Technical Report

Cerro de Pasco Resources - NI 43-101 and Resource Estimate Update for Santander Mine Magistral and Pipe Deposits, Huaral, Department of Lima, Peru

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Abbreviations

ABBREVIATION	UNITS or MEANING
'	Feet
"	Inch
$	Dollar Sign
$/m²	Dollar per Square Metre
$/m³	Dollar per Cubic Metre
$/t	Dollar per Tonne
%	Percent
% w/w	Percent Solid by Weight
¢/kWh	Cent per Kilowatt hour
°	Degrees
°C	Degree Celsius
2D	Two Dimensions
3D	Three Dimensions
ADR	Adsorption-Desorption-Recovery
Ag	Silver
Ai	Abrasion Index
AIF	Annual Information Forms
AISC	All-In-Sustaining Costs
ANA	National Water Authority
AP	Acid Potential
ARD	Acid Rock Drainage
As	Arsenic
As	Arsenic
ASDS	Atmospheric Science Data center
ASL	Above Sea Level
Au	Gold
AuEq	Equivalent Gold
AWG	American Wire Gauge
Az	Azimuth
bcm	Bank Cubic Metre
BFA	Bench Face Angle
Bi	Bismuth
BML	Base Metal Laboratories
BoQ	Bill of Quantities
BSG	Bulk Specify Gravity

BSTP	Biological Sewerage Treatment Plant
BTU	British Thermal Unit
BVL	Lima Stock Exchange (Bolsa de Valores Lima)
BWI	Bond Ball Mill Work Index
Ca	Calcium
$CaCO_3$	Calcium Carbonate
CAD	Canadian Dollar
CAGR	Compound Annual Growth Rate
CAN$	Canadian Dollar
CAPEX	Capital Expenditure or Capital Cost Estimate
CC	Rural Community
Cd	Cadmium
CDPR	Cerro de Pasco Resources
CDPRS	Cerro de Pasco Resources Sucursal del Peru
Ce	Cesium
CEC	Cation Exchange Capacity

cfm	Cubic Feet per Minute
CFR	Cost and Freight
CIC	Carbon-in-Column
CIF	Cost Insurance and Freight
CIL	Carbon-in-Leach
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIP	Carbon-in-Pulp
CIRA	Certificate of Non-existence of Archaeological Relics
CIT	Corporation Income Tax
cm	Centimetre
CM	Construction Management
CMS	Cavity Monitoring System
Co	Cobalt
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COG	Cut-Off Grade
Conc.	Concentrate

COV	Coefficient of Variation
Cu	Copper
Cu_CN	Secondary copper
Cu_R	Primary copper
Cu_SS	Oxide copper
CWI	Crusher Work Index
dB	Decibel
dBA	Decibel with an A Filter
DCF	Discounted Cash Flow
DEM	Digital Elevation Model
DGM	General Directorate of Mining
DIA	Environmental Impact Statement
DIGESA	General Directorate of Environmental Health
dmt	Dry Metric Tonnes
DRA	DRA Global Limited
DREM	Regional Directorates of Energy and Mines
DWI	Drop Weight Index
DWT	Drop Weight Test
DXF	Drawing Interchange Format
E	East
EA	Environmental Assessment
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EIAd	Detailed Environmental Impact Study
EIAsd	Semi-detailed Environmental Studies
ELVs	Emission Limit Values
EMP	Environmental Management Plan
EP	Engineering and Procurement
EPA	Environmental Protection Agency
EPCM	Engineering, Procurement and Construction Management

EQS	Environmental Quality Standards
Eqv.	Equivalent
ER	Electrical Room
Fe	Iron
FEED	Front End Engineering Design
FEL	Front End Loader
FeS_2 or Py	Pyrite
Fm	Formation
FN	Fatima North
FOB	Free on Board
FS	Feasibility Study
FS	Fatima South
FS	Feasibility Study
ft	Feet
FW	Foot Wall
g	Gram
G&A	General and Administration

g/L	Grams per Litre
g/t	Grams per Tonne
gal	Gallons
GCW	Gross Combined Weight
GDP	Gross Domestic Product
GEIA	General Environmental Impact Assessment
GPS	Global Positioning System
H	Horizontal
h	Hour
h/a	Hour per Annum
h/d	Hours per Day
H_2	Hydrogen
H_2O	Water
H_2SO_4	Sulphuric Acid
ha	Hectare
HCl	Hydrochloric Acid
HDPE	High Density PolyEthylene
HF	Hydrofluoric Acid

HFO	Heavy Fuel Oil
Hg	Mercury
HP	Horsepower
HVAC	Heating Ventilation and Air Conditioning
HW	Hanging Wall
Hz	Hertz
I/O	Input / Output
ICMC	International Cyanide Management Code
IEC	International Electro-Technical Commission
IGA	Environmental Management Instruments
in	Inches
INGEMMET	Geological, Mining and Metallurgical Institute
IP	Induced Polarisation
IRR	Internal Rate of Return
ISO	International Standards Organisation
IT	Information Technology

ITS	Supportive Technical Report
JORC	Joint Ore Reserves Committee
JV	Joint Venture
K	Kelvin
KCl	Potassium Chloride
kg	Kilogram
kg/L	Kilogram per Litre
kg/t	Kilogram per Tonne
kL	Kilolitre
km	Kilometre
km/h	Kilometre per Hour
koz	Kilo ounce (troy)
kPa	Kilopascal
kt	Kilotonne
kV	Kilovolt
kVA	Kilovolt Ampere
kW	Kilowatt
kWh	Kilowatt-Hour

kWh/m2	Kilowatt-Hour per Square Metre
kWh/t	Kilowatt-Hour per Tonne
L	Litre
L/h	Litre per Hour
lbs	Pounds
LCT	Locked Cycle Test
LFO	Light Fuel Oil
LG	Low Grade
Li	Lithium
LHD	Load-Haul-Dump (Scooptram)
LME	London Metal Exchange
LOM	Life of Mine
Ltd	Limited
LV	Low Voltage
m	Metre
M USD	Million United States Dollars
m/h	Metre per Hour

m/s	Metre per Second
m^2	Square Metre
m^3	Cubic Metre
m^3/d	Cubic Metre per Day
m^3/h	Cubic Metre per Hour
m^3/y	Cubic Metre per Year
mA	Milliampere
Ma	Million Years
masl	Meters Above Sea Level
MC	Magistral Central
MCN	Magistral Central-North
mg	Milligram(s)
Mg	Magnesium
mg/kg	Milligram per Kilogram
mg/L	Milligram per Litre
$mg/m^2/day$	Milligram per Square Metre per Day
MHz	Mega Herz
min	Minute

min/shift	Minute per Shift
MINAM	Ministry of Environment
MINEM	Ministry of Energy and Mines of Peru
MINEM	Ministry of Energy and Mines
mL	Millilitre
ML	Metal Leaching
mm	Millimetre
mm/d	Millimetre per Day
Mm^3	Million Cubic Metres
MMR	Modified Mining Royalty
Mn	Manganese
MN	Magistral North
Moz	Million ounces
MPC	Mine Closure Plan
MPL	Maximum permissible limits
MRE	Mineral Resources Estimates
MS	Magistral South

Mt	Million Tonnes
MT	Magnetoteluric
MTC	Ministry of Transport and Communications
Mtpa or Mt/a	Million Tonne per Annum
MV	Medium Voltage
MVA	Mega Volt-Ampere
MW	Megawatts
MWh/d	Megawatt Hour per Day
My and Ma	Million Years
N	Nitrogen
N	North
NAAQS	National Air Quality Standards
NaCN	Sodium Cyanide
NAG	Non-Acid Generating
NaHS	Sodium Hydrosulfide
NE	Northeast
NFPA	National Fire Protection Association

NGO	Non-Governmental Organisation
NGR	Neutral Grounding Resistor
Ni	Nickel
NI 43-101	National Instrument 43-101
Nm³/h	Normal Cubic Metre per Hour
NNE	North - Northeast
NNP	Net Neutralisation Potential
NP	Neutralisation Potential
NPV	Net Present Value
NSR	Net Smelter Return
NTP	Normal Temperature and Pressure
NTS	National Topographic System
NW	North West
O/F	Overflow
OEFA	Agency for Environmental Assessment and Enforcement

OPEX	Operating Expenditure / Operating cost estimate
OSINERGMIN	Supervisory Agency for Investment in Energy and Mining
oz	Troy ounce (31.1034768 grams)
oz/t	Ounces per tonne
p	Pressure
P&ID	Piping and Instrumentation Diagram
Pa	Pascal
PAG	Potential Acid Generating
PAM	Environmental Mining Liabilities registry
PAMA	Environmental Adequacy & Management Plan
Pb	Lead
Pd	Palladium
PF	Power Factor
PFC	Power Factor Correction
PFS	Prefeasibility
PGE	Platinum-Group Element

Ph	Phase (electrical)	s	Second
pH	Potential of Hydrogen	S/R or SR	Stripping Ratio
PLC	Programmable Logic Controller	SA	Anonimous Society
ppm	Parts per Million	SABC	SAG and Ball (Milling) Circuit
psi	Pounds per Square Inch	SAC	Closed Anonimous Society
Pt	Platinum	SAG	Semi Autogenous Grinding
P-T	Pressure-Temperature	Sb	Antimony
PVC	Polyvinyl Chloride	scfm	Standard Cubic Feet per Minute
Py	Pyrite	SCIM	Squirrel Cage Induction Motors
QA/QC	Quality Assurance / Quality Control	SE	South East
QP	Qualified Person	SENACE	National Environmental Certification Authority
RF	Revenue Factor	SENAMHI	National Meteorological and Hydrological Service
RFQ	Request for Quotation	SG	Specific Gravity
RMR	Rock Mass Rating	SK	Skim -air
ROM	Run of Mine	SMC	Special Mining Contribution
rpm	Revolutions per Minute	SMT	Special Mining Tax
S	South		
S	Sulphur		

SO_2	Sulphur Dioxide	SUCAMEC	National Superintendency of Security, Arms Munitions, and Civil Use of Explosives
SoW	Scope of Work		
SPI	SAG Power Index		

1 SUMMARY

This technical report has been completed in compliance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines referred to in Companion Policy 43 101CP to the Canadian National Instrument, NI 43-101.

1.1 Introduction

On the 3rd of December 2021, Cerro de Pasco Resources Inc., (CDPR) took ownership of the Santander Mine assets of Trevali Peru (Trevali). CDPR management has requested DRA Global to undertake an independent review of the geological modelling processes and 2021 resource estimates for the Magistral and Santander Pipe deposits.

Cerro de Pasco Resources Inc. (“CDPR”, “the Issuer” or “the Company) is a Canadian-based resource management company incorporated in the province of Quebec, Canada and headquartered at Unit 203, 22 Lafleur Ave, Saint-Sauveur, Quebec J0R 1R0. The Company’s Peruvian office is located at Av. Santo Toribio, No. 115, Of. 702, San Isidro, Lima. The Company trades on the CSE (CDPR), OTCMKTS (GPPRF) and Frankfurt (N8HP).

CDPR is a silver and zinc-focused base metals mining company with one commercially producing operation, the recently acquired Santander Mine in Perú. CDPR is also the owner of the El Metalurgista concession in Pasco, Peru which has an inferred mineral resource of 42.9 Moz Ag in the Excelsior Stockpile (NI 43-101 Technical Report, El Metalurgista Concession – Pasco, Peru, CSA Global, August 2020).

CDPR entered a share purchase agreement with Trevali Mining Corporation ("Trevali") (TSX: TV) (BVL: TV) (OTCQX: TREVF) (Frankfurt: 4TI) on the 8th of November 2021 to acquire the Santander Property in Peru by way of a sale of the shares held by Trevali in its Peruvian subsidiary Trevali Peru S.A.C. ("Trevali Peru"). Under the terms of the Agreement, Trevali received 10 million common shares of CDPR, C$1 million in cash, and a 1% Net Smelter Return Royalty on certain areas of the Santander Mine site that exclude areas on which there is currently a defined Mineral Resource.

The transaction was subject to customary closing conditions which were finalised on December 3rd 2021. The full terms of the Agreement are provided in Section 4.3.

1.2 Reliance On Other Experts

With respect to claim tenure information, the authors and DRA have relied on an opinion letter from CDPR legal consultants, Rodrigo, Elias & Medrano Abogados of Lima Peru, who vetted the standing of 72 mining concessions and one beneficiation concession and other holdings before CDPR entered into the purchase agreement to acquire the Santander Project

The Qualified Persons and DRA have relied upon CDPR and its management for information related to underlying contracts and agreements pertaining to the acquisition of the mining claims and their status, and technical information not in the public domain. The Property description presented in this Report is not intended to represent a legal, or any other opinion as to title.

1.3 Property Description And Location

CDPR´s Santander Mine Property comprises an irregular, north to northwest-trending block of 72 mining concessions covering a granted area of 4,458.58 ha for a total effective area of 3,434.80 ha which encompasses one beneficiation (processing) concession occupying 133.11 ha.

Geographic coordinates for the centre of the property are 11º 06' south latitude and 76º 32' west longitude, and at an elevation between 4,400 a 4,750 masl.

1.4 Accessibility, Climate, Local Resources, Infrastructure And Physiography

The Santander Mine Property and associated infrastructure are located south to south-east of the town of Cerro de Pasco, and approximately 175 km north-east of the city of Lima. It is accessible from Lima by 3 main routes, via Canta (275 km), via Huaral (279 km), or via the "carretera central" and La Oroya (315 km).

The Property is located in the Puna Region (4,000 to 4,800 masl), where the climate is characterized by being cold and dry during the months of December to May, when the temperature ranges between 20°C during the day and less than 0°C at night. During the months of December to March, frequent precipitation occurs as snow or hail. Climate conditions are such that mining operations are possible throughout the year.

The mine is situated in a section of the superficial lands of the community of Santa Cruz de Andamarca (SCA), with whom the company has signed an easement agreement. Most of the goods and services required for the Project can be purchased locally or in the capital Lima. SCA through its communal company ECOSA, rents out machinery and equipment to the mine unit. The town closest to the operation comprises the community of San José de Baños (SJB), and both SCA and SJB have health posts and educational institutions.

Mine infrastructure is well-developed, with a fully equipped 500-person camp centrally located on a flat-bottomed valley site (Figure 5.2). Several shallow lakes occupy the upper reaches of some of the glacial valleys and provide sufficient water for the mining/milling activities. Trevali, the previous owners, entered into long-term surface rights agreements with the local communities which CDPR has inherited with the purchase of the property.

1.5 History

The earliest recorded work at the Santander property was carried out in 1925, when the mineral rights to the district were acquired by Rosenshine and Associates. In 1928, the United Verde Copper Company optioned the property and carried out a program of exploration and core drilling in the Santander pipe area, the results of which are unknown. In the 1940's, the National Lead Company explored the area and conducted further drilling. This work confirmed the existence of significant silver-lead-zinc mineralization at what was to become the Santander pipe.

In 1957, St. Joe Minerals of New York (St. Joe) registered the Peruvian subsidiary Compañia Santander Inc and built a 500 tonne per day (t/d) concentrator plant which was subsequently increased to between 850 t/d and 1,000 t/d. Following corporate restructuring in 1985, St. Joe divested its Latin American mining operations, including Santander which was acquired by a United States, West German and Peruvian Group called Docarb S.A. Docarb operated the mine under the name Compañia Minera Santander S.A.C. (CMS) until a cessation of operations at the end of 1992 when the company´s finance failed as a result of social difficulties, low metal prices and hyper-inflation.

Over a 34-year time span, the total production from the Santander pipe is estimated to be in the order of 8,000,000 tonnes with a grade of approximately 7% zinc, and with significant silver-lead content, and minor copper credits. At the time of closure, CMS had started mining the Magistral deposits, had discovered the Puajanca deposit, and was undertaking an underground exploration program in the Santander pipe whilst the lowermost proven reserves were reportedly being developed for exploitation.

The Santander Property then laid dormant until it was acquired by the TSX-listed Trevali Mining Corporation (Trevali) on December 11th, 2007. The acquisition was pursuant to an Assignment Agreement dated October 2nd, 2007, following which Trevali through its Peruvian subsidiary, Trevali effectively acquired all of the interest of CMS in the Property for a period of fifty (50) years with an automatic fifty (50) year extension. Trevali then carried out a series of successfully exploration programs resulting with development of the Magistral underground mine (beginning in mid-2012) and commercial production commencing in September 2013. Trevali continued operations in the Magistral mine (Magistral North, Magistral Central and Magistral South) until November 30th, 2021, when the mine was bought by Cerro de Pasco Resources Inc., (CDPR).

1.6 Geological Setting And Mineralization

The Santander mine is located within what is referred to as the Miocene metallogenic belt of central and northern Perú. It extends for at least 900 km along the Andean Western Cordillera and adjacent Altiplano and is characterized by numerous hydrothermal mineral deposits that formed about 20 Ma ago. Mineralization is interpreted to have occurred during a pre-lower Miocene Quechua I compressive event and spanned later Quechua II tectonism. Mineral deposits are predominantly hosted by shelf carbonates and other sedimentary rocks of Late Triassic, Jurassic, and Cretaceous age, and by volcanic and intrusive rocks mainly of Neogene age. Base metal and precious metal mineralization was intimately associated in time and space with the eruption of calc-alkali volcanic rocks of intermediate composition, and the emplacement of mineralogically and geochemically similar, dykes and stocks.

The property is underlain by a package of Cretaceous carbonate and clastic sedimentary rocks that were tightly folded into a series of northwest-trending anticlines and synclines. The lower, predominantly clastic part of the section was thrust over the mainly carbonate-rich upper portion (the favourable host rocks) along a regional, north to northwest-trending thrust fault, the Santander regional fault which is approximately parallel to the fold axes with a strike of 150º west, and dips moderately to the west. Based on regional stratigraphic reconstruction, it has an estimated minimum displacement of at least 1,000 metres, and clearly has a control over the mineralization of the Magistral deposits.

Magistral mineralization is hosted in limestone of the Chulec formation, and their hanging-wall or upper limits broadly correspond to a siliciclastic facies section of the Chimú formation, often in fault-contact. The lower limit or footwall of the mineralization is defined as the base of the last significant sulphide horizon and is gradational. Narrow, but very high-grade veins occur perpendicular to the main Magistral bodies and occasionally present massive sulphide replacement in between the veins; as in the cases of Rosa, Fatima South and Fatima North zones. In the Magistral deposits, the base metal grade increases with depth. Mineral system analysis suggests a geological setting in the upper mid-levels of a large to very large (intrusion-related) carbonate replacement system with very significant depth, and a lateral potential remaining open for exploration.

At the Santander pipe, skarn alteration and associated sulphide mineralization were mined to a vertical depth of 480 metres below surface, with historical boreholes indicating mineralization continues at least another 250 m vertically. In detail, skarn mineralization forms a circular, massive, plug-like body in the massive-bedded Jumasha limestone formation to depths of approximately 250 m below surface prior to forming more discrete skarn hosted replacements in the underlying interbedded Chulec limestone formation to 480 m vertical depth.

1.7 Deposit Types

The characteristics and setting of the mineralization at the Santander Property are consistent with intrusion related, carbonate-hosted zinc-lead (copper, silver) deposits (Megaw, Balton and Falce 1996; Megaw 1998; Meinert, Dippert, and Nicolescu 2005), also known as CRD or high-temperature carbonate (HTC) deposit types. Such deposits form a continuum between relatively lower-temperature replacement types as seen in the Magistral deposits, to higher-temperature skarn-hosted types as seen in the Santander pipe.

1.8 Exploration

Although the discovery of the Santander pipe was the result of exploration activity started in the first half of the 20th Century, there is no surviving data other than old-style drill core logs covering the period 1976-93 together with mine plans and sections. It was only within the last few years of CMS mining activities, that exploration began to acquire adjacent concessions and look further afield for other sources of plant feed. This was when the Magistral and Puajanca deposits were found and added to the CMS portfolio.

Intermittent exploration campaigns were re-started by Trevali in 2007, first with structural mapping (2009-10), geochemical sampling (2013, 2018-19) and geophysics (2007-2012, 2015 and 2018-2020) all of which was extended out into the main block of Santander concessions. However, the main target remained with the Magistral deposits and the development of the Magistral mine until it was brought into production in mid-2012.

It was the last period of geochemical sampling and geophysics (2018-2020) that has started to better delineate other targets within the Santander concessions, this including 10 defined targets, four of which, Blato Los Toros, Blanquita and Condor were selected for further exploration.

1.9 Drilling

There is drillhole data for the Santander pipe recorded from 1976 through to 1993, and for the Puajanca deposit during the last years of CMS. Although the sampling and assaying procedures were not QA-QC supported, the quality of the drillhole logs is adequate for geological modelling and mineral resource estimation. A few old cores were found on site during the site inspection. However, CDPR has not yet reviewed these for comparison with the interpretive work carried out by Trevali when they digitized all the old information and constructed a 3-D computerised geological model.

