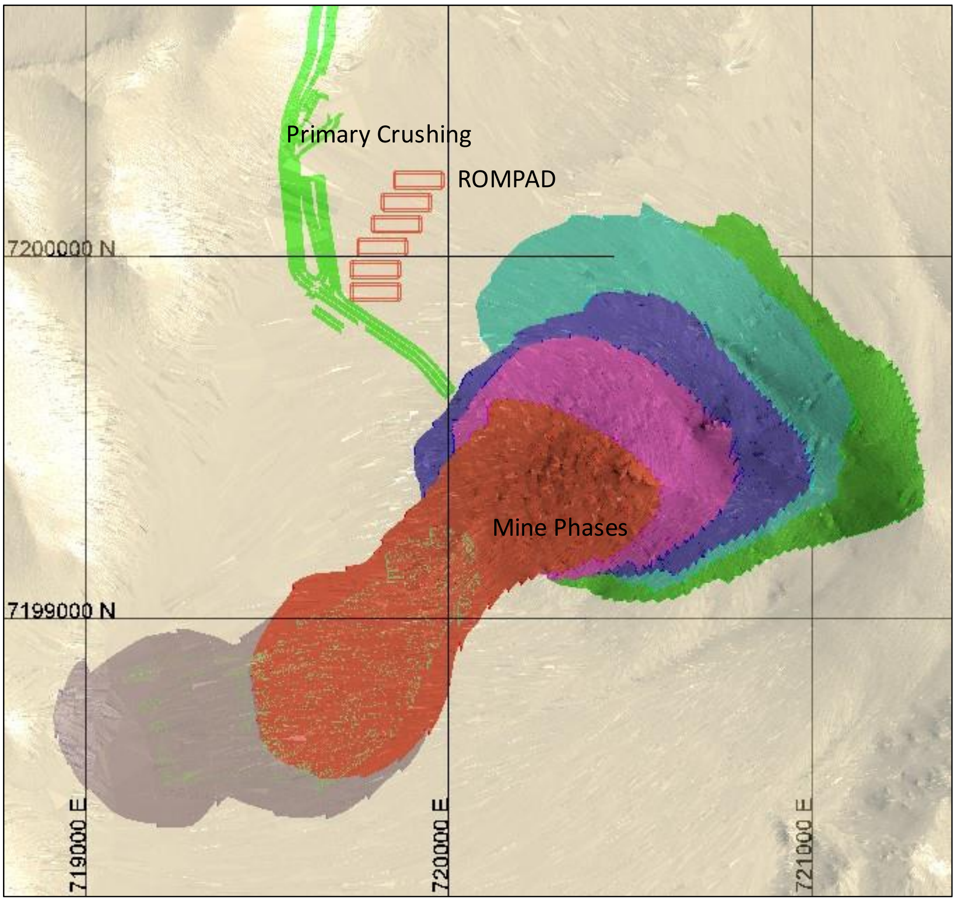
16.5 Stocks

Two additional stocks are considered at Diablillos Project, one for stockpiling the ore called "ROM Pad Stock" and a secondary stockpile for below cut-off grade mineralization which, subject to future studies, may be processed by lower cost technologies called "Marginal Stock".

16.5.1 Rom Pad Stock

This stock will be used to stockpile the ore to be fed to the leaching tank process (TIL). Figure 16-12 shows the design that considers six 10-meter-high rectangular stockpiles with a capacity of 720,000 tons of ore.

Figure 16-24: ROM pad stocks location.



16.5.2 Marginal Stock

The below cut-off grade mineralisation will be stockpiled in the southwest sector of the project, near the JAC zone. The stockpile will have a total capacity of 20 million tonnes. This location was selected for its proximity to the open pit access ramp, decreasing the transport.

The strategy for this stock is to receive below cut-off grade mineralisation until year 4 or 5. The stock balance shown in Table 16-7 and Figure 16-22, shows that although from year 6 onwards this mineralisation continues to be extracted from the mine if the secondary process has commenced it would no longer require a greater stock capacity.

Figure 16-25: Marginal Stockpile location.

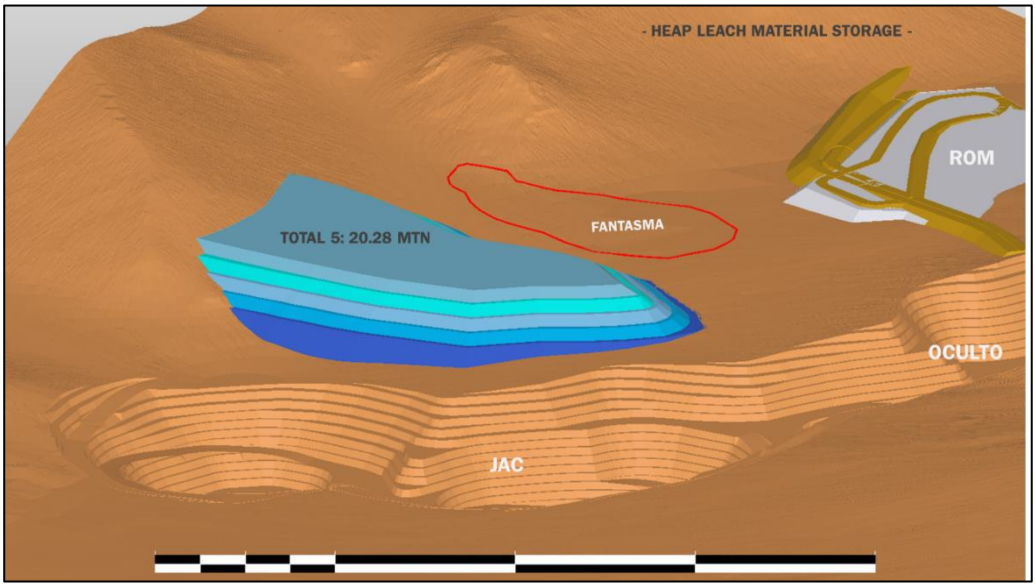
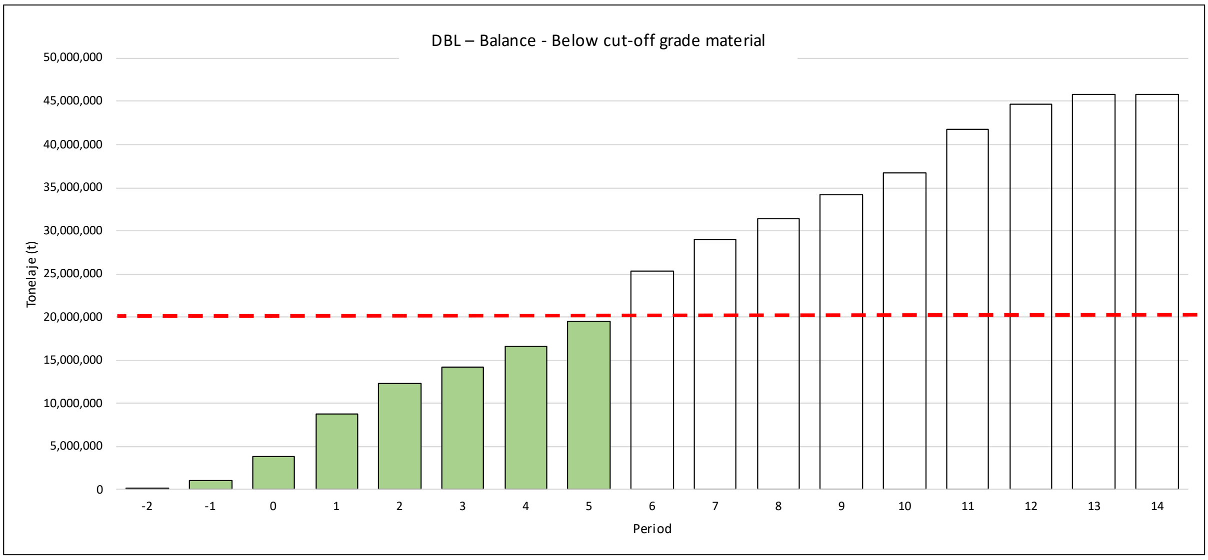


Table 16-07: Marginal Stock balance - Below Cut-off grade movement by period.

Period	Below cut-off grade mineralization mined by period (000 t)	Marginal Stock Balance (000 t)
-2	0	0
-1	1,024	1,024
0	2,746	3,771
1	4,971	8,743
2	3,572	12,315
3	1,840	14,156
4	2,470	16,627
5	**2,916**	**19,543**
6	**5,839**	**25,382**
7	3,668	29,051
8	2,310	31,361
9	2,869	34,231
10	2,528	36,759
11	4,983	41,743
12	2,972	44,715
13	1,079	45,795

Figure 16-26: Secondary process stockpile requirement.



16.6 Fleet Estimation

The project schedule indicates that the mine will operate 360 days of the year with two 12-hour shifts. Table 16-06 contains the fleet estimate calculated using the different haulage roads considered in Minehaul commercial software, to determine the flat, uphill, and downhill distances with origin and destinations, as well as the contour perimeters of each phase and bench to determine the required pre-cut and the production plan with its different origins and destinations per period.

It should be noted that for period -2 no drilling and blasting equipment is required as unconsolidated material for infrastructure will be mined for platforms and main roads. Table 16-08 shows a summary of the baseline information used to estimate the fleet.

Table 16-08: fleet estimation inputs.

PERIOD	MATERIAL	FROM	FROM-TO	TO	VOLUME (cum)	TONNAGE (kt)	DIST -10% (m)	DIST +10% (m)	DIST HZ EXPIT (m)	Meters Perimeter
PER00	Ore	Mina	Mina a Proceso	Proceso	698.71	1,575.00	701.30	479.20	1,232.10	9,357.85
PER00	Ore	Mina	Mina a Stock	Stock	48.50	107.96	688.06	226.83	719.50	
PER00	Ore	Mina	Mina a HL	HL	1,373.26	3,096.03	937.91	525.79	881.27	
PER00	Waste	Mina	Mina a Dump	Dump	6,847.35	15,222.50	1,879.86	2,636.15	1,110.23	
PER00	Waste	Mina	Mina a Dump	Dump	2,776.95	4,998.50	1,879.86	2,636.15	1,110.23	
PER01	Ore	Mina	Mina a Proceso	Proceso	1,392.99	3,150.00	662.52	1,431.51	1,495.85	10,176.92
PER01	Ore	Mina	Mina a HL	HL	1,102.25	2,478.01	862.24	1,432.84	1,217.81	
PER01	Waste	Mina	Mina a Dump	Dump	4,802.40	10,610.88	2,370.27	3,662.09	1,660.53	
PER01	Waste	Mina	Mina a Dump	Dump	4,867.28	8,761.11	2,370.27	3,662.09	1,660.53	
PER02	Ore	Mina	Mina a Proceso	Proceso	1,449.03	3,150.00	612.38	2,030.41	2,398.49	13,373.54
PER02	Ore	Mina	Mina a Stock	Stock	391.49	848.75	529.03	2,019.63	1,893.13	
PER02	Ore	Mina	Mina a HL	HL	1,040.75	2,284.84	836.46	1,619.85	1,795.03	
PER02	Waste	Mina	Mina a Dump	Dump	3,772.21	8,307.42	1,457.20	3,807.02	1,984.78	
PER02	Waste	Mina	Mina a Dump	Dump	5,782.77	10,408.99	1,457.20	3,807.02	1,984.78	
PER03	Ore	Mina	Mina a Proceso	Proceso	1,418.48	3,150.00	358.71	560.06	1,128.82	15,167.88
PER03	Ore	Mina	Mina a Stock	Stock	69.55	159.97	329.04	432.76	615.42	
PER03	Ore	Mina	Mina a HL	HL	1,754.60	3,896.59	493.84	684.62	824.00	
PER03	Waste	Mina	Mina a Dump	Dump	7,041.64	15,501.12	1,492.56	2,988.08	1,365.52	
PER03	Waste	Mina	Mina a Dump	Dump	4,051.29	7,292.32	1,492.56	2,988.08	1,365.52	
PER04	Ore	Mina	Mina a Proceso	Proceso	1,401.95	3,150.00	380.02	1,417.23	1,005.95	18,844.40
PER04	Ore	Mina	Mina a Stock	Stock	502.31	1,117.75	298.13	1,548.35	661.17	
PER04	Ore	Mina	Mina a HL	HL	2,418.67	5,376.77	571.14	1,544.26	665.96	
PER04	Waste	Mina	Mina a Dump	Dump	7,830.45	17,476.71	1,239.11	2,780.86	1,047.42	
PER04	Waste	Mina	Mina a Dump	Dump	1,599.32	2,878.77	1,239.11	2,780.86	1,047.42	
PER05	Ore	Mina	Mina a Proceso	Proceso	1,419.80	3,150.00	505.95	1,285.04	1,506.68	20,970.54
PER05	Ore	Mina	Mina a Stock	Stock	176.24	387.03	284.46	1,914.47	1,168.50	
PER05	Ore	Mina	Mina a HL	HL	1,578.63	3,535.22	717.77	1,349.28	1,174.77	
PER05	Waste	Mina	Mina a Dump	Dump	8,770.89	19,607.71	1,222.49	3,128.94	1,164.65	
PER05	Waste	Mina	Mina a Dump	Dump	1,844.47	3,320.04	1,222.49	3,128.94	1,164.65	
PER06	Ore	Mina	Mina a Proceso	Proceso	1,397.48	3,150.00	645.94	1,459.42	1,687.13	21,523.60
PER06	Ore	Mina	Mina a Stock	Stock	245.60	554.63	601.98	1,459.42	1,250.43	
PER06	Ore	Mina	Mina a HL	HL	1,938.86	4,426.86	845.73	1,855.08	1,386.94	
PER06	Waste	Mina	Mina a Dump	Dump	8,843.32	20,063.15	1,207.38	1,944.39	1,047.55	
PER06	Waste	Mina	Mina a Dump	Dump	1,002.97	1,805.35	1,207.38	1,944.39	1,047.55	
PER07	Ore	Mina	Mina a Proceso	Proceso	1,323.89	3,150.00	691.08	2,387.54	1,746.49	14,779.78
PER07	Ore	Mina	Mina a Stock	Stock	323.60	764.40	646.26	2,379.56	1,309.08	
PER07	Ore	Mina	Mina a HL	HL	993.30	2,347.53	878.88	2,671.55	1,436.29	
PER07	Waste	Mina	Mina a Dump	Dump	7,885.53	18,204.68	1,108.17	2,239.44	858.31	
PER07	Waste	Mina	Mina a Dump	Dump	3,074.10	5,533.38	1,108.17	2,239.44	858.31	
PER08	Ore	Mina	Mina a Proceso	Proceso	461.98	1,050.00	693.75	966.75	1,651.38	12,759.07
PER08	Ore	Mina	Mina a HL	HL	1,134.48	2,580.50	893.48	1,362.58	1,351.23	
PER08	Ore	Stock	Stock a Proceso	Proceso	935.21	2,100.00	136.36	113.77	722.55	
PER08	Waste	Mina	Mina a Dump	Dump	10,641.87	23,512.49	895.96	2,703.45	1,219.17	
PER08	Waste	Mina	Mina a Dump	Dump	1,587.23	2,857.01	895.96	2,703.45	1,219.17	
PER09	Ore	Mina	Mina a Proceso	Proceso	1,376.17	3,150.00	693.75	1,510.00	1,628.11	13,641.65
PER09	Ore	Mina	Mina a Stock	Stock	268.56	618.96	649.79	1,510.00	1,191.41	
PER09	Ore	Mina	Mina a HL	HL	1,687.53	3,867.63	893.48	1,905.83	1,327.96	
PER09	Waste	Mina	Mina a Dump	Dump	9,771.79	21,824.67	797.15	2,057.81	1,009.43	
PER09	Waste	Mina	Mina a Dump	Dump	299.30	538.75	797.15	2,057.81	1,009.43	
PER10	Ore	Mina	Mina a Proceso	Proceso	1,313.43	3,150.00	693.76	2,287.41	1,609.17	17,437.26
PER10	Ore	Mina	Mina a Stock	Stock	220.03	515.09	649.79	2,287.42	1,172.46	
PER10	Ore	Mina	Mina a HL	HL	1,015.27	2,420.59	893.99	2,676.79	1,309.62	
PER10	Waste	Mina	Mina a Dump	Dump	9,997.03	23,384.65	853.86	2,539.23	852.12	
PER10	Waste	Mina	Mina a Dump	Dump	294.26	529.67	853.86	2,539.23	852.12	
PER11	Ore	Mina	Mina a Proceso	Proceso	144.60	347.78	875.03	993.54	1,733.93	14,971.34
PER11	Ore	Mina	Mina a HL	HL	289.86	702.81	1,074.76	1,389.37	1,433.78	
PER11	Ore	Stock	Stock a Proceso	Proceso	1,235.19	2,802.22	136.36	113.77	722.55	
PER11	Waste	Mina	Mina a Dump	Dump	12,121.98	28,630.91	853.92	3,990.81	828.84	
PER11	Waste	Mina	Mina a Dump	Dump	176.94	318.50	853.92	3,990.81	828.84	
PER12	Ore	Mina	Mina a Proceso	Proceso	963.45	2,336.33	875.03	2,092.42	1,830.12	11,070.52
PER12	Ore	Mina	Mina a HL	HL	1,500.01	3,636.64	1,074.76	2,488.25	1,529.97	
PER12	Ore	Stock	Stock a Proceso	Proceso	358.66	813.67	136.36	113.77	722.55	
PER12	Waste	Mina	Mina a Dump	Dump	7,420.45	18,085.85	1,233.91	5,753.42	925.96	
PER13	Ore	Mina	Mina a Proceso	Proceso	1,281.76	3,150.00	875.03	2,445.14	1,743.31	4,078.30
PER13	Ore	Mina	Mina a HL	HL	1,085.80	2,662.77	1,074.76	2,840.97	1,443.16	
PER13	Waste	Mina	Mina a Dump	Dump	1,023.93	2,553.77	2,335.88	5,092.82	4,180.74	
PER14	Ore	Mina	Mina a Proceso	Proceso	1,237.73	3,114.75	875.03	3,024.50	1,650.74	5,206.08
PER14	Ore	Mina	Mina a HL	HL	973.28	2,440.83	1,074.76	3,420.32	1,350.60	
PER14	Waste	Mina	Mina a Dump	Dump	1,095.60	2,810.97	2,335.88	5,658.13	4,107.63	

16.6.1 Loading

The mine loading equipment selected for the project is a CAT992G or similar wheel loader. This is a conventional loading machine which is used in many mid-size mining operations. Table 16-9 shows the loading equipment requirement for the life of mine with the parameters assumed.

Table 16-09: CAT992G loading equipment assumptions.

bm

LOADING REQUERIMENT

			PER00	PER01	PER02	PER03	PER04	PER05	PER06	PER07	PER08	PER09	PER10	PER11	PER12	PER13	PER14
Ldr1																	
Required Operational Hours	hrs		28,537	27,430	27,757	33,019	32,144	32,231	31,931	32,670	34,609	31,680	31,679	34,932	25,544	5,628	5,135
Effective Hours Required	hrs		28,537	27,430	27,757	33,019	32,144	32,231	31,931	32,670	34,609	31,680	31,679	34,932	25,544	5,628	5,135
Calendar Hours	hrs		8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640
Mechanical Availability	%		90%	90%	90%	90%	90%	85%	85%	85%	85%	85%	80%	80%	80%	80%	80%
Maintenance	hrs		864	866	864	864	864	1,300	1,296	1,296	1,296	1,300	1,728	1,728	1,728	1,733	1,728
Available Hours	hrs		7,776	7,798	7,776	7,776	7,776	7,364	7,344	7,344	7,344	7,364	6,912	6,912	6,912	6,931	6,912
Production Delays	hrs																
Used Hours	hrs		7,776	7,798	7,776	7,776	7,776	7,364	7,344	7,344	7,344	7,364	6,912	6,912	6,912	6,931	6,912
Operational Factor	%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Utilization	%		87%	87%	87%	86%	85%	85%	85%	84%	85%	81%	85%	85%	85%	85%	85%
Inefficiency Time	hrs		1,011	1,014	1,011	1,089	1,166	1,105	1,102	1,175	1,102	1,399	1,037	1,037	1,037	1,040	1,037
Productive Hours	hrs		6,765	6,784	6,765	6,687	6,610	6,260	6,242	6,169	6,242	5,965	5,875	5,875	5,875	5,892	5,875
Required Units	un		4.2	4.0	4.1	4.9	4.9	5.1	5.1	5.3	5.5	5.3	5.4	5.9	4.35	1.0	0.9
Installed Units	un		5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	1.0	1.0
Smoothing	un		5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	5.0	1.0	1.0
Useful Life	hrs	75,000															
Maximum Installed Equipments	un	6															
Acquisition/ Disposal of equipment																	
1	un		1												-1		
2	un		1													-1	
3	un		1													-1	
4	un		1													-1	
5	un		1													-1	
6	un									1							
Useful Life by Equipment																	
1	hrs		5,707	11,193	16,745	23,348	29,777	36,223	42,610	48,055	53,823	59,103	64,383	70,205			
2	hrs		5,707	11,193	16,745	23,348	29,777	36,223	42,610	48,055	53,823	59,103	64,383	70,205	75,313		
3	hrs		5,707	11,193	16,745	23,348	29,777	36,223	42,610	48,055	53,823	59,103	64,383	70,205	75,313		
4	hrs		5,707	11,193	16,745	23,348	29,777	36,223	42,610	48,055	53,823	59,103	64,383	70,205	75,313		
5	hrs		5,707	11,193	16,745	23,348	29,777	36,223	42,610	48,055	53,823	59,103	64,383	70,205	75,313		
6	hrs									5,445	11,213	16,493	21,773	27,595	32,704	38,332	43,467
Initial Mechanical Availability	%	85%															
Annual Mechanical Wear	%																
Utilization	%																
Mechanical Availability by eq	%					90%	90%						80%	80%	80%	80%	80%
1	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	80%	80%			
2	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	80%	80%	80%		
3	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	80%	80%	80%		
4	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	80%	80%	80%		
5	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	80%	80%	80%		
6	%									85%	85%	85%	80%	80%	80%	80%	80%
Mechanical Availability by fleet	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	80%	80%	80%	80%	80%
Operatives Units		6	5	5	5	5	5	5	5	6	6	6	6	6	5	1	1
Acquired/Replacement Units		3	2							1							
Overhaul Units		4													4		
Low Units		5													1	4	
Labor Operation																	
Operators	un		22	22	22	22	22	22	22	27	27	27	27	27	22	5	5

16.6.2 Haulage (Ore & Waste)

The mine haulage equipment selected for the project is a CAT777D or similar 100 tonne capacity diesel truck. This is a common haulage truck used in many mid-size mining operations around the world. A business case using autonomous trucks (Autonomous Haulage System, AHS) will be considered in later engineering stages. The following is the life-of-mine haulage equipment requirement with the parameters used.

Table 16-10 shows the haulage equipment requirement for the life of mine with the parameters assumed.

Table 16-10: Mine trucks requirements.

bm

HAULING REQUERIMENTS

			PER00	PER01	PER02	PER03	PER04	PER05	PER06	PER07	PER08	PER09	PER10	PER11	PER12	PER13	PER14
Trk1																	
Required Operational Hours	hrs		192,235	243,112	233,933	224,303	203,827	226,771	193,230	204,182	218,998	184,256	204,442	263,358	253,619	79,759	86,722
Own Required Operational Hou	hrs		192,235	243,112	233,933	224,303	203,827	226,771	193,230	204,182	218,998	184,256	204,442	263,358	253,619	79,759	86,722
Effective Hours Required	hrs		192,235	243,112	233,933	224,303	203,827	226,771	193,230	204,182	218,998	184,256	203,420	262,042	252,350	79,361	86,289
Clandar Hours	hrs		8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640
Mechanical Availability	%		90%	90%	90%	90%	90%	85%	85%	85%	85%	85%	85%	83%	83%	83%	83%
Maintenance	hrs		864	866.4	864	864	864	1299.6	1296	1296	1296	1299.6	1296	1468.8	1468.8	1472.88	1468.8
Available Hours	hrs		7,776	7,798	7,776	7,776	7,776	7,364	7,344	7,344	7,344	7,364	7,344	7,171	7,171	7,191	7,171
Production Delays	hrs																
Used Hours	hrs		7,776	7,798	7,776	7,776	7,776	7,364	7,344	7,344	7,344	7,364	7,344	7,171	7,171	7,191	7,171
Utilization	%		87%	87%	85%	81%	74%	85%	74%	78%	85%	70%	78%	91%	90%	81%	87%
Inefficiency Time	hrs		1,011	1,014	1,166	1,477	2,022	1,105	1,909	1,616	1,102	2,209	1,616	645	717	1,366	932
Productive Hours	hrs		6,765	6,784	6,610	6,299	5,754	6,260	5,435	5,728	6,242	5,155	5,728	6,526	6,454	5,825	6,239
Required Units	un		28.4	35.8	35.4	35.6	35.4	36.2	35.6	35.6	35.1	35.7	35.5	40.2	39.1	13.6	13.8
Installed Units	un		29.0	36.0	36.0	36.0	36.0	37.0	36.0	36.0	36.0	36.0	36.0	41.0	40.0	14.0	14.0
Smoothing	un		29.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	14.0	14.0
Operational Factor	%		85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Useful Life	hrs	90,000															
Maximum Installed Equipments	un	36															
Own Installed Units	un		29.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	14.0	14.0
Installed Rental Units	un																
Acquisition/ Disposal of equipment																	
1	un		1													-1	
2	un		1													-1	
3	un		1													-1	
4	un		1													-1	
5	un		1													-1	
6	un		1													-1	
7	un		1													-1	
8	un		1													-1	
9	un		1													-1	
10	un		1													-1	
11	un		1													-1	
12	un		1													-1	
13	un		1													-1	
14	un		1													-1	
15	un		1													-1	
16	un		1													-1	
17	un		1													-1	
18	un		1													-1	
19	un		1													-1	
20	un		1													-1	
21	un		1													-1	
22	un		1													-1	
23	un		1														
24	un		1														
25	un		1														
26	un		1														
27	un		1														
28	un		1														
29	un		1														
30	un			1													
31	un			1													
32	un			1													
33	un			1													
34	un			1													
35	un			1													
36	un			1													
Vector Useful Life per Eq																	
1	hrs	116,704	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
2	hrs	116,816	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
3	hrs	108,888	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
4	hrs	109,525	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
5	hrs	87,769	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
6	hrs	96,144	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
7	hrs	91,907	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
8	hrs	83,690	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
9	hrs	90,128	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
10	hrs	95,426	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
11	hrs	89,490	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
12	hrs	77,694	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
13	hrs	89,363	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
14	hrs	89,508	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
15	hrs	90,141	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
16	hrs	83,453	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
17	hrs	83,581	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
18	hrs	84,356	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
19	hrs	86,422	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
20	hrs	85,716	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
21	hrs	69,298	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
22	hrs	67,532	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352		
23	hrs	66,871	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352	86,049	92,243
24	hrs	67,435	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352	86,049	92,243
25	hrs	60,859	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352	86,049	92,243
26	hrs	62,380	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352	86,049	92,243
27	hrs	54,068	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352	86,049	92,243
28	hrs	62,194	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352	86,049	92,243
29	hrs	59,595	6,629	13,382	19,880	26,111	31,773	38,072	43,439	49,111	55,194	60,312	65,991	73,307	80,352	86,049	92,243
30	hrs	59,550		6,753	13,251	19,482	25,144	31,443	36,810	42,482	48,565	53,684	59,363	66,678	73,723	79,420	85,615
31	hrs	60,146		6,753	13,251	19,482	25,144	31,443	36,810	42,482	48,565	53,684	59,363	66,678	73,723	79,420	85,615
32	hrs	58,974		6,753	13,251	19,482	25,144	31,443	36,810	42,482	48,565	53,684	59,363	66,678	73,723	79,420	85,615
33	hrs	54,367		6,753	13,251	19,482	25,144	31,443	36,810	42,482	48,565	53,684	59,363	66,678	73,723	79,420	85,615
34	hrs	58,306		6,753	13,251	19,482	25,144	31,443	36,810	42,482	48,565	53,684	59,363	66,678	73,723	79,420	85,615
35	hrs	12,558		6,753	13,251	19,482	25,144	31,443	36,810	42,482	48,565	53,684	59,363	66,678	73,723	79,420	85,615
36	hrs	9,000		6,753	13,251	19,482	25,144	31,443	36,810	42,482	48,565	53,684	59,363	66,678	73,723	79,420	85,615
Mechanical Availability by eq			85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
1	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
2	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
3	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
4	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
5	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
6	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
7	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
8	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
9	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
10	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
11	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
12	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
13	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
14	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
15	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
16	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
17	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
18	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
19	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
20	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
21	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
22	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%		
23	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
24	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
25	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
26	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
27	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
28	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
29	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
30	%			85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
31	%			85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
32	%			85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
33	%			85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
34	%			85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
35	%			85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
36	%			85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Own Mechanical Availability	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Mechanical Availability per Fleet	%		85%	85%	85%	90%	90%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Operatives Units		36	29	36	36	36	36	36	36	36	36	36	36	36	36	14	14
Overhaul Units		7															7
Low Units		22														22	
Labor Operation																	
Operators	un		128	159	159	159	159	159	159	159	159	159	159	159	159	62	62

16.6.3 Drilling

The drilling fleet will consist of two types of rigs, for production and for pre-splitting. For production and contour drilling, the Sandvik DR412i2 or similar drill will be used with a distribution of 70% for production and 30% for contouring. The Sandvik DI650i or similar drill will be used for pre-splitting drilling. Table 16-11 shows the drilling parameters and drills details.

Table 16-11: drilling parameters.

DRILL PARAMETERS				
		Production	Buffer	Pre splitt
Equipment		**Prf1**	**Prf2**	**Prf7**
Model		DR412i2	DR412i2	DI650i
Type		Prod	Prod	Sopo
Grid Type		Medio	Medio	PS
Distribution	%	70%	30%	
Drill bit diameter	pulg	7	7	5
Drill bit diameter	mm	177.8	177.8	127.0
Bench Higth	m	10.0	10.0	10.0
Extra Drill	m	1.0	1.0	
Total Length	m	11.0	11.0	10.0
Plug	m	3.5	3.5	3.5
Burden	m	7.0	7.0	7.0
Space	m	8.0	8.0	8.0
Drill Rate	m/hr	23	23	17
Volume per hole	m3	560.0	560.0	560.0
Rock volume by drilled mt	m3/m	50.9	50.9	56.0
Blasted Volume	m3	100,000	100,000	50,000
Holes per Blast	un	178.6	178.6	89.3
In situ Rock Density	t/m3	2.18	2.18	2.18
Explosive Density	gr/m3	1300000	1300000	
Drills Operational Factors				
Availability	%	80%	80%	75%
Utilization	%	75%	70%	100%
Operational Factor	%	100%	100%	50%
Anual Attrition of Availability	%			
Useful Life Eq	hr	60,000	60,000	60,000
Fuel Consumption	l/hr	107.00	107.00	105.00

The following Table 16-12 to Table 16-14 shows the drilling equipment requirements per period according to their need for production, contouring, and pre-splitting. During the year (-2) pre-production period, no drilling equipment is required as all the excavated mine material is cover, feasible to mine without drilling and blasting techniques using explosives. This period must be used to obtain all the necessary permits for the following use and storage of explosives and blasting accessories.

Table 16-12: production drilling equipment requirements.

PRODUCTION DRILL REQUIRED

			PER00	PER01	PER02	PER03	PER04	PER05	PER06	PER07	PER08	PER09	PER10	PER11	PER12	PER13	PER14
Medio	kt		20,001	16,239	14,591	22,708	27,121	26,680	28,195	24,467	27,143	29,461	29,470	29,682	24,059	8,367	8,367
Blando	kt																
Prf1	**Production**																
Medio																	
Required Operational Hours	hrs		5,361	4,363	3,978	6,148	7,266	7,141	7,428	6,293	7,316	7,834	7,500	7,507	5,909	2,028	1,977
Effective Hours Required	hrs		5,361	4,363	3,978	6,148	7,266	7,141	7,428	6,293	7,316	7,834	7,500	7,507	5,909	2,028	1,977
Drilled meters	m		123,307	100,343	91,485	141,409	167,109	164,251	170,847	144,737	168,277	180,181	172,504	172,651	135,904	46,633	45,466
Holes	un		11,210	9,122	8,317	12,855	15,192	14,932	15,532	13,158	15,298	16,380	15,682	15,696	12,355	4,239	4,133
Tonnage	kt		14,001	11,367	10,214	15,895	18,985	18,676	19,736	17,127	19,000	20,623	20,629	20,777	16,841	5,857	5,857
Clandar Hours	hrs		8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640
Mechanical Availability	%		80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Maintenance	hrs		1,728	1,733	1,728	1,728	1,728	1,733	1,728	1,728	1,728	1,733	1,728	1,728	1,728	1,733	1,728
Available Hours	hrs		6,912	6,931	6,912	6,912	6,912	6,931	6,912	6,912	6,912	6,931	6,912	6,912	6,912	6,931	6,912
Production Delays	hrs		1,728	1,733	1,728	1,728	1,728	1,733	1,728	1,728	1,728	1,733	1,728	1,728	1,728	1,733	1,728
Used Hours	hrs		5,184	5,198	5,184	5,184	5,184	5,198	5,184	5,184	5,184	5,198	5,184	5,184	5,184	5,198	5,184
Utilization	%		75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Factor Operacional	%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Inefficiency Time	hrs																
Productive Hours	hrs		5,184	5,198	5,184	5,184	5,184	5,198	5,184	5,184	5,184	5,198	5,184	5,184	5,184	5,198	5,184
Required Units	un		1.0	0.8	0.8	1.2	1.4	1.4	1.4	1.2	1.4	1.5	1.4	1.4	1.1	0.4	0.4
Installed Units	un		2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0
Smoothing	un		1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0
Useful Life	hrs	60,000															
Maximum Installed Equipments	un	2															
Acquisition/ Disposal of equipment																	
1	un		1												-1		
2	un					1											
Vector Useful Life per Eq																	
1	hrs		5,361	9,724	13,702	16,776	20,408	23,979	27,693	30,840	34,498	38,415	42,165	45,918			
2	hrs					3,074	6,707	10,278	13,992	17,138	20,796	24,713	28,463	32,217	38,126	40,153	42,130
Initial Mechanical Availability	%	80%															
Desgaste Mecánico Anual	%																
Mechanical Availability by eq																	
1	%		80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%			
2	%					80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Mechanical Availability by fleet	%		80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Operatives Units		2	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1
Acquired/Replacement Units		2	1			1											
Overhaul Units																	
Low Units		1													1		
Labor Operation																	
Operators	un		5.0	5.0	5.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	5.0	5.0	5.0

Table 16-13: contouring drilling equipment requirements.

BUFFER DRILL REQUIRED

			PER00	PER01	PER02	PER03	PER04	PER05	PER06	PER07	PER08	PER09	PER10	PER11	PER12	PER13	PER14
Medio	kt		20,001	16,239	14,591	22,708	27,121	26,680	28,195	24,467	27,143	29,461	29,470	29,682	24,059	8,367	8,367
Blando	kt																
Prf2																	
Medio	**Buffer**																
Required Operational Hours	hrs		2,298	1,870	1,705	2,635	3,114	3,061	3,183	2,697	3,136	3,357	3,214	3,217	2,532	869	847
Effective Hours Required	hrs		2,298	1,870	1,705	2,635	3,114	3,061	3,183	2,697	3,136	3,357	3,214	3,217	2,532	869	847
Drilled meters	m		52,846	43,004	39,208	60,604	71,618	70,393	73,220	62,030	72,119	77,220	73,930	73,993	58,244	19,986	19,485
Holes	un		4,804	3,909	3,564	5,509	6,511	6,399	6,656	5,639	6,556	7,020	6,721	6,727	5,295	1,817	1,771
Tonnage	kt		6,000	4,872	4,377	6,812	8,136	8,004	8,458	7,340	8,143	8,838	8,841	8,904	7,218	2,510	2,510
Calendar Hours	hrs		8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640
Mechanical Availability	%		80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Maintenance	hrs		1,728	1,733	1,728	1,728	1,728	1,733	1,728	1,728	1,728	1,733	1,728	1,728	1,728	1,733	1,728
Available Hours	hrs		6,912	6,931	6,912	6,912	6,912	6,931	6,912	6,912	6,912	6,931	6,912	6,912	6,912	6,931	6,912
Production Delays	hrs		2,074	2,079	2,074	2,074	2,074	2,079	2,074	2,074	2,074	2,079	2,074	2,074	2,074	2,079	2,074
Used Hours	hrs		4,838	4,852	4,838	4,838	4,838	4,852	4,838	4,838	4,838	4,852	4,838	4,838	4,838	4,852	4,838
Utilization	%		70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Factor Operacional	%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Inefficiency Time	hrs																
Productive Hours	hrs		4,838	4,852	4,838	4,838	4,838	4,852	4,838	4,838	4,838	4,852	4,838	4,838	4,838	4,852	4,838
Required Units	un		0.5	0.4	0.4	0.5	0.6	0.6	0.7	0.6	0.6	0.7	0.7	0.7	0.5	0.2	0.2
Installed Units	un		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Smoothing	un		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Useful Life	hrs	60,000															
Maximum Installed Equipments	un	1															
Acquisition/ Disposal of equipment																	
1	un		1														
Vector Useful Life per Eq																	
1	hrs		2,298	4,167	5,872	8,507	11,621	14,681	17,865	20,562	23,697	27,055	30,269	33,486	36,019	36,888	37,735
Initial Mechanical Availability	%	80%															
Annual Attrition of availability	%																
Mechanical Availability by eq																	
1	%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Mechanical Availability by fleet	%		80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Operatives Units		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Acquired/Replacement Units		1	1														
Overhaul Units																	
Low Units																	
Labor Operation																	
Operators	un		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Table 16-14: Pre-Splitting drilling equipment requirements.

PRE SPLITT DRILL REQUIRED

			PER00	PER01	PER02	PER03	PER04	PER05	PER06	PER07	PER08	PER09	PER10	PER11	PER12	PER13	PER14
Medio	kt		20,001	16,239	14,591	22,708	27,121	26,680	28,195	24,467	27,143	29,461	29,470	29,682	24,059	8,367	8,367
Blando	kt																
Prf7																	
PS																	
Required Operational Hours	hrs		5,505	5,986	7,867	8,922	11,085	12,336	12,661	8,694	7,505	8,025	10,257	8,807	6,512	2,399	3,062
Effective Hours Required	hrs		2,752	2,993	3,933	4,461	5,542	6,168	6,330	4,347	3,753	4,012	5,129	4,403	3,256	1,200	1,531
Drilled meters	m		46,789	50,885	66,868	75,839	94,222	104,853	107,618	73,899	63,795	68,208	87,186	74,857	55,353	20,392	26,030
Holes	un		4,679	5,088	6,687	7,584	9,422	10,485	10,762	7,390	6,380	6,821	8,719	7,486	5,535	2,039	2,603
Tonnage	kt																
Calendar Hours	hrs		8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640	8,640	8,640	8,664	8,640
Mechanical Availability	%		75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Maintenance	hrs		2,160	2,166	2,160	2,160	2,160	2,166	2,160	2,160	2,160	2,166	2,160	2,160	2,160	2,166	2,160
Available Hours	hrs		6,480	6,498	6,480	6,480	6,480	6,498	6,480	6,480	6,480	6,498	6,480	6,480	6,480	6,498	6,480
Production Delays	hrs																
Used Hours	hrs		6,480	6,498	6,480	6,480	6,480	6,498	6,480	6,480	6,480	6,498	6,480	6,480	6,480	6,498	6,480
Utilization	%		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Factor Operacional	%		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Inefficiency Time	hrs		3,240	3,249	3,240	3,240	3,240	3,249	3,240	3,240	3,240	3,249	3,240	3,240	3,240	3,249	3,240
Productive Hours	hrs		3,240	3,249	3,240	3,240	3,240	3,249	3,240	3,240	3,240	3,249	3,240	3,240	3,240	3,249	3,240
Required Units	un		0.8	0.9	1.2	1.4	1.7	1.9	2.0	1.3	1.2	1.2	1.6	1.4	1.0	0.4	0.5
Installed Units	un		1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0
Smoothing	un		1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0
Useful Life	hrs	60,000															
Maximum Installed Equipments	un	2															
Acquisition/ Disposal of equipment																	
1	un		1													-1	
2	un				1												
Vector Useful Life per Eq																	
1	hrs	18,000	5,505	11,491	15,424	19,886	25,428	31,596	37,926	42,273	46,026	50,038	55,167	59,570	62,826		
2	hrs	18,000			3,933	8,395	13,937	20,105	26,435	30,782	34,535	38,547	43,676	48,079	51,335	53,734	56,797
Initial Mechanical Availability	%	75%															
Annual Attrition of availability	%																
Mechanical Availability by eq																	
1	%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	
2	%	75%			75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Mechanical Availability by fleet	%		75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Operatives Units		2	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1
Acquired/Replacement Units																	
Overhaul Units		1													1		
Low Units		1														1	
Labor Operation																	
Operators	un		5.0	5.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	5.0	5.0

16.6.4 Support Services

Support equipment consists of all the ancillary equipment required to perform the mining operation to the proper standard. In the case of bulldozers or crawler tractors, they provide the service of unclogging blasting, maintaining an adequate unloading point for emptying trucks in the dumps and stockpiles, as well as cutting in non-rock terrain such as cover. The wheel dozer performs similar functions to the bulldozer but has the advantage of traveling at higher speeds without the need for a low bed. Excavators will play a fundamental role in the operation since they oversee profiling the slopes to reach the design lines and avoid rock falls towards the lower points of the operation. The motor grader, on the other hand, performs the function of maintaining an optimal road surface for haulage, working in conjunction with the grader and the water truck. A CAT950 loader or similar one was considered to eventually feed from the rom pad stock to the primary crusher. Lastly, and generally assigned to the maintenance area, the tire handler and low bed trucks are considered to move the tracked equipment.

The Caterpillar line was considered for support and production support equipment due to its massive use and good availability and logistics of spare parts in Argentina. The estimation criteria for all support equipment are shown in Table 16-15.

Table 16-15: support equipment details.

Equipment	Model	Definition
Bulldozer	Bulldozer CATD8	1 equipment by active phase, 1 equipment by drill fleet and 1 equipment by active waste dump
Wheelldozer	Wheelldozer CAT834T	1 equipment by 2 loaders and 1 equipment by active phase
Grader	Grader CAT160	1 equipment by 10 trucks
Water Truck	CAT 777WT	2 equipments
Loader	CAT950	1 equipment
Excavator	CAT374	1 equipment by loader
Tyre Handler	Handling Tyres	1 equipment by haulage fleet
Low Bed Trucks	Low Bed Trucks	1 equipment by drill fleet
Compactator Soil	CAT CS79	1 equipment

16.7 Mine Personnel

The staffing required for the mining operation was estimated based on the fleet estimation, for the purposes of which an absenteeism factor of 10% was considered only for operators; this factor was not applied to staff personnel.

Table 16-16 shows personnel details.

Table 16-16: required mine staffing.

DIABLILLOS SILVER - GOLD PROJECT

DESCRIPTION	UNIT	CONSTRUCTION		COMMISSIONING RAMP-UP	OPERATIONS														CLOSURE
		-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
HUMAN RESOURCES																			
Site personnel		4	5	408	439	462	476	476	476	476	486	477	477	477	468	426	281	236	80
Planning & Control, site engineering		3	3	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	8
Technical Services - Geology - Geologists	Pers/year	-	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-
Technical Services - Superintendent	Pers/year			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Technical Services - Long term planning - Mine engineer	Pers/year	-	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-
Technical Services - Short term planning - Mine engineer	Pers/year	-	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-
Technical Services - Topographic control - Technicians	Pers/year	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Technical Services - Topographic control - Supervisor	Pers/year	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Technical Services - Geotechnical control - Senior Engineer	Pers/year	-	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-
Technical Services - Mine production control - Cost engineer	Pers/year	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
Technical Services - Geology - Chief	Pers/year			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Technical Services - Mine planning - Chief	Pers/year			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mining		1	2	391	422	445	459	459	459	459	469	460	460	460	451	409	264	219	72
Mine Superintendant	Pers/year	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
Deputy Mine Superintendant	Pers/year		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
Drilling Shift Supervisor	Pers/year			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
Drilling - Operators	Pers/year			15	15	19	23	23	23	23	23	23	23	23	23	19	15	15	-
Drilling - Assistance, helpers	Pers/year			30	30	40	50	50	50	50	50	50	50	50	50	40	30	30	-
Blasting - Shift Supervisor	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Blasting - Operators	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	-
Blasting - ANFO truck driver	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Blasting - Powder magazine supervisor	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Blasting - Nitrate preparation field - Operator	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Blasting - Nitrate preparation field - Helper	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Fleet management - Fleet dispatcher	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Fleet management - Fleet dispatcher assistant	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Excavation & Hauling - Shift Supervisor	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Excavation & Hauling - Excavator - Operator	Pers/year			22	22	22	22	22	22	22	27	27	27	27	27	22	5	5	4
Excavation & Hauling - Front end loader - Operator	Pers/year			22	22	22	22	22	22	22	27	27	27	27	27	22	5	5	-
Excavation & Hauling - 100 ton Hauling truck driver	Pers/year			128	159	159	159	159	159	159	159	159	159	159	159	159	62	62	31
Excavation & Hauling - Signalman	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	-
Excavation & Hauling - Wheel dozer Operator	Pers/year			22	22	27	27	27	27	27	27	22	22	22	18	9	9	9	9
Excavation & Hauling - Bulldozer Operator	Pers/year			27	27	31	31	31	31	31	31	27	27	27	22	22	22	22	-
Waste & Ore rehandling - Shift Supervisor	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Waste & Ore rehandling - Front end loader Operator	Pers/year			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	-
Waste & Ore rehandling - Signal man	Pers/year			18	18	18	18	18	18	18	18	18	18	18	18	18	18	2	-
Mine support & maintenance - Grader - Operator	Pers/year			18	18	18	18	18	18	18	18	18	18	18	18	9	9	9	9
Mine support & maintenance - Backhoe - Operator	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mine support & maintenance - Bobcat Operator	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mine support & maintenance - Fuel truck driver	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4
Mine support & maintenance - 100 ton Water truck driver	Pers/year			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	-
Mine support & maintenance - 26 ton Water truck driver	Pers/year			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
Mine support & maintenance - Low boy truck driver	Pers/year			9	9	9	9	9	9	9	9	9	9	9	9	9	9	2	-

16.8 General Mine Layout

Below is a general layout of the main mine and plant facilities, highlighting among them the Tailings Storage Facility (TSF), ROM pad, process plant, camp, north and east waste dumps and the below cut-off grade stockpile.

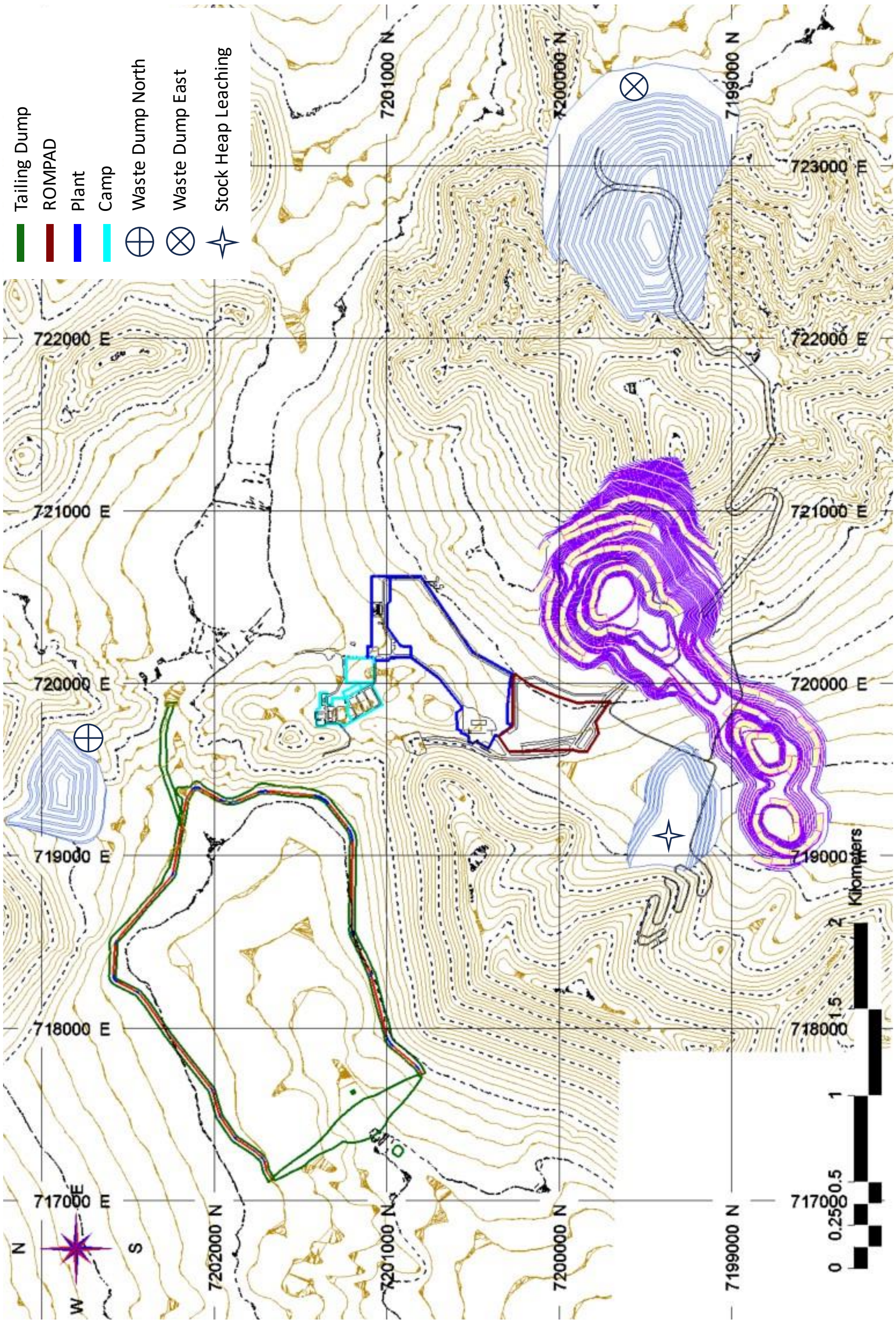


Figure 16-27: General mine layout.

16.9 Stability Open Pit Analysis

During the 2022 drilling campaign, AbraSilver performed six geotechnical holes as part of its exploration program. Six oriented core drill holes were drilled in HQ size and dedicated geotechnical logging was performed in order to support a future mine design. During December 2023 and January 2024, the author processes the data with the support of a geotechnical specialist. The result and conclusions are presented in the next subsection.

Geotechnical drillholes can be visualized in Figure 16-28.

16.9.1 Geotechnical Characterization

16.9.1.1 Geotechnical Units

The geotechnical information provided by lithology with its geotechnical parameters allowed to define 6 Geotechnical Units (GU), which individually, had been used to model the stability analysis.

The Rock Mass Rating (RMR) for each lithology was determined with the data provided by borehole logging every meter. The location of the boreholes is shown in Figure 1 and the RMR established by lithology that each drillhole intercepts are shown in Figures 2 to 4.

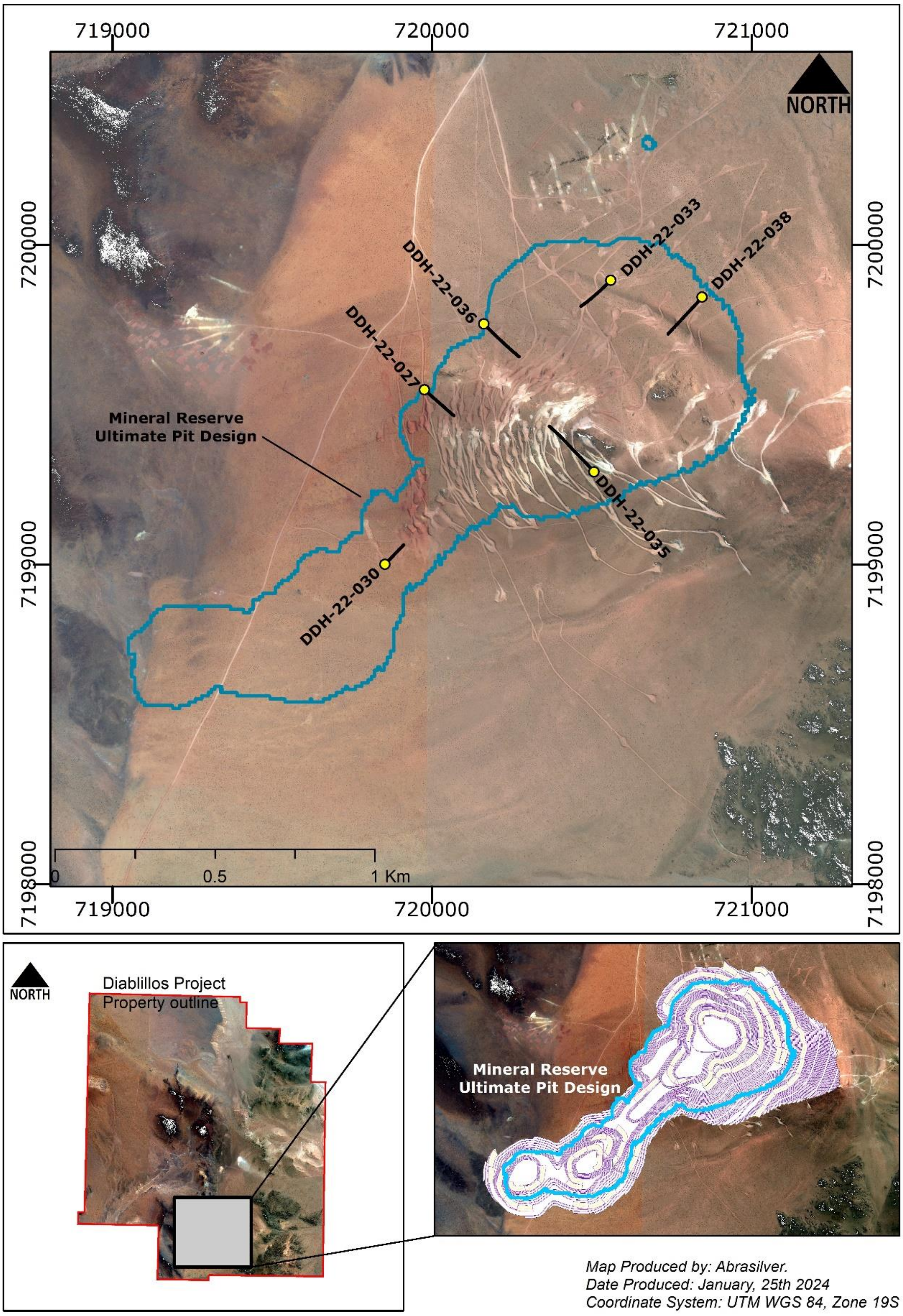


Figure 16-28: Location of boreholes (update pending)

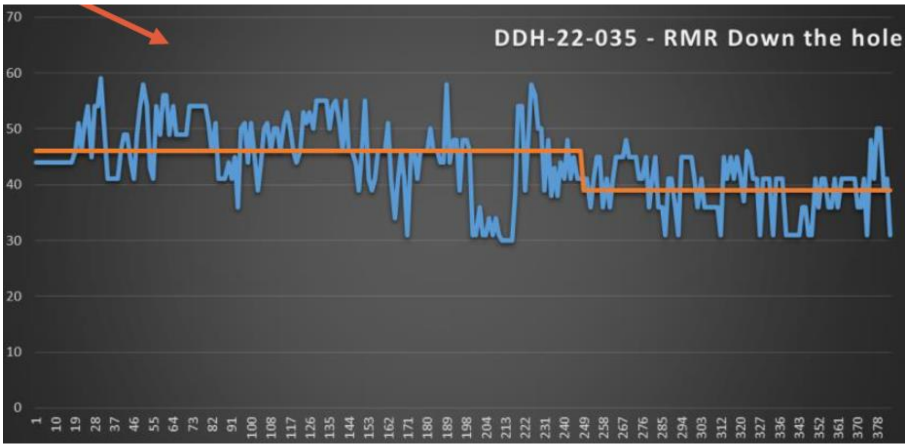


Figure 16-29: RMR According to depth for METASEDIMENT lithology.

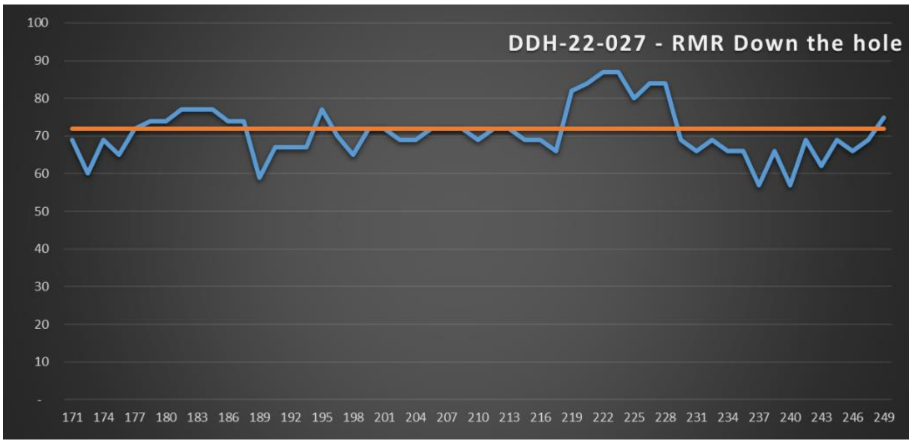


Figure 16-30: RMR According to depth for GRANITE lithology.

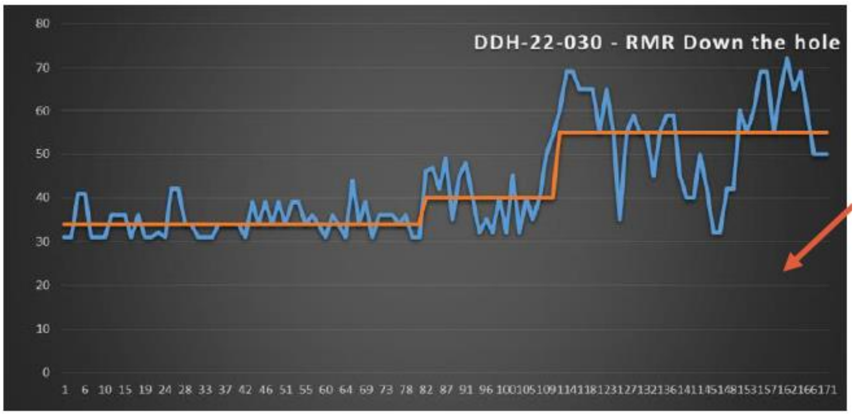


Figure 16-31: According to depth for Wall Rock-Andesite lithology

The UCS at different depths by lithology was also determined from the data provided by the boreholes, Figure 5.

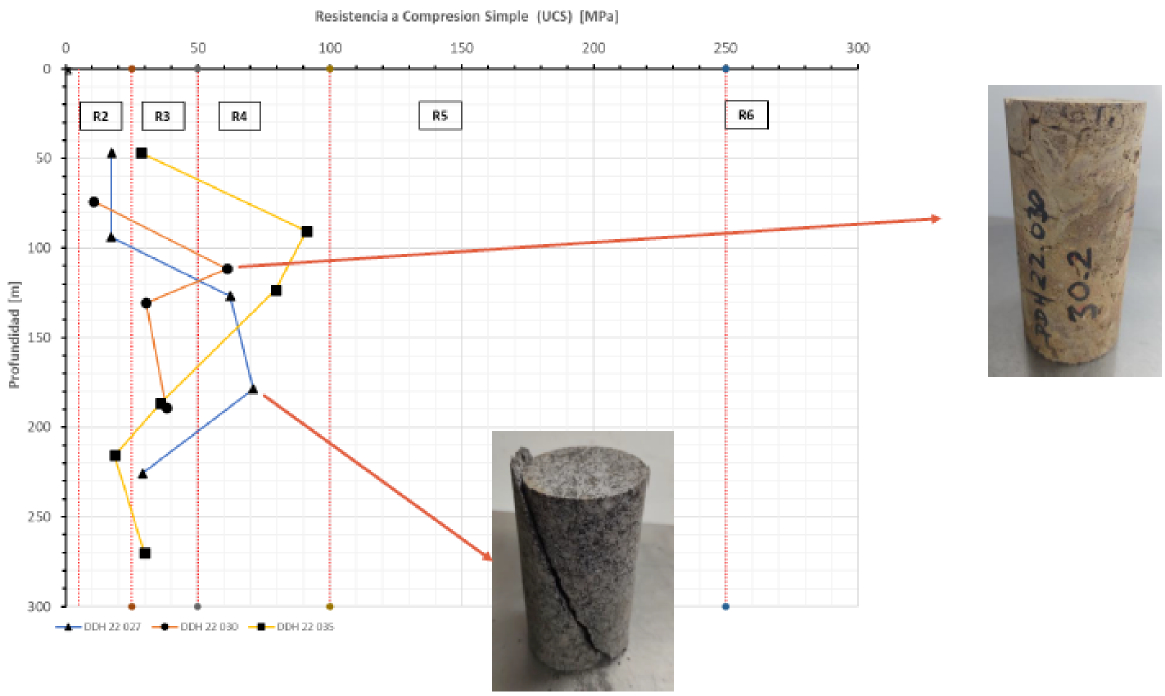


Figure 16-32: UCS at different depths

The following parameters are obtained from the above information and using the parameter for each type of rock present in the study area:

Table 16-17: Geotechnical parameters by lithology.

Lithology	Depth [m]	UCS [Mpa]	mi	RMR	GSI
Metasediment	50	26	20	47	42
	100	85	20	47	42
	150	80	20	47	42
	200	30	20	47	42
	250	25	20	39	34
	300	25	20	39	34
	350	25	20	39	34
	400	25	20	39	34
	450	25	20	39	34
	Typical	25	20	43	40
Granite	50	27	19	71	66
	100	27	19	71	66
	150	27	19	71	66
	200	27	19	71	66
	250	27	19	71	66
	Typical	27	19	52	47
Andesite	50	18	6	34	29
	100	18	6	40	35
	150	67	6	55	50
	200	50	6	55	50
	230	30	6	55	50
	Typical	67	6	48	43

According to the model provided, there is a layer of surface material composed of semi-consolidated gravel-type backfill, the typical properties for this type of material C= 1.8 MPa and ϕ=12°.

Given the uncertainty of the available geotechnical data, a 40% variation in the established parameters will be assumed, which translates into a coefficient of variation of 15%. This condition will be considered in the failure probability analysis in the different scenarios simulated below.

16.9.2 Final Open Pit Stability

The stability analysis was performed using Slide software, which allows the static stability of the walls that comprise an open pit mine to obtain but does not allow the simulation of the dynamic behaviour of the design. By using this methodology, stability factors and the possibility of failure that may exist in the field can be established.

The Diablillos project consists of 6 mining phases, starting in the centre of the deposit, followed by an expansion to the south and then 4 growth phases to the north. Given this growth and individualization of the phases, the final pit stability can be defined by combining the walls of Phase 1, Phase 2, and Phase 6, as shown in the Figure 16-32.

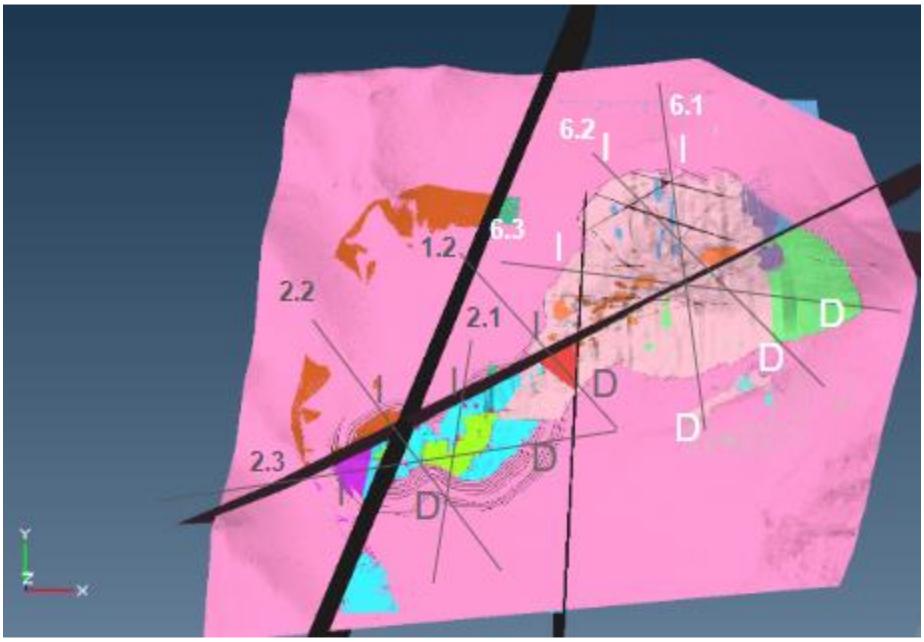


Figure 16-33: Final pit and profiles used for the stability analysis.

Each line represents a section view with its number, which indicates the phase to which the profile belongs, starting from the left (L) to the other end of the line, which we will call right (R).

The walls defined to estimate final pit stability are shown in Figure 16-33 and Table 16-16, which also includes the safety factor and probability of failure for that profile and wall.

Table 16-16: Summary Table with Final Pit SF and PF Values

Profile	Wall			
	Right (R)		Left (L)	
	SF	PF	SF	PF
1.2	3.18	0.00%	3.28	0.00%
2.1	1.23	8.90%	1.38	1.80%
2.2	**0.96**	**63.80%**	**0.93**	**71.2%**
2.3	1.35	2.70%	4.47	0.00%
6.1	0.98	54.4%	2.83	0.00%
6.2	2.16	0.00%	3.36	0.00%
6.3	2.18	0.00%	3.63	0.00%

From the analysed profiles, it can be observed that there are 3 walls with a safety factor lower than 1 and with a PF higher than 50%: both walls of profile 2.2 and the right wall of profile 6.1. These critical cases are shown in the following Figures 16-34 to Figure 16-52.

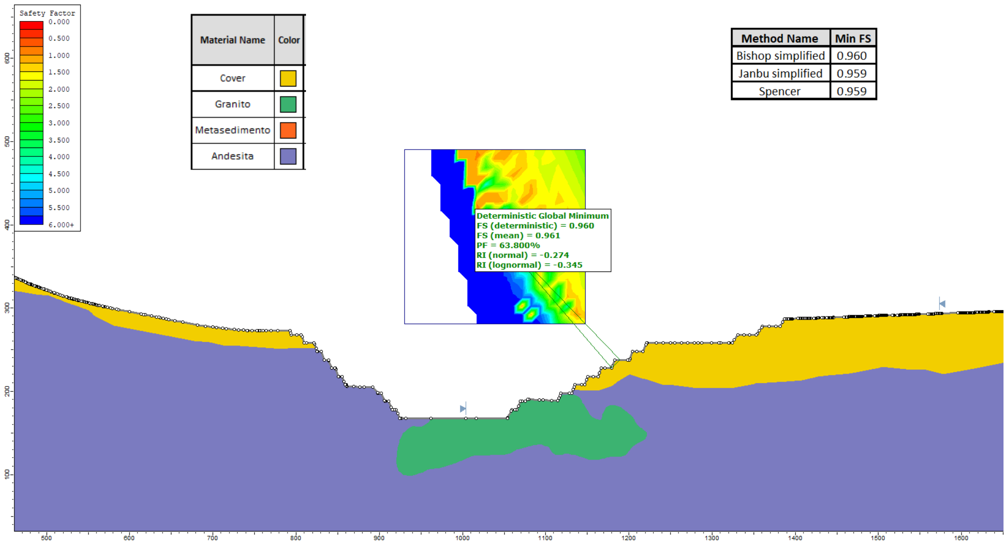


Figure 16-34: Stability analysis for profile 2.2 R.

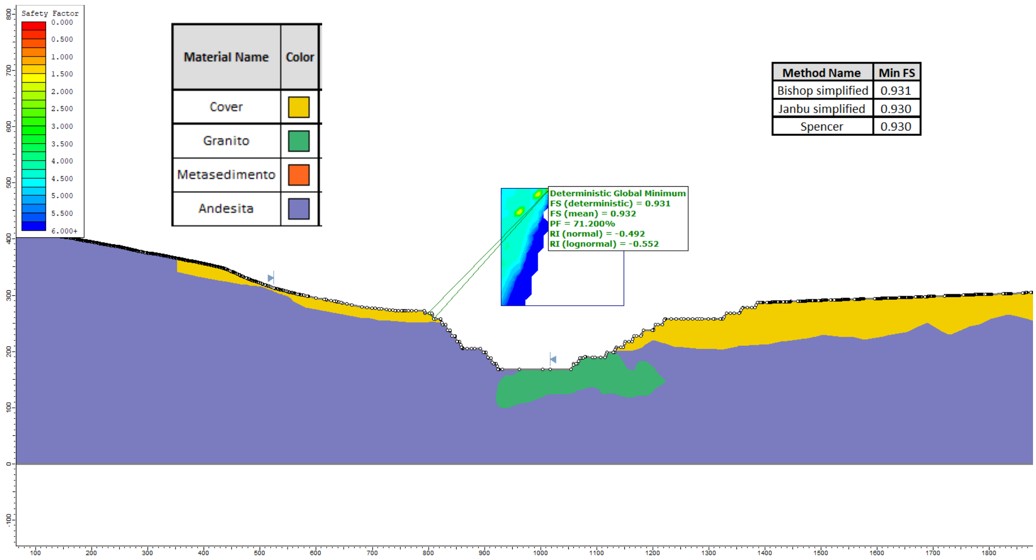


Figure 16-35: Stability analysis for profile 2.2 L.

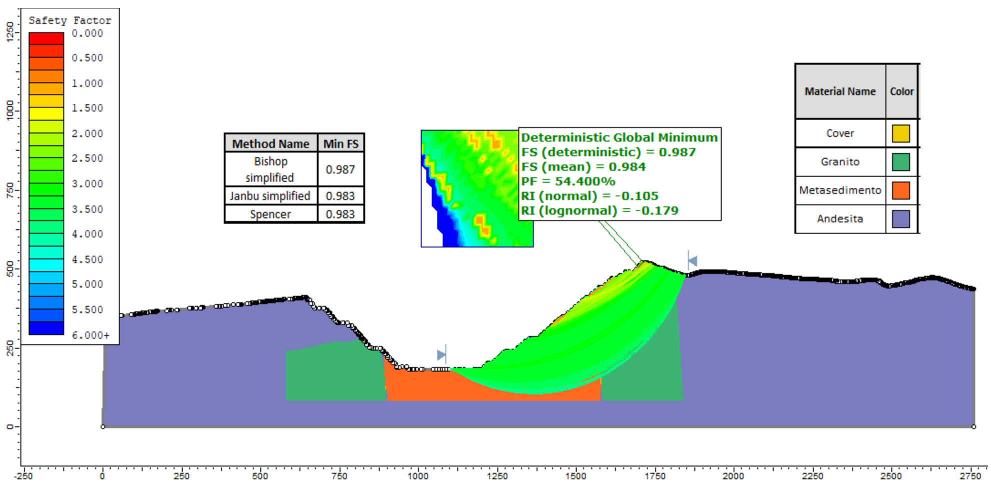


Figure 16-36: Stability analysis for profile 6.1 R.

In wall R of section 2.2 and Wall R of section 6.1, a similar behaviour can be observed, i.e., the entire area called Cover has a safety factor value very close to 1 and at some points, below this value. The above indicates that in these locations it is very likely that the benches will fail; moreover, these areas have more than 50% probability of failure and the affected area is estimated in the order of 5 benches in each of the cases. For wall L of section 2.2, the impact is much smaller and is limited to the first 2 benches where Cover lithology is present.

16.9.3 Diablillos Stability by Mining Phases

The stability analysis by phase for the Diablillos mining project will be approached following the progressive growth of the open pit through the phases; therefore, only the new wall definitions are evaluated while preserving the stability analysis for the existing walls in the previous phases. The analysis is similar to that performed to determine the final pit stability.

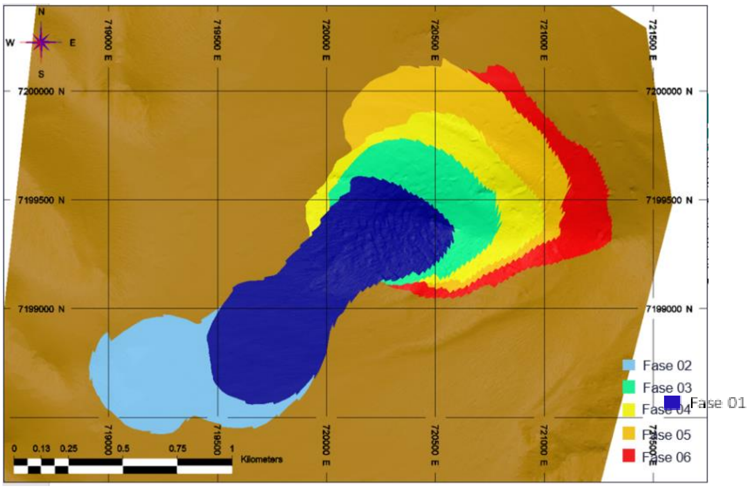


Figure 16.37. Diablillos phases

16.9.3.1 Phase 1

The results of the phase 1 stability analysis show that the walls studied have a safety factor greater than 1.0 and their probability of failure is below 4%, highlighting walls with a safety factor of 3.19, which is very high by mining standards.