Trevali´s drilling (2008 – 2021) was mainly aimed at the Magistral deposits, although some drilling was aimed at the Santander pipe and Puajanca deposit, as well as a few early exploration targets.

1.10 Sample Preparation, Analysis And Security

In the opinion of DRA´s QP, the sample preparation and assaying procedures are adequate for this type of mineralization.

Core assay data for Zn, Pb, Cu, and Ag appear to be sufficiently precise and accurate for the estimation and classification of Mineral Resources and Mineral Reserves. However, channel assay data should only be used for estimation and classification of Inferred Resources, due to their low precision. DRA has made a list of recommendations to improve the site wide taking of channel samples and their QA-QC control.

1.11 Data Verification

Since Trevali's acquisition of the Santander property in 2007, there have been five independent NI43 101 compliant studies on the property: Golder in 2009, 2010 and 2012, SRK in 2017, and the current study by DRA. In each instance, site visits were conducted verifying the installations, geology, mineralisation, drilling, and sampling procedures related to exploration and to the mineral resource estimates. The databases were also verified by comparing against log sheets and laboratory-issued certificates. Only minor discrepancies were identified and these have been corrected.

1.12 Mineral Processing And Metallurgical Testing

The Santander concentrator was designed by Holland and Holland and built co-jointly by Trevali Peru S.A.C, and Glencore Los Quenuales. The Los Quenuales' 1,250 t/d Rosaura concentrator was purchased, relocated and re-habilitated, with additional equipment added, to process Santander material at production rates of 2,000 t/d.

The concentrator plant is made up of a three-stage crusher circuit; two parallel milling circuits, each with a rod and ball mill; flash lead flotation in milling circuit; lead rougher, scavenger and cleaner flotation; zinc rougher, scavenger and cleaner with regrind flotation; lead concentrate thickening and filtration; zinc concentrate thickening and filtration; zinc tailings thickening; and a tailings storage facility (TSF).

A test work program, was designed and supervised by Holland and Holland Consultants and completed at Trevali's on-site metallurgical test facility in 2010. The program examined various mineral composite blending scenarios between the Magistral North and Central deposits, and the Magistral North and South deposits, respectively. The results of the test work indicated recoveries to the separate rougher concentrates of: Silver 75-80%, Lead 90% and Zinc 80%, to their respective concentrates. This indicated excellent separation of the silver–lead mineralization and moderate to good separation of the Zinc mineralization, from the host rock, and with further test work warranted.

In 2019, and with the objective of optimising the plant design and process flow diagram, additional metallurgical tests were carried out, that included the determination of comminution indices, analytical characterisations, mineralogical characterisations, as well as flotation tests of lead and zinc ores with the objective of optimising the recovery and quality of the lead and zinc concentrates. The tests were conducted by SGS Minerals Services who tested a blended head sample with the following breakdown: 40% Magistral Centro, 20% Magistral Norte, 30% Magistral Sur, and 10% old tailings.

Open circuit flotation tests were carried out and focused on identifying operational parameters that could improve the recovery and grade of the final zinc concentrate that is currently obtained in the plant. The operational parameters evaluated were: type of water; % liberation; Xanthate

(Z-11) collector dosage; and the use of zinc selective collectors to reduce the flotation of iron sulphides without affecting the recovery of zinc minerals.

A six-cycle closed circuit flotation test was carried out to observe the impact of recirculation during cleaning and scale up feasibility. The results obtained indicate that the maximum zinc recovery is approximately 82% with a maximum zinc grade in the final concentrate of approximately 46% zinc.

1.13 Mineral Resource Estimates

Mineral Resource Models were developed for the Magistral and Santander Pipe deposits. 3D Geological interpretations of the mineralized domains were completed using Leapfrog Geo software. Metal grades were interpolated into blocks by ordinary kriging using Leapfrog's EDGE block modelling module.

The Mineral Resources were classified into Measured, Indicated or Inferred using CIM definition standards and guidelines.

At Magistral, the Mineral Resources have been depleted from current mining as from the 31st of December of 2021. Areas of historic mining at Santander Pipe are not included in the Mineral Resource.

Mineral Resources are reported above a Net Smelter Return (NSR) cut-off of US$40. The calculation of the NSR, factors in metal prices, recoveries, as well as treatment and refining, charges and deductions, in accordance with current contracts. The numbers used are based on recent production and processing of the Magistral mine products, and CDPR corporate guidance. Metal prices are based on LME 2021 averages.

The Mineral Resources for the Magistral and Santander Pipe deposits as from the 31st of December of 2021 are included in Table 1.1 and Table 1.2. Details of the parameters used in the NSR calculation are included in the footnotes to each table.

Table 1.1: Mineral Resource Statement, Magistral Deposit

Category	Tonnes (000)	Zn (%)	Pb (%)	Ag (g/t)
Measured	1,013	3.92	0.92	36.1
Indicated	1,370	4.86	0.22	17.2
Measured + Indicated	2,383	4.46	0.51	25.2

Inferred	1,601	3.95	0.19	15.7

Footnotes:

- Mineral Resources are reported above a US$40 NSR cut-off.
- Metal prices used in the NSR calculations were US$3,000/tonne for Zn, US$2,200/tonne for Pb, and US$25/Oz for Ag.
- For Magistral: NSR = (16.7 x %Zn) + (11.9 x %Pb) + (0.41 x g/t Ag), assuming recoveries of 90% for Zn, 75% for Pb and 55% for Ag

Table 1.2: Mineral Resource Statement, Santander Pipe Deposit

Category	Tonnes (000)	Zn (%)	Cu (%)	Pb (%)	Ag (g/t)
Indicated	1,791	7.18	0.10	0.03	14.8
Inferred	3,189	5.07	0.15	0.004	7.9

Footnotes:

- Mineral Resources are reported above a US$40 NSR cut-off.
- Metal prices used in the NSR calculations were US$3,000/tonne for Zn, US$2,200/tonne for Pb, US$9,300/tonne for Cu, and US$25/Oz for Ag.
- For Santander Pipe: NSR = (17.5 x %Zn) + (11.1 x %Pb) + (40.8 x %Cu) + (0.37 x g/t Ag), assuming recoveries of 90% for Zn, 70% for Pb, 60% for Cu and 50% for Ag.

1.14 Mineral Reserve Estimates

No mineral reserves have been estimated by CDPR to date.

1.15 Mining Methods

Avoca is the main mining method utilized at the Santander underground operations. It is supplemented by up-hole retreat for partial sill pillar recovery and by modified Avoca in stopes along strike at the extremities of the mineralization.

Access to the underground mine can be obtained through three operational portals at MN, MC, and MS. Each portal has an associated ramp system, and the MC and MS ramps are connected at the 4,510 m level, with one ramp servicing both MC and MS for the remainder of the depths of the currently defined lenses. Bypasses (connection drifts) connect the MN ramp system to the

MC/MS system on the main levels on elevations of 4,510 m, 4,580 m, 4,370 m, 4,300 m and 4,230 m.

Underground mining is divided into 70 m vertical height mining blocks, in which each mining block consists of three 18-m-high sublevel production stopes and a 10−12-m-thick sill pillar to be left in place for overall stability reasons.

Stope sequencing is retreated along strike from mineral body extremities. Mineral is hauled to surface by 22-tonne capacity trucks loaded by Load-Haul-Dump vehicles (LHDs). Waste rock broken underground is hauled by LHD´s or 22-tonne capacity trucks to empty stopes as backfill, to underground temporary storage (re-muck bays), or to surface temporary waste storage. Ore mucked from stopes is stored in re-muck bays along the ramps prior to truck haulage. LHDs fill empty stopes with waste rock from development, supplemented with waste rock back-hauled from existing surface waste rock stockpiles.

Future production will be dependent upon maintaining infill, step-out and exploration drilling ahead of production for the years to come, whilst fast-tracking the exploration of the adjacent Santander Pipe and Puajanca deposits, and other exploration targets within the Santander concession areas.

DRA supports CDPR´s proposals to complete a conceptual mining study and the preparation of a PEA supported Technical Report, evaluating the proposal to dewater the old Santander Pipe workings, and with the proposed objective of resuming exploration and development of the deep levels, and bringing this old mine back into production.

DRA also supports CDPR´s proposal to evaluate the open pit potential of the Puajanca deposit.

1.16 Recovery Methods

The Santander concentrator was purchased, relocated, and rehabilitated from what was previously the Glencore/Los Quenales' Rosaura concentrator. Production rates were increased from 1,250 t/d to 2,000 t/d with the addition of new equipment.

Operations began in 2013 with continual optimisation of the plant and process, to today's current operating program. The plant is operated 24 hours a day 7 days per week with monthly scheduled downtime to perform planned maintenance. Since operation began, the plant has largely operated trouble-free, experiencing only minimal breakdowns, and processing a total of 6.5 million tonnes of mineral up to the end of December 2021.

The concentrator utilises a three-stage crushing plant to reduce ROM material to a nominal size of 80% passing 25mm. The crusher product is then fed into a rod-ball milling circuit where the minerals are prepared for flotation. A differential flotation circuit is used to recover the valuable metals. The concentrates are then dewatered and trucked to Callao.

The crushing circuit includes a 24 inches x 36 inches primary jaw crusher, one 4.25 ft standard Symons cone secondary crusher, and two 3-ft short head cone tertiary crushers. The grinding stage consists of two circuits in parallel, each containing a primary rod mill in open circuit, followed by a secondary ball mill in closed circuit. The flotation circuit consists of a two-stage differential float. Lead is floated prior to zinc by depressing the zinc, which is then activated and floated.

A review of the plant performance during the last five years indicates that in 2021 the average zinc recovery (94.07%) and the average grade of Ag in the lead concentrate (75.83 oz Ag/t) were the highest of the 5 years. This is in spite of lower Zn and Ag head grades. On the other hand, in 2021 average lead grade and recovery were lower than in previous years.

1.17 Project Infrastructure

The Santander Mine infrastructure and associated services are self-sufficient with regards to the infrastructure needed to support the permitted Magistral mine, and 2,500 tpd process plant operation to recover silver bearing zinc and lead concentrates.

The main infrastructure includes:

- Magistral underground mine with a capacity of 2,000 to 2,500 tpd.
- Magistral mine portals: Magistral North (4670 level), Magistral Central (4580 Level), Magistral South (4540 Level).
- 7.0 and 5.0 MW electrical substations and power lines supplied by Peruvian power suppliers, with mine substations No 6 (mine level 4370 MC), No 7 (mine level 4300 MN), No 08 (mine level 4300 MC), No 09 (mine level 4230 MC), No 10 (mine level 4370 MC) and No 11 (mine level 4160 MC).
- Pumping and water treatment, Separate underground pumping systems for acidic (approximately 15% of total) and neutral waters (approximately 85% of total), surface drainage and pumping network, acid neutralization facility and industrial water treatment facility.
- Process plant, facilities and equipment with a nameplate capacity of 2,700 tpd.
- Tailings Storage Facility (TFS), and surface water treatment plant.
- Ancillary surface buildings (camps, admin building, etc.) and road accesses.
- First aid and emergency response building (including ambulance).
- Assay laboratory (SGS managed).
- Core logging facility and core sheds (various).

- Guardhouses (various).
- Canteen and dining facilities (staff and workers).
- Staff and workers' camp.
- Staff offices (safety, security, environment, human resources, technical services and management).
- Contractor offices (mine, plant and other contracted services).
- Truck shop and truck wash facility.
- Shotcrete plant.
- Warehousing, fuel storage and distribution facilities.
- Reagent storage and distribution facilities.
- Explosive magazines.

1.18 Market Studies And Contracts

Santander's revenue is generated through the sale of Zn and Pb-Ag concentrates, considering an:

- Offtake Agreement with Glencore for 100% of Concentrate production LOM on existing mining areas (Magistral deposit). Any production from future developments, such as the Santander Pipe are not within the offtake agreement area.
- Commercial terms include settlements of monthly deliveries considering an average price of the commodity according to the London Metal Exchange (LME) and commercial deductions for content and others as benchmark TC's and Freight & Logistics Roll-back charge that are negotiated in January of each year.

1.19 Environmental Studies, Permitting And Social Or Community Impact

All environmental studies and granted permits were sourced by Trevali Peru, which to date continues to be the company´s legal name, and is owned by CDPR. In this report, CDPR has been named as the company that will continue with all future permitting, either through the company name Trevali Peru or Cerro de Pasco Resources-Subsidiaria del Peru which will be the new local subsidiary company name.

In summary, the Santander Project complies with the terms of the Environmental Impact Report and with each of the conditions provided in the resolutions of the environmental impact authorization issued by the National Environmental Certification Service (SENACE) through official communication R.D. N° 073-2019-SENACE-PE/DEAR dated May 2, 2019.

CDPR is currently in the process of drafting the second modification of its detailed environmental impact assessment study (Second MEIA-d) for a tailings dam and mine expansion with SENACE. This study was initiated in 2019, but due to the pandemic it was put on hold. The main objective of the study is to obtain the environmental certification of the aforementioned components that will allow for the extension of the life of mine.

With reference to Social Responsibilities and Community Impact, Trevali has maintained a good relationship with the population of the area of direct and indirect social influence, which is composed of the following three Rural Communities: CC Santa Cruz de Andamarca, CC Santa Catalina and CC San José de Baños respectively. CDPR undertakes to continue as a matter of priority the Sustainable Development Program, the Health and Nutrition Program, the Education and Culture, and the Communications and Dialogue initiatives set up by Trevali.

The mine closure plan has been designed to ensure the rehabilitation of the area where the mine is located.

1.20 Capital And Operating Costs

CAPEX and OPEX costs are not included in this report.

1.21 Economic Analysis

No economic analysis has been undertaken as part of this report.

1.22 Adjacent Properties

The Chungar Antiguo deposit, located 7.5 km north of the Santander property, is an example of All adjacent deposit types are associated with deep-seated intrusive systems.

The Chungar Antiguo deposit, located 7.5 km north of the Santander property, is an example of a contact developed endo-skarn and exo-skarn deposit surrounding an intrusive body which takes the form of a lacolith.

Compañia Minera Chungar´s Romina project (also referred to as Nuevo Santander) is located 2 km to the north of Santander´s eastern-most concessions. This comprises a pipe-type deposit similar to the Santander pipe, but with lower grades.

CDPR´s Santander concessions are mostly surrounded by other active exploration and mining companies. The measured and indicated resources as reported by operating mining companies within the surrounding area are summarized in Table 1.3.

Adjacent properties and their end-2020 declared Measured and Indicated Resources.

Table 1.3: Adjacent properties and their end-2020 declared Measured and Indicated Resources.

Company	Deposit	MT	%Zn	%Pb	%Cu	%Oz Ag/t	Location
Cia Minera Chungar	Romina project	10.60	4.75	2.62	0.10	1.24	2km North
Cia Minera Chungar	Animon mine	14.00	7.30	2.20	0.20	2.70	24 Km N-E
Cia Minera Chungar	Islay mine	3.20	1.90	0.80	0.10	5.40	16 km N-E
Cia Minera Chungar	Alpamarca mine	3.70	1.20	0.90	0.10	2.10	8 Km E-S-E
Pan American Silver	Huaron mine	4.20	2.92	1.64	0.43	5.07	25 Km N-E

1.23 Other Relevant Data And Information

The Trevali mining company was built upon the successful exploration (2007-2012), development and production (2013-21) of the Magistral polymetallic mine. However, the acquisition of higher-grade mines in Canada and Africa has led Trevali to focus their business elsewhere, and to make a decision to start closing the Magistral mine after mid-2022, and withdraw from Peru. This is evidenced by Trevali´s decision to cease drilling and reduce development of the Magistral Mine once their operations became adversely affected by the Covid-19 pandemic early in 2020.

1.24 Interpretation And Conclusions

CDPR first identified the advantages in acquiring the Santander Property in March 2021, and closed the purchase on the 3rd December 2021, with a view to establishing CDRP´s first producing operation.

1.24.1 The Magistral Mine

DRA recogniszes from the current mineral resource estimate, that the Magistral mine has not been worked to conclusion, and that there is strong geological evidence, from the supporting information reviewed, of a continuation of mineralization in depth, and that there are further extensions to the mineralization to be explored along strike, both to the north and south of the current mine workings.

It is also recognized by DRA that an appropriate mining method is in place, and all the necessary infrastructure and operational permits are in place, as required for continued operation of the Magistral mine, and that improvements can probably be made within the mine in order to reduce operational costs.

DRA concludes in alignment with CDPR, that the most important step towards maintaining a continuation of mining operations in the Magistral mine, is to resume infill drilling and development below the bottom of the mine. Parallel studies should be carried out to improve the geological knowledge of the Magistral deposits, as well as mine planning, and specific mine planning issues like the mine pumping system need to be reviewed in detail.

The overall objective has to be to continue “step-out” and other exploration drilling in order to strengthen and increase confidence in the Magistral mine´s mineral resources and with the objective of stabilizing the balance between exploration and development for the purposes of maintaining production for the years to come.

DRA concludes that once the infill drilling has been completed in mid-2022, the geological model will need updating, and both Mineral Resource and Mineral Reserve estimates should be carried out, in order to plan on-going production, as well as the next stage drilling and development requirements.

1.24.2 *The Santander Pipe*

DRA concludes that CDPR should proceed towards preparing a Preliminary Economic Assessment (PEA) to study what mining methodology needs to be adopted towards dewatering this old mine and resuming the exploration, development and production from this deposit in depth.

Initial studies will require a crane assisted inspection of the Santander shaft together with any accessible underground workings above the current water line.

1.24.3 *The Puajanca Deposit*

The last drilling of the Puajanca deposit (9 drillholes) was carried out during 2021. These need to be built into the 2016 geological model and the mineral resource estimate brought up to date. DRA considers that further drilling and surface sampling should initially look at the potential for possible for open pit mining.

1.24.4 *Other Exploration Targets*

There are other exploration targets located to the north of the Magistral mine, and between the Magistral mine and the Santander pipe to the south. These areas should be evaluated for further possible geophysics surveying and drilling.

1.25 Recommendations

DRA Global makes the following recommendations in relation to the Interpretations and conclusions made in this report.

1.25.1 *Magistral Mine*

1. That CDPR restarts infill drilling (proposed 10,000 metres) in the bottom levels of the Magistral mine, aimed first at upgrading indicated resources to measured resources as required for mine planning, stope definition, and maintaining mine production.

2. That CDPR allows for exploration drilling from surface (proposed 6,200 metres) aimed at identifying further inferred resources. This drilling should be deferred until the infill

program is completed and CDRP knows from updated geological interpretation and modelling as to where the next drill holes are needed.

3. That CDPR restarts development below the bottom of the Magistral mine.

4. That CDPR reviews the Magistral underground mine design with respect to future dewatering and pumping requirements.

5. That CDPR begins the process of developing a long-term strategy and integrated plan (5-years) for maintaining exploration and development ahead of production, and this should include the necessary advancements in exploration that may be needed to maintain production from other deposit sources.

6. That CDPR carries out all necessary work to improve the geological knowledge and modeling of the Magistral mine, as well as reviewing the status and understanding of nearby exploration projects that could, with renewed exploration and evaluation, provide future production to the process plant. This includes assessing the potential for open pit mining of the upper part of the Puajanca deposit, and further retreatment of old Santander mine tailings.

The cost of the proposed drilling (underground and surface) and including drilling bays, drilling pads and geological support, is estimated at US$2,262,000 (two million, two hundred and sixty-two thousand US dollars).

1.25.2 Santander Pipe

1. That CDPR consolidates the Santander Shaft collar and carries out a crane assisted inspection of the shaft down to water level, or as far as safe access permits. An attempt should be made to plumb the shaft to its bottom and use a submersible tele-viewer to assess the shaft´s condition within the lower flooded section.

2. This will provide CDPR with information for mining studies considering alternatives for dewatering and reclaiming the flooded Santander Pipe workings, the alternatives being to rehabilitate the Santander Shaft, mine from the Magistral mine (1,500 metres), and mining a new ramp from surface or from within the old open pit.

3. That CDPR makes improvements to the Santander Pipe geological model and resource estimate and associated preliminary studies (metallurgy, geomechanics, hydrogeology etc.) with the objective of designing an infill drilling program to be carried out either from surface, or from within the old underground mine.

4. That CDPR determines the additional permitting and permitting times that may affect the dewatering and development of the Santander Pipe mine for production.

5. That CDPR proceeds with the preparation of a PEA evaluating the proposal to dewater the Santander Pipe mine for future exploration, development and production.

The cost of the Santander Shaft inspection together with other mine planning and related studies is estimated in the sum of US$365,000 (three hundred and sixty-five thousand US dollars).

In addition to the above recommendations, DRA recommends modifications to the mine channel sampling and QA-QC program, as follows:

- Channel sampling can be significantly improved by cutting proper channels, using an adequate device (a battery-powered diamond saw, for example), and ensuring at least 4 kg per meter sample weight.
- A detailed QC protocol, describing the use of control samples and the actions to be taken in the event of non-conformities, should be prepared, formally approved and adopted.
- Twin samples for core drilling should consist of half-core, not of quarter-core, to ensure repeatability conditions.
- Coarse duplicates for core drilling should be included in the QC protocol to be able to assess the sub-sampling precision.
- Pulp duplicates should be inserted in the assay batches to be able to assess the analytical precision.
- There is no need to monitor accuracy with SRMs at very low grades, and well below a reasonably valid cut-off grade.
- External check samples should be regularly submitted to a secondary laboratory to independently monitor the relative accuracy. The check-assay batches should include reasonable proportions of pulp duplicates and SRMs.

The following QA-QC insertion rate is recommended:

Sample Type	Recommended Insertion Rate (%)
Twin samples	2.0
Coarse duplicates	2.0
Pulp duplicates	2.0
Coarse blanks	2.0
Fine blanks	2.0
SRM´s	6.0
External check samples	4.0
Totals	**20.0**

2 INTRODUCTION

This Technical Report is specific to the standards dictated by NI 43-101 for Disclosure of Mineral Projects (30 June 2011), Companion Policy 43-101CP, and Form 43-101F1. The Mineral resource estimates reported in this Technical Report have been prepared in accordance with CIM Definition Standards for Mineral Resources and Mineral Reserves (10 May 2014 and 2014 CIM Definition Standards) and CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (29 November 2019). Mineral Resources are provided on an estimated basis at this stage and as such Mineral Reserves are not specified.

2.1 Issuer

Cerro de Pasco Resources Inc. (“CDPR”, “the Issuer” or “the Company) is a Canadian-based resource management company incorporated in the province of Quebec, Canada and headquartered at Unit 203, 22 Lafleur Ave, Saint-Sauveur, Quebec J0R 1R0. The Company’s Peruvian office is located at Av. Santo Toribio, No. 115, Of. 702, San Isidro, Lima. The Company trades on the CSE (CDPR), OTCMKTS (GPPRF) and Frankfurt (N8HP).

CDPR is a silver and zinc-focused base metals mining company with one commercially producing operation, the Santander mine in Perú. It is also the owner of the El Metalurgista concession in Cerro de Pasco, Peru which has an inferred mineral resource of 42.9 Moz Ag in the Excelsior Stockpile (NI 43-101 Technical Report, El Metalurgista Concession – Pasco, Peru, CSA Global, August 2020).

CDPR was formed in 2012, when it acquired mining rights related to tailings and stockpiles located at Cerro de Pasco (the El Metalurgista Concession). **Cerro de Pasco Resources Sucursal del Peru (“CDPRS”)** is a subsidiary fully owned by CDPR, constituted in Peru on June 8th, 2018. According to Peruvian regulations, CDPRS has its own legal status, through which the parent company CDPR develops its activities in Peru. In that sense, the CDPRS corporate body is the same as the parent company in Canada and CDPRS does not need to have independent General Shareholders or Directors. Notwithstanding this legal structure, CDPRS has permanent legal representation and management autonomy in Peru, related to the activities assigned by the parent company, and in accordance with the powers of attorney granted to CDPRS representatives.

CDPR entered a share purchase agreement with **Trevali Mining Corporation** ("Trevali") (TSX: TV) (BVL: TV) (OTCQX: TREVF) (Frankfurt: 4TI) on the 8th of November 2021 to acquire the **Santander Mine** in Peru, by way of a sale of the shares held by Trevali in its Peruvian subsidiary **Trevali Peru S.A.C. ("**Trevali Peru"). Under the terms of the Agreement, Trevali received 10 million common shares of CDPR, CA$1 million in cash, and a 1% Net Smelter Return Royalty on certain areas of the Santander Mine site that excluded areas on which there is currently a defined Mineral Resource.

The transaction was subject to customary closing conditions which were finalised on December 3rd 2021. The full terms of the Agreement are provided in Section 4.4.2 (NSR Royalty).

The Santander mine is an established producing polymetallic mining operation, located in west-central Perú, approximately 215 km east-northeast of Lima. CDPR wholly owns the Santander mine complex. The Santander mine complex comprises a historically mined open pit and underground workings. Active underground operations (the Magistral mine) currently producing a nominal volume of 2,000 t/d that feeds the Santander process plant, which produces approximately 130-160 t/d of zinc concentrate at a nominal grade of 47.5 – 48.2 % zinc, and 13-18 t/d of lead concentrate with nominal grades of 47 - 48 % lead and 67 – 77 oz/t silver. The Santander mine complex also includes a tailings storage facility (TSF), as well as a 500-person camp and a granted concession area of 4,458.58 ha considering a total effective concession area of 3,434.80 ha.

The Santander mine complex is being operated extensively using contractors through CDPR management supervision. Contractors on-site include Miro Vidal y Compañía S.A.C. (mining contractor), Tecnomin Data S.A.C. (process plant operator), Prosegur (Security), SGS del Peru S.A.C. (on-site laboratory services and concentrate sampling) and Industrias Metalicas Alyer S.R.L (concentrate transport) amongst others.

The Company's recent acquisition of the Santander mine complex, associated infrastructure and resources, positions CDPR as an operating company which has the potential to develop a long-term integrated Project with significant exploration upside potential.

2.2 Terms of Reference

The scope of work for this report was defined in a term sheet executed between CDPR and DRA on December 2, 2021. The scope included mobilizing a team of Qualified Persons to visit the Project to review the technical information relevant to supporting and restating with adjustments if required, the Mineral resource statements for:

- Magistral Mine Mineral resource estimate as depleted to 31/12/2021,
- Santander Pipe Mineral resource estimate as last estimated, March 2020**,**

The review was based upon geological models developed by the previous operating company, Trevali.

The scope also included compiling a Technical Report pursuant to National Instrument 43-101 to support the disclosure of Mineral resource statements. The QP responsibilities for each report section are listed in Table 2.1.

CDPR reviewed draft copies of this report for factual errors. Any changes made as a result of these reviews did not include alterations to the interpretations and conclusions reached by DRA.

Therefore, the statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false or misleading as at the date of this Report.

2.3 Sources of Information

This technical report is based on information made available to DRA by CDPR in electronic data form using SharePoint and emails, as well as information collected during the site visits. The QP´s have no reason to doubt the reliability of the information provided by CDPR. Other information was obtained from the public domain in addition to items listed in Section 27 (References) of this Technical Report.

Various studies and reports have been collated, reviewed and integrated into this Technical Report by the authors, assisted by CDPR personnel. Reports, plans, sections, databases and documents referred to in this report are securely stored on the CDPR and DRA servers. The QP´s have taken all reasonable steps to verify the information provided. The Mineral resource estimates were reviewed, updated, and reported on by Mr. Graeme D. Lyall of Lyall Consult SpA, contracted by DRA.

This report is based on the following sources of information:

- Information provided by CDPR.
- A site visit conducted between 13th and 17th of December 2021.
- Discussions with CDPR management and technical personnel.
- Information stored in the virtual data room created for the preparation of this report.
- Previous and current on-going technical studies, technical memorandums, site visit notes (not publicly disclosed).
- The two (2) historic Resource Estimates described in Section 14 (Mineral Resource Estimate), prepared by previous project owners (Trevali and/or consultants), reviewed for adequacy by Mr. Graeme D. Lyall.
- Data, maps, drawings, and other project information provided by CDPR.
- 2020−2021 actual and preliminary 2022 budget cost information provided by CDPR.
- Magistral mine’s productivity data.
- Contributions from independent consultants listed in Section 2.4.
- Additional information from Governmental and public domain sources.

This Report includes technical information that requires calculations to derive subtotals, totals and weighted averages, which inherently involve a degree of rounding and, consequently, introduce a margin of error. Where this occurs, the authors do not consider it to be material.

The Qualified Persons have reviewed such technical information and have no reasons to doubt the reliability of the information provided by CDPR. The authors do not disclaim any responsibility for the information provided and reviewed.

2.4 Qualified Persons

The QP's either work for or were subcontracted by DRA Global Limited who is responsible for this report. DRA Global Limited (ASX: DRA | JSE: DRA) is a diversified global engineering, project delivery and operations management group headquartered in Perth, Australia, with a track record spanning more than three decades. Known for its collaborative approach and extensive experience in project development and delivery, as well as turnkey operations and maintenance services, DRA Global delivers optimal solutions that are tailored to meet clients' needs.

DRA comprises more than 4,500 professionals, offering expertise in a wide range of resource engineering disciplines. DRA has a proven track record in undertaking independent assessments of Mineral Resources and Mineral Reserves, project evaluations and audits, technical reports and independent evaluations on behalf of exploration and mining companies, and financial institutions worldwide.

This Report was prepared by the QP's listed in Table 2.1 who were contracted by DRA. The authors are QP's as defined in NI 43-101, with the relevant experience, education and professional standing for the sections of the Report for which they are responsible.

DRA conducted an internal check to confirm that there is no conflict of interest in relation to its engagement in this project or with CDPR, and that there is no circumstance that could interfere with the QP's judgement regarding the preparation of the Technical Report.

Table 2.1: Qualified Persons – Report ResponsibilitiesQualified Persons – Report Responsibilities

Section	Qualified Person
Section 1: Summary	All Authors
Section 2: Introduction	All Authors
Section 3: Reliance on Other Experts	All Authors

Section 4: Property Description and Location	Martin Mount & Others
Section 5: Accessibility, Climate, Local Resources, Infrastructure and Physiography	Martin Mount
Section 6: History	Martin Mount
Section 7: Geological Setting and Mineralization	Martin Mount
Section 8: Deposit Types	Martin Mount
Section 9: Exploration	Martin Mount
Section 10: Drilling	Martin Mount
Section 11: Sample Preparation, Analyses and Security	Armando Simon
Section 12: Data Verification	Graeme Lyall
Section 13: Mineral Processing and Metallurgical Testing	Niel Morrison
Section 14: Mineral Resource Estimates	Graeme Lyall
Section 15: Mineral Reserve Estimates	Not part of the scope
Section 16: Mining Methods	Javier Aymachoque
Section 17: Recovery Methods	Niel Morrison
Section 18: Project Infrastructure	Javier Aymachoque
Section 19: Market Studies and Contracts	Javier Aymachoque
Section 20: Environmental Studies, Permitting and Social or Community Impact	Javier Aymachoque
Section 21: Capital and Operating Costs	Not part of the scope

Section 22: Economic Analysis	Not part of the scope
Section 23: Adjacent Properties	Martin Mount
Section 24: Other Relevant Data and Information	All Authors
Section 25: Interpretation and Conclusions	All Authors
Section 26: Recommendations	All Authors
Section 27: References	All Authors

The following QP's participated in the writing of this Technical Report:

- Mr. Martin Mount (FGS CGeol, FIMMM CEng), the Principal Author in the preparation of the Report and independent consultant and geoscientist, is a professional geoscientist and engineer in the fields of geology, Mineral resource and Mineral Reserve estimation and classification, geotechnical engineering, geometallurgy and mine planning.
- Mr. Javier Aymachoque Tincusi (MAusIMM CP (Min)), co-Author and consulting mine engineer and project infrastructure specialist, is a professional engineer in the fields of mine engineering, mine operations, site wide mine and infrastructure design, environmental permitting, capital and operating cost estimation, and mineral economics.
- Mr. Niel Morrison, (PEng, CIM), co-author, is a Principal Process Engineer with DRA Global, with over 28 years of experience in the process engineering industry mainly related to the processing of gold, base metals, and diamonds. Experience spans basic research, operations and projects in multiple continents.
- Mr. Graeme Lyall (FAusIMM), co-author, is an independent consulting geologist with over 30 years professional experience in precious and base metals exploration, geological modelling and mineral resource estimation.
- Dr. Armando Simón (PGeo), co-author, is an independent consulting geologist with 47 years of project management and consulting experience in geological and geochemical exploration, open-pit/underground mining, QA/QC, geological modeling, resource estimation, due diligence, audits, reconciliations, and laboratory audits.

Each of the Authors, by virtue of their education, experience, and professional association, is a Qualified Person as that term is defined in NI 43-101, with the relevant experience, education and professional standing for the sections of the Report for which they are responsible.

The following list of professionals assisted the QP's in the development of the NI 43-101 Technical Report:

- Dr. Karina Tuesta, an independent consulting engineer with over 18 years of experience in environmental and social studies and projects in the mining, energy, oil, and gas industries.
- Mr. Fabián Hurtado, is the South America Process Director with DRA Global, with over 20 years of experience in mineral processing mainly related to the processing of gold, copper, zinc, silver, lead and tin.
- Mr. Walter Neisser, an independent mining engineering consultant with over 25 years of experience in mining consulting, mining engineering studies, contract mining and project management.

2.5 Qualified Person Property Inspection

Qualified Persons Graeme Lyall and Javier Aymachoque conducted a five-day property visit to the Santander mine site between the 13th and the 17th of December 2021, as detailed in Sub-Section 12.2.2 (Site Visit). The data verification activities conducted by the author during the site inspection included:

- Observation of the mineralization in surface outcrops and underground workings.
- Observation of the on-site analytical laboratory, and sample storage facilities.
- Verification of random drill collar surveys.
- Inspection of drill hole core from the Magistral and Santander Pipe deposits.
- Visit to underground mine and production faces.
- Review of supporting documentation of the historical data.
- Review of documents, reports, procedures and standards
- Observation of execution capability
- Visit to Project Infrastructure

During the site visit, DRA's QP's held discussions with the site geology team and CDPR's management including:

- Mr. Shane Whitty, CDPR Vice-President Exploration & Technical Services, regarding the geology and tenure of the property.
- Mr. Diederik Duvenage, Vice-President Operations & Project, on project operational issues
- Mr. John Grewar, Vice-President Processing Operations (video conference meeting), on metallurgy, testwork and process plant layout and condition.
- Mr. Paul Camacho, Technical Services Manager, regarding mine planning and the underground operation at Magistral.
- Mr. Omar Saavedra, Senior Mine Geology Supervisor, regarding the mining method, underground geology and sampling protocols, grade control, stock piling and blending, mine to mill reconciliations, and drilling and development requirements.
- Mr. Edinson Rosell, Senior Exploration Geology Supervisor, regarding the property geology, geological controls on the mineralization, geological interpretation and the development of 3D models, and evidence supporting historical data.
- Mr. Víctor Loayza, Mine Superintendent, regarding underground mine operation management, extraction system, production rate, bottleneck in operations, geomechanics, mining method, mine dewatering system, dilution and recovery reconciliation and mining cost.
- Mr. Juan Poma, Ventilation Supervisor, regarding mine ventilation system and mine dewatering system.
- Mr. Manuel Lizandro Rodríguez Mariátegui Canny (Lima office meeting), Managing Director, on legal issues, legal due diligence, and concession status.
- Mr. Edwin Mitchell, Vice-President Safety, Health, Environment & Community, on environmental, community and health and safety requirements.
- Mrs. Yessica Juárez, Environment Lead on environmental and historical and ongoing permits.
- Mr. Julio Bazán, Senior Environment Supervisor, on environment issues of the project infrastructure.
- Mr. Frank Zambrano, Metallurgist, on the concentrator plant.
- Mr. Roberto Gago, Maintenance Superintendent, on mine and plant maintenance.

2.6 Effective Date

The Effective Date of this Technical Report is 31st December 2021. This date reflects the day upon which all technical estimates are based.

DRA opinion contained herein, unless otherwise stated, is based on information collected by DRA throughout the course of its investigations. The information in turn reflects various technical and economic conditions at the time of writing the report. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report may include technical information that requires 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, DRA does not consider them to be material.

2.7 Currency, Units and Abbreviations

The Metric or SI System is the primary system of measure and length used in this Report and is generally expressed in kilometres (km), metres (m) and centimetres (cm); volume is expressed as cubic metres (m^3), mass expressed as metric tonnes (t), area as hectares (ha), and zinc, copper and lead grades as percent (%) or parts per million (ppm). The precious metal grades are generally expressed as grams/tonne (g/t) but may also be in parts per billion (ppb) or parts per million (ppm). Conversions from the SI or Metric System to the Imperial System are provided below and quoted where practical. Metals and minerals acronyms in this report conform to mineral industry accepted usage.

For the purpose of reporting the mineral resource estimates, silver is reported in grams per tonne (Ag g/t). Base metals, zinc (Zn %), lead (Pb %) and copper (Cu %), are reported in percentage (%). Conversion factors utilised in this report include:

- 1 troy ounce/tonne = 31.1035 grams/tonne,
- 1 gram/tonne = 0.0322 troy ounces/tonne,
- 1 troy ounce = 31.1035 grams,
- 1 gram = 0.0322 troy ounces,

The term gram/tonne or g/t is expressed as “gram per tonne” where 1 gram/tonne = 1 ppm (part per million) = 1,000 ppb (part per billion). Other abbreviations include ppb = parts per billion; ppm = parts per million; oz/t = ounce per tonne; oz/st = ounce per short ton; Moz = million ounces; Mt = million tonne; t = tonne (1,000 kilograms); st = short ton (2,000 pounds) and, SG = specific gravity.

Other abbreviations include UTM = Universal Transverse Mercator; PSAD56 = Provisional South American Datum of 1956; WGS = World Geodetic System.

Unless otherwise mentioned, all coordinates in this Report are provided in UTM Zone 18 South projection, WGS84 datum.

All currencies are expressed in U.S.A. Dollars (US$), unless otherwise stated. As of the Effective Date of this Report (31/12/2021), the Bank of Canada exchange rate between the US$ and Canadian dollar (CA$) and the US$ and Peruvian Sol (PEN) was approximately US$ 1.00 = CA$ 1.26 = PEN 3.99.

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by DRA Global with the requirement of checking and restating the mineral resource estimates for the Magistral mine and Santander Pipe deposits, previously prepared by Trevali. The information, conclusions, opinions, and estimates contained herein are based on:

- Information made available to DRA Global at the time of preparation of this report;
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other supporting information supplied by CDPR and other sign-off parties.

DRA Global and the QP's contracted to prepare this current report, have relied upon CDPR and its management for information related to underlying contracts and agreements pertaining to the acquisition of the mining claims and their status, together with technical information not in the public domain. The Property description (Section 4) presented in this Report is not intended to represent a legal, or any other opinion as to title.

With respect to claim tenure information in Section 4, DRA Global and the Qualified Persons have relied on an opinion letter from CDPR's legal consultants, Rodrigo, Elias & Medrano Abogados of Lima Peru, who vetted the standing of 72 Santander concessions and other holdings before CDPR entered into the agreement to acquire Santander Mine in Peru by way of the purchase of shares held by Trevali in its Peruvian subsidiary Trevali Peru S.A.C. ("Trevali Peru") ("R.A.") (Rodrigo et al., Memorandum Santander Concessions), which can be seen in Appendix A.

DRA Global and the QP's have relied upon Andrew Falls (Falls, 2021) of Exen Consulting Services for the metal market analysis provided to CDPR as summarized in Section 19.

DRA Global was informed by CDPR that there are no known litigations potentially affecting the Santander Project or Properties.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Location

The CDPR mining concessions specified in this report (hereinafter referred to as the Property) are located approximately 215 km north-east of the capital city of Lima in the district of Santa Cruz de Andamarca, province of Huaral, Department of Lima. Geographic coordinates for the centre of the property are 11º 06' south latitude and 76º 32' west longitude, and at an elevation between 4,400 a 4,750 masl (Figure 4.1). The entire property covers an area of 4,458.58 ha. The Santander Mine is located within this property.