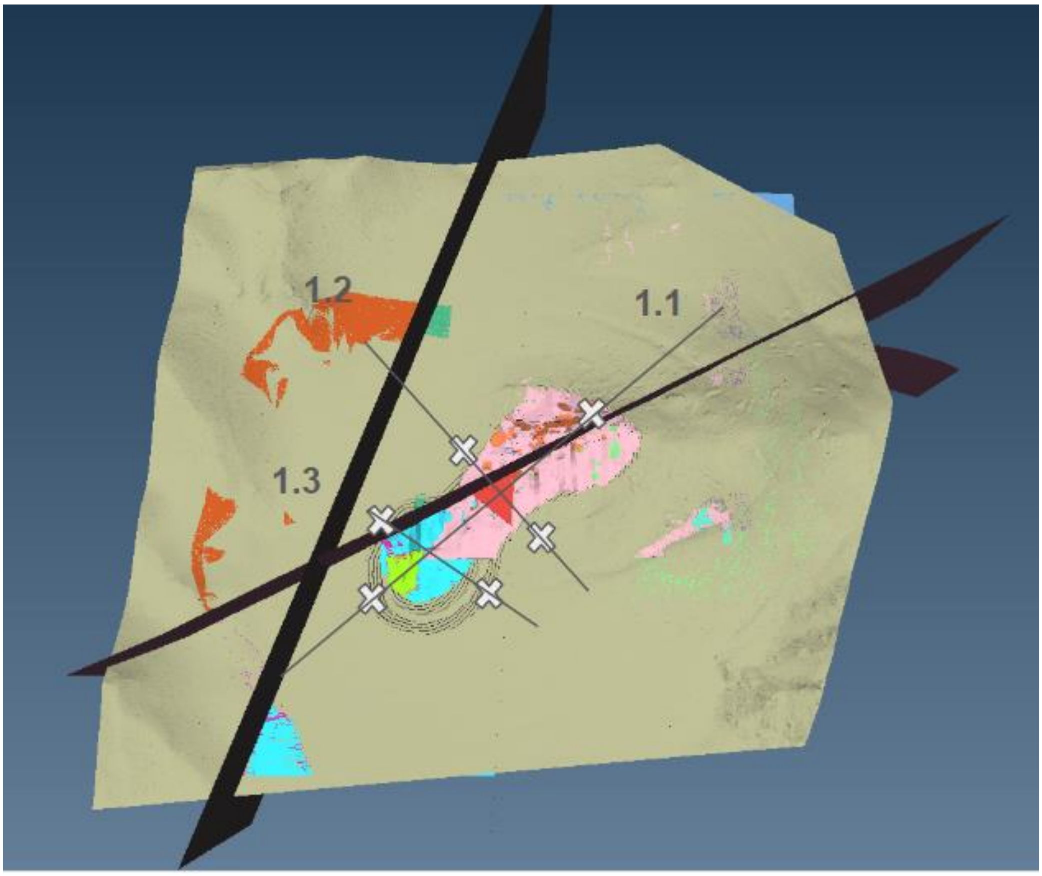


Figure 16.38. Phase 1 analysis profiles

Table 16-17: Phase 1 SF and PF

Profile	Wall			
	R		L	
	SF	PF	SF	PF
1.1	1.38	1.80%	2.74	0.00%
1.2	3.19	0.00%	2.32	0.00%
1.3	1.69	0.10%	1.45	3.80%

The worst-case scenario for phase 1 is at wall 1.1 R, with a safety factor of 1.4 and a probability of failure of 1.8%, which is low and is not indicative of a loss of stability in this phase.

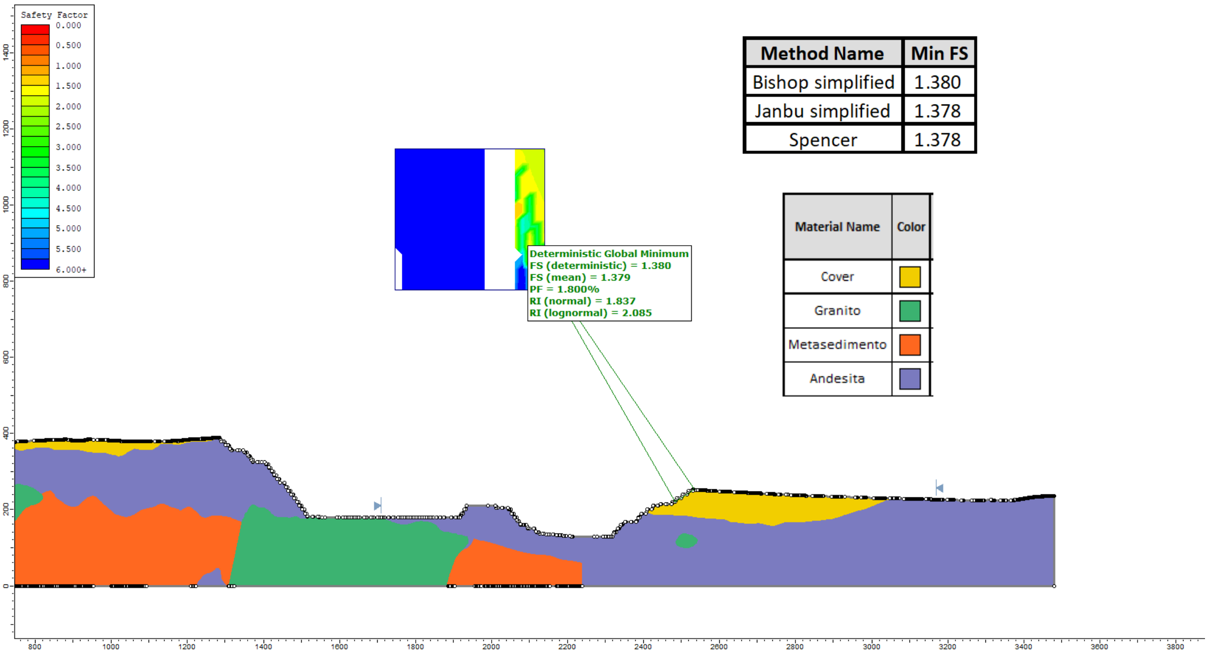


Figure 16-39: Stability analysis for profile 1.1 R

16.9.3.2 Phase 2

The southern extension, known as phase 2, has lower safety factors in the walls studied. The 2.2 profile is found with safety factors below 1 and a PF greater than 50%, and the 2.1 R walls with a FS of 1.2 and a PF greater than 5%. It is therefore necessary to review in detail the impact of these factors considering that the critical zones are located within the unconsolidated cover material.

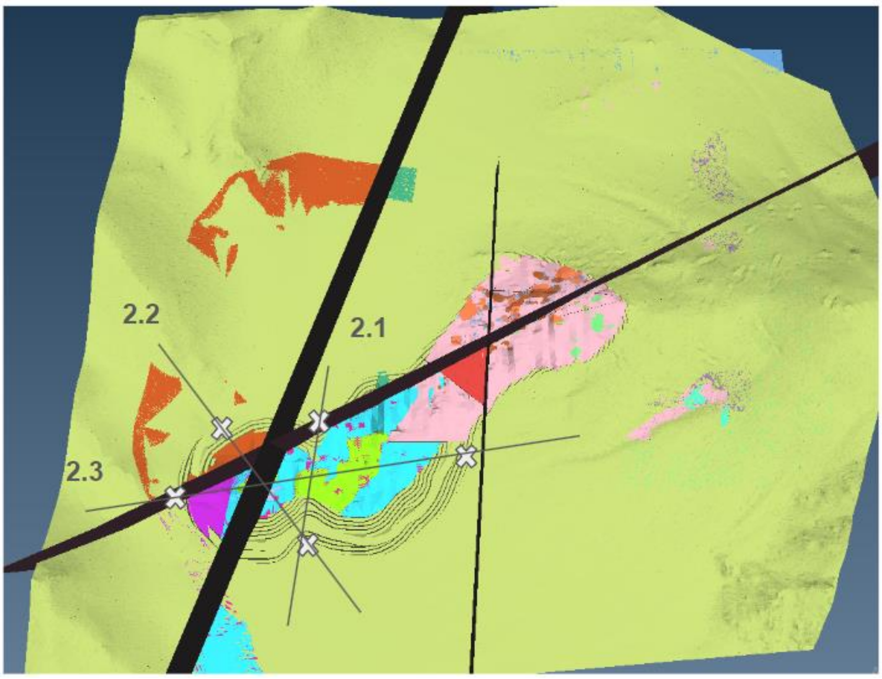


Figure 16-40: Phase 2 analysis profile.

Table 16-18: Phase 1 SF and PF.

Profile	Wall			
	R		L	
	SF	PF	SF	PF
2.1	1.24	8.90%	1.38	1.80%
2.2	0.96	63.80%	0.93	71.20%
2.3	1.35	2.70%	4.47	0.00%

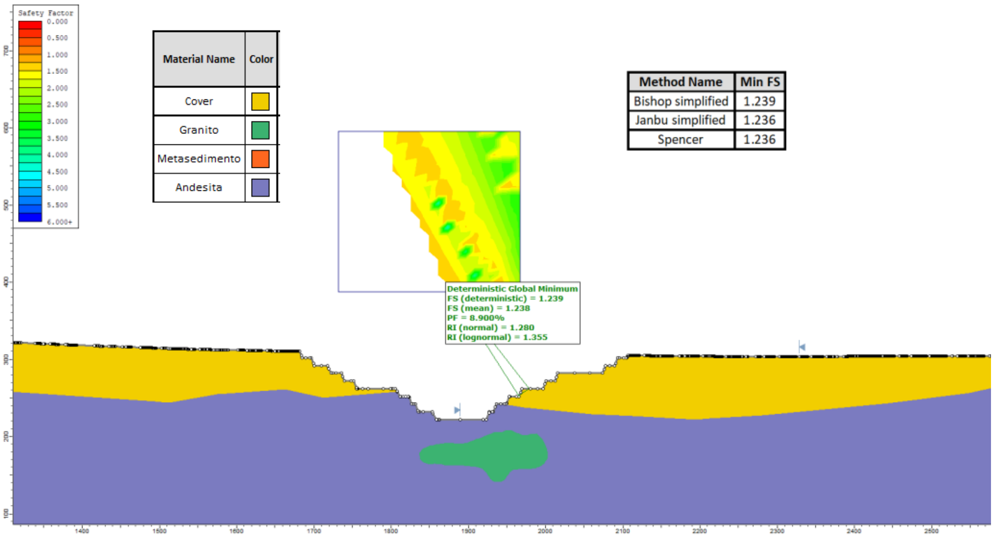


Figure 16-41: Stability analysis for profile 2.1 R.

In the case of 2.1R, the impact is from a couple of benches, which present instabilities. For the case of 2.2R, the failure zone is approximately 6 benches, but it would also affect the stability of the main ramp, which crosses this wall.

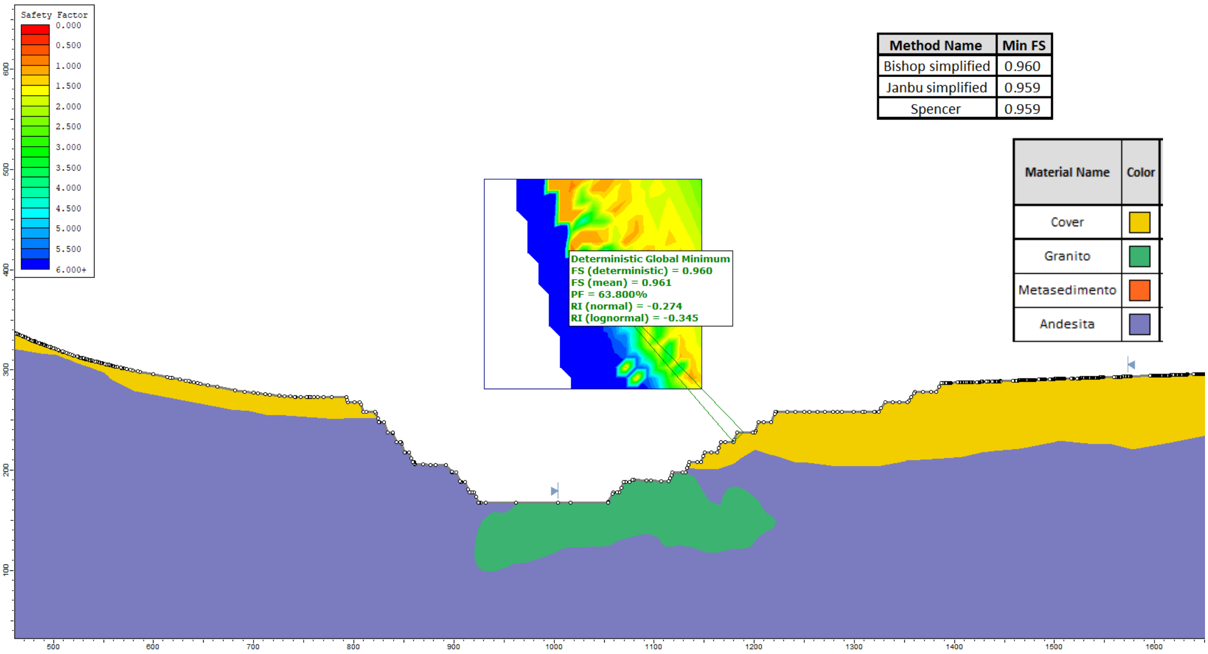


Figure 16-42: Stability analysis for profile 2.2 R.

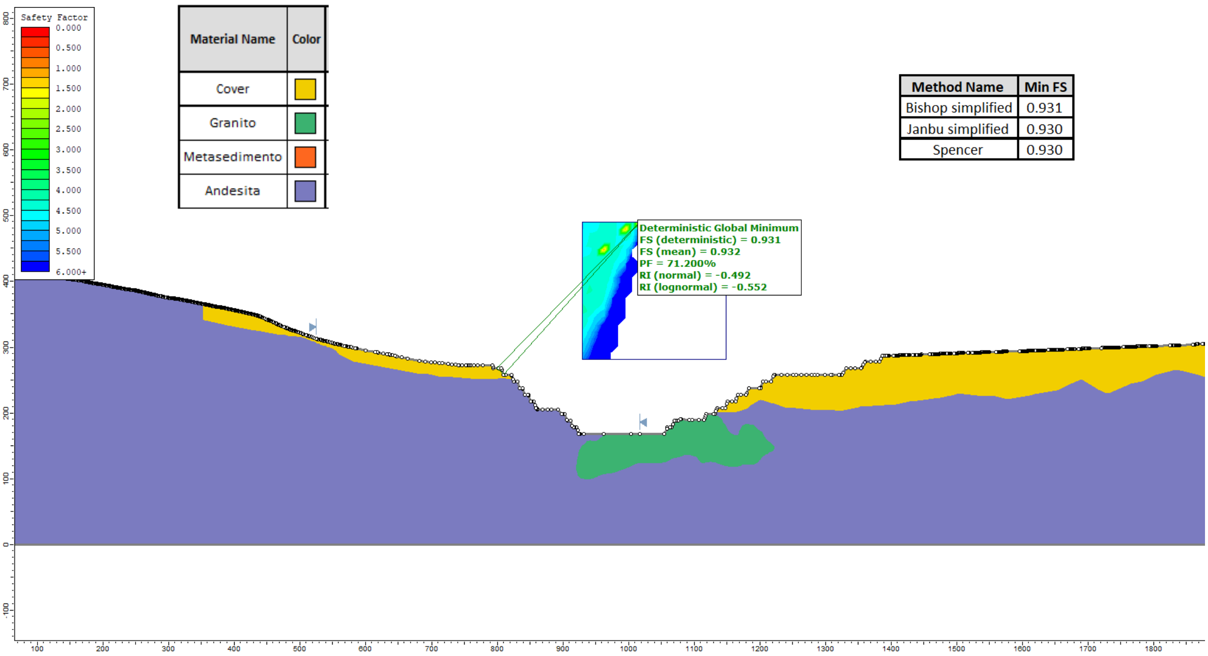


Figure 16-43: Stability analysis for profile 2.2 L.

On wall 2.2L, the impact is controlled by the depth of the cover layer found at this location, which according to lithologic models would be in the order of 2 benches.

16.9.3.3 Phase 3

The first extension to the north presents a design with a safety factor of more than 1.5 for all its walls and with a probability of failure close to 0%.

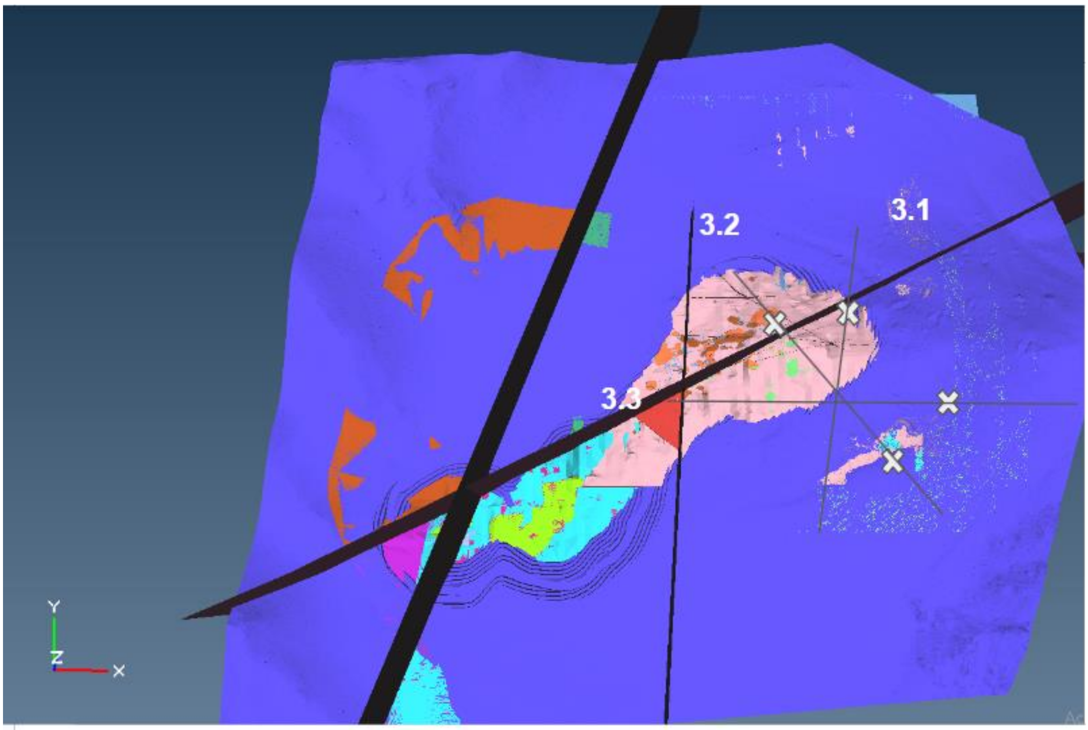


Figure 16-44: Phase 3 analysis profiles.

Table 16-19: Phase 3 SF and PF.

Profile	Wall			
	R		L	
	SF	PF	SF	PF
3.1	4.9	0.00%	1.54	0.20%
3.2	2.69	0.00%	3.44	0.00%
3.3	2.84	0.00%	4.2	0.00%

Scenario 3.1 L is the most unfavourable scenario, threatening the stability of the first banks, which occur in the cover lithology.

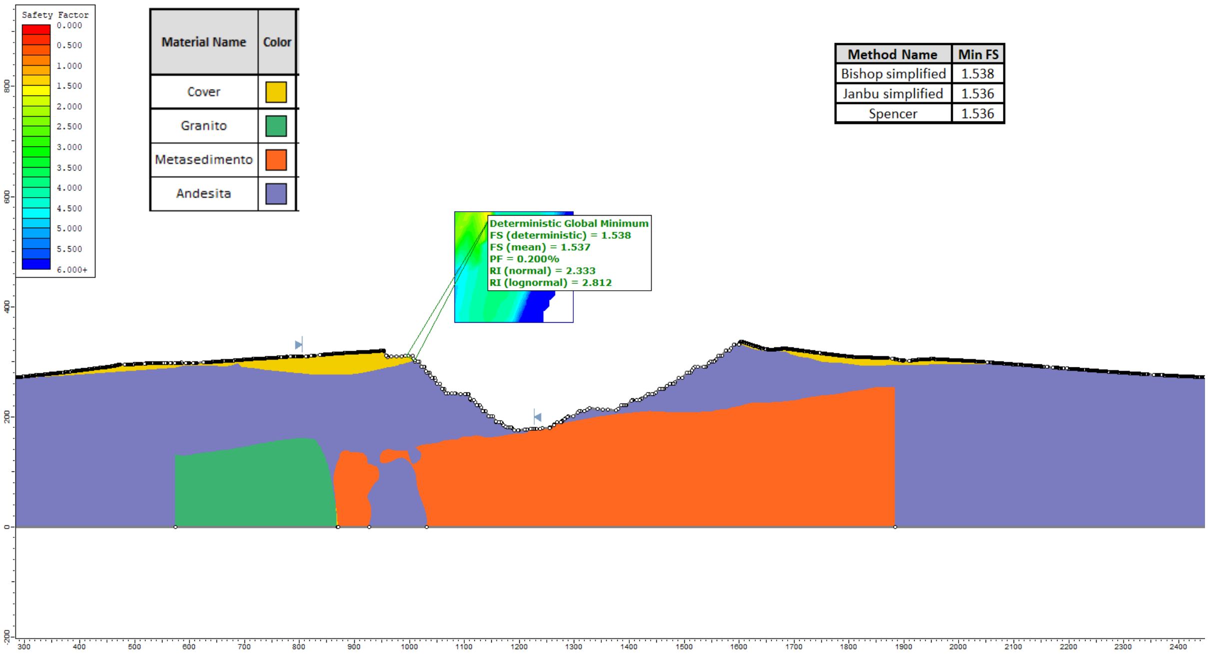


Figure 16-45: Stability analysis for profile 3.1 L

16.9.3.4 Phase 4

The second extension to the north presents a design with a safety factor of more than 1.5 for all its walls and with a probability of failure close to 0%. As in the previous case, the area of the first benches, where cover lithology is present, has the lowest safety factor.

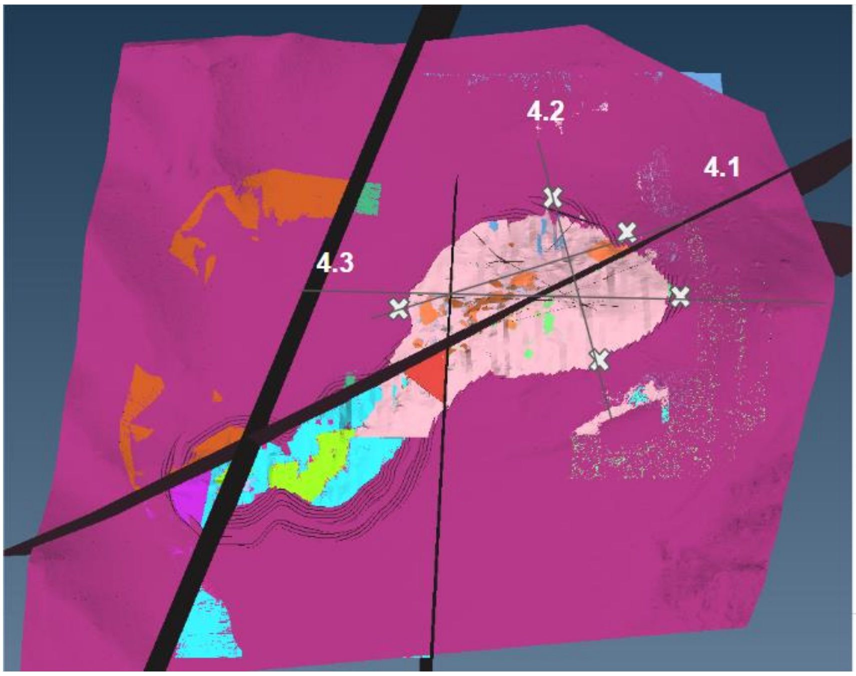


Figure 16-46: Phase 4 analysis profiles.

Table 16-20: Phase 4 SF and PF.

Profile	Wall			
	R		L	
	SF	PF	SF	PF
4.1	2.91	0.00%	4.41	0.00%
4.2	3.12	0.00%	1.46	0.70%
4.3	2.54	0.00%	4.4	0.00%

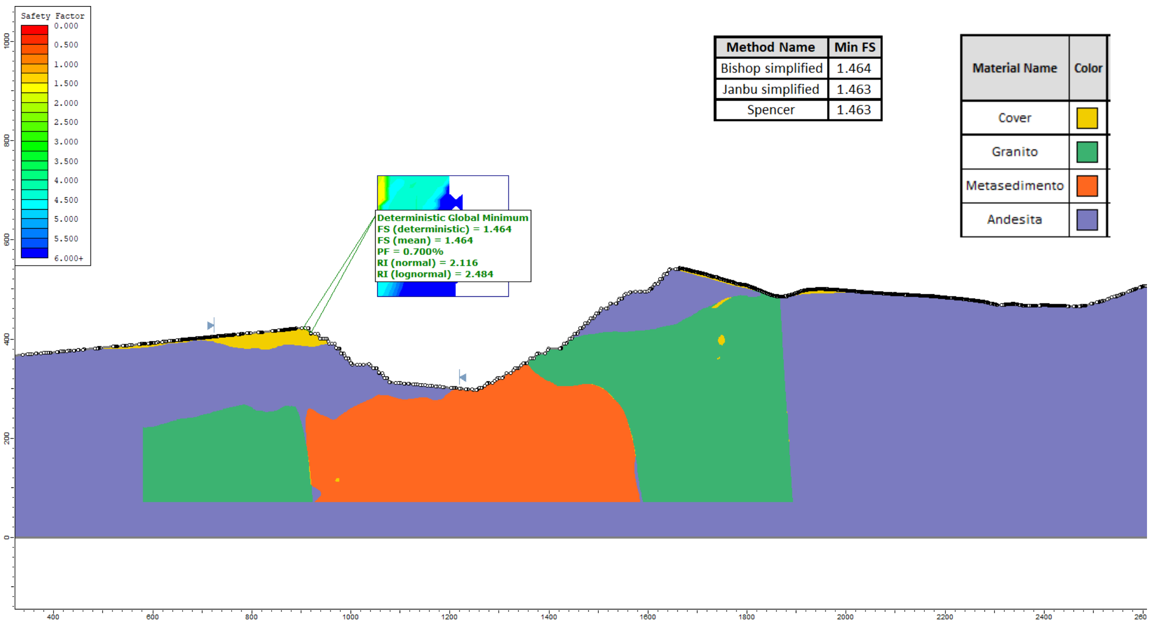


Figure 16-47: Stability analysis for profile 4.2 L

16.9.3.5 Phase 5

The third extension to the north presents a design with a safety factor of more than 2.4 for all its walls and with a probability of failure of 0.00%. Unlike the previous case, Cover lithology is not present in the area of the first benches, which is identified with the lowest safety factor in the previous phases.

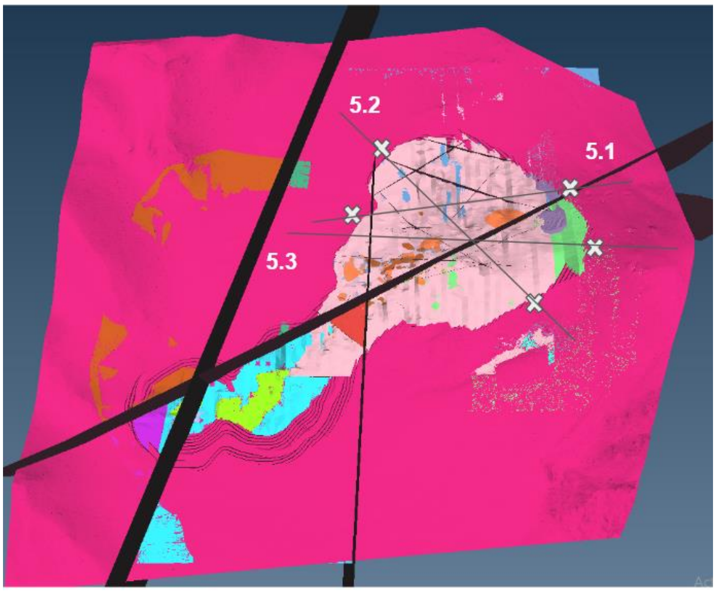


Figure 16.48. Phase 5 analysis profiles.

Table 16.21: Phase 5 SF and PF.

Profile	Wall			
	R		L	
	SF	PF	SF	PF
5.1	3.90	0.00%	3.73	0.00%
5.2	2.37	0.00%	3.58	0.00%
5.3	2.7	0.00%	3.75	0.00%

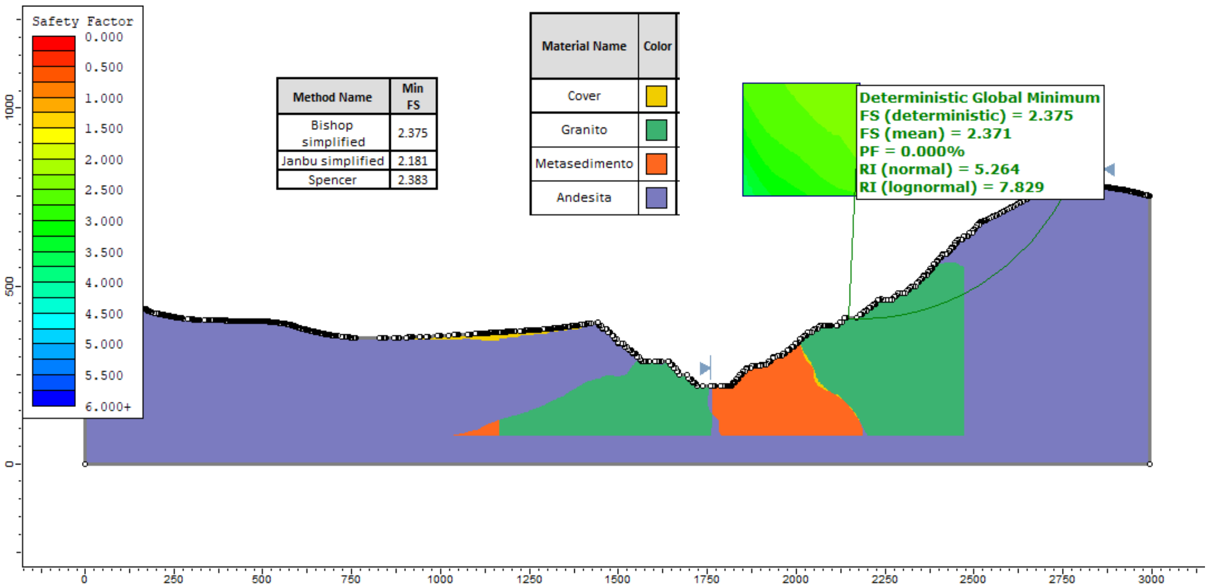


Figure 16-49: Stability analysis for 5.2R

16.9.3.6 Phase 6

The second phase that presents more complications from a stability standpoint is the last expansion to the north, specifically in wall 6.1R, whose safety factor is less than 1 and PF is greater than 50%. This relates to the presence of cover in the first benches of the phase, as shown in the following figure.

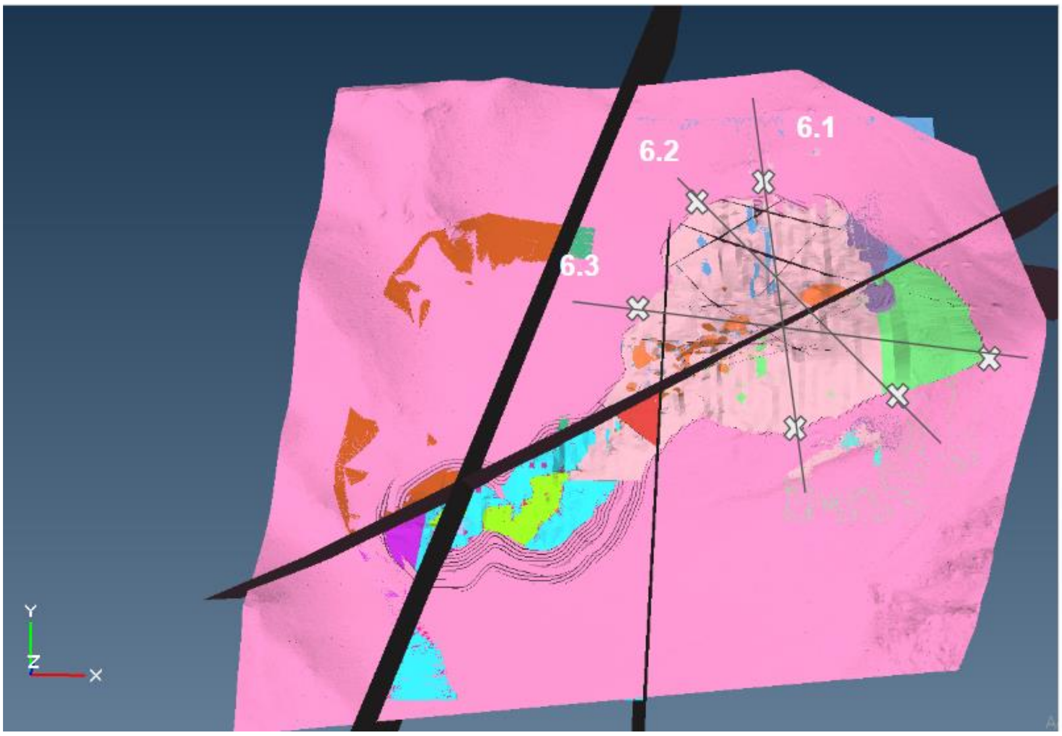


Figure 16-50: Phase 6 analysis profiles.

Table 16-22: Phase 6 SF and PF.

Profile	Wall			
	R		L	
	SF	PF	SF	PF
6.1	0.98	54.40%	2.83	0.00%
6.2	2.16	0.00%	3.36	0.00%
6.3	2.18	0.00%	3.36	0.00%

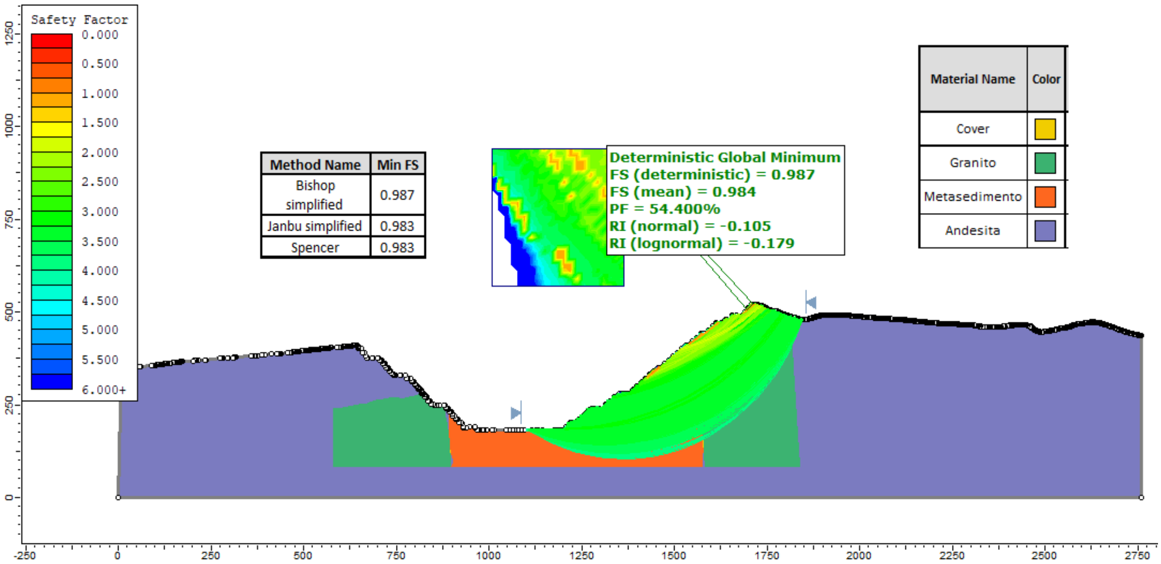


Figure 16-51. Stability analysis for 6.1R

As in the Phase 2 analysis, this zone can easily encompass the height of 6 benches which are in the Cover lithologic zone.

16.9.4 Summary of Results

- There are 3 Walls with a high probability of failure (greater than 50%), found in Phases 1, 2, and 6.
- The final Pit includes the 3 walls in potential failure condition, with a SF of less than 1.
- The main ramp to the south is over one of the most likely fault zones.
- All other walls are stable or very stable by mining standards.
- Walls with a safety factor greater than 2 have design parameters that can be optimized.

16.9.5 General Recommendations on Geotechnical Analysis

- Roads should be redesigned to avoid fault zones.
- Better use can be made of wall, inter-ramp, and bench angles for walls with safety factors greater than 2.
- Benches with a safety factor of less than 1 or PF greater than 5% should be evaluated with a new, more conservative design to reach an acceptable value. This occurs specifically in areas where layers of semi-consolidated gravel fill-type material are encountered.
- Given the level of uncertainty for this study, using a safety factor of 1.7 is not recommended, since close to this value the PF value is very close to 0.0%.
- The study of rock and fill qualities should be improved in order to update the models with these parameters, thus reducing uncertainty. This allows a lower SF to be used in the design, close to 1.3.
- Previous documents have mentioned the possible presence of water, which should be studied so as to incorporate it in the design definition and stability determination. Consider the proximity to areas with salt flats.

- It is highly recommended to improve the characterization of the surface called cover, in order to obtain reliable results, since this zone is the one with the highest probability of failure. This directly conditions the stability of the project.

16.9.6 Design Recommendations

Considering that walls with a low probability of failure have high SFs, we recommend optimizing the design parameters, mainly seeking to adjust the ramp width to the real needs of the project (22-24 m).

Considering the above, it is possible to increase the overall angle in the best geo-mechanical performance zones to about 45°, with an SF of 1.7. The stability analysis for this alternative design is presented in wall 6.3 R below.

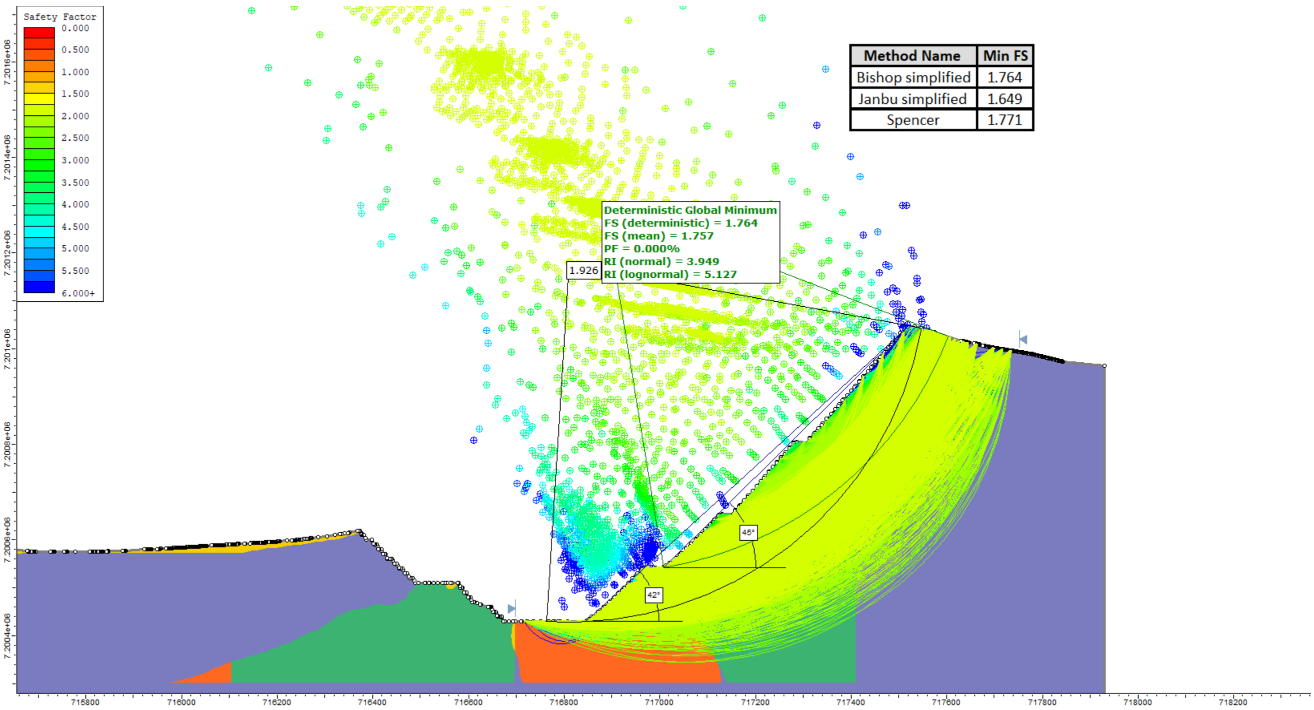
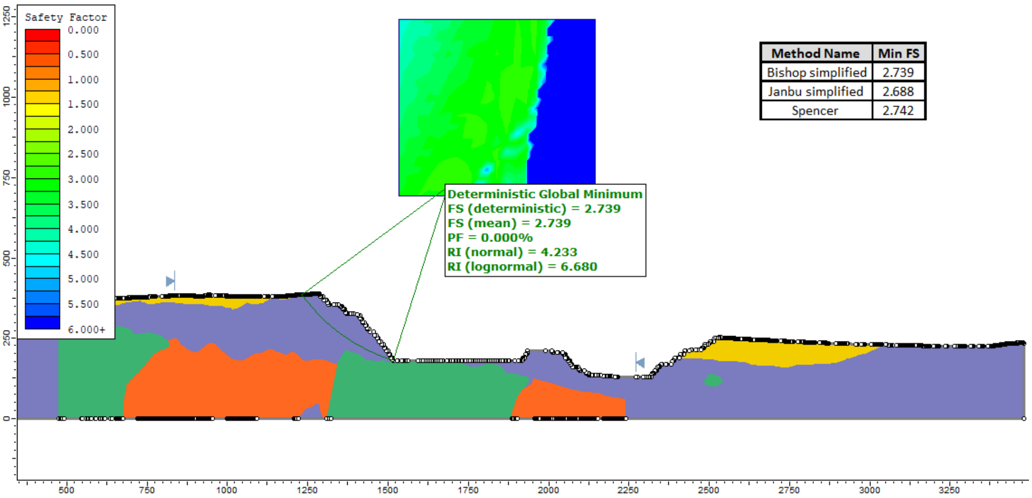
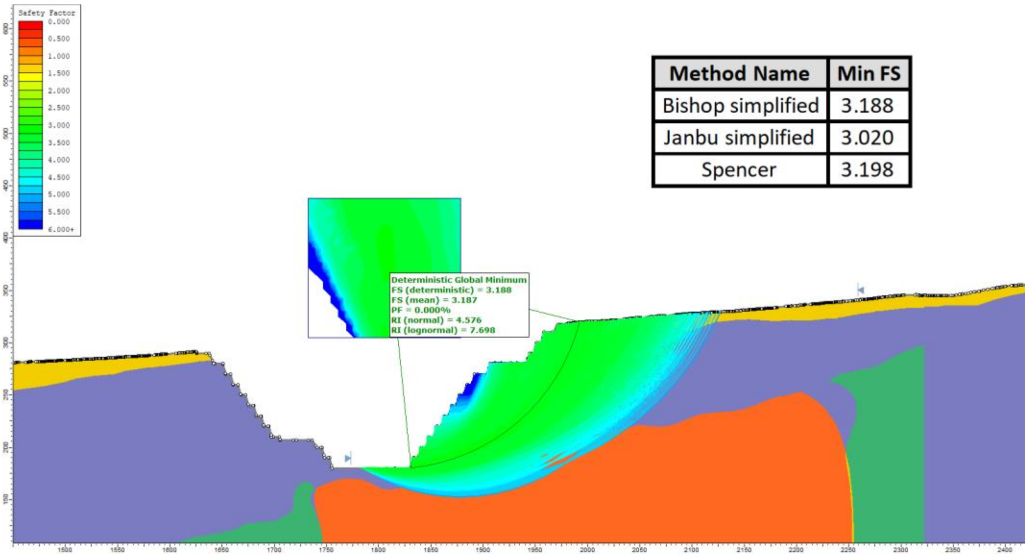


Figure 16-52: Stability analysis for alternative design 6.3 R

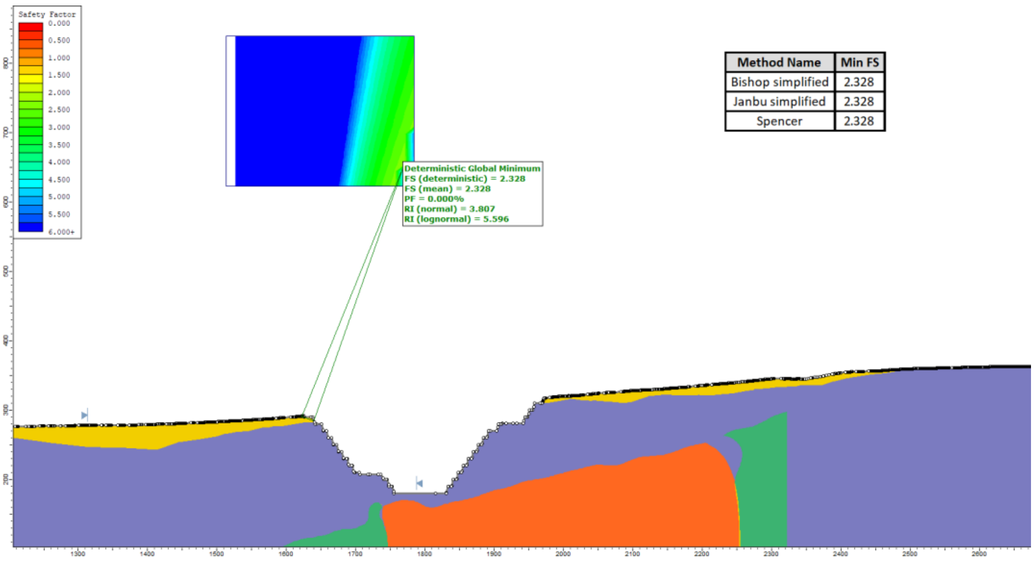
- 1.1 I



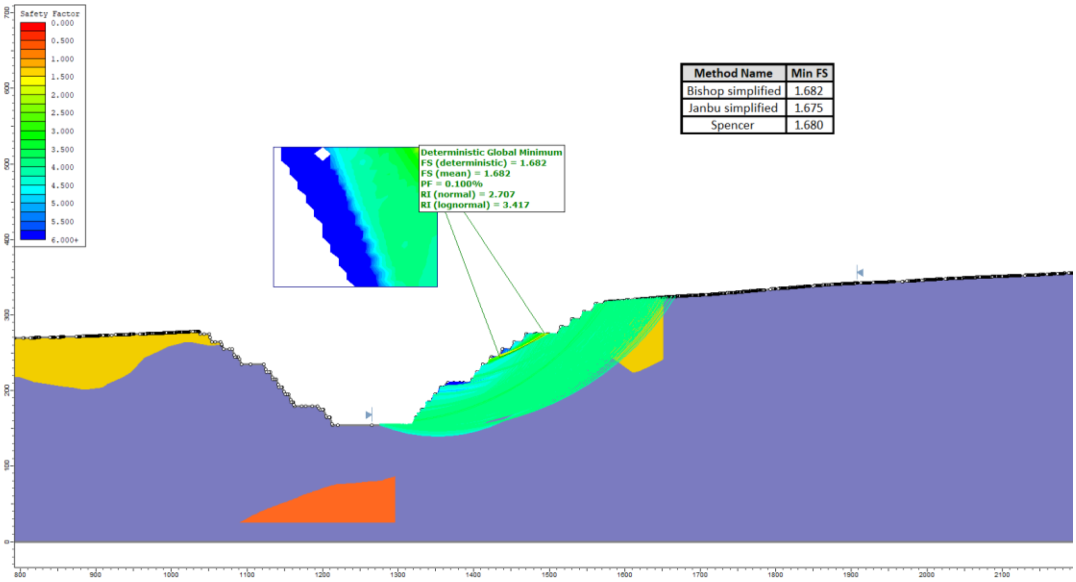
- 1.2 D



- 1.2 I



- 1.3 D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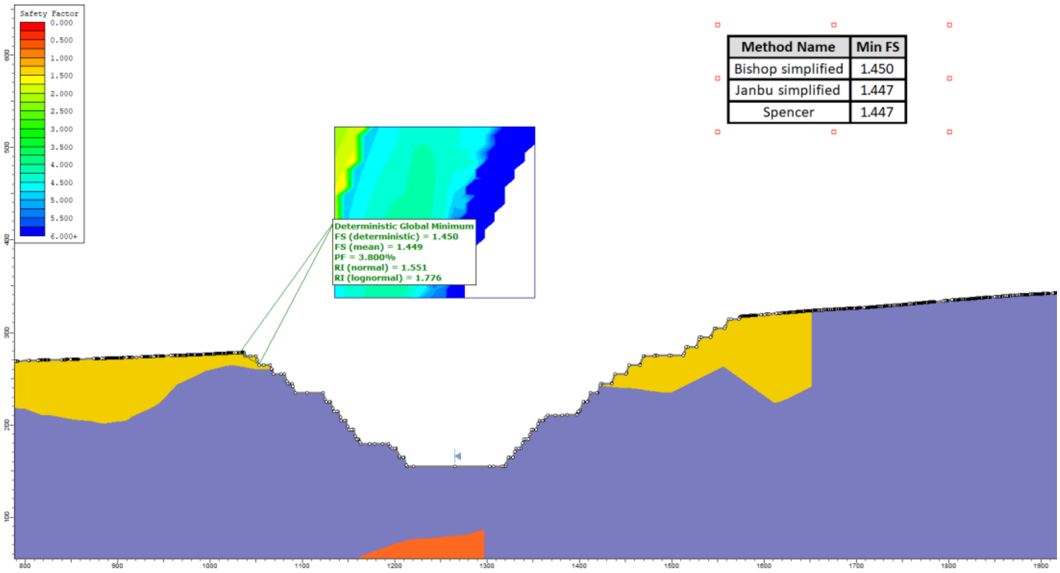
0.500
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 1.682
Janbu simplified | 1.675
Spencer | 1.680
Deterministic Global Minimum
FS (deterministic) = 1.682
FS (mean) = 1.682
PF = 0.100%
RI (normal) = 2.707
RI (lognormal) = 3.417

- 1.3 I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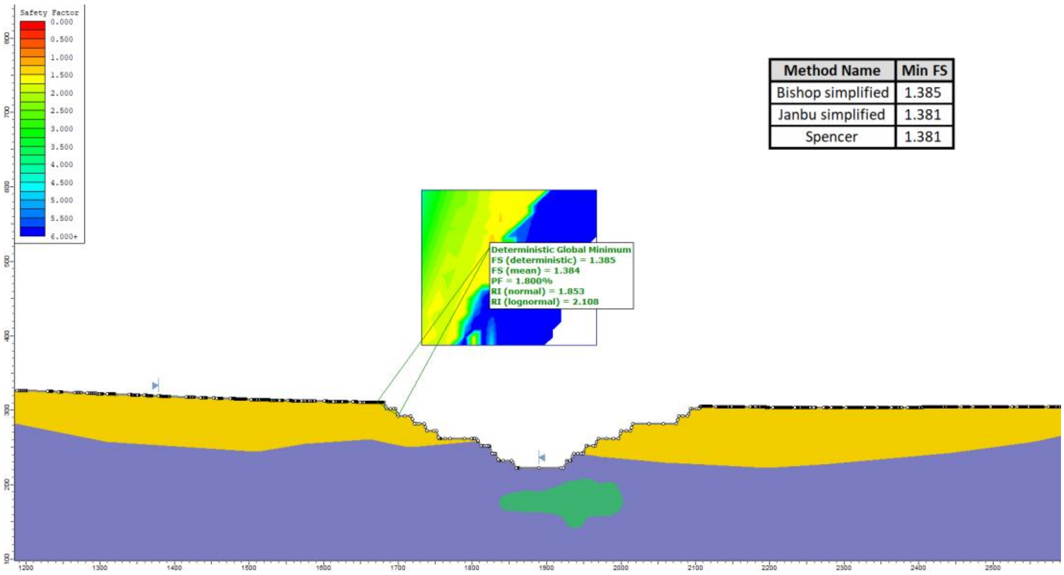
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 1.450
Janbu simplified | 1.447
Spencer | 1.447
Deterministic Global Minimum
FS (deterministic) = 1.450
FS (mean) = 1.449
PF = 3.800%
RI (normal) = 1.551
RI (lognormal) = 1.776

- 2.1 I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1.500
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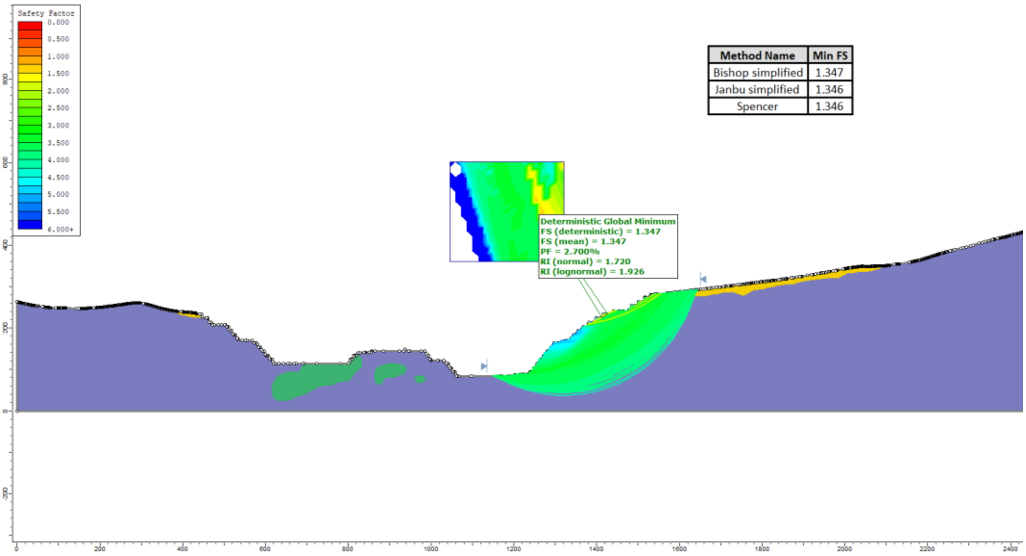
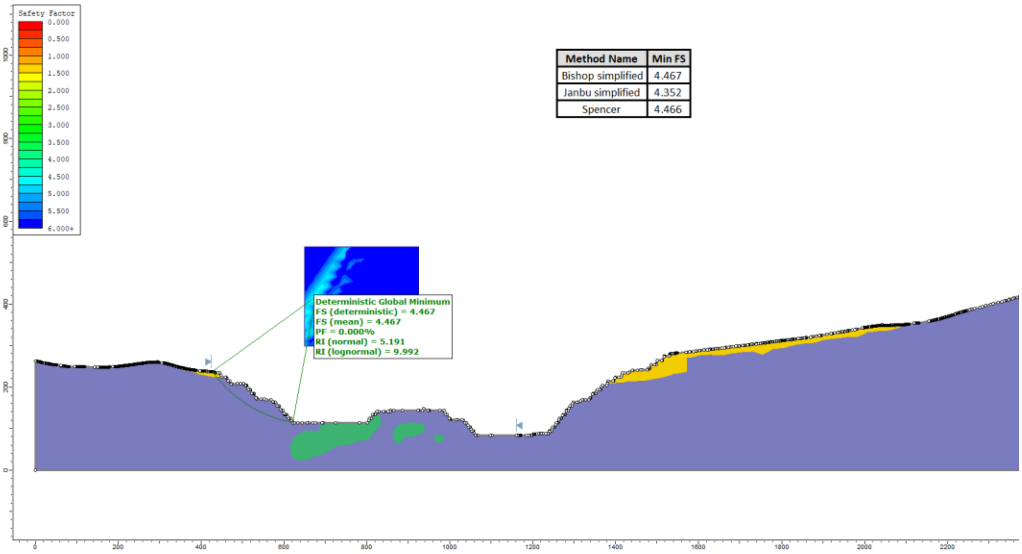
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 1.385
Janbu simplified | 1.381
Spencer | 1.381
Deterministic Global Minimum
FS (deterministic) = 1.385
FS (mean) = 1.384
PF = 1.800%
RI (normal) = 1.853
RI (lognormal) = 2.108

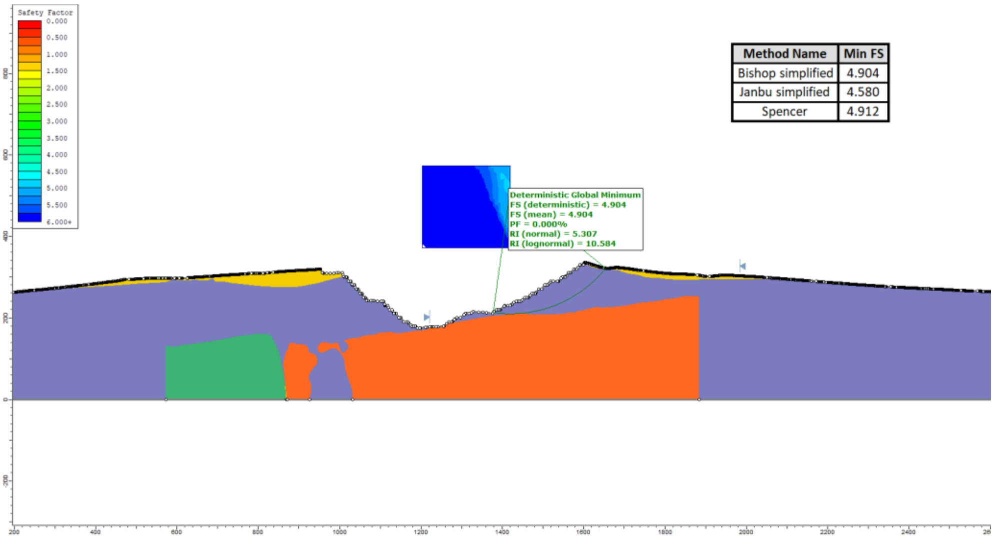
- 2.3 D


Safety Factor
Method Name | Min FS
Bishop simplified | 1.347
Janbu simplified | 1.346
Spencer | 1.346
Deterministic Global Minimum
FS (deterministic) = 1.347
FS (mean) = 1.347
PF = 2.700%
RI (normal) = 1.720
RI (lognormal) = 1.926

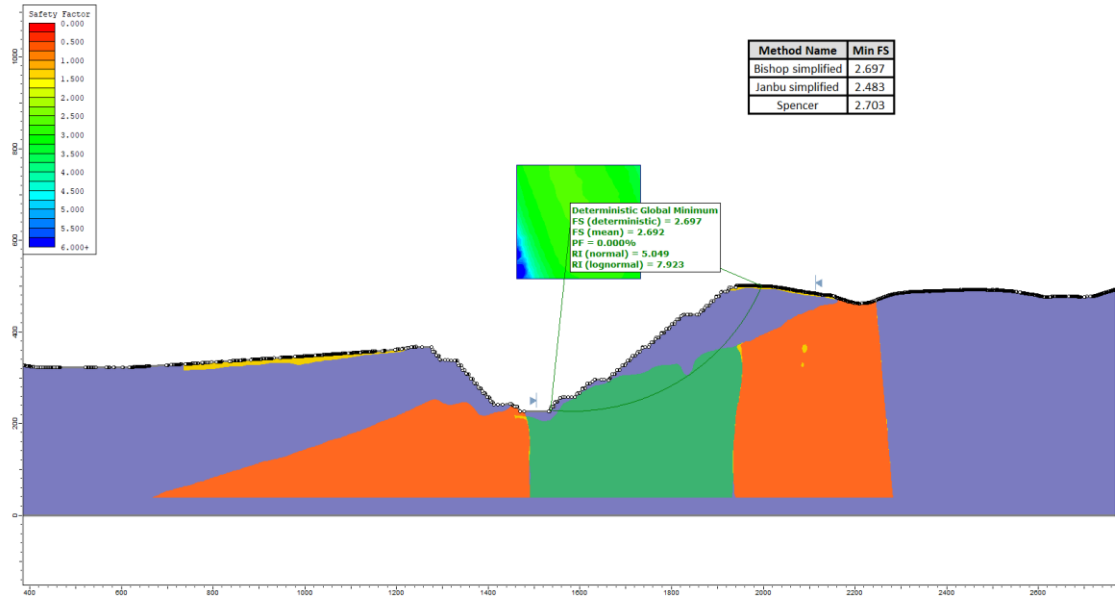
- 2.3 I


Safety Factor
Method Name | Min FS
Bishop simplified | 4.467
Janbu simplified | 4.352
Spencer | 4.466
Deterministic Global Minimum
FS (deterministic) = 4.467
FS (mean) = 4.467
PF = 0.000%
RI (normal) = 5.191
RI (lognormal) = 9.992

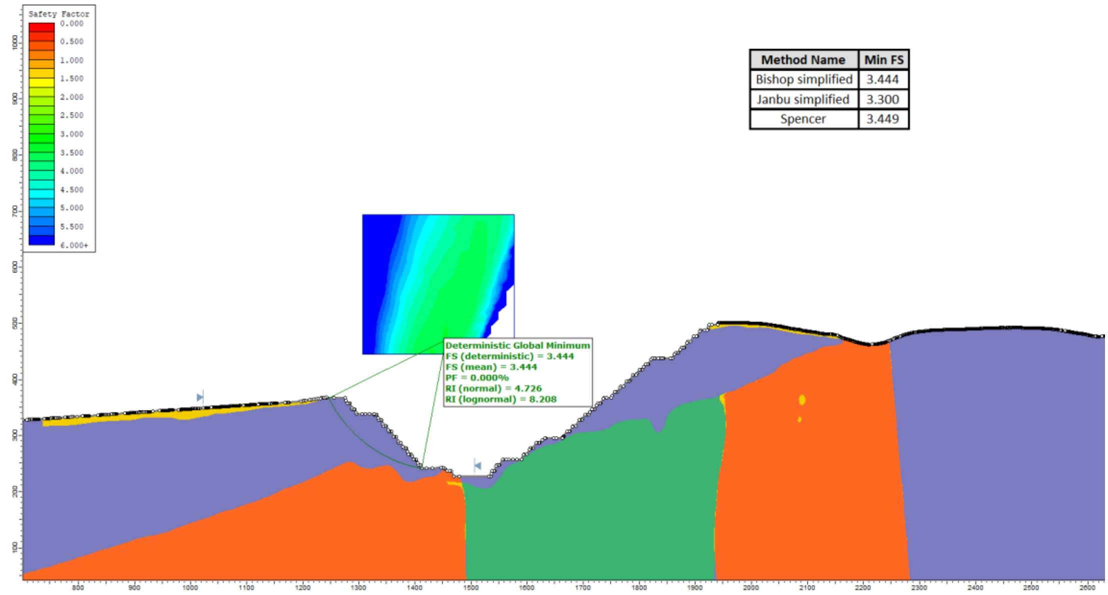
- 3.1 D


Safety Factor
Method Name | Min FS
Bishop simplified | 4.904
Janbu simplified | 4.580
Spencer | 4.912
Deterministic Global Minimum
FS (deterministic) = 4.904
FS (mean) = 4.904
PF = 0.000%
RI (normal) = 5.307
RI (lognormal) = 10.584

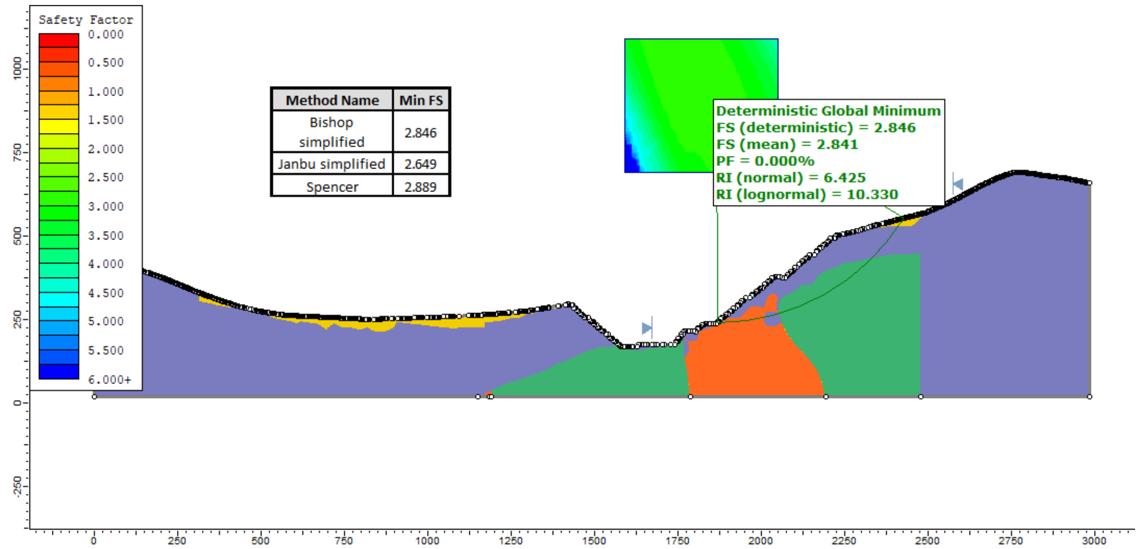
- 3.2 D


Safety Factor
Method Name | Min FS
Bishop simplified | 2.697
Janbu simplified | 2.483
Spencer | 2.703
Deterministic Global Minimum
FS (deterministic) = 2.697
FS (mean) = 2.692
PF = 0.000%
RI (normal) = 5.049
RI (lognormal) = 7.923

- 3.2 I


Safety Factor
Method Name | Min FS
Bishop simplified | 3.444
Janbu simplified | 3.300
Spencer | 3.449
Deterministic Global Minimum
FS (deterministic) = 3.444
FS (mean) = 3.444
PF = 0.000%
RI (normal) = 4.726
RI (lognormal) = 8.208

- 3.3 D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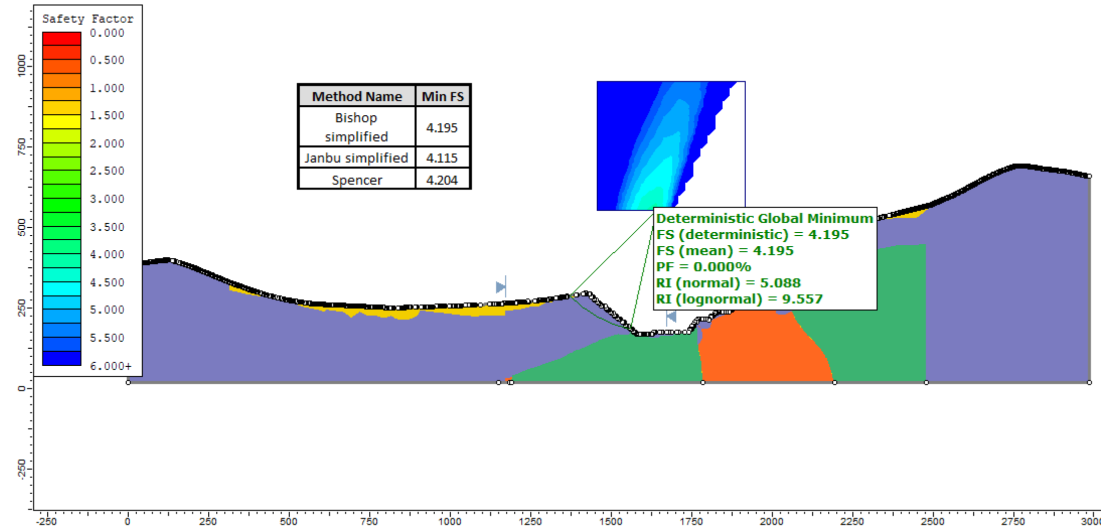
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 2.846
Janbu simplified | 2.649
Spencer | 2.889
Deterministic Global Minimum
FS (deterministic) = 2.846
FS (mean) = 2.841
PF = 0.000%
RI (normal) = 6.425
RI (lognormal) = 10.330

- 3.3 I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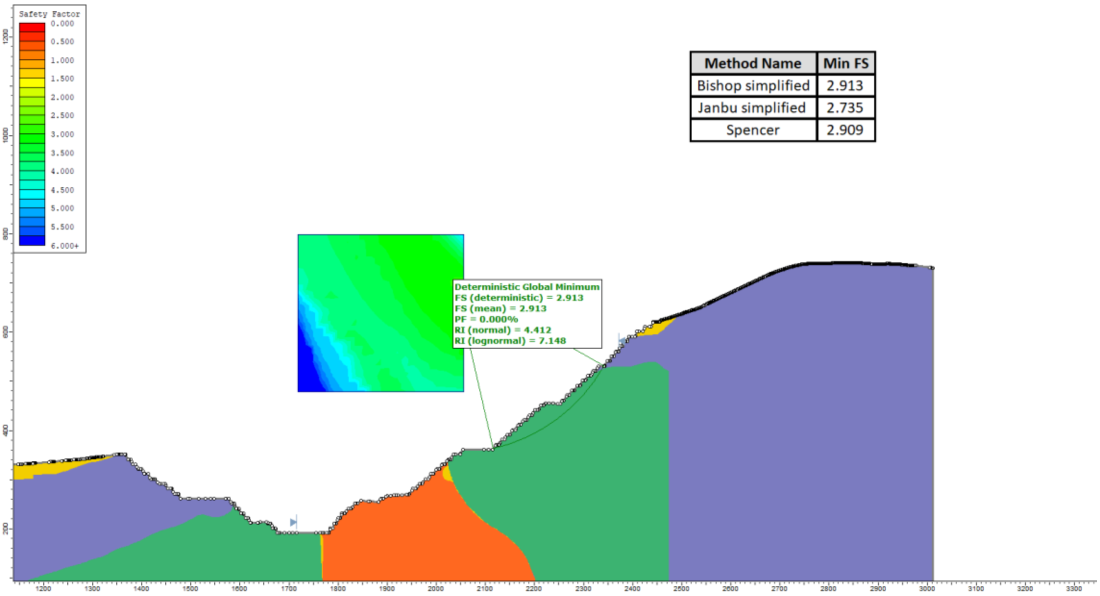
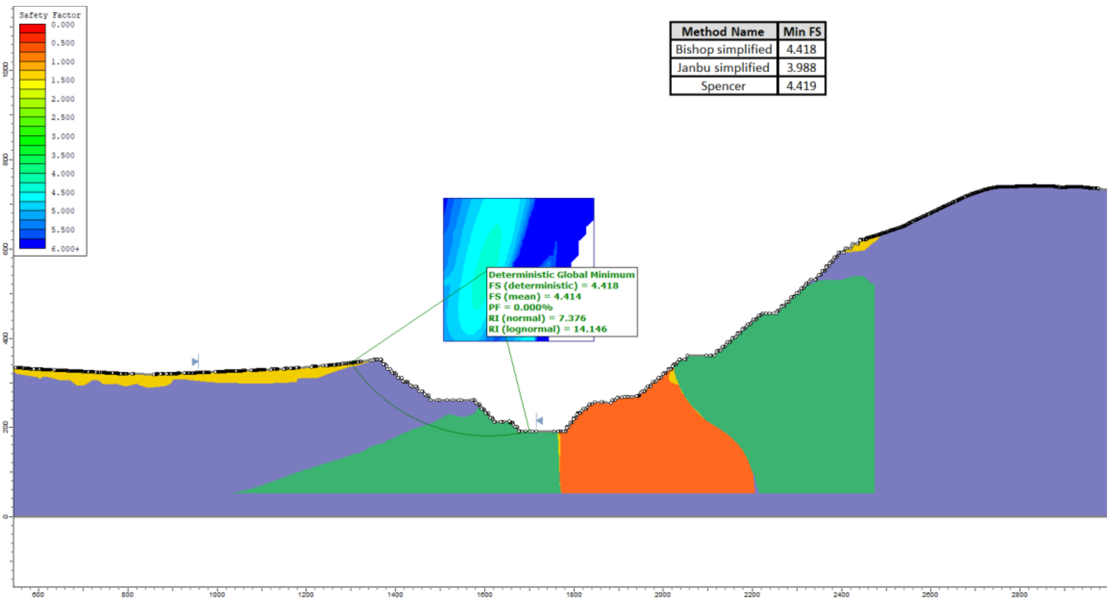
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 4.195
Janbu simplified | 4.115
Spencer | 4.204
Deterministic Global Minimum
FS (deterministic) = 4.195
FS (mean) = 4.195
PF = 0.000%
RI (normal) = 5.088
RI (lognormal) = 9.557

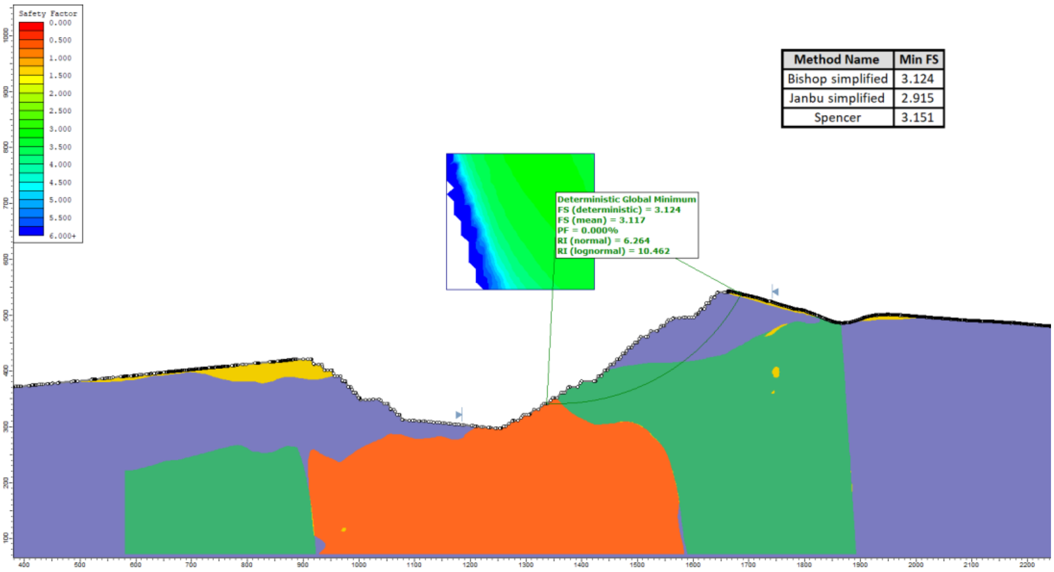
- 4.1 D


Method Name | Min FS
Bishop simplified | 2.913
Janbu simplified | 2.735
Spencer | 2.909
Deterministic Global Minimum
FS (deterministic) = 2.913
FS (mean) = 2.913
PF = 0.000%
RI (normal) = 4.412
RI (lognormal) = 7.148