4.2 Property Ownership

The Property comprises an irregular, north to northwest-trending block of 72 mining concessions (Figure 4.2 and Table 4.1) covering a granted area of 4,458.58 ha for a total effective area of 3,434.80 ha which encompasses one beneficiation (processing) concession occupying 133.11 ha. The reason for the variance in hectares, is that the five largest (Atoj 1 to 5) of the 72 concessions are older, irregularly orientated concessions and their hectarage has not been deducted by MINEM from the larger overlying concessions. The older concessions include some small concessions pertaining to Compañia Minera Chungar S.A.C. which have preference over Atoj 1 and Atoj 2 (Figure 4.2). However, these do not affect CDPR´s production areas and currently known exploration potential

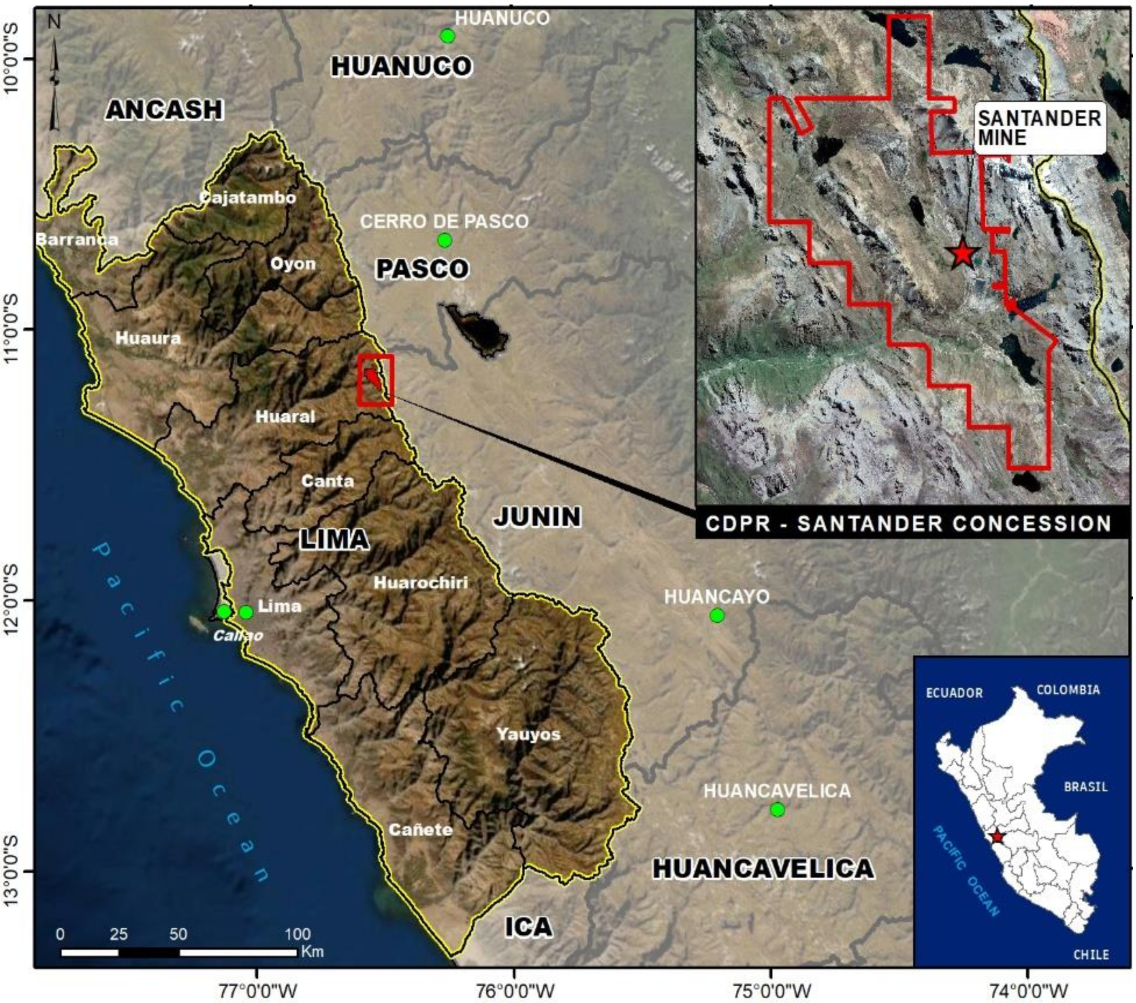


Figure 4.1: Map of Lima Department showing the Location of the CDPR Concessions and Santander Mine. Source CDPR (2021).

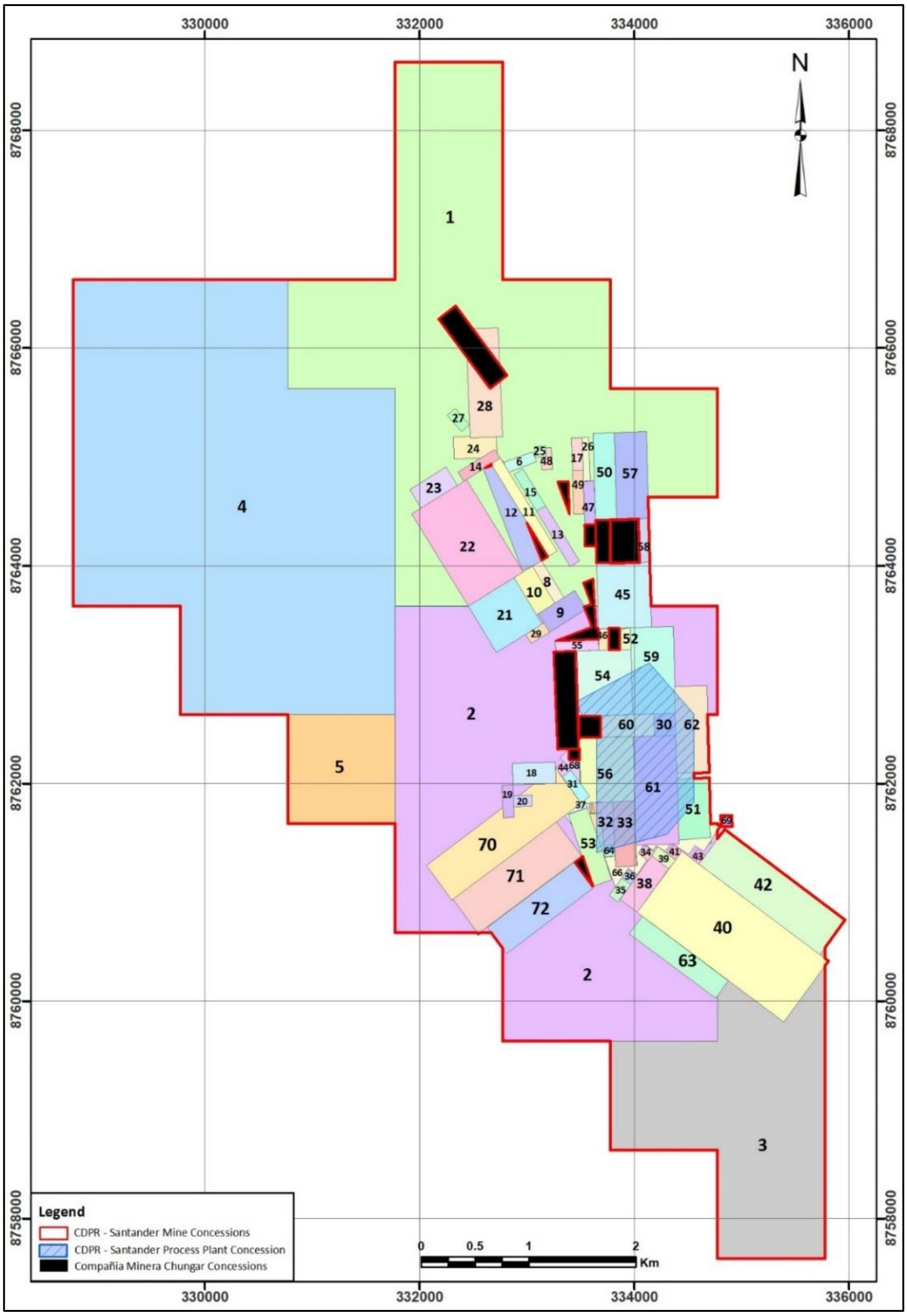


Figure 4.2: Image Distribution of Santander Property Mining and Beneficiation concession. Source CDPR (2021).

The Property concessions grant the titleholder the right to conduct exploration activities and exploitation of metallic and non-metallic materials within a determined area for an indefinite term (subject to compliance with applicable obligations), and the ownership of extracted minerals is vested in the holders of the mining concessions. A beneficiation concession grants the right to concentrate, smelt or refine minerals already mined. To exercise such mining and beneficiation rights, it is necessary to obtain permits and authorizations as required by law, from the respective authorities. An overview of the Peruvian Mining Law and regulations is presented in Appendix B.

CDPR legal consultants (Rodrigo, Elias and Medrano) performed due diligence on the 72 mining and one beneficiation concessions before CDPR entered into a share purchase agreement to acquire said company (Rodrigo Elias and Medrano, October 2021): (Appendix A).

All holders of mining concessions are required to pay good standing fees, called validity fees. These fees are calculated based on the concession extension and paid on an annual basis to INGEMMET[1]. Failure to pay validity fees for two years results in the cancellation of the mining concession. Validity fees paid in 2021 on the Property mining concessions total US$12,437.60 and annual fees paid in 2021 for the beneficiation total US$2,069.61 (Table 4.1).

In addition to the annual validity fees, holders of mining concessions must achieve a minimum production level of one Tax Unit per hectare per year[2] within a 10-year term following the year in which the respective mining concession title was granted. If such minimum production is not reached within the referred term, the mining titleholders are required to pay a penalty equivalent to: 2% of the minimum production (between year 11 and 15), 5% of the minimum production (between year 16 and 20), and 10% of the minimum production (between year 21 and 30). Titleholders of mining concessions have a 30-year term to achieve the minimum production levels set by law. If minimum production is not reached within this term, the respective mining concession is cancelled. In principle, the 30-year term is counted from the year following the granting of a mining concession title. However, for those concessions granted before December

1 The Instituto Geológico, Minero y Metalúrgico: the current validity fee is US$ 3 per hectare per year.

2 Reduced minimum production requirements are applicable for non-metallic concessions and for artisanal and small mining producers

31, 2008, the term is counted as from January 2009. Penalty fees paid in 2020 on the projects mining concessions total US$952.19 (Table 4.1).

4.3 Property Description

The Property consists of 72 mining concessions (Figure 4.2) and one beneficiation concession (Figure 4.2 and Figure 4.3). To date, the owner of the concessions has not been changed in the public register. The concessions are still registered in the name of Trevali Peru. Trevali Peru had signed a trust agreement on the concessions with Scotiabank Peru. On closing of the purchase transaction, the Trust agreement was terminated by private deed and is now in the process of being lifted from the public registry. After lifting the Trust agreement from the public registry, the concessions will be re-registered in the name "Cerro de Pasco Resources Subsidiaria del Peru" is the name of the company currently been formed by CDPR to replace the local Trevali Peru S.A.C. company name. The new company will comprise a subsidiary of CDPR, of which the paperwork is in progress.

Table 4.1: Mining and Beneficiation Concessions – Santander Property

N°	Concession	Code	Date Issued	Granted Area	Effective Area- Total (ha)	Registered Titleholder	Public Registry file	Validity fees (US$) 2021	Production Penalties (US$) 2020
1	ATOJ 1	10226707	26/05/2008	1000	584.54	001485-2008-INGEMMET/PCD/PM	12279041	1753.6	
2	ATOJ 2	10226807	14/12/2007	1000	516.02	002881-2007-INGEMMET/PCD/PM	12280565	1547.88	
3	ATOJ 3	10226907	14/08/2007	400	340.55	000437-2007-INGEMMET/PCD/PM	12281129	1021.65	
4	ATOJ 4	10227007	14/08/2007	1000	973.25	000449-2007-INGEMMET/PCD/PM	12281101	2919.73	
5	ATOJ 5	10227107	9/07/2007	100	100	000934-2007-INGEMMET/PCD/PM	12281060	300	

6	ATOJ 6	10406407	12/12/2007	2.81	2.81	002607-2007-INGEMMET/PCD/PM	12280495	8.44	
7	MAGISTRAL	11000091Y02	10/02/1928	3.99	3.9	77-RM	2009275	11.98	
8	MAGISTRAL N° 2	11000098Y02	3/05/1929	19.97	19.97	RM Nº 102	2006746	59.91	
9	MAGISTRAL N° 7	11002819X01	28/02/1931	5.99	5.99	RM Nº 106-31	2006752	17.97	
10	MAGISTRAL N° 8	11002823X02	4/01/1931	3.99	3.39	RM Nº 172	2006749	11.98	
11	MAGISTRAL N°9	11002823X01	20/12/1943	3.99	3.99	RM-2439	2006754	11.98	
12	MAGISTRAL N° 5	11002704X01	3/05/1929	7.99	7.97	RM Nº 100	2006748	23.96	
13	MAGISTRAL N° 4	11000102Y01	3/05/1929	7.99	7.99	RM Nº 101-29	2009274	23.96	
14	MAGISTRAL N° 6	11002818X01	31/01/1931	9.98	6.59	RM Nº 56	2006777	29.95	
15	SAN JOSE N° 14	11021158X01	27/10/1977	3	3	236-77-DGM-DCM	2017753	8.99	

16	SAN JOSE N° 2	11014193X01	11/02/1966	7.99	6.54	RD Nº 468-66	2010891	23.96	
17	SAN JOSE N° 3	11014194X01	17/08/1966	3	1.72	RD Nº 301-66	2010893	8.99	
18	SAN JOSE N° 4	11014195X01	22/08/1966	2	0.1	RD Nº 329-66	2010894	5.99	
19	SAN JOSE N° 5	11016047X01	29/08/1966	24.96	24.96	RD Nº 343-66	2015290	74.88	
20	SAN JOSE N° 6	11016048X01	31/12/1965	59.9	59.9	RD 1131-65	2015215	179.72	
21	SAN JOSE N° 7	11016049X01	31/12/1965	2	2	1107-RD	2015214	5.99	

22	SAN JOSE N° 9	11021153X01	27/10/1977	7.99	7.99	RD 235-77-DGM-DCM	2017740	23.97	
23	SAN JOSE N°1	11014192X01	22/08/1966	44.95	44.95	328-RD	2010890	134.84	952.19
24	SAN JOSE N°11	11021055X01	29/09/1988	1	1	RD.419-88-EM-DGM-DCM	2029441	3	
25	SAN JOSE N°15	11021159X01	5/10/1988	4	2.35	RD.453-88-EM-DGM-DCM	2029450	12	
26	SAN JOSE N°17	11021161X01	10/05/1988	2	2	RD.431-88-EM-DGM-DCM	2029449	6	
27	SAN JOSE N°18	11021162X01	9/09/1988	30	20.45	RD.383-88-EM-DGM-DCM	2029415	90	
28	SAN JOSE N°7	11021141X01	10/11/1982	7.99	7.99	RD Nº 144-82-DCM	2029451	23.96	

29	SANTANDER	11002528X01	30/10/1922	3.99	3.99	S/N	2002789	11.98	
30	SANTANDER A	11008190X01	31/12/1959	3	2.21	RD Nº 2905-59	2010991	8.99	
31	SANTANDER B	11008191X01	16/05/1960	5.99	5.99	RD Nº 643-60	2010865	17.97	
32	SANTANDER C	11008192X01	25/04/1960	12	11.7	468-RD	2010867	36	
33	SANTANDER C.C.	11013296X01	31/12/1959	1	0.94	RD Nº 2904-59	2010854	3	
34	SANTANDER D	11008193X01	5/04/1960	2	1.97	RD Nº 537-60	2010866	5.99	
35	SANTANDER D.D.	11013282X01	31/12/1959	1.01	0.99	3032-RD	2010855	3.03	
36	SANTANDER DEMASIA C.	11008749X01	18/12/1961	1.21	0.99	RD Nº 1206-61	2011672	3.63	
37	SANTANDER E	11008194X01	31/12/1959	9.98	9.98	RD Nº 3028-59	2010853	29.95	
38	SANTANDER EE	11013283X01	31/12/1959	2	2	RD Nº 3031-59	2010858	5.99	

39	SANTANDER F	11008195X01	16/05/1960	118.82	118.82	RD Nº 644-60	2010863	356.46	
40	SANTANDER F.F.	11013284X01	31/12/1959	1	0.99	RD Nº 2885-59	2010856	3	
41	SANTANDER G	11008196X01	16/05/1960	55.91	55.91	614-RD	2010864	167.74	
42	SANTANDER H	11008197X01	31/12/1959	1	1	RD Nº 3030-59	2010852	3	
43	SANTANDER M	11008961X01	28/11/1960	1	0.93	RD Nº 1984-60	2011531	3	
44	SANTANDER N° 2	11002623X01	30/03/1929	31.95	31.12	RM Nº 186	2002819	95.85	
45	SANTANDER N° 3	11000094Y02	13/08/1928	9.98	9.98	RM Nº 384-28	2002812	29.95	
46	SANTANDER N° 4	11000095Y01	13/08/1928	39.94	39.94	RM Nº 385-28	2002816	119.81	
47	SANTANDER N° 5	11000096Y02	8/08/1928	23.96	23.31	RM Nº 377-28	2002821	71.89	

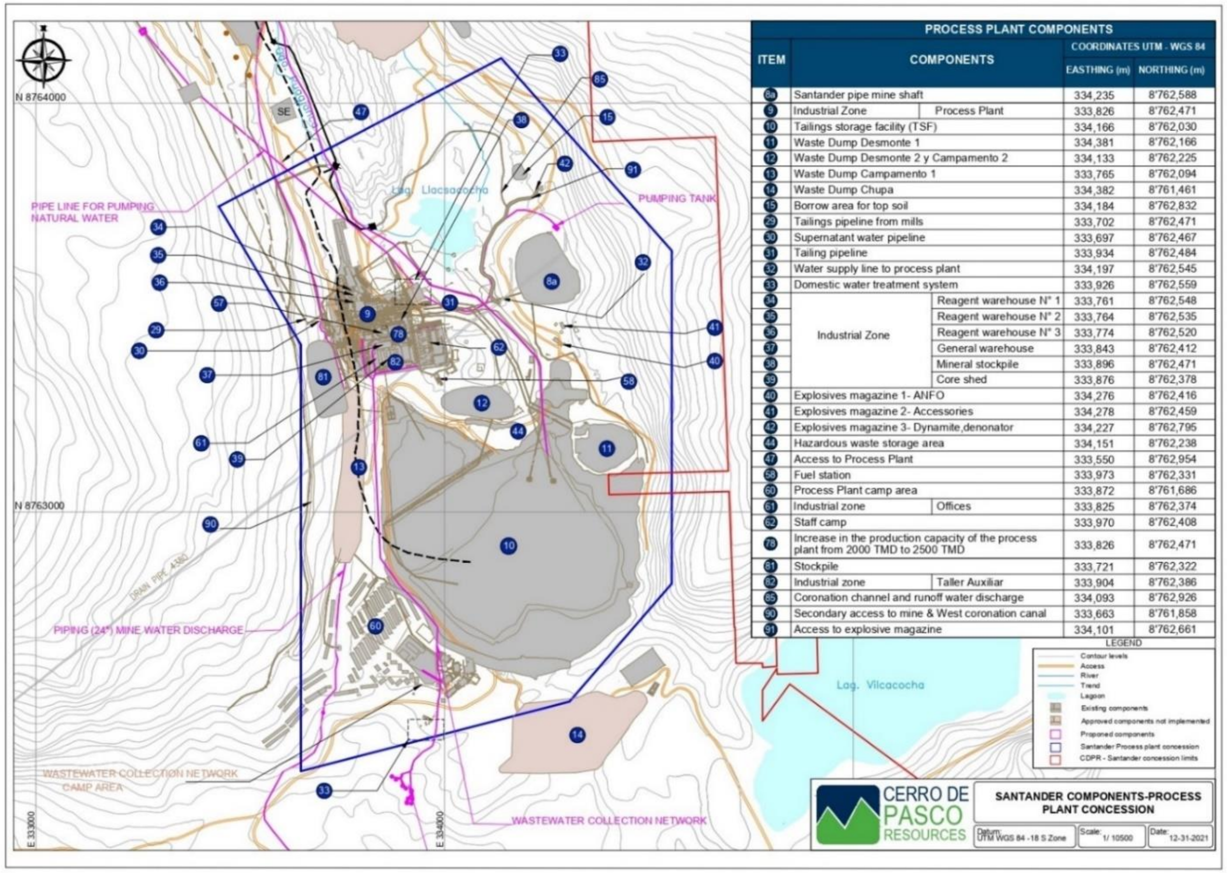
48	SANTANDER N° 6	11002631X01	8/08/1928	19.97	19.97	RM. 368	2004946	59.91	
49	SANTANDER N° 14	11002783X01	1/08/1944	29.95	28.53	RM Nº 1325	2006747	89.86	
50	SANTANDER N° 15	11002813X01	17/06/1931	2	1.95	339-RM	2006753	5.99	
51	SANTANDER N° 17	11002815X01	30/06/1931	3.99	3.99	RM Nº 354-31	2009272	11.98	
52	SANTANDER N° 19	11002817X01	3/07/1931	2	1.61	RM Nº 379-31	2006779	5.99	
53	SANTANDER N° 18	11002816X01	7/03/1931	3.99	3.99	RM 380-31	2006778	11.98	
54	SANTANDER N° 16	11002814X01	4/01/1931	15.97	15.97	RM Nº 169	2009271	47.93	