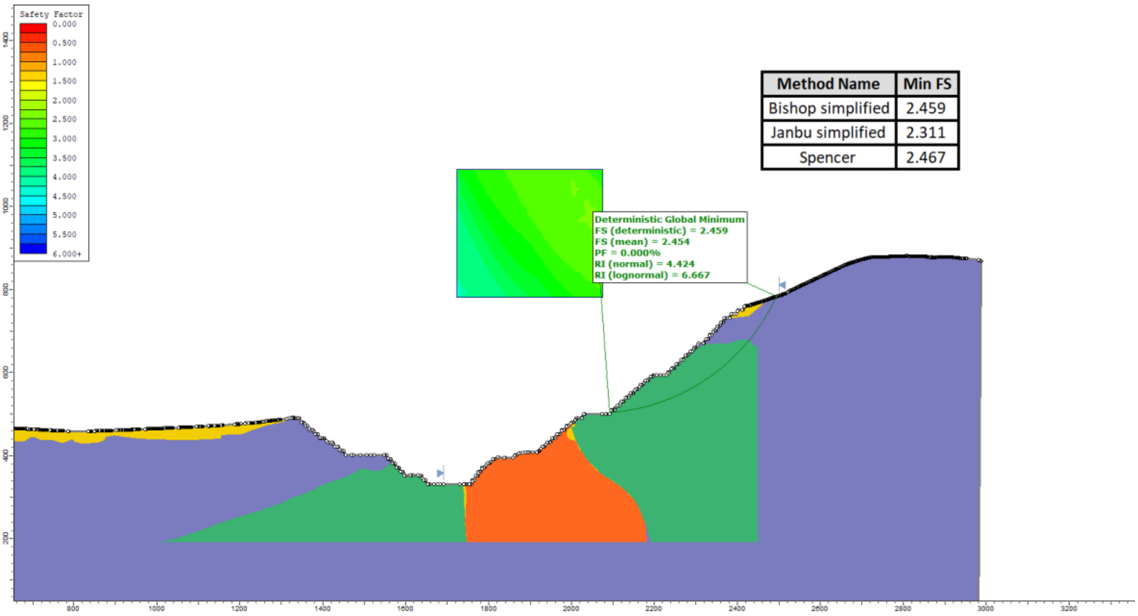
- 4.1 I


Method Name | Min FS
Bishop simplified | 4.418
Janbu simplified | 3.988
Spencer | 4.419
Deterministic Global Minimum
FS (deterministic) = 4.418
FS (mean) = 4.414
PF = 0.000%
RI (normal) = 7.376
RI (lognormal) = 14.146

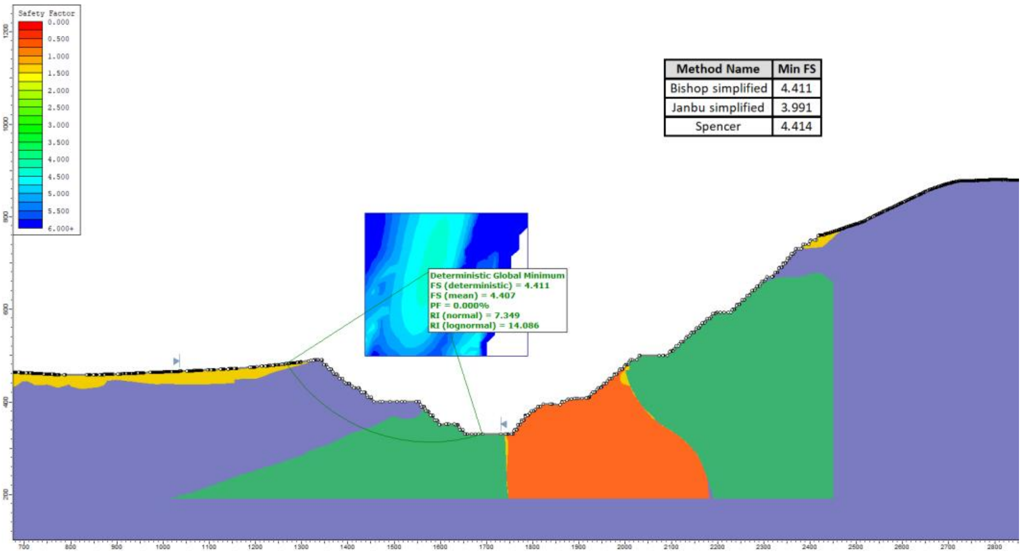
- 4.2 D


Safety Factor
Method Name | Min FS
Bishop simplified | 3.124
Janbu simplified | 2.915
Spencer | 3.151
Deterministic Global Minimum
FS (deterministic) = 3.124
FS (mean) = 3.117
PF = 0.000%
RI (normal) = 6.264
RI (lognormal) = 10.462

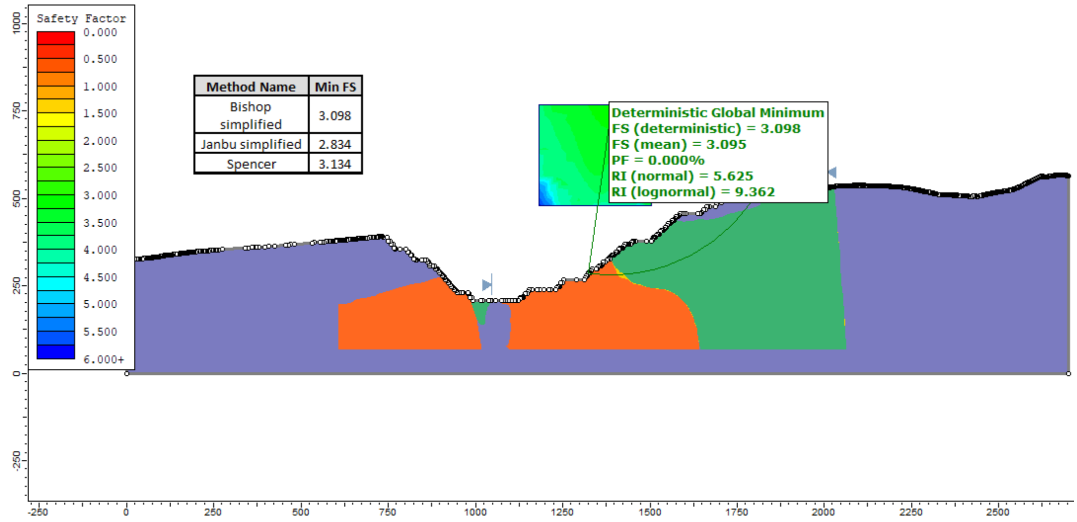
- 4.3 D


Safety Factor
Method Name | Min FS
Bishop simplified | 2.459
Janbu simplified | 2.311
Spencer | 2.467
Deterministic Global Minimum
FS (deterministic) = 2.459
FS (mean) = 2.454
PF = 0.000%
RI (normal) = 4.424
RI (lognormal) = 6.667

- 4.3 I


Safety Factor
Method Name | Min FS
Bishop simplified | 4.411
Janbu simplified | 3.991
Spencer | 4.414
Deterministic Global Minimum
FS (deterministic) = 4.411
FS (mean) = 4.407
PF = 0.000%
RI (normal) = 7.349
RI (lognormal) = 14.086

- 5.1 D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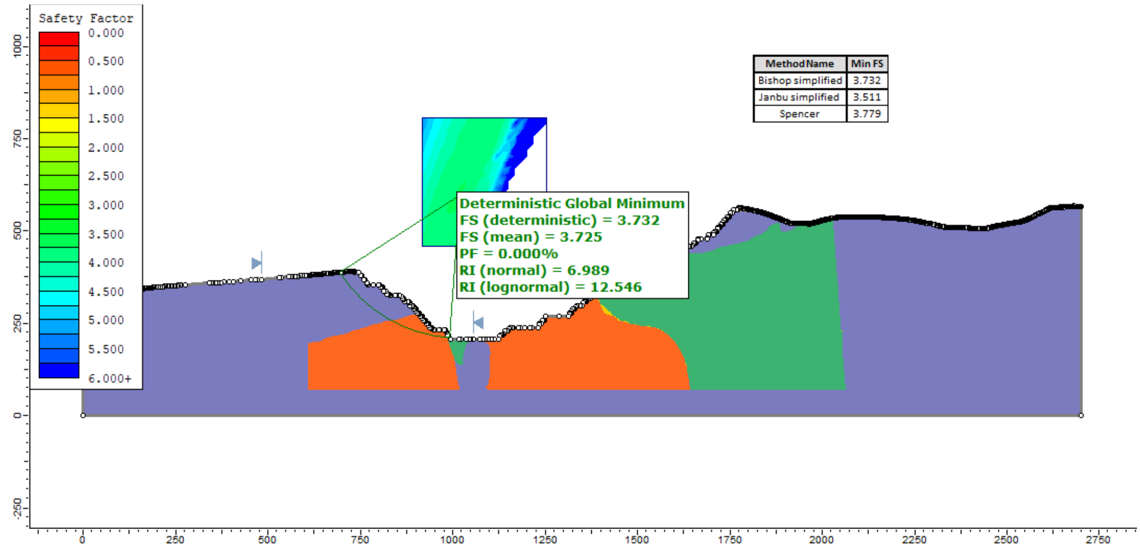
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 3.098
Janbu simplified | 2.834
Spencer | 3.134
Deterministic Global Minimum
FS (deterministic) = 3.098
FS (mean) = 3.095
PF = 0.000%
RI (normal) = 5.625
RI (lognormal) = 9.362

- 5.1 I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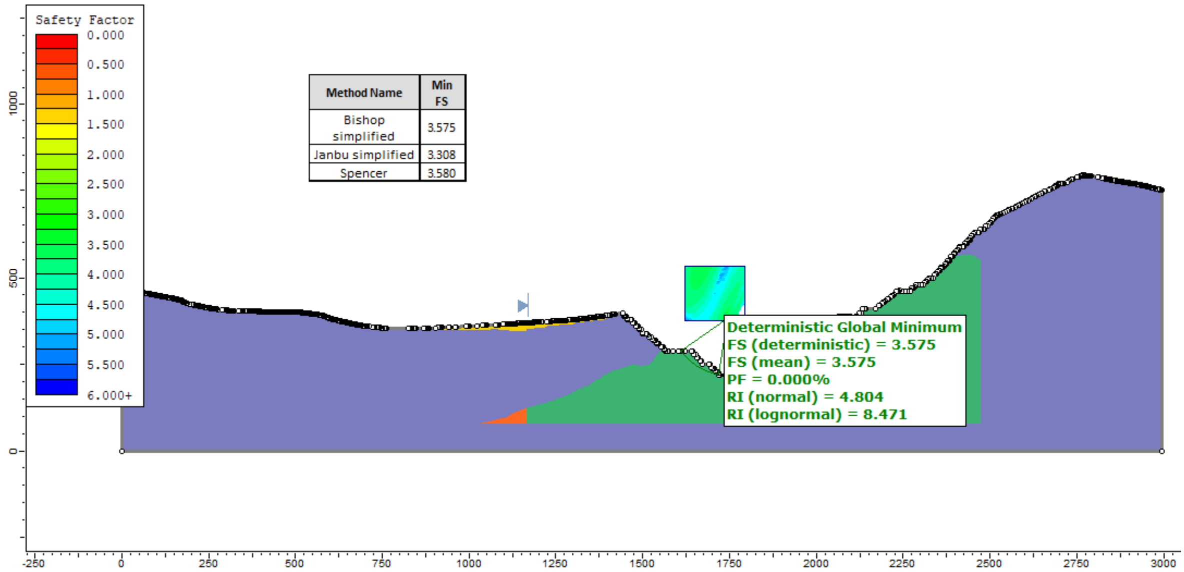
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 3.732
Janbu simplified | 3.511
Spencer | 3.779
Deterministic Global Minimum
FS (deterministic) = 3.732
FS (mean) = 3.725
PF = 0.000%
RI (normal) = 6.989
RI (lognormal) = 12.546

- 5.2 I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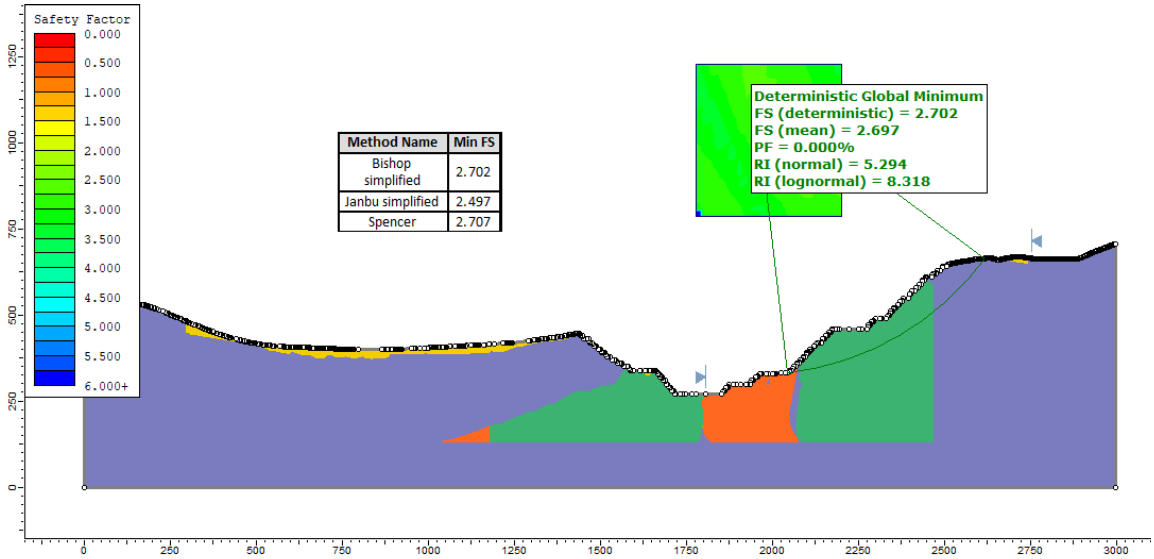
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 3.575
Janbu simplified | 3.308
Spencer | 3.580
Deterministic Global Minimum
FS (deterministic) = 3.575
FS (mean) = 3.575
PF = 0.000%
RI (normal) = 4.804
RI (lognormal) = 8.471

- 5.3 D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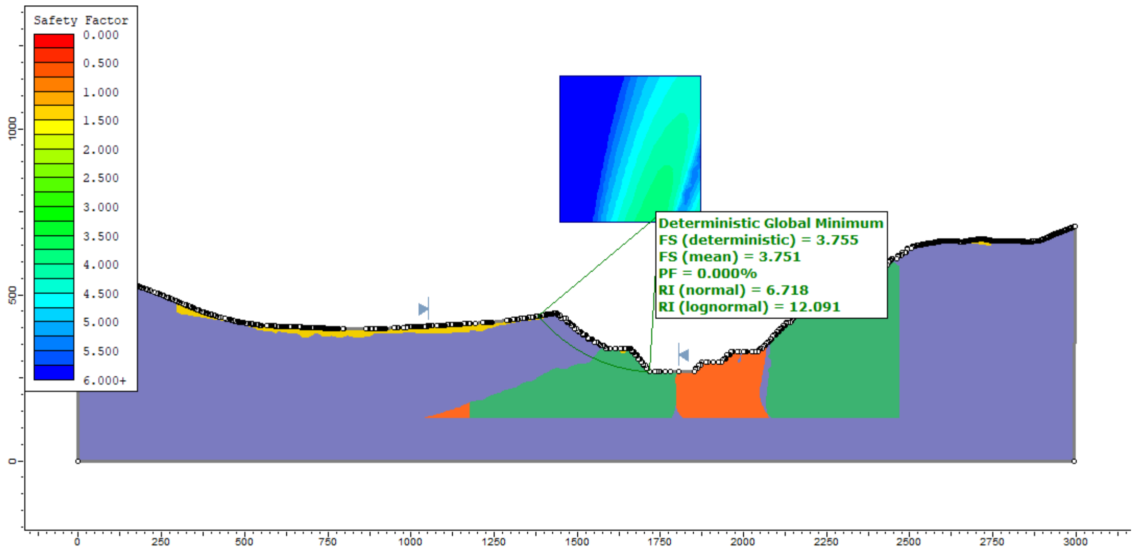
0.500
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 2.702
Janbu simplified | 2.497
Spencer | 2.707
Deterministic Global Minimum
FS (deterministic) = 2.702
FS (mean) = 2.697
PF = 0.000%
RI (normal) = 5.294
RI (lognormal) = 8.318

- 5.3 I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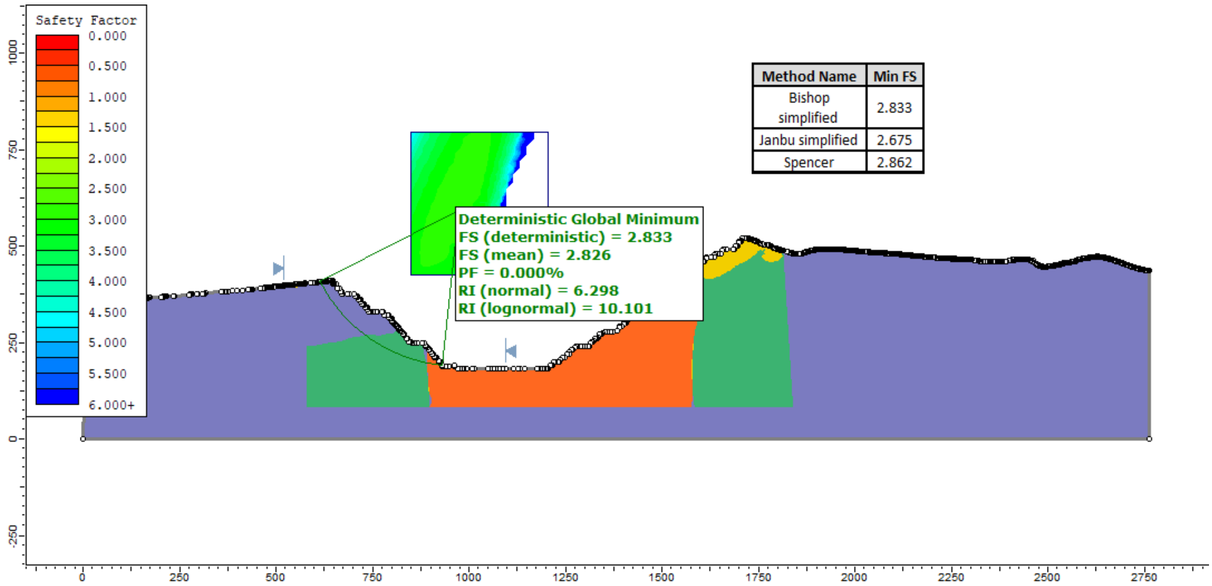
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Deterministic Global Minimum
FS (deterministic) = 3.755
FS (mean) = 3.751
PF = 0.000%
RI (normal) = 6.718
RI (lognormal) = 12.091

- 6.1 I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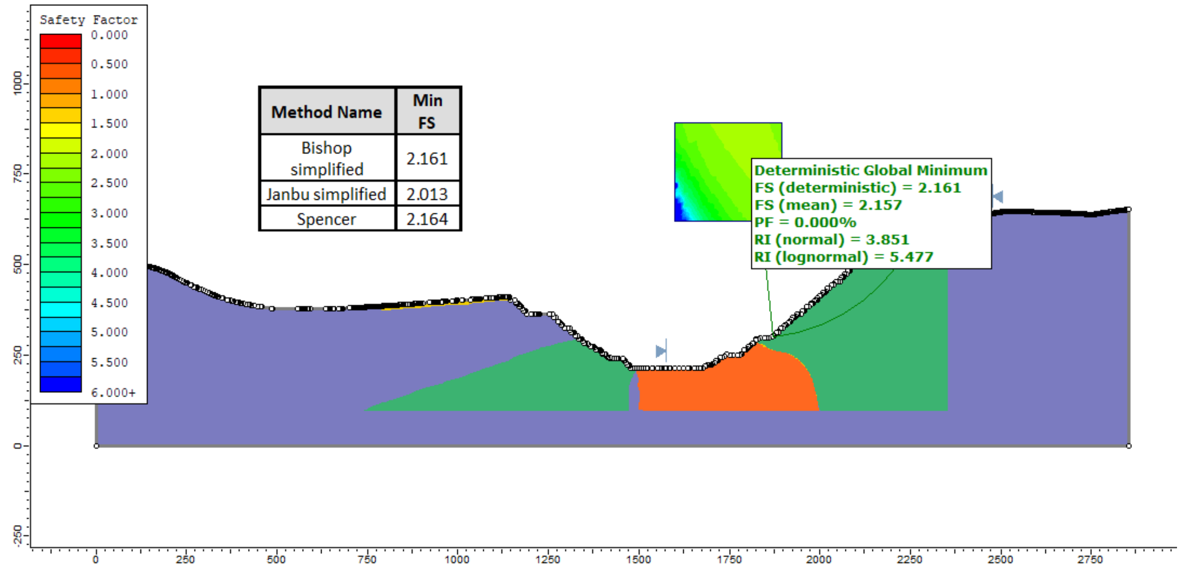
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 2.833
Janbu simplified | 2.675
Spencer | 2.862
Deterministic Global Minimum
FS (deterministic) = 2.833
FS (mean) = 2.826
PF = 0.000%
RI (normal) = 6.298
RI (lognormal) = 10.101

- 6.2 D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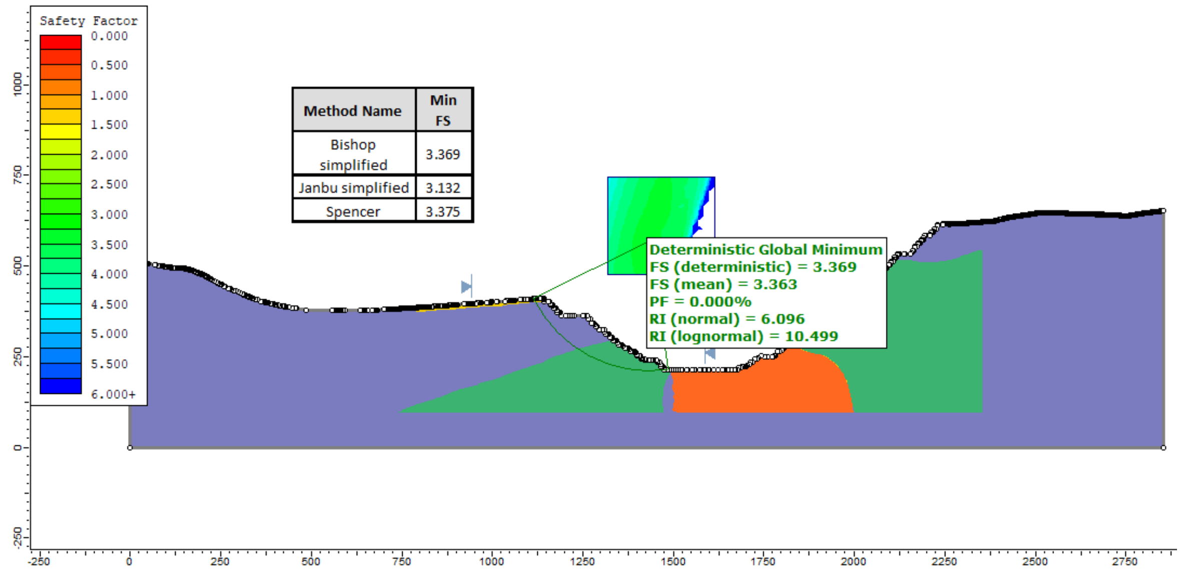
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 2.161
Janbu simplified | 2.013
Spencer | 2.164
Deterministic Global Minimum
FS (deterministic) = 2.161
FS (mean) = 2.157
PF = 0.000%
RI (normal) = 3.851
RI (lognormal) = 5.477

- 6.2 I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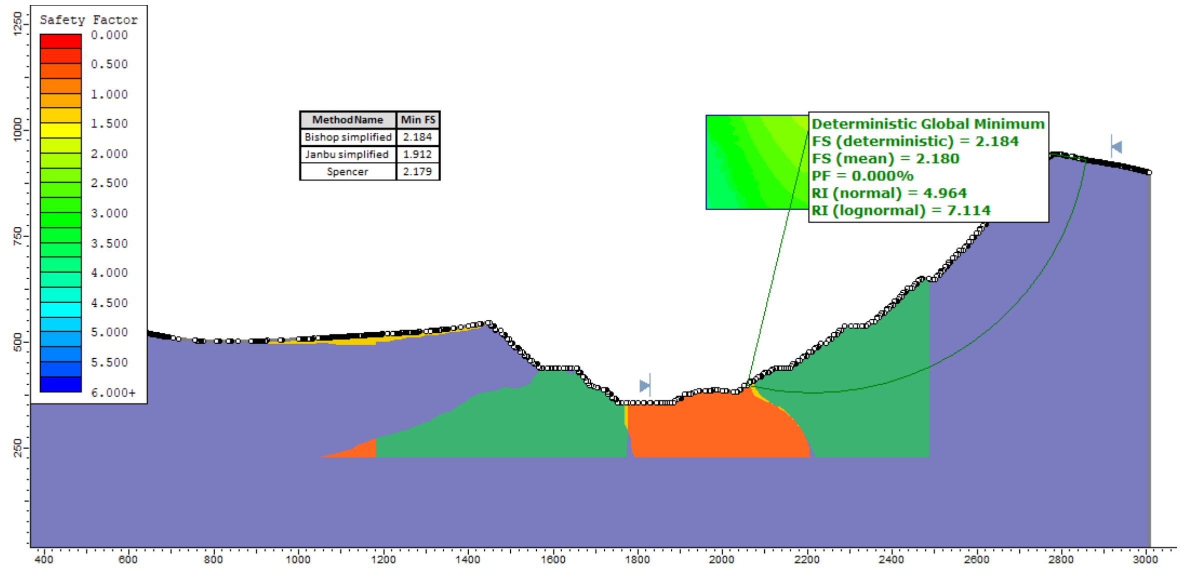
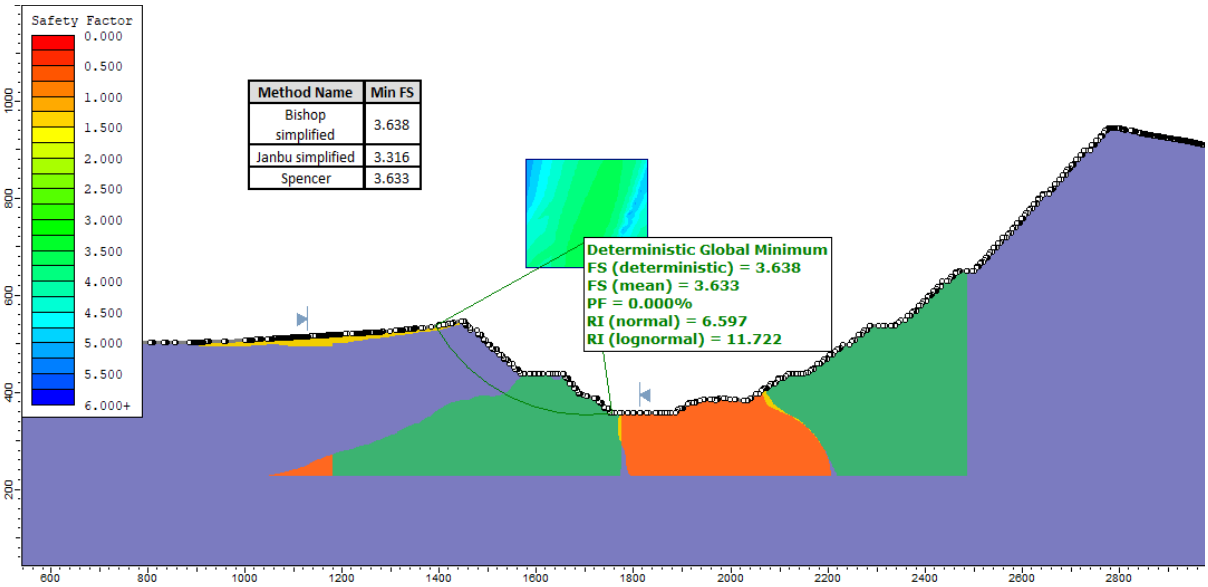
0.500
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 3.369
Janbu simplified | 3.132
Spencer | 3.375
Deterministic Global Minimum
FS (deterministic) = 3.369
FS (mean) = 3.363
PF = 0.000%
RI (normal) = 6.096
RI (lognormal) = 10.499

- 6.3 D


Safety Factor
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
5.000
5.500
6.000+
Method Name | Min FS
Bishop simplified | 2.184
Janbu simplified | 1.912
Spencer | 2.179
Deterministic Global Minimum
FS (deterministic) = 2.184
FS (mean) = 2.180
PF = 0.000%
RI (normal) = 4.964
RI (lognormal) = 7.114

- 6.3 l



16.10 Water Management

As most of the drilling to date was conducted to define mineralization, no precise definition of the water table has been established.

A theoretical exercise with logging during the reverse circulation program (dry and wet splitting) from 1996 to 1997 found the water table to be at RL 4005.

Considering this water table and plotting it with the depth for each open pit period, it is noted that in the period 5 and towards the end of life of mine a dewatering system should be made to avoid water in the extraction level.

It is necessary in future to incorporate some drilling with dynamic tests to specifically determine the phreatic level in the next drilling campaign, however, current knowledge does not represent a risk for the current reserves statement.

Figure 16.10.1 shows the level reached by periods with respect to the phreatic level, while the Table 16.10.1 shows the specific level for each period.

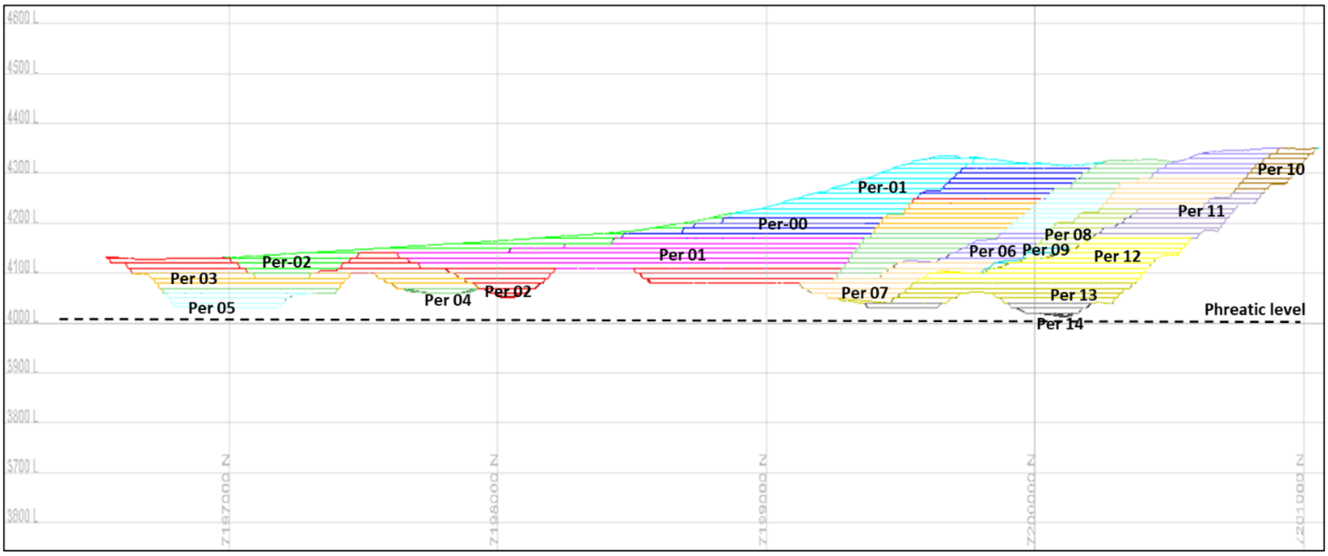


Figure 16-53. Phreatic level vs open pit level.

Table 16-54: Level of open pit period.

Period	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Minimum Level m.a.s.l	4,090	4,210	4,170	4,110	4,030	4,070	4,060	4,000	4,120	4,040	4,150	4,100	4,040	4,170	4,080	4,040	4,000

16.11 QP Comments about Section 16

In future drilling campaigns, a better recognition of the cover sector should be carried out and tests carried out to build a hydrogeological model. In this way some slopes of the open pit could be increased.

Strategic planning with variable cut-off grades over time and a marginal phase analysis is recommended for a later engineering stage.

17 RECOVERY METHODS

17.1 General Description

The results of the metallurgical test work described in Section 13, together with industry standard practices, were used to develop process design criteria, which in turn were used to design the process flowsheet, develop the mass balance and equipment design parameters selected for this project. This section describes the process recovery method selected mainly based on the metallurgical test on Oculto material as completed in 2022. The JAC material as tested in 2023, representing approximately 10% of the total resource, has a somewhat different metallurgical performance. Whenever the process design is different between JAC and Oculto material, it will also be mentioned in the section below.

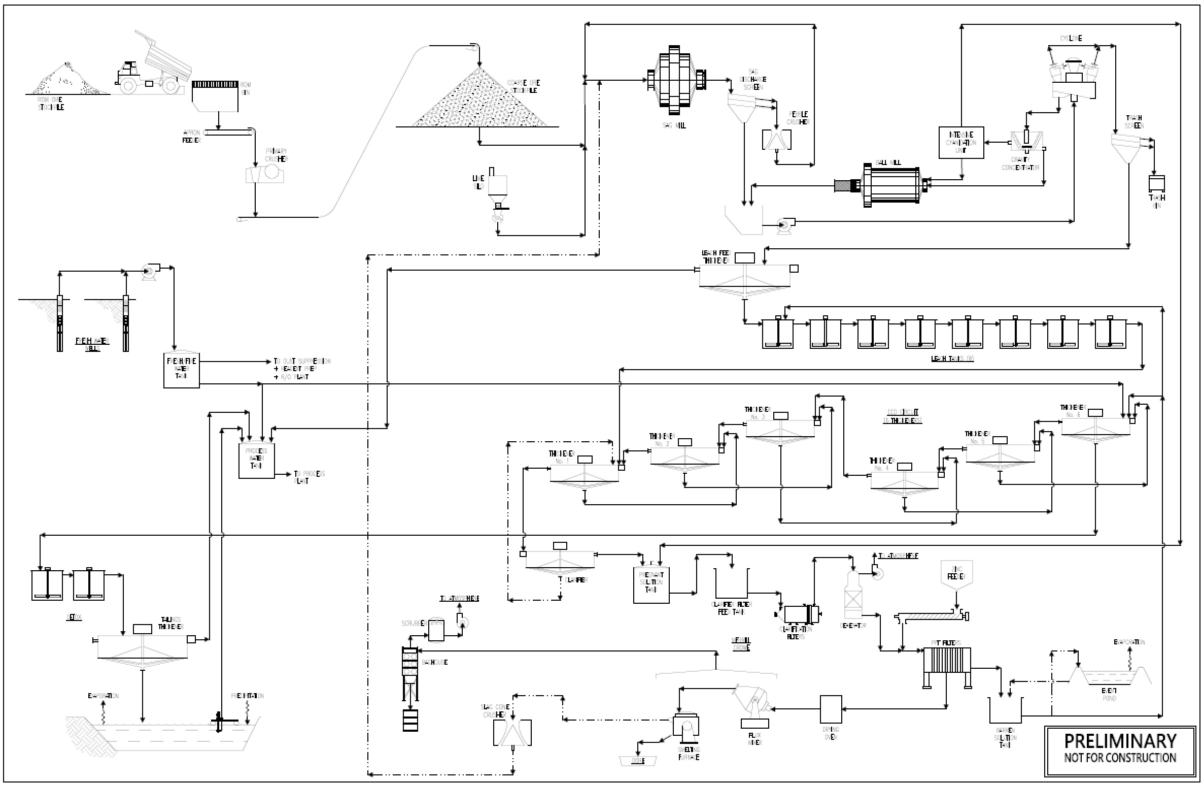
The Diablillos deposit of AbraSilver is a gold and silver mineralized material which from laboratory test work has demonstrated economic metal recovery through cyanidation. Based on the gold and silver head assays of the mineralized material together with their respective laboratory testing recoveries through gravity concentration and cyanidation, a combination of centrifugal treatment and the Merrill Crowe process have been selected as the most economic process options. Based upon a throughput stipulation by AbraSilver, a processing plant with a daily capacity of 9,000 metric tons of material will be designed. The total nominal operating days is 360 days at mine site, however considering the equipment downtime and required maintenance, 350 plant operating days are assumed per year, which results in a yearly throughput of 3.15 million metric tons. According to the resource model, the average head grade of the Oculto material is 0.88 ppm of gold and 74 ppm of silver; and the JAC material has an average grade of 0.13 ppm of gold and 202 ppm of silver. The plant will consist of the following unit operations:

- Crushing – The primary jaw crushing station will operate in open circuit producing a final product 80 precent passing size (P80) of 150 mm or below. The crushed ore will be transferred to an enclosed coarse ore stockpile and then further conveyed to the grinding circuit.
- Grinding – Grinding size reduction is accomplished in a typical Semi Autogenous Grinding (SAG) and ball mill circuit with SAG oversize pebble crushing. The final grinding product after cyclone classifying has a (P80) size of 150 µm.
- Gravity Concentration and Intensive Leaching - Gravity concentration will treat 50 weight percent of the cyclone underflow or more, to produce a gold rich gravity concentrate. The gravity concentrates will be dissolved with an Intensive Leach reactor for gold and silver recovery. The pregnant solution will report to the pregnant solution tank. The Intensive Leach residue will be fed by gravity to the ball mill feed.
- Tank Leach – The slurry after gravity concentration will report to a tank leach at 45% solids density, facilitated by air injection. The total retention time will be 36 hours and will be followed by the counter current decantation (CCD) circuit.

- Counter Current Decantation – The slurry after cyanide leach will be washed by the CCD circuit, which has a total of six stages and has a wash ratio of 3. The pregnant solution will report to the Merrill Crowe plant and the washed slurry will report to the cyanide destruction circuit. If the plant will process JAC material only, a total of seven stages of CCD will be employed with a wash ratio of 3.0.
- Merrill Crowe circuit – The pregnant solution recovered from the CCD circuit will be further purified by pressure filtration to remove the Total Suspended Solids (TSS), de-aerated, and then the gold and silver will be precipitated by zinc dust. The barren solution will be recycled as either the CCD wash water or the process makeup solution.
- Foundry – the precipitate produced from the Merrill Crowe plant will be transferred to the refinery to produce the final Doré bullion. The Doré production process includes retorting to remove mercury, flux mixing, and smelting. The slag will be crushed and recycled back to the grinding circuit for re-processing.
- Cyanide Destruction and Tailings Handling – The washed slurry from CCD will report to cyanide destruction tanks to reduce the Weak Acid Dissociable (WAD) cyanide to the required level. The process will use the industrially proven INCO process. The detoxed tailings will be further thickened by the tailings thickener and then report to the tailings pond.

The overall flowsheet is depicted in Figure 17-1 below.

Figure 17-1: Overall Flowsheet.



17.2 Process Design Criteria

The following Process Design Criteria (PDC) and mass balance details the annual mineralized material and product quantities, major mass flows and capacities, major equipment information and reagent consumption for both Oculto and JAC material. The reagent consumptions and consumables can be found in the operating cost estimate in Section 21.

Area	Criteria	Unit	Oculto	JAC
General	Daily Throughput	mtpd	9,000	
	Operating days per year	days/year	350	
	Annual Throughput	mtpy	3,150,000	
	Oxide head grade, Au, ppm	ppm	0.88	0.13
	Oxide head grade, Ag, ppm	ppm	74	202
	JK Axb value		56.2	126.8
	Bond Grinding Work Index	kwh/mt	15.8	15.1
	Bond Abrasion Index	g	0.66	0.1

Area	Criteria	Unit	Oculto	JAC
	Crushing Circuit Utilization and Availability	%	75%	
	Grinding and Downstream Circuit Utilization and Availability	%	92%	
	Design factor for Equipment Sizing		1.15	
	Design Factor for Conveyors, Pumps		1.25	
Comminution	Crushing Nominal Feed Rate	mt/hr	479	
	Type of Primary Crusher		Jaw	
	Crusher Open Side Setting	mm	150	
	Coarse Ore Stockpile Type		Enclosed, Conical	
	Stockpile Live Capacity	mt	13,000	
	Stockpile, Total Capacity,	mt	52,000	
	Grinding Circuit and Downstream Nominal Rate	mtph	391	
	SAG Size (Diameter x EGL)	m	7.92 x 3.66	
	Mill Slurry Solids Concentration	%, w/w	75%	
	Pebble Screen Aperture	mm	10.0	
	Pebble Recycle Rate	%	15-35%	
	Pebble Crusher Type		Cone Crusher HP-100 or equivalent	
	Ball Mill Size	m	5.49 x 8.53	
	Ball Mill Circulating Load	%	250%	
	Final Grind Size	micron	150.0	
	Cyclone Feed Slurry Solid Concentration	%, w/w	55%	
Tank Leach and Gravity	Leaching Tanks Feed Slurry Solids Concentration	%, w/w	45%	

Area	Criteria	Unit	Oculto	JAC
Concentration	Leaching Retention Time	hr	36.0	
	Leaching pH		10.5	
	Gold Recovery	%	83.0%	83.8%
	Silver Recovery	%	79.8%	84.9%
	Gravity Concentrator feed		Cyclone underflow	
	Percent of Cyclone Underflow treated	%	50% or above	
	Gravity Concentrator		Two of Falcon SB5200 or equivalent	
	Intense Cyanidation Unit		One of Falcon SLR6000	
	Gold Recovery	%	10.1%	17.3%
	Silver Recovery	%	7.8%	9.1%
CCD	CCD Stage		six	seven
	CCD Thickener Underflow Solids Concentration	%, w/w	55%	50%
	CCD Wash ratio		3.0	
	Final CCD Overflow Total Suspended Solids (TSS)	ppm	No more than 100	
Merrill Crowe	Merrill Crowe Nominal Solution Feed Rate	m^3/hr	1125	1,273
	Clarified Solution TSS	ppm	1 or below	
	Dissolved Oxygen (DO) after De-aeration	ppm	0.5 or below	
Cyanide Destruction and Tailings Handling	Cyanide Destruction Method		INCO process	
	Total Residence Time	hr	1.0	
	Detox Slurry Solids Concentration	%, w/w	55%	45%

Area	Criteria	Unit	Oculto	JAC
	Tailings Thickener Underflow Solid Concentration	%, w/w	60%	55%
Major Reagent Consumption	Sodium Cyanide Consumption	kg/mt	0.83	1.79
	Lime Consumption	kg/mt	0.93	2.19
	Diatomaceous Earth Consumption	mt/day	1.4	2.7
	Flocculant Consumption	g/mt	45	95
	Zinc Dust Consumption	kg/hr	34	102
	Sodium Metabisulfite, g/g of WAD CN	g/g WAD CN	4.7	

The above process design Criteria is based on the plant feed of Oculto or JAC respectively, which will lead the equipment size difference in the metal recovery circuit, particularly Merrill Crowe plant, CCD, and tailings handling circuit. However, considering the potential ore blend in the future plant feed, the requirement of equipment size change will be minimal, which in turn implies a minimal impact on the process CAPEX. However, process OPEX for these ore types should be considered in ore blending for cash flow analysis.

17.3 Process Description

17.3.1 Crushing Circuit

The ore will be trucked from the mine to the ROM stockpile near the jaw crusher station. A front-end loader will convey the material from the ROM stockpile to the jaw crusher dump pocket. The dump pocket will be covered by a stationary grizzly to retain any oversize boulders from entering the jaw crusher. The dump pocket has a live capacity of 200 metric tons of material, which is twice the material the recommended mining truck can contain per individual load. A hydraulic rock breaker is installed near the dump pocket to break the larger oversize boulders retained by the grizzly.

The material is conveyed to the jaw crusher through an apron feeder from the dump pocket. The crusher product reports directly to the jaw crusher discharge conveyor, which further transfers the material to the coarse ore stockpile feed conveyor. A magnet will be installed at the discharge end of jaw crusher discharge conveyor to remove any tramp metal. A metal detector is also installed to alarm the presence of any metals on the conveyor. The jaw crusher has an open side setting (OSS) of 152 mm (equals 6 inches). The jaw crusher product is expected to have a P80 around 152 mm and top size of 254 mm. The crushing production rate will be monitored by a belt scale mounted on the conveyor. A lime silo will be installed at the stockpile feed conveyor and will meter the pebble lime onto the conveyed material to establish an alkaline environment in the grinding circuit.

Due to the high wind velocity at the mine site, the coarse ore stockpile will be enclosed. The coarse material stockpile is designed to have a live volume of 13,000 metric tons of the plant feed. When required, the material will be moved from the “dead” storage zone to the “live” storage zone by a front-end loader. The total stockpile capacity is estimated around 52,000 metric tons. This translates a stockpile of 67 m in diameter and in 25.2 m height. The material will be reclaimed by two variable speed belt feeders, one operating and one standby. The feeders transfer the material to a SAG mill feed conveyor reporting to the grinding circuit. The reclaim rate will be monitored by a belt scale mounted on the SAG mill feed conveyor.

Dust control will be controlled in the dump pocket, transfer conveyors, and coarse ore stockpile. Dust control in the stockpile area will be achieved using two wet type dust collector systems. One of the two dust collector systems will be installed to control dust at the discharge end of the stockpile feed conveyor, and the other one will be installed to control the dust in the reclaim tunnel.

17.3.2 Grinding Circuit

The material reclaimed from the coarse ore stockpile will be initially ground in a SAG mill. Dilution water will be added into the SAG mill feed chute to maintain the slurry density inside the SAG mill at approximately 75% solids by weight. The SAG mill has a diameter of 7.92 m (26 ft) and effective grinding length of 3.66 m (12 ft) and is equipped with a 4,500-kW variable speed drive. The ball charge is typically controlled between 8% to 15% by volume. The SAG mill discharge will be screened by a vibrating screen (pebble screen) installed with spray bars to rinse the fines from the oversize pebble material. The screen aperture will be 10 mm. The screen oversize will be transferred to a cone crusher through two transfer conveyors, to further reduce the pebble size down to P80 of 12 mm (½ inch) or below. The crushed pebble material will be recycled back to the SAG mill feed conveyor and then to the SAG mill for further grinding. The pebble recycle rate is typically 15% to 35% of SAG fresh feed rate, a HP 100 short head cone crusher or equivalent will be sufficient for this duty. The close side setting (CSS) is around 9 mm or smaller. When the pebble recycle rate falls below 10%, the pebble crusher can be stopped.

The pebble screen undersize will be discharged to a pump box, which also receives the ball mill discharge. The ball mill will have a diameter of 5.49 m (18 ft) and effective grinding length of 8.53 m (28 ft), with an installed power of 4,500 kW. The ball mill will be rubber lined and is operated at 76% of the mill critical speed. The maximum ball charge is assumed to be 33 volume percent. Dilution water will be added into the pump box to maintain the cyclone feed slurry density around 55% solids by weight. The slurry in the pump box will be pumped to a cyclone cluster. Two cyclone feed pumps will be installed, one operating and one standby. The cyclone overflow will be the final grinding product with a particle size of approximately 150 microns. The ball mill circulating load is assumed to be 250%. A portion of the cyclone underflow will be fed to the gravity gold recovery circuit to recover the coarse gold, while the other portion of the underflow reports directly to the ball mill. The cyclone overflow will be sampled by primary samplers and analysed for metallurgical control prior to cyanidation. An online particle size analyser is installed to monitor the particle size distribution of the grinding circuit product.

Grinding balls will be added to the SAG mill and ball mill by ball bins. Air compressors and instrument air will provide the required service for the mill operation and for maintenance. Both SAG mill and ball mill will have their dedicated mill liner handling machines. An overhead crane will be installed for the maintenance of the grinding circuit.

17.3.3 Gravity Concentration and Intensive Cyanidation Circuit

Two gravity concentrators, Falcon SB5200 or equivalent, will be installed receiving a portion of the cyclone underflow. Fluidization water will be injected into the two gravity concentrators keeping the solids in the slurry better fluidized. The mass pull from these two gravity concentrators will be approximately 190 kg per hour. Each gravity concentrator has an operating cycle of approximately one hour. At the end of each operating cycle, the concentrate from the gravity concentrator will be flushed out to an intensive cyanidation circuit (alternative name Inline Leach Reactor or ILR). An intensive cyanidation system (SLR6000 unit manufactured by Sepro Mineral Systems or equivalent) will be installed to treat the gravity concentrate. The gravity tails will continuously report back to the ball mill feed during the operating cycle.

Based on the laboratory gravity testing, it is estimated that 10.1% gold and 7.8% silver will be recovered to the gravity concentrate for Oculto material, and 17.3% gold and 9.1% silver can be recovered to the concentrate for JAC material. The gravity concentrate will be leached in the ILR circuit with sodium cyanide solution and air to recover the gold and silver from the solids to the pregnant solution. The intensive cyanidation typically has a very high metal recovery, it is assumed that 99% gold and 97% silver will be recovered to the pregnant solution. The pregnant solution from the ILR circuit will be periodically pumped to the pregnant solution tank at the Merrill Crowe circuit. The solid tails from the ILR circuit will be flushed back to the ball mill circuit. The gravity gold recovery circuit will be isolated and monitored for security purposes within the grinding circuit area.

17.3.4 Cyanide Leach Circuit

The cyclone overflow will report to a 34 m diameter pre-leach thickener, for the purpose of increasing the leach tank slurry density so that the tank volume required can be optimized. The overflow from the pre-leach thickener will report to the process solution tank. The thickener underflow will be approximately 60% solids by weight and will be pumped to the leaching tanks. If the plant will process the JAC material only, the required pre-leach thickener size will be 40 m in diameter and its underflow density will be controlled around 50% by weight.

Based on the cyanidation test work, the leach retention time is specified as 36 hours. Additional barren solution will be added to dilute the leach slurry density to 45% solids by weight. Milk of lime, if needed, will be added to the leaching tank to control the slurry pH at 10.5 for both optimization of leaching kinetics and conservation of the free cyanide in the process. There will be a total of eight leach tanks (diameter of 15 m and height of 20 m) in series, with each tank equipped with an agitator and an air injection mechanism. The slurry will flow through leach tanks by gravity and then will be pumped to the downstream Counter Current Decantation (CCD) circuit. Sodium cyanide solution will be dosed at the leach tanks to maintain the free cyanide concentration of approximately 1.5 grams per liter and the cyanide concentration will be allowed to decay in the last two leach tanks.

Based on the laboratory testing, the expected gold recovery will be approximately 83% and silver recovery will be approximately 80%. For JAC material, the gold recovery will be around 84% and silver recovery will be around 85%. The leaching tanks will be open to the air and will be equipped with an overhead crane for maintenance.

17.3.5 Counter Current Decantation Circuit

The leached slurry will report to a CCD circuit to recover the pregnant solution. There will be a total of six stages of CCD thickeners (all high-rate thickeners with added flocculant) which will recover most of dissolved gold and silver to the pregnant solution phase feeding the Merrill Crowe circuit. The CCD wash ratio, defined as the ratio of wash water to the aqueous phase of CCD thickener underflow, will be controlled at 3.0. The CCD thickener underflow density will be approximately 55% solids by weight. The stage mixing efficiency of each CCD thickener is assumed to be 85%. The Figure 17-2 below illustrates the CCD circuit flow streams.

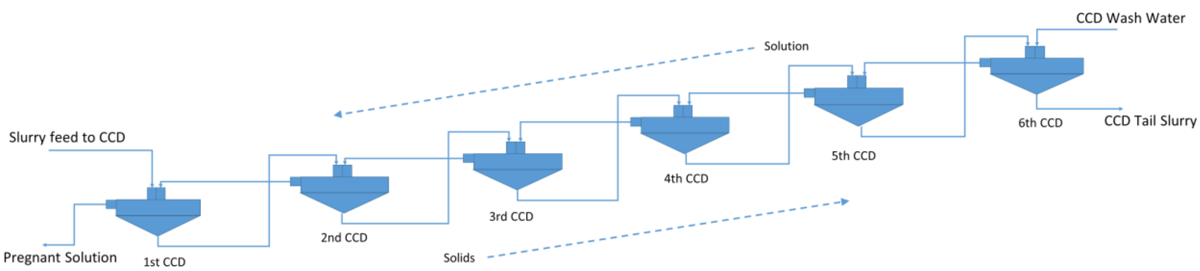


Figure 17-2: CCD Circuit Flow Streams

Due to a higher volumetric feed to the first CCD thickener compared to following thickeners, the first CCD thickener will have a diameter of 32 meters, while all the rest of the CCD thickeners will have a diameter of 30 meters. Based on the METSIM simulation, around 99.6% of gold and silver in the solution can be recovered to the pregnant solution for downstream Merrill Crowe processing.

The overflow from the last CCD stage will be fed to an additional thickener for clarification, which will be installed to minimize the Total Suspended Solids (TSS) in the pregnant solution. The TSS in the pregnant solution is directly linked to the Diatomaceous Earth (DE) consumption and the duration of the downstream DE clarifier operation cycle. The clarifier underflow will be periodically recycled back to the CCD thickener. To minimize the solution TSS, the additional thickener for clarification will have diameter of 32 m.

For JAC material, the slurry will be more viscous and more difficult to settle based on the sedimentation and rheology tests. In addition, the contained value in the pregnant solution will be higher for JAC material compared to the Oculto material. Consequently, if the plant will process JAC material only for a certain period, a total of seven stages of CCD thickening will be required to optimize the project economics. The required CCD thickeners size will be 40 m in diameter for the first one and 38 m in diameter for the rest of the six CCD thickeners. Approximately 99.8% of gold and silver in the CCD feed can be recovered to the Merrill Crowe plant.

17.3.6 Merrill Crowe Circuit

The gold and silver in the pregnant solution will be recovered by the Merrill Crowe process, which includes DE coated clarifiers, two de-aeration towers, and zinc cementation filter presses. This equipment in the Merrill Crowe circuit will be supplied by a vendor as a package.

The pregnant solution recovered from the CCD circuit will be stored in a pregnant solution tank (diameter of 15 m and height of 20 m), which is to provide a buffer capacity of over two hours for the cyclic operation of the Merrill Crowe circuit. The nominal solution flowrate through the circuit is 1,145 metric tons per hour. The maximum solution TSS is recommended to be below 100 ppm. The pregnant solution will first be pumped through a DE coated clarifier. There will be a total of four units of DE coated clarifiers, with three units operating and one unit on standby.

Each DE coated clarifier typically has an operating cycle of approximately twelve hours. Before each operating cycle, the DE slurry will be prepared at 2% solids by mixing the dry DE powder and raw water. The DE slurry will be pumped through the DE clarifier for precoating. The water recycled from DE precoating returns to the DE precoat preparation tank. Typically, the thickness of the DE precoat on the filter cloth needs to be 3 mm (1/8 inch) for efficient clarifier operation. Once the precoat application operation is complete, the pregnant solution can be filtered through the clarifier. During solution filtration, additional DE slurry will be metered into the clarifier which is proportional to the pregnant solution flow rate and contained TSS level. This process is called DE body feed. The DE slurry used for body feed is typically 7% solids by weight. Once the pressure drop through the clarifier builds up and the flow rate declines to a certain level, the clarifier will be taken offline for back wash and the spent DE will be sluiced off. The spent DE will be collected in the area sump and then pumped to the CCD circuit. The time duration offline including backwash, sluice, and filter cloth cleaning should be no more than two hours.

The clarified solution produced by the DE clarifier typically has TSS level less than 1 ppm, which is a clear solution. This solution will flow through two deaeration towers (diameter of

3.2 m and height of 6.3 m) to remove dissolved oxygen (DO) to below 0.5 ppm. Both deaeration towers will be operating units. Three vacuum pumps will be installed, with two operating and one on standby, which will provide sufficient vacuum to reduce the DO to the target level.

The solution from the deaeration towers will be pumped to the cementation filter presses through inline booster pumps. A total of four units of filter presses are included, with three operating units and one standby unit. Before bringing each individual filter press online, the cementation filter also needs to be precoated with DE, similar to the operation of DE clarifier. After DE precoating, the cementation filter can be brought online, and the pregnant solution will be pumped through the cementation filter. Zinc dust will be added to the pregnant solution at the filter feed pipe through a zinc feed cone covered with water to eliminate the entrainment of any oxygen into the solution. Zinc metal in the form of zinc dust has a higher affinity for cyanide and causes the precipitation of gold and silver as metals. The precipitation of gold and silver using zinc dust is almost instantaneous and by the time when the pregnant solution reaches the cementation filter chamber virtually all precious metal precipitate has already formed and will be retained inside the filter chamber. Depending on the cyanide concentration in the pregnant solution, additional cyanide may be required to be added to the pregnant solution to induce more efficient precipitation. In the event of low ambient temperature which may lead to slower precipitation kinetics, lead nitrate can be added to expedite the precipitation and potentially improve the precious metal recovery.

Both the pregnant solution before the cementation filter and the barren solution after cementation will be sampled. There will be solution samplers installed both at the cementation filter feed pipe and discharge pipe which will continuously collect the solution sample, typically one composite sample for every shift. These samples will be used for metallurgical accounting purposes. Spot solution samples will also be collected periodically to check the performance of the Merrill Crowe unit operation. If needed, required operational adjustments will be implemented.

Once the pressure drop through a cementation filter increases to a certain level or flow rate declines to a certain level, the cementation filter needs to be taken offline and precipitate will be recovered. The typical operation cycle of the cementation filter usually requires several days depending on the precoat efficiency and filterability of the precipitate cake. The cake coming out of the filter press typically includes gold and silver, impurity metals, DE, and moisture. The cake will be collected in a transfer bin which will be manually transferred to the foundry for further processing.

Both the DE precoat tank and the DE body feed tank will be installed inside the Merrill Crowe plant. The DE precoat is a batch process in which the DE clarifier or cementation filter is coated with a required amount of DE before each operation cycle. DE body feed is a continuous process which is employed to capture the TSS in the pregnant solution and improve the performance of the DE clarifier.

The Merrill Crowe Process typically has a very high precious metal recovery. Based on the test work performed, it is expected that 99.5% gold and 98.5% silver recoveries can be achieved through the Merrill Crowe Process. With most of the barren solution recycled back to either CCD or the leach tanks, the actual gold and silver recovery through the circuit is usually slightly higher than the test work indications.

For JAC material, the solution flow to the Merrill Crowe plant will be slightly higher, which will require a slighter larger capacity of Merrill Crowe plant, however this does not change the number of clarifiers or filter presses, only a slightly larger unit will be required.

17.3.7 Foundry Circuit

Preliminary assay results indicated that the plant feed contains mercury. A portion of the mercury is expected to be dissolved during the cyanide leaching unit operation and eventually will report to the Merrill Crowe Process precipitate. The retort unit will remove both mercury and moisture from the wet precipitate.

The mercury will be collected by the gas chiller of the retort unit and the cooled mercury liquid flows for collection to a flask. The mercury collected in the flasks will be periodically shipped out to an appropriate external sales or disposal facility. Both wet precipitate and dry precipitate will be sampled for the purpose of generating a metallurgical balance and developing performance statistics.

The dry precipitate will be mixed with fluxes in a flux mixer based on an appropriate recipe. The mixed charge will be placed into a fuel fired smelting furnace, and the smelting furnace will separate the doré bullion from the slag. The solidified slag will still contain a minor amount of entrained gold and silver, and it will be crushed by a small crusher in the foundry and then recycled back to the grinding mill for further processing.

The off gases from the retort unit and smelting furnace will be collected in their respective gas scrubber units to capture any fugitive dust. The gas scrubbers are highly efficient and off gas emission will conform to the industry standards.

17.3.8 Tailings Detoxification and Handling

The washed slurry from the last stage CCD thickener will have a slurry density of approximately 55% solids by weight. This slurry will report to two cyanide destruction tanks arranged in series to eliminate the remaining Weak Acid Dissociable (WAD) cyanide in the slurry. Both tanks will be equipped with agitators which induce strong agitation of the tailing’s slurry and the detox reagents. Air will be injected in both cyanide destruction tanks to facilitate the cyanide decomposition reactions.

Sodium metabisulfite and copper sulphate will be dosed into the two detox tanks based on a certain ratio related to the WAD cyanide content of the slurry feed. Air will also be injected to the detox tank to expedite the oxidation of WAD cyanide. The total required retention time is one hour. The slurry after detox will contain less than 1 ppm WAD cyanide, which will meet the environmental requirement of the mining industry.

Due to the scarcity of water resource of the mine site, it is preferred to conserve as much raw water as possible. Therefore, a larger thickener (diameter of 40 m) is designed so the tailings thickener underflow can achieve at least 60% solids by weight. The tailings thickener overflow will be recovered to the process solution tank, and the underflow will flow by gravity to the tailings pond. The supernatant from the tailings pond, if any, will be recovered back to the process solution tank for re-use.

As JAC material will produce a slurry with a much higher viscosity, a slurry density of 45% solids by weight is recommended for cyanide destruction process. Therefore, larger detox tanks with more air flow will be required for JAC material. The final tailings thickener will still be 40 m in diameter, but the underflow density will be controlled around 55% solids by weight.

17.3.9 Reagents

The reagents used in the process plant include:

- Pebble lime and milk of lime.
- Sodium cyanide.
- Sodium hydroxide.
- Diatomaceous earth.
- Zinc dust.
- Flocculant.
- Fluxes.
- Sodium metabisulfite.
- Copper sulphate.
- Lead nitrate (optional).

17.3.9.1 Pebble Lime and Milk of Lime

As the cyanide leach needs to be conducted in an alkaline environment with pH of 10.5 or higher, lime addition will be required for the process. A lime silo installed at the SAG mill feed conveyor will provide most of the lime required for the process. The lime silo will be sized to hold 100 metric tons of pebble lime. The pebble lime will be metered onto the SAG mill feed conveyor in a rate proportional to the ore feed rate, which can be read from the weight meter installed on the conveyor.

Milk of Lime (MOL) will be required to dose the leaching tanks and maintain the pH at or above 10.5, which is taken as the optimum pH for the cyanide leach. The cyanide destruction circuit also requires milk of lime (MOL) to destroy the remaining WAD cyanide in the tailings before discharging the tailings slurry to the tailings pond. A lime slaker will be installed onsite, converting the pebble lime to the MOL. The combined lime consumption as MOL is estimated at 3.4 mtpd, including the expected dosing at the leach tanks and the cyanide destruction tanks. With the additional pebble lime used at the SAG mill feed, the total lime consumption is estimated at 10 mtpd.

MOL is assumed to have a concentration of 15% calcium hydroxide and will be stored in an agitated tank (diameter of 3.5 m and height of 5.0 m), which will provide a retention time in excess of one day. The MOL will be delivered through a pump system and a recycled MOL pipeline loop. The lime consumption for JAC material will be much higher, roughly 20 mtpd.

17.3.9.2 Sodium Cyanide

Due to the remote location of the mine site, sodium cyanide in the form of dry briquettes is recommended for the convenience of transportation and storage. The whole ore cyanidation, based on the laboratory testing program conducted on the gravity tailings for the 150 µm grind size, requires on average 0.71 kg of sodium cyanide per metric ton of solid feed. The intensive cyanidation unit operation is estimated to consume 0.13 kg of cyanide per metric ton of plant feed. Based on the plant throughput, the daily sodium cyanide consumption is taken as 7.8 mt. Assuming 7 days of onsite storage is required, approximately 58 metric tons of sodium cyanide will be stored onsite, assuming 95% purity of the sodium cyanide briquette.

The sodium cyanide solution is recommended to be diluted to 25% concentration by weight. The sodium cyanide briquettes will be delivered onsite in bags (Super Sacks). The sodium cyanide briquettes will be dissolved with barren solution in an agitated mixing tank (diameter of 5 m and height of 8 m), together with sodium hydroxide solution to provide sufficient alkalinity for the sodium cyanide solution, both to conserve the sodium cyanide and prevent cyanide evolution for operation safety considerations. The mixed cyanide solution will be pumped to the sodium cyanide day tank (diameter of 5 m and height of 8 m), which will provide a retention time close to five days. The cyanide solution will be delivered to the leaching tanks, the intensive cyanidation circuit, and the Merrill Crowe pregnant solution tank or the ball mill by a pumping system.

As JAC material has much higher silver content, the sodium cyanide consumption is also significantly higher. On average 1.52 kg of sodium cyanide will be required for tank leach and 0.27 kg of sodium cyanide will be required for intensive cyanidation for every metric ton of plant feed. This corresponds to daily sodium cyanide consumption of around 16.8 mt.

17.3.9.3 Sodium Hydroxide

To eliminate the cyanide volatilization that could potentially occur when mixing sodium cyanide briquettes directly with barren solution, sodium hydroxide solution will be added into the cyanide mixing tank during cyanide solution preparation. Sodium hydroxide will also be delivered onsite in the form of bags of dry briquettes. The dry sodium hydroxide briquettes will be dissolved in a mixing tank (diameter of 3 m and height of 4 m), and then pumped to a sodium hydroxide solution day tank (diameter of 3 m and height of 4 m). This tank will provide a retention time around twelve days.

Seven days of onsite storage is recommended, which equals around 3.5 metric tons of sodium hydroxide dry briquettes on site, assuming 95% sodium hydroxide purity.

17.3.9.4 Diatomaceous Earth

Diatomaceous earth (DE) is required for the Merrill Crowe process and will be used at the following three process operations:

- Precoating of DE Clarifiers.
- Body feed of DE Clarifiers.
- Precoating of Precipitate Filter Press.

For the DE precoat for both clarifier and cementation filter press, the DE thickness required to be coated on the filter cloth is around 3 mm or 1/8 inch. The only difference is that the operation cycle for the clarifier is typically about 12 hours, while the operation cycle for the precipitate filter is typically several days. For the cementation filter, a 7-day operation cycle is assumed. For both DE clarifier and cementation filter, DE precoat applications can be performed using one agitated DE precoat tank. Bags of DE will be dumped into the DE precoat tank until a certain amount of DE is accumulated for either the DE clarifier or the precipitate filter. The DE slurry density for precoating is typically controlled around 2% solids for optimum precoat performance. The DE slurry is pumped through the clarifier or filter and the water in the DE slurry returns to the DE precoat tank. The DE slurry density can be calibrated with a Marcy density scale.

During the operation cycle of the DE clarifier, the DE slurry from the DE body feed tank will be metered into the clarifier together with the pregnant solution. The amount of DE required will be proportional to the TSS in the pregnant solution. The TSS in the pregnant solution can be sampled periodically and measured by a turbidity meter calibrated with TSS level, so a proper amount of DE slurry can be applied to the clarifier. The purpose of DE body feed to the clarifier is to efficiently remove the TSS in the pregnant solution. The typical DE slurry density for body feed is 7% by weight.

The DE in the clarifier will eventually be sluiced from the clarifier to the area sump and eventually will be pumped to the CCD circuit. The DE precoated at the precipitate filter will report to the precipitate cake and will eventually report to the slag produced from the refinery process.

The total consumption of DE for all above functions is around 1.4 metric tons per day. Seven days of DE storage onsite is recommended, which corresponds to ten metric tons of DE onsite. For JAC material, due to a higher TSS in the solution feed and also a larger solution flow to the Merrill Crowe plant, the total DE consumption is around 2.7 metric tons per day.

17.3.9.5 Zinc Dust

Zinc dust is employed to precipitate the gold and silver in the Merrill Crowe process. The zinc dust utilized always has a high purity of 99% zinc and the particle size typically varies between 8 to 12 microns insuring a fast precipitation reaction. The zinc dust will be added into the zinc cone which is covered with water to avoid the entrainment of any oxygen into the solution.

From the laboratory test results and industry standards, the achievement of an elevated gold and silver recovery at the Merrill Crowe process requires 1.5 kg of zinc dust for every kg of gold and silver to be precipitated. This unit value corresponds to approximately 810 kg of zinc dust consumption per day.

The zinc dust is delivered in steel kegs which hold 50 kg of dry zinc dust. Based on a seven-day onsite storage requirement, it is recommended that 6 metric tons of zinc dust be stored onsite.

17.3.9.6 Flocculant

Flocculant will be used at the following process locations. Recommended dosages are indicated.

- Pre-leach thickener, 15 g/t of feed solids (30 g/t for JAC material).
- CCD thickener, 12 g/t for the first CCD thickener and 1.2 g/t for the remaining 5 CCD thickeners (total 25 g/t for JAC material).
- Tailings thickener, 16 g/t of feed solids (40 g/t for JAC material).

Based upon the nominal plant feed, the daily consumption of flocculant is approximately 0.4 metric tons. Considering a seven-day onsite storage specification for flocculant, a total of 2.8 metric tons of flocculant in bags will be stored onsite. For JAC material, the daily consumption is approximately 0.86 metric tons.

The solid flocculant needs to be diluted with water to a low concentration for optimum flocculation performance. A design flocculant solution content of 0.1% by weight is assumed for the project design. The dry flocculant will be dumped into a feeder and then metered into a mixing tank and the dilution water will be injected based on the flowrate of dry flocculant. There will be one flocculant mixing tank and one flocculant day tank. Based on the daily flocculant requirement, approximately one or two batches of mixing are required per day.

The flocculant day tank is also an agitated tank with a diameter of 11 m and height of 15 m. The capacity of the flocculant day tank will provide flocculant solution storage for the operation for approximately three days.

17.3.9.7 Fluxes

After the retorting process, the dry cake will be mixed with fluxes based on a certain recipe then placed into the smelting furnace to produce the final Doré bullion. A typical flux recipe for 100 kg of Merrill Crowe precipitate is presented below:

- 3 to 5 kg of soda ash.
- 5 to 10 kg of borax.
- 3 to 5 kg of silica sand.

The flux recipe can be optimized during future operations based on the exact composition of the dry cake. The preceding flux recipe is for reference only. The typical weight ratio between total fluxes and dry cake is 0.2. Based on the estimated dry cake weight per day (estimated around 0.67 mtpd, including gold, silver, assumed percentage of impurity metals, and estimated DE), the daily flux consumption is around 134 kg. For 14 days of onsite storage, the required total fluxes will be around 2 metric tons. JAC material will require approximately 404 kg of flux per day.

17.3.9.8 Sodium Metabisulfite

The CCD tails slurry will contain WAD cyanide, which needs to be reduced to a certain level before being discharged to the tailings pond. The cyanide destruction will use the industry standard INCO process, which utilizes sulphur dioxide (or sodium metabisulfite), copper sulphate, and air to oxide the WAD cyanide. Based on the laboratory test results and the industry standard, 4.7 grams of sulphur dioxide and 0.22 grams of copper will be required for one gram of WAD cyanide.

Based on the total sodium cyanide consumption of 0.83 kg per metric ton of plant feed, the total sodium cyanide consumption will be 0.33 mt/h. Laboratory testing indicated that when leach feed has a sodium cyanide concentration of 1500 mg/L in the aqueous phase, the leached tail has total sodium cyanide concentration of 1300 mg/L in the aqueous phase of which approximately 700 mg/L is in the form of WAD cyanide. Based on this ratio, the WAD cyanide in the form of CN- is around 0.08 mt/h in the feed to the cyanide destruction circuit.

Based on the required weight ratio of sulphur dioxide to WAD cyanide, the consumption of sodium metabisulfite is about 0.56 mtph. Assuming a 20% concentration in the sodium metabisulfite solution, the solution flow will be around 2.8 m^3/hr. Sodium metabisulfite will be delivered onsite in the form of dry solids, it will be dissolved in an agitated tank and then pumped to a day tank. The day tank will provide reagent solution storage capacity to sustain the cyanide detox operation for approximately five days. Based on seven days of onsite storage, a total of 95 metric tons of sodium metabisulfite will be stored onsite.

17.3.9.9 Copper Sulphate

The lab test did not indicate the requirement of copper sulphate for cyanide destruction due to the presence of minor amount of copper in the test sample. However, copper sulphate is still recommended onsite for provision, and a reduced dosage from typical cyanide destruction is assumed at 0.11 grams of copper per gram of WAD cyanide, the copper sulphate consumption will be 0.02 mtph. Copper sulphate will be delivered onsite in the form of dry solids, and then dissolved in the mixing tank to make copper sulphate solution with a 20% concentration. The copper sulphate day tank will provide the solution storage capacity to sustain the detox operation for around four days. Due to the elevated copper content in the pregnant solution from JAC material, no copper sulphate will be needed for the detox.

Based on the onsite storage for seven days operation, a total of four metric tons of copper sulphate needs to be stored onsite. The copper sulphate will be delivered onsite in the form of bags of dry solids, either in the form of $CuSO4$ or $CuSO4.5H2O$.

17.3.9.10 Lead Nitrate

Lead nitrate can potentially improve recovery of the Merrill Crowe process in certain circumstances. Therefore, lead nitrate is recommended as an optional reagent prepared onsite. Based on industry practice, the pregnant solution flow rate, and zinc addition rate, the lead nitrate consumption is estimated at 8 kg/hr if needed. The lead nitrate will be delivered onsite in the form of dry solids. The mixing tank will provide the solution storage for the operation need of approximately one week.

17.3.9.11 Antiscalant

Solutions with high pH or high calcium concentration tend to form scale in the pipes and other associated equipment. To minimize the potential scaling, antiscalant is recommended onsite as a provision, added wherever necessary.

Assuming a typical 5 ppm concentration in the solution will be sufficient, the annual consumption of the antiscalant is estimated to be around 45 metric tons. The antiscalant will be delivered onsite in totes.

17.4 Process Solution and Raw Water

The total raw water requirement is 184 mtph, which includes:

- Raw water for CCD wash, 150 mtph.
- Raw water for reagents preparation, 22 mtph.
- Raw water for dust suppression, 12 mtph.