55	SANTANDER N° 10	11002784X01	28/02/1931	17.97	17.94	RM Nº 105-31	2002788	53.92	
56	SANTANDER N° 12	11002791X01	4/01/1931	7.49	3.67	RM Nº 171	2006750	22.47	
57	SANTANDER N° 9	11000103Y02	3/05/1929	13.98	13.6	104-RM	2004947	41.93	
58	SANTANDER N° 8	11000099Y01	5/05/1929	29.95	29.95	RM Nº 98-29	2002822	89.86	
59	SANTANDER N° 11	11002790X01	17/03/1931	3.99	3.98	RM Nº 125	2006745	11.98	
60	SANTANDER N° 7	11002650X01	5/03/1929	29.95	29.95	RM Nº 103-29	2002820	89.86	
61	SANTANDER N° 13	11002792X01	4/01/1931	23.96	20.96	170-RM	2009270	71.89	

62	SANTANDER N° 21	11005565X01	10/05/1931	4.02	2.79	RM Nº 546-31	2009273	12.05	
63	SANTANDER Y	11011253X01	9/01/1960	1	0.16	RD Nº 1536-60	2010875	3	
64	SANTANDER Z	11011254X01	9/01/1960	1	0.96	RD Nº 1537-60	2010874	3	
65	SANTANDERINA	11015169X01	31/12/1966	0.79	0.75	RD Nº 605-66	2015295	2.37	
66	SANTANDERINA I	11015292X01	26/11/1973	9.84	7.64	RD Nº 365-73-DGM-DCM	2016451	29.51	
67	SANTANDERINA II	11016022X01	2/07/1968	2.48	1.09	RD 199-68	2015639	7.45	
68	SANTANDERINA III	11015637X01	31/12/1966	2.27	2.27	RD Nº 615-66	2015296	6.81	
69	SANTANDERINA IV	11015638X01	23/05/1967	1	0.98	RD Nº 136-67	2015223	2.99	

70	SOCAVON BAÑOS	11005967X01	10/05/1931	59.91	59.91	RM Nº 545-31	2004398	179.72	
71	SOCAVON N° 1	11005968X01	12/01/1946	47.93	47.54	112-RM	2004396	143.78	
72	SOCAVON N° 2	11005969X01	1/08/1946	29.95	29.95	46-RM	2004397	89.86	
				4,458.58	**3,434.80**			12,437.6	952.19

N°	Concession	Code	Date Issued	Granted Area	Effective Area_Total (ha)	Registered Titleholder	Public Registry file	Validity fees (US$) 2021	Production Penalties (US$) 2020
1	Planta Concentradora Santander	P000041511	05/07/2012	133.11	133.11	Resolución N° 145-2012-MEM-DGM/V	1329622	2069.61	



PROCESS PLANT COMPONENTS				
ITEM	COMPONENTS		COORDINATES UTM - WGS 84	
			EASTHING (m)	NORTHING (m)
8a	Santander pipe mine shaft		334,235	8'762,588
9	Industrial Zone	Process Plant	333,826	8'762,471
10	Tailings storage facility (TSF)		334,166	8'762,030
11	Waste Dump Desmonte 1		334,381	8'762,166
12	Waste Dump Desmonte 2 y Campamento 2		334,133	8'762,225
13	Waste Dump Campamento 1		333,765	8'762,094
14	Waste Dump Chupa		334,382	8'761,461
15	Borrow area for top soil		334,184	8'762,832
29	Tailings pipeline from mills		333,702	8'762,471
30	Supernatant water pipeline		333,697	8'762,467
31	Tailing pipeline		333,934	8'762,484
32	Water supply line to process plant		334,197	8'762,545
33	Domestic water treatment system		333,926	8'762,559
34	Industrial Zone	Reagent warehouse N° 1	333,761	8'762,548
35		Reagent warehouse N° 2	333,764	8'762,535
36		Reagent warehouse N° 3	333,774	8'762,520
37		General warehouse	333,843	8'762,412
38		Mineral stockpile	333,896	8'762,471
39		Core shed	333,876	8'762,378
40	Explosives magazine 1- ANFO		334,276	8'762,416
41	Explosives magazine 2- Accessories		334,278	8'762,459
42	Explosives magazine 3- Dynamite,denonator		334,227	8'762,795
44	Hazardous waste storage area		334,151	8'762,238
47	Access to Process Plant		333,550	8'762,954
58	Fuel station		333,973	8'762,331
60	Process Plant camp area		333,872	8'761,686
61	Industrial zone	Offices	333,825	8'762,374
62	Staff camp		333,970	8'762,408
78	Increase in the production capacity of the process plant from 2000 TMD to 2500 TMD		333,826	8'762,471
81	Stockpile		333,721	8'762,322
82	Industrial zone	Taller Auxiliar	333,904	8'762,386
85	Coronation channel and runoff water discharge		334,093	8'762,926
90	Secondary access to mine & West coronation canal		333,663	8'761,858
91	Access to explosive magazine		334,101	8'762,661

Figure 4.3: Area of beneficiation concession with associated infrastructure plotted. Source CDPR (2021).

4.4 Taxes, Royalties and Other Agreements

As of 2011, producing mining companies are required to contribute in accordance with the following fiscal regimes: Corporation Income Tax (CIT), Modified Mining Royalty (MMR) levy on the quarterly sales revenues from metallic and non-metallic mineral resources (Law No. 29788), Special Mining Tax (SMT) levies on the operating profit of metallic resources (Law No. 29789) and the Special Mining Contribution (SMC) applicable to entities that have entered into tax stability agreements with the government. (Law No. 29790). .

4.2 shows the tax rates as indicated by SUNAT (Superintendencia Nacional de Administración Tributaria - National Superintendency of Tax Administration).

All payments of mining royalties, SMT and SMC contributions are deductible expenses for income tax purposes. Further, as an incentive for mining investment, an early recovery regime of Value Added Tax applies for mining entities in the exploration stage, as well as special tax depreciation for all mining companies with a stability agreement for mining equipment and machinery.

CDPR's acquisition of Santander Mine in Peru was by way of a sale of the shares held by Trevali in its Peruvian subsidiary Trevali Peru S.A.C. ("Trevali Peru") including all their permits, licenses and concessions located at the Santander mining complex. Under the terms of the Agreement, CDPR agreed to pay Trevali the following consideration:

- CAD1 million cash to be paid at closing,
- 10 million shares of CDPR, to be issued to Trevali, which will be released from escrow and freely tradable according to the following schedule: (i) 10% at closing of the transaction, and (ii) 15% every six months thereafter.
- A Net Smelter Royalty (NSR) equal to 1% on all new deposits outside the NSR exclusion zone.
- A contingent payment of up to USD2.5 million in the event that the LME average zinc price for 2022 is equal to or greater than USD1.30/lb.

An existing off-take agreement with Glencore (Zinc and Lead concentrates) will be restricted to mineral from the Magistral deposits (Figure 4.4), and all other areas of the property exempt from such commitment.

Table 4.2: Taxes, Source SUNAT (2021)

Name	Tax Base	Tax rate	Authority
Corporation Income Tax (CIT)	Profit before tax	28%	SUNAT
Modified Mining Royalty Tax (MMR)	Operating Income	1-12% depending on operating margin (minimum 1% of sales; deductible from CIT)	SUNAT
Special Mining Tax (SMT)	Operating Income	2-8.4% depending on operating margin (deductible from CIT)	SUNAT
Special Mining Contribution Tax (SMC)	Operating Income	4-13.12% depending on operating margin (deductible from CIT)	SUNAT

4.4.1 Glencore Off-Take Agreement

A Life of Mine (LoM) off-take agreement exists between CDPR and Glencore, a large, diversified resource conglomerate and commodity trader, on all mineral mined from the Magistral deposits or extensions considering the area shown in Figure 4.4. The boundary showing the off-take area in Figure 4.4 has been normalised to an elevation of 4200 masl. Previously the off-take agreement applied to the entire Santander property, however an agreement was made with Trevali and Glencore to limit the off-take agreement to the Magistral orebodies alone. As such, the Santander Pipe and other areas of interest on the property are not subject to the off-take.

The off-take agreements are governed by Contract No. 062-15-33356-P dated December 1, 2015 providing for the sale of zinc concentrates from the Santander Mine, and Contract No. 180-15-33358-P dated December 1, 2015 providing for the sale of lead concentrates from the Santander Mine.

The concentrate off-take agreements apply standard benchmark treatment..

4.4.2 NSR Royalty

A 1% NSR Royalty was agreed with respect to any mineral found and mined outside of the exclusion zone shown in Figure 4.5. The NSR royalty does not included the Magistral, Santander Pipe and Puajanca deposits or any other mineral occurrences within the exclusion zone.

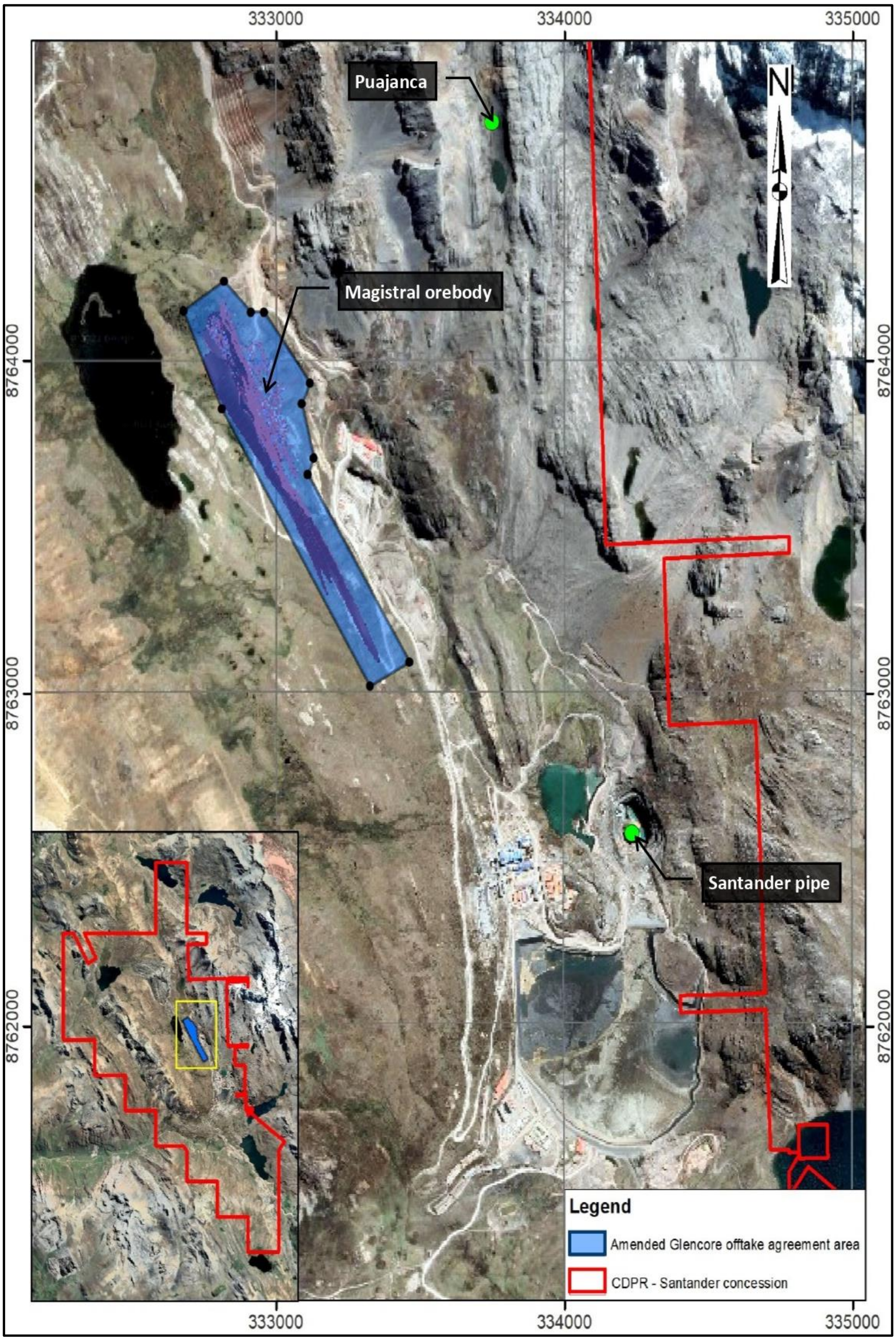


Figure 4.4: Modified Glencore off-take agreement area. Source CDPR (2021).

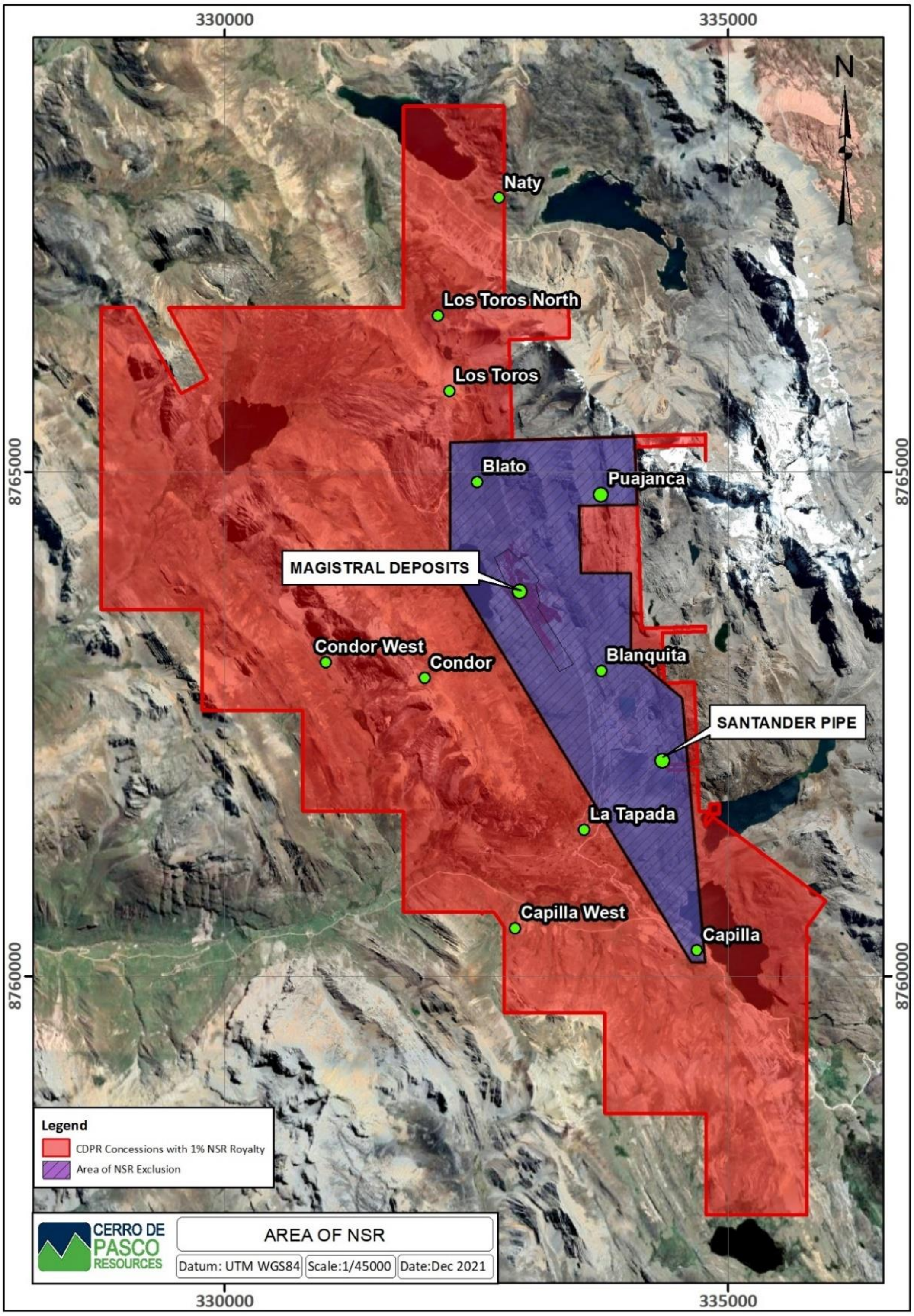


Figure 4.5: NSR exclusion Zone. Source CDPR (2021).

4.4.3 Surface Rights and Land Usage Agreements

Mining rights are independent from surface rights. Hence, the holders of mining rights may be different parties to those holders or owners of the coinciding lands. The holder of a mining concession must respect the landowner's property or rights of an occupier. A holder of mining rights cannot trespass such property or use surface lands without the landowner's or occupier's consent.

Mining concession holders may acquire or purchase lands, real estate properties, easements, rights of way, and/or other surface rights owned or held by third parties. If the owner or holder of such properties or rights is a local community, then such community's approval is required and, generally, an agreement must be negotiated with the community addressing their expectations in respect of the mining development.

Neither CDPR nor its subsidiaries hold title to any of the land within or surrounding the Santander concessions. It does, however own surface rights for areas encompassing the mine and associated infrastructure, previously negotiated by Trevali.

Figure 4.6: Location of land usage agreements. Source CDPR (2021).**¡Error! No se encuentra el origen de la referencia.** shows the location of the surface rights that are currently active with the different communities within the Santander concession package.

Table 4.3: CDPR Surface Land Holdings

N°	Community	Agreement	Initial Date	Expiry Date
1	Rural Community of Santa Cruz de Andamarca	Authorization for Mining Use of surface land	27/09/2015	26/09/2030
			27/09/2015	Feb-21
2	Rural Community of Santa Cruz de Andamarca	Mining Exploration Authorization	1/01/2020	31/12/2024
3	Rural Community of Santa Cruz de Andamarca	Authorization to use of surface land - water discharge pipeline	The usage agreement is granted for the time that the pipeline will be required which would be end of mine closure or as long as the authorities request the installation to function.	
4	Rural Community of Santa Catalina	Mining Exploration Authorization	06 months validity from Trevali´s communication on the activities commence	

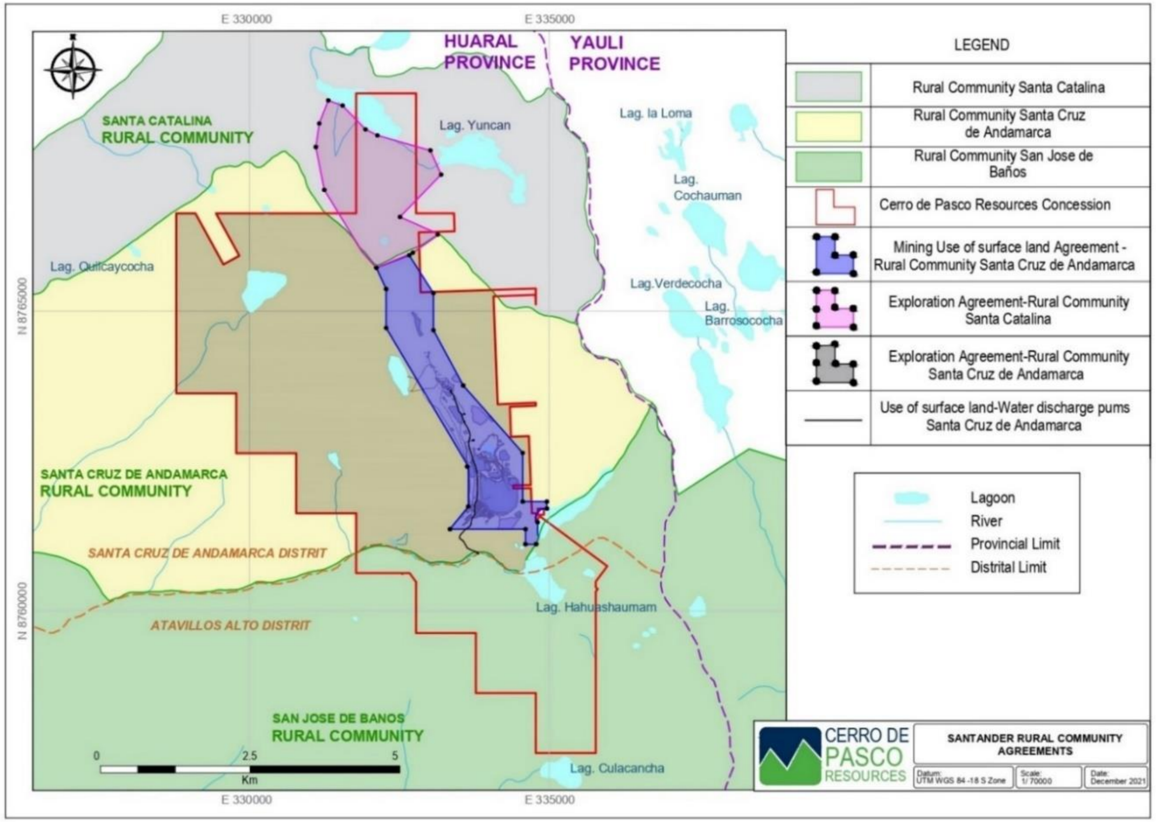


Figure 4.6: Location of land usage agreements. Source CDPR (2021).