This amount of raw water will all report to the process and eventually recovered to the process solution. The raw water will be supplied from water wells located approximately 13 km away from the mine site. The total amount of raw water that is allowed to be withdrawn is 220 mtph, which includes the water for camp, mining operation, and office use. The water will be pumped from the wells to the raw water tank onsite, which also serves as fire water storage. The freshwater tank has a diameter of 20 m and height of 24 m. This volume will hold the water required for 24 hours of mine operation with an additional fire water reserve of 1,760 m^3, which is sufficient for anticipated fire suppression requirements.

The raw water tank will be installed at an elevation higher than the mine site, so the water can gravity flow to the various users including the process solution tank and fire hydrants. The total process solution flow rate is 594 mtph. A process solution tank with a diameter of 11 m and a height of 15 m will be installed in the plant to provide a retention time of over two hours.

17.5 Process Air and Instrument Air

Process air will be required at the cyanide leaching and cyanide destruction process as given below:

- Cyanide leach tanks, compressed air of 3,138 Nm^3/h.
- Cyanide destruction tanks, compressed air of 2,713 Nm^3/h.

The air pressure requirement is estimated to be between 150 kPa to 300 kPa for the above operations. A total of three air compressors will be installed, two operating and one standby, to provide the process air. A dedicated compressor will provide conditioned air, which will be used for various instruments in the plant. The required instrument air is assumed to be around 600 Nm^3/hr.

17.6 Power

The total power requirement from the mine site is estimated approximately at 20 MW, with the majority requirement for the process area. The power will be provided by a hybrid power generation facility composed of a photovoltaic plant and dual fuel diesel/natural gas gensets onsite. The diesel/natural gas gensets will be designed to provide the full power requirement of the mine site, with nine gensets operating most of the time and another two units as an installed spare.

The photovoltaic plant will be composed of two solar power arrays which, one of 3 MW with batteries power storage for camp and service hub operations during construction and operations, while a second one of 17 MW without batteries will provide the plant power during daytime operations and storing the excess energy into the 3 MW batteries storage system (BESS).

Power will be distributed to all process and ancillary facilities at 6.6kV via underground conduit duct-banks to avoid costly overhead power lines maintenance and improving site safety as well.

Off-site facilities, as the raw water well field and pipeline booster station, the tailings water recovery system and the nitrate preparation pad will be supplied by on-site diesel generators of the size according to power requirements, including one main generator and a second back-up one at each location.

The site distribution voltage will be transformed to low voltage, rated at 380/220V, for power supply to motor control centres (MCC) and power distribution centres (PDC) for motors, lighting, instrumentation, etc. All control systems will have an uninterruptible power supply (UPS) and emergency lighting will have battery back-ups to keep critical processes operational and provide a safe shut-down.

18 PROJECT INFRASTRUCTURE

The mine, ore processing plant and all mine site related infrastructures will be located within the mining properties owned by the company in Salta and Catamarca provinces. The Project infrastructure is designed to support the operation of two (2) combined open pits feeding a 9,000 tonnes per day processing plant, operating on a 350 days per year basis. It has been developed for the most economical operation at this production rate and will require further expansion and development for any eventual increases in throughput. The overall site layout showing location of the open pits, processing plant, tailings storage facility (TSF), waste dumps camp and service hub is provided in Figure 18-1.

18.1 Summary

The infrastructure required for the Diablillos Project will include:

- Site development and access roads.
- Raw Water Supply System.
- Raw water storage and treatment facility, including a firefighting system network.
- A hybrid power generation plant (Diesel + PV) and distribution network.
- Ore processing plant.
- A tailings storage facility (TSF) and associated water recovery management structures.
- Waste dumps with associated water management systems.
- Service hub, with truck-shop, warehouse, offices, laboratories, and other service facilities.
- Operations and construction camp, contractors' yard, etc.

The proposed layout of the Diablillos Project site is shown in Figure 18-1.

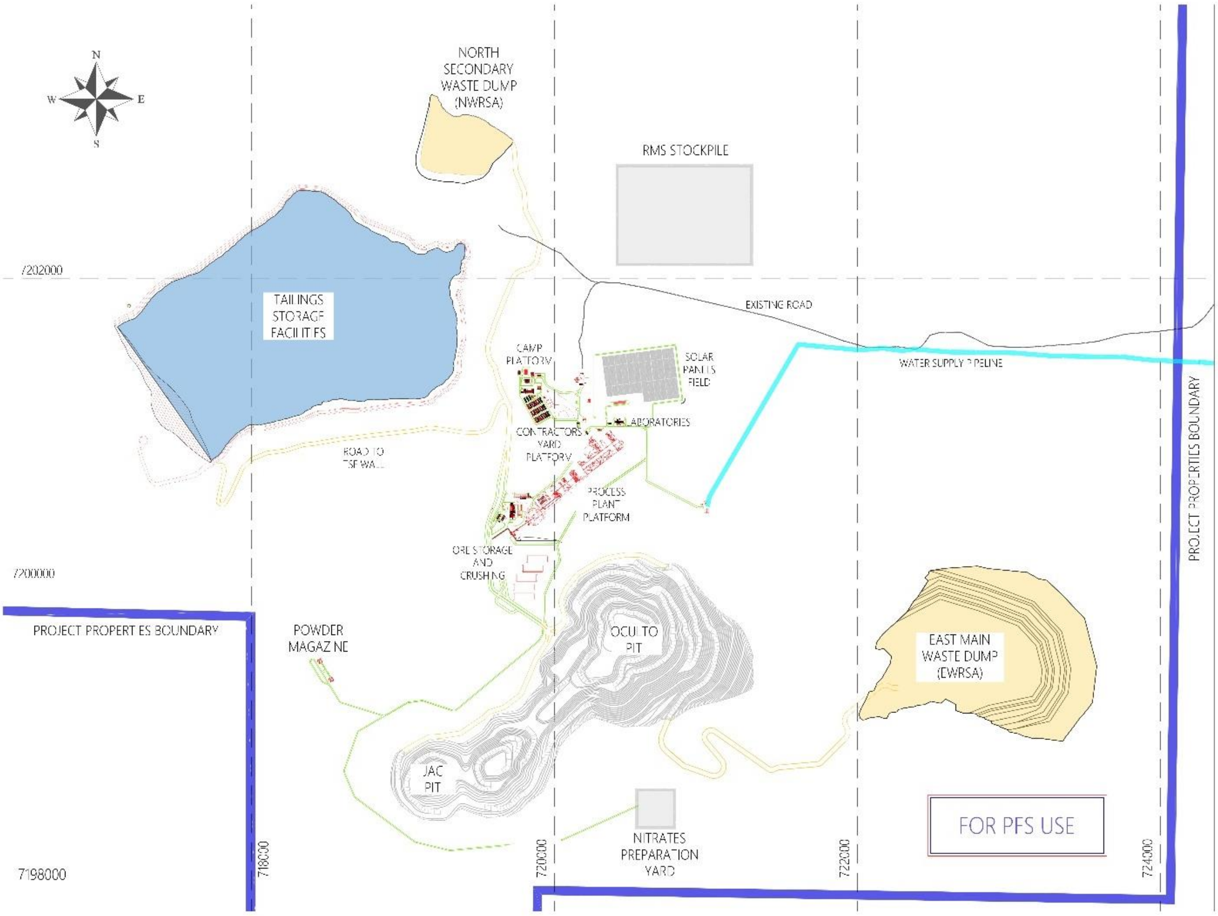


Figure 18-1: Diablillos Project Site Layout

18.2 Diablillos General Site Plan

The general site plan details the location of the different facilities that compose the project infrastructure, including the camp and service hub with truck shop, plant warehouse, laboratories, the ore processing plant, open pits, hauling roads, tailing storage, waste rock dumps and a raw water wellfield and supply pipeline.

The mill complex site is centrally located between the two open pits, approximately 4.5 km north of the Oculto pit, 4.6 km from the JAC pit and 2.1 km northwest of the tailing's facility. It will contain the service hub with plant offices and laboratories, truck-shop, plant warehouse, maintenance, and the process plant itself.

The layout of facilities has been optimized to take advantage of topography, and the use of the JAC pit colluvial cover as a quarry for platform, tailing dam and road construction material, as well as a backfill quarry to reduce the corresponding earthworks. The complex will include the primary crusher, ore sorting, grinding via milling, gravity separation, leaching, counter current decantation, Merril Crowe, detoxification, a foundry with its corresponding safety vault, reagents preparation and storage, a hybrid power generation plant, and a fuel storage tank farm.

18.3 Access Roads, Main Site Access, and Internal Roads

The project is approximately 327 km from the capital city of Salta province, 340 km from the Jujuy province capital city San Salvador de Jujuy and approximately 673 km from Catamarca City Centre.

The three main access routes to the project in Argentina are listed in the next three sections.

18.3.1. From Salta City

By paved National Highway N° 51, approximately 150 km to the main regional town of San Antonio de los Cobres, then a 15 km stretch of gravel road along the same highway, turning into Provincial Highway N° 129 for another 48 km to reach the small town of Santa Rosa de los Pastos Grandes. Thel route continues for another 95 km along gravel Highway N° 129, until the turn off to the project is reached, then via another 20 km along an internal project road , totaling 327 km. Driving time is five to six hours depending on traffic and road conditions. This route is not suitable for oversized goods transportation.

Alternatively, by the same route to San Antonio de los Cobres (150 km), then following the unpaved National Highway N° 51 for 67 km until reaching the turnoff onto Provincial Highway N° 27 then for another 40 km until reaching the small town of Salar de Pocitos, continuing 3 km to the turnoff into Provincial Highway N° 129 for another 30 km to join the previous route at Santa Rosa de los Pastos Grandes. Total driving time for light vehicles is seven to eight hours for a total distance of 405 km to reach the project site. This route is the most suitable one for oversized goods transportation coming from Salta.

18.3.2. From Jujuy City

By National Highway N° 9 for 60 km until reaching the town of Purmamarca, then turning into National Highway N° 52 for another 100 km of paved road, passing the town of Susques after 5 km until the turnoff onto gravelled National Highway N° 40 for 110 km to National Highway N° 51. Then the route will follow one of the two previous alternatives to reach the project, totalling either 445 km for the first option or 540 km for the second. Driving time for light vehicles is either eight or nine hours depending on traffic and road conditions.

18.3.3. From Catamarca City

Starting from San Fernando del Valle de Catamarca city, a 200 Km paved highway leads southwards along National Highway N° 38 for 75 Km to the town of Chumbicha, where it joins National Highway N° 60. After 136 Km the road joins National Highway N° 40 at Cerro Negro, turning northwards for another 135 Km until joining Provincial Route N° 36 at the town of El Eje, passing Londres and Belén. The road continues for another 12 Km to Provincial Route N° 43 and continues for another 200 Km towards Antofagasta de la Sierra, one of the main towns in the Catamarca highlands.

From there a gravel road continues northwards to Salar del Hombre Muerto for another 90 Km, reaching the Livent Lithium Project facilities, on reaching Cerro Gordo dwelling the road winds for another 40 Km until it reaches the local community of La Redonda which is 7 Km from the Diablillos property access. This route totals almost 700 Km.

All main roads to the project are well-constructed gravel district roads which are regularly maintained by the provincial highway's authorities of Salta and Catamarca. (Dirección de Vialidad de Salta - Catamarca).

The regional site map is presented in Figures 18-3. For Salta and Catamarca provinces.

The final access road section to the project from Route 129 will be improved and regraded along its entire 20 km length according to provincial highway standards, converting it into a two-lane gravel road until it reaches the main access gate which will be manned 24/7. It does not cross any significant water courses which have to be considered during road construction and will be fully maintained by Abrasilver, to allow two-way traffic including the transport of oversize cargo.

The main access road from Route 129 is shown in Figure 18-3.

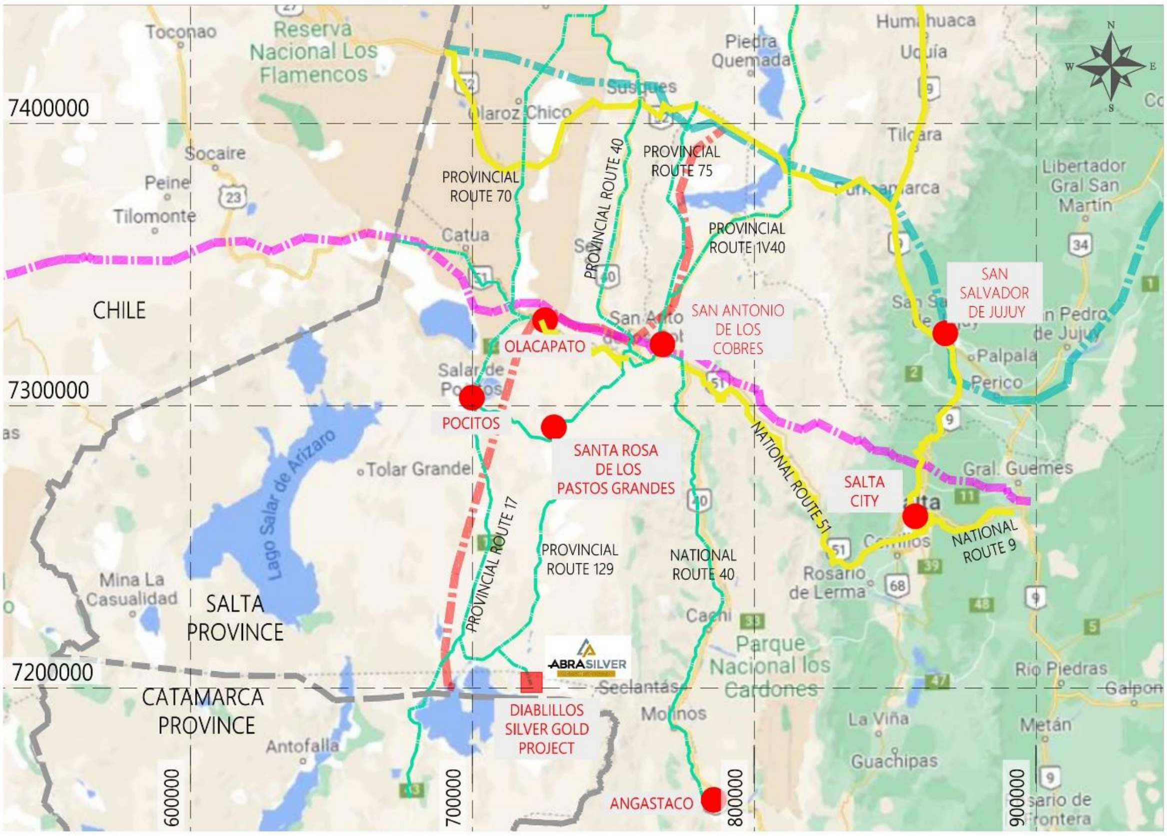


Figure 18-3: Regional Site Map - Salta

Figure 18-2: Regional Site Map - Catamarca

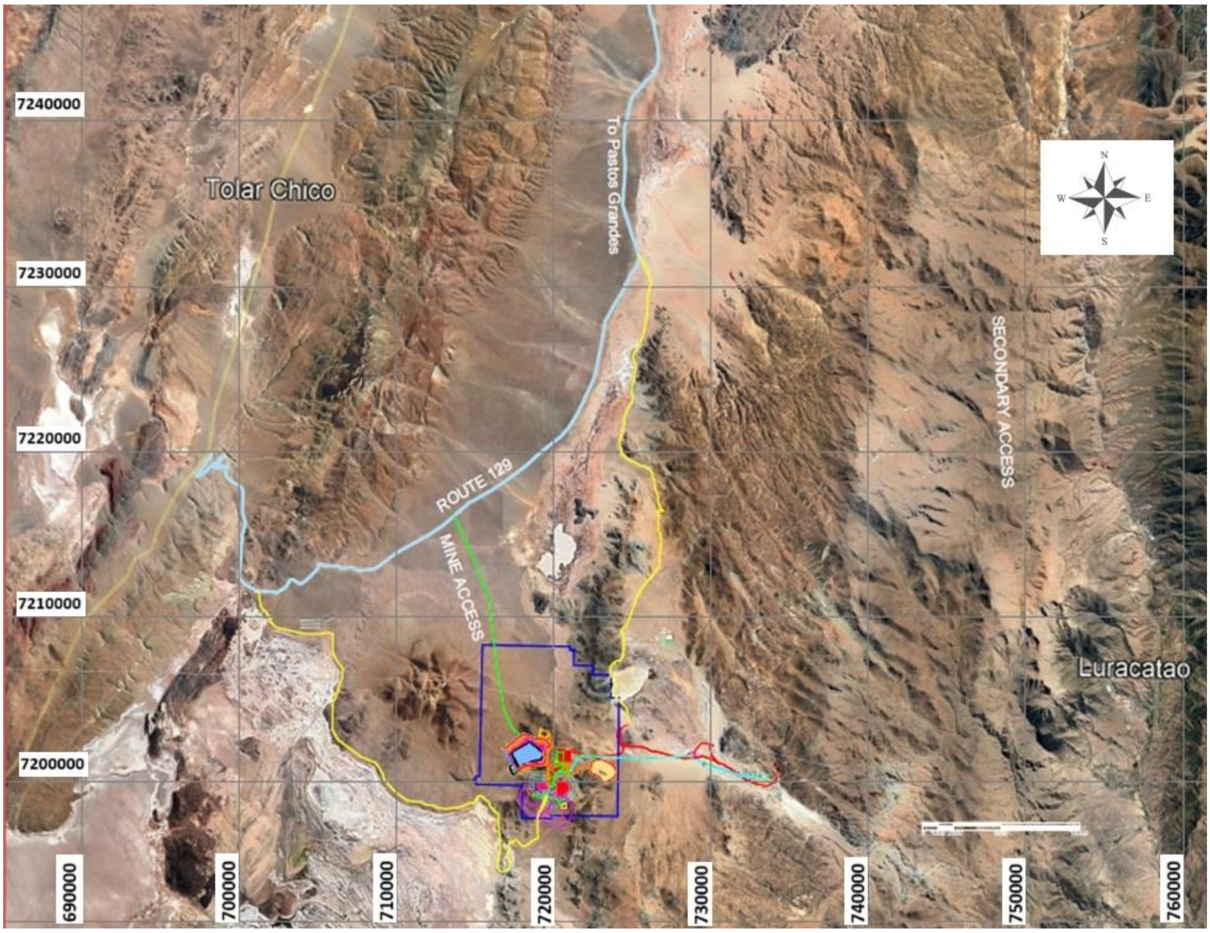


Figure 18-3: Mine Access Road

Due to the size and location of heavy mine equipment traffic the safety measures require that normal and mine hauling roads are fully segregated, the design of the mine haul roads will be constructed to support 100 tonne truck traffic carrying ore and waste to the plant or the dumps.

The remaining project internal service roads network will be designed according to the provincial highways authority standards to provide access to all other facilities, including the raw water wellfield, tailing dam, powder magazine, camp and service hub, etc.

18.4 Raw Water Supply

The raw water supply is expected to come from several different sources, as 5 basins have been identified in the area next to the project. However, the main raw water supply will come from the Barranquilla basin aquifer, where a wellfield of at least 4 wells is under development. The wellfield is located approximately 17 km from the plant site.

The Diablillos project requires water for the following uses:

- Dust suppression during mining operations.
- Dust suppression in the dry plant area (Crusher and stockpiles).
- Process plant and reagents storage and preparation.
- Service Hub, laboratories, truck shop and truck washing station.
- Construction and operations camp.
- Construction activities, concrete preparation, etc.
- Fire water reserve.

The water demand for construction averages 34.15 m^3/h, while operation demands an average of 183.29 m^3/h.

18.4.1 Water Source- Piezometer / Wells

Drilling by AbraSilver has identified an aquifer in the upper part of the Barranquillas valley. Two broad diameter holes drilled by Conhidro have encountered substantial aquifers which are extensions of ones previously discovered by exploration drill holes St-DBL-Ag4 and St-DBL-Ag5. Holes St-DBL-Ag6 and St-DBL-Ag7 are 12-inch diameter rotary holes and hole St-DBL-Ag7 intersected a sequence of gravels with abundant fresh water more than 50 m. The hole was drilled in a water easement currently held by AbraSilver.

Pump testing on holes St-DBL-Ag6 and St-DBL-Ag7 demonstrated the potential of the aquifer to host adequate water for the project. Hole St-DBL-Ag7 produced 120 m^3/hr (2,880 m^3/day) of low salinity water, which is a bit more than half of the project requirement. An additional two holes will be drilled to secure the rest of the raw water supply for the project operation. The recharge of the Barranquillas basin was estimated to be 3,1000,000 m^3/year (354 m^3/h), which is more than project requirements for make-up water and camp consumption, without considering additional sources due to water reclaimed from the tailing dam and from pit dewatering, etc.

It is believed that this aquifer holds water sufficient for the life of the project, and permission has been granted to use this water.

Four wells within the Barranquillas basin wellfield will supply raw water via an aqueduct, with a corresponding booster station, to pump water to the main raw water storage and fire water tanks for further treatment and/or distribution.

Raw water will be used for dust suppression, reagent mixing, gland water, process requirements, and for use at the workshops and laboratory. Additional water will be reclaimed from the TSF using a reclaim water barge that pumps directly to the cyanide recovery thickener and the process water tank.

There are currently two piezometers/wells drilled that encountered substantial aquifers which are extension of ones previously discovered by exploration drill holes St-DBL-Ag4 and St-DBL-Ag5. Holes St-DBL-Ag6 and St-DBL-Ag7 are 12-inch diameter rotary holes. The piezometer/well St-DBL-Ag7 were logged with a sequence of gravels containing abundant fresh water with the actual piezometer/well hole depth of 69 meters.

The piezometer/well flow rates from testing are presented in Table 18 2 and Table 18 3 with the indicated dynamic level below piezometer/well head.

Table 18-2: Piezometer / Well Flow Rates from Testing

Piezometer/Well No.	Coordinates		Flow Rate		Recommended Dynamic Level below well head
	North	East	m³/hr	l/sec	meters
ST-DBL.Ag06	7,201,678.64	728,981.31	25	6.94	6.94
ST-DBL.Ag07	7,200,357.04	733,137.98	120	33.3	16.55
ST-DBL.Ag04	7,201,030.44	729,547.62	No data		
ST-DBL.Ag05	7,200,446.29	733,688.25	No data		
Total			**145**	**40.2**	

Reference: Water pumping test results conducted by Andina Perforaciones September 2021.

Table 18 3: ST-DBL.Ag07 Max Flow Rate (as a function of dynamic level and piezometer/well design)

Flow Rate	Flow Rate	Level	Depression	q
m³/hr	l/sec	(m)	(m)	m³/hr
0	0	1.73	0	
10	2.78	2.57	0.84	11.96
20	5.56	3.48	1.75	11.46
50	13.89	6.64	4.91	10.19
60	16.67	7.84	6.11	9.83
80	22.22	10.45	8.72	9.17
100	27.78	13.36	11.63	8.60
120	33.33	16.65	14.82	8.10

The water supply piezometer/well field in Figure 18 4 starts at an elevation of 4039 MASL and follows the proposed pipeline trace westward for approximately 5.5 km to a proposed booster pump station, settling tanks and a gathering tank as shown in Figure 18 5. The proposed pipeline trace will start with an 8-inch HDPE with a length of 562 meters, followed by 10-inch HDPE with segment length of 3.8 km and finally a 14-inch HDPE for 1.2 km. Piezometer/well, DBL-Ag6 will have a single line 14-inches in Diameter HDPE with a length of 531 meters. The proposed pipeline then turns towards the RO plant/potable water tanks at 4250 MASL (discharge elevation) for a further 16 km. The local highpoint along the route is at the 6.8 km mark at an elevation of 4154 MASL. When developed, the line will require a combination of 14-inch diameter HDPE pipe/16-inch steel pipe, installed underground (1 meter depth). There is an existing internal road (exploration road) that can be developed to access the water supply field and maintenance for the pumps.

Each piezometer/well when developed will require a submersible pump to deliver the raw water to the booster pumping station water settling tanks. To run the booster pump station, two diesel generators are to be installed next to it, with one operating and a second spare one (6.6 kV 1.6MW),

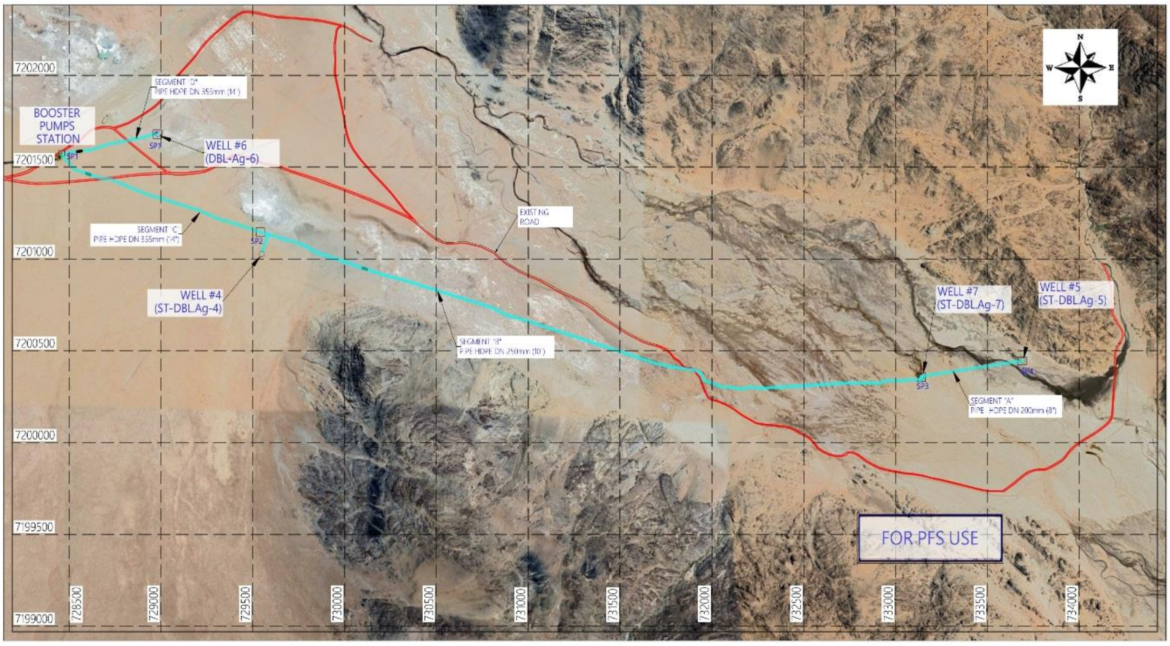


Figure 18-4: Piezometer/Well Drill Holes and Test Locations

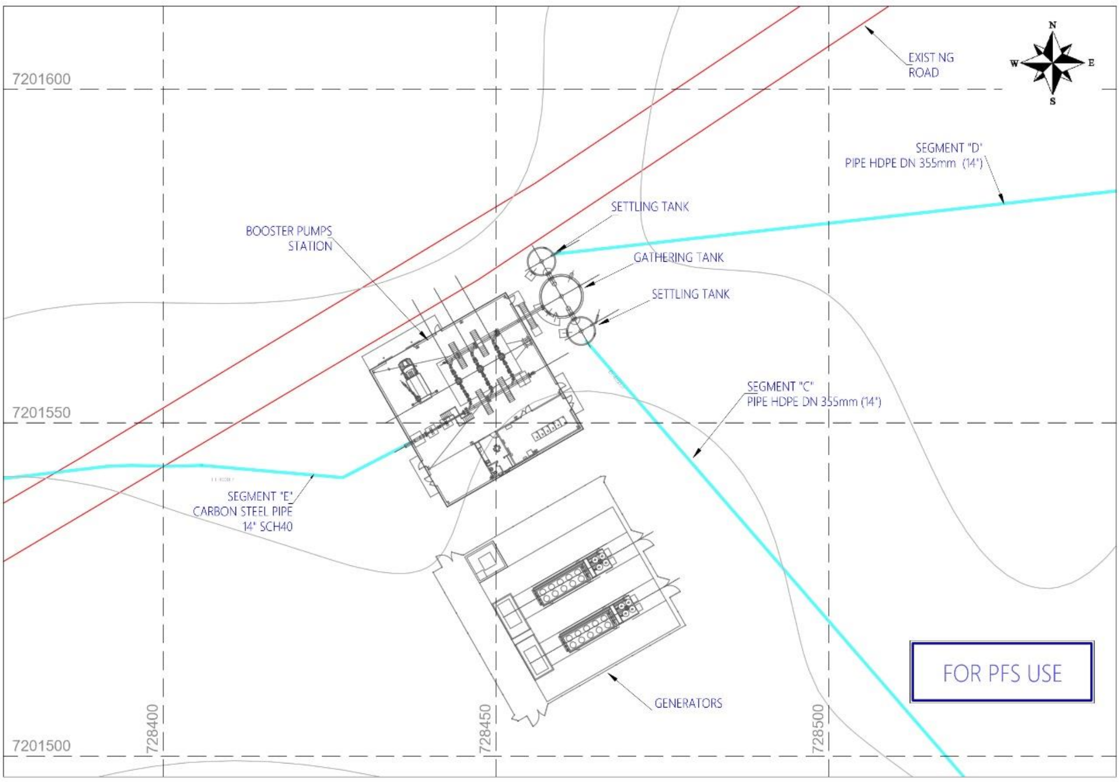


Figure 18-5: General Arrangement Piezometer/Wells Pump Booster Station Plan

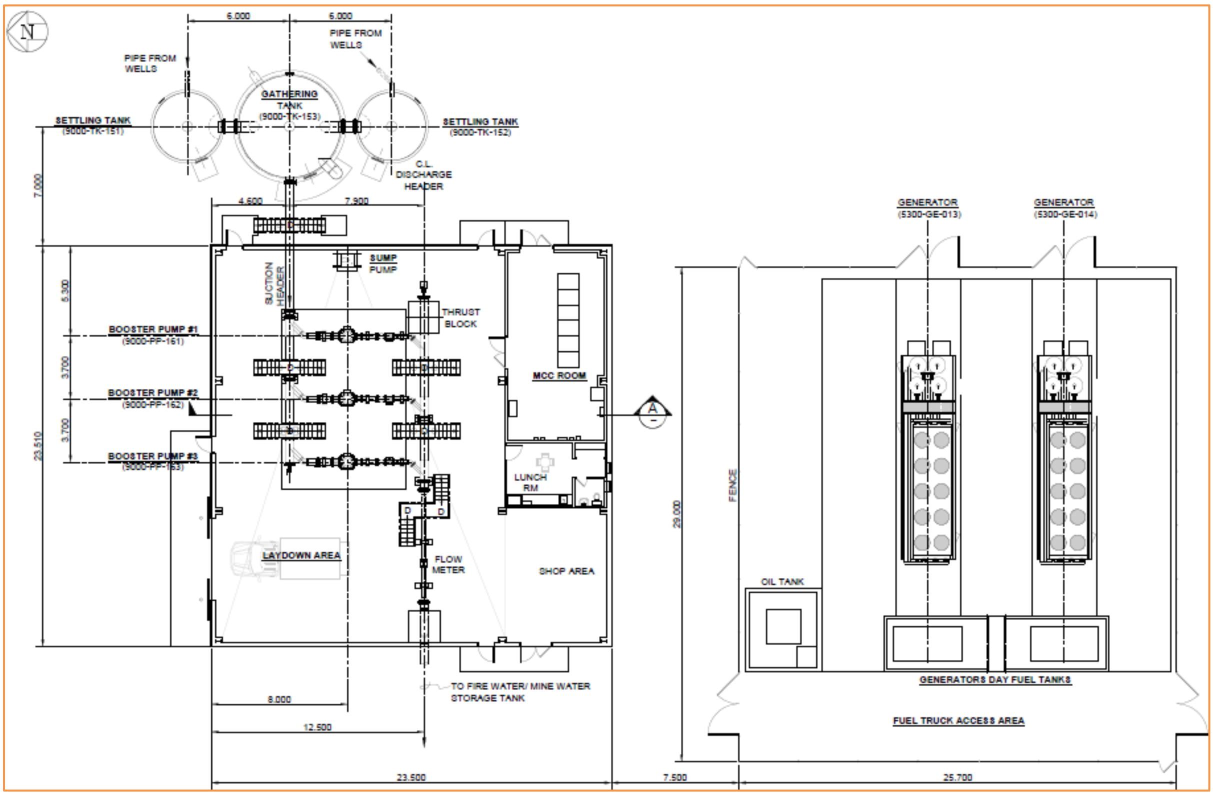


Figure 18-6: Booster Pump Station and Generator Set Details

18.4.2 Raw Water and Fire Water Distribution

The raw water storage tanks will feed the water distribution system to provide process water makeup, reagent mixing and gland seal water. Controls will be installed to ensure continuous flow to the process water system when the raw water system is operating. From the process water tank, low pressure process water will gravity flow to the systems that do not require high pressure. Booster pumps will be installed to provide high pressure water to the systems that require it, including pump gland seal water. Gland seal water is not returned to the water management system. Fire pressure pumps and control systems will be installed at the raw water storage tank to provide pressure to the fire suppression system. The process water will not contain cyanide, which will be mainly used in the grinding area. The barren solution after the Merrill Crowe process is mainly used as the wash water for the CCD circuit, with the excess being routed to the cyanide leaching tanks for density control. Hence, process water does not need raw water to be treated.

There will be two main reservoir tanks for raw water storage for the Diablillos Project fed by the water pipeline. These tanks will have a capacity of approximately 7,226 m^3 with a fire water reserve capacity of 1,760 m^3 and will be located next to the RO plant. The tank will supply all road and crusher dust control.

The secondary tank will be located within the process plant area, to allow gravity flow from the primary tank and supply the entire process water with a capacity of 1,378 m^3.

18.4.3 Potable Water System

A potable water system will be installed to supply water to the camp area, laboratory, office water plant hose stations and safety showers with a total requirement of 6.8 m^3/hr. The potable water system will consist of a pre-filtration unit coupled to a reverse osmosis unit and associated piping, tankage, and controls. The potable water tank will have dimensions of 7 m diameter with 10 m height and a capacity of 366 m^3. The potable tank will be at an elevation to allow gravity flow from the primary raw water storage tank.

18.4.4 Sewage Treatment System

The sewage treatment plant, as shown in Figure 18 7 will treat sewage coming from the camps and service hub network. A modular effluent's treatment plant will be constructed, capable of processing effluents for up to 1,200 people working and living on the facilities during the construction phase and to be resized for the operations phase, with approximately 400 people at site. The wastewater treatment plant will also be managed from the fuel station and truck scale office container.

Plant design will be based on a daily water consumption of 150 l/person and an organic load of 66 g DBO5/(day-person), hence it should be able to process up to 180 m^3/day and 80 Kg of BDO5 during construction and 45 m^3/d and 20 Kg of BDO5 once the project is in operation, with 250 mg/l at the inlet and less than 50 mg/l at the outlet. Sludge will be recovered and shipped for final disposal to Salta treatment facilities, while treated fluids will be infiltrated into the ground.

As the Project is in an area of low temperatures, the active process will be enclosed in an outdoors container to keep the temperature inside in the range of 10 to 15°C.

The sewage treatment plant will be composed of the following:

1. A modular plant to treat a total flow of 200 m3/day.
2. Elevator station (Pumping chamber).

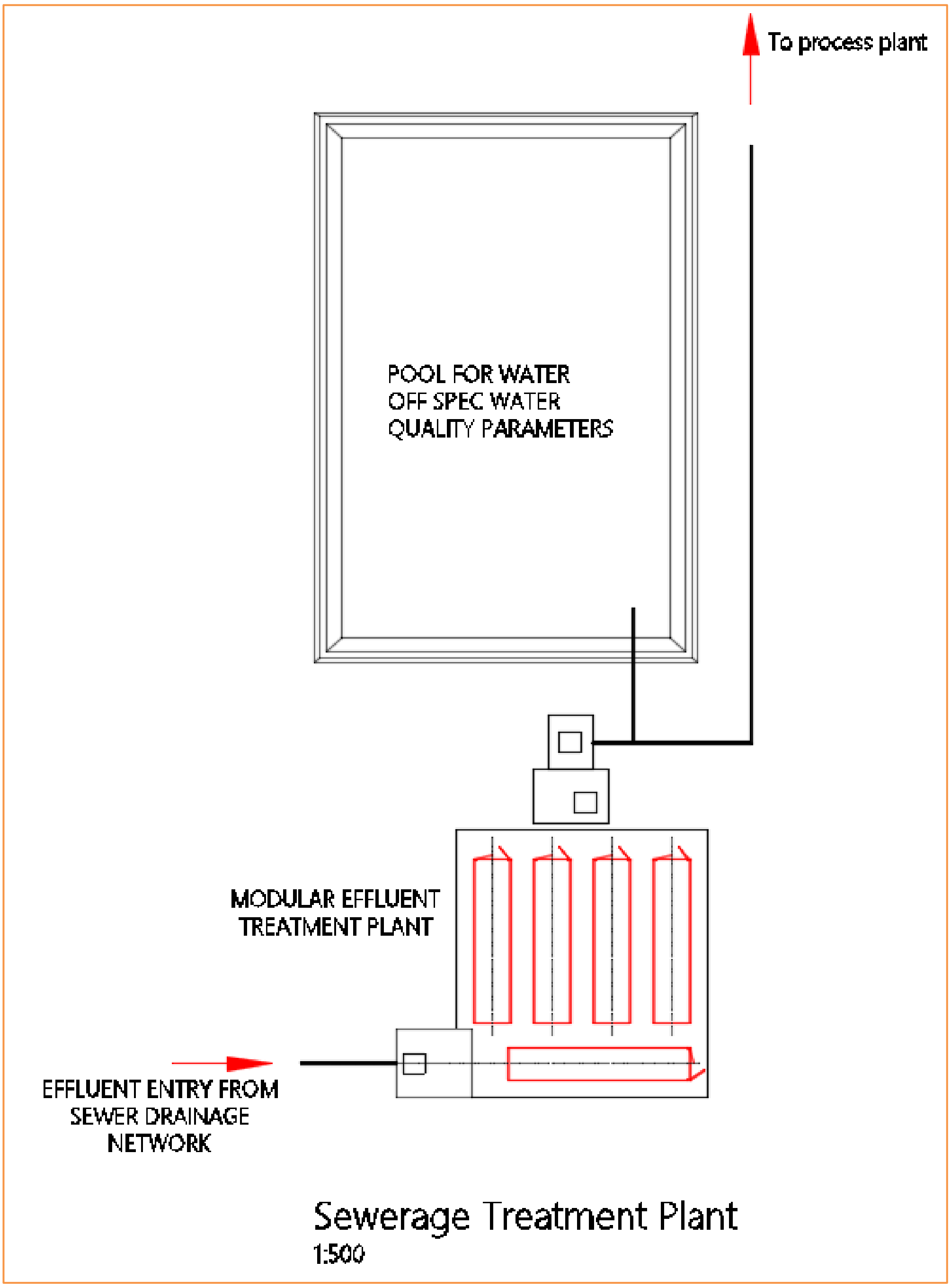


Figure 18-7: Sewage Treatment Plant.

The treatment plant design will be compliant with the applicable standards of Salta Province Resolution N° 011/01, effluent dumping parameters published in the Official Gazette No. 16,105 dated 03/13/01 shown in following Table 18 6.

Table 18-6: Quality of Treated Effluent.

Treated Effluent		
Parameter	**Unit**	**Value**
ph		6.5-10
Settleable Solids	ml/l	≤1
DQO	mg/l	≤250
Grease (SSEE)	mg/l	≤50
DBO_5	mg/l	≤50
Fecal Coliforms	NMP/100 ml	≤2000

The operation and efficiency of the biological plant is also determined by the characteristics of effluent and site conditions. Design parameters were assumed according to the characterization and information available to date. If new analysis or data become available, the treatability of the effluent can be modelled to verify that the design meets the dumping requirements.

To comply with the recycling parameters, it is important that the operation of the plant is carried out according to the recommendations of the operation and maintenance handbook, avoiding the entry of non-biodegradable solids that may affect the electromechanical equipment, the entry of grease, oils, non-biodegradable cleaning products, detergents that may generate excess foam and bactericides. Therefore, a grease retention chamber must be installed at the kitchen sewage exit. The process flowsheet is provided in Figure 18-8.

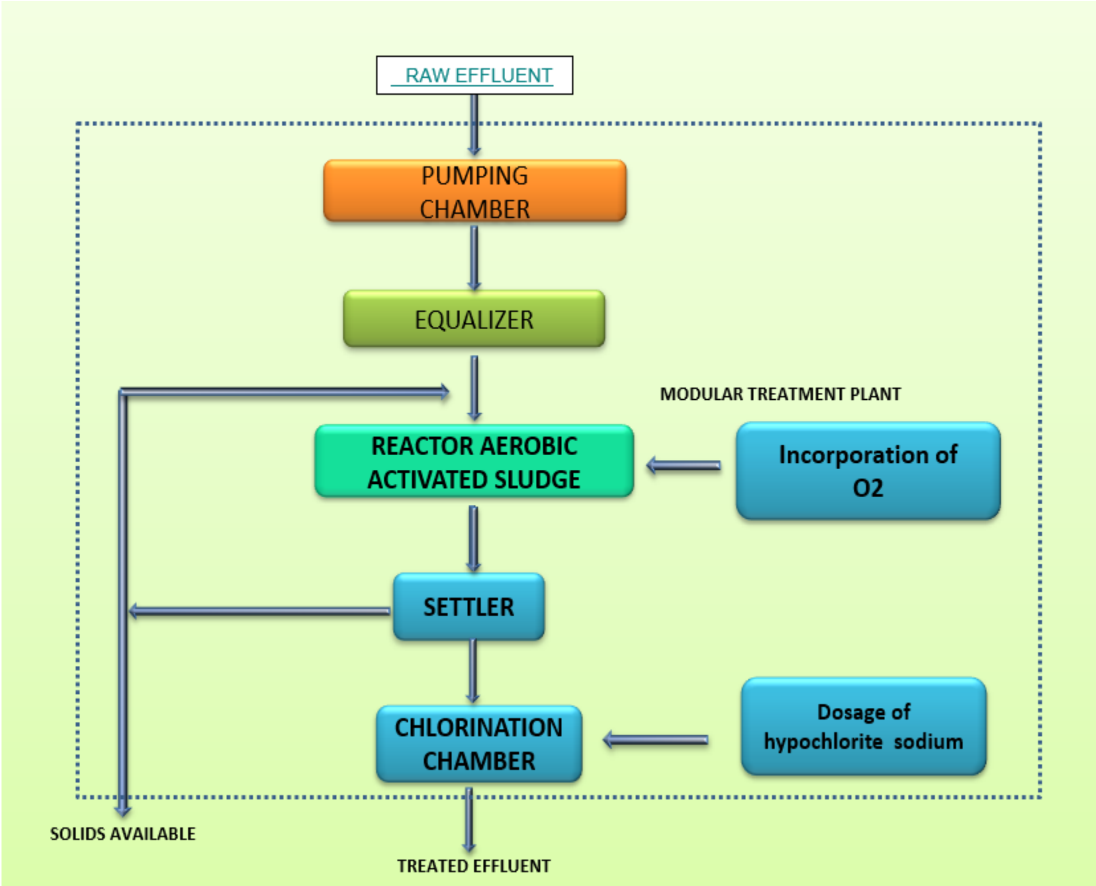


Figure 18-8: Effluent Treatment Flow Sheet

18.5 Power Supply

18.5.1 Electrical Load

The predicted electrical demand load is approximately 20MW during the project operation.

This estimated load is based on the current mechanical and electrical equipment list, which includes the process plant, reagents camp and service hub facilities and an allowance for future nominal growth / changes of auxiliary loads over time.

18.5.2 Power Generation

As there is no power grid available in the nearby area, power will be generated off-grid at site through a hybrid power generation plant, composed of solar panels arrays and diesel generators as the primary power source during construction and operations for on-site facilities. Off-site facilities, not supplied from the main power plant due to their distance, are to be supplied by their own power generator system close to each sector. Off-site facilities are the raw water wellfield, the water pipeline booster station, the tailings water recovery system, and the nitrate pad.

The total power generation capacity has been established at 20 MW, considering performance losses of almost 35% due to high altitude derating and a working capacity of each generator of 80%., with the aim of maintaining reserve capacity to absorb peak loads and/or cover eventual genset failure. with most power supply requirements coming from the process area.

The diesel power plant is designed to cover the full power demand of the entire site, with 10 operating generators and 2 back-up ones of 2.8 MW each housed in outdoor cabinets. One of the spare generators will be a mobile one available for off-site emergency generation.

15% of the on-site PV power requirements (~ 3 MW) will be covered by an initial photovoltaic system (PV) which will be coupled with a battery energy storage system (BESS) to guarantee continuous power supply to camp, service hub and outdoor lighting, to secure constant power availability in case of fuel supply disruptions due to weather or road blockages.

The remaining part will provide daytime power to charge the BESS and support process operations by synchronizing with the diesel generators through the corresponding energy management system (EMS), thereby reducing emissions and providing fuel cost savings. The EMS will ensure that if the BESS is fully charged, the PV-generated power will be utilized as the primary power source to run the process plant and its site ancillaries.

The EMS will manage the whole power generation, giving priority to PV energy consumption during daytime operation and BESS loading and finally starting the diesel generators when PV power harvest becomes insufficient or inexistent at nighttime.

The main substation, located near the gensets will include an electrical room that houses the gensets system controller and the main power distribution switchgear to provide output power at 6.6 kV. The diesel units system controller will also communicate with the EMS to distribute power output via the main switchgear. to the main substations by an underground 6,6 or 13.2 kV power distribution network, installed within duct banks to reduce overhead power lines maintenance and for safety reasons, avoiding interferences with cranes and other mobile equipment.

The PV system will incorporate PV arrays, inverters, transformers, and controllers, while the BESS will be sized for 3 MW / 20 MWh capacity and include battery modules, inverter, and transformer. An energy management system will be used to charge / discharge battery power. If the PV system or BESS cannot provide power, the diesel gensets will back-feed power to the PV-powered facilities.

The energy management system EMS will communicate with the diesel gensets controller, distribution switchgears, the PV system controller and BESS to operate diesel generators, synchronize and manage PV generated power based on load demands, available PV power and BESS capacity.

For off-site power demands, diesel generators with back-up will be installed at the raw water wells, water pipeline booster station, at the TSF water recovery system and at the nitrate pad.

18.5.3 Power Distribution

As the power plant will generate at 6,6 KV, 50 Hz, 3 phases, 3 circuits, the site distribution voltage will be transformed to low voltage, rated at 380/220V, 50 Hz, 3 phases and 4 circuits (3 phases + neutral) for power supply to motor control centres (MCC) and power distribution centres (PDC) for motors, lighting, instrumentation, etc. All control systems will have an uninterruptible power supply (UPS) and emergency lighting will have battery back-ups to keep critical processes operational and provide a safe plant shutdown.

The power distribution and motor control centres will be housed in the following modularized buildings electrical rooms.

- Main Electrical Room (N° 1)
- Grinding Electrical Room (N° 2)
- CCD Electrical Room (N° 3)
- Merril Crowe Electrical Room (N° 4)
- Camp Electrical Room (N° 5)
- Crushing MCC (N° 6)
- Tailings and water recovery switchboard (N° 7)
- Laboratories and plant offices switchboard (N° 8)

The site distribution voltage will be transformed to low voltage, rated at 380/220V, for power supply to switchgears, motor control centres (MCC) and power distribution centres (PDC) for motors, lighting, instrumentation, etc. Medium voltage equipment (Ball Mill, SAG mill, etc.) will be operated at 6.6kV. For transformation to low voltage, the transformers will be liquid-filled, pad mounted and rated for outdoor installation. The MCCs and PDCs will be housed indoors.

The estimated electrical load requirement for the mine site is summarized in Table 18-8.

Table 18-8: Estimated Electrical Load Requirement.

Electrical Power Load Estimate	
Area	**Electrical Load, MW**
Process Facilities	
Crushing and conveying	0.6
Grinding	10.0
Leaching	1.4
CCD	1.1
Detox, Tailings handling	1.0
Merrill Crowe	1.5
Reagents	0.5
Water, Air	0.5
Non-Process Facilities	
Water Supply	0.5
Camp	0.7
Ancillary (Offices, Sub-Station, Truck-shop)	1.0
Mine	0.5
Total	**19.3**

The total diesel fuel consumption for power generation of the hybrid system has been estimated at 99,608 liters per day.

All installations, including electrical equipment, instruments, cables, lighting, and grounding will be installed per national, provincial, and local standards. The lighting will be of the LED type. All areas will be equipped with emergency light fixtures utilizing battery packs which will provide a minimum of 90 minutes of illumination.

18.6 Waste Dumps

Two (2) waste rock dump facilities will be constructed. One East of the Oculto pit (East Main Dump-EWRSA) with a capacity of ~ 302 MM tonnes of waste and one north of the TSF (North Secondary Waste Dump-NWRSA)) with a capacity of ~9 MM tonnes of waste.

The main dump location has been selected due to the existence of a granitoid basement, which secures its geotechnical stability and convenient topography, and that it is not near the property's borders and its distance to the pit exit is acceptable. The secondary dump location has been selected to provide uninterruptible access to a dump to avoid hauling traffic stoppage in case the main waste dump access road is blocked, and to have sufficient waste rock to cover the tailings during remediation works nearby.

The waste rock piles will be built in 30 m lifts to provide an overall safe slope of 35 degrees. The inter-bench slopes will have the corresponding rock repose angle. Details of both WRSA specifications are found in Section 16.5 of this report.

Waste rock will be placed in subaerial storage which will result in exposure of these materials to atmospheric conditions. The fine-grained portions of exposed material surfaces are susceptible to weathering processes that can lead to the mobilization of constituents through oxidation and dissolution reactions. Water that infiltrates into the waste rock pile and/or runoff that flows along the surface of the tailings pile can interact (come into contact) with material (e.g., waste rock and tailings) surfaces; this water is referred to as “contact” water.

Uncontacted floodwater recollection ditches will be located around both waste rock dumps, while the contacted water collection ponds/sumps will be located at topographical low points to collect runoff and seepage and to control its physical and chemical parameters and subsequent transport to the TSF, or the water will be reutilized in the process. The control parameters of contacted water are determined according to Provincial Law No. 7017, Water Code of Salta province.

Waste rock will be placed in subaerial storage which will result in exposure of these materials to atmospheric conditions. The fine-grained portions of exposed material surfaces are susceptible to weathering processes that can lead to the mobilization of constituents through oxidation and dissolution reactions. Water that infiltrates into the waste rock pile and/or runoff that flows along the surface of the tailings pile can interact (come into contact) with material (e.g., waste rock and tailings) surfaces; this water is referred to as “contact” water.
Brief descriptions of these site components, and how they are expected to influence site water quality are detailed as follows:

Contact water, generated from water-rock interactions, will contain soluble constituents (i.e., major ions, metals, and nitrogen species) from mineral weathering by-products and from residual explosives from blasting, which can persist in the waste rock and are water soluble and provide a source of ammonia and nitrate.

Figure 18-9 shows the main waste dump located on the East side of the project facilities, in its final stage of piled material.

Figure 18-10 shows the secondary waste dump located north of the TSF, in its final stage of piled material.

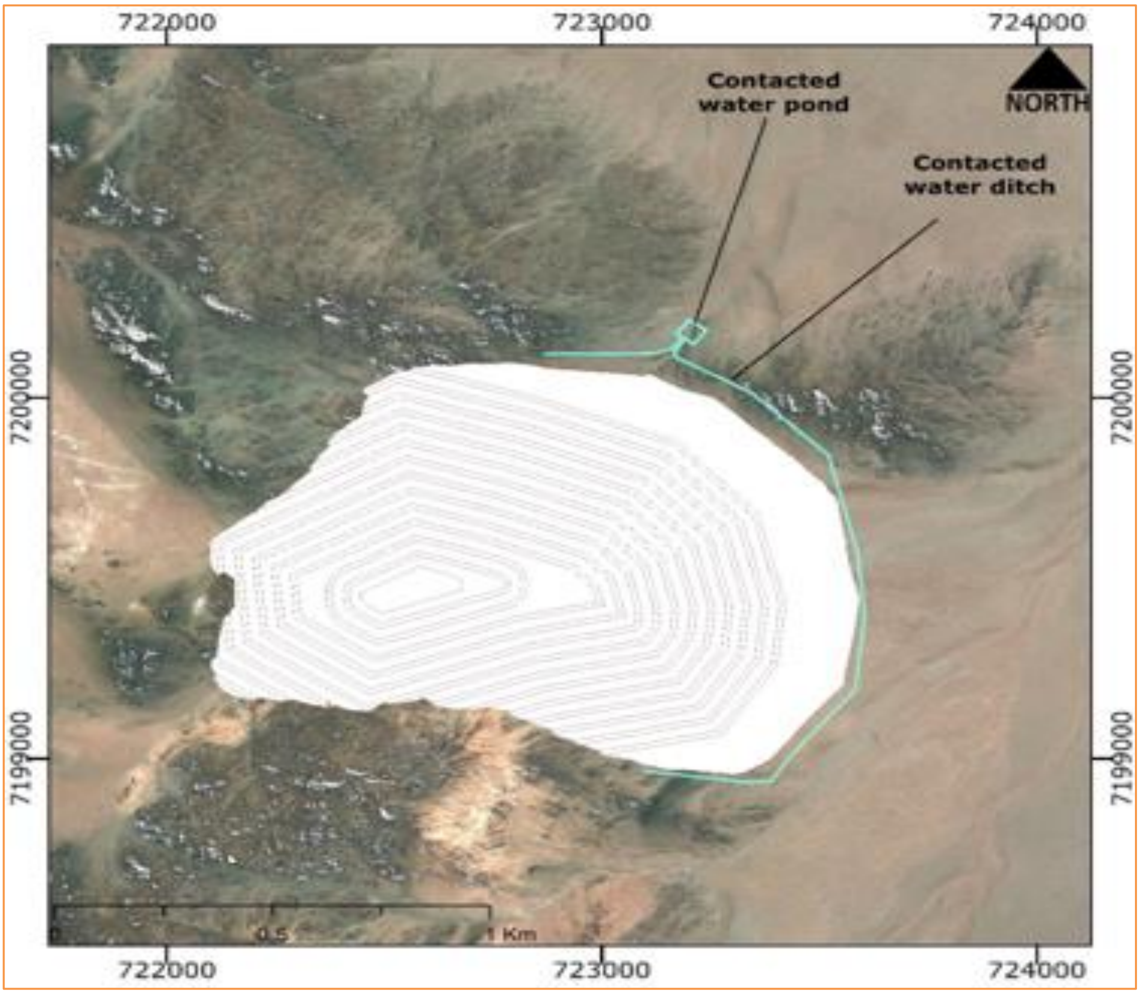


Figure 18-9: East Waste Dump Contact Water Management.

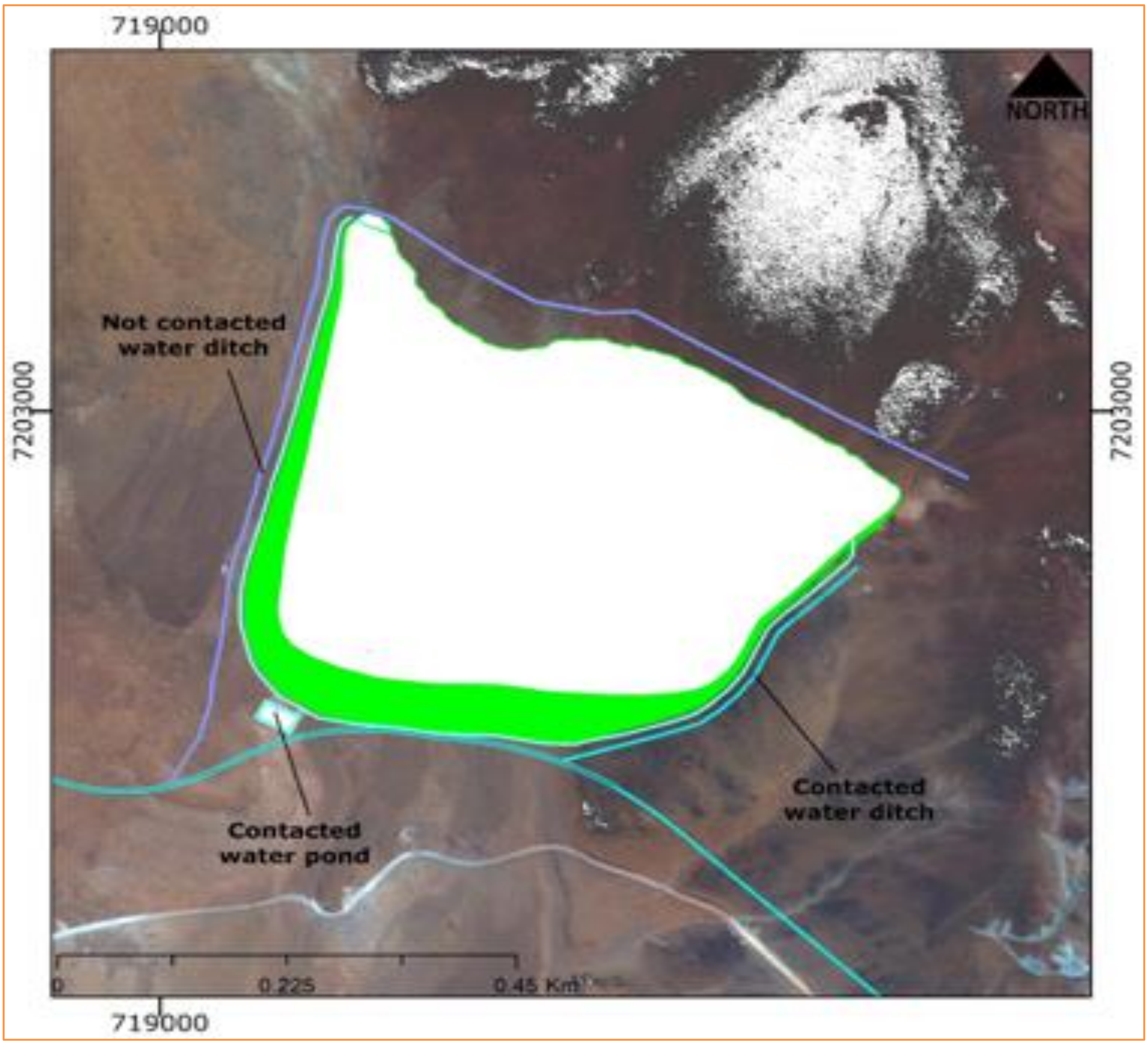


Figure 18-10: North Waste Dump Contact Water Management.

All control ponds considered in this stage will be waterproofed with PEAD membrane and leak control tests will be periodically performed to avoid filtration to natural ground.

Site test work results indicate that only deep gold waste produces Acid Rock Drainage, hence the waste coming from this domain will be embedded into the main waste dump, by installing a PEAD membrane before dumping it within.

18.7 Tailings Storage Facility (TSF)

The current development of the project includes the preliminary design of a tailing's storage facility (TSF)., the selection of its optimal location and the impact of the environment on it, (i.e. in terms of floodwater, winds and geotechnical bearing capacities).

An initial TSF design for a maximum tailings storage capacity at the selected location was performed, resulting in a three stages dam construction capable of storing up to 80 million tons of tailings. A preliminary dam break study was also performed on this initial design confirming its stability.

The current Mineral Reserves estimation showed that only approximately 42 million tons of storage was required, therefore the dam was redesigned skipping the third phase of the initial design and replacing the remaining two by five smaller phases with sufficient storage capacity to hold 3 years of storage each.

Facilities description

The current preliminary design contemplates the following elements of the storage facility.:

- Dam Wall geometry.
- Perimetral roads and uncontacted floodwater diversion channel.
- Tailings containment basin waterproof lining.
- Leakage control.
- Tailings Drainage.
- Tailings transport and distribution system.
- Reclaimed water pumping system.

Figure 18 13, details the general arrangements of all these elements:

The tailings dam will contain 100% of the processed tailings coming from the process plant whose throughput capacity of 9,000 tonnes per day defines a five phases storage capacity based on the production plan.

The final TSF capacities for each of those Phases are shown in Table 18 11, considering the supernatant pond volume and rainwater fall based on the design storm coming from the historical precipitation records.

Table 18-11: Final TSF Capacity

Phases	Volume		
	Required Ore m³	Required Ore + Pond + Design Storm m³	Design Total Capacity m³
1	5,250,000	5,910,000	5,912,594
2	11,550,000	12,210,000	12,801,356
3	17,850,000	18,510,000	18,787,114
4	24,150,000	24,810,000	24,841,519
5	29,894,527	30,644,527	31,231,775

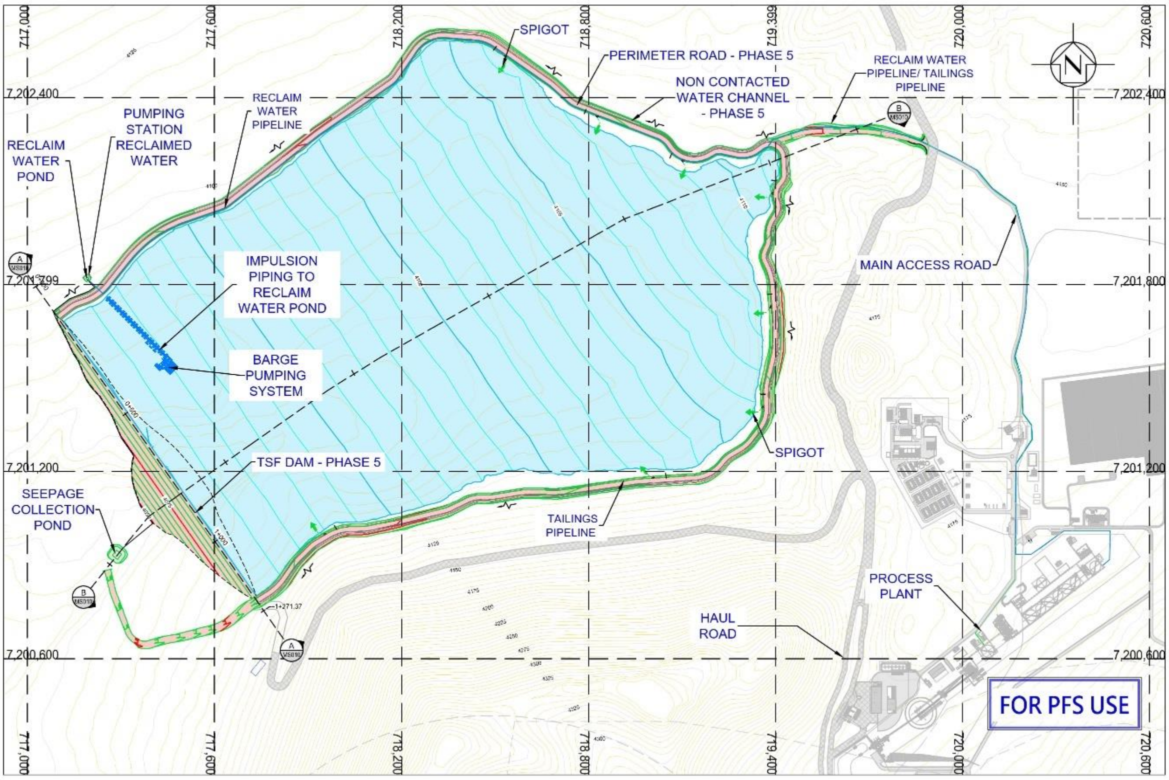


Figure 18-13: Tailings Storage General Arrangement

18.7.1 Tailings and Disposal

Tailings are produced as part of ore processing and will be stored in the TSF. The TSF will be a valley impoundment with a 30 m high embankment composed of a clay nucleus and soil coming from the basin excavation, as the material has been tested as suitable for the dam wall construction. The raising strategy is envisaged to be downstream. The tailings will be delivered to the TSF via a tailings delivery pipeline and thereafter distributed around the TSF through a main ring pipeline with regularly spaced spigots.

The tailings distribution is done from the top of the impoundment flowing through gravity towards the dam. This means that the supernatant pool, which is formed by the water expelled by the tailings due to its consolidation over time, is located in front of the wall. However, since the tailings have a low water content, as they have been thickened, and the TSF has a drainage recollection system the supernatant pool will not be large.

The enclosing wall consists of a ground embankment, arranged with a slope of 1:3 (V:H) downstream and slope 1:2 (V:H) upstream for all phases. The length of the wall for phase 1 is 1,101 m, for phase 2, 1027.5 m, for phase 3, 948 m, phase 4, 680 m, and last phase 5, 537 m.

The crown or crest width for all the phases is 10 m.

Table 18 12 summarizes the most relevant geometric parameters for each of the phases.

Table 18-12: TSF Dam Details

Phases	Dam Design				
	Total Volume	Partial Volume	Level	Re-growth	Height
	m3	m³	m.a.s.l.	m	m
1	414,341	414,341	4,075.8	0.0	22.9
2	725,714	311,373	4,081.6	5.8	32.1
3	997,609	271,895	4,085.2	3.6	35.7
4	1,279,851	282,242	4,088.2	3.0	38.7
5	1,598,992	319,141	4,091,0	2.8	41.5

Figure 18 14 shows the different phases of the wall and the final deposition of the tailings for each of the phases.

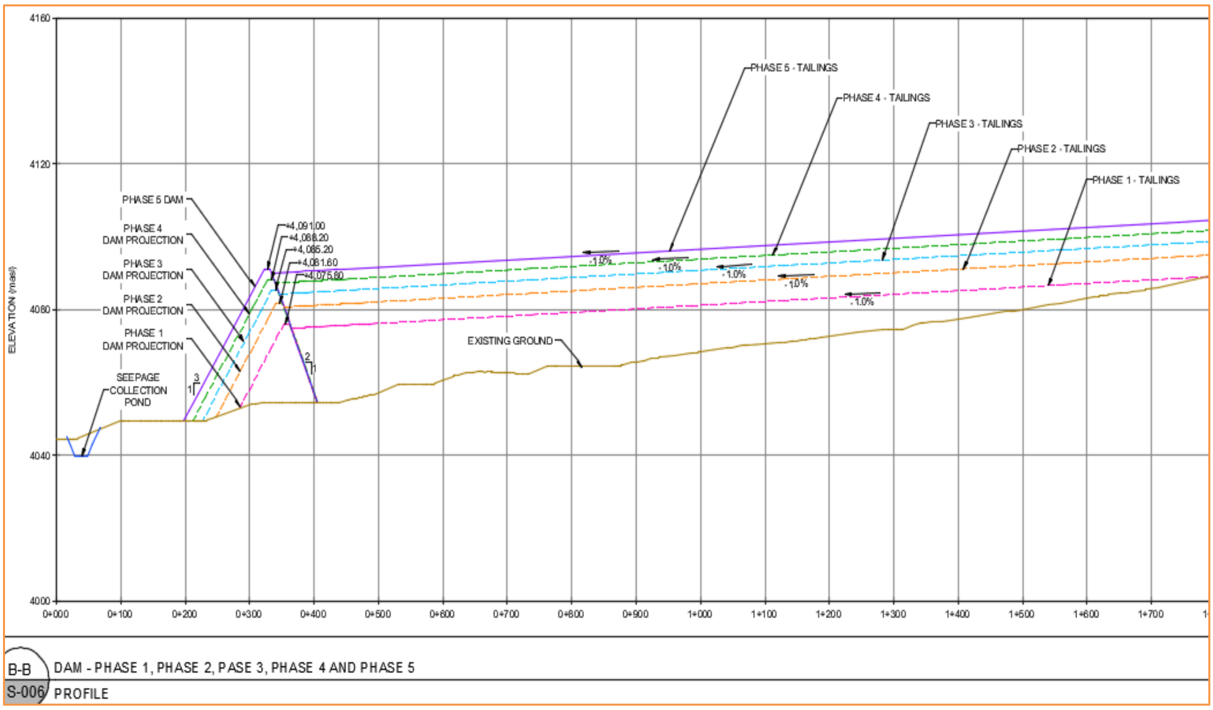


Figure 18-14: Enclosing Wall

The footprint of the TSF area has an approximately rectangular shape. The ground preparation requires vegetation and 50 cm of topsoil removal. Additionally, one meter of subsurface soil will be removed and directly used for the dam wall construction, while the remaining removed volume will be stored nearby for the subsequent phases of construction.

Based on the records of the trenches, 0.5 m of cleaning was adopted for the entire area of the TSF.

18.7.2 Water Proofing System

The entire surface of the TSF will be sealed with a 1.5 mm thick HDPE membrane arranged on geotextile and on the compacted subsoil. The geomembrane joints must be sealed by double weld bead by thermofusion. They must be anchored within a 0.6 m x 0.8 m anchoring trench (Figure 18 15).

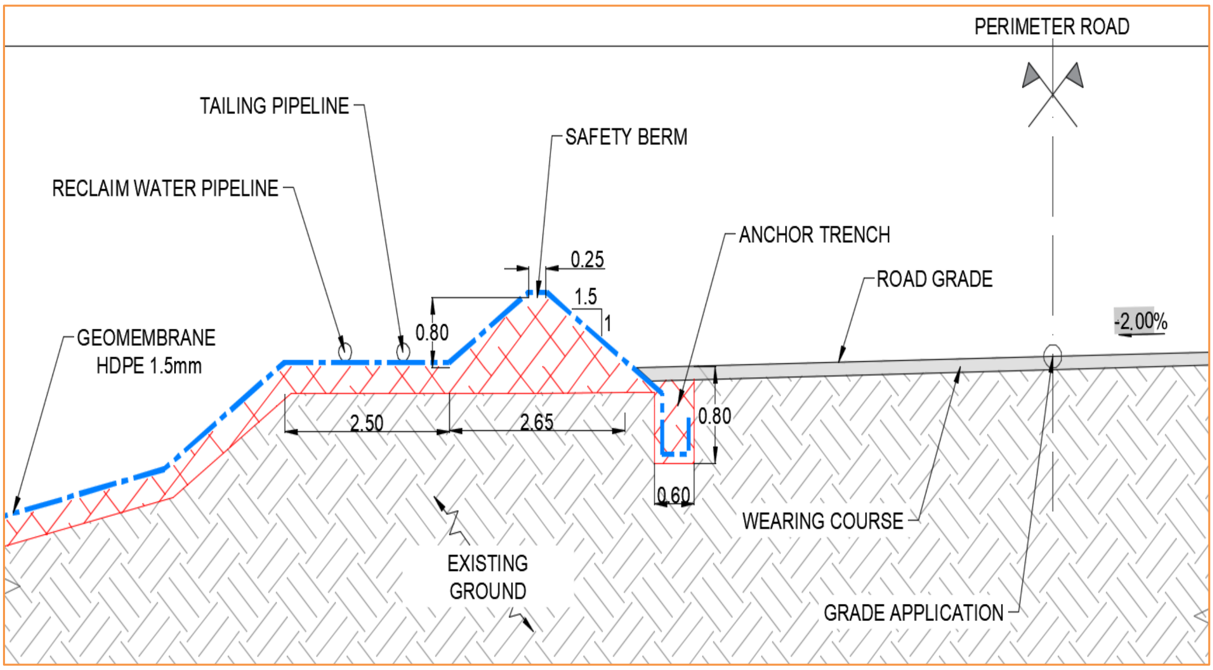


Figure 18-15: Geomembrane Anchoring

In the lower part of the TSF storage area, a leak control system will be constructed to collect possible leaks in the waterproofing system. The leak control system is composed of a trench excavated with a drain material located on a Geomembrane liner.

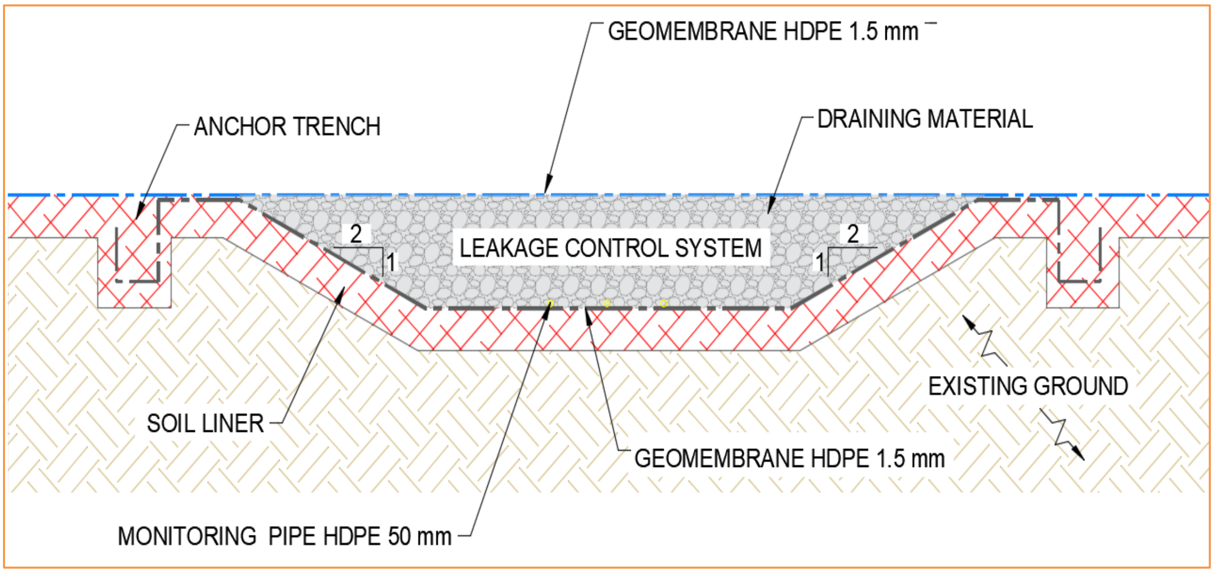


Figure 18-16: Leak Control System Details

Within the drainage material that makes up the leak control system, the monitoring system will be installed to inspect critical points of the TSF basin composed of 350 mm HDPE pipes (Figure 18-16). The pipes will traverse the dam wall towards the corresponding monitoring box as detailed in Figure 18-17.

Two longitudinal drains will be in the lower part of the basin of approximately 2,000 m length each (Drain Type 1) and two drains at the foot of the wall (Drain Type 2) with a total length of 1,800 m, as indicated in Figure 18-17. The function of these drains is to capture part of the water contained in the tailings and remove it from the TSF into the water recovery circuit, thus reducing the size of the supernatant pool.

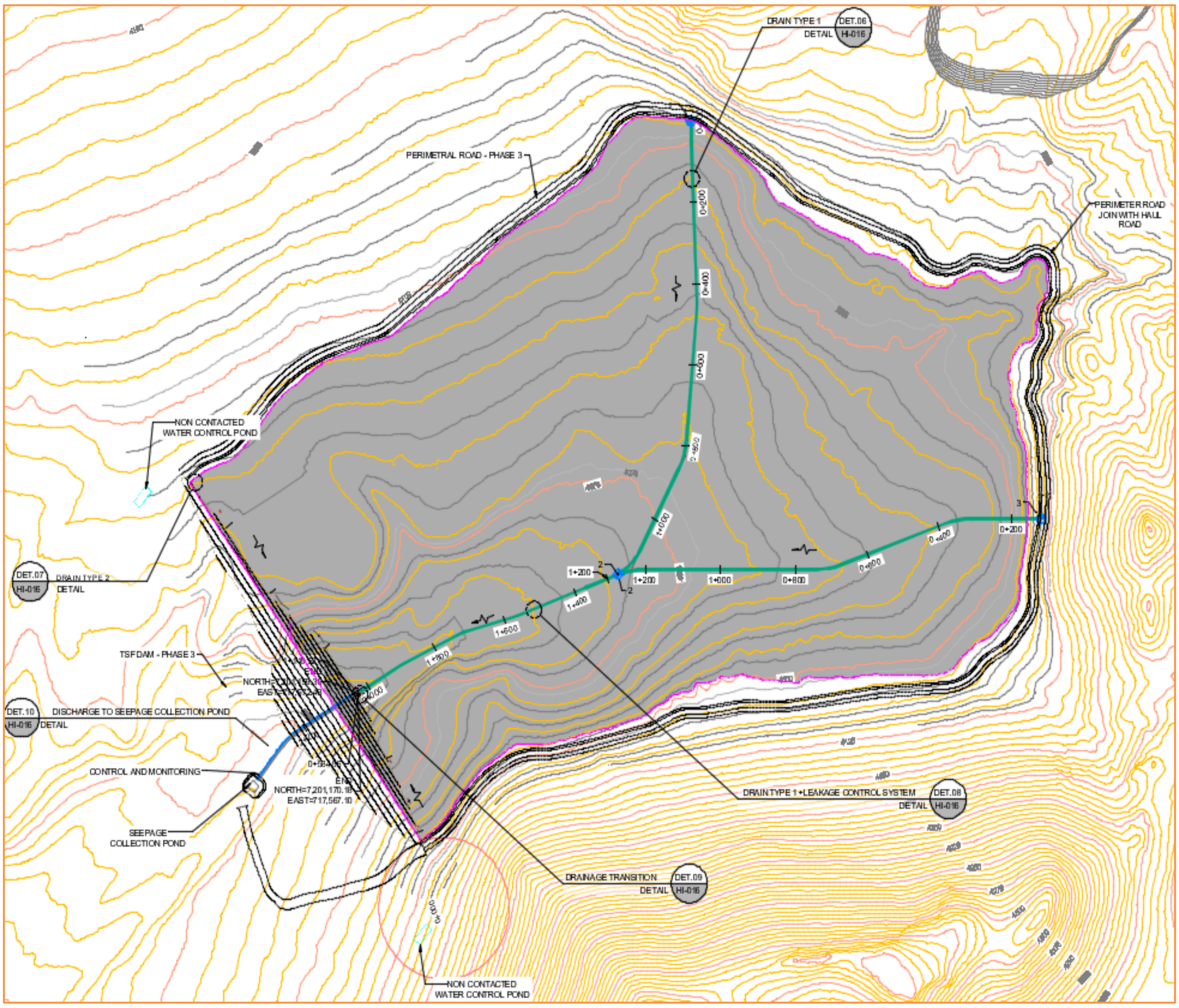


Figure 18-17: Location of Infiltrated Water Drains

These drains are made up of granular material arranged on the geomembrane in a trapezoidal shape, with two granular material filters to avoid clogging. Drain Type 1 details can be seen in Figure 18-18 and Drain Type 2 details can be seen in Figure 18-19.

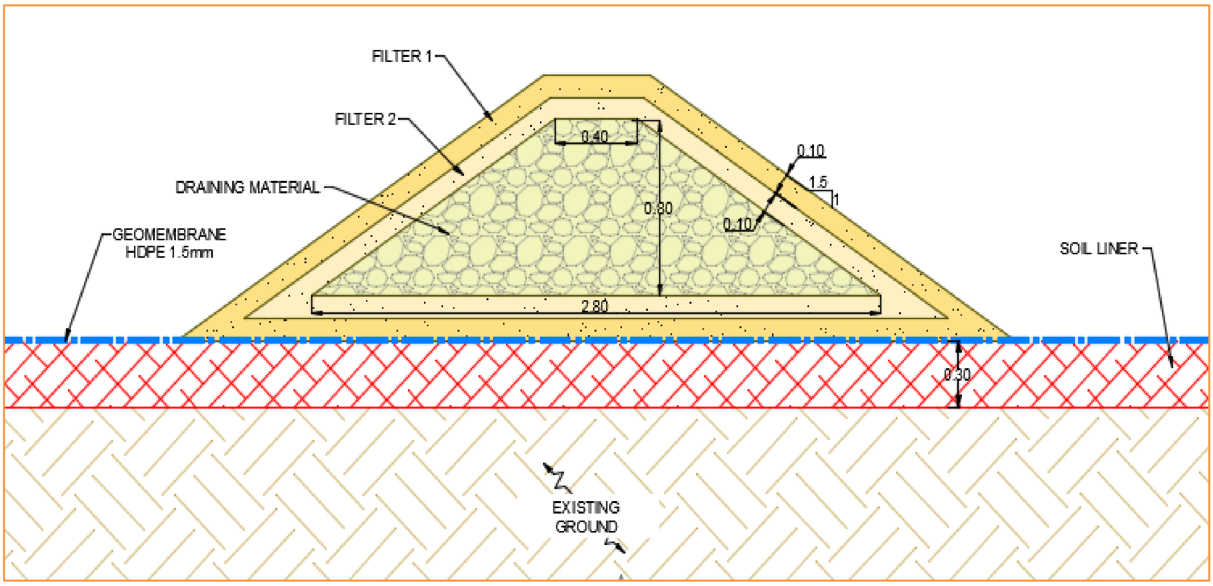


Figure 18-18: Drain Type 1.

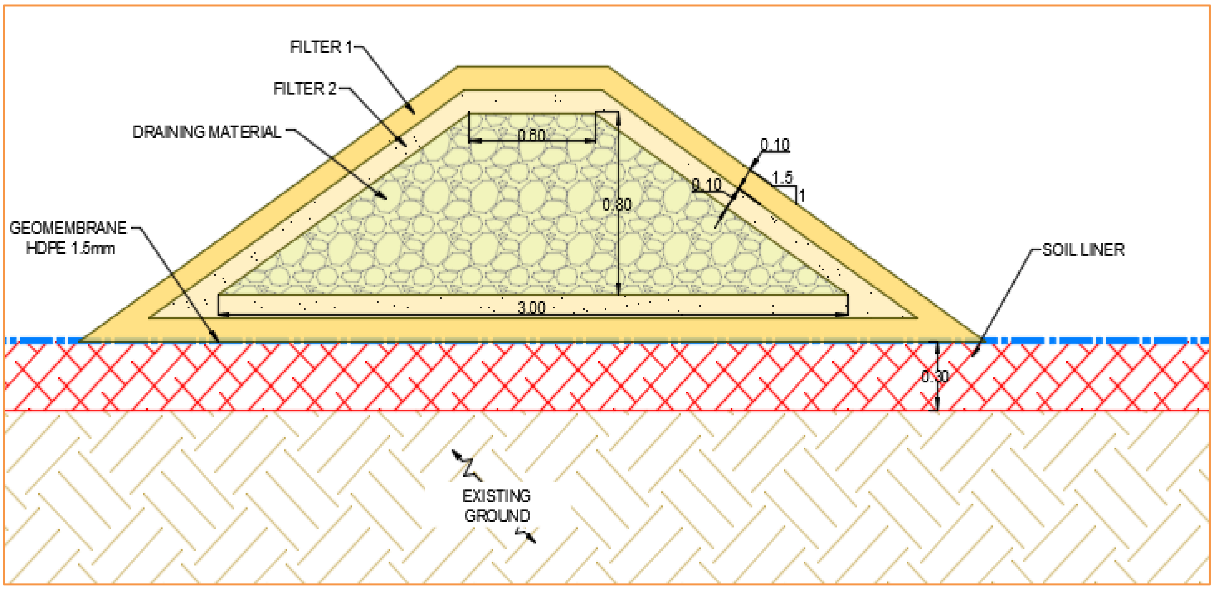


Figure 18-19: Drain Type 2.

The system was sized with sufficient capacity to transport all the water that enters the TSF.

The seepage recollection pond collects water coming from the infiltrated water drains, located downstream at the dam foot, after a control Monitoring Box (Figure 18-20).

The pond is lined in a similar fashion to the main containment basin. and will be built with 2.5:1 (H: V) slopes protection berms, 21.0 m width and 3.8 m deep.

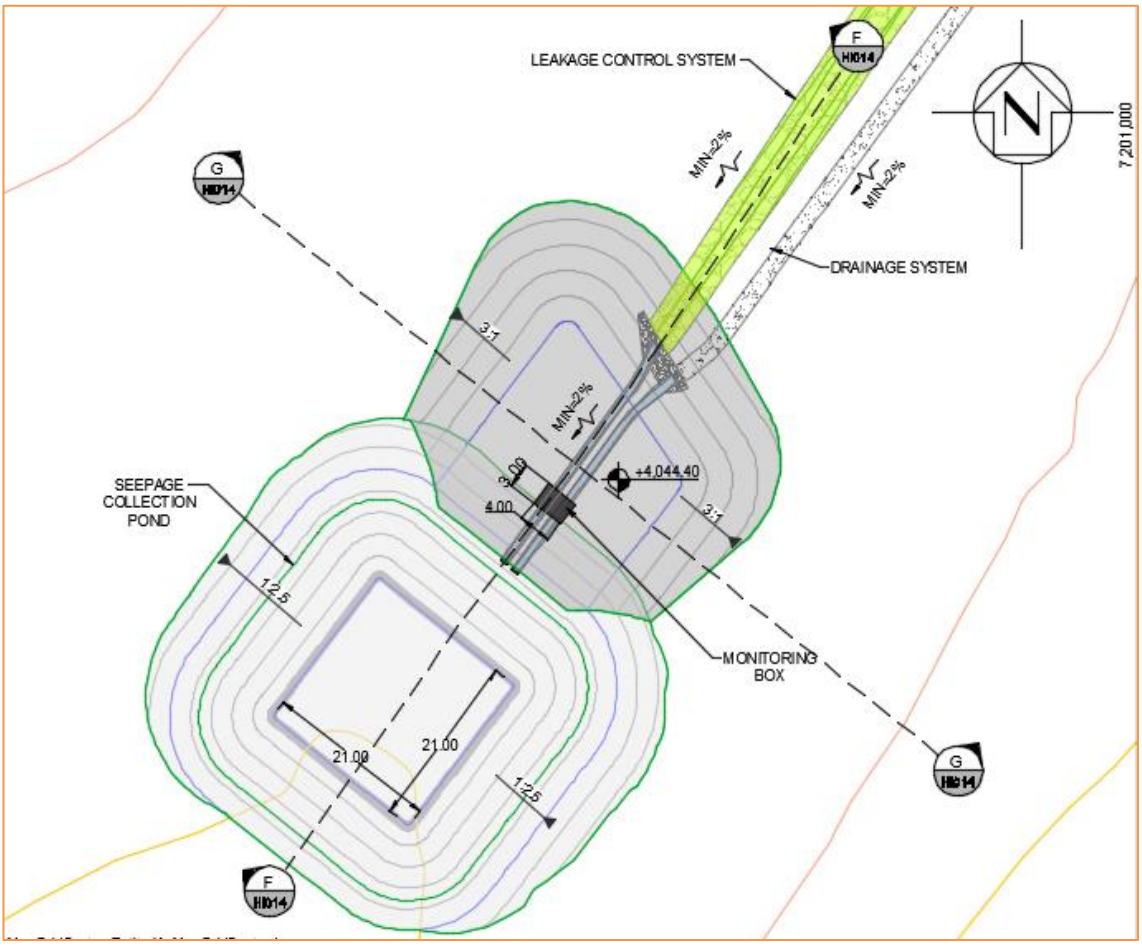


Figure 18-20: Leak Collection Pond and Monitoring Box

The TSF basin is delimited by a perimeter road, to be redesigned for each of the five phases. This road consists of a bearing width of 13.0 m, with safety berms of 0.80 m height and a bank to locate the tailings and reclaimed water transport pipes of 2.50 m width (Figure 18-22). The main function of this road is to allow access to each of the TSF sectors and the crest of the dam.

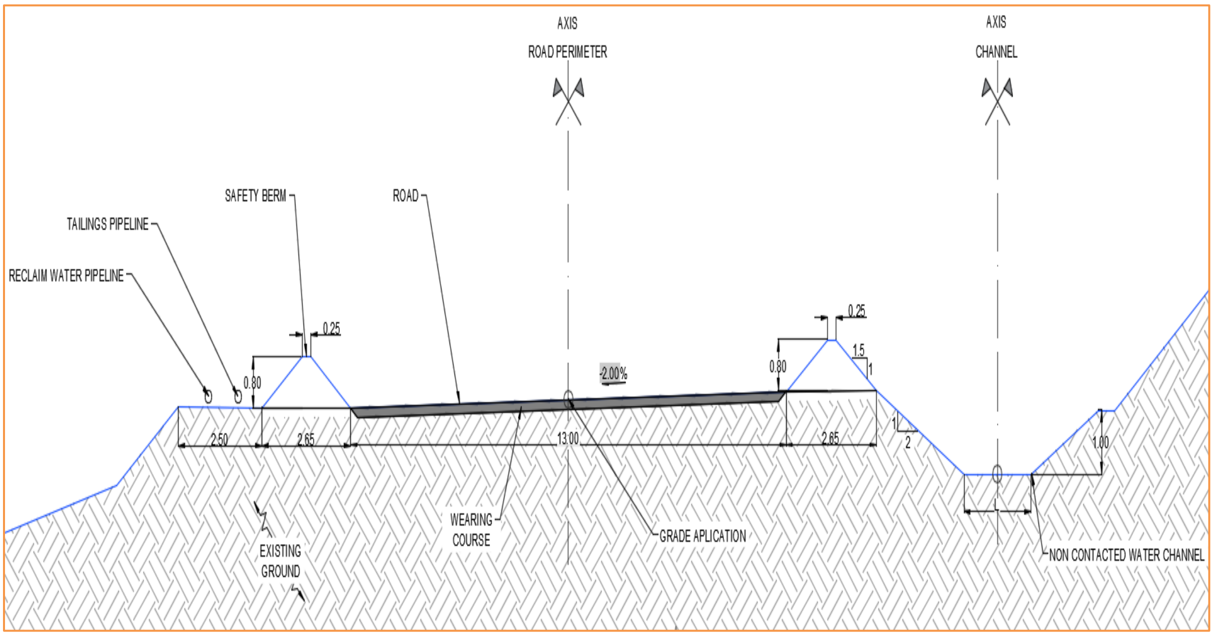


Figure 18-22: Cross Section - Perimeter Road and Uncontacted Water Channel

The perimeter road is associated with the channel of uncontacted waters, which has the function of capturing all the runoff caused by rainfall outside the TSF basin and divert it to the natural channel downstream of the dam wall.

This channel has a total length of 6,512 m divided into 3 sections with a width that varies between 2 and 6 meters.

18.7.3 Tailings System, Water Recovery & Drainage Water Collection

18.7.3.1 Tailings Discharge System

The tailings will be pumped from the process plant tailings thickener to the tailings dam through a dedicated pipeline.

Two pump trains are to be considered, one in operation and a second on stand-by. The pumps are to be dimensioned as centrifugal type arranged in a series pumping train of 3 units, with a total estimated power of 666 kW, and a 508 m^3/h flow and a pumping height of approximately 135 m.

If necessary, positive displacement seal pumps or screws should be installed to prevent solid tailings particles from causing wear on the seals of the pumps.

The pipeline trace will follow the maintenance road and will contain a geomembrane lined pipe holder bench to prevent it from moving outside the specified path and act as an additional containment in case of fluid spillage or pipe rupture.

Most of the system will be assembled in phase 1 of TSF construction, adjusting the distribution of pipes, valves, and spigots for each of the following.

The tailings distribution pipeline is proposed to be designed by using HDPE pipes of Ø12 "PE-100 SDR 11. The nominal flow rate is at 508 m^3/h of tailings with a solids concentration by weight of 60% according to the corresponding process design criteria.

The water recovery system will consider placing a barge with two submersible pumps on the supernatant pond, to be accessed through a maintenance walkway. One of the pumps will be in continuous operation while the other will be on stand-by. Estimated power of each pump will be 8 kW with a flow capacity of 68.2 m^3/h, to be pumped back to a 10x10x2 m transfer pool of 200 m^3 capacity through a Ø6" PE-100 SDR 9 HDPE pipeline as shown in Figure 18-28 and Figure 18-29.

From there the reclaimed water will be pumped back to the process water tank of the plant. The reclaimed water pipeline trace will also be located within the tailing's distribution pipeline trench.

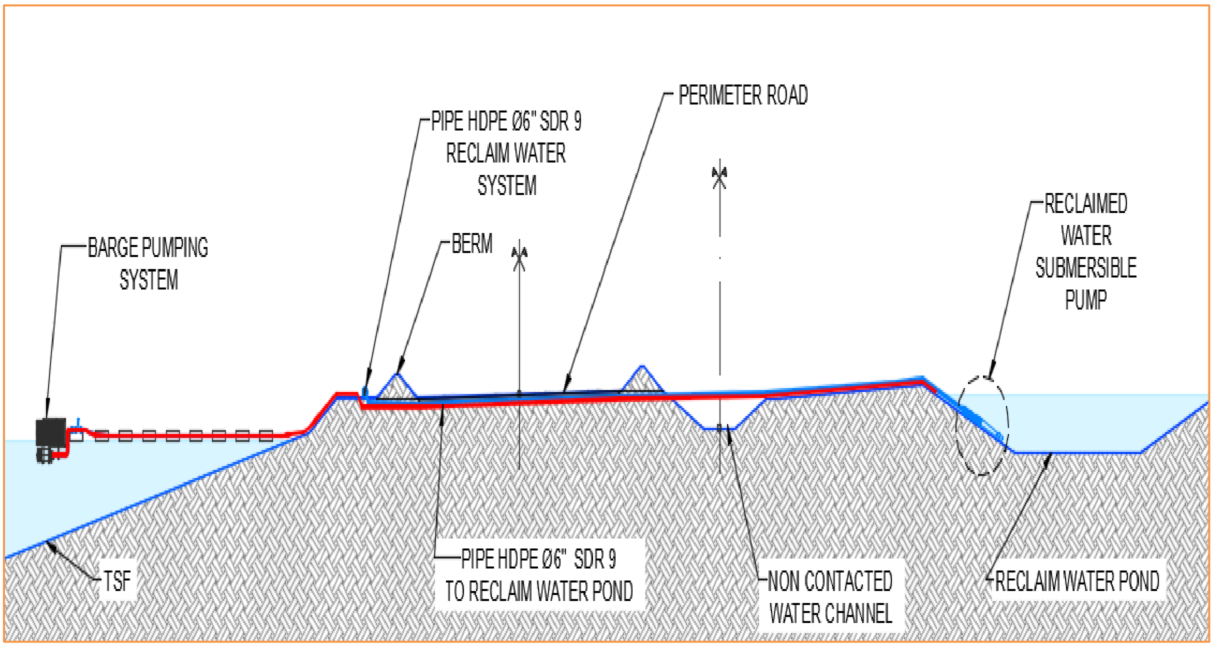


Figure 18-26: Schematic Image of Water Pipeline (TSF to Reclaim Pond)

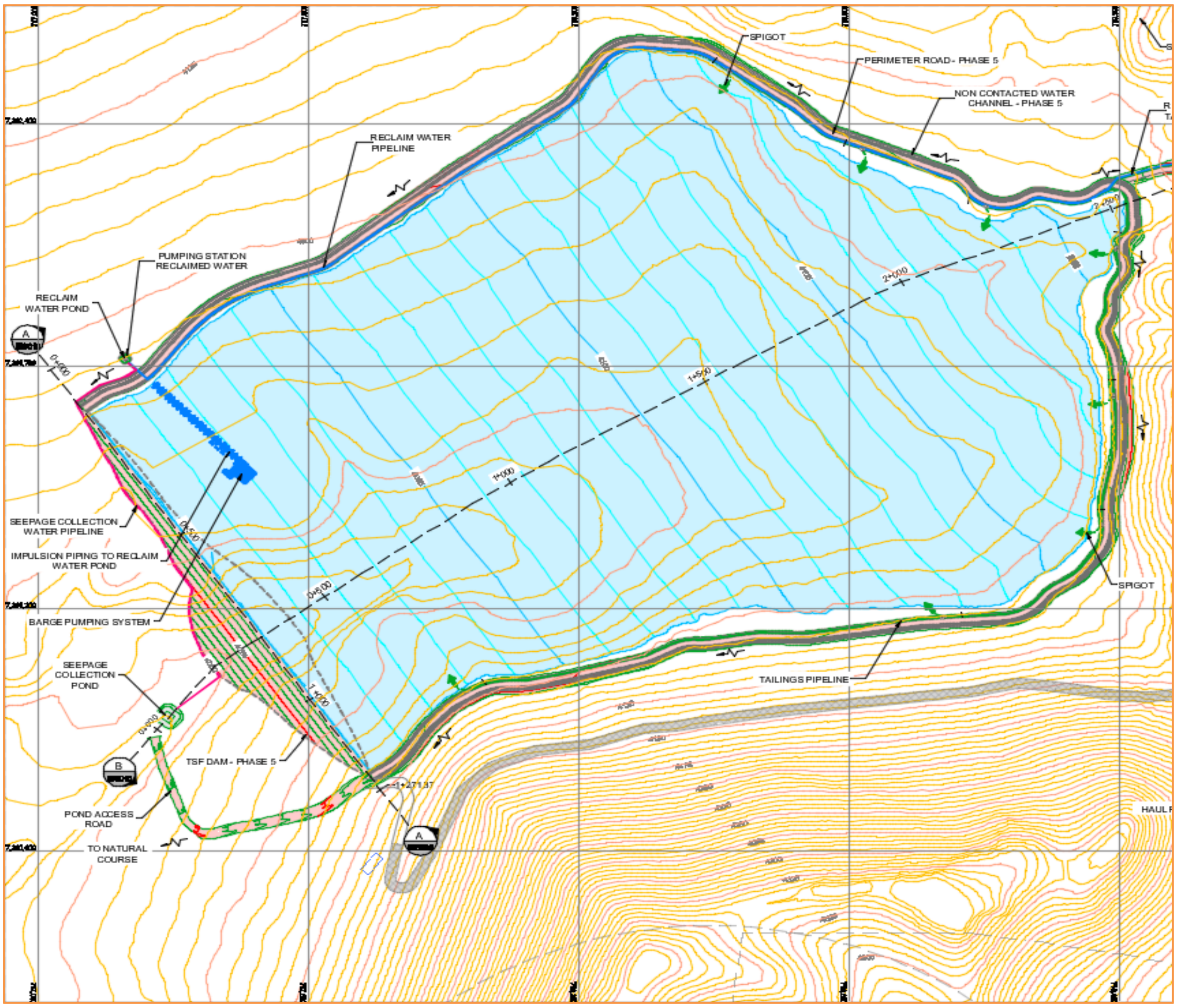


Figure 18-27: Location of Raft and Water Recover Pipe

18.7.3.2 Drainage Water Collection System

The system of collection, impulsion, transport, and discharge of filtration water consists of collecting, in the Filtration Collection Pool, the water that can filtered through the geomembrane of the tailings dam and further collecting the water from the drains installed in the lower part of the TSF basin.

The drive will be from Filtration Pool to Transfer Pool. The pumps proposed to be used are GRUNDFOS submersible type model SP 95-14 or similar, with an estimated power of 63 kW, which will pump a maximum flow of 130 m^3/h and a loss head of 95 m approximately. It is proposed to use 2 (two) pumps, using one unit in normal operation and the other on stand-by or rest in case of any type of need. They are to be installed near the Filtration Pool, as shown in Figure 18-28.

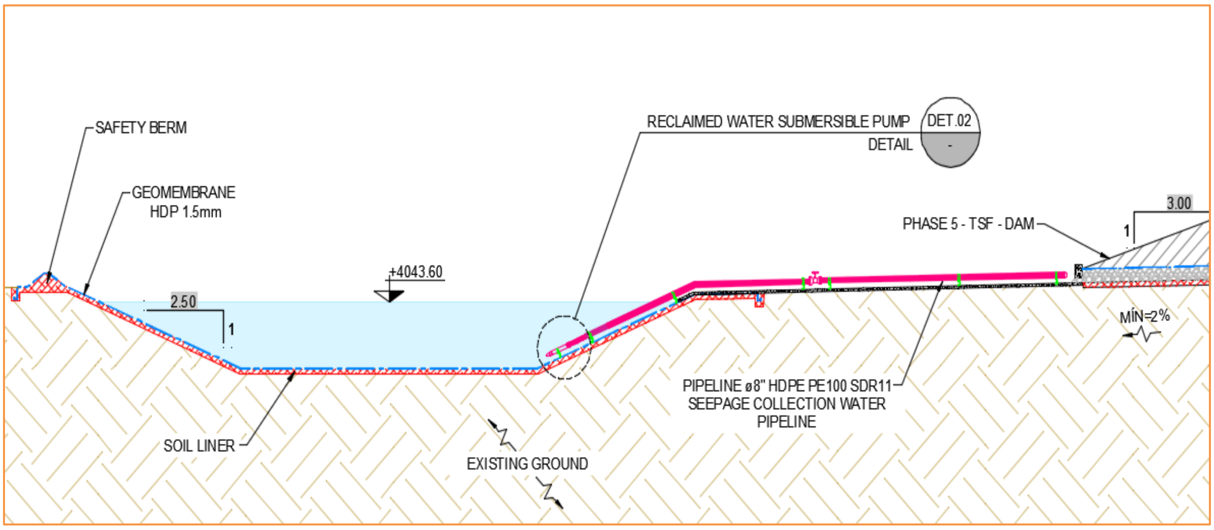


Figure 18-28: Location of Water Storage and Water Pumps

18.8 Topsoil and Overburden Stockpiles

The first 50 cm of topsoil, according to local standards, is required to be stored in the reclamation material stockpile (RMS). Sedimentation ponds will be built to settle out solids before they are released to the environment. A perimeter ditch will be constructed at the toe of the topsoil stockpile to keep the material intact. The stockpiled reclaimed topsoil will be used for site rehabilitation upon mine closure.

Overburden material from the JAC pit will be used as construction material for platforms, ROM pad and road construction, while the remaining unused overburden coming from the Oculto pit will either be used for further construction or be dumped on one of the two waste stockpiles.

18.9 Steel Buildings

All main steel buildings for the camp, service hub, process plant and off-site will be constructed as a pre-engineered steel frame and assembled on site.

Within the foundry, a reinforced concrete block safety vault will be installed to ensure proper security.

18.9.1 Camp Maintenance Warehouse & Workshop

Steel buildings are considered for the camp warehouse, the camp maintenance, instrumentation, and light electrical workshop, while the camp warehouse will be used to store all kind of camp related materials consumables and for the storage of empty core boxes and exploration equipment.

The camp workshop will be used for minor repairs at the camp and for specific electrical and instrumentation repairs of the process plant. Major maintenance and repairs will be performed within the ancillary services hub, within the truck-shop building.

18.9.2 Waste management building.

A separate steel building for domestic waste classification and compaction has been included, to handle all the project generated waste, until it can be disposed of.

18.9.3 Drilling core box storage building.

A separate space for another one or two core box storage buildings has been set aside.to store future exploration core boxes.

Exploration facilities areas have been set aside for core preparation, analysis, and final storage facilities within the camp area, as geological exploration will proceed independently of the mine operations.

A steel building for core storage has already been installed, with a capacity of approximately 30,000 m of core where all historical and current Phase I and II core boxes are stored.

Figure 18-43 shows the building and steel racks for core storge.

A second core storage building space has been reserved in case future expansions of core storage capacity is required, i.e., Phase III and subsequent drilling campaigns.

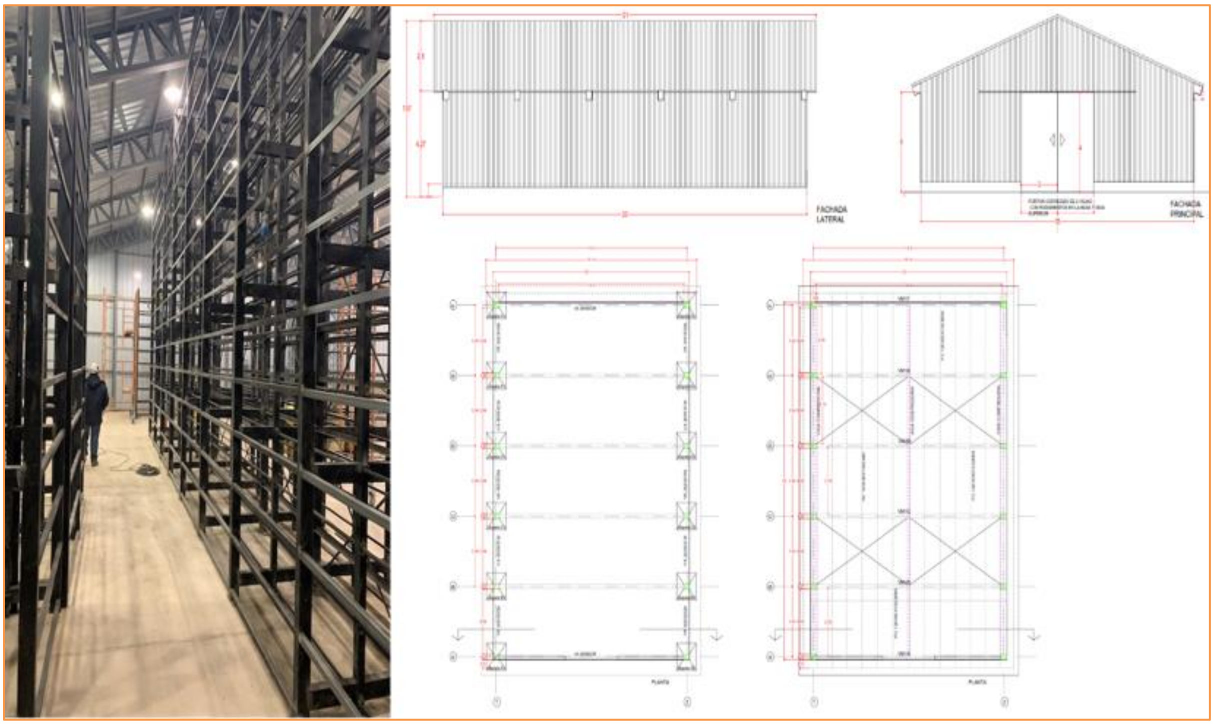


Figure 18-43: Core Storage Building and Racks for Approx. 30,000 m of Cores.

18.9.4 Truck Shop

The truck shop is the main building and centre of activities of the services hub (Figure 18 30). It will host the maintenance area for the off-road mine fleet, the mining equipment, standard trucks and earthworks equipment and the light vehicle fleet including forklifts, scissor platforms, pick-ups, etc.

The truck-shop will be composed along one side of its main axis of eight major bays, four for major off-road truck maintenance, two for major crawling equipment, one for lubrication and another for tire repair. Additionally, a fully enclosed truck washing cabin/bay will be located within. Two of the main bays will have a steel rail flooring so crawlers' equipment can be maintained as well.

A section of the building will host the lubricants storage area and compressed air equipment, while another will host the hazardous materials (used lube oil and washing water for further treatment and/or temporary storage until it can be disposed of by the relevant contractor. A clean oil dispensing system will be used to fill the equipment while a vacuum recovery system will be used to recover the used oil to 10,000 litres discarded oil storage tanks for later final disposal. These tanks will be emptied once a month and treated off-site by third parties.

On the other side of the main axis workshop offices, change and restrooms will be located for the staff and another four maintenance bays, including lubrication and tire repair workshop and the corresponding enclosed washing station. One of the shop bays contains a service shaft for under-access for trucks and light vehicles.

Mechanical and electrical maintenance work benches will also be distributed along a central corridor of the building, while a piping and steel workshop area have been considered to complete the necessary plant maintenance area. Minor electrical and delicate instrumentation repairs will be performed at the camps maintenance workshop; hence they are not included within the current services hub.

Heavy lifts such as trucks haul boxes, engines and gearboxes will be handed by a 20 ton overhead travelling crane, servicing the whole mine fleet bays and central corridor, while forklifts and small mobile cranes will handle the ones in the light vehicles service area.

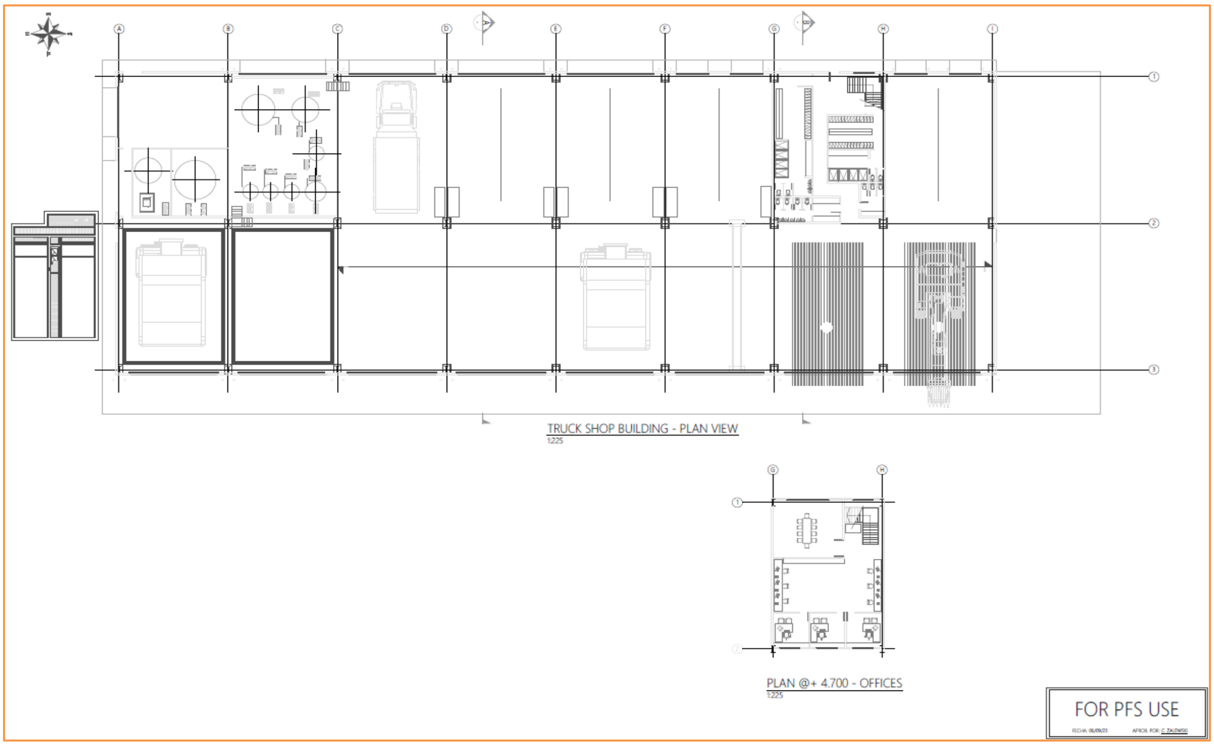


Figure 18-30: Truck-Shop Typical Lay-Out

The shop floor will be easy to clean, allowing liquids to flow to a sump incorporating oil/water separation.

The water will then be recirculated to the process plant, while oils and coolants will be sent to a discarded oil storage tank of sufficient capacity to be emptied once a month.

Sludge and mud coming from the washing areas will be removed by a front loader and stored in a dedicated area close to the workshop.

18.9.5 Plant & Mine Warehouse

A steel building for hosting the plant, mine and truck-shop warehouse and its fenced external lay-down area will be located opposite the truck-shop.

This warehouse will store all major equipment and spare parts, until mechanical completion is achieved. Afterwards it will serve as storage for spare parts, tools, consumables, and reagents.

The reagents storage and handling, fuel tank farm and dispensing station, the truck scale and power generation will be managed from the warehouse offices.

The warehouse will be provided with rows of steel shelves, where the smallest spare parts can be orderly store for easy identification until they are required for use.

The storage of chemical drums and reagents will be stored in adequate storage areas outside the warehouse according to its hazardous materials classification.

Warehouse mobile equipment will include forklifts to reach the highest steel storage shelves.

18.10 Modular buildings - Construction and Operations Camp, Service Hub

18.10.1 Camp General Arrangement

The following (Figure 18-32) was extracted from the Plot Plan showing the main construction and operations camp facilities.

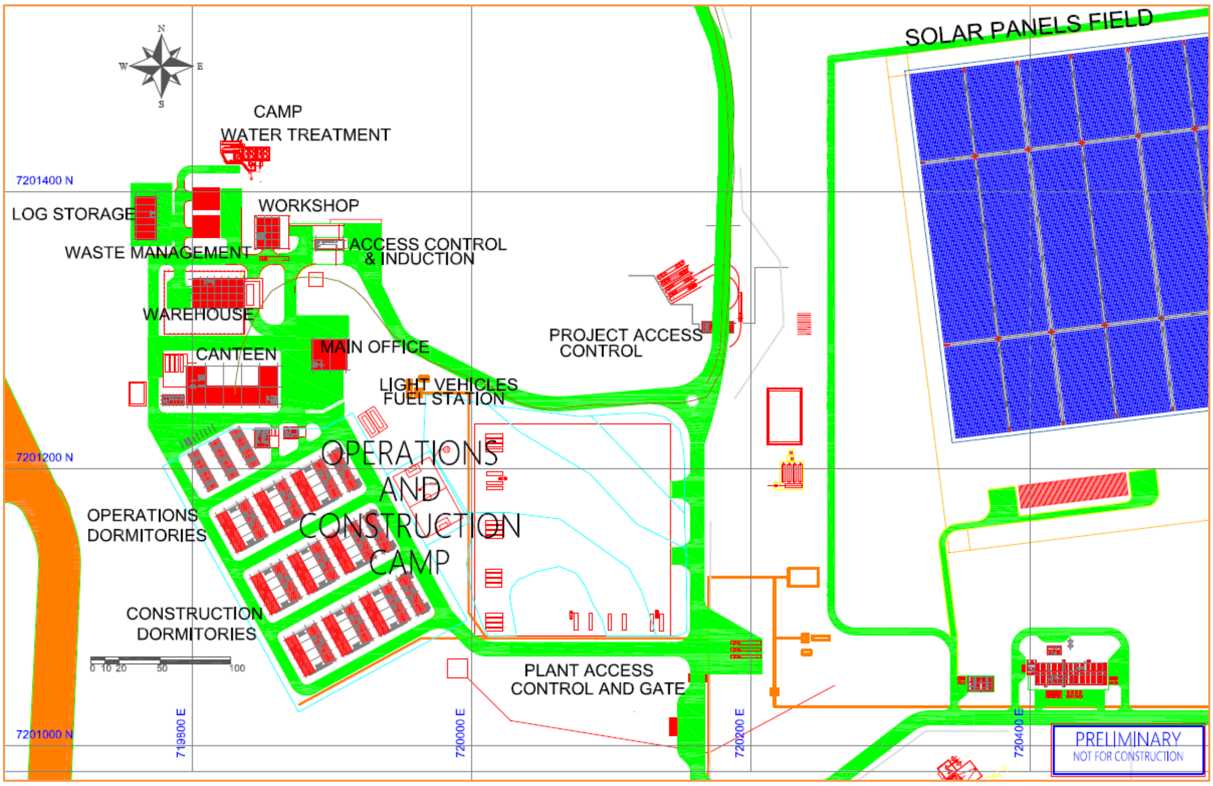


Figure 18-32: Camp Facilities

18.10.2 Modular Buildings

The following facilities were considered within the camp and service hub areas lay-out.

- Accommodation and Hospitality areas, including dormitories, canteen, recreational, laundry and medical emergency station.
- Administrative areas, offices, access control and hospitality reception and induction classroom.
- Geology, exploration, and core storage.
- Camp warehouse and camp maintenance workshop including light electrical and I&C.
- Water, sewage and domestic waste treatment and temporary storage areas, utilities networks.

18.10.3 Dormitories

The capacity was designed for 890 people, considering 840 construction workers, 40 supervisors and 10 managers. This accommodation will be distributed in three types of dormitory modules in containers:

- One single level container module for management, with individual bedrooms and bathrooms, hosting up to 10 people (managers + high level visitors).
- Two single level modules for supervisors, with sleeping accommodation and private bathrooms, with capacity for 40 people (supervisors and visitors). These modules follow the same configuration as the management ones.
- Twenty-one double level container modules for operators and construction staff, with one common shared sanitary facility and 20 beds on each floor level, totalling 40 persons to be accommodated per module.
- Each dormitory will have a minimum surface of 9 m^2 to comply with local regulations and union standards. Typical dormitories module configurations are shown in Figure 18-33 and Figure 18-34.

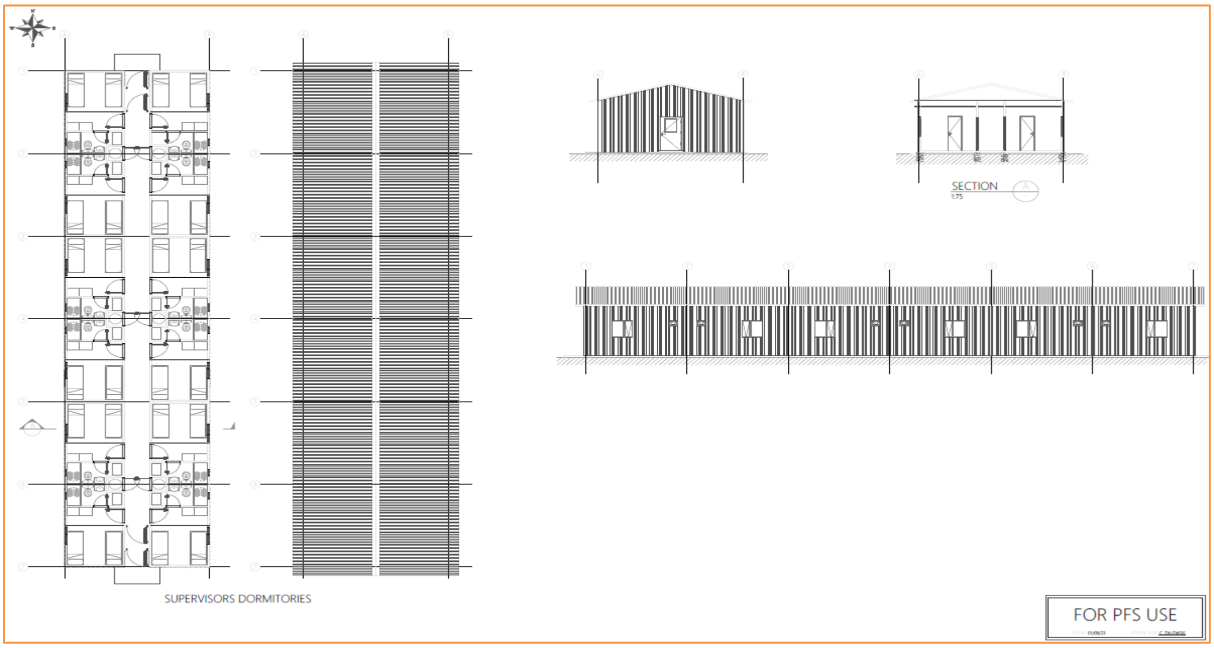


Figure 18-33: Typical Supervisor's Dormitories Lay-Out

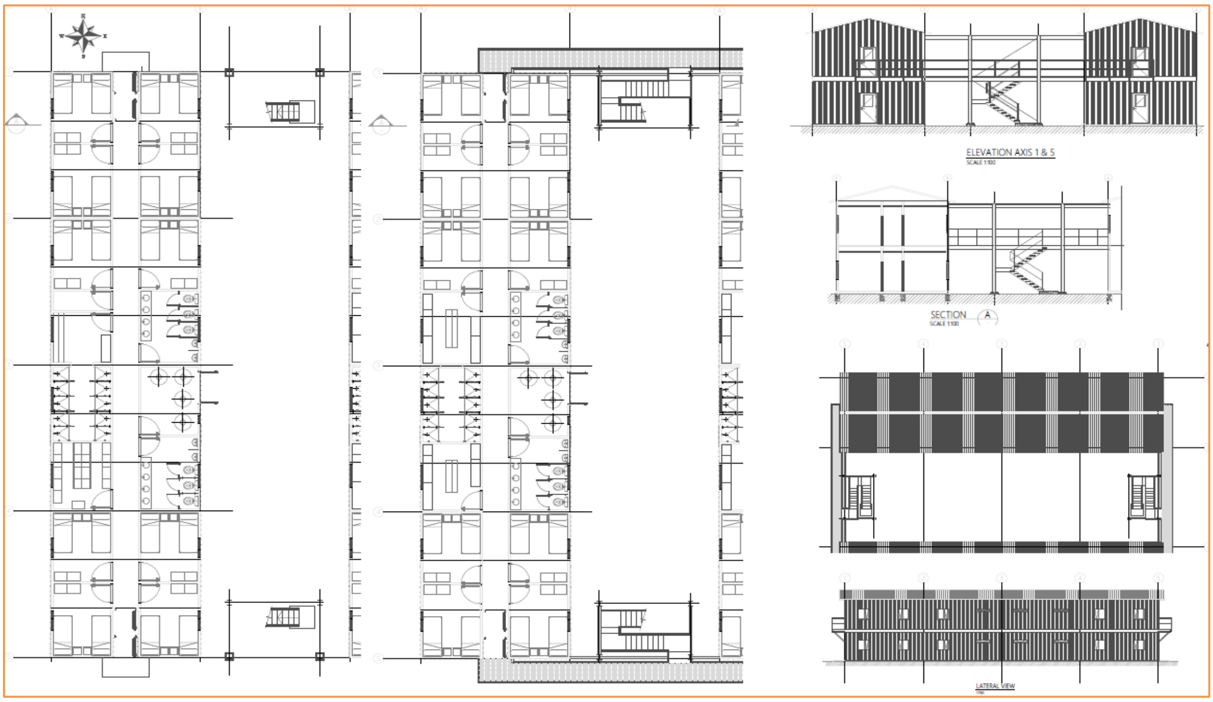


Figure 18-34: Typical Operations and Workers Dormitories

18.10.4 Kitchen and Canteen

Kitchen and canteen will be designed to accommodate up to 560 guests during construction phase in two meals shifts during the day (breakfast, lunch, and dinner), while for the operations phase the interior will be redesigned to offer a single meal shift for up to 402 persons according to the provision indicated in the Figure 18 35.

Figure 18 35 shows a typical lay-out for kitchen, canteen for the operations phase. During construction, the recreational area will seat the remaining workers, while during operations a living lounge, with TV sets, ping-pong, billiard tables, and an eventual gym will be installed.

Additionally, an outdoor illuminated soccer field will be installed next to the camp for recreational purposes.

The kitchen installations will be complemented by a set of three 40 feet maritime containers, upgraded for the storage of food and bottled drinking water. One container will be refrigerated for perishables storage.

Ovens, stoves, and hot water boilers will be fed with liquified petroleum gas (GLP) from two 7 m^3 storage tanks.

Kitchen effluents will be first sent to a grease interception chamber before being released into the domestic effluents network which will take them to the wastewater treatment plant.

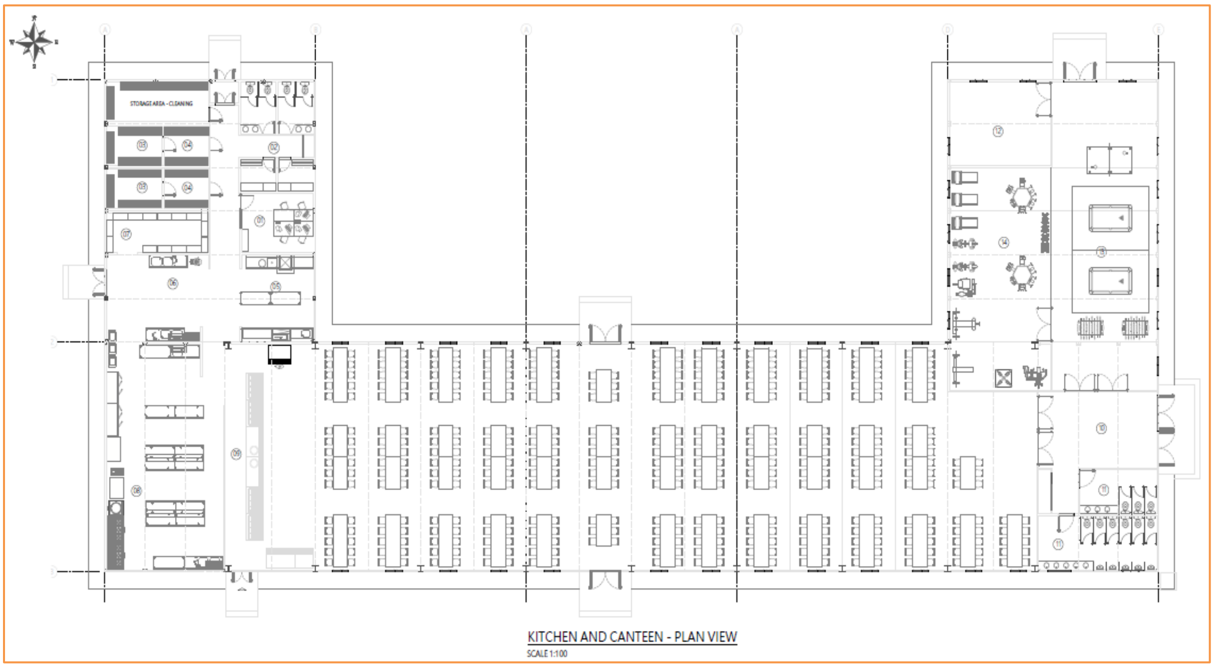


Figure 18-35: Typically Lay-Out of Kitchen, Canteen & Recreational Facility

18.10.5 First Aid and Medical Emergency Station

A first aid and medical emergency station as shown in Figure 18-36 will be installed within the camp, given the proximity to all major project facilities, although emergency stations will be distributed throughout the project facilities, according to the Health, Safety & environment Design Criteria.

The medical emergency station will comprise a reception/waiting room, a doctor´s office, two emergency boxes and two emergency recovery rooms until the patient can be transported to Salta medical facilities.

Medicines and first aid supplies will be stored separately, while pathogenic residues will be managed through dedicated containers and stored until they can be correctly disposed of, as per local legislation.

Health and Safety staff will also have offices and share the building.

Sufficient parking space and two emergency exits for the ambulances will be considered, to avoid eventual blocking of their path.

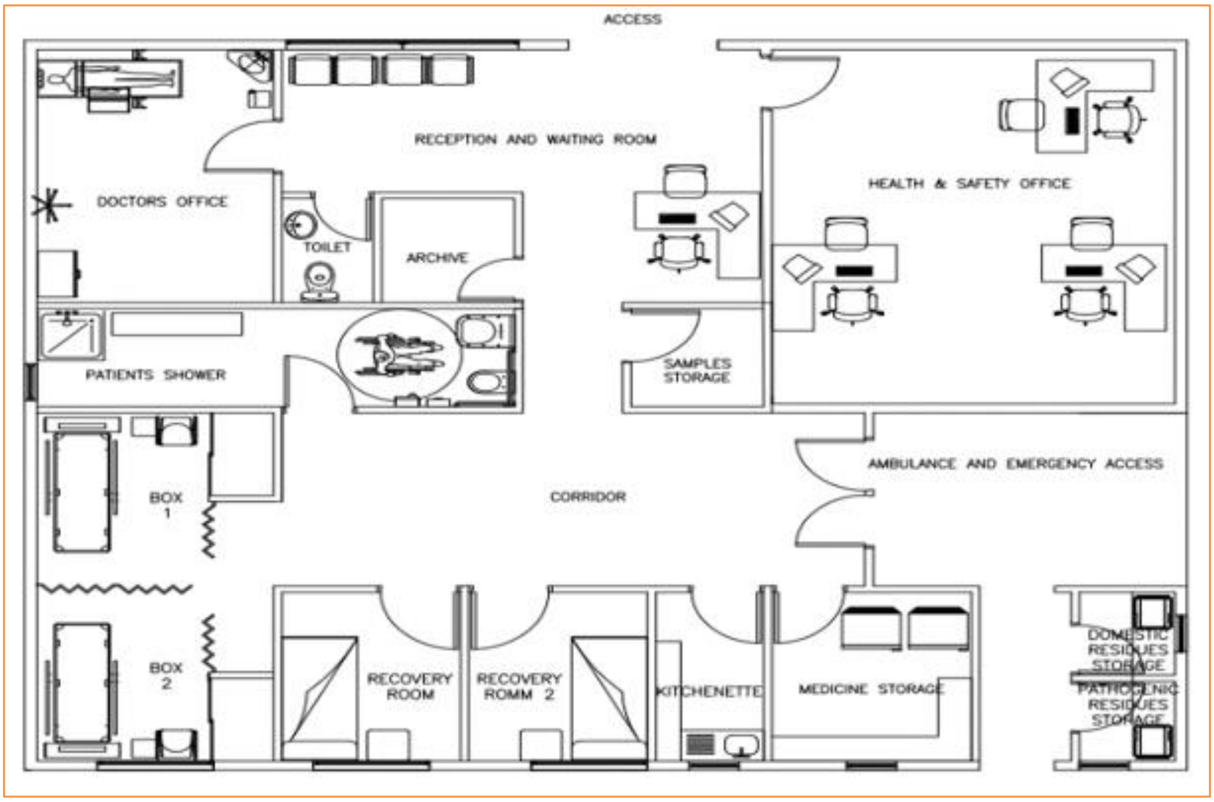


Figure 18-36: Typically Lay-Out of Emergency Medical Station

18.10.6 Laundry

A separate building for the camp laundry and staff clothes washing and ironing to be operated by the camp contractor will be installed near the canteen as shown in Figure 18-37. It will host six laundry machines and four driers. If applicable, the driers will also be fed with GLP gas from the gas storage tanks. As it is considered a hazardous area, safety distances and effluents are to be treated accordingly before being released into the sewage network.

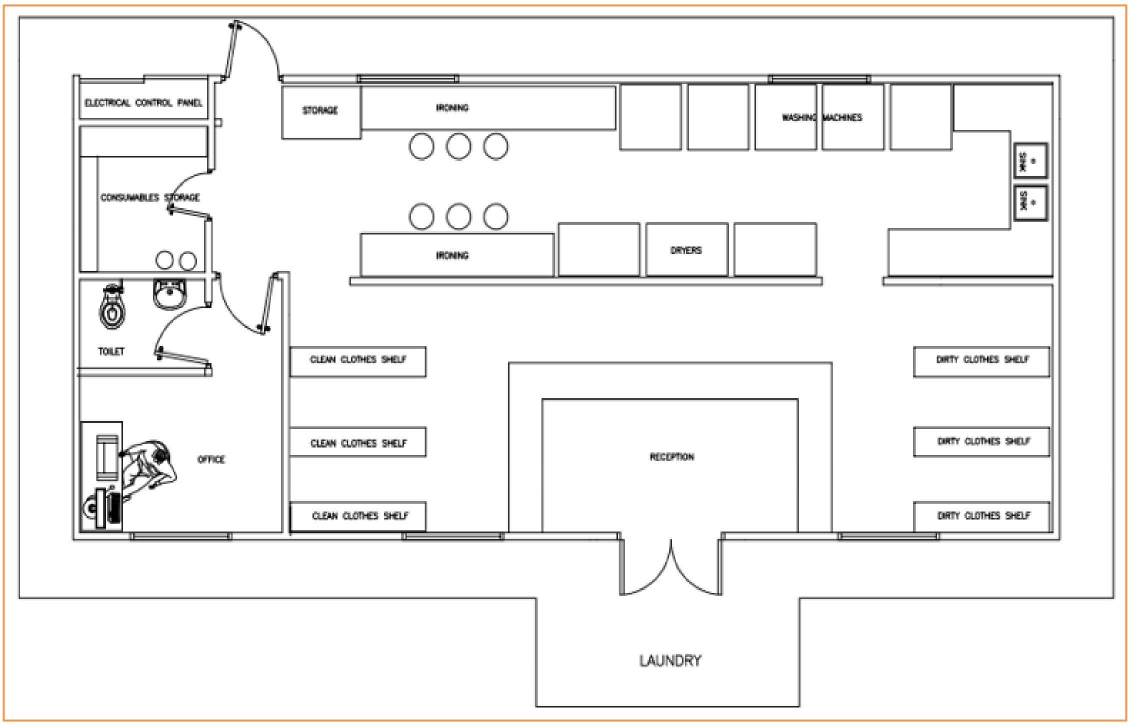


Figure 18-37: Typically Lay-Out of Laundry

18.10.7 Administration Offices, Access Control, & Access Barriers

An access control booth will be located at the project facilities main entrance, with a parking space for trucks and light vehicles, where bus drivers, visitors and minor supply trucks will be instructed to proceed to the main camp gate for access document control and staff and contractors' hospitality, health, safety, and environment inductions while truck drivers, suppliers and service contractors will be diverted to the mine and service hub and its corresponding warehouse or reagent storage.

A second barrier will be set up at the camp entrance for personnel access control and induction, hospitality reception as shown hub access control barriers.

A third access control booth and truck parking area will be installed at the entrance of the main service hub area and the process plant and mine operations area, to control access to these facilities. The object of the three control stages is to control access and perform vigilance of traffic during the different stages of the project.

During construction, only the first and second barrier will be operated, while once pit cover starts to be removed by heavy off-road trucks, the third one must be available to limit access to the operations area.

The administration buildings (Figure 18-37), comprise the project site offices, the hospitality management offices, access control and access barriers to the project, located within the camp areas.

The administration building will host the main meeting rooms, site management offices, administration, engineering, project planning and control, technical offices, and clerical, including archives, photocopies, and server rooms.

A minimum of 5 m^2 of office space per person has been considered for all offices design.

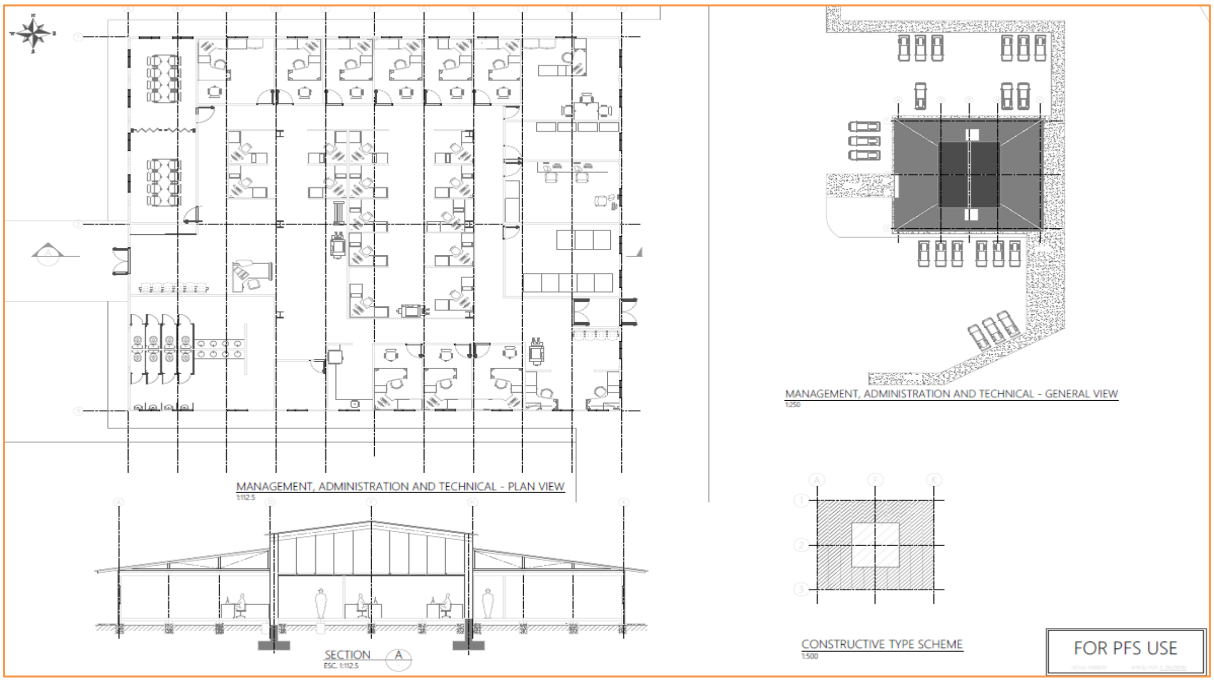


Figure 18-37: Typically Lay-Out of Administrative Offices

Figure 18-38 shows the main camp access control barrier, induction rooms and hospitality reception desk.

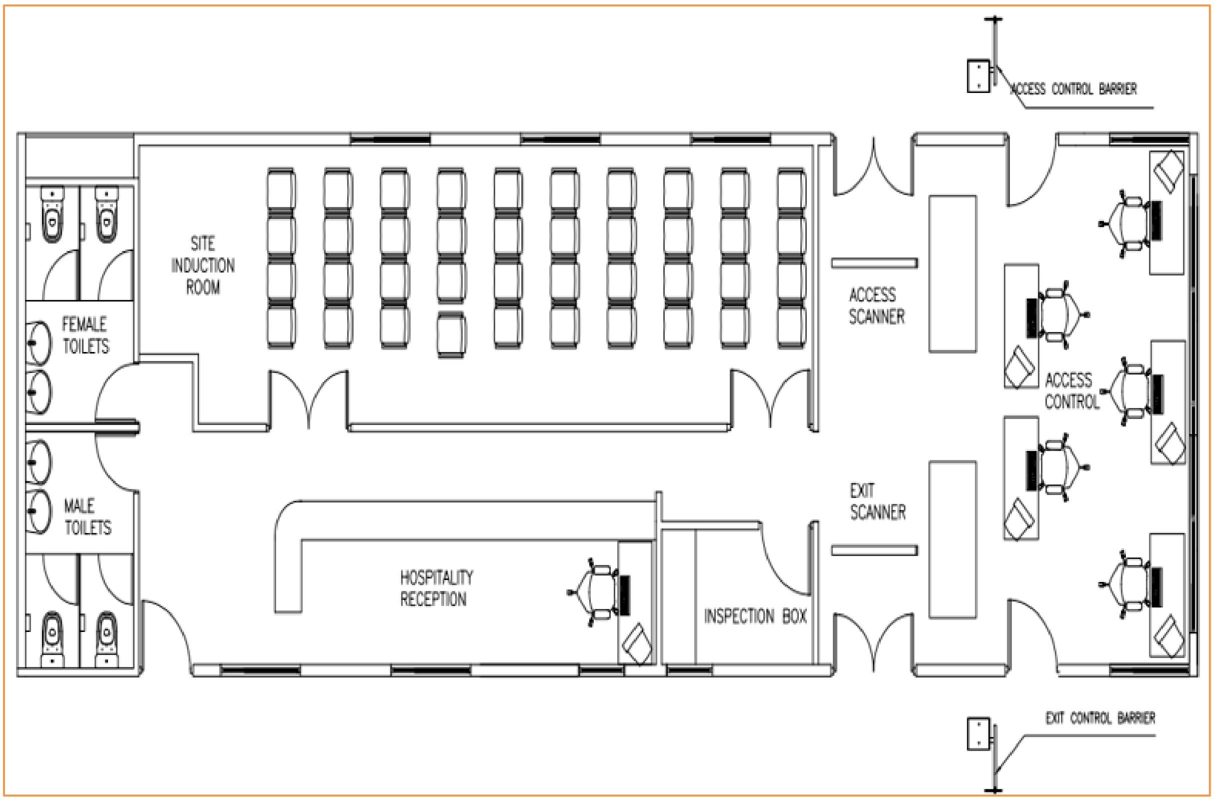


Figure 18-38: Typically Lay-Out of Access Control, Hospitality Reception and Site Induction

18.10.8 Service Hub, Plant & Mine Operations Offices

An office building as shown in Figure 18 39, will be located close to the process plant entrance with adequate parking space, as these offices will be used jointly by plant and mine operations staff. On one sector they will accommodate the plant superintendent office and its supporting technical team, while on the other side it will accommodate the mine superintendent office and its supporting mining operations technical team.

Each area will include briefing / meeting rooms for daily briefing activities.

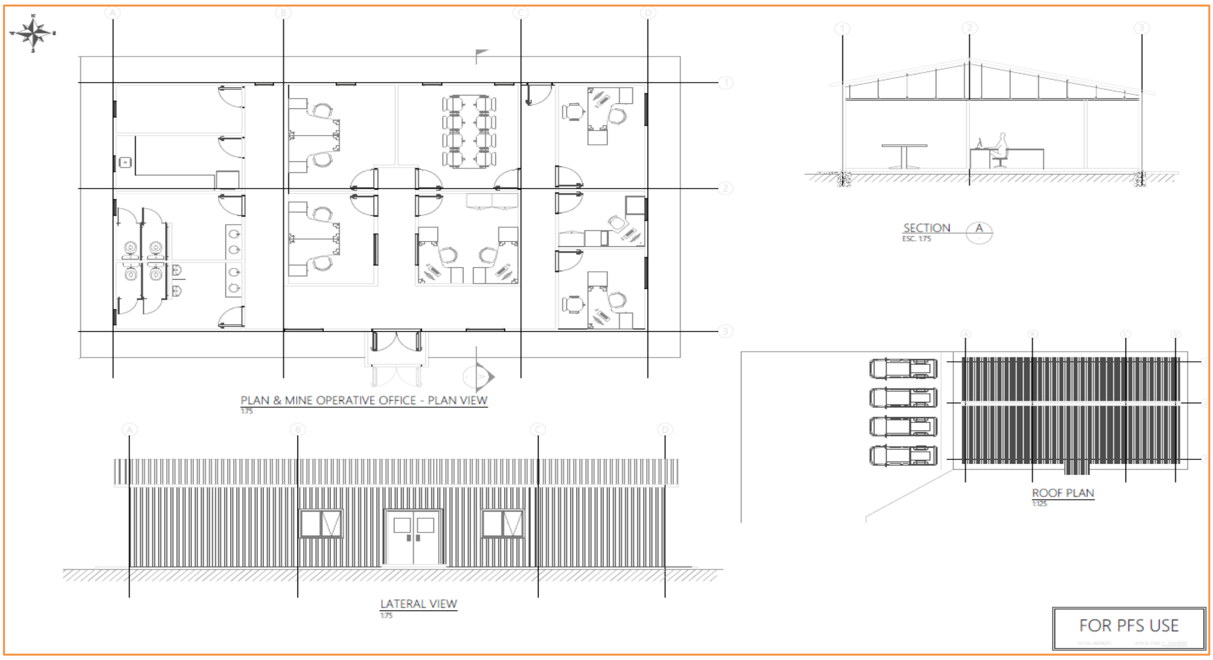


Figure 18-39: Typical Lay-Out of Work Front Offices for Mine and Process Plant Staff

18.10.9 Laboratories

The central laboratory will be sited in the proximity next to the plant operations office facilities, with easy access for light vehicles coming from the mine and processing plant. Figure 18-40 shows the typical combined chemical and metallurgical laboratory.

The metallurgical laboratory will test mineral samples obtained from different control points for metallurgical test work and mineral content percentages of the rock. Hence, its access will not necessarily be located within the security area of the plant, as its activities are mainly related to the mine operation.

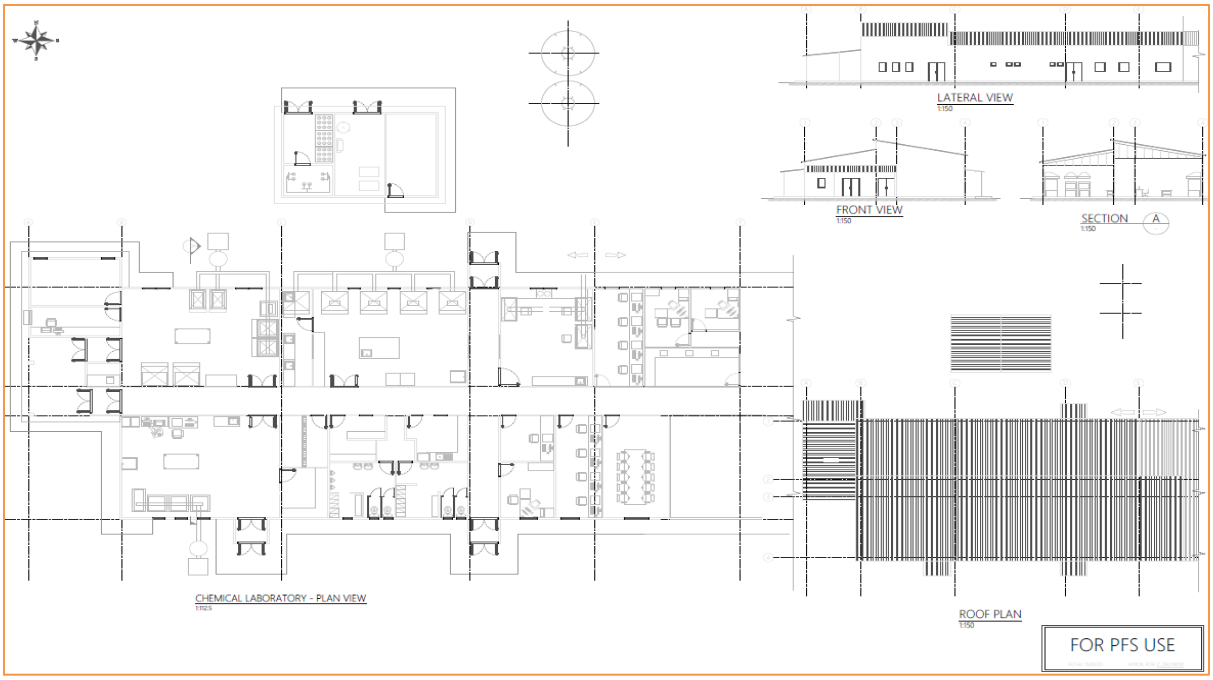


Figure 18-40: Typical Lay-Out of the Chemical & Metallurgical Laboratory

The chemical laboratory (Figure 18 41) will perform all necessary chemical test work related mainly to the plant operation, including Atomic Absorption, fire assays, etc., to determine the mineral contents of the different solutions and control and optimize process variables.

Due to the nature of the activities and the reagents and equipment being used, these buildings are going to be classified as a hazardous area.

18.10.10 Service Hub, plant access control and change room.

As the process plant will be located within an enclosed fenced compound, control room, laboratory and work front operators alternating their activities between these offices and the plant itself, will have to undergo scrutiny and change clothes to access the plant.

Therefore, a change house with a lockers room and an access control will be installed next to the process plant access gates as shown in Figure 18-41.

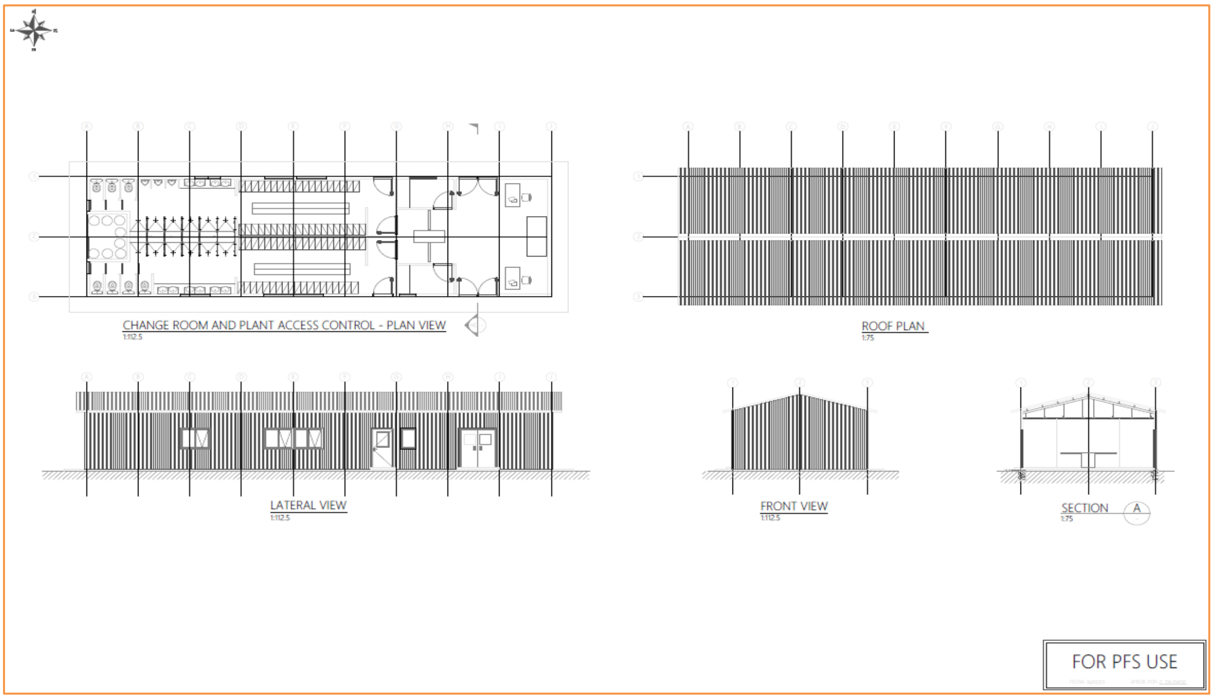


Figure 18-41: Typical Lay-Out of Plant Access Control and Change and Locker Rooms

18.10.11 Powder magazine

The Powder magazine and nitrates preparation yard are shown in Figure 18-42.