4.5 Water Rights

Water rights cannot be purchased in Peru, but they are commonly granted by the National Water Authority for industrial or mining purposes. Obtaining water permits is a prerequisite in Peru prior to any drilling or development being undertaken.

Water collection and discharge permits in use at the project are discussed in Section 20 Environmental and Permitting Considerations

Environmental and permitting considerations are discussed in Section 20. There is an expectation of environmental liabilities associated with historical mining and exploration activity. Under Law No. 28271, the responsibility for the remediation of environmental liabilities lies with the person or company that generated the liability. In the case of historical liabilities where the entity or person who generated the liability is unknown or no longer exists, the state-owned company AMSAC is charged with remediation on behalf of the government.

Environmental liabilities for mining projects are normally listed in the Ministry of Energy and Mines' (MINEM's) Environmental Mining Liabilities registry (Spanish acronym PAM). No historic environmental liabilities are listed in the PAM for the Santander Property.

4.6 Social License Considerations

Social licence considerations are discussed in Section 20.

4.7 Other Risks

Mining rights are independent of surface rights. CDPR currently has adequate surface access to complete the work planned or recommended in this Technical Report, however as the Project advances, CDPR may need to increase the area of the beneficiation concession to include a larger TSF footprint.

It has been noted that some mines have temporarily closed in Peru due to community unrest under the current political regime. Given the good relationship that the Santander mine has with the local community this is not seen as a large risk in this particular case.

The Qualified Persons are unaware of any other significant risks which could affect access, title, or the right or ability to perform work planned or recommended in this Report for CDPR's mining and beneficiation concessions.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Access to Property

The Santander mine and associated infrastructure are located south southeast of the town of Cerro de Pasco, approximately 175 km north northeast of the city of Lima. The property can be reached by one of two principal routes and one alternative route (Figure 5.1):

- Route 1 – Auxiliary Pan-American North highway from Lima followed by the 20A road to Canta. At the Alpamarca mine, left towards Santander Mine. The total distance is 275.4 km, and the driving time is approximately 4 hr 40 mins. This route is currently being upgraded by the Peruvian national government.
- Route 2 – Auxiliary Pan-American North highway from Lima followed by the 1N road to Huaral, then towards San Jose de Baños, Total distance is 179 km and driving time is approximately the same (4 hr 40 mins).
- Route 3 – Highway 22 from Lima to La Oroya, then by the 3N road from La Oroya to just before Villa Pasco. Left on the 101, Left on the 20A. The total distance is 315 km, and the driving time is approximately 7 hr 20 mins.

Route 1 is the principal access route used by CDPR to move people and material up to the mine. CDPR uses Route 2 if problems are reported with Route 1 (delays due to road maintenance etc.). Route 3 is used in the unlikely case that an event closes parts of Routes 1 and 2 and for concentrate transport in case of closing of sections of route 1, as route 2 is not suitable for concentrate hauling.

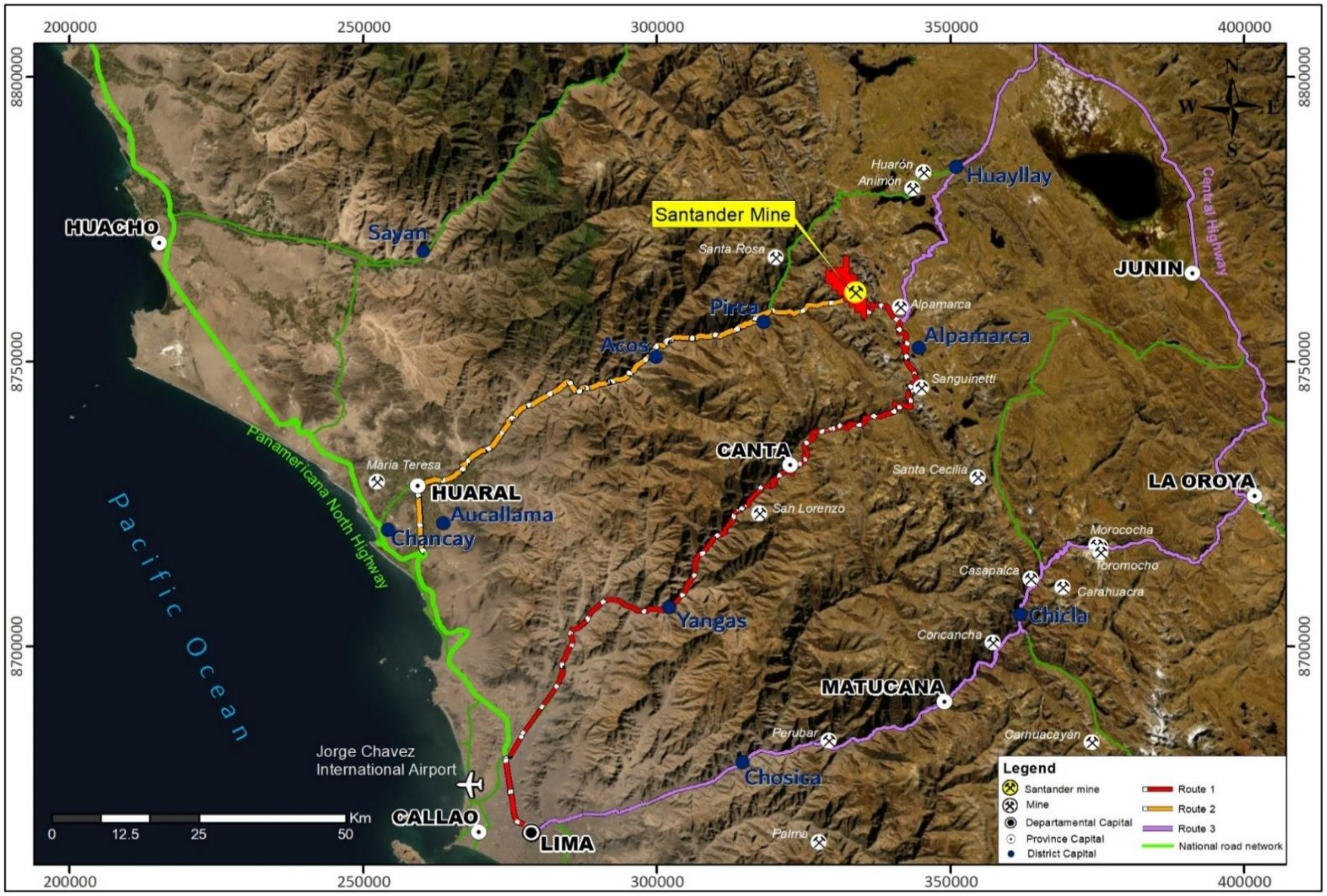


Figure 5.1: Location and access to the Santander Project. Source CDPR (2021).

5.2 Climate, Physiography & Fauna and Flora

5.2.1 Climate

The Project area is located in the Puna Region (4,000 at 4,800 masl.), also called Jalca. The climate is characteristically cold and dry with temperature ranging between 20 ° C during the day and below zero at night between the months of December to May. During the months of December to March it presents frequent precipitations that appear in solid form as snow or hail.

According to the Thornthwaite Climate Classification, the climate of the Project area is within a semi-rigid, rainy climate zone, with deficient rainfall in winter and with humidity classified as humid (B (i) D'H3).

The average annual rainfall assigned to the Project is 794.74 mm, the maximum rainfall was 1,269.09 mm and the minimum rainfall was 431.48 mm. The months with the highest intensity of precipitation in the surroundings of the Project extend from November to March and the months with the lowest intensity extend from April to October.

For the analysis of the direction and speed of the wind, the data recorded in the Picoy near-site station has been taken as a reference, with records from the year 2000 to 2015 (15 years), finding that the predominant wind direction is southwest (SW), which means that the winds come from the southwest (SW) and are directed towards the northeast (NE), with an average speed of 1.25 m/sec. According to the Beauford scale, they are classified as Ventolina and with 0.00% calm.

Since SENAMHI does not have Solar Radiation records at stations near the Project area, referential information on this parameter was obtained from the web page of NASA's Atmospheric Science Data Center (ASDC), where it was possible to obtain referential satellite data of solar radiation between the years 1983 to 2005 (23 years) in the Project area, taking into consideration a reference point, in geographical coordinates, to obtain the requested data, determining that the average multi-year solar radiation in the period 1983-2005 was 5.80 kWh/m2, with a maximum value of 7.48 kWh/m2 and a minimum of 3.91 kWh/m2.

Also based on the records of average, maximum and minimum relative humidity reported by the ASDC, the behavior of relative humidity was determined where the average wettest months are from December to April, which register values greater than 70%, decreasing moderately between the months of May to November.

Mining operations are possible throughout the year.

5.2.2 Physiography

The property is located along the western edge of the Peruvian Altiplano, with the main valley being at elevations of between 4,200 masl and 4,500 masl. Local ridges are quite steep, with peaks at elevations exceeding 5,200 masl. The highly-dissected topography is typical of mountain glaciation, with many cirques and cols. A few remnant glaciers are present, but retreat has been quite extensive over the last 20 years, exposing new bedrock.

5.2.3 Fauna and Flora

The area is located in the Life Zone called Subtropical Alpine Pluvial Tundra, between 4,300 and 5,000 masl, corresponding to the Puna Ecoregion. The species that make up the life zone have adapted to withstand environmental conditions of intense cold and winds, generally developing habitats ranging from hilly grasses at ground level, padded or padded grass clusters, shrubs, subshrubs, and bunches of short to medium grasses.

Fauna species include birds such as the “mountain partridge”, the “Andean woodpecker” and mammals such as vicuñas, mice, and bats. In the Baños River there is presence of "rainbow trout" which is a species native to the northern hemisphere and introduced decades ago in Peruvian territory.

Environmental baseline studies completed by previous operators document the fauna and flora within the Project footprint (EIA 2009, MEIA 2012, MEIA 2019). This baseline work has been updated for different Technical Supportive Reports (ITS), permit applications and documents the fauna and flora of the project area in detail.

5.3 Local Resources and Infrastructure

5.3.1 Local Resources

The Project is located in the district of Santa Cruz de Andamarca and Atavillos Alto, in the province of Huaral and the Lima region. The operation is situated in a section of the superficial lands of the rural community of Santa Cruz de Andamarca, with whom the company has signed an easement agreement. However, the town closest to the operation is the rural community of San José de Baños, which is part of the area of indirect social influence, and located in the district of Atavillos Alto.

All the superficial components of the operation are located between 4,400 and 4,750 masl, where, due to the altitude and geographical location, no agricultural activities or high Andean livestock farming is practiced.

The main access road from Lima to the mine unit is through an affirmed highway of the national road network that is currently being paved and runs through the town of Canta.

Most of the settlers in the area are subsistence farmers, while others work for mining companies or are engaged in commerce.

Both Santa Cruz de Andamarca and San José de Baños have medical centres, categories I-2 and I-1 respectively. In Santa Cruz de Andamarca, there is an educational institution that offers initial, primary and secondary education, and in San José de Baños there is an educational institution for initial and primary education.

Most of the goods and services required for the Project can be purchased locally or in the capital Lima. The community of Santa Cruz de Andamarca, through its communal company ECOSA, rents out machinery such as a front end loader and dump trucks to the Project. There are no other local suppliers of machinery or equipment in the area.

5.3.2 Infrastructure

Infrastructure is well-developed, with a fully-equipped 500-person camp centrally located on the flat-bottom valley site (Figure 5.2). Several shallow lakes occupy the upper reaches of some of the glacial valleys and provide sufficient water for the mining/milling activities. Trevali, the previous owners, entered into long-term surface rights agreements with the local communities which CDPR has inherited with the purchase of the Property.

The Ministry of Transport and Communications has commenced significant infrastructure upgrades on the roads that provide access to the mine site, some of which have been completed. Upgrade, optimization and maintenance contracts span a 15-year period.

The Project infrastructure (Figure **¡Error! No se encuentra el origen de la referencia.**5.2) consists of:

- The Santander base and precious metals concentrator, permitted at 2,500 tpd;
- Pumping and water treatment, separate underground pumping systems for acidic (approximately 15% of total) and neutral waters (approximately 85% of total), surface drainage and pumping network, acid neutralization facility and industrial water treatment facility.
    - Tailings Storage Facility (TSF);
    - On-site facilities including safety/security/first aid/emergency response buildings, core sheds, assay laboratory, plant guard house, dining facilities, offices, etc.;
    - Mine services facilities including truck shop, shotcrete plant, truck wash facilities, warehouse, fuel storage and distribution facilities, reagent storage and distribution facilities, explosives magazine and staff accommodation;

- Electrical substations: the principal central substation, substation No 6 (mine level 4370 MC), No 7 (mine level 4300 MN), No 08 (mine level 4300 MC), No 09 (mine level 4230 MC), No 10 (mine level 4370 MC), and No 11 (mine level 4160 MC).
- Network communications include telephone connections (Telefónica del Peru), limited cellular network coverage, radios, internet via Wi-Fi and cable and an on-site server with a link to the Lima office.

A complete description of the project infrastructure is provided in Section 18.0.

5.3.3 Adequacy of Project Size

At this time, the Project holds sufficient concessions necessary for ongoing mining operations (including tailings storage areas, waste disposal areas, and processing plant sites) and proposed exploration activities at the Property. The adequacy of the current concessions' area for potential future expansion of mining and processing infrastructure will be further assessed by subsequent engineering studies as the Project advances.

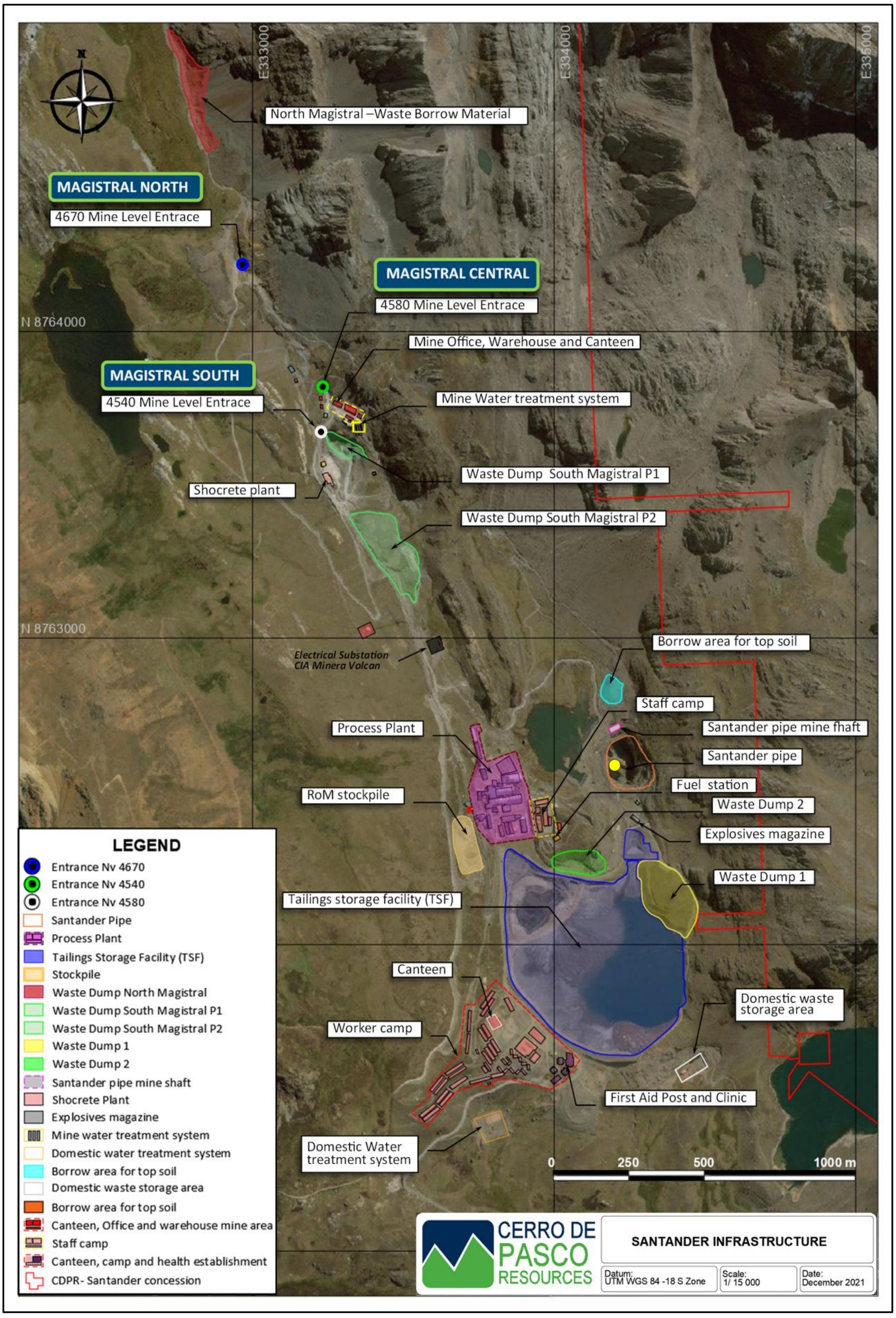


Figure 5.2: Location of infrastructure. Source CDPR (2021).

6 HISTORY

There has been a long history of exploration and mining at the Santander property, with some of the existing concessions dating back to the early 1900´s.

6.1 Ownership and Exploration History

The earliest recorded work at the Santander property was carried out in 1925, when the mineral rights to the district were acquired by Rosenshine and Associates. In 1928, the United Verde Copper Company optioned the property and carried out a program of exploration and core drilling in the Santander pipe area, the results of which are unknown. In the 1940's, the National Lead Company explored the area and conducted further drilling. This work confirmed the existence of significant silver-lead-zinc mineralization at what was to become the Santander pipe.

In 1957, St. Joe Minerals of New York, USA (St. Joe) registered the Peruvian subsidiary Compañia Minera Santander Inc and completed a detailed evaluation of the Santander pipe and estimated a near surface resource of approximately 2.5 Mt of high-grade lead-zinc mineralization with associated silver values that could be exploited by open pit methods. St. Joe also estimated that a further 2 Mt of resources could be exploited by underground mining methods. Santander, Sucursal de Perú, was formed on 9 April 1957 as a Peruvian subsidiary of St. Joe to exploit the identified resources, primarily lead and silver. The company built a 500 tpd concentrator plant which was subsequently increased to between 850 tpd and 1,000 tpd. At the same time, a run-of-river hydroelectric plant was built at Tingo to provide a portion of the electrical power requirements for the operation. Figure 6.1 shows a photo of the Santander open pit and headframe for the shaft circa 1963.

Following corporate restructuring in 1985, St. Joe divested its Latin American mining operations, including Santander which was acquired by a United States, West German and Peruvian Group called Docarb S.A. (Docarb Group) for a cost of $USD 3 M. The Docarb Group was a holding company for Minera Katanga S.A. which had a 51% interest in the Santander property. The Docarb Group operated the mine under the name Compañia Minera Santander S.A.C. (CMS) and planned to spend US$ 2M for exploration and development at the Santander operation.

Cavanagh (ND) records that the mine required constant pumping to drain water from the mine workings and prevent flooding. About 2,500 gallons were extracted every minute, twenty-four hours a day, by three 600hp electric pumps which consumed about 8% of the mine´s total energy requirements. According to Cavanagh the first Ballón (principal owner Docarb Group) improvement was to get rid of the costly petrol-fuelled generators that Saint Joe had installed to pump water. Instead, Ballón rented four hydro-electric plants from the neighbouring Rio Pallanga operation. Next, the Docarb Group commenced exploration outside the immediate area of the mine, buying in 1989 a nearby concession known as "Magistral". By 1990, Magistral, an open pit and underground zinc and lead operation, was becoming increasingly important in compensating for the declining production of Santander Pipe. Figure 6.2 shows a block diagram of the Santander Pipe mine circa 1983.