The nearest facility to the powder magazine is 1.5 km aerial distance to the crusher area.

The bulk explosives facilities are located in two areas, with the areas being more than 2,350 m apart. These areas are composed of primary explosives and detonation and nitrates preparation yard.

All the containers are situated within a secure area, surrounded by fencing and managed accordingly with regular security patrols.

Raw materials, such as emulsion explosives, fuel oil, and primary explosives (dynamite and booster) and blasting accessories used in the explosive manufacturing process are brought to site by road and stored at the explosives facility site until required.

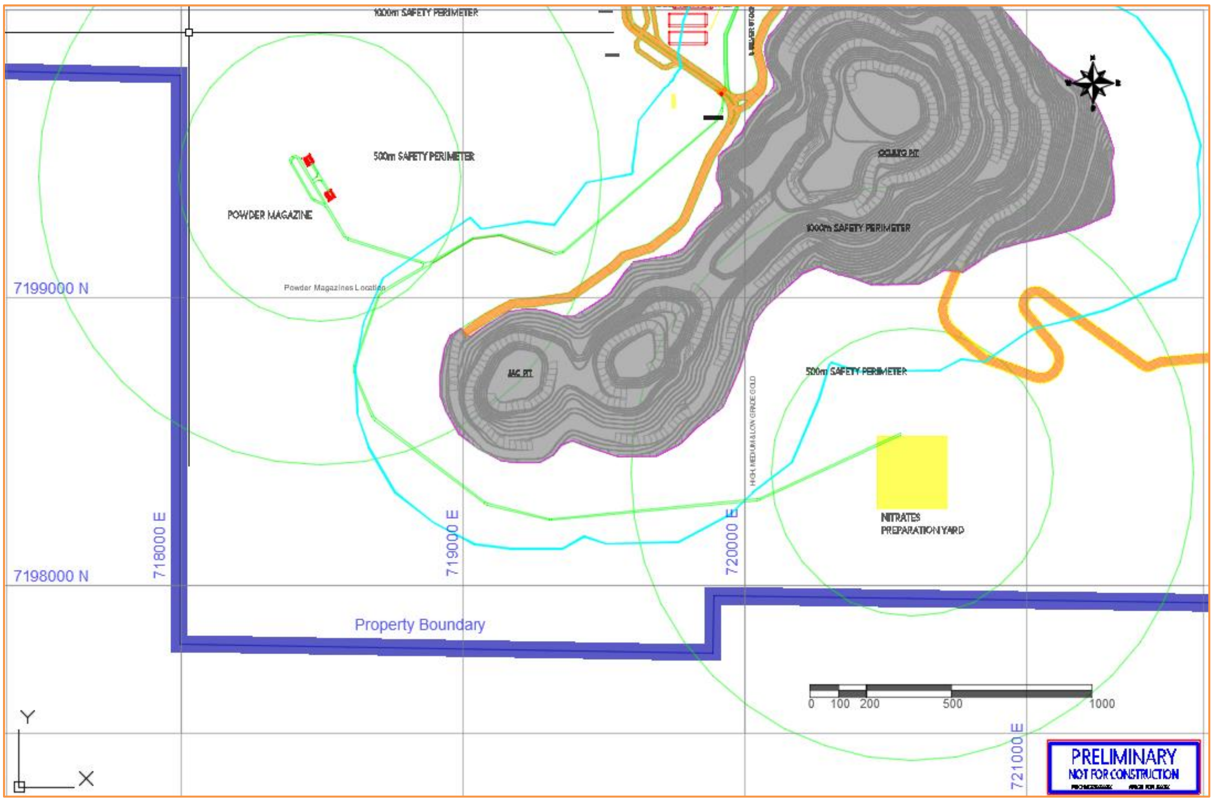


Figure 18-42 : Explosive Magazines Plot Plan

18.11 Site Services

18.11.1 Diesel Storage

The mine requires diesel to be stored within a diesel fuel tank farm and daily tanks covering a nine-day reserve period, totalling 1.500.000 liter. The diesel will be stored in 6 vertical tanks to be located north of warehouse and within the generator's daily storage tanks and the heavy mine fleet refuelling station.

The fuel dispensing station and truck scale instruments and control hardware will share the same modular building.

18.11.2 Site Wide Communications

The mine site will employ a site-wide communications system based on a single mode fibre optic backbone. VOIP telephones, intranet/internet access, and control system network connectivity will be integrated into this fibre backbone so that these systems can be accessible anywhere on site. Broadband internet access will be purchased from a satellite internet service provider. The corporate network (intranet) will be isolated from the control system network via a firewalled DMZ (de-militarized zone) network.

Industrial communications from the process plant or water well field will be routed to the central control room, while some of the control room hardware and off-camp offices will have to be connected to it. Hence, an underground fibreoptics network will be installed sitewide through adequate polypropylene pipes buried at least 50 cm deep.

The remaining site communications will either be handled with VHF radios/handheld and wi-fi internet with separate band-width capacity for operations and leisure use at the camp facilities.

Hence, a steel tower for the VHF antenna and communications will be installed at the camp as well.

18.11.3 Site Fencing

Fencing will be installed only around off-site facilities as the raw water wells, booster station, powder magazine and reclaim water gensets at the TSF. At site, only warehouse lay-down area, foundry and gravity concentration at the process plant area will be fenced to secure high value material. The remaining facilities will only be chain linked wherever the H&S staff consider it necessary for safety reasons.

18.12 Utilities Network and Water Distribution

The following utilities networks will be installed within the camp, service hub, laboratories, and specific consumption points as access control´s offices, change room, and at the plant, etc.

- Fresh water distribution network,
- Firefighting distribution network,
- Sewage recollection network,
- Gas distribution network (Camp, laboratories, and foundry),
- High (HV) and Low Voltage (LV) electrical distribution network,
- Industrial communications network (fibreoptics).

18.12.1 Firefighting Water Distribution Network

An underground firefighting water network will be installed throughout the camp facilities, while a separate one will be considered for the process plant and industrial hub as mentioned in previous chapters.

The corresponding jockey pump and emergency power system for firefighting will be installed next to the freshwater storage and treatment plant.

The network will be composed of 1 m buried carbon steel pipes which will distribute the water to the fire hydrants and hose cabinets installed sitewide according to the safety standards.

18.12.2 Kitchen Grease Separation Chamber

Wastewater coming from the kitchen and canteen will first undergo a grease separation within a concrete grease separating chamber before entering the sewage network. The chamber will be emptied on a weekly basis and grease stored for final disposal at the waste dump.

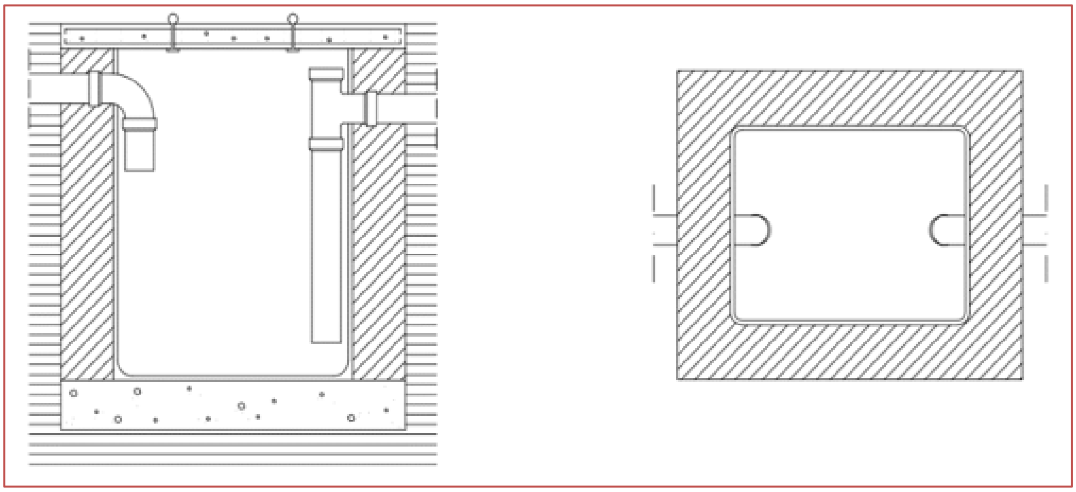


Figure 18-46: Typical Lay-Out of a Concrete Grease Separation Chamber

18.12.3 Gas Distribution Network

Bottled petroleum liquified gas will feed the kitchen ovens, and eventually laundry driers will be installed. Gas will be distributed through buried epoxy paint coated carbon steel pipes to the kitchen and laundry buildings as shown in Figure 18-47.

According to gas consumption of laboratories and foundry equipment, another petroleum liquified gas tank farm of 7 m^3 tanks will be installed close to both facilities.

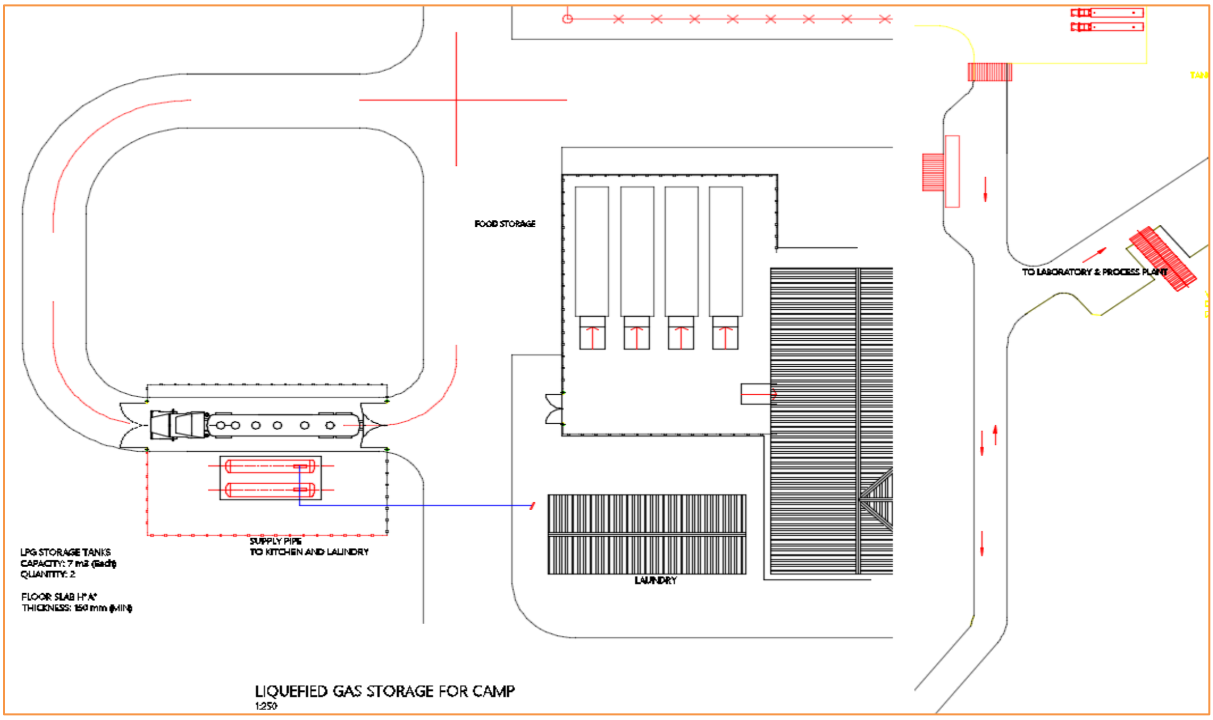


Figure 18-47: Typical Lay-Out of a Gas Distribution Network

19 MARKET STUDIES AND CONTRACTS

19.1 Final Product Transport/Logistics

No specific marketing study was completed of the potential sale of gold/silver doré from the Diablillos Project. Silver and gold refining terms used in the analysis are based on company discussions with refiners, industry standards, and are considered reasonable when compared to other published studies.

Historic silver and gold prices (www.kitco.com) were compared against other online sources for accuracy. The twenty-year period from 2004 to 2024 is shown in Figure 19-1 and Figure 19-2.

This study recommends that, as the Project advances towards development, a detailed marketing report and logistics study for end-product shipment should be undertaken to ensure the accuracy of the precise terms. Table 19-1 outlines the terms used in the economic analysis.

Table 19-1: Sales terms assumptions

Parameter	Unit	Value
Royalties	%	3.0
Gold (Au) Payable	%	99.8
Silver (Ag) Payable	%	99.0
Gold (Au) Refining Charge	USD/pay oz Au	4.00
Silver (Ag) Refining Charge	USD$/pay oz Ag	0.70

At this time, no contractual arrangements for shipping or refining exist; nor are there any contractual arrangements made for the sale of the doré.

Figure 19-1: Silver Prices per Troy Ounce 2004 - 2024

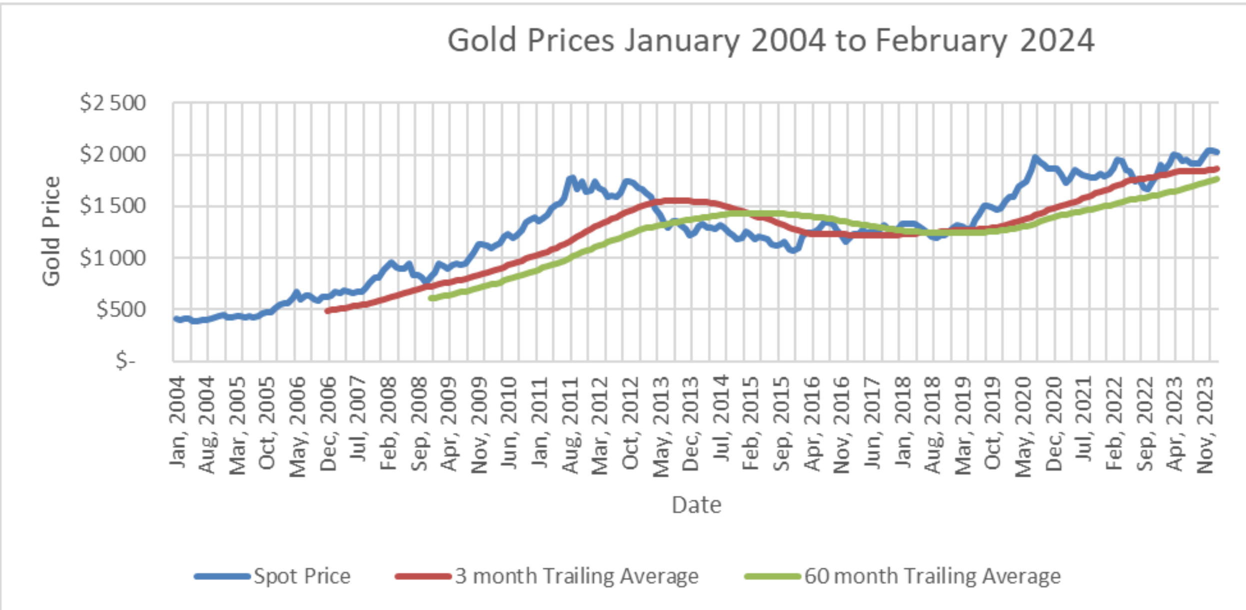


Figure 19-2: Gold Prices per Troy Ounce 2004 - 2024

Table 19-2: Metal Prices for Silver and gold.

Commodity	Spot Price April 11, 2024	36 Month Trailing Average April 11, 2024	60 Month Trailing Average April 11, 2024	20 Year Historic High	20 Year Historic Low
Silver	$22.66	$23.16	$21.76	$48.41	$5.54
Gold	$2,044.13	$1,858.72	$1,765.67	$2,077.16	$374.55

As of April 11th, 2024, the spot price of silver was trading below the 36-month trailing average, but above the 60-month trailing average price.

The spot price of gold was trading above both the 36-month and 60-month trailing averages.

Industry accepted practices indicate using a 36-month trailing average for Mineral Resources and Mineral Reserves estimation, thus, a silver price per ounce of $23.50 and a gold price of $1,850 per ounce is recommended for the financial analyses in Section 22 of this report.

19.2 Royalties

The doré produced and sold from the Diablillos project is subject to a provincial 3.0% NSR royalty and a 1.0% NSR agreed to be paid to EMX.

19.3 Contracts

There are currently no signed contracts for transport and sale of the doré production from development of the Diablillos project. However, as there is a ready and well-established market for doré refining, the sale of this product and the revenue from it is well understood.

There are currently no signed contracts in place for the development or operation of the Diablillos project and those that exist are for the current exploration and camp support activities.

The company, along with the various consultants, have developed capital and operating costs based on first principal quantity calculations. These quantities were used to obtain vendor quotes in each area of the Work Breakdown Structure. It is envisioned that the company will use these vendor quotes as the basis for construction and operating supply contracts in the future.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

20.1 Regulations and Permitting

20.1.1 Environment Requirements

The environmental legislation relevant to the Diablillos Project is as follows:

- National Law No. 24,585, of the Environmental Protection for Mining Activity Act, incorporated into the Mining Code. The scope of this Act was adapted by the Salta Province for application to any mining activity within its territory. Salta Province stipulates that the Mining and Energy Secretary is the implementing authority, while in Catamarca it is the Ministry of Mining. The submission of environmental impact reports and the corresponding monitoring is the responsibility of this government authority.
- Provincial Environmental Protection Law No. 7,070. This law declares that it is a matter of Provincial public order that all necessary actions, activities, programs, and projects must be conducted to preserve, protect, defend, improve, and restore the environment and natural resources within a framework of sustainable development. The Provincial government is tasked to function as above except in matters governed by special laws such as Law No. 24,585.
- Civil Code, Art 14 and 240, fall under the category of “collective rights” as recognized by the National Constitution (also called rights of the third generation, with its peculiarities such as rights that do not belong to an individual, but everyone). Article 14 states, “the law does not protect abuse of individual rights where they may affect the environment and collective rights in general.” Article 240 regulates the limits on the exercise of individual property rights including environmental rights.

Article 41 of the National Constitution refers to the rights of individuals residing in an area of productive activity to enjoy a healthy environment without compromising future generations. It also indicates that the Argentine State and Provincial governments will issue rules as appropriate to their jurisdictions. Other related legislation includes:

Mining Code of the Argentine Republic:

- Law No. 24,051: Hazardous Waste
- Law No. 24,196: Mining Investments
- Law No. 25,612: Comprehensive Management of Industrial Waste and Service Activities
- Law No. 25,675: General Environment
- Law No. 25,688: Environmental Water Management
- Law No. 25,743: Cultural and Archaeological Heritage
- Law No. 25,831: Free Access to Public Environmental Information

- Provincial Constitution, Articles No. 30, 79, 81, 82
- Provincial Law No. 7,017: Water Code of Salta Province
- Provincial Laws No. 7, 107: Protected Areas
- Provincial Law No 8164: Royalties. Local Supplier Registration of Salta Province
- Provincial Resolution 84/22: Registry of mining suppliers
- Provincial Resolution 087/2018 Social and economic impact tables
- Provincial Resolution 3652/10 Annual analysis of drinking water.
- Provincial Resolution 197/2023 Provision of housing modules for control and inspection authorities of Mining Secretary of Salta Province.
- Provincial Law No. 4218 Preservation of vestiges and/or remains of anthropological archaeological sites existing in the province of Catamarca.
- SAyA Resolution No. 065/05 Regulations and conditions for the discharge of liquid waste in Catamarca.
- Resolution S.E.M. No. 146/05 The regulations are approved that determine the procedure and conditions for granting information regarding environmental matters held by this Secretary of State for Mining.
- Resolution S.E.M. N° 65/07 Establishes that all mining companies active in the province that carry out water, soil and air monitoring in Catamarca.

20.1.2 Environmental Obligations

According to Provincial Law 7070, Article 41, Decrees 3097/00 and 1587/03, the technical manager of any environmental work must be registered as an Environmental Impact Evaluator in the Ministry of Environment and Sustainable Development of Salta Province. Maintenance of this registration requires biannual re-enrollment and the updating of the technical manager's curriculum vitae. An EIA must be signed as an affidavit, and the person signing the EIA is liable under civil and criminal law for the content of the report. The directors of the company that own the mining concession are also liable. If environmental damage occurs through mining activity, the mining company may be responsible in the following ways:

- Environmental (recovery to the State prior to production)
- Civil (compensation)
- Administrative (fines)
- Criminal (jail)

Where damage is caused by legally sanctioned persons, the legislation states that authorities and professionals are responsible to the extent of their participation.

20.1.3 Other Obligations

Any pending applications & requirements, refer to section 20.1.4.3.2 (Future Permits).

20.1.4 Permitting

Mining in Argentina is governed primarily by Federal legislation, Provincial laws, and decrees, and by Municipality regulations and controls. The principal permitting process, as well as regulatory activities during operations, are managed by Salta Province through the Salta Mining Court and Salta Mining and Energy Secretariat, in conjunction with other public offices.

Approval of the Environmental Impact Assessment allows mining development to proceed, subject to obtaining sector permits for specific project facilities.

The Salta and Catamarca Provinces support responsible mining, and the Secretary of Mining and Energy is intent on streamlining the EIA review and approval processes. A Multidisciplinary Mine Environmental Evaluating Commission (Comisión Evaluadora Multidisciplinaria Ambiental Minera) has been assembled to revise the EIA process.

20.1.4.1 Sector Permits

- Work authorization for foreign professionals.
- On-site bulk fuel storage.
- Domestic and industrial effluents.
- Authorization for explosives use and storage.
- Authorization for chemical precursors use and storage.
- Water management.
- Mine operations.
- Communications.

20.1.4.2 Permitting Agencies

Permitting government agencies are listed in Table 20-1 and Table 20-2, including a summary of the most important required approvals and permits.

Table 20-1: Required Key Permits and Authorizations

Area	Key permits and Authorizations	Jurisdiction
Mining Law 24, 196	Certificate of Registration under number 242	Secretaría de Minería de la Nación
Import and export	Certificate of Import & Export	Customs
Mining Property	Granting of Mining Property	Salta Mining Court House
Surface Rights	Camp Rights	Salta Mining Court House
	Right of way	
	Surface water right and pipeline	
	Camp rights	
	Plant and process easement	
	Waste dump easement	
	Open Pit easement	
Water Resources	Water Concession for Mining Activity Use	Secretaría de Recursos Hídricos de Salta, Secretaria de Agua y Ambiente de la Provincia de Catamarca.
	Report on all drill water supply holes	
Waste Management	Pathogenic Waste Provincial Registration as Generator	Secretaría de Ambiente y Desarrollo Sustentable. Secretaría de Minería y Energía. Salta Secretaría de Agua y el Ambiente Catamarca
	Operator and transporter of Hazardous Wastes	
Environmental Management	Environmental Impact Declaration (Approval of Environmental Impact	Secretaría de Minería y Energía de Salta
	Statement, art.250 Mining Code, art.34 of Provincial Law 7,141)	Ministerio de Minería de Catamarca
	Comply with the DIA requirements	
Camp qualification	Camp municipal qualification	Municipio San Antonio de los Cobres y Antofagasta de la Sierra.
Explosives	Registration for Explosives Users	Ministerio del Interior Registro Nacional de Armas (RENAR)
	Registration for Users and Vendors of Explosive Services (vendor)	
	Certification of Powder Magazines	
	Storage of Ammonium Nitrate and Controlled Products	
Contract foreign professionals	Hire foreign professionals	RENURE (Migrations)
Fuel	Registration in the Liquid Fuel Dispensing Registry or National	Secretaría de Energía
	Liquid Petroleum Gas Registry (contractor)	
Chemicals	Storage and use of chemical products	SEDRONAR – R.N.P.Q (Registro Nacional de Precursores Químicos)
Communications	Use of satellite telephone and internet	Private contracts with vendors. Commission Nacional de Communications
	Use of VHF handheld radios	
Cultural and Natural Heritage	Notification of Accidental Discovery of Artifacts Potentially Relevant to	Secretaría de Cultura de la Provincia de Salta, Dirección de Antropología de Ministerio de Educación, Ciencia y Tecnología de Catamarca
	Cultural or Natural Heritage of the Province.	
	Request for Liberation of an Area (i.e., free of culturally significant artifacts)	

Table 20-2: Required Key Permits and Authorizations

Area	Key permits and Authorizations	Jurisdiction
Health	Authorization for Installation and Operation for Food Preparation	Municipio de San Antonio de los Cobres Municipio Antofagasta de la Sierra. AOMA (Mining Union)
	and Operation of Dining Area	
	Authorization to Operate Water	
	Potabilization Plant	
	Potable Water Certificate	
	Medical Post, Doctors, and Ambulances	
	Emergency Plan for Contingencies Health Security in Mining Activities	
Transit and transportation	Transit of special machinery and gasoline	National roads: Vialidad Nacional
		Provincial roads: Vialidad de la Provincia de Salta
Use of Soil	Quarry Concession in fiscal provincial areas	Juzgado de Minas de la Provincia de Salta
Water Management Works and Structures	Authorization for construction a water management structure	Secretaría de Recursos Hídricos de la Provincia de Salta
	Water management works Approval and authorization to operate.	
	Environmental impact report for the water pipes and construction	Secretaría de Minería y Energía
Mining Operations	Mining producer registration	Secretaría de Minería y Energía de Salta, Ministerio de Minería Catamarca
	Ore transport guidelines	
	Notice of start-up of mining activity	
	Notice of suspension of operations or abandonment	
	Qualification of plant and facilities	Municipio San Antonio de los Cobres
Closure Plan	Mining Closure Assessment	Secretaría de Minería y Energía de Salta

20.1.4.3 Permits

20.1.4.3.1 Existing Permits

In addition to the Project's current Environmental Impact Report ("EIR") for the Exploration Stage, the Project holds easements outlined in Table 20-3.

Currently, there is a permit to use well water from St.DBL.Ag 7, called SRH 1515, with Resolution number 009/23.

Table 20-3: Existing Easements

	File Number	Area (ha)
Water Easement	19332-2008	1
Water Easement	19333-2008	1
Water Easement	19334-2008	6
Camp & Road Easement	16225-1997	25
Road Easement	18927-07	36

20.1.4.3.2 Future Permits

The company has submitted applications for two new water servitudes of 4 ha each (files 752594-2021 and 752595-2021). While the expectation is that these will be granted, the process has only recently begun so they have not been included above.

Additionally, four new easements were requested in 2023.

An Environmental Impact Report is required as part of the application for environmental approval. The EIR includes the following:

- General Project Information
- General Description of the Environment
- Description of the Project
- Description of the Environmental Impacts
- Description of the Environmental Management Plan

Environmental Baseline Studies ("EBS") are required to support the EIR's general description of the environment. The items required by the Salta provincial authority include but are not limited to climatology, hydrology, hydrogeology, edaphology, flora, fauna, and ecosystem characterization. In addition to the EBS, engineering at a prefeasibility level or higher will be required as the project moves forward. Currently, the company has been carrying out a solid baseline from mid-2021 to date, with a consulting company. It includes a seasonal study of environmental factors, including variations in the dry and wet season, and social perception.

An Environmental Impact Report ("EIR") will be required pursuant to the provisions of Law No. 24585 (Environmental Protection for Mining Activities).

The renewal of the Environmental Impact Report was presented in October 2023 in the Province of Salta, and an Environmental Impact Report was presented in the Province of Catamarca on the same date.

Both studies are under evaluation by the two provincial authorities.

The report identified that the most relevant impact is the generation of waste. Together with a recycling company, AbraSilver has been carrying out a successful household waste segregation program which has reached an average of 100 kg of recyclables per month.

The environmental management plan suggests the following measures:

- For platform and trench remediation, when work on platforms and trenches is completed, they should be cleaned and rehabilitated. They are included in a register for submission to the competent authority (see Figure 20 1).
- For road development, priority is always given to the reuse of existing roads, minimizing soil movement as much as possible.
- The project's emissions are produced by the vehicles, the engines of the drilling machines and the generator set. Due to the small fleet of equipment, it is not

significant. However, to reduce emissions, the company has migrated to the use of renewable energies for its offices. This utilizes a solar energy system consisting of 21 panels of 1.5 m x 1 m, with a power of 5 KVA, which supplies basic consumption of the office and kitchen.

- During exploratory activities, non-contaminating waste generated by personnel is classified according to provincial resolution No. 126/21 in compostable organics, plastics, paper and cardboard, glass, and metals. These are recycled and a certificate is received (see Figure 20 2).
- Hazardous waste that may cause direct or indirect damage to the environment is recognized according to the categories established by Law 24051 of the Argentinean legislation. This includes mineral oils, hydrocarbons mixtures including contaminated solids.

For final disposal, domestic waste is taken to the sanitary landfill in the city of Salta, requesting a final disposal certificate. Hazardous waste is registered in the Provincial Register of Hazardous Waste Generators under No. 686 Res. No. 000449/22 and sent for transfer and final disposal. The waste will be removed from the area by authorized transport companies registered in the Register of Hazardous Waste Transporters and Operators.

Figure 20-1: Platform DDH-20-008 Cleaned and Rehabilitated.

Figure 20-1: Platform DDH-20-008 Cleaned and Rehabilitated.

Salta, 29 de febrero de 2.024

Certificado de Disposición de Residuos No peligrosos

Eco Norte S.R.L., destinatario inscripto en el Registro de Comercializadores de Materiales a Reciclar (Res. AFIP N° 2849), certifica que durante el periodo **ENERO 2.024**, se recibieron y procesaron residuos reciclables "no" peligrosos pertenecientes a **PACIFIC RIM MINING CORPORATION ARGENTINA S.A. C.U.I.T. 30-67305977-1,** cumpliendo con todas las normativas ecológicas, legales y fiscales establecidas para el responsable tratamiento de residuos, el cual consiste en el acondicionamiento y compactación del material recolectado, para luego ser destinado y reciclado en empresas productoras de nuevos productos.

Fecha	Calidad	kg.
8/1/2024	Cartón	115,00
8/1/2024	Pet Cristal	1,20
8/1/2024	Papel Blanco	3,00
8/1/2024	Papel Color	73,20
8/1/2024	Nylon Cristal	13,40
16/1/2024	Cartón	30,00
16/1/2024	Pet Cristal	27,60
Total		263,40

El presente documento se expide para acreditar el proceso y traslado a destino final del producto o residuo.

Ing. Martín Flores
ECO NORTE S.R.L.
Reciclado Industrial

Eco Norte S.R.L.
CL 1° Pública Medidor 213– Parque Industrial. Salta Argentina
Línea: 54 + 0387 4962360

Ninety-seven percent (97%) of the workforce of Diablillos Project reside in the Province of Salta, including contractors and staff. There are local suppliers preferred by the company to support community development.

A monitoring plan for environmental components includes noise and soil quality measurements at the drilling sites and effluent monitoring as follows:

- A decibel meter will be used for noise measurements and results will be compared with values suggested for industrial areas according to the WHO.
- Samples will be taken from the fuel storage site and drilling site for hydrocarbon analysis.
- The company will take effluent samples from the sewage treatment system installed at the camp for performance monitoring. The results of the analysis will be compared with the provincial regulations, Res.N°011/01.

Furthermore, to ensure compliance the Provincial Secretariat of Mining performs regular site inspections.

In 2024, visits by three provincial authorities, Municipality of San Antonio, Mining Police and Community, and Secretary of Environment and Sustainable Development, were made to the Diablillos Project to verify environmental conditions.

On Wednesday, January 17, 2024, the municipal inspection team from San Antonio de los Cobres was received at the Diablillos Project. The municipal team carried out documentary control and legal compliance in environmental and health and safety matters, as well as visiting the project's facilities. The activity was carried out normally and verified that the company complies with all the requirements requested by the municipal authorities.

On 22nd and 23rd of February 2024 the Mining and Energy Secretary of Salta province government, in the role of State Mining Police, together with representatives of the local community, Santa Rosa de los Pastos Grandes, inspected AbraSilver's Diablillos Project. They took air, soil, water, effluent and gas emissions, as well as examining camera traps which monitor local biodiversity. The company was found to comply with environmental regulations established by the Mining and Energy Secretary of Salta province government, in particular resolution 004/18 which establishes guidelines for environmental monitoring in mining projects. Also, the company was found to be in compliance with resolution N° 56/22, being the Environmental Impact Declaration. They concluded that AbraSilver continues to lead the way in good environmental practices, security and hygiene, gender equality and local community relations.

On the 6th and 7th of March 2024, personnel from the Environmental and Sustainable Development Secretary (Secretaría de Ambiente y Desarrollo Sustentable) of the province visited the facilities to verify environmental conditions in the camp. No observations regarding waste management emerged from the inspection.

20.1.4.4 Preparation of EIR Reports in Line with Local Legislation

AbraSilver has been preparing EIR reports in line with local legislation on the following subjects.

20.1.4.4.1 Engineering

Engineering and architectural documents require approval by local authorities prior to construction. This task is linked to provincial entities such as municipalities and enforcement departments. Documentation required for submission includes:

- Structural and architectural construction plans.
- Plans for water, gas, firewater distribution and electrical systems.

20.1.4.4.2 Utilities

The following fuel and hazardous materials use authorizations are required:

- Authorization of the fuel storage system.
- Authorization for fuel transport units (if they are private vehicles).
- Permits for maintenance and hazardous substances supply vehicles.

20.1.4.4.3 Water Resources

Several water resource-based authorizations are required. These include:

- Drilling authorization request.
- Groundwater concession request.
- Specific sewage system authorization request.
- Discharge authorization certificate request.

20.1.4.4.4 Municipal Approvals

The following approvals will be required from the local provincial department, which grants permissions related to construction of the camp, plant, power-based, and other facilities.

- Engineering Project Drawings
- Camp and Plant Buildings
- Discharge permit – domestic effluents in Catamarca Province
- Potable water treatment system
- Final Disposal of Solid Waste, Aggregates or Garbage
- Company registration as a hazardous waste generator and carrier (Res 00449/22)
- Internal Electrical Installation
- Fire Protection

20.1.4.4.5 Reclamation and Closure

Closure will include infrastructure demolition, demobilization, and earthworks with closure costs estimated at USD 11.11 million.

20.1.4.4.6 Infrastructure

All hazardous products and equipment will be removed from the site. All infrastructure will also be dismantled and removed.

20.1.4.4.7 Open Pit

Safety berms or barriers with appropriate signage will be constructed around the pit rims to prevent inadvertent access. The pits are not expected to flood.

20.1.4.4.8 Tailings Storage Facility

Closure of the TSF will involve capping with waste rock and a topsoil blanket.

20.1.4.4.9 Waste Stockpile

At closure, the overall slope of the waste rock stockpile will be regarded to obtain topography similar to surrounding areas.

20.2 Environmental Baseline

Within the framework of the elaboration of the environmental baseline of the Diablillos Project, three survey works were carried out at different times of the year, to characterize the flora, fauna, and limnology communities of the project's area of influence and its immediate environment, to understand their dynamics and to establish the biodiversity baseline in the area under mining concession of the metalliferous project. Sampling the biotic indicators was duly selected.

On June 8, 2022, AbraSilver announced it has completed a comprehensive Environmental Baseline Study (the "Study") at its Diablillos Project in Salta, Argentina. The purpose of the Study was to gather and analyse relevant environmental baseline parameters for the area of a potential future mine before any major project activities are undertaken on the property concessions as provided in Figure 20 3. The study conducted will help to identify and mitigate potential environmental and social impacts that may arise with the future development of the project. The study covered several important areas such as hydrology, flora, fauna, and limnology. All information gathered in the Study will be used to develop an Environmental Impact Assessment ("EIA"), which is currently in progress and is an essential part of the final approval process required for the ultimate construction of the project.

Since 2021 ABRASILVER has been working with a consulting firm to develop and update the environmental baseline for the project.

This update includes 4 flora and fauna monitoring stages from the year 2021. These were conducted in April and September 2021, corresponding to the beginning and end of the dry season, the third survey was conducted in February 2022 corresponding to the summer season. Finally, as a complement, in September 2022, a fourth monitoring was conducted to survey the sites where the different components of the project will be installed.

During this monitoring, water and soil quality data were also updated at sites of interest within the project.

Additionally, an update of social perception was carried out in the month of February 2024, to obtain recent data regarding the perception of the community, providing positive results for Abrasilver.

20.2.1 Location and Access Routes

The Diablillos property is located approximately 160 km southwest of the city of Salta, along the border between the Provinces of Salta and Catamarca, Argentina. The property encompasses an area of approximately 11,403 ha in the high Puna and Altiplano region of north-western Argentina, with geographic coordinates at the centre of the property of 25°18' south latitude by 66°50' west longitude. Elevations on the property range from 4,100 MASL to 4,650 MASL. Although located at high elevation, local relief is moderate to gentle. Figure 20 4 shows the general topography for the Project.

The Project is delimited by the Salar Diablillos to the east, Salar Ratones to the north, Cerro Ratones to the west, and Salar del Hombre Muerto and Cerro Colorado o Diablillos to the south. Figure 20 5 shows the Project's direct area of influence.

Baseline environmental studies have focused on environmental permitting in support of exploration activities. A study considering lead, arsenic and antimony contents of ore and waste was noted as being required and the following studies have been carried out:

Within the metallurgy programs that were completed in the periods 2021- 2022 - 2023 on material for production from targets Oculto, JAC and Fantasma, all metal samples were analysed by ICP Optico, for arsenic, lead, and antimony, showing the following averages:

- Oculto: 113 samples were analysed with averages of As 918.49 ppm - Pb 2681.30ppm - Sb 99.03ppm.
- JAC: 12 samples were analysed with averages of As 863.08ppm - Pb 4875.00 ppm - Sb 158.22ppm and at the Fantasma target, 2 samples were analysed averaging As 82.00ppm - Pb167ppm - Sb<30ppm.
- Six samples of waste material from the Oculto target were analysed, averaging As 123.83ppm - Pb 818.67ppm - Sb 7.50ppm

Figure 20-3: Property Concessions

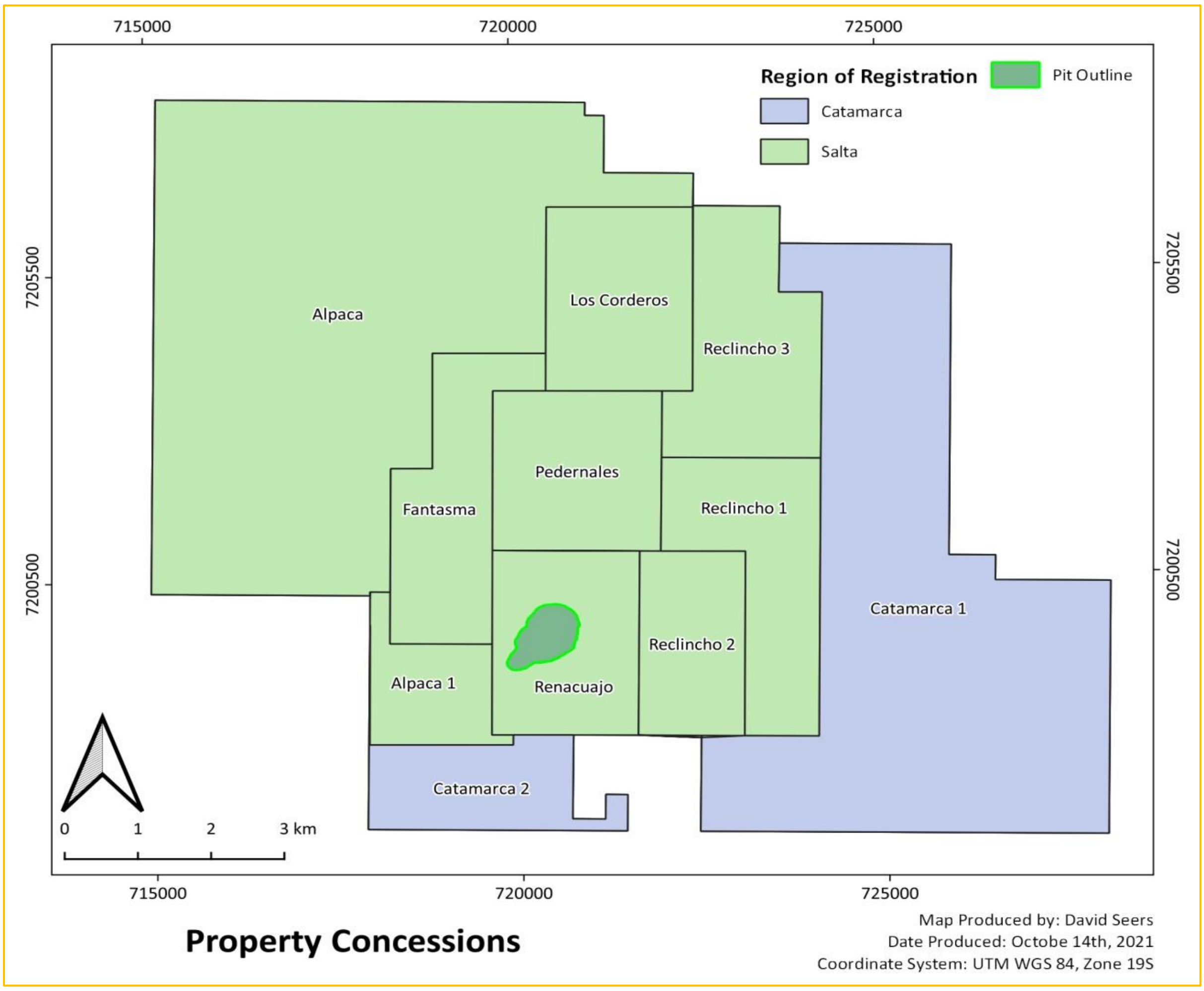


Figure 20-4: Diablillos Project Topography

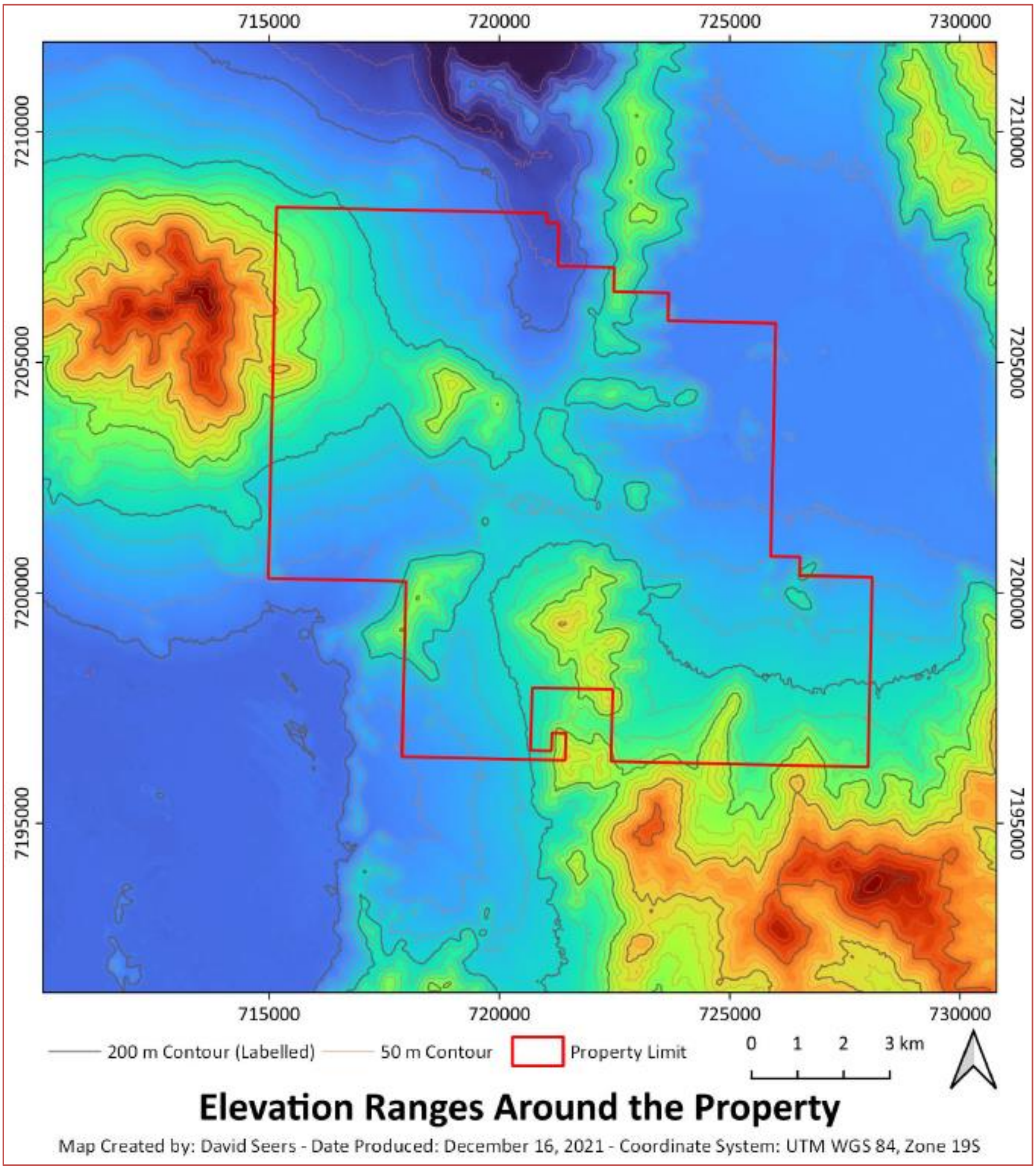
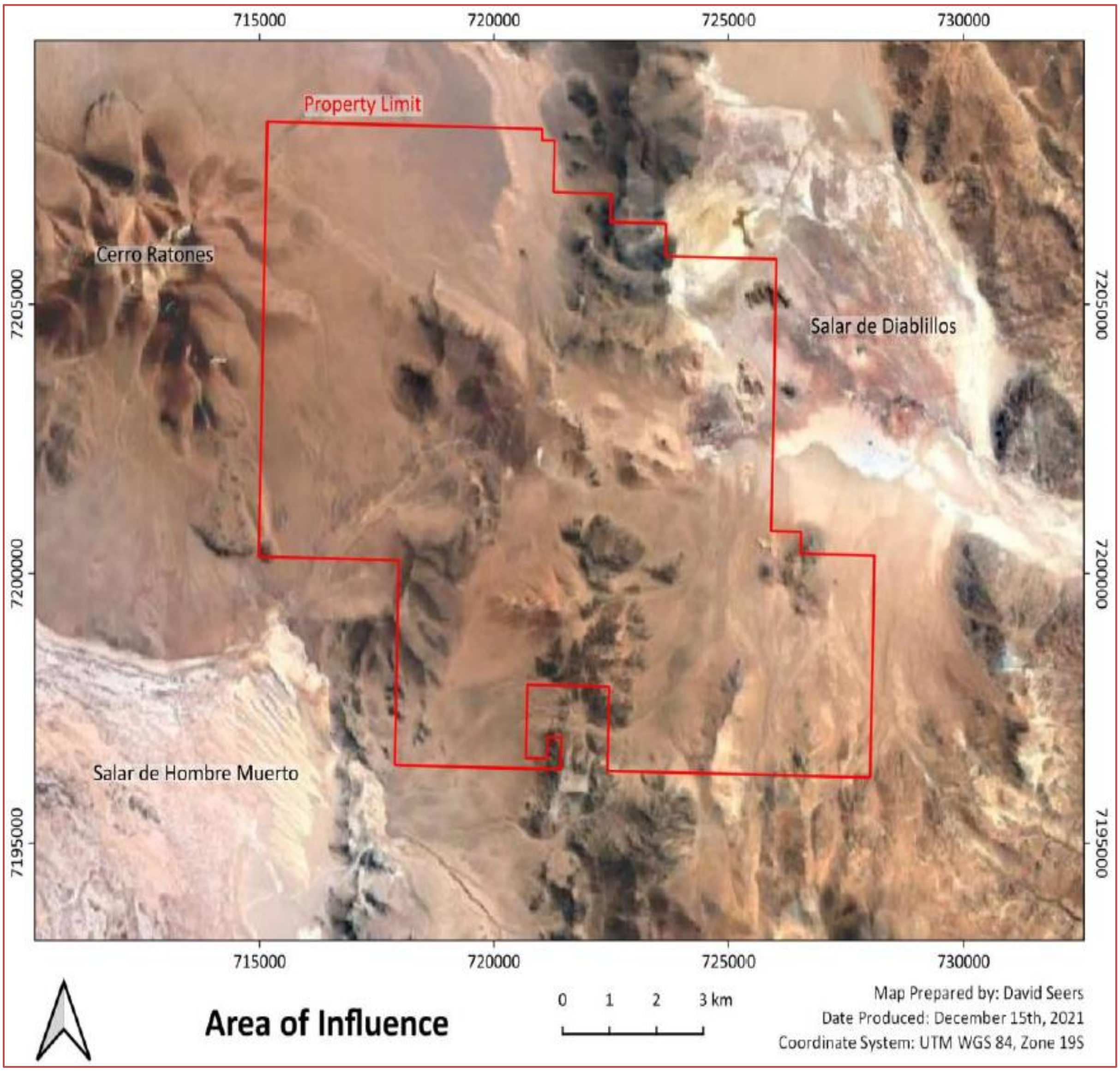


Figure 20-5: Project's Direct Area of Influence



20.2.2 Climatology

Data from two climate monitoring stations have been used to characterize the climate in the area, one at Fenix project (Livent), Salar del Hombre Muerto, and the other at Diablillos Project (AbraSilver). The average annual rainfall is 84 mm and 181 mm at Salar del Hombre Muerto and Diablillos respectively. Temperatures are very severe with frost throughout the year and an average annual temperature in the study area of 5°C with high daily and seasonal variability. Winds in the area are from the west or northwest, with an average speed of 13.5 kph and described as dry, cold, and intermittent. Winds strengthen from August to November, when the wind can blow for several days with average speeds over 40 kph and can reach short term speeds of over 100 kph.

Thermal regime characteristics result in evapotranspiration values that are sufficiently high to offset precipitated water volumes. This region is characterized by a high potential evapotranspiration component, reaching values more than 1,300 mm/year. Preliminary water wells in the area indicate that the current water table in the direct vicinity of the Oculto is 100 m or more below the surface.

However, there are shallow aquifers in nearby catchments where water well drilling has been completed.

20.2.3 Air Quality

Weather conditions in the area contribute to the generation of dust, including ultra-fine dust particles generated by soil erosion. This is especially the case when weather conditions discharge soil layers, causing increased levels of suspended particles in the atmosphere. Removal of material by mining activity will cause an increase in wind erosion and fine material blasting (silt, clay, and sand).

In the EIA report, air quality will be analysed. The results indicating the selected pollutants concentrations that are within the guideline levels established by current legislation shall be reported. The results will correspond to natural levels at each site, with levels of pollutants from activities carried out in the area at the time of evaluation corresponding to levels of wind-borne particulate matter. Air sampling shall be carried out periodically according to resolution 004/18. This involves community members, government authorities and other agencies participating in the sampling process and discussing results.

20.2.4 Water Quality

The Barranquillas Aquifer System (SAB) is a unit of fluvial origin. At the site where the St.DBL.Ag4 Well is located, it is made up of an upper level of coarse to medium, quartzose, light brown sands, with abundant biotite and abundant matrix of medium to fine sand, which reaches a thickness of between 4 and 6 meters. Subsequently, up to a depth of 13 meters, there are medium to coarse, reddish-brown, quartzose, well-selected, subrounded sand, with abundant mica (biotite) and fine sand matrix of the same colour and composition; with thin intercalations of medium to fine sand, light brown, with a silty matrix. Below, and up to a depth varying between 25 and 32 meters, are very coarse, quartz, well-sorted, subrounded to rounded, light brown, with abundant mica and thin intercalations of fine to silty sands.

In the middle of the reservoir, from 32 meters to 60 meters depth, there are fine to very coarse, rounded, well-sorted gravels with a matrix of fine to silty sand, light reddish brown, with isolated granite clasts and metamorphites.

In the St.DBL.Ag7 well, a thick clastic sequence of fluvial origin has been intersected, mainly made up of medium to fine, subrounded, poor to regular gravel, quartzose and feldspathic, with abundant presence of micas; levels of medium to gravelly sand, with subangular clasts of quartz and feldspars and mica. Isolated and not very thick levels of clays and sandy, reddish-brown clays (1 to 2 meters and 26 to 28 meters deep) are interspersed.

The morphological characteristics of the reservoir seem to indicate that it is a free to semi-confined aquifer, with edges and base formed by fractured Palaeozoic rocks (metamorphites, granites and granitoids), which determine the thickness and extent of the sediments of river fill.

An outstanding feature of the SAB is that the piezometric level is located at very shallow depth (1 meter from the surface). Another peculiarity is that the groundwater has abundant dissolved gases that causes a constant "bubbling", presumed to be carbon dioxide.

In the Salar de Diablillos, the phenomenon was also noticed during the well exploration stage, as groundwater is described as containing a high concentration of dissolved gases. The composition of the odorless gas has not yet been analysed; however, it is believed to be dominated by CO_2 (SRK, 2011 in Flo Solutions, 2017), and its origin is unknown. It is known that in this environment there are wells that erupt by degassing that have not been adequately controlled.

20.2.4.1 Hydrochemistry of the St.DBL.Ag4 Well

A physical-chemical analysis of the original file of the St.DBL.Ag4 Well was carried out in the Environmental Studies Laboratory (LEA) of the National University of Salta in 2007 and with original data presented below. At the time of finalizing preliminary this report, the results of the physical and chemical analyses of the groundwater exploited in the St.DBL.Ag7 well are not available to characterize it.

Table 20-3: Chemical Analysis of the Water Underground Well St.DBL.Bg4 (2007)

Parameter	Units	Well Sample	Specifications for drinking water
ph		5.7	6.5-8.5
Turbidity (NTU)	NTU	4.3	less than equal 3
Conductivity (uS/cm)	uS/cm	839	
Color (Units Pt-Co)	Units Pt-Co	30	less than equal 5
Total Dissolved Solids mg/l	mg/l	421	less than equal 1500
Total Solids- 105	degree centigrade	1000	
Suspended Solids	mg/l	8	
Alkaline Total	mg/l de $CaCO_3$	129	
Bicarbonates	mg/l	160	
Hardness	mg/l of Ca & Mg as $CaCO_3$	154	less than equal 400
Calcium	mg/l	44	
Magnesium	mg/l	11	
Nitrate	(mg/l of NO3	0.9	less than equal 45
Nitrite	mg/l of NO2	<0.01	less than equal 0.10
Ammonia	mg/l of NH3, Nessler	0.28	less than equal 0.20
Chloride	mg/l	190	less than equal 350
Sulphates	mg/l	140	less than equal 400
Sodium	mg/l	200	
Potassium	mg/l	22.7	
Manganese	mg/l	<0.02	less than equal 0.10
Iron	mg/l	5.4	less than equal 0.30
Arsenic	ug/l	5	less than equal 10

According to the Argentine Food Code (CAA), this water is not suitable for human consumption as it does not comply with the established values for pH, turbidity, colour, ammonia, and total iron. Another notable feature of groundwater is the abundant presence of dissolved gases, which is assumed to be carbon dioxides.

20.2.4.2 Hydrochemistry of the St.DBL.Ag1 & St.DBL.Ag5

In the area where the St.DBL.Ag5 shaft is located, there is an upper level of medium, reddish-brown sand, with abundant breccia fragment that reaches a depth of 6 meters. Then, up to a depth of 13 meters, there is coarse, quartz, light brown, abundant micas, and a matrix of fine to silty sand of the same colour and composition. Below and up to a depth of 25 meters are coarse, quartz, well-sorted, sub-rounded to rounded, light brown sediments with abundant mica. Between 25 and 33 meters, there is a level of reddish, plastic clays, interspersed with fine to silty sands.

At the St.DBL.Ag1 well site, the sedimentary sequence begins with medium to coarse, reddish-brown, quartzose sand and abundant breccia fragments with a base located at a depth of 4 meters.

Subsequently, up to 8 meters, there are very coarse, light reddish-brown, quartz-like, well-rounded sands with abundant biotite, interspersed with small levels of gravel and breccia scours, with a matrix of medium to fine sand of the same colour. Between 8 and 10 meters there is a level of gravel, light brown, quartz, with a medium sand matrix, with abundant breccia scours. Between 10 and 23 meters deep there is a layer of very coarse sands to fine, subrounded, quartz, light brown gravel, interspersed with medium and fine light brown sand. Between 23 and 30 meters, there are reddish clays, with some small intercalations of silt, quartz, light brown sands. Between 30 and 34 metres there are, fine, quartzose, greyish sands, with intercalations of clayey silt, reddish brown, and abundant tuff scours.

The St.DBL.Ag6 well was drilled in the distal part of the Relincho fluvial fan, in the zone of interdigitation with the sediments of the Salar de Diablillos, in an easement of Abra Silver (200 meters NE of the St.DBL.Ag5 well). The lithological profile indicates that between 0.0 and 3.0 meters deep there is a sandy clay and a very plastic, yellowish-green clay, with intercalations of fine sand. Between 3 and 19 meters, there is a sequence of fine to medium quarzitic sand and gravels, poorly sorted, with the presence of micas and feldspars. This unit in the basal part (15 to 19 meters) has a clayey and sandy matrix. Between 19 and 32 meters deep, the dominant sequence is comprised of brown clay, with isolated major clasts of quartz and feldspars, with abundant mica. At 10.1 meters to the north, an observation well (piezometer 1) was drilled for the analysis of dynamic levels during pumping.

The morphological characteristics of the reservoir around the St.DBL.Ag1 and St.DBL.Ag5 wells seem to indicate that it is a free aquifer, whose base is made up of a sequence of reddish-brown, plastic claystone deposited on Palaeozoic rocks (metamorphites, granites and granitoids). The basal part of this unit is characterized by outcrops and sub outcrops of the basement in the form of "islands" that, geomorphologically, indicate that the sedimentary cover is a heterogeneous and discontinuous sedimentary cover, especially towards the middle and apical part of the hydrological basin. However, in the position of the St.DBL.Ag6 well, the characteristics of the reservoir seem to correspond more to a model of Semi-confined aquifer, with the presence of an aquitard in the first three meters and a base made up of clays and brown plastic clays.

A characteristic of a sector of the SARCM (edge of the Salar de Diablillos) that had already been described by Conhidro (2007) in the St.DBL.Ag5 well, is that the groundwater contains abundant dissolved gases that causes a constant "bubbling", which is presumed to be carbon dioxide.

The physical-chemical analyses of the original technical files of the St.DBL.Ag1 and St.DBL.Ag5 wells, carried out at the Environmental Studies Laboratory (LEA) of the National University of Salta in 2007, are available.

Table 20-4: Chemical Analysis of the Water Underground Well St.DBL.Ag1 and St.DBL.Ag5 (2007)

Parameter	Units	Well St.DBL.Ag1	Well St.DBL.Ag5	Specifications for drinking water
ph		8.1	6.1	6.5-8.5
Turbidity (NTU)	NTU	29.8	1.6	less than equal 3
Conductivity (uS/cm)	uS/cm	>20,000	760	
Color (Units Pt-Co)	Units Pt-Co	120	10	less than equal 5
Total Dissolved Solids mg/l	mg/l	>15,000	580	less than equal 1500
Total Solids- 105	^{0} centigrade	19,950	648	
Suspended Solids	mg/l	3,100	6	
Alkaline Total	mg/l de $CaCO_3$	1,160	604	
Bicarbonates	mg/l	1,420	737	
Hardness	mg/l of Ca & Mg as $CaCO_3$	3,470	455	less than equal 400
Calcium	mg/l	500	140	
Magnesium	mg/l	540	32	
Nitrate	(mg/l of NO_3	2.2	5.2	less than equal 45
Nitrite	mg/l of NO_2	0.02	>.01	less than equal 0.10
Ammonia	mg/l of NH_3, Nessler	>1	0.18	less than equal 0.20
Chloride	mg/l	10,200	58	less than equal 350
Sulphates	mg/l	1,000	62	less than equal 400
Sodium	mg/l	4,700	87	
Potassium	mg/l	520	3.3	
Manganese	mg/l	0.2	2.6	less than equal 0.10
Iron	mg/l	3.3	0.38	less than equal 0.30
Arsenic	ug/l		0.02	less than equal 10

According to the parameters established in the Argentine Food Code (CAA), the water from the St.DBL.Ag1 Well is not suitable for human consumption since it has values outside those established in turbidity, colour, total dissolved solids, hardness, chlorides, manganese sulphates and total iron. In addition, the water from the St.DBL.Ag5 Well does not meet the requirements of pH, colour, total hardness, manganese, and iron. Another notable feature of this latest capture work is the presence of dissolved gases, which are assumed to be carbon dioxides.

According to the representation in the Piper Diagram the water from the St.DBL.Ag1 well has sodium chloride, while that from the St.DBL.Ag5 well has calcium bicarbonate. In the Stiff diagram, it can be determined that the sample from the St.DBL.Ag1 well, in addition to having sodium chloride, is strongly saline (> 20,000 µS/cm).

20.2.5 Hydrology

From the hydrological point of view, the morphological factor has a direct impact on the configuration of a centripetal or endorheic drainage that converges at points of lower heights, forming interior lagoons and salt flats. From the reduced rainfall characteristics (rainfall of less than 300 mm on the eastern edge, and less than 200 mm per year in the Puna in general) and predominantly summer, the courses have almost entirely a temporary regime, with permanent courses being rare.

This low rainfall makes the recharge of the aquifers very poor.

The greatest contribution comes from sporadic hailstorms, the melting of the snows that fall during the year, and the process of ice - thaw. Low-flow watercourses are quickly replenished, in some cases leading to the formation of meadows.

The temporary courses that are generated are violent in nature and erode a large amount of material that is then deposited forming wide cones, filling valleys and sometimes, given the large amount of load they carry, become mud flows, generating lagoons at their base level. This depends on the route taken by the feeder courses, which receive different percentages of salts when crossing different lithologies.

The presence of groundwater resources is manifested through the Springs.

20.2.6 Hydrogeology

The main hydrogeological units are found in Quaternary alluvial fans, within free or semi-confined aquifers and aquifers in old rocky environments. Water, in general, has significant regional anomalies in arsenic, ammonia and boron content, all of which are of natural origin, with contents that may well exceed tolerable limits for different uses. It is not considered advisable to carry out an intensive exploitation of the free aquifer surrounding wetlands, due to the possible effect on their natural dynamics.

The closest and most important hydrogeological basin to the study area, from the point of view of the contribution of water flow, is the Los Patos Basin. This river system, whose hydrographic network extends over an area of almost 2000 km^2, constitutes an important landscape-environmental component of the region, being a support and sustenance of fragile ecosystems and constituting one of the main sources of fresh water in the Argentine Southern Puna. The Los Patos River is a permanent river with very contrasting and fluctuating average monthly flows according to the different times of the year.

The analysis of the hydrogeological resource carried out indicates that considering the geological environment where the Diablillos Project is located, the presence of groundwater may be strongly conditioned by the presence of outcrops and sub outcrops of pre-Quaternary rocks.

The results obtained in and around the Diablillos Project area are indicative of the existence of an extremely complicated hydrogeological environment and, possibly, low to very low potential. As for the results of the study in the areas of the fluvial fan of the Cuevas Negras River and the middle-distal part of the fluvial valley of the Barranquillas-Diablillos River, they assign a clastic sequence of fluvial sands and gravels, which are saturated with fresh water with the confirmed presence of groundwater in economically exploitable quantities in the environment of the river valley of the Barranquillas River and the River Fan of the Relincho Basin.

20.2.7 Soil Science

The area has poorly developed and very fragile soils, due to the climatic conditions and relief, which condition and limit its formation.

In general, taxa are referred to as aridisols (which occur in areas with an arid climate, whether cold or warm, and do not have enough water for the growth of crops or polyphytic pastures for long periods). It is characteristic that these soils have a pale surface horizon (composed of salts and other minerals and poor in organic matter), entisols (they are formed on recent sediments such as alluvium or dunes, or they are found on very steep slopes where erosion predominates). In general, they tend to have a pale surface horizon, of little thickness and with a poor content of organic matter and suborders such as paleoargides (horizons rich in carbonates and cemented by calcareous less than 100 cm from the surface, or by a horizon with clays which usually have reddish colorations) and torriortentes (neutral or calcareous and are on moderate to steep slopes).

In this area, the prevailing conditions restrict the formation of soils, so there are large areas of rocky outcrops of varied composition and origin (mainly volcanic and metamorphic igneous) and/or surfaces covered by salt flats. The soils are of the gray skeletal and sub skeletal type. The humic horizon is poorly developed, except in some meadows and depressions where a stony sandy soil is formed, common on the slopes of the mountains and terraces.

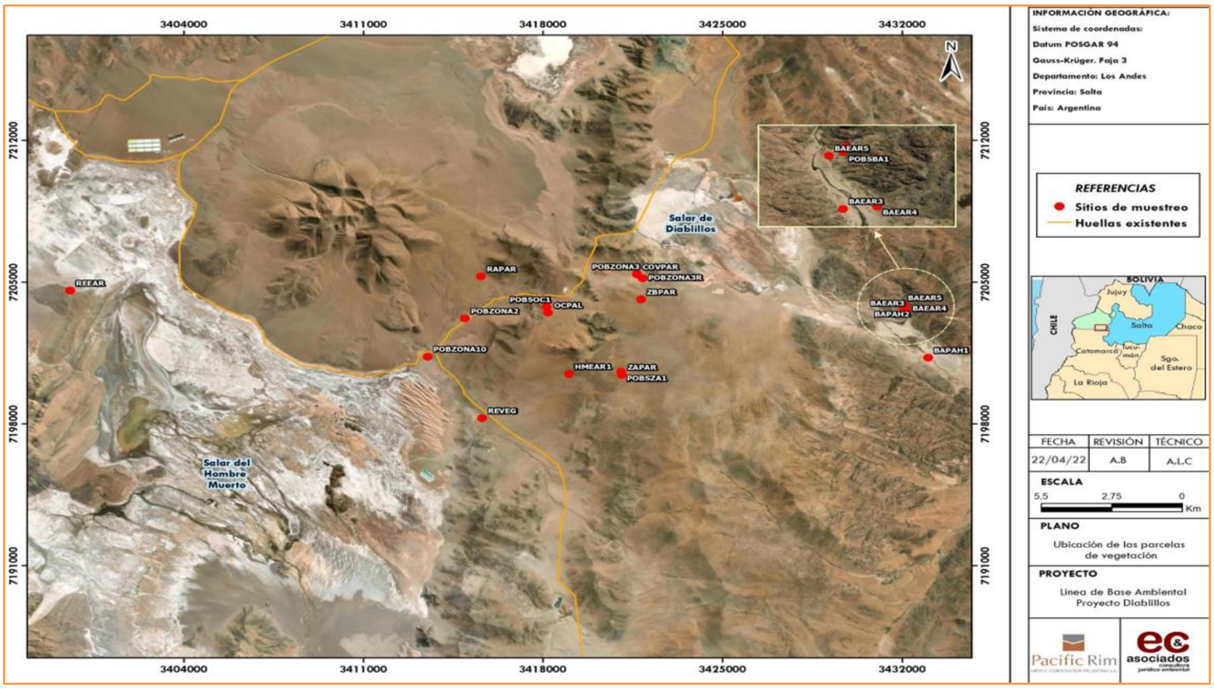
20.2.8 Flora and Fauna

20.2.8.1 Flora

The phytogeographic provinces of the Puna and High Andes are characterized by a very arid climate, with low temperatures, with a great daily thermal amplitude, with intense solar radiation and almost constant exposure to strong winds. This creates an environment that is severely hostile to the development of all forms of life and, therefore, extremely fragile (Thalamus et to the 2010). The organisms that inhabit it establish strict rules of assembly and biological interactions, to cope with such extreme conditions. Because of this, small changes in some of the components of the environment (physical or biological) can trigger important degradation processes (Brown et to the. 2005). Studies and surveys of vegetation at the local level, which provide basic information on the functioning and dynamics of these ecosystems, are of fundamental importance for their sustainable management. The mitigation of impacts on aquifer systems, areas of low vegetation cover, endemic and/or threatened species, which could result from human activity; they should be based on knowledge of their ecological foundations.

In this sense, it is important to note that, although there are many studies carried out in the region, most trials focus on the northern area of the Puna, and few are developed in the semi-arid region, which covers the south of the province of Salta and the north of the province of Catamarca (Seckt 1912, Luebert & Gajardo 2000, Borgnia et to the. 2006). A map of points of vegetation is presented in Figure 20-6.

Figure 20-6: Map of Points of Vegetation



In the area of influence of the Diablillos Project, the vegetation unit with the greatest representativeness was the shrub steppe, followed by the grassland with shrubs. Both vegetation units are encompassed within the so-called high-Andean steppe, but while the former has a predominance of low shrubs, the latter is characterized by the predominance of grasses and grasslands. Of the totality of plots and observation points surveyed in this work, fourteen of them are framed in one of these two plant formations. This corresponds to the general physiognomy of the region, which shows not very steep slopes and small, mostly temporary watercourses.

Other vegetation units surveyed were the water grassland and the meadows, which correspond to the high-altitude wetlands landscape unit. Although they did not present the same representativeness as the previous ones, their study and characterization are of utmost importance given the ecological functions that they fulfil for the sustenance and development of the biodiversity of the ecosystem.

A total of 29 species were recognized throughout the project's area of influence, which mainly includes shrubs and grasses. To. Horrida and F. argentinensis, were the two most common and recurrent species in all vegetation units analysed. At the other extreme, species that were identified as exclusive in their environment or with very low density were: And. Tweedian and F. Bryoids; associated with wetter areas and to. Minor, B. Tola, C. Erinacea and F. Punensis associated with grassland areas. In addition, in the present sampling, during the summer season, it was possible to evidence the presence of annual species such as Hoffmanseggia Minor and Tarasa Tenella in plots such as COVPAR, ZAPAR and ZBPAR belonging to the Pajonal vegetation unit with shrubs; as well as in the HMEAR, REEAR plots of the Shrub Steppe vegetation unit and OCPAL of the Pajonal Alto-Andean vegetation unit. In addition, the species was also recorded in the latter plot Aristida Adscensionis alongside Tarasa Tenella.

The Shannon diversity index, calculated for each plot, in the two stations studied, generally showed values below 2 and, in some cases, very close to 0. This translates into a low level of biodiversity, which is expected for the region. The plot with the highest diversity was ZAPAR with a record of thirteen species, followed by BAEAR4 in which ten different species were recorded.

Coincidentally, these plots are located within the vicinity of temporary runoff lines. The type of edaphic formation on which these communities develop could also influence their higher productivity if their conformation contributes to greater water retention. More exhaustive soil studies would be needed to corroborate this information.

On the other hand, the Simpson Biodiversity Index showed the dominance of F. argentinensis in the OCPAL AND BAPAH1 plot; of Pappostipa sp. in ZAPAR and P. quadrangularis in BAEAR5. These trends are consistent with what is expected in each of the vegetation units in which they are included and give the landscape its distinctive characteristic.

From the estimation of the percentage of soil covered by vegetation we can divide the study area into two regions with distinctive characteristics. The first of these includes the area around the Co. Oculto and the current mining camp; the second is located within the vicinity of the Barranquilla River, at the height of the camp's current water intake. The surroundings of the Hidden Zone have relatively low vegetation densities (about 40% of the ground area covered). On the other hand, in the vicinity of the Barranquilla River water intake, the coverage values exceed 54% of the soil surface; with the exception of plots BAEAR3 and BAPAH1. This differentiation between regions is undoubtedly due to the proximity to the permanent water supply, represented by the Barranquillas River, although the presence of better microclimatic conditions could also influence due to the enclosure of the stream. The reduction of solar radiation provided by the surrounding rock formation and protection against the wind, reduces the critical rates of evapotranspiration to which the vegetation is subjected. A particular case is the BAPAH1 plot, located outside the creek shelter, 3 km from the water intake; and plot BAEAR3, located on the left bank of the ravine. Interestingly, at this margin, the composition and density of the plant community changes drastically; We believe that this change could be related to the different microclimatic factors involved in each margin. These two plots have a relatively low percentage of coverage compared to the other plots located nearby.

Regarding the percentage of cover per species, as expected for both seasons, it was positively correlated with the abundance of individuals. Those species that had the highest abundance in each plot were the ones that represented the highest percentage of its coverage. Another variable analysed in the present study was the vertical structure of each plot, in general this variable was quite homogeneous, although some particular cases are ZAPAR, BAEAR5 and BAEAR4. In this regard, it is worth highlighting the case of To. Horrida, a species common to most plant units, whose average height did not differ, regardless of the vegetation unit or the sampling station in which it was found. On the contrary F. argentinensis, also common to several plant units, its height varies depending on the community where it has been registered. Significantly lower values were found in the plots located in the surroundings of the Co. Oculto (14.58 ± 0.70 cm in the dry season and 13.69 ± 5.03 in the summer season) than in those found in the in the vicinity of the water intake of the Barranquillas River (53.96 ± 1.09 cm in the dry season and 50.5 ± 34.21 cm in the summer season). Although we can attribute this difference to the water conditions of both sampling sites, we do not rule out that the greater presence of herbivores in the surroundings of the Hidden Heart may also be responsible for these results.

During the sampling in the summer season, some of the plots studied showed greater species richness and abundance. Apart from BAEAR4 and BAEAR5 located in the shrub steppe vegetation unit, most of the plots increased the percentages of vegetation cover and decreased the dry organic matter, which is consistent with what was expected for the time of year. Also, from the graphic analysis of the vertical structure of the plots, an increase in the variations in heights between the individuals of the different species was observed because of the appearance of renewals consistent with the summer season.

In the study carried out in the area of influence of the Diablillos Project, two ecosystems have been surveyed to be considered, both in future sampling work and in future interventions that are projected for the area, due to the importance they present for the balance and dynamics of the environment.