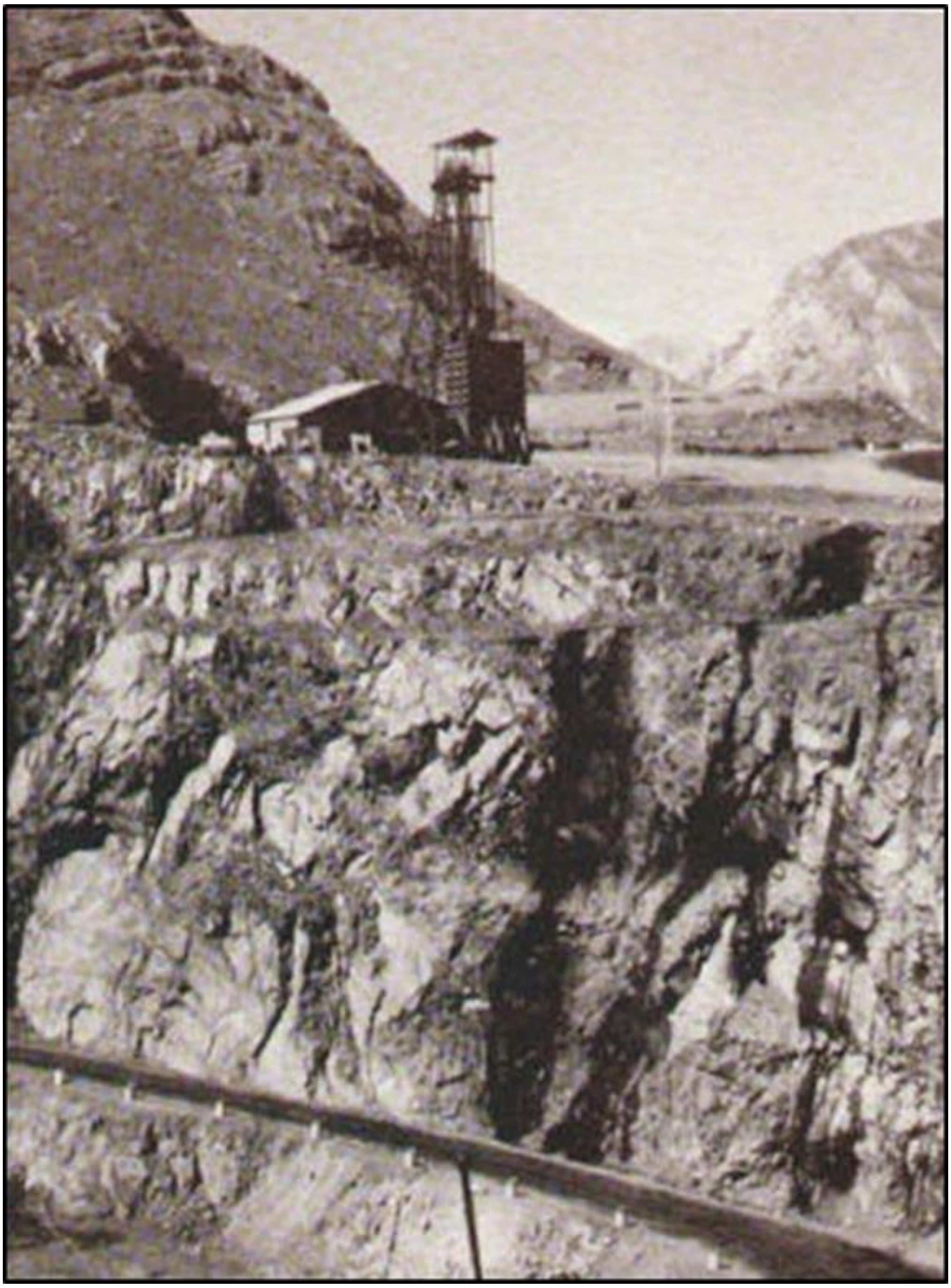


Figure 6.1: The Santander Shaft on the South Side of the Open Pit, circa 1963. Source Trevali (2016).

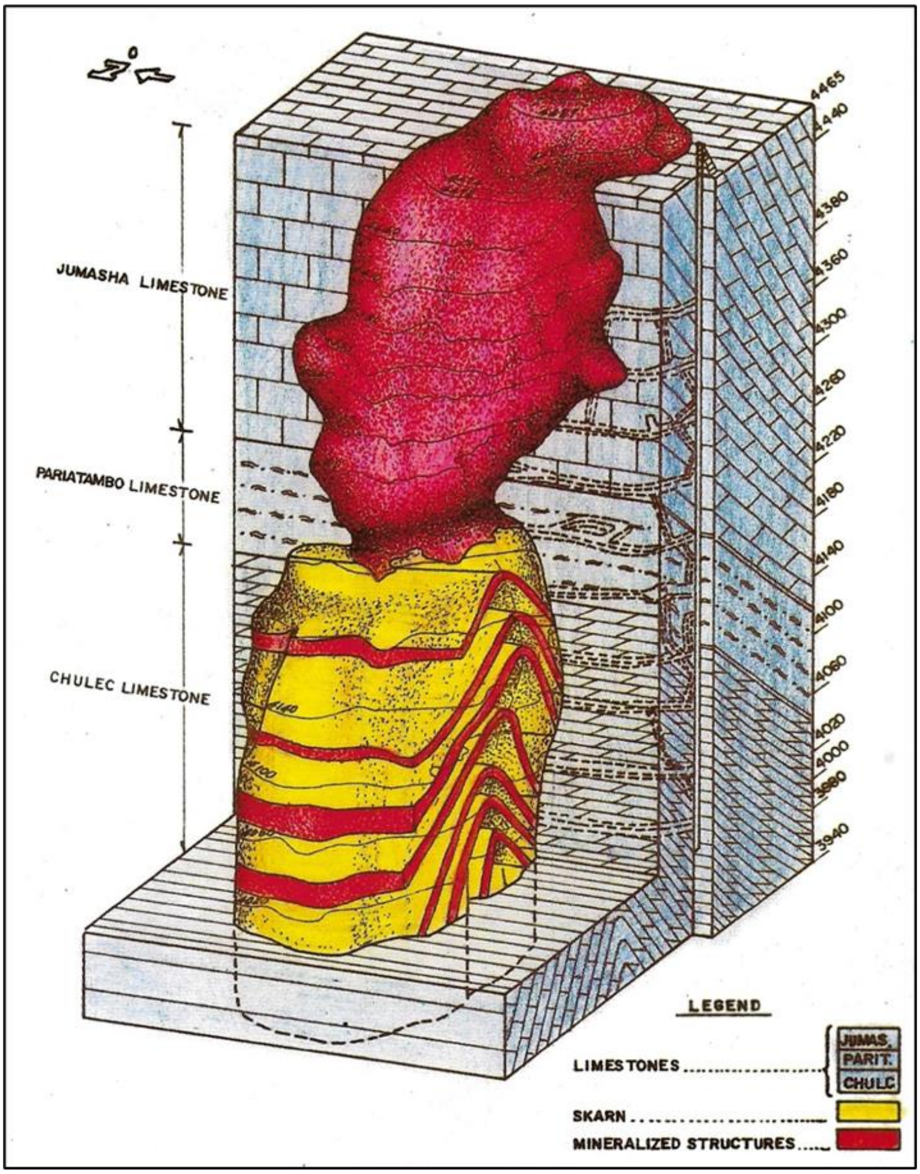


Figure 6.2: The Santander Pipe - Block Diagram by J. Villanueva (1983),

looking East in relation to the shaft: Source Cavanagh (ND).

Amado Yataco (CMS General Manager) said that between July 1989 and January 1990, the company invested US$3.7 million in Santander, most of it going on the acquisition of equipment, some repairs to the main shaft and the hydroelectric plants, and as working capital. Part of the financing (some US$1.5 million) came from Santander´s buyer Pechiney, advanced against future sales.

Cavanagh says that a strike from the 20th June through to the 20th August, 1990, proved “almost fatal” to the mine, but Santander “hung on by the skin of its teeth”. Exploration was continuing in late 1990 with another potentially attractive deposit, "Puajanca", discovered only two years earlier. By May 1991 Santander´s first drillings had revealed orebodies at a depth of 300 metres, containing zinc, lead and silver, and the company was reportedly planning to devote the year to further drilling and improving the access road.

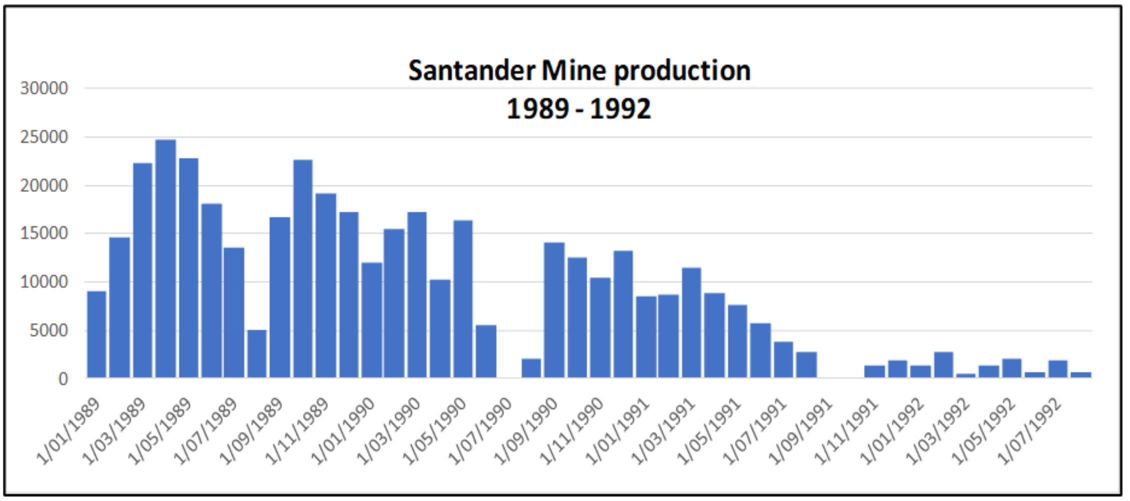


Figure 6.3: Santander Bi-monthly Production Record showing the Final Years of Previous Production.

Figure 6.3 shows the production interruption as a result of the 1990 Strike together with the final decline in production brought about by Peru´s Political Problems with the Shining Path movement, and the resultant hyperinflation (1988 to 1989) and adverse economic conditions, which brought closure to many mining operations throughout Peru.

The Santander Property then laid dormant until it was acquired by the TSX-listed Trevali Mining Corporation (Trevali) on December 11th 2007. The acquisition was pursuant to an Assignment Agreement dated October 2nd 2007, following which Trevali through its Peruvian subsidiary, Trevali Peru S.A.C. effectively acquired all of the interest of CMS of Lima, Peru in the Property for a period of fifty (50) years with an automatic fifty (50) year extension.

The consideration payable by Trevali to Santander comprised a 3.5% Net Smelter Return (the "Royalty"), and commencing on January 1st 2008 the Company was obligated to pay CMS US$100,000 per month on account of the Royalty.

Trevali Peru S.A.C. carried out a series of successful exploration programs resulting with development of the Magistral underground mine (beginning in mid-2012) and commercial production commencing in September 2013. Trevali continued operations in the Magistral mine (Magistral North, Magistral Central and Magistral South) until November 30th 2021 when the mine was bought by Cerro de Pasco Resources Inc. (CDPR).

Although Trevali carried out further diamond-drilling of the Santander Pipe together with the digitization of old drillhole logs, their reinterpretation, and upgrading the mineral resource estimate, there has been no actual mining work carried out on the Santander Pipe deposit, although the Santander Shaft appears to remain in potentially re-usable condition (Figure 6.4 and Figure 6.5). At present, both the Santander Pipe open pit and underground mine remain flooded (Figure 6.6).

Figure 6.4: The Santander Shaft at Surface. Source CDPR (2021).

Figure 6.5: Looking down the two compartment Santander Shaft. Source CDPR (2021).

Figure 6.6: The Santander Pipe open pit. Source CDPR (2021).

6.2 Historic Mineral resource estimates

There have been many resource estimations made for the Santander property over the years. Results are summarized in the following sub-sections.

DRA cautions some estimates were made prior to implementation of NI 43-101 and are considered "historical" as defined by NI 43-101 guidelines. The historic estimates do not apply the estimation and classification of mineral resources and mineral reserves as set out in NI 43-101, and therefore they should not be relied upon. It was only during the restart of operations by Trevali, that compliance with NI 43-101 reporting was applied.

The historic estimates are only relevant in-so-far as they provide a range of grades and tonnages declared and used by the previous operators.

6.2.1 Santander Pipe

At the time of closure in August 1992, the old Santander pipe had historical reserves in the order of 650,000 tonnes with an average grade of 9.74% zinc and 0.66 oz/t silver (Espinosa and Flores 1993). This indicates that mining would have kept going had it not been for the political and economic difficulties at that time.

Compliance with NI 43-101 reporting only began when Trevali took an interest in restarting mining operations. Table 6.1 summarises the historic NI 43-101 compliant and AIF issued Resource Estimates completed on the Santander Pipe.

Table 6.1: Historic NI 43-101 Compliant and AIF issued mineral resource estimates completed on the Santander Pipe.

Year	Source	Cut-off	Clasification	Tonnes Mt	Zn %	Pb %	Cu %	Ag g/t
2010	Golder, NI 43-101	3% Zn Eqv	Measured	NA	NA	NA	NA	NA
			Indicated	NA	NA	NA	NA	NA
			Inferred	3.32	5.78	0.01	NR	16
2012	Golder, NI 43-101	3% Zn Eqv	Measured	NA	NA	NA	NA	NA
			Indicated	NA	NA	NA	NA	NA
			Inferred	8.40	4.75	0.34	0.14	20
2016	SRK, NI 43-101	mining cut-off of US$40	Measured	NA	NA	NA	NA	NA
			Indicated	NA	NA	NA	NA	NA
			Inferred	10.10	4.09	0.18	0.10	15
2018	Trevali, AIF	$40 NSR	Measured	NA	NA	NA	NA	NA
			Indicated	2.77	6.81	0.09	NA	13.39
			Inferred	0.82	4.6	0.21	NA	22.19
2019	Trevali, AIF	$40 NSR	Measured	0.54	8.09	0.03	NA	16.31
			Indicated	3.23	6.43	0.01	NA	11.37
			Inferred	1.31	5.37	0.02	NA	7.42
2020	Trevali, AIF	$40 NSR	Measured	0.53	7.78	0.03	NA	16.76
			Indicated	2.95	6.38	0.01	NA	11.62
			Inferred	0.93	5.15	0.01	NA	7.54

6.2.2 Magistral Deposits

The Magistral deposits consist of three separate bodies known as Magistral North (MN), Magistral Central (MC), and Magistral South (MS). Espinosa and Flores (1993) provided a mineral resource estimate for the MN Deposit of 162,000 tonnes grading 7.0% Zn, 4.8% Pb, and 3.23 oz/t Ag.

The MC Deposit was explored and partly developed by a shallow access adit and was reported to have an estimated historical mineral resource estimate of 51,250 tonnes grading 7.25% Zn, 6.10% Pb, and 1.95 oz/t Ag (Espinosa and Flores 1993).

The MS deposit was worked by a shallow open pit of approximately 30 m depth that was then water-filled. Espinosa and Flores' (1993) evaluation of the property estimated a mineral resource estimate of 510,000 tonnes grading 6.12% Zn, 0.38% Pb, and 0.61 oz/t Ag.

From 2009 onwards mineral resource estimates were carried out in compliance with NI 43-101.

Table 6.2 summarises the historic NI 43-101 compliant and AIF issued mineral resource estimates completed on the Magistral Deposit.

Table 6.2: Historic NI 43-101 compliant and AIF issued Resource Estimates on the Magistral Deposits

Year	Source	Cut-off	Clasification	Tonnes Mt	Zn %	Pb %	Ag g/t
2009	Golder, NI 43-101	2% Zn Eqv	Measured	NA	NA	NA	NA
			Indicated	5.30	3.34	1.27	38
			Inferred	2.44	2.92	0.50	18
2010	Golder, NI 43-101	3% Zn Eqv	Measured	NA	NA	NA	NA
			Indicated	5.68	3.92	1.33	44
			Inferred	1.47	3.54	1.37	32
2012	Golder, NI 43-101	3% Zn Eqv	Measured	NA	NA	NA	NA
			Indicated	6.05	3.68	1.28	44
			Inferred	5.41	4.44	0.47	22
2016	SRK, NI 43-101	$40 NSR	Measured	0.74	4.1	0.68	34
			Indicated	2.82	5.28	0.79	39
			Inferred	1.70	5.2	0.41	32
2018	Trevali, AIF	$40 NSR	Measured	1.47	5.63	0.92	33.96
			Indicated	1.66	5.09	0.59	31.78
			Inferred	1.43	4.0	0.21	22.19

2019	Trevali, AIF	$40 NSR	Measured	2.34	4.98	0.68	34.63
			Indicated	1.24	4.72	0.32	20.53
			Inferred	1.07	3.9	0.24	24.97
2020	Trevali, AIF	$40 NSR	Measured	1.41	4.47	0.67	33.26
			Indicated	1.29	4.87	0.29	18.84
			Inferred	1.16	4.0	0.21	21.69

6.2.3 Puajanca Deposit

The Puajanca deposit consists of both replacement and vein mineralization. The skarn associated with the Puajanca deposit is situated on the side of a mountain, therefore access for surface exploration is difficult. Table 6.3 summarises the historic NI 43-101 compliant mineral resource estimates completed on the Puajanca deposit.

Table 6.3: Historic NI 43-101 Compliant mineral resource estimates completed for the Puajanca deposit.

Year	Source	Cut-off	Clasification	Tonnes Mt	Zn %	Pb %	Cu %	Ag g/t
2010	Golder, NI 43-101	3% Zn Eqv	Measured	NA	NA	NA	NA	NA
			Indicated	0.18	2.14	1.96	NR	36
			Inferred	0.02	1.98	2.22	NR	31
2012	Golder, NI 43-101	3% Zn Eqv	Measured	NA	NA	NA	NA	NA
			Indicated	0.22	2.03	1.82	NR	35
			Inferred	0.03	1.77	1.92	NR	30
2016			Measured	NA	NA	NA	NA	NA

	SRK, NI 43-101	mining cut-off of US$40	Indicated	0.25	2.23	1.65	0.01	39
			Inferred	0.21	1.99	1.31	0.01	30

6.2.4 *Main Tailings Impoundment*

The historical proven and probable mine tailings reserve was 5,565,867 tonnes grading 1.95% Zn, 0.03% Cu, 0.11% Pb, and 0.32 oz/t Ag (Espinosa and Flores 1993).

Trevali undertook NI 43-101 report (SRK 2017) supporting resource statement, with mineral resource estimates completed by Arseneau Consulting Services, November 2016.

Table 6.4: NI 43-101 Compliant Resource Estimate completed on the Tailings Deposit.

Year	Source	Cut-off	Clasification	Tonnes Mt	Zn %	Pb %	Ag g/t
2016	SRK, NI 43-101	$15 cut-off	Measured	NA	NA	NA	NA
			Indicated	3.60	1.98	ND	ND
			Inferred	NA	NA	NA	NA

6.2.5 *Summary and Cautionary Statement*

All previous mineral resource estimates for the Santander pipe and Magistral deposits, are superseded by the updated 2021 mineral resource estimates presented in Section 14 of this Report.

Mineral resource estimates for the Puajanca and Tailings deposits have not been updated, and no work necessary to verify previous “historical” estimates, has been carried out by CDPR. They are presented for historical informational purposes only.

All estimates documented in the resource summaries (Table 6.1, Table 6.2, Table 6.3 and Table 6.4) pertain to information that can be found on SEDAR (Trevali) in the form of NI 43-101 Technical Reports or Annual Information Forms (AIF).

6.3 Historical Mineral Reserve Estimates

The first NI 43-101 supported mineral reserve estimate was carried out in November 2016 by Trevali and SRK consulting for the Magistral deposits (Table 6.5).

In addition to this NI 43-101 supported mineral reserve estimate, Trevali also announced updates to the Magistral deposit mineral reserve estimates in their Annual Information Forms completed for the years 2018, 2019 and 2020 (Table 6.5).

Table 6.5: Summary of Trevali's declared historic mineral reserves under NI 43-101 and AIF documentation.

Dates*	Source	Cut-off	Classification	Tonnes Mt	Zn %	Pb %	Ag g/t
31:10:2016	SRK, NI 43-101	$41 NSR	Proven	0.40	3.9	0.67	33.28
			Probable	2.14	4.63	0.69	31.10
31:12:2018	Trevali, AIF	$45 NSR	Proven	1.11	4.71	0.77	34.54
			Probable	1.22	4.62	0.51	29.42
31:12:2019	Trevali, AIF	$50 NSR	Proven	1.34	4.91	0.46	26.95
			Probable	0.51	4.74	0.22	19.62
31:12:2020	Trevali, AIF	$50 NSR	Proven	0.54	4.29	0.34	22.83
			Probable	0.11	4.33	0.15	13.63
*NB: Effective dates.							

Table 6.5, shows the cut-offs applied were NSR values. All the estimates summarized in the reserve summary table can be found on SEDAR (Trevali) in the form of NI 43-101 Technical reports or Annual Information Forms (AIF).

It should be noted that these estimates are summarized for historical information purposes only. A CDPR Qualified Person has not done the work necessary to verify the last dated (2020) historical mineral reserve estimate, and is not treating the 2020 historical estimate as a current mineral reserve estimate.