First, the grasslands surrounding the Co. Oculto; They are the main source of sustenance for the vicuña populations in the area. The alteration of the net productivity of these grasslands could have significant impacts on the population dynamics of vicuñas, an emblematic species that is currently protected nationally and internationally. The second ecosystem that requires careful management and monitoring are the high-altitude wetlands present in the region adjacent to the water intake in the Barranquilla River. These plant communities provide fodder, shelter, and nesting areas for local fauna, are home to the largest amount of biodiversity in the region and depend mainly on flow regimes (Izquierdo et to the. 2018; Left et to the, 2016). Indicators of presence/absence of species, primary productivity and plant vigor are important variables that allow monitoring the impacts on the ecosystem generated by anthropogenic activities in the area. In this sense, the analysis of plant-plant interactions would be of particular interest for the programming of future management and conservation techniques.

Some final considerations on the development of this report. Remember that the vegetation surveyed was that which was active. In some cases, species-level identification of individuals of the genus Pappostipa was not possible. Although the sampling was carried out in the wet season, it did not guarantee that all species develop reproductive structures. In this sense, the phenological state of the plants was in vegetative growth with intense green coloration, which made it difficult to identify them, only being able to determine them down to the genus level.

20.2.8.2 Fauna

A total richness of 55 species of native vertebrates could be identified, considering the interest groups proposed in this case, corresponding to 1 species of amphibian, 2 reptiles, 42 species of birds and 11 species of mammals, one of which is domestic. In addition to two exotic species.

In the case of amphibians and reptiles, the summer season was the most propitious for these groups, considering the climatic conditions, the activity of reptiles in different places was evident.

Evidently, the wetland sectors are of great importance for the conservation and presence of many species, since considering the bird guild it was the richest.

As for larger mammals, the densities of vicuñas analysed between studies reflect certain sectors likely to be more sensitive, such as zones 1 and 2 of access to the project, as well as zones 6 and 8. In these sectors, it may be advisable to be able to use informative or precautionary signage due to the greater presence of these species.

Considering the total density analysed and compared by epochs, it coincides with a small decrease in the same consequence of the epoch of Calving and maximum productivity of the steppe in the first survey (late summer) and in this last one has not yet begun.

Depending on the conservation situation of the species, most of the species present some type of endemism for the region or protection, which makes them important from this point of view and can be taken as flagship species in sectors of direct influence of the project, of which the following stand out:

- Specifically, Microcavia Shiptoni It is endemic to Argentina and categorized as Almost Threatened, making it important for its analysis of presence and abundance in future interventions, since it is presumed that its populations are in decline due to habitat loss or fragmentation. Recorded mainly in the hillside sectors with rocky outcrops.
- The confirmed presence in the sectors of Zone 6 and to be confirmed in Zone 7 (surroundings of C° El Oculto and in the water intake respectively) of Leopardus Jacobite It is a very important record considering the national and international

conservation status of the species (Endangered). If possible, it would be necessary to carry out a more extensive survey with camera traps in the areas of the islands.

- The presence of Rhea pennata (before Pterocnemia (pennata) tarapacensis) and Oressochen Melanopterus in the case of birds (Categorized as Vulnerable) also gives an idea of the importance for the preservation and/or care of the species in the site, it should also be clarified that the indications of presence for Rhea pennata They were found in steppe sectors, far from the area of direct influence of the project's activities. Oressochen Melanopterus It is present in sectors of Vegas.

20.2.9 Ecosystem Characterization

The EIA will include a detailed description of the eco-regions for the exploration-construction phase by characterizing the eco-regions, the communities, and various agencies involved in the proposed Diablillos Mine area, and their interactions. Ecosystem characterization allows a more complete understanding of the existing interactions between a given project and the environment, and vice versa.

Eco-regions, or biomes present in the Diablillos Mine area are the Puna eco-region and the high Andean eco-region. These eco-regions were divided into ecological units summarized by descriptions of the soil, flora, and fauna, and their particularities and interactions (shelters, niches, eco-tones, barriers, and corridors comprising areas of frequent use). The degree of disturbance that these communities are experiencing due to human activity is currently being evaluated.

20.2.10 Local Ecosystem Characterization

To characterize the local ecosystem to be presented in the EIA, a summary of environmental conditions of the area was formulated, based on the data from baseline studies, carried out by the consultant Elisa Cozzi and Associates since 2021

20.2.11 Identification of Protected Area

The Diablillos Project is not located within any area figure of conservation, considering the current system of protected areas of the Provinces from Salta and Catamarca.

For reference, protected areas (from both provinces) are listed below relevant at a regional level.

Los Andes Multiple Use Natural Reserve (Salta Province).

It is located in the Department of Los Andes, it was created by Decree 308/80, with an approximate area of 1,440,000 hectares. The limits of the reserve are to the North, the province of Jujuy and the Department of La Poma, to the East, the Department of La Poma, to the West the Republic of Chile and to the South the parallel 24º 45'. Resolution No. 428/18 Approves Comprehensive Reserve Development Management Plan Los Andes Wildlife Natural Park, Laguna Provincial Socompa Wildlife Refuge and Ojos de Mar Provincial Wildlife

Refuge of Tolar Grande. For other part, recategorizes the "Los Andes Wild Fauna Natural Reserve" created by Decree No. 308/80, assigning to it the category of "Natural Reserve for Multiple", in the terms of arts. 17, inc. g); 25, 35, inc. c) and concordant of law 7,107 and art. 25º and concordants. of Decree No. 2019/10 and is under the denomination of "Los Andes Multiple Use Natural Reserve". Likewise, it establishes that the Comprehensive Management and Development Plan must be reviewed and updated every five (5) years, from its implementation.

The project is located outside this protected area.

La Vicuña Natural Reserve Area (Salta Province)

Provincial law 6,709/93 declares the vicuña (Vicugna vicugna) as a species protected in the Departments of: Cachi, Molinos, San Carlos, La Poma, Los Andes, Iruya, Rosario de Lerma, Santa Victoria and Cafayate.

The final surface of the area protected is not defined.

Laguna Blanca Biosphere Reserve Area (Catamarca Province)

The Laguna Blanca Biosphere Reserve is located in the upper basin of the Los Patos River. It is a protected natural area, located between the departments of Belén and Antofagasta de la Sierra in the province of Catamarca. Created in 1979 with the in order to protect vicuña populations under Provincial Decree 475/79.

The project is located outside this protected area. However, it constitutes one of the passage areas to access it from Catamarca.

20.2.12 Archaeology

The reference for this section was the report “Archaeological Baseline Study (ELBArq) of the "Diablillos" Project, located on the N sector of the Salar del Hombre Muerto, department of Los Andes, province of Salta”. It was developed as an integral part of the Environmental Baseline (LBA) prepared by the consulting firm EC & ASOCIADOS S.R.L. (EC)1, being the company ABRASILVER RESOURCES CORP. (ARC)2 the operator of the project in question.

The field survey tasks were carried out by ARQUEOAMBIENTAL Consultores Arqueológicos during the month of October 2021.

The objective of this study is to evaluate the archaeological situation of the study area, so that the results obtained will be used as basic information for the development of future work. Further knowledge of the location and characteristics of the archaeological heritage will be sought.

The field survey carried out resulted in the formation of an archaeological record that includes a total of 17 (seventeen) archaeological finds, corresponding to sets of archaeological material, simple isolated structures and sets of structures.

Based on the evaluation carried out, the existence of an area of Medium Sensitivity called AS-1 is determined, which, although it is located outside the limits of the mining properties that make up the project area, does so on a sector related to access to it. Such a situation requires responsible management in order to achieve a harmonious relationship between the heritage and the work that is projected in the future. The fulfilment of this objective will require a coordinated, responsible, and committed action that involves all related social actors, be it company, community, professionals, and the state.

20.2.13 Environmental Risks

20.2.13.1 Risk Assessment

Irreversible impacts are those changes to the environment that persist indefinitely because it is not feasible to mitigate or restore the environment to an original or equivalent condition. Such irreversible impacts of the mine will be related to the open pit, and waste dumps, as these works will permanently modify the local landscape.

20.2.13.2 Risk Register

In each stage of mine development, an analysis of associated potential environmental risks must be undertaken. Potential risks will be considered at the stages of operation, closure, and post-closure of the mine. All of the facilities will be designed to provide safe operating conditions in order to reduce potential impacts on surface waters in the mine's area of influence.

20.2.13.3 Operations

The topography of the land will be altered by mineral extraction, especially around the pit and by construction of the waste dumps, stockpiles and TSF. The modifications made by the waste dumps and the do not represent geomorphological risks because they will be installed on sites that have no relevant natural hazards and will be designed to withstand earthquakes and extreme rainfall events.

20.2.13.4 Dump or Sterile Rock Deposit

While it is predicted that the waste dump area will have adequate long-term stability, monitoring of slope stability and deformation of the dump must be carried out on a continuous basis during its construction. In the case of the waste dump, its development has been executed in accordance with its design with no observations of subsidence as of the effective date of this Report. Any cracks that may be identified are surveyed, monitored, and subsequently remediated to enable the sectors for loading. The waste dump is located in a dry environment with no adverse issues related to wind erosion identified as of the effective date of this Report. The material is granulometrically varied, forming a 37° slope, that includes slight localized bulging, but nothing that interferes with the footing design. No instabilities have been identified.

20.2.13.5 Water

The risk of water pollution will always be an issue for consideration and control. Monitoring and sampling will be constant, and the results reported to the relevant authorities. A comprehensive program of monitoring downstream water quality at several points has been implemented to put aside any uncertainty about potential contamination. Normally in this type of mine there are concerns about the risks of acid drainage and cyanide presence from the leach circuit although this is minimized by the lack of precipitation and drainages.

20.2.13.6 Air Quality

The operation generates emissions of particulate material (dust) in the mine and plant area, mainly from mining operations such as drilling and blasting, movement of vehicles on dirt roads, loading and unloading of mined materials; and mineral processing operations such as crushing and agglomeration.

A plan for monitoring, control, and mitigation or reduction of suspended particulate material (dust) will be implemented through the installation of various types of dust suppressants and road irrigators, using brackish water as a flocculent of airborne dust. The nearest community is not downwind of the mine.

Gas pollution from vehicles and generators, the silver and gold smelting furnace, the carbon regeneration furnace, and the analytical and metallurgical laboratory, is carefully controlled and mitigated.

20.2.13.7 Soil

The process plant was designed as closed circuits and therefore no soil contamination is expected. There is, however, always a potential risk of failure in the leach circuit, in the transfer of solutions to different facilities, from drainage of solutions to the tailings pond, and from heavy precipitation that may cause solution in the circuit to exceed levels. A contingency settling pond has been constructed to provide protection against such events.

Within the plant have a central drainage system to collect any spillage and send it to the containment ponds.

During operations, closure, and post-closure, events, or situations of low probability of occurrence may arise involving the contamination of the land, such as an oil spill, chemical spill, or accidental discharge of process solutions. Each of these events will have health and safety action plans and environmental remediation plans as necessary.

20.2.13.8 Flora and Fauna

Flora may be at risk where mining activities are undertaken, such as at the waste dump areas or in the vicinity of the open pit, and where blasting, processing, crushing, and material transport activities occur and on roads. All these activities can cause deposition of particulate matter.

Human activity, particularly household waste, can attract animals to the area, especially foxes.

20.2.13.9 Sites of Archaeological Interest

No sites of archaeological significance were found in the area that are directly affected by mining activity.

20.2.13.10 Noise

Due to the location of the mine, the environmental noise impact will be virtually nil for nearby residents and local wildlife. Noise and vibration controls will be installed where necessary.

20.2.13.11 Closure and Post Closure Phase

Environmental risks during the closure stage will be reduced by remediation and monitoring work. At the closure stage, soil will be contoured by heavy machinery to minimize the long-term impact of mining activity and return the topography of the land to resemble prior conditions. However, the movement of soil, and thus the risk, will be significantly less than in the mining operations stage.

Detailed closure plan report will be submitted with the Secretary of Mining. This is the first detailed mine closure study to be presented in the Province of Salta and Catamarca.

One social-environmental risk will be the impact of closure on employment, directly and indirectly, to the surrounding communities. It will be imperative to implement measures to mitigate this impact during the mine’s operation.

A significant environmental risk will also be present during the closure of facilities, which will cause the production of significant non-hazardous industrial waste and hazardous products from the movement of heavy machinery. It will be essential to establish clear environmental policies with the contractors during this process.

The landscape is an important factor to be considered during this stage because the mine will have a definite and obvious impact on the natural landscape. To the extent possible, the impact on the landscape will be minimized.

20.2.14 Environmental Management Plan (EMP)

One of the priorities of AbraSilver is the care and protection of the environment. During the exploration stage, the company exercised any extent possible for the potential environmental impacts on the area. The same effort will be made during operational stage and in the closure stages of the mine. AbraSilver will define environmental principles to enable the development of mining operations efficiently from a productivity standpoint and from an environmental perspective, which include:

- Comply with existing environmental laws and regulations.
- Establish and maintain an environmental management program to guide operations.
- Involve the entire staff of AbraSilver and contractors in the Environmental Management Plan.
- AbraSilver promote environmental awareness among employees and the communities where operations occur.
- Mitigate the potential environmental impacts that do occur and support environmental improvement programs for common benefit.

The EMP defines the criteria, the design of specifications, and management practices that are applied to the Diablillos mine to mitigate, control, and monitor changes in the baseline conditions during operations, closure, and post-closure of the mine.

Corresponding prevention measures, mitigation of potential environmental impacts, as well as rehabilitation measures, are outlined as appropriate.

Prevention measures will avoid potential environmental impacts, while mitigation actions are intended to minimize, correct, or compensate for environmental impacts of the proposed Diablillos mine at different stages. Measures to increase, improve, and enhance the positive environmental impacts caused by the Mine will also be implemented.

An environmental contingency plan will be implemented to predict potential environmental incidents.

20.2.14.1 Measuring Conditions

The following criteria will be applied when identifying the environmental protection measures proposed for the Diablillos Mine:

- A clear and understandable proposal allowing reliable and consistent implementation.
- Technically feasible activities that can be reliably implemented in practice.
- Proposed measures that are economically appropriate to the scale of the Diablillos Mine.
- Ease of monitoring and control during the different stages of the mine life.

The Protection for Mining Activity Plan (PMA) that AbraSilver will be implementing for the exploitation phase of the Diablillos Mine follows the considerations established in Law No. 24,585 of the Environmental Protection for Mining Activity Act.

Erosion control works such as trenches and gabions are built as necessary to ensure the physical stability of the facilities against possible flooding caused by rare heavy rains.

The stability of the waste dumps, stockpiles, TSF and enclosures will be monitored continuously to prevent any slippage or collapse. In any bank area, piezometers will be installed to continuously measure pore pressures to detect the formation of phreatic levels in the slope that may cause slope failures.

In the construction and closure phases, the waste dumps and tailings dam will have an appropriate slope. Berms will be built around the perimeter of the tailings pond, lined to prevent any overflow. Drainpipe maintained around the perimeter in case of possible storm water.

Reclamation of the site during the closure and post-closure phases will help to reinforce all other measures taken.

One of the environmental risks previously identified is the impact on the landscape of vehicular traffic, such as new roads, spills, hazardous waste such as fuel and diesel oil, cargoes such as process reagents, and dispersion of these residues in the soil and air. Preventive measures have been implemented to mitigate these risks. Contractors are required to have a program of security and risk prevention for vehicles, adjusted to the mine's regulations regarding maintenance of vehicles, traffic speeds, night traffic restrictions, driver-training requirements, and load handling.

As an additional preventive measure, signs will be installed along the roads in areas that are considered dangerous. Communications between vehicles and the control center will be established throughout the Diablillos mine. Communications will also be established between the mine and various control points on the access routes, such as at Salta and Pocitos for monitoring vehicle status, load and source data, and estimated times of arrival. If any environmental accident occurs, a contingency plan will be triggered to avoid a significant environmental impact.

A lesser environmental risk related to vehicular traffic is that of emissions of particulate material (dust) and exhaust gases. As a precautionary measure regarding exhaust gases, no vehicles on the Property can be more than 15 years old, and all must comply with current national legislation with respect to a mandatory technical review. To minimize emissions of particulate matter (dust), besides the restrictions on speed limits, water trucks wet the roads on a regular basis.

Regulations require that vehicles are maintained to minimize noise and vibrations with measures established requiring drivers and contractors to ensure loads are well secured prior to transportation.

Experience in the Puna region has shown that the use of brackish water or brine that can be easily sourced from Salar De Diablillos, can achieve 80 percent efficiency in the reduction of particulate matter (dust) emissions into the atmosphere. The conventional method of using fresh water is estimated to function at 60 percent efficiency. Therefore, using brackish water decreases the volume of fresh water used for dust suppression. Atmospheric particulates (PM10) are regularly monitored in the mine area and surrounding communities to establish comparative benchmarks against the environmental baseline. The results of the monitoring program are shared with the local population. Company policy dictates that the operation must not only be environmentally and socially sustainable, but the awareness of social and environmental status must be demonstrated to the local community and other stakeholders.

Emissions of blasting products and gases into the atmosphere are limited in duration (time). There will be approximately one blast per day, and at this frequency, the effects are not anticipated to be significant. As a preventive measure, emissions are monitored and if necessary, the blasting procedure is adjusted to reduce the excessive release of particulates (dust) into the atmosphere.

To mitigate the risk of environmental impact from solid waste and domestic and industrial fluids, a comprehensive plan will be established for managing these wastes, including classification by type, hazard, and recyclability. The waste management plan is presented as a compulsory preventive measure during the induction process when personnel enter the Property. A location adjacent to the operation has been designated as the waste storage area with a small wire fence surrounding it to prevent entry of persons or animals, which helps to avoid dispersion of the waste by wind.

The entrance to the waste storage area will be controlled by AbraSilver staff that record the quantity, type, origin, and contractor delivering the waste. A waste management plan establishes the guidelines for removal, transportation, and final disposal of this waste. It is a contractual requirement that contractors who are hazardous-waste generators register with the Province of Salta or Catamarca under current regulations and, upon final payment of the contract, a certificate of final disposal of waste removed from the mine is required.

As a mitigation measure, practices have been established that decrease the amount of waste generated at the Diablillos Mine, such as the use of reusable drinking water containers. Grey water from the kitchen and showers, and black water from the toilets. Wastewater treatment is conducted using a water treatment plant sized for the camp and offices.

AbraSilver will ban pets, hunting, and other activities that could scare away native animals from the Property and permitted surrounding areas agreed by government officials.

AbraSilver continues to hold regular information meetings regarding the Diablillos Mine with the surrounding communities.

While the construction and improvement of roads can cause an environmental impact on the landscape and soil, there will likely be a positive impact from a social perspective for those people living in isolated areas. These inhabitants will have better roads, the flow of tourists in the region may increase, and the local economies may have better opportunities for growth.

To mitigate the strong, negative social impact when a company withdraws from an activity such as a mining operation, it is necessary to implement measures during the operations stage. These measures could include employment training that will be useful to the employees after the closure of the mine.

20.2.15 Issues of Environmental Concern

The following list specifies the most important issues to be considered from an environmental perspective that must be detailed in the EMP.

- Surveys of residents living in communities near the mine.
- Interests of those agencies evaluating the EIAs.
- Special requests by the Mining and Energy Secretary of the Production Ministry of Salta province (Secretaria de Minería y Energía, dependiente del Ministerio de Producción de Salta (DIA, Environmental Impact Declaration).
- Publications by Argentine media.
- Mining activity of concern to Argentine citizens.
- Statements by non-governmental organizations (NGOs), politicians, and other opinion makers.
- The key areas of community environmental concern are:
- Use of cyanide processes in the mine: special care will be placed on the prevention and establishment of monitoring controls of this input for transport, use, and final disposal. Meetings held periodically with the community about the use and transport of cyanide and sodium, which comes from Australia and China via Chile to Diablillos mine. Transportation companies today comply with the International Code for the Use of Cyanide in Mining.
- Water use by the process plant: publications and comments concerning the excessive use of water and water pollution due to mining activities are common. A water implementation monitoring program with the process being a participatory activity in which companies, governments, NGOs, and the community are involved. It is recommended that water quality data be communicated with higher frequency than that required by the supervisory authority.
- Transparency and dialogue: the population from the nearby communities expects the Diablillos mine to engage in constant communication within the direct area of influence of the operation. This includes the nearest community of Santa Rosa delos Pastos Grandes at 90 km away from Diablillos Mine, La Redonda is the closest town in Catamarca province. Other communities include Pocitos, San Antonio de Los Cobres, as an Area of Indirect Influence (IIA) in the Department of Los Andes in the province of Salta, considering as IIA the most important population close to the project, which is usually the departmental capital, which is used on the way to reach the project, where services not reached by the AID are contracted. The community of Ciénaga La Redonda, and the scattered posts are near the project. A community engagement plan will be established, implemented, and is revised annually to manage concerns.
- Effects of blasting operations on the environment: detailed information on the rock blasting process is disseminated to stakeholders.
- Doubts concerning the environmental and social impact of the closure and post-closure phases: the implementation of plans to minimize environmental impacts after the mine closure will be described in greater detail during the later stages of mining

operations. Details about the ongoing work carried out must be communicated during these stages to minimize a traumatic and abrupt change during the closure process. There must be an open and honest communication with stakeholders about the final status of the mine, especially its open pit, waste dumps, and heap leach pads, which will be the largest remnants of the mine on the landscape.

20.2.16 Operations and Management

An environmental monitoring program will be initiated at the operation, which includes a community input plan. This allows AbraSilver to hear directly from residents regarding what they expect from issues relating to the environment. Responding to these concerns quickly and honestly shows the community that AbraSilver takes its concerns seriously. The goal of the input plan is to have the local people consider AbraSilver as an important part of the local community, with an open-door policy for the population in general.

While there are strict requirements from the competent authority (Secretariat of Mining of the Province) for items such as the EIAs and the respective biannual renewal reports, it is proposed that environmental monitoring reports generated internally by AbraSilver every six months are submitted to the enforcement authority and the community in general. This will provide more contact with the government and community.

Environmental remediation costs will decrease upon closure if all measures are taken to mitigate negative impacts and appropriate remediation is conducted from the commencement of mining activities.

20.3 Community Relations

20.3.1 Social-Economic and Cultural Aspects

For the identification of the area of direct influence (AID), geographical and linkage criteria were considered, that is, the proximity of the project to the community, and the possibility of establishing ties there through the purchase of products and the contracting of services, as well as those that arise from interactions with the inhabitants. According to these criteria, the community may be impacted by the development of the project, and conversely, it may be the community that impacts the project.

The AID of the Diablillos project are the communities of Santa Rosa de los Pastos Grandes, located in the Department of Los Andes, Province of Salta; and the community of Ciénaga La Redonda, belonging to Villa Antofagasta de la Sierra, in Catamarca. These communities are the closest to the location of Diablillos. Scattered posts near the project were also included.

On the other hand, the area of indirect influence (AII) refers to the most important town close to the project, which is usually the departmental capital, where the company passes through to reach the project; and where it will impact, or be impacted, on their development. This refers to those commercial exchanges that reach the contracting of products and services that are not provided in the AID, as well as those formal administrative contacts with the municipality that is based in those department heads.

The IIA of the Diablillos Project is the municipality of San Antonio de los Cobres, in Salta; while the most relevant institutions of the department of Los Andes are established there, and because it is the center that provides commercial support to the town of Santa Rosa de los Pastos Grandes. The locality Estación de Pocitos is also included as an IIA, due to its proximity to the last-mentioned locality.

The company's areas of influence, like the rest of the Puna, are crossed by a mining history, so the activity, far from being alien to them, is part of their daily life, both because of the historical and current presence of the companies and because of their interaction with the communities. So much so, that it is considered as their main source of income in the case of both Santa Rosa de los Pastos Grandes and La Redonda. In the case of the posts, although pastoralism is their main source of livelihood, they recognize their presence in the region.

The most relevant information to take from the perception study, in relation to mining, is that, in general, they agree that the activity should be carried out in the area as long as certain requirements are met, related, in order of importance, to the collaboration with the town and its inhabitants, the hiring of local labour and services, and care for the environment.

When asked: Do you agree that there is mining activity in the region? 60% of the people surveyed agreed, compared to 20% with an ambiguous opinion on the subject, 15% who were indifferent and to a lesser extent, 5%, who stated that they disagreed with mining activity. Santa Rosa de los Pastos Grandes.

In Estación Salar de Pocitos, the level of agreement is higher, in the order of 84.6%, while 15.4% were indifferent.

In relation to the consultation on the benefits of mining activity, in both locations the interviewees perceive “mining” as a generator of sources of work. Consensus is observed regarding the increase in the generation of jobs and opportunities, imposing a positive perception. Secondly, the collaboration of companies in educational institutions stands out. Finally, investment in infrastructure and assistance to needy families was highlighted.

As a result of the field survey in the dispersed rural area, it was possible to determine that the dwellers knew and were aware of the company’s activities.

Likewise, they expressed having a good image of the CSR area based on the support they receive. Given that the stallholders do not have daily contact due to the distance they are from Abra Silver's mining properties, no mentions were obtained regarding the identification of direct negative impacts on the quality of life or the surrounding environment. In this sense, we can infer a positive assessment of the actions that the CSR area has been carrying out through the permanent visit of the area of direct influence, by providing health care and in the contribution of merchandise and basic supplies.

In SRPG and La Redonda, when asked about their opinion regarding the continuity of mining activity in the area, 94% responded positively in the first town, and 60%, similarly, in the second town, where the rest did not answer the question or did not agree. It is worth mentioning that more than half of the respondents from both towns, randomly chosen as indicated in the "Methodology" section, work in the mining sector, either directly or indirectly: 8 out of 17 respondents in SRPG, and 3 out of 5 in La Redonda.

It is important to highlight that the "conditionality" factor was present in most of the positive responses to the activity to different questions of the questionnaire, that is, they agree as long as conditions are met, and in all cases, they deal with collaboration with the people, the contracting of services and people, care for the environment. This makes more sense when analysing the community problems mentioned by the respondents, related to infrastructure (which are also described in Chapter 1): the stallholders pointed out problems of water supply and connectivity; SRPG mentions problems with water and lack of sewer network, lack of sanitary post and lack of transportation; and in La Redonda, lack of "services" and permanent medical assistance.

Another of the points covered in the survey was whether they would work in a mining project, and the response was mostly positive in all groups: 72% in the positions, 77% in SRPG (of which 24% currently work directly), 100% in La Redonda (where 20%, that is, 1 person, works directly in mining).

A striking situation that was evidenced during the collection of information in the field was that some respondents from the 3 areas (SRPG, Puesteros, and La Redonda) did not maintain a perceptual correlation throughout the questionnaire, providing a priori contrasting answers to different questions. By way of example, we can cite that some respondents, who stated that the activity generates only harm, did agree that it should continue, or some who did not agree that the activity should be carried out in the area, later indicated that they would work for it.

In relation to the perception of the residents about the AbraSilver company, they were first asked if they know the company, to which the majority indicated that they do: 57% in the stalls; 76% in SRPG and 80% in La Redonda. They were then asked the opinion they have of it and it could be observed that the majority of the respondents of the positions and SRPG do not have an opinion formed mainly due to lack of knowledge. The rest indicated that they had a good perception of AbraSilver (for the generation of employment and help to the community), and the most important thing is that no one expressed a negative opinion. In the case of La Redonda, there is a greater knowledge of the company, where 60% (3 out of 5) indicated that they know and value it for the good treatment and support to the community.

At the same time, the respondents (almost half in SRPG and positions) suggested that the company maintain or increase aid to the community and its inhabitants, for which they provided different topics of collaboration. In La Redonda, the majority (80%) have no suggestions.

Likewise, when asked about suggestions to mining companies in general, without focusing on AbraPlata, a greater number of respondents provide answers. In the case of the stalls and La Redonda, 100% offer suggestions and in SRPG 59%, related to helping the community, caring for the environment, improving, and increasing communication, and road repairs.

Finally, the topics of interest to the respondents, to be communicated by both AbraSilver and the rest of the companies, revolve around: what they do, how they do it, and environmental care measures, among other topics of lesser mention.

20.3.2 Stakeholder Engagement

The Social Communication Program (SCP) is a fundamental instrument in the socio-environmental management of the projects and operations by AbraSilver, fulfilling the function of qualifying audiences and content, as well as mentioning communication and dialogue channels with populations, social organizations, and public institutions in their areas of direct influence. This program is included in the Environmental Management Plan within the environmental licensing process.

The communication actions proposed in this document have the guiding principle to provide society with information about the project, its licensing phases, possible impacts, and control/minimization actions, thus, aiming to contribute to the involvement and participation of interested parties, showing transparency in the execution of the company's business.

In this context, social communication actions play an important role, seeking to ensure society not only full knowledge of the needed interventions for implementing the project and respective environmental control actions, but also implementing mechanisms for receiving, discussing, and responding to their doubts, expectations, and interests.

Social communication must be of continuous character and developed within the community and the city halls, supported by communication channels through social actions, meetings, and communication actions. This procedure provides consistent indicators of a trusting relationship.

The company aware of its role as an entrepreneur and the possible positive and negative impacts that its enterprise (Diablillos project) may cause to the nearby population and to its future employees, considers the implementation of social communication actions to be of fundamental importance, as a way to assure the dissemination of important information relating to the enterprise and the clarification of issues that affect them.

In this sense, the company intends to establish a transparent relationship channel with many segments that have a direct interest in the project, providing conditions for discussing doubts inherent to the project implementation and operation; furthermore, it aims to respond to the enterprise specific demands, maintaining information about its basic characteristics and the planned environmental control actions, providing clarity and transparency to its installation and operation process.

It should be noted that the program will follow regulations for socio-environmental communication and information area, guaranteeing society access to information on licensing and on activities potentially causing environmental impacts.

As a general objective, this program aims to promote access to information related to the Project for interested parties.

Its specific objectives are to:

- explain to the population about the implementation and operation of the enterprise.
- inform about socioeconomic and environmental impacts.
- identify the concerns and anxieties of the community regarding the project impacts, preventing, monitoring, and guiding possible adverse situations and procedures.
- strengthen the relationship and the communication channel with the community.
- publicize the procedures and attitudes to the internal public that aim to establish a harmonious and non-conflicting relationship with the communities located around the work; and
- publicize environmental control and monitoring programs.

The Social Communication Program aims to define project milestones, based on the licensing process and progress of the enterprise to establish systemic and complementary actions, focused on dissemination of central messages relevant to each phase.

The Social Communication Program must be structured on the basis of the following aspects:

a) Articulation: communication activities and actions aiming to establish a constructive relationship with government institutions (municipal governments), with the internal public (consultant companies and consultants responsible for environmental programs), and, mainly, with the local population; and

b) Information: about actions and communication instruments developed aiming to inform to different audiences about many aspects of the project, associated impacts, measures adopted for implementation, environmental programs development, and about the progress of activities.

Under the terms of the Federal Constitution of Argentina, the right of people and communities to be informed about environmental issues of public interest presupposes the duty of others to provide such information. Taking this principle into account, the right to access the socio-environmental information presupposes the duty of the Public Authorities to periodically inform the population about the situation of the environment and important environmental occurrences.

To meet this mandatory, Article 41 of the National Constitution refers to the rights of individuals residing in an area of productive activity to enjoy a healthy environment without compromising future generations. It also indicates that the Argentine State and Provincial governments will issue rules as appropriate to their jurisdictions. Other related legislation includes:

The target audience for the Social Communication Program is made up of the company's employees and of the communities neighbouring the Directly Affected Area (DAA). In this context, there are two target groups:

a) Staff (internal public); and

b) Communities neighbouring the Directly Affected Area (DAA) (external public).

This Social Communication Program has an interface with all the programs foreseen in the Environmental Control Plan aiming at synergy and better results of the proposed objectives.

The activities of the Social Communication Program will be developed during the project implementation and operation phases.

To promote approaching between the entrepreneur and the community to maintain up-to-date information about the enterprise and the territory, the following activities are suggested:

a) Distribution of leaflets and booklets aiming to adequately reach different target audiences, informing about the enterprise, impacts, and environmental programs, publicizing the workers' behaviours code and forms of communication for forwarding concerns, complaints, and suggestions.

b) Carrying out lectures to publicize the enterprise, its strategic importance, and associated benefits.

c) Cultural events and videos in institutions, schools, neighbourhood associations, secretariats, and city halls.

d) Internal meetings to align information, to disseminate the enterprise objectives and the environmental programs, indicating ways of interacting with the community; and

e) Meetings with public authorities and with the resident population, presenting and disseminating information about the project, its impacts and programs, and ways to establish contact with the entrepreneur.

The Social Communication Program (SCP) will be developed focusing on informing the target audience about the beginning of work installation and regarding the dissemination of information during the project operation phase together with the other programs presented in the Environmental Management Plan.

In this context, the SCP will be developed based on a participatory methodology, which allows the explanation of perspectives, needs, and assessments of the involved and interested parties.

The person responsible for executing this Program will be the entrepreneur, who may hire a specialized company to develop the program.

Aiming guaranteeing information to every citizen, ensuring knowledge about activities potentially causing environmental impacts.

Table 20-5 shows a time scale for the first five years, which must begin simultaneously with the implementation and operation of the mine.

Table 20-5: Physical Schedule of Social Communication Program Activities

PROGRAM	ACTIVITIES	Year 1	Year 2	Year 3	Year 4	Year 5
SOCIAL COMMUNICATIONS	Distribution of leaflets and booklets					
	Publicize the company by performing lectures					
	Cultural events, videos projections in institutions, schools, resident associations, mining secretary and municipalities.					
	Internal meetings to align information					
	Project presentation meetings to government and resident population					

Source:

The first educational campaign will be formalized with the Superintendency of Priority Projects (SUPRIP) in the first year after issuing the environmental license. Those responsible people for developing the program must evaluate the need to develop other campaigns during the project implementation and operation period, as well as establish their frequency.

The themes and actions specifically referring to the AbraSilver must be conducted before work begins and extend through the implementation phase until the end of the operation.

All events listed in this program must be recorded in a Technical Report, containing photographic documentation and an attendance list signed by the participants.

Depending on the interest of the public present and the themes proposed and evaluated, new meetings and group dynamics may be scheduled deepening issues listed by the participants.

Communication actions may be changed at any project phase, aiming to improve the effectiveness and efficiency of the means of communication, if it is informed and agreed in advance with the responsible body.

20.3.3 Community Development

The essentials for the community development plan for mining projects:

20.3.3.1 Context Assessment

To assess the context of the mining project. This includes identifying the key stakeholders, such as the local communities, governments, NGOs, and other partners, and understanding their needs, interests, and concerns. You also need to analyse the potential impacts and risks of your mining operations, such as environmental degradation, human rights violations, social conflicts, and cultural changes. You can use tools such as stakeholder mapping, impact assessment, and risk analysis to conduct a comprehensive and participatory context assessment.

20.3.3.2 Definition of the Vision and Goals

In designing a community development plan, is to define the vision and goals. The vision is a clear and inspiring statement of what to achieve with the community development efforts. The goals are specific and measurable objectives that support vision and address the key issues and opportunities identified in the context assessment. Consultation with stakeholders and align the vision and goals with their expectations and aspirations, as well as with the corporate values and policies.

20.3.3.3 Development of the Strategies and Actions

Develop the strategies and actions that will help the community with their goals. The strategies are the broad approaches and principles that guide the community development interventions. The actions are the concrete and detailed activities and projects that will implement to deliver the desired outcomes. The strategies should be based and actions on best practices and evidence, and ensure that they are relevant, feasible, and sustainable. Stakeholders should be involved in the planning and decision-making process and seek their feedback and approval.

20.3.3.4 Allocation of the Resources and Responsibilities

Allocate the resources and responsibilities that will enable to execute community plan. The resources are the financial, human, and material means that will be used to support the community development initiatives. The responsibilities are the roles and tasks that stakeholders will perform to ensure the effective and efficient implementation of the plan. You should allocate your Resources should be allocated and responsibilities according to priorities, capacities, and commitments, and ensure that they are transparent, accountable, and fair.

20.3.3.5 Monitoring and Evaluation of the Progress and Impact of the Community Plan

To monitor and evaluate the progress and impact of the community plan. Monitoring is the regular and systematic collection and analysis of data and information that track the performance and results of your community development activities. Evaluation is the periodic and objective assessment of the relevance, effectiveness, efficiency, sustainability, and impact of the community development interventions. Use of appropriate indicators, methods, and tools to monitor and evaluate plan, and involve stakeholders in the process. Also use the findings and lessons learned to improve the plan and practice.

20.3.3.6 Communication and Reporting the Outcomes and Achievements of the Community Plan

To communicate and report the outcomes and achievements of the community plan. Communication is the exchange and dissemination of information and knowledge that inform and engage the stakeholders and the public about the community development efforts. Reporting is the formal and structured presentation and documentation of community development performance and results. Use of clear, accurate, and compelling messages and media to communicate and report the plan and highlight the benefits and challenges of the community development work. Acknowledgement and celebrate the contributions and successes of the stakeholders and partners.

20.4 Closure

The rehabilitation and closure plan consist of three main stages:

1. Decommissioning planning

2. Execution of decommissioning

3. Implementation of the socio-environmental and geotechnical follow-up and monitoring actions of the post-closing. Waste piles will be graded as needed, capped with a vegetation suppression layer, and revegetated with herbaceous-shrub species. A final protective cover can be placed over the pile to facilitate revegetation and minimize erosion, at which point the sedimentation pond may be decommissioned. A cap layer of soil will be placed and seeded on the open pit berm areas. A fence will be built around the open pits, and all mine haul roads will be blocked off.

The closure plan is based on assessments of available technical information and local conditions throughout the life of the venture.

The recovery of degraded areas is a complex process that encompasses many interrelated activities and must be carefully monitored to avoid possible deviations, such as delays in soil correction or significant erosion.

During the recovery process of degraded areas, the aim is to maintain the original structure, whenever possible, prioritizing the use of native species in the areas to be recovered.

The pits and piles must have a final configuration with properly inclined slopes, an adequate drainage network to direct surface water, and the application of replanting techniques on the slope faces for efficient execution of a Mine Closure Plan. Replanting reduces the action of erosive agents, in addition to mitigating the negative visual effect from mineral extraction.

The equipment and civil structures demobilization that could be used in the project will not be carried out yet, even if there is the existence of a deposit and a mining concession that justifies the continuation and processing operations is proven.

If there is no technical-economic feasibility to continue the project, the company will remove the civil, metallic, and other structures related to the processing plant and of other supporting areas. The pit and piles geotechnical stability and the revegetation will also be part of the schedule.

Further details of the Mine Closure Plan will be presented below if the activity cessation is considered after experimental mining. A schedule of activities planned for the mine closure will also be presented.

Table 20-6: Schedule of Mine Closure Activities

ACTIVITIES	Year 0	Year 1	Year 2	Year 3	Year 4+
Excavation and backfill	■				
Surface drainage	■	■	■	■	■
Geotechnical monitoring		■	■	■	■
Required eartworks		■	■	■	■
Surface regrading				■	■
Biomat and Hydroseeding application				■	■
Facilities dismantling, demolition and demobilization					■
Preparation of periodic inspection reports		■	■	■	■

20.5 Corporate Social Responsibility

Santa Rosa de los Pastos Grandes is the closest village to the project in Salta province, approximately 90 km north of Diablillos. The town has an estimated population of 270 people, of which 160 live in stable conditions. La Redonda is the closest settlement in Catamarca province.

As part of a social responsibility program, AbraSilver maintains regular contact with local authorities and community members. Periodic meetings are held for information, contact, and to aid. AbraSilver assists in the development of community service providers, highlighting opportunities for local entrepreneurs that will be brought by the Diablillos Project.

AbraSilver is additionally part of a "social commission" along with other companies active in the area. This commission was created by the provincial government to facilitate cooperation between the government, communities, and companies in the region.

In meetings to date, the communities have expressed their support for the development of mining projects. The general feedback is that the local communities are excited at the prospect to develop the region and the personal opportunities that development will bring.

21 CAPITAL AND OPERATING COSTS

21.1 Introduction

The capital and operating cost estimates presented in this PFS provide substantiated costs that can be used to assess the economics of the Diablillos project. The estimates are based on an open pit mining operation; the construction of a process plant; associated tailings storage and management facility, and infrastructure; as well as Owner's costs and contingency.

The estimates conform to Class 4 guidelines for a PFS-level estimate with a ± 25% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). Although some individual elements of the Capex may not achieve the target level of accuracy, some others exceed it, hence the overall estimate falls within the parameters of the intended accuracy.

The capital and operating costs were evaluated on a project stand-alone, and 100% equity financed basis. Past expenditures to develop the project to Final Investment Decision (FID) were not included and considered sunk costs.

21.2 Capital Costs (CAPEX)

The purpose of this section is to outline the methodology by which the Capex was developed.

21.2.1 Material Take-Off's

Quantities were developed based on the preliminary Material Take Off's (MTO's) and complemented by estimates or allowances according to the following engineering documents which were developed to complete the estimate of quantities:

- General arrangements and site plot plans,
- Architectural drawings,
- Layouts Drawings
- Process Flow Diagrams,
- Preliminary P&IDs,
- Mechanical Equipment List,
- Electrical Equipment List,
- Electrical Single Line Diagrams.

Relevant quantities obtained from the MTO's are shown in Table 21.1 below.

21.2.2 Labor – Site conditions

As most of the construction packages included man-hours, only in few cases man-hours had to be estimated for this report. When applicable, unit man-hours Argentine standard construction productivity factors were used, mainly for tank and reactor construction and mechanical equipment installation and for some electrical, and I&C tasks. The standard productivity factors were increased by considering high altitude productivity loss, workers quality and absenteeism. Productivity losses due to labour market, schedule requirements and /or labour availability, etc. have not been taken into consideration.

Table 21-1: Relevant MTO's

DISCIPLINE	DESCRIPTION	UNIT	QTY
CIVIL	TSF Liners (Phase 1)	m^2	886,142
CONCRETE WORKS	Lean Concrete	m^3	875
	Structural Concrete	m^3	24,975
	Reinforcement steel	tn	2,019
STEEL STRUCTURE WORKS	Steel Buildings	tn	1,953
	Steel structures	tn	1,286
	Cladding	m^2	49,416
PIPING WORKS	Carbon Steel	m	24,643
	Carbon Steel - Rubber Lined	m	2,694
	Stainless Steel	m	455
	HDPE	m	37,271
	PVC	m	5,626
ELECTRICAL WORKS	Cable Trays	m	10,410
	Grounding cables	m	13,380
	Lighting protection cables	m	2,905
	Low voltage cables	m	33,472
	Medium voltage cables	m	1,750

A total of 6,130,500 MM man-hours has been estimated during the whole construction and commissioning period. A roster of 15 days on, 15 days off and 10 hours per day of effective working time have been considered, improving working conditions compared of construction union one (21x7).

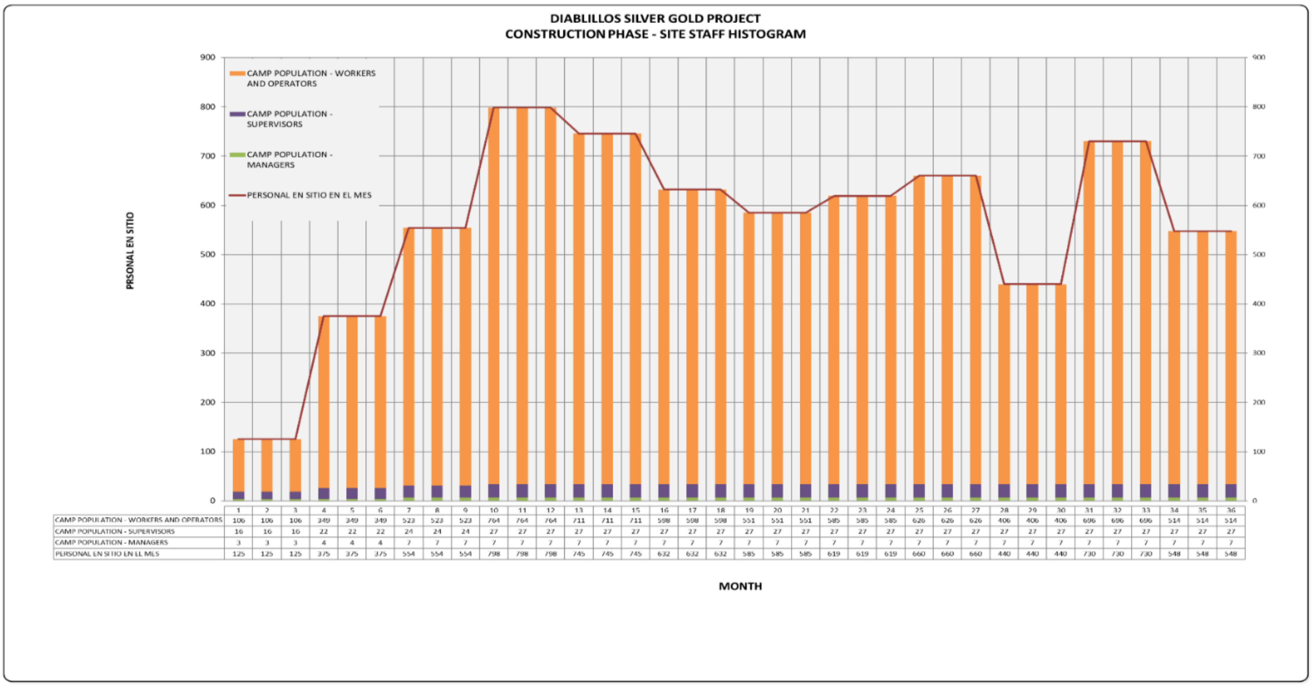
The following Figure 21.1 shows the labour histogram during construction.

21.2.3 Site conditions – Hospitality - Transportation

Hospitality and emergency medical care will be provided to all workers, supervisors, and managers by the Owner's established camp administration to all contractors workers and owners team, so as they all receive the same quality of accommodation, meals, and emergency care, allowing to avoid workers migrations from one contractor to another and improve Health and Safety overview to ensure that regulations are being met.

Transportation was also considered to be managed by the owner's team, to secure adequate workers travels to and from Salta city to site and safety supervision of the fleet and drivers.

Figure 21-1: Staff and workers histogram – Construction Phase



21.2.4 Mine fleet

Table 21-2: Major Mine Equipment

DESCRIPTION	PRE-PRODUCTION CAPITAL	SUSTAINING CAPITAL
MAIN MINE FLEET		
Drill rigs, Rotary tricone 7-9 inch - Sandvik D75	2	
Drill rigs, Rotary tricone 3-5 inch - Ranger DX900	1	1
Blasting service truck - ANFO	1	
Excavator - CAT 375	4	2
Front end loader - CAT 992G	4	2
100 tons off-road trucks - CAT 777D	26	7
Bulldozer - CAT D8	4	1
Bulldozer - CAT D7	2	1
Wheel mounted bulldozer - CAT 834G	4	3
Fuel supply truck (6.000 l)	1	
Mobile lighting towers	8	
ANCILLARY MINE MOBILE FLEET		
Grader - SANY SMG200	2	1
Grader - SANY SMG200	1	
Backhoe - SANY BHL75	1	
Compaction roller - CAT CS7	1	
Mini backhoe - Bobcat S750	1	
Low-boy Truck & Trailer		1
Off-road watering trucks - SANY SKT40S	2	

21.2.5 Other data sources

Data for the estimates have also been obtained from numerous sources, including:

- Mine schedules,
- PFS-level engineering design for process plant, ancillaries, and off-site facilities by SGS Bateman, camp by owner's engineering team and TSF by Knight Piesold, subcontracted by SGS Geological Services,
- Topographical information from site surveys and preliminary geotechnical investigations,
- Budgetary equipment quotes from suppliers based in Argentina and overseas,
- Budgetary unit costs from local contractors for different disciplines,
- Data from similar recently completed studies and projects.

The following parameters and qualifications were considered:

- No allowance has been made for exchange rate fluctuations. Quotes received in Argentine Pesos and/or at the official exchange rate were equalized into U$ Dollars to be comparable with each other's using exchange rates corresponding to the date of quotation.
- There is no escalation added to the estimate.

The capital cost summary is presented in Table 21-2 by WBS and Table 21-3 by discipline.

Table 21-2: Summary of Capital Costs by WBS

WBS	DESCRIPTION	Initial Capital (000 USD)	Sustaining Capital (000 USD)
00000	Project Preparation	8,047	334
01000	Permanent Site Facilities	28,093	
02000	Mine	39,275	14,948
03000	Process Plant	90,893	
04000	Reagents Storage and Preparation	6,035	
05000	Ancillary Systems	44,203	
06000	Site Wide - Piping	28,347	
07000	Site Wide - Electrical	19,464	
08000	Site Wide - I&C	3,668	
10000	Tsf - Tailings Storage Facility	25,129	48,634
11000	Waste Dump ARD Handling		1,080
12000	Off Site Infrastructure	3,120	
20000	Construction Site Costs	42,651	
21000	Engineering And Construction Management - Site Supervision	5,139	
22000	Owners Costs During Construction	9,087	
	Total Initial Capital (No Contingency)	***353,152***	
30000	Contingencies	20,333	
50000	Sustaining Capex Total		64,996
60000	Mine Closure and Site Remediation		11,148
	Total Project Capital Costs	***373,480***	***76,143***

*Note: Values may not sum due to rounding. The sum of values aligns with those presented in the press release dated March 25th, 2024.

Table 21-3: Summary of Capital Costs by Discipline

DISCIPLINE	DESCRIPTION	INITIAL CAPITAL (000 USD)	SUSTAINING CAPITAL (000 USD)
ARC	Architectural	15,183	0
BEAR	Bulk Earthworks	13,712	32,989
CCR	Concrete	9,119	55
CIV	Civil	50,851	15,781
COMM	Commissioning (First fills, etc.)	5,731	0
DRL	Drilling	321	0
ELECT	Electrical	63,238	622
ENG	Engineering Design	7,318	250
I&C	Instrumentation & Controls	3,004	0
LEAR	Local Earthworks (foundations)	9,036	16
MEC	Mechanical Equipment	106,142	14,948
PCM	Project Controls	1,298	0
PIP	Piping	29,555	0
STLB	Steel buildings	3,549	0
STLS	Steel structures (Railings, supports)	23,626	0
SVY	Surveys	166	334
TRP	Transportation	3,542	0
OWN	Owner's Costs	7,760	0
Capital Before Contingency		353,152	
Contingency		20,333	
Closure Costs			11,148
PROJECT TOTAL		**373,48**	**76,143**

Note: Values may not sum due to rounding.

21.2.6 Other cost considerations for main CAPEX areas

21.2.6.1 Pre-Production Stripping

Primary mine pre-stripping is costed under pre-production construction for areas encompassing mine haul roads, site clearing, tailings pond construction, and infrastructure levelling. The quarried materials required will be sourced from the footprint of the open pits, and thus direct mine pre-stripping is left out of this estimate to reduce the chance of double counting those costs in the work breakdown structure. Contractor quotes for this material movement are provided under the relevant areas. Costs for the mining fleet were obtained via vendor quotes.

21.2.6.2 Mine Infrastructure Capital

Mine infrastructure capital covers explosives storage, fencing and the nitrate storage pad. The pit dewatering system will be installed after commercial production and is thus placed under sustaining capital.

21.2.6.3 Process Plant and Ancillary Systems

The definition of process equipment requirements was based on process flowsheets and process design criteria, as defined in Section 17. All major equipment was sized based on the process design criteria to derive a mechanical equipment list. Mechanical scopes of work were developed and sent for budgetary pricing to equipment suppliers. The components costed for the process plant include:

- Rom Pad and Retention Wall,
- Process Plant - Ore Stockpile – Dome,
- Process Plant - Steel Buildings,
- Process Plant - Modular Buildings, mainly electrical rooms,
- Process Plant – Concrete, Steel, Mechanical, Piping, Electrical and I&C,
- Crushing
- Grinding
- Gravity Concentration
- Tank Leaching
- Counter Current Decantation (CCD)
- Merril Crowe Zinc Precipitation
- Foundry
- Cyanide Recovery
- Cyanide Detox

The costed components under Reagents Storage and Preparation include:

- Sodium Cyanide Storage and Preparation
- Milk Of Lime Storage and Preparation
- Flocculants - Storage and Preparation
- Merril Crowe Reagents - Storage and Preparation
- Detox Reagents - Storage and Preparation

Other ancillaries considered were:

- Process Water Treatment, Storage and Distribution
- Compressed Air Plant
- Petroleum Liquified Gas Tank Farm
- Conventional Power Plant
- Renewables Power Plant

21.2.6.4 Site-wide piping

Site wide piping includes process plant piping as well as piping and pipelines to support all other site ancillary systems, including shop and infrastructure support.

21.2.6.5 Site-wide electrical

The power distribution network will deliver power from the onsite generators and photovoltaic (renewables) system. All site distribution networks will be installed underground, within duct banks The network also includes all switchgear, E:rooms, transformers, and lighting protection. Diesel generators will be provided at each off-site location to reduce the cost and safety risks associated with the installation and maintenance of long-distance overhead power lines. Within each building power cabling will be distributed per cable trays.

21.2.6.6 Site-wide I&C

Site-wide Instrumentation and Control (I&C) consider the central control room, the industrial communications network and IT and the remote-control units, and fiberoptics network.

21.2.6.7 TSF – Tailings -Storage Facility

The tailings storage facility will be constructed in 5 stages over the life of mine. Stage 1 will be constructed during the pre-production years, while stages 2 -5 are constructed under sustaining capital during production years 3, 6 9 and 12 respectively.

21.2.6.8 Off-site infrastructure

Off-site infrastructure is mainly related to the water supply system and the aggregates quarry. The raw water supply system is composed of:

- Raw water wellfield,
- Raw water pipeline,
- Booster pumps pumping station.

21.2.6.9 Construction support and site costs supplied by the owner.

Construction Site costs include the following components:

- Construction Fuel,
- Catering And Hospitality,
- Personnel Transport To Site,
- Access Control and Site Security,
- Medical Service,
- Chemical Toilets,
- Hazardous And General Waste Management,

- Equipment, Tools and Supplies To Be Provided By The Owner – Construction,
- Concrete Plant (Aggregates + Concrete Plant),
- Mobile Equipment Rentals,
- Testing Equipment / Instruments,
- Camp Maintenance and Other Consumables,
- Spare Parts and Lubricants For Vehicles,
- Health And Safety Signage,
- Internal Material Handling, Unloading and Site Distribution,
- Overland Bulk Transportation Costs,
- Maritime Bulk and Air Bulk Transportation Costs (Depending on schedule requirements).

Contractor's indirect costs include all contractors' overheads such as contractual requirements (safety, insurance, etc.), mobilization and overheads were included into their budgetary quotations. Therefore, unit prices submitted by contractors are "all-in" rates and are totally considered as direct costs. The listed site services to be supplied by the owner, were excluded from the contractors' budgetary quotations.

Transportation costs were obtained from a specialized logistics consultant, who provided overseas and inland freight figures from different shipment ports and a road study for all types of cargo, including insurance and demurrage costs.

The freight and logistics costs include for brokerage and agent fees, warehouse services, and import. It is assumed that there will be no requirement for air freighted items to site or only exceptionally.

21.2.6.10 Engineering and Construction Management support.

Engineering and Construction Management includes:

- Execution Engineering for EPC's Interfaces,
- Execution Engineering and EPC Packages Interfaces,
- Detail Engineering for Execution,
- Vendor Representatives + Commissioning and Start-Up Assistance,
- Vendor Representatives,
- Commissioning And Start-Up Assistance.

21.2.6.11 Owner's costs

Owners Costs during construction include the Owner's project execution team, construction insurance policies and first fills of reagents and diesel fuel.

No allowances for spare parts have been considered, as the spares for start-up and for the first two year of operations are included in vendor quotes.

First fills include the start-up fill of the reagents, lime, fuel and gas, and lubricants of full storage capacity.

21.2.6.12 Contingency

Contingency accounts for the difference in costs between the estimated and actual costs of materials and equipment. A comprehensive list of quotations for equipment and services of approximately 80% of total costs were obtained from budgetary quotations, the following contingencies have been considered.

- 2% on major equipment
- 7% on minor equipment and all remaining supplies and services packages.

Contractor packages were set to a greater level of detail than normally found in a pre-feasibility study. Many of the quoted packages have already a contingency amount applied, which was not broken out as separate line items for this study.

21.2.7 Sustaining Capital Cost

Sustaining capital is related to ongoing environmental permitting requirements, mine equipment replacements, pit dewatering and Tailings storage Phases 2 – 5.

21.2.8 Mine remediation and closure

Mine Closure costs relate to ongoing environmental monitoring, facilities demolition and removal, camp and off-site facilities dismantling, TSF cover, facilities area rehabilitation and EPCM costs for site closure management and design. Costs associated to the mine remediation and closure were detailed separately included in this estimate. The remediation scope was detailed in Chapter 20.

21.2.9 Assumptions, Restrictions and Exclusions

All estimates are developed within a frame of reference defined by assumptions and exclusions. The main assumptions, restrictions and exclusions are listed below:

The execution strategy is based on an Engineering company performing the detailed engineering and site QA/QC, in order to be fully responsible for quality delivery of the whole project. Procurement and Construction Management will either be performed by the Owner's team or eventually subcontracted to another company, to be responsible for the timely execution and within budget, managing all sub-contracts and factory inspections. The estimation is based on the milestone schedule detailed in Chapter 24.

The Capex assumes to comply with all requirements regarding local content in terms of labour, construction and services contracts, and materials and equipment supplies.

The estimate assumes no access restrictions to site at any time, nor delays in execution due to Owner's financing, permitting or other delays coming from labour disputes.

No underground obstructions are considered for all excavation activities, while suitable aggregates quarries and borrow pits are available in site proximity.

The following items are specifically excluded from the Capital Estimate:

- Escalation and interest during construction,
- Schedule delays and associated costs or schedule recovery or acceleration,
- Scope changes,
- Unidentified ground conditions,
- Extraordinary climatic events; labour disputes, force majeure,
- Research and exploration drilling and other sunk costs,
- Salvage values,
- VAT or other similar taxes.

21.3 Operating Costs (OPEX)

The purpose of this section is to outline the basis of estimate and methodology by which the Opex was developed.

21.3.1 Basis of Estimate

Common to all operating cost estimates are the following assumptions:

- Cost estimates are based on pricing without allowances for inflation.
- Costs are expressed in United States dollars (USD or US$).
- Labor is sourced from Argentina, with limited local input.
- Equipment and materials will be purchased new.
- Grinding media consumption rates have been estimated based on the measured ore characteristics.
- Reagent consumption rates have been estimated based on metallurgical test work, design criteria and standard operating practices.
- The process and mine mobile equipment costs include fuel and maintenance costs.

The following cost items are specifically excluded from the Opex:

- Value Added Tax (VAT),
- Project financing and interest charges.

Table 21-4: Summary of Operating Costs

	LOM Including Working Capital	Commercial Production Years 1 - 13	Years 1-5	LOM	Year 1-5	Commercial Production Years 1 - 13
	(000 USD)	(000 USD)	(000 USD)	USD/tonne milled	USD/tonne milled	USD/tonne milled
Camp and Service Hub - Operating Cost	155,025	150,623	58,260	3.67	3.70	3.70
Mine - Ore Mining Cost	81,762	78,947	30,536	1.93	1.94	1.94
Mine - Waste Mining Cost	459,852	406,239	148,397	10.87	9.42	9.98
Mine - Overburden Mining Cost	77,080	71,153	51,936	1.82	3.30	1.73
Mine - Cover Mining Cost (Contractor)	17,775			0.42		
Plant - Processing Cost	293,482	285,819	110,554	6.94	7.02	7.02
Utilities and Off-site Facilities - Operating Costs	378,056	369,603	142,961	8.94	9.08	9.08
Maintenance - Maintenance Operations Cost	130,344	128,897	49,857	3.08	3.17	3.17
Logistics	113,662	112,215	43,404	2.69	2.76	2.76
G&A - General Administration Costs	25,111	22,802	8,820	0.59	0.56	0.56
Total	**1,732,149**	**1,626,298**	**644,725**	**40.95**	**40.93**	**39.94**

*Note: Numbers may not add due to averages and rounding

In this technical report, the life of mine operating costs include working capital during pre-production not included as initial capital for plant and mine commission during the Year -2, Year -1, and Year 0.

21.3.2 Operating costs details

Operating cost details are estimated from a combination of direct quotes and first principles calculations. Tables 21-4 to 21-12 present the details of operating costs for each functional Area during an average year of operations. As the tonnes moved in any particular year varies, average values may not sum to final totals. Total life of mine costs are based on averages of each WBS Area.

Table 21-4: Summary of Operating Costs

OPEX ITEMS	YEARLY AVERAGE COST (000 USD)	TOTAL COST %	UNIT COST USD/ton (milled)
CAMP OPERATIONS AND SERVICE HUB	11,818	10.48%	3.70
MINE OPERATIONS	28,791	25.54%	9.01
PLANT OPERATIONS	22,426	19.89%	7.02
UTILITIES & OFF-SITE FACILITIES	29,000	25.72%	9.08
MAINTENANCE	10,113	8.97%	3.17
LOGISTICS	8,804	7.81%	2.76
G&A	1,789	1.59%	0.56
TOTAL OPEX	**112,745**	**100%**	**35.29**

21.3.2.1 Operations staff

Abra Silver conducted a salaries market study from a local human relations consultant, Recursos Humanos Salta, to obtain personnel salary and benefits costs most commonly used in Salta province projects covering most of all operating positions envisioned for the mine site. Social security contributions of 29% were applied to the gross salaries and included in the final figures. Labor was estimated for both staff and hourly on a 12-hour shift basis and 15 days on, 15 days off roster. Site positions and salaries for full production years are shown in Table 21-22.

Operations staff costs were distributed according to their functions to their corresponding Area Breakdown Structure (ABS).

The overall site complement is shown in Table 21-5 below for a typical year during operations.

21.3.2.2 Camp Operating Costs

Operating costs for the camp consider the staff and consumables to operate and maintain the camp and provide the necessary services to support all hospitality tasks for the operations staff like accommodation, meals, room cleaning, recreation, medical, emergencies. The camp includes a workshop to perform all camp maintenance and minor civil, electrical, and I&C maintenance for all the project facilities and its related warehouse, hence its consumables are included within, as the main site administration offices as well.

The service hub includes all costs related to the truck-shop and plant maintenance workshop, including the plant and mine operating offices.

Table 21-6 shows the camp and service hub operating costs.

LOCATION	JOB DESCRIPTION	Pay-roll	Administration	Per Roster	Total staff on site per roster (15 days on x 15 days off)						
					Managers	Superintendents	Professionals	Supervisors	Technicians	Clerks	Operators + Helpers
MAIN OFFICE	General Manager	1	1	---	---	---	---	---	---	---	---
	Supply Manager	1	1	---	---	---	---	---	---	---	---
	Purchasers and activators	6	6	---	---	---	---	---	---	---	---
	Administration and Finances Manager	1	1	---	---	---	---	---	---	---	---
	Clerks	8	8	---	---	---	---	---	---	---	---
			17	0							
SITE	Operations Manager	2	---	1	1	---	---	---	---	---	---
	Operations staff	350	---	175	---	10	5	23	20	1	116
	Logistics Manager	2	---	1	1	---	---	---	---	---	---
	Logistics staff	136	---	68	---	3	1	12	---	3	49
	HS&E Manager	2	---	1	1	---	---	---	---	---	---
	HS&E staff	62	---	31	---	1	1	9	3	---	17
	Explorations Manager	2	---	1	1	---	---	---	---	---	---
	Explorations staff	24	---	12	---	---	8	---	---	---	4
		580		**290**							
	TOTAL STAFF ON SITE PER ROSTER	**290**									
	TOTAL SITE STAFF PAY-ROLL	**580**									
	TOTAL PACIFIC RIM MINING PAY-ROLL	**597**									

Table 21-6 Camp Operating Costs

CAMP	USD/t Milled
Camp staff and labour	0.63
Hospitality	1.75
Staff travel and site transportation	1.03
HS&E	0.09
Medical	0.05
Water consumption	0.00
Miscellaneous consumables	0.09
Waste management	0.04
Effluent management	0.02
Total	**3.70**

21.4 Mine Operating Costs

Mine fleet (Main and ancillary) equipment operating costs were based on the mine plan and for each piece of equipment operating cycles. Mobile equipment includes fuel and maintenance costs (lubrication oils, tire replacement, etc.). Operating costs were supported by vendor information and/or mining consultant database. It is assumed that pre-stripping is performed by an earthworks contractor while the remaining mining operation is being performed by the owners operations team.

Mining operations were estimated on a basis of 360 days of working time per year, 24 hours a day.

The mine fleet will be diesel powered. Mine dewatering isn't expected to start until year 10.

Drilling and blasting costs were estimated according to the drilling pattern based on the mine plan. For the PFS it has been assumed that drilling will be performed by the owner's team, while a local blasting contractor will supply and provide all necessary equipment, manpower and explosives to perform the task.

Mine operating costs also include the assay laboratories analysis costs for mining, process, and environmental test works. Required assays and quantities for normal operations were estimated by the owner and benchmarked against other projects.

Table 21.7 details the mine operating costs.

Table 21-7:Mine Operating Costs

MINE OPERATIONS	USD/t Milled	USD/t Mined
Mine staff and labour	2.47	0.53
Drilling & Blasting	0.63	0.14
Excavation & Hauling	3.89	0.84
Mine mobile fleet and ancillary support fleet maintenance	1.07	0.23
Mine road maintenance & dust control	0.71	0.15
Mine dewatering (Starting year 10)	0.01	0.01
Metallurgical lab - Reagents include chemical lab ones	0.21	0.05
Training	0.00	0.01
Total	**9.01**	**1.94**

Note: Numbers may not add due to averages and rounding

21.4.1.1 Plant Operating Costs

The process plant operating costs represents the estimated annual Opex for the tank leaching operation over the LOM. The ore processing plant operations were estimated on a basis of 350 working days per year, 24 hours a day, due to increased maintenance stoppages.

The plant will process 9.000 t/day, as the current mine plan considers plant saturation over the whole LOM.

The Opex covers crushing and conveying, grinding, tank leaching, CCD and Merril Crowe, cyanide detoxification, Reagents storage and handling.

Consumption of reagents and plant consumables were specified within the Process Design Criteria and quoted from suppliers. Main reagents include sodium cyanide, quicklime, sodium hydroxide, sodium metabisulphite, zinc dust, diatomaceous earths, flocculants, fluxes and anti-scalant.

Table 21-8: Process Plant Operating Costs

PLANT OPERATIONS	USD/t Milled
Plant staff and labour	1.59
Crushing	0.10
Grinding	1.04
Leaching and CCD	0.03
Merril Crowe and foundry	0.06
Cyanide recovery and detoxification	0.03
Reagents	4.08
HS&E	0.07
Training	0.02
Total	**7.02**

Note: Numbers may not add due to averages and rounding

21.4.1.2 Ancillaries, Utilities and Off-site Operating Costs

Installed power generation capacity had to be adequate to the high-altitude environment, hence de-rating was considered while setting the installed generation capacity at 20 MW.

Being power generation one of the most relevant operating costs items, a hybrid power plant has been designed, composed by a 3 MW solar plant with batteries storage system (BESS) for the camp and service hub operation and a 17 MW solar plant without batteries for generating the plant power consumption during daytime. The solar plant will be complemented with a dual fuel power plant (diesel – natural gas) depending on the future supply availability of natural gas, of 20 MW installed power.

The other ancillaries or utilities considered are the raw water wellfield, the water treatment plant, the fuel and gas tank farms and the operation of the tailings storage facility (TSF).

Table 21-9: Ancillaries, Utilities and Off-site facilities Operating Costs

UTILITIES AND OFF-SITE FACILITIES OPERATIONS	USD/t Milled
Utilities and off-site staff and labour	0.22
Tailing dam	0.01
Water production & treatment	0.01
Power generation	6.82
Fuel station	0.01
Gas tank farm	2.02
Total	**9.08**

Note: Numbers may not add due to averages and rounding

21.4.1.3 Maintenance Operating Costs

Maintenance costs include an estimation for all the maintenance consumables for the different facilities of the project, including mine and general-purpose fleet equipment maintenance and major spare parts for the process plant (i.e. liners and screen replacements). Wear rates for liner and screens replacement frequencies were estimated based on vendor-supplied data.

Underground power line, raw water wellfield pumps and water pipeline booster station maintenance and the TSF facilities as well.

Table 21-10: Maintenance Costs

MAINTENANCE	USD/t Milled
Maintenance staff & labour	0.72
Camp and service hub maintenance	0.17
Plant mobile fleet maintenance	0.01
Power generation maintenance	0.11
General support fleet maintenance (Truck shop, staff, camp, etc.)	0.04
Plant maintenance	1.98
Off-site maintenance - Access & internal service roads maintenance	0.02
Off-site maintenance - Power lines	0.06
Off-site maintenance - Water wellfields and water treatment plant	0.03
Off-site maintenance - Tailings storage facility	0.02
Total	**3.17**

Note: Numbers may not add due to averages and rounding

21.4.1.4 Logistics Costs

Logistic costs were split into upstream logistics and downstream. The upstream logistics consider the transportation of supplies, consumables, and reagents to site, to secure adequate stocks for consumption. In general terms and according to the Process Design Criteria, most of the reagents and consumables storage capacities have been designed for a 7-day supply margin.

Downstream logistics consider the transportation of doré bars from site to a refinery located in the United States. Transportation, security, and insurance for doré transportation to the refinery were quoted by a specialized contractor.

A small production of mercury, which has to be treated and disposed of according to international standards, was considered and estimated for final disposal at facilities in Europe.

Table 21-11 shows the logistics costs breakdown.

Table 21-11: Logistics Costs

LOGISTICS	USD/t Milled
Logistics staff and labour	0.30
Upstream logistics - Inland overland transportation - Bs. As. to Salta	1.31
Upstream logistics - Overseas maritime shipping	0.55
Downstream logistics - Doré transportation from mine to refinery	0.60
Downstream logistics - Special Hg transport to Antwerpen - 40' cont.,	0.00
Total	**2.76**

Note: Numbers may not add due to averages and rounding

21.4.1.5 General and Administration Costs

The G&A costs for the operations stage were compiled using current internal data from the accounting section of the company. Only local G&A costs were considered, while corporate ones were excluded due to the different projects which are being currently under development.

G&A's are depicted below in Table 21.12.

Table 21-12: G&A Costs

GENERAL & ADMINISTRATION	USD/t Milled
General administration and office staff, site management	0.40
Abrasilver Resources Corporate Office Expenses	0.00
Abrasilver Resources Corporate Office External Support	0.00
Abrasilver Resources Corporate Office Travel Expenses	0.00
Pacific Rim Argentina SA Office Expenses	0.02
Pacific Rim Argentina SA Office External Support	0.06
Pacific Rim Argentina SA Office Travel Expenses	0.01
Mining tenements and other fees	0.02
Pacific Rim Argentina SA ESG	0.05
Total	**0.56**

Note: Numbers may not add due to averages and rounding

22 ECONOMIC ANALYSIS

22.1 Introduction

An economic analysis for the Diablillos project has been prepared, on the basis of a discounted cash-flow model, from which Net Present Value (NPV), Internal Rate of Return (IRR), payback, to assess its economic viability.

The cash flow arising from the economic analysis enabled the calculation of the relevant economic and financial indicators, as stated above, including a sensitivity analysis to key changes, like metal prices, metal recoveries and CAPEX and OPEX.

Silver and gold sales prices provide the projects revenues and are considered as constant throughout the LOM, while no other metal is considered to provide revenues.

22.2 Forward-Looking Information Cautionary Statements

The results of the economic analyses discussed in this section represent forward-looking information as defined under Canadian securities law. The results depend on inputs that are subject to known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from those presented herein. Information that is forward-looking includes the following:

- Mineral resource and reserve estimates.
- Assumptions about commodity prices and exchange rates.
- Proposed mine production plan.
- Projected mining and process recovery rates.
- Sustaining costs and proposed operating costs.
- Assumptions as to closure costs and closure requirements, as well as salvage value of assets at end of production.
- Assumptions as to environmental, permitting, and social risks.

Additional risks to the forward-looking information include the following:

- Production cost changes from what is assumed.
- Unrecognized environmental risks.
- Unanticipated reclamation expenses.
- Unexpected variations in quantity of mineralized material, grade, or recovery rates.
- Accidents, labour disputes, and other risks of the mining industry.
- Geotechnical or hydrogeological conditions during mining being different from what was assumed.
- Failure of mining methods to operate as anticipated.
- Failure of plant, equipment, or processes to operate as anticipated.
- Ability to maintain the social license to operate.
- Changes to interest rates.
- Changes to tax rates.

22.3 Methodologies Used

The project has been evaluated using a discounted cash flow analysis based on a 5% discount rate. Cash inflows consist of annual revenue projections. Cash outflows consist of capital expenditures, including pre-production costs, operating costs, taxes, and royalties. These are subtracted from the inflows to arrive at the annual cash flow projections. Cash flows are taken to occur at the end point of each period.

It must be noted that tax calculations involve complex variables that can only be accurately determined during operations, and as such, the actual post-tax results may differ from those estimated.

A sensitivity analysis was performed to assess the impact of variations in silver and gold prices, process recoveries, mining costs, process costs, and total capital costs.

The capital and operating cost estimates developed specifically for this project are presented in Section 21 of this report while obtained during 2023 and early 2024. All costs and income were reflected in USD despite quotes being obtained in Argentine Pesos and U$ Dollars using exchange rates as noted in Section 21. The economic analysis has been run on a constant dollar basis with no inflation.

22.4 Financial Model Parameters

The financial model parameters used in this financial model are summarized in Table 22-1.

Table 22-1 – Financial model parameters

METAL PRICES		
Au	USD/oz	1,850.00
Ag	USD/oz	23.50
Au / Ag price ratio		78.72
PERCENTAGES PAYABLE ON METAL PRICES		
Percent payable Au	%	99.8
Percent payable Ag	%	99.8
SMELTING AND REFINING		
Au	USD/oz	4.00
Ag	USD/oz	0.70
TAXES AND ROYALTIES		
Net Smelter Return Royalty (EMX)	%	1.00
Royalty	%	3.00
Municipal Tax	%	0.60
Transaction tax (in)	%	0.60
Transaction tax (out)	%	0.60
Provincial Gross Income Tax	%	5.00
Federal Profit Tax	%	35.00
Export Duty Au	%	8.00
Export Duty Ag	%	4.50
Export Duty Refund Au	%	1.50
Export Duty Refund Ag	%	1.50

22.5 Assumptions

The economic analysis was performed assuming the base case silver price of $23.50/oz and a gold price of $1,850/oz. These metal prices are guided by 3-year trailing averages and comparisons with other recently published studies. The forecasts used are meant to reflect the average metals price expectation over the life of the project. No price inflation or escalation factors were taken into account.

The economic analysis also used the following assumptions:

- The engineering and construction period will be two and a half years, while half of the third year was considered for commissioning and ramping up under limited production.
- Portions of pit pre-stripping are covered under site construction for areas that require quarried material. Stripping for operations is assessed as working capital and is included in the financial model as an operating expense, as per Abra's tax guidance.
- The production life is 13 years, with the last year being a partial year.

- Cost estimates are in constant US dollars for CAPEX and OPEX respectively, with no inflation or escalation factors considered.
- Results are based on 100% ownership.
- There are two royalties on the project, a 1% royalty held by EMX Royalty Corp on gross production and a 3% NSR royalty levied by the provincial governments.
- Capital costs are funded with 100% equity (no financing assumed).
- All cash flows are discounted to the start of the construction period using an end-period discounting.
- All metal products will be sold in the same year they are produced.
- Project revenue will be derived from the sale of gold and silver doré only.

22.6 Taxes

The project has been evaluated on a post-tax basis to provide an approximate value of potential economics. The tax model was compiled by AbraSilver, and calculations are based on the tax regime as of the date of the PFS press release (March 25, 2024). At the effective date of this report, the project was assumed to be subject to the following tax regime:

1. The Argentinian corporate federal profit tax is 35%. Federal income tax is applied on Project income after deductions of eligible expenses including depreciation of assets, operations costs, royalty payments, transaction taxes., exploration costs, provincial and municipal taxes, and any losses carried forward.
2. A provincial tax of 5% is applied on revenue net of royalties and export duties. A municipal tax of 0.6% applies to this revenue as well.
3. Export duties on the sale of gold and silver apply on the net smelter return value at a rate of 8% for gold and 4.5% for silver. An export duty refund of 1.5% is applied after pre-tax income and is part of total taxable income.
4. Argentina has a bank transaction tax for deposits for bank debits and credits of 0.6% in and 0.6% out for a total of 1.2%. This applies to all cash flows into and out of the project.

Table 22-2 summarizes the payments that are projected over the life of mine based on the metal prices sued in this financial model.

Table 22-2 – Royalties and Taxes

ROYALTIES AND TAXES (000 USD)	
Royalty on NSR (Au) (EMX)	17,750
Royalty on NSR (Ag) (EMX)	24,205
Royalty on NSR (Au)	52,603
Royalty on NSR (Ag)	69,722
Export Duties (Au)	140,274
Export Duties (Ag)	104,583
Provincial gross income tax on total revenue	185,515
Municipal tax on total revenue	22,262
Transaction tax (in 0,6% + out 0,6%)	70,705
Export duty refund Au	26,301
Export duty refund Ag	34,861
Total Income Tax @ 35%	502,863
Total Taxes and Royalties Life of Mine	**1,251,644**

At the assumed metal prices, total payments are estimated to be $1,251.6 million over the life of mine.

Value added tax (VAT) is outside the economic valuation of this project as it is applied to all goods and services and is considered to be fully refundable. For the economic model VAT is not considered in the capital or operating cost estimate as it is assumed that VAT paid, and VAT credits will be a net zero value during the period in which they occur.

22.7 Royalties

There are two royalties on the project, a 1% royalty held by EMX Royalty Corp on gross production and a 3% NSR royalty to be paid to provincial government.

22.8 Depreciation

Depreciation of assets has been estimated based on a declining balance method according to Table 22-3 below. Tax pools for exploration and resource development are not included in the depreciation calculation. Salvage value is not considered for the depreciation value of capital items, as salvage is considered as taxable income in the model.

Table 22-3 shows the adopted yearly Depreciation Scheme as per Argentine regulations.

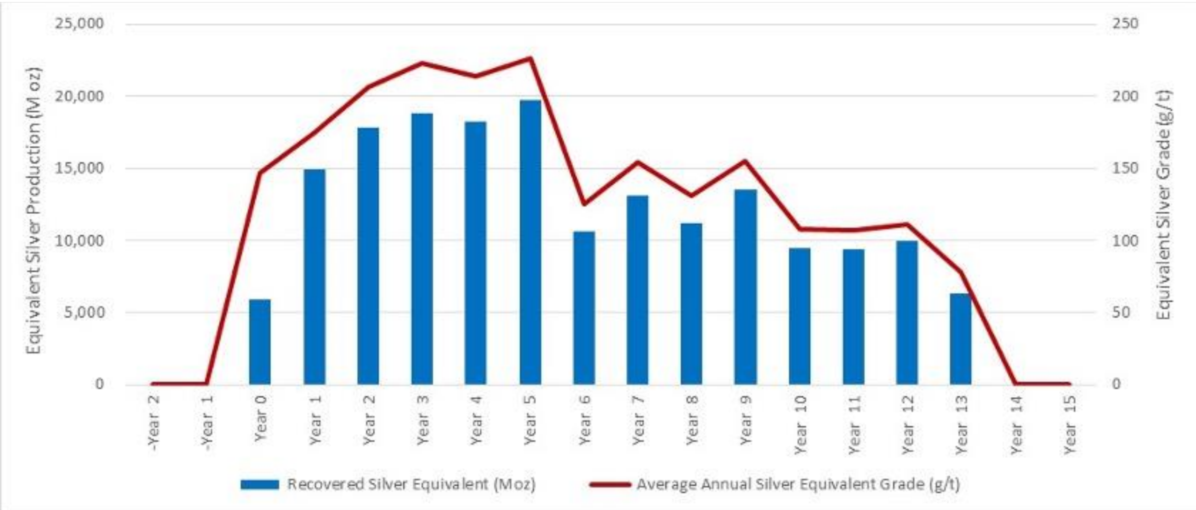
Table 22-3 – Depreciation Scheme

DEPRECIATION				
	CAPITAL	DEPRECIATION SCHEME		
Civil and infrastructure	100%	60%	20%	20%
Mechanical equipment	100%	33%	33%	33%

22.9 Economic Analysis

The economic analysis was performed assuming a 5% discount rate. The pre-tax NPV (net present value) discounted at 5% is $995.1 million; the IRR (internal rate of return) is 39.2%, and payback period is 1.9 years from start of production. On a post-tax basis, the NPV discounted at 5% is $493.7 million, the IRR is 25.6%, and the payback period is 2.4 years from start of production. The life of mine silver equivalent production is shown in Figure 22-4.

Figure 22-4: LOM Equivalent Silver Production



A summary of project economics is shown graphically in Figure 22-5 and listed in Table 22-4. The analysis was done on an annual cashflow basis; the cashflow output is shown Table 22-6.

Figure 22-4: Post-Tax Project Economics

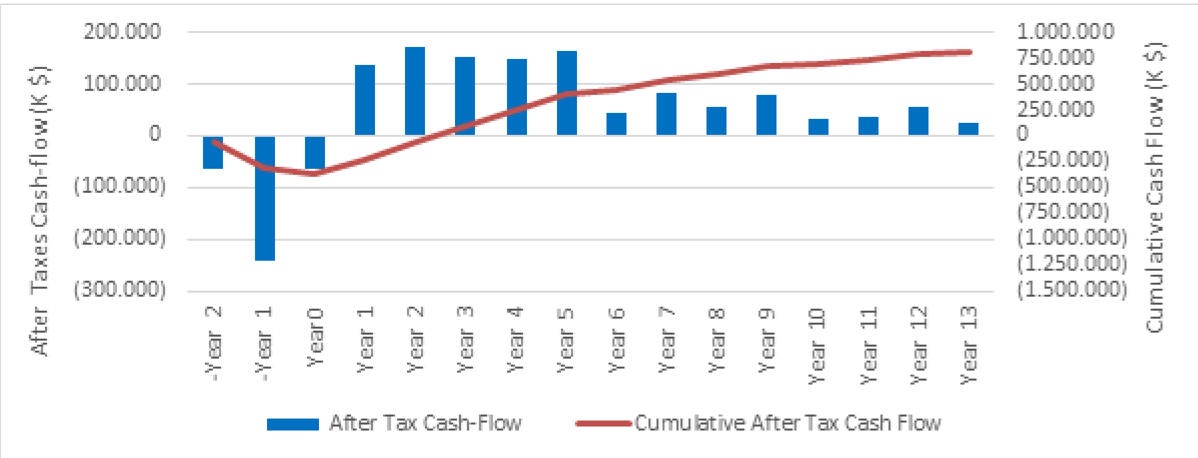


Table 22-4: Economic Analysis Summary

ITEM	UNIT	VALUE
Gold Price	USD $/oz	1,850
Silver Price	USD $/oz	23.50
After-Tax NPV @5%	M$	493.7
After-Tax IRR	%	25.62%
Pre-Tax NPV @5%	M$	995
Pre-Tax IRR	%	39.2%
Life of Mine (LOM)	years	13
Average Annual Production - Au (LOM)	oz	71,035
Average Annual Production - Ag (LOM)	Moz	7,716
Average Annual Production - AgEq (LOM)	Moz	13,308
Average Annual Production - Au (Year 1 to 5)	oz	44,022
Average Annual Production - Ag (Year 1 to 5)	Moz	14,454
Average Annual Production - AgEq (Years 1 to 5)	Moz	17,920
LOM All-In Sustaining Cash Cost (LOM)	$/oz AgEq	12.47
LOM All-In Sustaining Cash Cost (Year 1 to 5)	$/oz AgEq	12.20
LOM All-In Sustaining Cash Cost (LOM)	$/oz AuEq	1,004
LOM All-In Sustaining Cash Cost (Year 1 to 5)	$/oz AuEq	982
Head Grade - Au (LOM)	g/t	0.81
Head Grade - Ag (LOM)	g/t	91
Head Grade - AgEq (LOM)	g/t	155
Recovery Au (LOM)	%	86.6%
Recovery Ag (LOM)	%	82.8%
Head Grade - Au (Year 1 to 5)	g/t	0.81
Head Grade - Ag (Year 1 to 5)	g/t	91
Head Grade - AgEq (Year 1 to 5)	g/t	155
Recovery Au (Year 1 to 5)	%	85.2%
Recovery Ag (Year 1 to 5)	%	84.4%
Initial Capital Expenditure (Contingency excluded)	M$	353
Sustaining Capital Cost	M$	65
Payback	years	2.4
Mine Life Operating Costs	$/t processed	41.0
Mine Life Operating Costs	$/t moved	5.0
After-Tax NPV @5% ($25/oz Ag and $1,900/oz Au)	M$	719.0
After-Tax IRR ($25/oz Ag and $1,900/oz Au)	%	29.4%

*Notes:

1. Operating cash costs consist of mining costs, processing costs, site-level G&A.
2. Total cash costs consist of operating cash costs plus transportation cost, royalties, treatment, and refining charges.
3. AISC consist of total cash costs plus sustaining capital.

Table 22-5: Cashflow Statement on an Annualized Basis (Real 2024 $M Unless Otherwise Noted)

Description	Units	Total Production (Y-2 to Y13)	Commercial production (Y1 to13)	5 Year Average (Y1 to Y5)	Year (-2)	Year (-1)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
1 - MINING																				
Total high-grade ore to plant (Tank leaching)	tonnes	42,294,159	40,719,159	15,750,000	-	-	1,575,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	3,150,000	2,919,159
Au grade	g/t	0.81	0.81	0.51	-	-	0.85	0.32	0.54	0.75	0.61	0.34	0.64	1.09	1.04	1.49	1.00	0.90	1.19	0.64
Ag grade	g/t	90.81	91.24	168.36	-	-	80	149	164	164	165	200	75	68	49	38	29	35	17	28
AgEq grade		154.93	155.23	208.64	-	-	147	174	206	223	214	226	125	154	131	155	108	107	111	78
Contained Au	oz	1,107,499	1,064,218	259,148	-	-	43,281	32,189	54,619	76,125	62,038	34,179	64,366	110,342	105,535	151,198	100,967	91,585	120,893	60,184
Contained Ag	oz	123,480,296	119,445,104	85,251,085	-	-	4,035,192	15,133,014	16,582,150	16,573,123	16,751,562	20,211,237	7,611,245	6,925,468	4,958,262	3,805,738	2,947,490	3,590,603	1,767,762	2,587,451
Total cover/overburden moved to waste dumps	tonnes	63,625,003	41,156,870	30,041,486	12,751,214	5,959,453	3,757,466	1,722,943	7,218,977	11,887,468	5,106,229	4,105,869	4,822,764	3,610,694	512,429	1,660,927	508,570	- 0	-	- 0
Total waste moved to waste dumps	tonnes	303,504,116	250,685,299	106,580,984	12,751,214	19,555,812	20,511,792	18,697,252	18,725,011	21,808,437	23,626,652	23,723,631	22,895,829	23,279,176	23,790,891	23,163,262	23,670,851	19,104,844	5,649,047	2,550,416
Total ore from mine to stockpile	tonnes	4,249,752	3,738,865	680,211	-	444,189	66,699	163,943	124,989	41,563	223,348	126,369	954,171	570,824	59,109	686,738	179,149	330,770	277,892	-
Total moved	tonnes	350,048,028	295,143,324	123,011,195	12,751,214	20,000,000	22,153,491	22,011,195	22,000,000	25,000,000	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000	27,000,000	22,585,614	9,076,939	5,469,576
2 - PROCESSING																				
Total Recovered																				
Yearly Avg Recovery Au	%	86.67%	86.64%	85.23%	0.00%	0.00%	87.30%	86.41%	85.72%	83.97%	84.01%	86.03%	87.14%	84.87%	86.78%	86.86%	88.40%	89.01%	89.18%	88.06%
Yearly Avg Recovery Ag	%	82.32%	82.81%	84.44%	0.00%	0.00%	69.74%	83.37%	84.88%	83.56%	85.30%	85.12%	80.56%	82.60%	82.10%	82.09%	81.74%	81.72%	81.71%	81.69%
Au	oz	961,394	923,452	220,112	-	-	37,942	27,853	46,886	63,819	51,972	29,582	56,048	93,207	90,615	131,523	89,459	81,531	107,812	53,145
Ag	oz	103,206,812	100,306,515	72,272,180	-	-	2,900,296	12,721,185	14,151,629	13,823,652	14,175,642	17,400,072	6,192,005	5,732,431	4,078,178	3,130,799	2,409,292	2,933,597	1,444,413	2,113,620
AgEq	oz	178,890,993	173,003,801	89,600,117	-	-	5,887,192	14,913,862	17,842,649	18,847,692	18,267,061	19,728,853	10,604,260	13,070,007	11,211,727	13,484,718	9,451,805	9,352,024	9,931,768	6,297,376
3 - REVENUE																				
Au Gross Revenue	k$	1,778,578	1,708,386	407,207	-	-	70,192	51,528	86,739	118,065	96,148	54,726	103,688	172,433	167,638	243,317	165,499	150,833	199,453	98,318
Ag Gross Revenue	k$	2,425,360	2,357,203	1,698,396	-	-	68,157	298,948	332,563	324,856	333,128	408,902	145,512	134,712	95,837	73,574	56,618	68,940	33,944	49,670
Total Gross Revenue (Au + Ag)	k$	4,203,938	4,065,589	2,105,603	-	-	138,349	350,476	419,302	442,921	429,276	463,628	249,200	307,145	263,476	316,891	222,117	219,773	233,397	147,988
Gross Au revenue after % payable deduction	%	99.80%			-	-	70,052	51,425	86,565	117,829	95,956	54,617	103,481	172,088	167,303	242,830	165,168	150,531	199,054	98,122
Gross Ag revenue after % payable deduction	%	99.80%			-	-	68,021	298,350	331,898	324,206	332,461	408,084	145,221	134,443	95,646	73,427	56,505	68,802	33,876	49,571
Royalty on NSR (Au) (EMX)	%	1.00%			-	-	701	514	866	1,178	960	546	1,035	1,721	1,673	2,428	1,652	1,505	1,991	981
Royalty on NSR (Ag) (EMX)	%	1.00%			-	-	680	2,983	3,319	3,242	3,325	4,081	1,452	1,344	956	734	565	688	339	496
Smelting and refining (Au)	$/oz	4			-	-	152	111	188	255	208	118	224	373	362	526	358	326	431	213
Smelting and refining (Ag)	$/oz	1			-	-	2,030	8,905	9,906	9,677	9,923	12,180	4,334	4,013	2,855	2,192	1,687	2,054	1,011	1,480
Total charges on smelting and refining (Au + Ag)	k$	76,090	73,908	51,471	-	-	2,182	9,016	10,094	9,932	10,131	12,298	4,559	4,386	3,217	2,718	2,044	2,380	1,442	1,692
Net smelter return NSR - Au	k$	1,753,425	1,684,226	401,448	-	-	69,199	50,799	85,512	116,395	94,789	53,952	102,222	169,994	165,268	239,876	163,159	148,700	196,632	96,928
Net smelter return NSR - Ag	k$	2,324,059	2,258,749	1,627,459	-	-	65,310	286,462	318,673	311,287	319,214	391,823	139,434	129,086	91,834	70,501	54,254	66,060	32,526	47,595
Royalty on NSR (Au)	%	3.00%			-	-	2,076	1,524	2,565	3,492	2,844	1,619	3,067	5,100	4,958	7,196	4,895	4,461	5,899	2,908
Royalty on NSR (Ag)	%	3.00%			-	-	1,959	8,594	9,560	9,339	9,576	11,755	4,183	3,873	2,755	2,115	1,628	1,982	976	1,428
Royalty on NSR (Au + Ag)	k$	122,325	118,289	60,867	-	-	4,035	10,118	12,126	12,830	12,420	13,373	7,250	8,972	7,713	9,311	6,522	6,443	6,875	4,336
Export Duties (Au)	%	8.00%			-	-	5,536	4,064	6,841	9,312	7,583	4,316	8,178	13,600	13,221	19,190	13,053	11,896	15,731	7,754
Export Duties (Ag)	%	4.50%			-	-	2,939	12,891	14,340	14,008	14,365	17,632	6,275	5,809	4,133	3,173	2,441	2,973	1,464	2,142
Export Duties (Au + Ag)	k$	244,857	236,382	105,351	-	-	8,475	16,955	21,181	23,320	21,948	21,948	14,452	19,408	17,354	22,363	15,494	14,869	17,194	9,896
Net revenue - Au	k$	1,560,549	1,498,961	357,288	-	-	61,587	45,211	76,106	103,592	84,362	48,018	90,977	151,295	147,088	213,490	145,211	132,343	175,003	86,266
Net Revenue - Ag	k$	2,149,755	2,089,343	1,505,400	-	-	60,412	264,977	294,773	287,941	295,273	362,436	128,977	119,404	84,947	65,213	50,185	61,106	30,087	44,026
Total Net Revenue Au + Ag	k$	3,710,304	3,588,304	1,862,688	-	-	121,999	310,188	370,878	391,533	379,635	410,454	219,954	270,699	232,035	278,703	195,396	193,449	205,089	130,292
5 - OPERATING COST																				
Camp and Service Hub - Operating Cost	k$	155,025	150,623	58,260	-	-	4,402	11,652	11,652	11,652	11,652	11,652	11,652	11,652	11,652	11,652	11,652	11,652	11,652	10,798
Mine - Ore Mining Cost	k$	81,762	78,947	30,536	-	-	2,815	6,107	6,107	6,107	6,107	6,107	6,107	6,107	6,107	6,107	6,107	6,107	6,107	5,660
Mine - Waste Mining Cost	k$	546,363	486,035	206,642	456	23,212	36,660	36,251	36,305	42,283	45,808	45,996	44,391	45,134	46,126	44,910	45,894	37,041	10,953	4,945
Mine - Overburden Mining Cost	k$	-9,432	-8,643	-6,309	-	-	- 789	- 362	- 1,516	- 2,496	- 1,072	- 862	- 1,013	- 758	- 108	- 349	- 107	-	-	0
Mine - Cover Mining Cost (Contractor)	k$	17,775	0	0	12,114	5,661	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant - Processing Cost	k$	293,482	285,819	110,554	-	-	7,663	22,111	22,111	22,111	22,111	22,111	22,111	22,111	22,111	22,111	22,111	22,111	22,111	20,490
Utilities and Off-site Facilities - Operating Costs	k$	378,056	369,603	142,961	-	-	8,453	28,592	28,592	28,592	28,592	28,592	28,592	28,592	28,592	28,592	28,592	28,592	28,592	26,497
Maintenance - Maintenance Operations Cost	k$	130,344	128,897	49,857	-	-	1,447	9,971	9,971	9,971	9,971	9,971	9,971	9,971	9,971	9,971	9,971	9,971	9,971	9,241

Logistics	k$	113,662	112,215	43,404	-	-	1,447	8,681	8,681	8,681	8,681	8,681	8,681	8,681	8,681	8,681	8,681	8,681	8,681	8,045
G&A - General Administration Costs	k$	25,111	22,802	8,820	-	-	2,309	1,764	1,764	1,764	1,764	1,764	1,764	1,764	1,764	1,764	1,764	1,764	1,764	1,635
Total unit operating cost	USD/t milled	40.95	39.94	40.93	-	-	40.9	39.61	39.26	40.85	42.42	42.54	41.99	42.30	42.82	42.36	42.75	39.97	31.69	29.91
Total Operating Cost	k$	1,732,149	1,626,298	644,725	12,570	28,873	64,408	124,767	123,667	128,665	133,614	134,012	132,257	133,254	134,897	133,439	134,665	125,919	99,831	87,310
Operating Cashflow	k$	1,978,155	1,962,006	1,217,963	- 12,570	- 28,873	57,592	185,421	247,212	262,868	246,021	276,442	87,697	137,445	97,138	145,264	60,730	67,529	105,258	42,982
6 - CAPITAL COST																				
DIRECT COST	k$	288,228	34	34	28,384	179,921	79,889	34	-	-	-	-	-	-	-	-	-	-	-	-
MINE	k$				-	19,908	19,367	-	-	-	-	-	-	-	-	-	-	-	-	-
PROCESS PLANT	k$				180	88,354	8,394	-	-	-	-	-	-	-	-	-	-	-	-	-
INFRASTRUCTURE	k$				28,204	71,659	52,128	34	-	-	-	-	-	-	-	-	-	-	-	-
INDIRECT COST	k$	64,924	1,655	1,655	21,434	18,463	23,372	1,655	-	-	-	-	-	-	-	-	-	-	-	-
CONTINGENCY	k$	20,333	0	0	-	10,167	10,167	-	-	-	-	-	-	-	-	-	-	-	-	-
SUSTAINING CAPEX	k$	64,996	64,996	30,545	-	-	-	2,380	3,938	20,756	1,170	2,302	12,425	-	48	10,564	48	-	10,239	1,080
REMEDIATION AND CLOSURE COSTS	k$	11,148	11,148	0	-	-	-	-	-	-	-	-	500	500	500	500	500	500	500	500
Total Capital Cost	k$	449,629	77,832	32,234	49,818	208,551	113,427	4,069	3,938	20,756	1,170	2,302	12,925	500	548	11,064	548	500	10,739	1,580
7 - PRE-TAX CASH-FLOW																				
Pre-Tax Cash Flow	k$	1,528,526	1,884,174	$1,185,729	- 62,388	- 237,424	- 55,836	181,352	243,274	242,112	244,851	274,140	74,773	136,945	96,590	134,200	60,183	67,029	94,519	41,402
Pre-Tax Cumulated Cash Flow	k$	14,057,795	14,775,642	$1,591,795	- 62,388	- 299,812	- 355,648	- 174,295	68,978	311,090	555,941	830,081	904,854	1,041,799	1,138,389	1,272,589	1,332,771	1,399,801	1,494,320	1,535,721
8 - AMORTIZATION - DEPRECIATION																				
Infrastructure and Civil Structures Capital					27,610	65,710	14,706	88	48	15,662	48	0	12,264	0	48	10,564	48	0	10,239	1,080
Infrastructure and Civil Structures Amortization Scheme			60%			16,566	39,426	8,823	53	29	9,397	29	0	7,359	0	29	6,338	29	0	6,143
			20%				5,522	13,142	2,941	18	10	3,132	10	0	2,453	0	10	2,113	10	0
			20%					5,522	13,142	2,941	18	10	3,132	10	0	2,453	0	10	2,113	10
Infrastructure and Civil Structures Amortization					0	16,566	44,948	27,487	16,136	2,987	9,424	3,171	3,142	7,368	2,453	2,481	6,348	2,151	2,122	6,153
Mechanical equipment and others (Purchase and Replacement) Capital					21,481	109,434	62,827	2,476	3,890	5,094	1,122	2,302	160	-	-	-	-	-	-	-
Mechanical equipment and others) Purchase and Replacement) Amortization Scheme			33%			7,160	36,474	20,940	825	1,297	1,698	374	767	53	-	-	-	-	-	-
			33%				7,160	36,474	20,940	825	1,297	1,698	374	767	53	-	-	-	-	-
			33%					7,160	36,474	20,940	825	1,297	1,698	374	767	53	-	-	-	-
Mechanical equipment and others) Purchase and Replacement) Amortization					-	7,160	43,634	64,574	58,240	23,062	3,820	3,368	2,839	1,194	821	53	-	-	-	
Total Amortization - Depreciation	k$	350,124	254,383	212,268	-	7,160	88,582	92,061	74,375	26,049	13,244	6,539	5,981	8,563	3,273	2,535	6,348	2,151	2,122	6,153
9 - TAXATION																				
Pre-Tax Cash-flow after depreciation		1,178,402	1,629,791	973,460	- 62,388	- 244,584	- 144,417	89,291	168,898	216,063	231,607	267,601	68,792	128,382	93,317	131,665	53,835	64,878	92,397	35,249
Pre-Tax Cumulative Cash-flow after depreciation		9,262,831	10,083,579	244,107	- 62,388	- 306,972	- 451,389	- 362,098	- 193,200	22,863	254,470	522,071	590,863	719,246	812,562	944,227	998,062	1,062,940	1,155,337	1,190,586
Provincial gross income tax on total revenue	5.00%	185,515	179,415	93,134	-	-	6,100	15,509	18,544	19,577	18,982	20,523	10,998	13,535	11,602	13,935	9,770	9,672	10,254	6,515
Municipal tax on total revenue	0.60%	22,262	21,530	11,176	-	-	732	1,861	2,225	2,349	2,278	2,463	1,320	1,624	1,392	1,672	1,172	1,161	1,231	782
Transaction tax (in 0,6% + out 0,6%)	1.20%	70,705	63,509	30,476	749	2,849	3,598	5,268	5,982	6,491	6,173	6,561	4,382	4,853	4,410	5,078	3,967	3,838	3,788	2,630
Export duty refund Au	1.50%	26,301	25,263	6,022	-	-	1,038	762	1,283	1,746	1,422	809	1,533	2,550	2,479	3,598	2,447	2,230	2,949	1,454
Export duty refund Ag	1.50%	34,861	33,881	24,412	-	-	980	4,297	4,780	4,669	4,788	5,877	2,092	1,936	1,378	1,058	814	991	488	714
Total Taxable Income					-	-	-	71,711	148,210	194,061	210,384	244,741	55,718	112,856	79,769	115,635	42,186	53,428	80,561	27,490
Total Income Tax @ 35%	35.00%	502,863	502,863	304,188	-	-	-	25,099	51,874	67,921	73,635	85,659	19,501	39,500	27,919	40,472	14,765	18,700	28,196	9,622
Total taxation		720,183	708,173	408,540	749	2,849	8,412	42,679	72,562	89,923	94,857	108,519	32,575	55,026	41,467	56,502	26,414	30,150	40,032	17,380
10 - POST TAX CASH-FLOW																				
After Tax Cash-Flow	k$	815,625	1,176,001	777,188	- 63,136	- 240,273	- 64,248	138,673	170,712	152,189	149,994	165,621	42,197	81,919	55,124	77,697	33,769	36,879	54,487	24,021
After Tax Cumulated Cash-Flow	k$	6,634,409	7,368,613	460,100	- 63,136	- 303,410	- 367,658	- 228,984	- 58,272	93,916	243,910	409,531	451,728	533,647	588,771	666,468	700,237	737,116	791,604	815,625
All-In Sustaining Cost (Ag)	US$/AgEq oz	12	12	10																
All-In Cost (Ag)	US$/AgEq oz	15	13	10																
All-In Sustaining Cost (Au)	US$/AuEq oz	1,004	982	799																
All-In Cost (Au)	US$/AuEq oz	1,006	983	799																

22.10 Sensitivity Analysis

A sensitivity analysis was conducted on the base case NPV and IRR of the project using the following variables, mining cost, process cost, total capital cost, and silver and gold prices.

Tables 22-6 and Table 22-7 summarize the pre-tax and post-tax sensitivities of the project. Figures 22-3 and Figures 22-4 show the sensitivity analysis revealed that the project is most sensitive to changes in metal prices and metallurgical recovery. In all cases, the after tax NPV is positive.

Table 22-6: Pre-Tax Sensitivity Analysis (USD)

Variation	Au Price (000 $)	Ag Price (000 $)	Mining Cost (000 $)	Processing Cost (000 $)	Au Recovery (000 $)	Ag Recovery (000 $)	CAPEX (000 $)
-25%	746,820	587,560	1,094,428	1,041,997	762,897	610,510	1,095,752
-20%	796,475	669,067	1,074,561	1,032,617	809,337	687,427	1,075,621
-15%	846,130	750,574	1,054,695	1,023,236	855,776	764,344	1,055,489
-10%	895,785	832,081	1,034,828	1,013,856	902,216	841,261	1,035,358
-5%	945,440	913,588	1,014,961	1,004,475	948,655	918,178	1,015,226
Base Case	**995,095**	**995,095**	**995,095**	**995,095**	**995,095**	**995,095**	**995,095**
5%	1,044,750	1,076,602	975,228	985,714	1,041,534	1,072,012	974,963
10%	1,094,405	1,158,109	955,361	976,334	1,087,974	1,148,929	954,832
15%	1,144,060	1,239,616	935,495	966,953	1,134,413	1,225,846	934,701
20%	1,193,715	1,321,123	915,628	957,573	1,180,853	1,302,763	914,569
25%	1,243,370	1,402,630	895,762	948,192	1,227,292	1,379,680	894,438

Table 22-7: After-Tax Sensitivity Analysis (USD)

Variation	Au Price (000 $)	Ag Price (000 $)	Mining Cost (000 $)	Processing Cost (000 $)	Au Recovery (000 $)	Ag Recovery (000 $)	CAPEX (000 $)
-25%	335,976	237,881	560,641	524,602	346,716	252,280	591,350
-20%	367,531	289,055	547,262	518,431	376,123	300,574	571,830
-15%	399,086	340,228	533,884	512,261	405,529	348,868	552,310
-10%	430,640	391,402	520,506	506,090	434,936	397,162	532,790
-5%	462,195	442,576	507,128	499,920	464,343	445,455	513,269
Base Case	**493,749**	**493,749**	**493,749**	**493,749**	**493,749**	**493,749**	**493,749**
5%	525,304	544,923	480,371	487,579	523,156	542,043	474,229
10%	556,858	596,096	466,993	481,408	552,562	590,337	454,709
15%	588,413	647,270	453,614	475,238	581,969	638,631	435,189
20%	619,967	698,444	440,236	469,067	611,376	686,924	415,669
25%	651,522	749,617	426,858	462,897	640,782	735,218	396,148

Figure 22-5: Pre-Tax Sensitivity Analysis Results

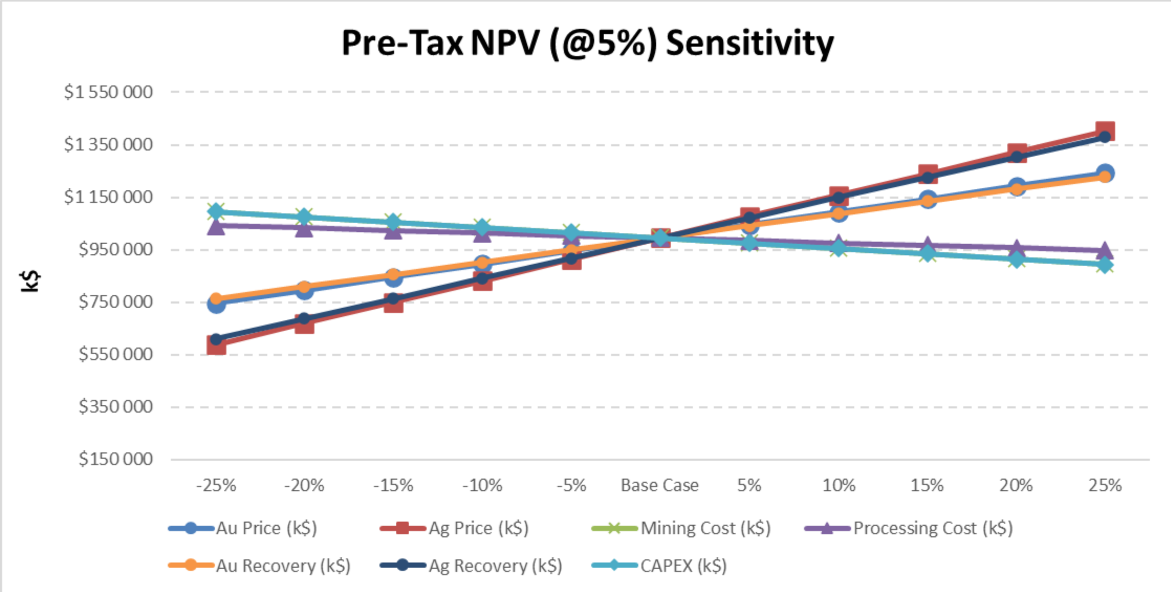
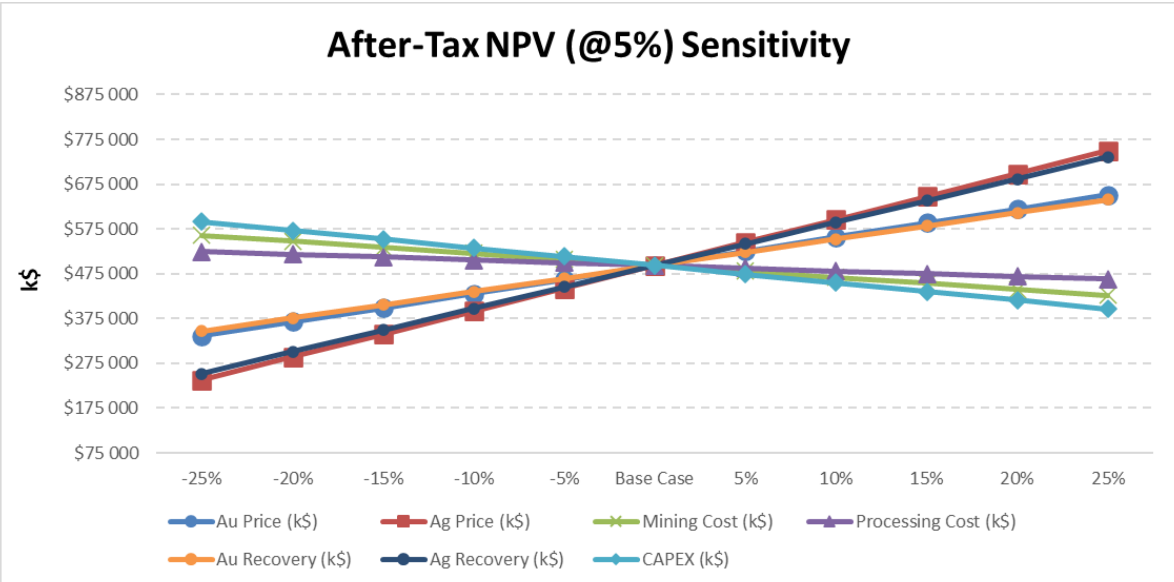


Figure 22-4: Post-Tax Sensitivity Analysis Results



23 ADJACENT PROPERTIES

The reports and accounts in this section were provided by AbraSilver and have not been independently verified by Mr. Peralta. They are intended to provide a summary of metallic and non-metallic projects within a radius of approximately 50 km of the Diablillos Project. To highlight the importance of this growing exploration and mining district in the Provinces of Salta and Catamarca. As such, the deposits described herein are not indicative of the mineralization at Diablillos.

The Diablillos Project is located within what has become a significant mining and exploration camp in northwestern Argentina and includes both metallic and non-metallic projects. The metallic projects, except for Incahuasi, are predominantly of Miocene age and related to intrusive events which occurred along a regional-scale north-south crustal lineament.

Most of the non-metallic projects typically occur in Quaternary aged salt pans, for which deposition is also controlled by the same north-south lineament.

23.1 Metallic Projects

23.1.1 Condor Yacu

The Condor Yacu property adjoins Diablillos on the southern boundary and was once part of the original Diablillos claim block. Prior to 1990, the property was explored by various parties including geological studies by a Dr. O Gonzalez from 1971 to1973, metallurgical test work carried out by S. Hochschild S.A. of Copiapo, Chile on behalf of the Banco Nacional de Desarollo (“BND”) in 1975, and a magnetic survey and surface sampling by Pecomrio S.A.M. in 1981.

In 1984, the BND and the Mining Directorate of the Catamarca Province mined approximately 350 tons which were systematically sampled and analyzed. The University of Jujuy carried out some gravity-concentration test work in 1985, which was ultimately determined to be unsuccessful. Geological mapping at a scale of 1:1000 was conducted by Kleine-Hering in 1987.

Exploration in 1987 and 1988 is not well documented, however, AbraSilver geologists believe that Ophir drilled 22 RC holes on the property in 1987. During the 1990s, Cavok S.R.L obtained the property and carried out a ground magnetic survey and drilled 15 diamond drill holes in 1999 and 2000. In 2001, Cardero Resource Corp. (“Cardero”) signed an agreement with Cavok S.R.L. to earn 100% share of the project. In the same year, an IP survey was carried out over the property and 396.24 m were drilled in five diamond drill holes. A further nine holes totalling 842.17 m were completed in 2002.

In 2003, Maximus Ventures Ltd. (“Maximus”) signed an agreement with Cardero to acquire an 80% interest in the project. In the same year, Maximus drilled a total of 1,516.10 m in 17 diamond drill holes. Both Cardero and Maximus withdrew from the project in 2004.

The Condor Yacu prospect is located 2.75 km to the southeast of the Oculto zone and is thought by AbraSilver geologists to be closely associated with the eastern bounding Pedernales graben fault. This zone of mineralization occurs in granitoids of the Oire Formation of the Faja Eruptiva. The main Condor Yacu structure has been divided into two zones termed the Southern Outcrop and the Northern Outcrop.

Most of the exploration has been focused on the Southern Outcrop, which consists of a high sulphidation silicified breccia within the granodiorite host rocks. Near surface, the zone is over 16 m wide, narrowing with depth to less than two meters. It has been intersected in drill holes over a north-south strike of 90 m and to a vertical depth of 140 m. The drilling has intersected grades of up to 28.35 g/t Au, 147 g/t Ag, and 2.67% Cu. The Northern Outcrop is also a silicified, brecciated north-south trending structure. It is about 15 m wide on surface, narrowing to 10 m at a depth of 100 m, and is open-ended along strike. Grades are generally lower than at the Southern Outcrop, with gold generally being less than 2.0 g/t Au.

A third zone is known to exist to the east of the Northern and Southern Outcrop areas. The zone is buried below overburden, and little exploration has been conducted over it. Gold values of up to 0.34 g/t Au have been reported from float at this prospect.

23.1.2 Rumi Cori

Rumi Cori property also adjoins Diablillos on the southern boundary. This is an epithermal prospect consisting of several siliceous veins in granite, located two km to the south of Diablillos. Unconfirmed values of gold (0.50 g/t) and copper (0.69%) have been reported. Surficial exploration has been carried out on the prospect to date.

23.1.3 Incahuasi

This project is located 41 km southeast of Diablillos. The mine was originally exploited by Jesuit missionaries and mining continued until 1954 when it ceased operating due to flooding. The deposit comprises gold in mesothermal veins of Ordovician age. The veins occur in marine sedimentary rocks of the same age and consist of meta-pelites and greywackes. The veins of have north-south trending strikes of up to a minimum of 700 m with widths varying between 0.5 m and 2.6 m. Underground development has traced the veins for a minimum down dip extension of 130 m. The mineralization occurs as free gold in quartz veins and veinlets with minor associated pyrite, arsenopyrite, and chalcopyrite. Run-of-mine gold grades were reportedly 17.6 g/t Au with local bonanza grades of up to 300 g/t Au. Past production is estimated at 2,000 kg Au.

23.1.4 Inca Viejo

The Inca Viejo project is located 16 km north of Diablillos. The area has been worked since Inca times, but the first systematic exploration work was carried out in 1994 and 1995 by Grupo Minera Aconcagua S.A. This work consisted of lithological, alteration, structural, and mineralization mapping; surface geochemistry; and 11,500 line-meters of Spectral Induced Polarization ("IP") on 11 sections.

Host lithologies consist of basement Paleozoic rocks characterized by meta-sedimentary rocks of Ordovician age intruded by Silurian granite, granodiorite, and rhyodacite. These basement rocks are in turn intruded by a dacite porphyry with associated breccia pipes and bodies. Mineralization consists of porphyry-style copper and gold within the intrusives and breccias. A later unaltered andesitic porphyry intrudes the dacite porphyry. The dacite displays an altered potassic silicified core with a halo of sericitic alteration.

Minera Aconcagua drilled eight widely spaced (between 300 m and 500 m) RC holes. The best copper values were in borehole AR5 which returned an intersection of 0.70% Cu over 30 m. Borehole AR6 had an average of 0.23% Cu over 73.5 m. Surface gold values are up to 1.70 g/t Au with the central part of the system having value greater than 0.2 g/t Au over an area of 300 m by 100 m. The best gold values intersected in the drilling were in borehole AR1 which returned a value of 0.25 g/t Au over 54 m in the leach cap.

23.1.5 Pistola de Oro

This project is located 20.5 km north-northeast of Diablillos. The project includes the Volcan and Soroche mines which were worked on a limited scale in the past before the workings collapsed. These mines are located on a polymetallic (Au-Ag-Cu-Zn-Pb) vein system in Precambrian basement rocks consisting of micaceous schists. Vein gangue mineralization is principally quartz with a minimum strike length of 650 m with a minimum down dip extension of 70 m. A sample taken in 2009 reportedly returned values of 2.21 g/t Au, 165 g/t Ag, 1.13% Cu, 5.18% Pb, and 0.55% Zn.

A second type of mineralization occurs in a hydrothermal breccia, which has an ellipsoid shape on surface with dimensions of 600 m by 300 m. It is composed of angular clasts of bleached micaceous schists varying in size from millimetre-scale to more than 20 cm in diameter. The matrix is black to dark grey and aphanitic consisting of quartz and tourmaline. The mineralization is fine-grained and consists of malachite and sphalerite. A sample taken in 2009 returned a value of 0.42 g/t Au, 7.9 g/t Ag, 0.86% Cu, 0.16% Pb, and 0.11% Zn. Results of a limited drill program carried out in the late 1990s are unknown.

23.1.6 Vicuña Muerta

The project is located 30 km to the north-northeast of Diablillos. The project consists of an unexplored porphyry complex. Geology consists of a rhyolitic porphyry intruded into Ordovician granites, granodiorites, diorites, and gabbro's. Three phases of porphyritic intrusion have been recognized and have been hydrothermally altered consisting of quartz-sericite and argillic alteration and silicification. In the 1990s a local company, La Pacha Minera, reported maximum values from surface rock chip and soil sampling of 0.29 g/t Au to 0.38 g/t Au, 145 g/t Ag to 210 g/t Ag, and 0.11% Cu to 0.35% Cu. In addition to the porphyry mineralization, satellite auriferous veins have been sampled with values of up to 7.47 g/t Au. No drilling has been done on the project.

23.2 Lithium and non-metallic Projects

There are 23 lithium projects active in the area, two already under production, both to be expanded in the near future, one under construction with no expansion foreseen, sixteen with feasibility approved or under advanced exploration, and another 20 under early stages of exploration. The following projects are located close to the Diablillos project area:

23.2.1 Fenix

The Fenix project is owned and operated by the Argentine company Minera Altiplano S.A., which is a subsidiary of Livent Corporation, formerly FMC Corporation. The project is 30 km southwest of Diablillos in the western basin of the Salar de Hombre Muerto. The operation has been producing Lithium Carbonate and Lithium Chloride in production since 1998 and has an estimated life till 2038. Currently, it will be expanded in two consecutive stages from the current 20.000 to 40.000 ton/y, based on an off-take agreement with the German car manufacturer BMW, to start delivery in 2025. Exploitation is through the pumping of brines directly from the Salar (salt pan) to a fully automated selective absorption plant which extracts the lithium and returns the solution to the Salar. The onsite plant derives its energy from a natural gas pipeline which is used to drive steam boilers required in the treatment process. Electrical energy is derived from five diesel powered generators. Near the mine, the company has an airstrip for transportation of employees and delivery of consumables.

23.2.2 Kachi

Is located 100 Km south of the Fenix project in the Catamarca province and under advanced exploration. They are currently performing test works at pilot scale with their technological partners, Lilac Solutions, at their US facilities, to validate their direct extraction process technology.

23.2.3 Sal de Vida

Sal de Vida is located in the eastern basin of the Salar de Hombre Muerto and 10 km southwest of Diablillos. Galaxy Resources Ltd merged with the Lithium producer Orocobre.

The project is set for 32.000 t/y of LCE production using conventional brine extraction, evaporation, and processing. Currently they are proceeding with pilot ponds and pilot testing.

23.2.4 Sal de Oro

Galaxy Resources sold their northern properties located within the Salar del Hombre Muerto to the Korean POSCO, which is currently advancing the project. A construction camp and pilot facilities are currently under construction.

23.2.5 Sal de los Angeles

This project is in the Diablillos Salar to the east of Diablillos. The project is currently operated by a Joint Venture conformed by Salta Exploraciones SA and Potasio y Litio Argentina SA under the guidance of the first one. They are currently operating 7 evaporation ponds fed with brine from the artesian well. A construction camp is to be constructed within the next months, complementing the already installed one. Estimated final production rate of 15.000 t/y for LCE and 50.000 t/y of KCl.

23.2.6 Centenario – Ratones

Lithium exploration activities have focused in the Centenario and Ratones salars, which are 25 km north of Diablillos. The property concessions are owned by the local company Eramine Sudamerica S.A. which is wholly owned by the French conglomerate Eramet. The Eramet website reports that the company has been conducting preliminary engineering studies and test work at Centenario-Ratones with the intention of ramping up to industrial-scale production. The company has already invested 200 M USD in attaining the construction permits, investing into a construction, airstrip and a pilot plant which is operating successfully since 2019 producing battery grade lithium carbonate through a Direct Extraction process. Currently they are finalizing a new DFS for the upstream phase only, to reach an investment decision by the end of the year, starting construction in 2022.

23.2.7 Tincalayu

Borax Argentina is the principal producer of borate products in Argentina. The Tincalayu open pit mine and plant are located 26 km west of Diablillos. The borates occur in Tertiary age rocks and are related to paleo-salars.

23.2.8 Pozuelos – Pastos Grandes

The Project is located on the Salar de Pozuelo and is being operated by Litica, a local subsidiary of the Argentine oil and gas company Pluspetrol. They are currently setting up a pilot plant for a DLE process for future production of 25.000 t/y of LCE.

23.2.9 Salar de Pastos Grandes

The Project is owned by Proyecto Pastos Grandes, a 100% owned local subsidiary of Millennial Lithium Corporation of Canada. Target is to produce 24.000 t/y of LCE with a LOM of 40 years based on conventional evaporation and processing techniques. The project obtained its EIA approvals, finalized its DFS and is currently operating a set of evaporation ponds, liming plant and obtained high purity battery grade lithium carbonate from its pilot plant.

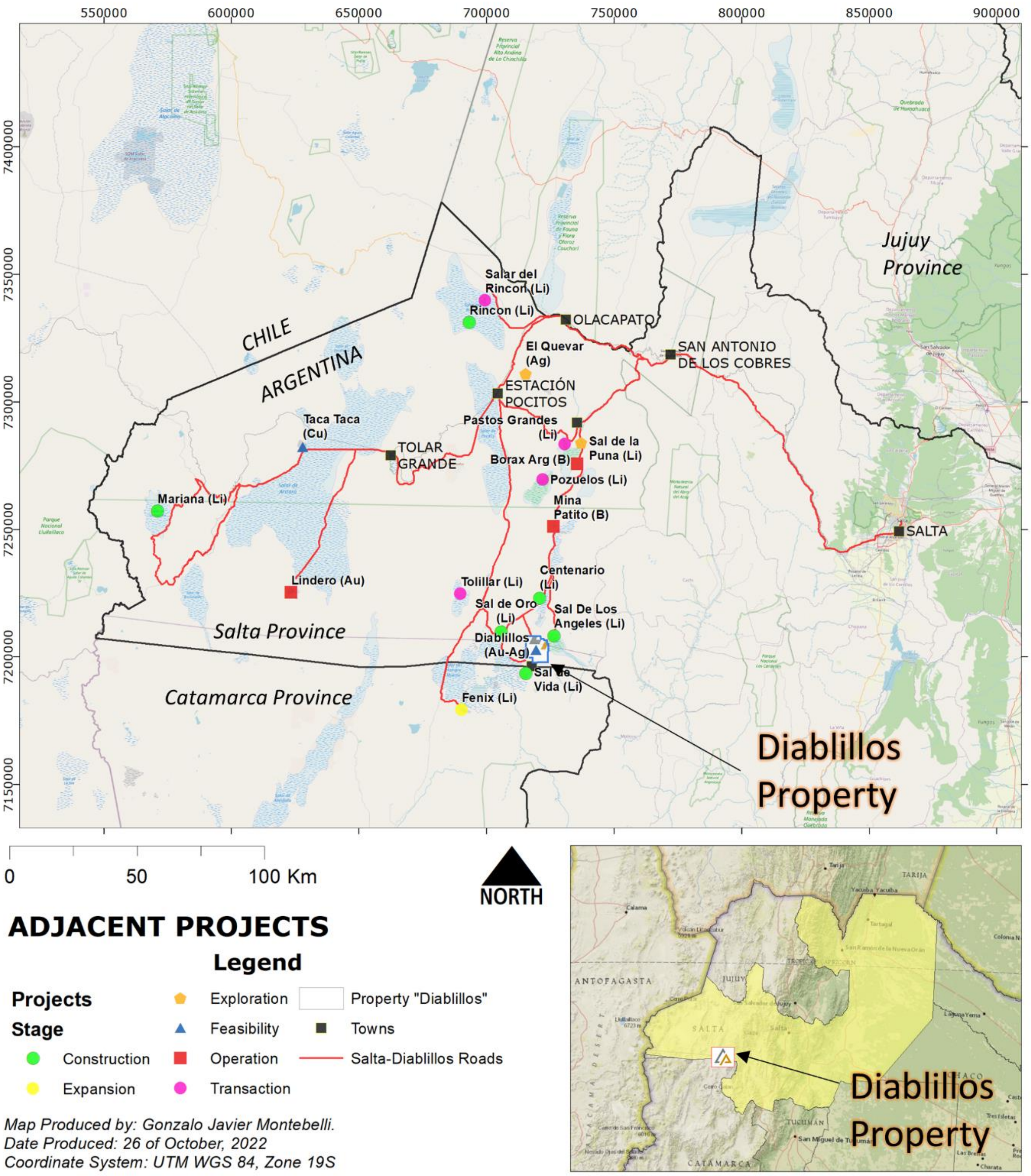


Figure 23-1: metallic & non-metallic projects.

24 OTHER RELEVANT DATA AND INFORMATION

24.1 Project Execution Schedule

The PFS Project execution schedule is based on the preliminary Project Execution Plan and includes all the activities and tasks to be performed from the Final Investment Decision onwards until mechanical completion.

This section describes the basis of the Project schedule, discussing the overall project execution strategy and its related timelines, dependencies, and constraints.

The schedule is organised by ABS (Area Breakdown Structure) coming from the WBS (Work Breakdown Structure) and the most relevant tasks within each of them and has been developed to fit the required time frame of 21/2 years after FID.

The project execution will start after FID, as the construction support facilities engineering will already been finalized as part of the DFS engineering (i.e. exploration camp relocation, bulk earthworks for platforms and camp construction, service hub, etc.) allowing to start site work immediately.

While these activities are being progressed, the remaining facilities detail engineering will be finalized, so as the key facilities can be constructed with the supporting infrastructure already in place.

Early construction works are scheduled for the first 12 months, while the remaining plant facilities will be constructed during the following 18 months.

During the DFS phase, all procurement packages will be defined, suppliers and contractors identified, taking special care to comply with the local regulations of Catamarca and Salta provinces in terms of contracts award percentages and local workforce staffing. Long lead items will also be identified during that stage.

24.2 Execution strategy

24.2.1 Project Type

The Project is considered a greenfield site with no infrastructure and service connections available.

Engineering and Site Supervision will be awarded to a single engineering contractor, so as to secure their responsibility in terms of proper engineering and site quality. The main engineering contractor will be responsible for the technical quality of the project and the nameplate production capacity of the plant after ramp-up.

The Construction Management activities will be either managed by the owner's team or by another contractor and will be responsible for the timely and cost-efficient delivery of the project.

24.2.2 Logistics and Sequencing

As part of the mine development JAC pit overburden removal will allow to use of the material for the early works platforms and roads backfill, following by Oculto cover removal, which may also be used for the tailings dam construction. As JAC pit overburden is colluvial material, which does not require blasting, local bulk earthworks contractors can perform the task, allowing to have the JAC ore readily available. The haul road tasks will be scheduled to allow that the owner operated mining crew can assist with their construction to optimize capital input.

Process facility construction is intended to commence with the crushing and screening area, before advancing to the covered stockpile and grinding areas. Concrete foundations and steel buildings will include overhead power cranes so as most of the internal mechanical equipment and piping can be installed within an enclosed area, to be protected from the site harsh climate.

Tailing facility will also commence early to ensure completion prior to process plant readiness, while haul roads and the waste dumps will be constructed during operations of the mine as they require the construction of contact water containment embankments and other related earthworks that require fill material.

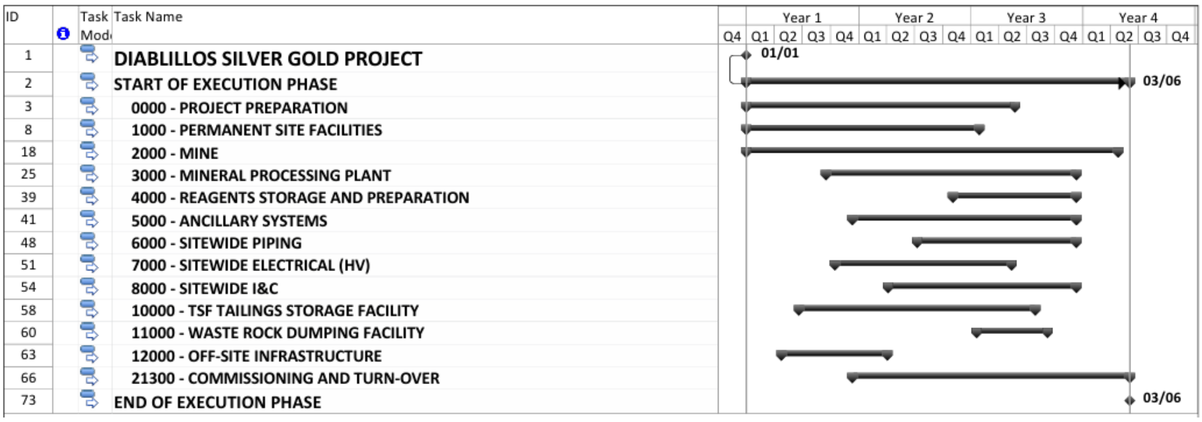
The mining fleet purchase is to be performed at an early stage, to allow their use for pre-stripping activities to support the local contractors activities, once the truck shop is available for site assembly of the equipment.

24.3 Key milestones

24.3.1 Summary

A preliminary project execution schedule is depicted in Figure 24.1. below.

Figure 24-1: Preliminary Project Execution Schedule



24.4 Permitting

The progression of the project into execution requires the approval of certain permits as already detailed in Section 20. Therefore, the preparation of an Environmental Impact Assessment has already been started in order to have it already approved at FID, as under local regulations it is the key permit to be obtained to start construction. Following the initial construction approvals for the project, further construction and operations related permit applications will.

24.5 Critical path

The critical path includes the following activities:

- Obtaining essential permits.
- Finance availability.
- Freeze design criteria.
- Complete design and procurement documents (legal and technical ones).
- Purchase and delivery of long lead items, as mining fleet, mills, gensets and electrical rooms.
- Commissioning.

The critical provides a first approach to the schedule risk, which will be continuously reassessed to mitigate eventual deviations.

24.5.1 Schedule Contingency and Risk

No schedule contingency has been determined or considered in the preliminary execution schedule.

24.6 Project Risk Review

A risk review process was undertaken as part of the PFS in line with current design progress definition.

Key environmental and social risks were discussed in Section 20, while other key technical risks and uncertainties were identified to be addressed in the next phase of the project are shown in the table below (list is only an excerpt).

Figure 24-2: Risk Matrix Excerpt

RISK	IMPACT	DE-RISKING RECOMMENDATIONS
Geotechnical risks	1. Pit slopes are dependent on detailed geotechnical analysis. 2. Facilities foundations for heaviest equipment and TSF dam must be characterized in more detail. 3. Soil suitability for TSF dam constructions have to be further test	An additional geotechnical campaign has to be undertaken to confirm PFS preliminary values
Topographical risks	1. Mining and bulk earthworks volumes costs are dependent on correct topography. 2. The use of different coordinate systems are required by authorities and those commonly used as industry practice (Gauss-Kruger vs. UTM).	Final check of topography to be performed and secure that adequate coordinate systems are used for deliverables to be submitted to government agencies and for site use.
Seismic Classification of Facilities	Current design criteria considered in line with official regulations and standards for buildings, but dam design criteria adopted was conservative for the preliminary dam break study in the absence of site-specific seismic studies.	Conduct site specific seismic studies to improve dam design parameters and perform a more detailed dam break study under the new design.
Waste Rock Characterisation and Treatment	Acid Generating potential and heavy metal leaching characterisation performed, but waste facility design for ARD material enclosure has not been sufficiently designed (i.e. lining, treatment, co disposal, etc.).	Complete long-term waste dumps design to complete regulatory compliance framework and to ensure efficient waste management design and operation on site.
Technical professionals' scarcity	Most of engineering discipline professionals are not available or their knowledge does not conform to required standards.	Define detailed staffing plan for early contracting of technical owners' team.
Construction/Execution Risk Availability of Local Contractors	Supplier vetting and development may be required to mitigate execution related risk.	Further outline the procurement packages to identify suitable contractors and vendors including technical and regulatory compliance assessment, through formal vetting.
Site Closure Monitoring	Site monitoring and obligations post closure - unclear legislative requirements or guidelines - long term obligations.	Perform full EIA for baseline monitoring data to be captured. Engage formally with regulators utilising prepared closure planning.

25 INTERPRETATION AND CONCLUSIONS

Based on the site visit and subsequent evaluation of the Project, Mr. Peralta offers the following conclusions:

Geology and Mineral Resources

- The input data was suitable for use in a Mineral Resource estimate and the gold and silver grade estimation process was consistent with CIM Mineral Resource and Mineral Reserve estimation best practice guidelines.
- The Mineral Resources conform to CIM (2014) definitions and comply with all disclosure requirements for Mineral Resources set out in NI 43-101.
- The Mineral Resources have been estimated by Mr. Luis Rodrigo Peralta (Independent Senior Geologist consultant - QP).
- Diamond drilling on the Oculto, JAC, Fantasma and Laderas zones has resulted in discovery of additional Mineral Resources for the Diablillos Project. In particular, the new high-grade JAC zone, has resulted in a significant increase in overall silver grades at the Project compared to the prior Mineral Resource estimate.
- The sampling and analytical work for the programs post-1995, particularly those performed by AbraSilver from 2017 up to present, appear to have been conducted in an appropriate fashion, using methods commonly used in the industry and employing commercially accredited independent laboratories.
- The number and orientation of the drill holes, and the sampling methods employed are such that the samples should be representative of the mineralization at Diablillos.
- The database is reasonably free from errors and suitable for use in estimation of Mineral Resources.
- For the purposes of Mineral Resource estimation, it is reasonable to assume that the gold and silver at Diablillos can be recovered using conventional processes commonly used in the industry.
- The number of bulk density determinations taken to date is sufficiently representative to generate a density model to be used for a Mineral Resource estimation.
- Measured and Indicated Mineral Resources are estimated to contain 53.25 million tonnes grading 87 g/t Ag and 0.79 g/t Au for a total of 148.3 million ounces of contained Ag metal and 1.36 million ounces of contained Au metal. Inferred Mineral Resources are estimated at 3.28 million tonnes grading 23 g/t Ag and 0.66 g/t Au. These estimates are reported based on a Net Value per Block being positive assuming operating costs of $28.23/t equivalent to an approximate 45 g/t AgEq cut-off, for

oxidized material. These cut-off grades are considered appropriate based on currently available metallurgical test work and the estimated mining, processing and G&A costs and gold and silver prices.

- There is no significant metal loss due to the capping of extreme values in the mineralized zone.
- The presence of copper in the transition zone needs to be reviewed in greater detail to understand its potential recovery through a secondary process.
- Other elements such as arsenic, bismuth, and antimony, are present in the deposit and their impact should be reviewed in future metallurgical studies. There are no relationships between these elements and gold / silver, suggesting that the minerology of these elements is not related.
- A sensitivity analysis to the parent cell size suggests non-selective mining, allowing the use of relatively large equipment for a 10 x 10 x 10 block with a minimum dilution, depending on the cut-off grade.
- Mr. Peralta ("QP") consider that there are no significant risks associated with the project.

Based on the site visit and subsequent evaluation of the Project, Mr. Fuentealba offers the following conclusions:

Mining and Mineral Reserve Estimate

- The input data was suitable for use in a Mineral Reserve estimate and the gold and silver grade estimation process was consistent with CIM Mineral Resource and Mineral Reserve estimation best practice guidelines.
- The Mineral Reserve Estimate conform to CIM (2014) definitions and comply with all disclosure requirements for Mineral Reserves set out in NI 43-101.
- The Mineral Reserves have been estimated by Mr. Fuentealba (Independent Senior Mining Engineer consultant - QP).
- According to Mr. Miguel Fuentealba, the technical and economic factors used as inputs for the reserve estimation, have sufficient levels of accuracy and completeness to comply with a Pre-Feasibility Study requirement.
- The process of reviewing preliminary phase designs during the PFS, allowed to reduce the waste-ore ratio and securing sufficient backfill material for roads and platforms construction, thus improving the project's financial indicators, such as NPV and IRR.

Geotechnical

- Open pit slopes: Open pit shell slope angles have been re-designed, based on recent geotechnical drilling and modelling. Six geotechnical sectors have been defined. The average over-all angle assumed for open pit shell generation was 51 degrees.
- The recent drilling presents limited geotechnical information. Additional drilling should be carried out to continue with new laboratory test which will allow some modification to the parameters previously determined.
- Having performed and considered a stability analysis for the mine design, relevant information was obtained to take advantage of redesign opportunities to improve the open pit global slopes.

Based on the site visit and subsequent evaluation of the Project, Mr. Keane offers the following conclusions:

The initial metallurgical tests conducted on Oculto material by SGS have been used for flowsheet development, equipment selection and the process design criteria development. The material being tested was amenable to cyanide leach and the Merrill Crowe precious metal recovery process, both gold and silver had satisfactory recoveries reaching 80% or higher. The second batch of metallurgical tests conducted on JAC/Fantasma material had much higher silver content and significantly lower gold content. However, the gold and silver recoveries were in a similar range to those of the Oculto material. The flowsheet and equipment selection developed based on the Oculto material applies to the JAC/Fantasma material, except that JAC/Fantasma material had a much higher reagent consumption and increased slurry viscosity than Oculto material, which implies that a slightly larger CCD circuit and Merrill Crowe equipment could be required. However, considering that JAC/Fantasma material is only approximately 10% of the deposit while Oculto is approximately 90% of the deposit, with the utilization of a proper ore blending strategy, the process equipment requirement for blended material should be very similar to that required for the Oculto material. The third batch of metallurgical tests included gravity tests and gravity tails leaching tests for the material from the four different Oculto zones, the overall metal recoveries were in the similar range with the recovery realized from the Oculto composite sample.

The metallurgical tests completed to date are sufficient to complete a full PFS study. The process flowsheet developed is based on a daily throughput of 9,000 metric tons per day and includes following circuits;

- Crushing and coarse ore stockpile.
- Grinding circuit with one 26x12 ft SAG mill and one 18x28 ft ball mill closed with hydro cyclones, reducing the particle size to p80 around 150 microns.

- Gravity recovery circuit installed to recover the gravity gold and silver from the hydro cyclones underflow, the gravity concentrate will be further leached in an intensive cyanidation circuit .
- The ground slurry from the grinding circuit will be tank leached for 36 hours, the pregnant solution will be recovered by a six stage of CCD circuit and washed tailings solids will report to the tailings pond after cyanide destruction.
- The pregnant solution recovered from the CCD circuit is combined with the pregnant solution from the intensive cyanidation and will be pumped to the Merrill Crowe plant. The dissolved gold and silver will be recovered to the Merrill-Crowe precipitate using zinc power and the barren solution will be recycled back to the CCD circuit and the tank leach circuit.
- The precipitate will be retorted and placed into a smelting furnace to produce the final doré bullion and slag. The slag will be crushed and recycled back to the grinding circuit for further precious metals recovery.

Based on the evaluation of the Project, Mr. van Breugel provides the following conclusions:

- Abra Silver conducted a thorough capital estimate for the construction of the Diablillos Project. A detailed audit of the cost quotations and first principles calculations revealed no flaws or significant errors.
- The Diablillos Project carries a robust net present value of USD 493.7 Million post-tax at a 5% discount rate and an internal rate of return of 25.6%, with an initial capital outlay of USD 373.5 M, delivering an NPV to Initial Capital Ratio of 1.32.
- Sensitivity analyses indicates that the project is more sensitive to metal prices and metallurgical recoveries, and less sensitive to operating and capital costs. All values delivered a positive net present value throughout the ranges of -25% to +25% for metal prices, recoveries, operating costs, and capital costs.
- Due to the volatility of the Argentinian Peso over the last several years, sensitivities were not conducted on exchange rates, and all costs were normalized to USD at the time of quotation.

26 RECOMMENDATIONS

Mr. Peralta makes the following recommendations:

- Improve the structural knowledge of the deposit through surface mapping of outcrops, and/or with information from oriented drill core or televiewer methods which will allow determination of the physical and elastic properties of each of the identified geotechnical domains.
- Improve the structural knowledge of the deposit based on interpretation of actual faults and lineaments combined with air magnetics to define potential areas for exploration.
- In-fill drilling should continue at Oculto in areas of current Indicated Mineral Resources where confidence could be improved to Measured.
- In-fill drilling should continue in areas of current Inferred Mineral Resources where confidence could be improved to Indicated
- Perform definition drilling in the northeast area of Oculto, using both in-fill and step-out holes.
- Definition drilling should be carried out between the Oculto and Fantasma zones, and between the JAC and Alpaca zones, to determine the continuity between the existing zones and identify potential new zones.
- Evaluate potential Mineral Resources in the sub-economic zones, marginal to current estimated resources.
- A further evaluation of the lower-grade oxide material for potential heap leaching is recommended, including bottle roll tests and column leach studies. This may allow a lower NVB and equivalent cut-off grade to be used in future MREs.
- Continued advancement of the Project toward delivery of a DFS.
- An evaluation of the Mineral Resource contained in the underlying sulphides should eventually be carried out in parallel with a metallurgical test work campaign, in order to quantify the contained metal in sulphides.

Mr. Fuentealba makes the following recommendations:

- Improve strategic planning and optimisation by using variable cut-off grades over time. With the help of Comet software which can redirect mine planning by exploiting synergies between operations strategies, financial indicators can be eventually improved.
- Additionally, a marginal analysis of phases would allow to balance the mining phases while maintaining the recommendations of the strategic planning.
- Perform a trade-off study for the hauling fleet, by incorporating a redesign of phases for autonomous trucks, which could open an opportunity to reduce the purchase of equipment and operators.
- Previous to resuming any other drilling campaign within Oculto, 4 holes should be drilled to determine groundwater level and subsequent hydrogeological modelling.

- Afterwards it will be essential to drill at least 12 geo-mechanical holes in the next drilling campaign to confirm geotechnical data, eventually allowing to increase global slope angles on some of the open pit walls.
- A new open pit optimization using an updated block model based on the next drilling campaign, to check the possibility of incorporating a low-cost process for below cut.-off grade material.

Mr. Keane makes the following recommendations:

For the next stage of study, it is recommended to consider following work;

- Additional tests on the transitional ore and sulphide ore to estimate the metallurgical performance.
- Cyanidation tests based on grade are recommended to develop a recovery algorithm to further define and optimize the ore resource model.
- The current plant throughput of 9,000 metric tons per day is based on the raw water availability. Considering the total amount of resource of the deposit, increasing the plant throughput may further improve the total project economics assuming that more raw water resources can be confirmed.
- The power cost is the second largest process operating cost. It is recommended to further study the power sources and implied costs, which may further optimize the process operating cost.

Mr. Canosa makes the following recommendations:

1. *Power (Solar)*

The comprehensive design and implementation of the 3MW and 17MW PV solar systems for the Project will significantly contribute to meeting the electrical power requirements of the site. The following details highlight the key aspects of this sustainable and renewable energy solution:

- Maximum energy production of 39,955,723 kWh per year.
- Specific production of 3,970 kWh per year, showcasing the efficient utilization of solar energy resources.
- Average PR ratio of 42.86%, indicating the high performance and effectiveness of the PV solar systems. - Solar fraction of 97.06%, demonstrating the significant reduction in reliance on traditional power sources such as diesel generators.
- Integration of advanced components including off-grid inverters, battery energy storage systems (BESS), PV-DG synchronizers, and energy management systems (EMS) for optimal power generation, efficiency, and operational success.
- Contribution to a greener and more environmentally friendly construction process in the mining industry.

With these details, it is evident that the implementation of the PV solar systems will not only meet the power requirements of the mine site but also lead the way towards a more sustainable and environmentally conscious approach in the mining industry.

Continuous advancements in energy storage technologies should be monitored to assess the feasibility of upgrading the BESS in the future for increased capacity and improved performance.

2. *Water Supply:*
   - The company should assess climate change impacts to the water well supply sources at Diablillos.
   - Confirm water well flow rates are suitable for process requirements.

3. *Environmental, Social and Permitting.*
   - Submit EIA update reports as required.

Mr. van Breugel makes the following recommendations:

- The project should proceed to full feasibility study.
- Although Abra conducted a very thorough cost estimation exercise, due to economic volatility in Argentina, the feasibility study should update the cost estimate to current values when the study is conducted.

Table 26 -1 presents a budget for the recommended items:

Table 26-1: Proposed Budget Summary

Description	Cost in USD
Engineering & Preparation of a DFS Report	3,500,000
In-fill drilling, geotechnical drilling, twin holes drilling (approximately 5,000 meters @ USD 400/m average)	2,000,000
Additional step-out drilling (20,000 meters @ USD 400/m average)	8,000,000
Metallurgical test work, geotechnical test work, other studies	1,000,000
Total	**14,500,000**

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Law No. 25,743: Cultural and Archaeological Heritage

Law No. 25,831: Free Access to Public Environmental Information Provincial Constitution, Articles No. 30, 79, 81, 82

Provincial Law No. 7,017: Water Code of Salta Province

Provincial Laws No. 7, 107: Protected Areas

Provincial Law No 8164: Royalties. Local Supplier Registration of Salta Province

Provincial Resolution 84/22: Registry of mining suppliers

Provincial Resolution 087/2018 Social and economic impact tables

Provincial Resolution 3652/10 Annual analysis of drinking water.

Provincial Resolution 197/2023 Provision of housing modules for control and inspection authorities of Mining Secretary of Salta Province.

Provincial Law No. 4218 Preservation of vestiges and/or remains of anthropological archaeological sites existing in the province of Catamarca.

SAyA Resolution No. 065/05 Regulations and conditions for the discharge of liquid waste in Catamarca.

Resolution S.E.M. No. 146/05 The regulations are approved that determine the procedure and conditions for granting information regarding environmental matters held by this Secretary of State for Mining.

Resolution S.E.M. N° 65/07 Establishes that all mining companies active in the Province that carry out water, soil and air monitoring in Catamarca.

Ley Provincial Law N° 4865/95: Adheres to National Law No. 24051 and establishes the Hazardous Waste Regime. By request of this law, companies must register as Generators of Hazardous Waste in the Provincial Registry of Generators, Operators and Transporters of Hazardous Waste, through Decree 473/01

Resolution 065/05: Discharge of effluents. Establishes the conditions for overturning the discharge of Residual Liquids required for discharge to the Receiving Body. This resolution establishes that all discharge of waste liquids must be declared, and the Enforcement Authority will grant the Exception, or not, of having a conditional dumping permit, depending on the volume of effluents generated.

Law 2257/73: Establishes the water code of the province of Catamarca. Its regulations are outdated, and its application is articulated through provisions of the Secretariat of Water Resources of the Province of Catamarca.

Ley 5682/2020: Establishes the Mining Procedures Code

Disposition 74: Environmental Impact in Mining. Establishes the Presentation of the Environmental and Social Impact Study for any activity that may be susceptible to degrading the Environment. In Catamarca, the Ministry of Mining is the Authority that governs the control of the ESIAs linked to the Mining Activity, through the Provincial Directorate of Mining Environmental Management.

APPENDIX

This section is not applicable with no appendices listed.

DATE AND SIGNATURE PAGE

This technical report, with an issuance date of May 29th ,2024, was written by the following "Qualified Persons" and contributing authors.

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All data used as source material and text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.