6.4 Historic Production (Mid-1950s to November 2021)

6.4.1 Santander Pipe

Over a 34-year time span, the total production from the Santander pipe is estimated to have been in the order of 8,000,000 tonnes with a grade of approximately 7% zinc, with significant silver-lead content, and minor copper credits.

At the time of closure, an underground exploration program was in progress, and the lowermost proven reserves were reportedly being developed for exploitation.

6.4.2 Magistral Deposits

Closure of the operations in 1992 precluded an accurate assessment of the viability of the MS open pit. Based upon discussions with former senior management, Trevali had estimated that approximately 100,000 t were mined from the MC and MS deposits.

6.4.3 Trevali Operations

Trevali began construction on the Santander concentrator and other plant infrastructure in 2011; underground operation at the Magistral commenced in 2013. Since production began in 2013, Trevali mined 6,477,386 tonnes of mineralised material mainly from the Magistral deposits at the Santander Mine (Table 6.6).

Table 6.6: Trevali Santander Mine Production from 2013 to November 2021: Source Trevali.

Year	Tonnes	Grades				Concentrates		Recoveries (%)		
		%Zn	%Pb	%Cu	ozAg/t	T. Zn	T. Pb	Zn	Pb	Ag
2013	252,190	4.12	1.49	0.11	1.59	17,846	5,714	81.95	81.72	69.98
2014	709,159	4.30	1.83	0.10	1.79	54,207	19,386	87.60	85.15	76.94
2015	778,151	4.14	2.09	0.10	1.84	58,231	24,962	89.78	88.68	79.70
2016	863,307	4.27	1.23	0.09	1.40	67,397	17,189	88.72	86.45	72.72
2017	839,546	3.94	0.75	0.09	1.17	60,841	10,792	87.38	81.21	66.34
2018	803,263	4.32	0.60	0.09	1.03	64,923	7,636	89.27	79.85	63.01
2019	875,680	5.03	0.77	0.08	1.17	82,584	11,143	87.77	83.01	63.90
2020	724,341	5.20	0.55	0.08	0.99	70,836	6,426	89.76	81.36	61.71
2021*	631,749	4.09	0.48	0.07	0.95	51,103	4,915	94.19	76.71	61.87
*NB	Up to including November 2021.									

Given that Trevali declared proven and probable mineral reserves at the close of 2020 amounted to 650,000 tonnes, it can be deduced that much of this was extracted during 2021 and prior to the acquisition by CDPR at the start of December.

The Table 6.6 production data includes 616,714 tonnes of old tailings treated during the period 2013 to 2019 as shown in the following Table 6.7.

Table 6.7: Trevali Tailings Production from 2013 to 2019: Source Trevali.

Year	Tonnes	Grades			
		%Zn	%Pb	%Cu	Oz Ag/t
2013	64,752	4.59	0.37	0.10	1.15
2014	73,946	2.76	0.39	0.11	0.99
2015	61,825	3.28	0.44	0.12	1.27
2016	137,773	3.03	0.33	0.11	1.15
2017	150,076	3.28	0.35	0.12	1.29
2018	51,049	3.07	0.33	0.11	1.20
2019	77,293	2.79	0.36	0.10	1.12

During the period 2013 to 2021, Trevali mined the Magistral deposits using the Avoca and a Modified Avoca mining method described in Section 16 (Mining Methods) of this report. Processing was carried out by conventional flotation, the details of which are described in Section 13 (Mineral Processing and Metallurgical Testing) and Section 17 (Recovery Methods), and supported by infrastructure and services as described in Section 18 (Project Infrastructure).

The main mine development and stope preparation meter advances during these years is summarized in Table 6.8 and graphically represented in Figure 6.7. As can be seen there was a sharp decline in the development advances in 2020 and 2021.

Table 6.8: Summary of Trevali Development and Stope Preparation advances 2008-2021.

YEAR	Development metres	Stope Preparation metres
2012	1,790	401
2013	4,313	1,653
2014	5,498	2,327
2015	5,173	2,723
2016	4,603	2,271
2017	7,948	1,895
2018	5,746	3,490
2019	5,632	2,568
2020	1,706	1,948
2021	1,101	1,979

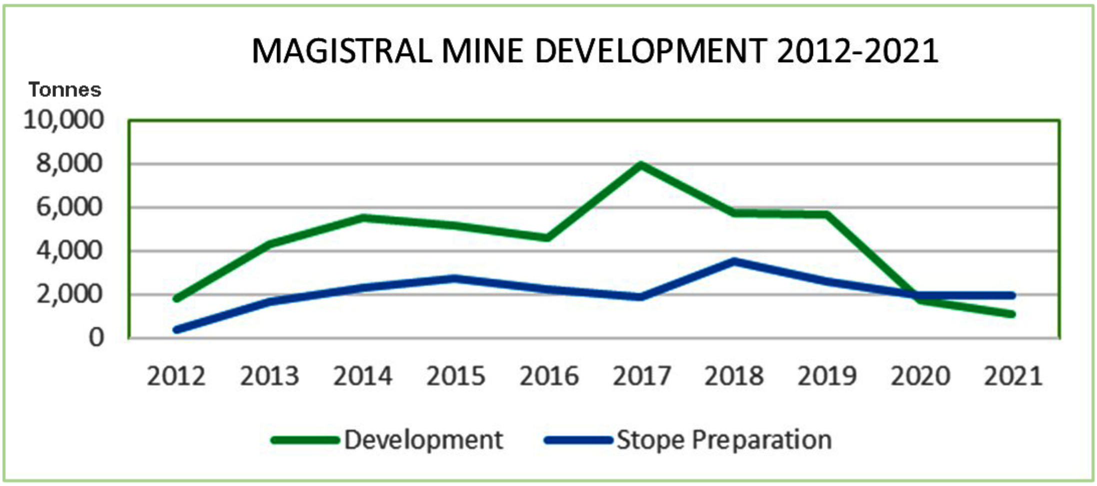


Figure 6.7: Trevali Development and Stope Preparation advances 2008-2021. Source CDPR 2021.

6.5 HISTORIC EXPLORATION

Historic exploration confirmed the existence of significant silver-lead-zinc mineralization in what was to become known as the Santander pipe deposit, Magistrals and Puajanca deposits.

6.5.1 The Santander Pipe deposit.

Early exploration would have been carried out by surface mapping and sampling, and then by prospect tunnelling and diamond-drilling to probe the in-depth and lateral continuation of mineralization already identified. The main source of information available to CDPR for the Santander pipe deposit comprises historic drill core logs, and more detailed drill-hole logs, surveys and interpretative work carried out by Trevali after 2007. The diamond-drilling information is summarized in Section 10 of this report.

The same applies to initial exploration of the adjacent Puajanca deposit.

6.5.2 The Magistral Deposits.

The greater part of exploration of these deposits, which were found to coalesce into one much larger mineralised zone at depth, was carried out after 2007 when Trevali took over the property. Again, exploration was carried out by mapping, sampling, diamond-drilling, and subsequent development tunnelling, but with well-defined geological and evaluation processes backed up by QA-QC and certified assaying all of which is summarized in Sections 10 and 11 of this report.

6.5.3 Regional Exploration.

The exploration of the Santander pipe, Magistral and Puajanca deposits, comes under the heading of “Brownfield Exploration” and has been site specific.

However, after 2007 Trevali started a wider exploration approach under the heading of “Greenfield Exploration” by which exploration was extended to the full extent of the concessions held by the company, using a systematic approach with structural mapping, geochemical sampling, and a range of geophysical surveys in order to locate anomalous areas, in order to proceed with more detailed exploration by diamond-drilling. The anomalous areas and supporting information are reviewed in Section 9 of this report.

7 GEOLOGICAL SETTING AND MINERALISATION

The Santander Property lies within what is referred to as the Central Peruvian Metallogenic Belt and where the Zinc mines (Figure 7.1) and their associated Pb-Ag production have produced 12%, 7% and around 10% of the World´s zinc, lead and silver production respectively over the last two decades (USGS, 2001-2020).

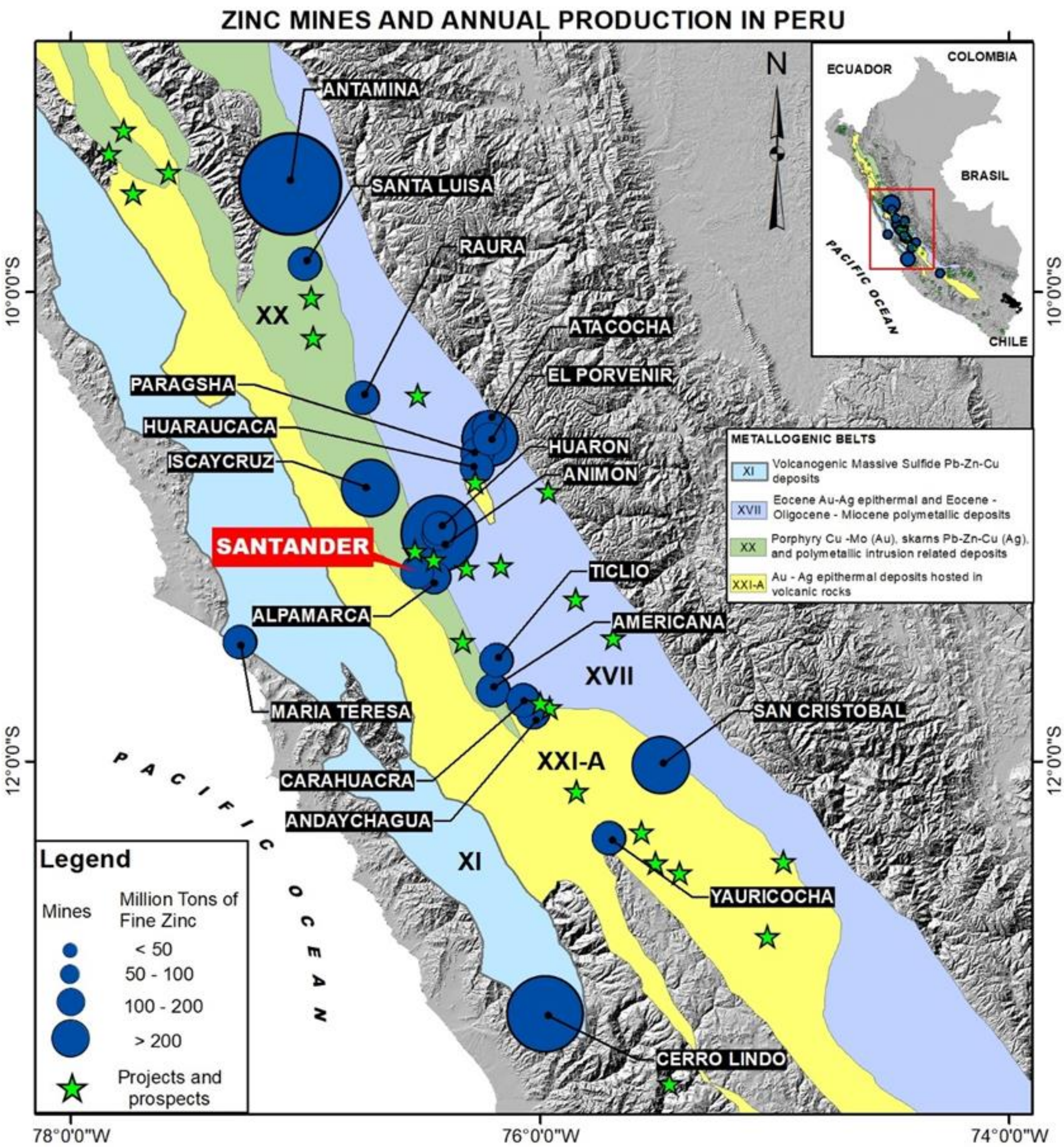


Figure 7.1: Map showing the location of Peru´s producing Zn (+Pb-Ag) mines and deposits. Source Acosta (2015).

The Instituto Geológico Minero y Metalúrgico (INGEMMET), part of the Peruvian Ministry of Energy and Mines, has conducted extensive geological work in the region since the 1980s. Geological maps are available for download on the INGEMMET website (www.ingemmet.gob.pe). The Santander Project is covered in regional geological map sheet 23-j at 1:100,000 scale, as well as more detailed geological map sheets 23-j to I-II at 1:50,000 scale. The 23-j map sheet is accompanied by the following INGEMMET geological reports:

1. "Geology of the Barranca, Ambar, Oyon, Huacho, Huaral y Canta quadrangle" Boletin N°26, Series A (Cobbing and Edwin John et al., 1973).

2. "Memorandum of the revision and update of the Canta quadrangle 23-j) to I-II- (Natalio De La Cruz and Fredy Jaimes et.al., 2003).

In addition, the Mine Geology and Exploration Departments of the Santander Project holds detailed maps for the current mining of the Magistral Deposits, with historic mining activity of the Santander Pipe and exploration targets.

The author has drawn extensively on the MSc thesis of Jean-Paul Bergoeing Rubilar (June 2020), University of Geneva, entitled "Distal Zn-Pb(-Ag) skarn mineralization at Santander, Central Peru" in writing this section to describe the project geology along with information provided by CDPR and geological descriptions in Golder 2012 and SRK 2017.

7.1 Regional Geology

The Project lies within the Western Cordillera (11°11'S, 76°31'W), at an elevation of approximately 4,490 masl within the Santander - (Old) Chungar district, in the southern zone of the Peruvian flat slab region in the western central Peruvian Andes. This tectonic segment of the Andean Cordillera hosts numerous world-class ore deposits (Petersen, 1965; Soler, 1986): a 120-km-wide, 800-km-long belt located between 7 and 14°S.

This cluster of deposits in the Polymetallic Belt of Central Peru includes high-sulfidation epithermal Au-Ag deposits (e.g., Yanacocha), polymetallic porphyry-skarn systems (e.g., Antamina), quartz-Mo veins (e.g. Janchiscocha), Cordilleran base-metal lodes (e.g. Cerro de Pasco, Morococha) and Zn-Pb skarns and carbonate-replacement bodies (e.g. Huanzala), among others (Petersen, 1965; Einaudi, 1977; Baumgartner, 2007; Bendezú et al., 2008; Frenzel et al., 2016; Suzuki and Hayashi, 2019). Geochronology studies indicate that they formed during at least two distinct periods of polymetallic mineralization throughout the Oligocene and Miocene epochs (Soler and Bonhomme, 1988; Bissig et al., 2008). Their genesis has been attributed to magmatic activity associated to the subduction of the Nazca aseismic ridge within the subducting oceanic Nazca plate into the subduction zone during this time span (Rosenbaum et al., 2005).

Plate reconstruction models predict the onset of the subduction of the Nazca ridge during the Miocene (between 11.2 and 15 Ma) at the latitude of Cerro de Pasco, which coincides with an important metallogenic activity in the zone (Hampel, 2002; Rosenbaum et al., 2005). The relatively rare occurrence and smaller size of late Oligocene deposits within the Central Peruvian Polymetallic Belt (e.g., Uchucchacua; Soler and Bonhomme, 1988) results from a limited magmatic activity, possibly also associated with a flat subduction configuration but with a stronger upper-plate metallogenic control (Bissig et al., 2008).

The structure of the Andean Cordillera at this latitude consists of two parallel ranges: the Western Cordillera and Eastern Cordillera (Figure 7.2) separated by a high-elevation flat zone that extends across a large part of the central and southern Peruvian Andes, the Altiplano. At the latitude of the Santander-(Old) Chungar district, the Western Cordillera mainly corresponds to the Mesozoic and early Paleocene ensialic magmatic arc represented by the 160-60 Ma Coastal Batholith, and Pale-ogene to Neogene volcano-sedimentary cover rocks of the “Calipuy volcanics” – locally named Yantac Formation - and Colqui Group (Cobbing, 1973; Atherton et al., 1979). The geology of the Altiplano and Eastern Cordillera includes a Precambrian to Cambrian metamorphic basement (Marañón Complex) overlain by Paleozoic and Mesozoic back-arc sedimentary sequences which record at least two marine transgressions related to early tectonism in the Andes (Mégard, 1979; Cardozo and Cedillo, 1990; Love et al., 2004).

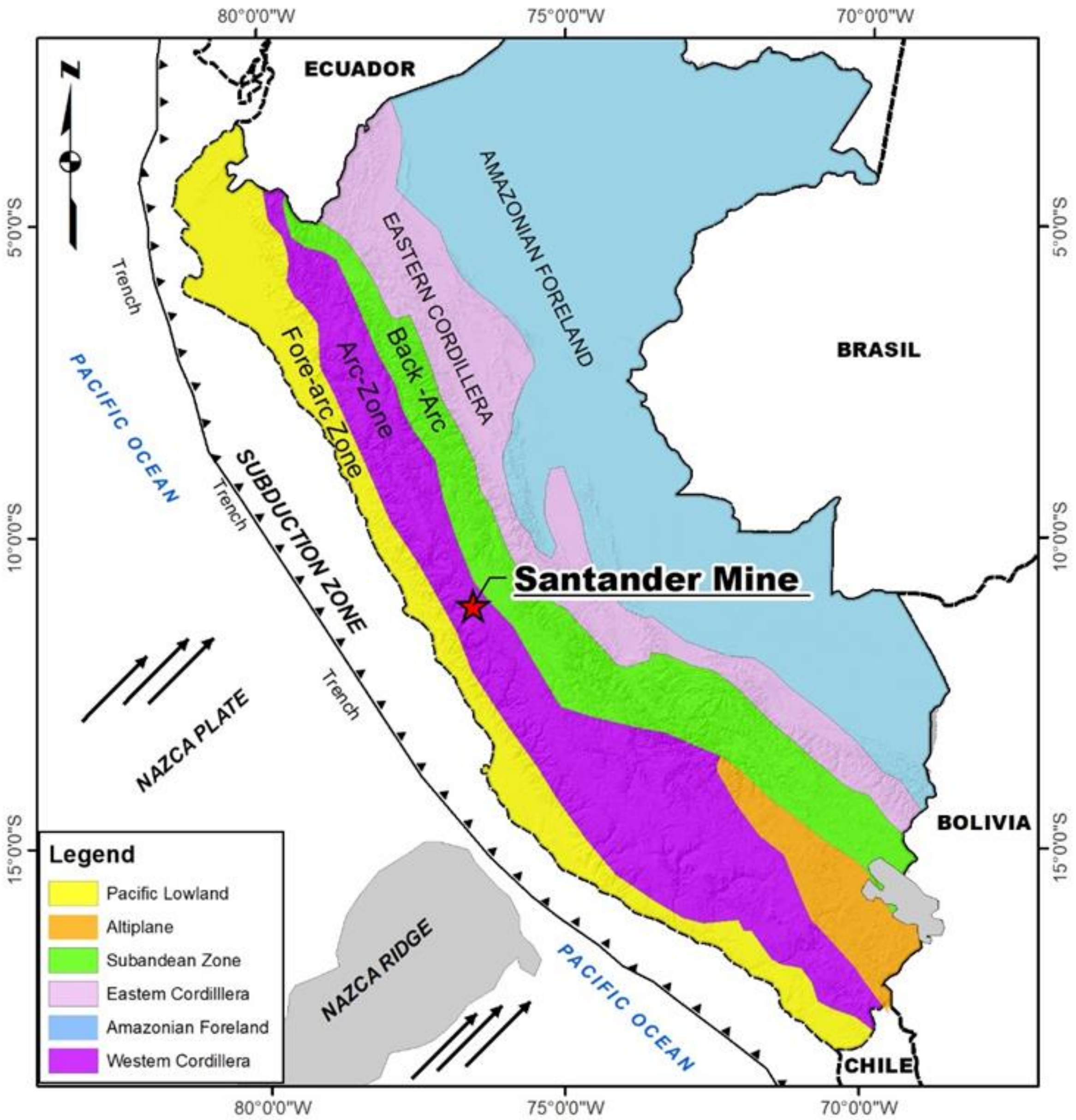


Figure 7.2: Morpho-structural map of Peru. Source, Jaillard et at 2000 in Wipf 2006 PGS Pacific Geological Services.

At the latitude of the Santander – (Old) Chungar district (Figure 7.3), the stratigraphy includes the Paleozoic slates, schists and quartzites of the Excelsior Group, and the carbonate-rich Mesozoic units including the Triassic Chambara Formation, the Triassic-Lower Jurassic Pucara Group, the Jurassic Condorsinga and Aramachay Formations; and the Cretaceous Oyón Formation, Goyllarisquizga Group, Pariahuanca Formation, Pariatambo Formation, Casma Group, Jumasha Formation and Casapalca Formation (Cobbing, 1973; Einaudi et al., 1981).

Expressions of Cenozoic volcanism are widespread also in the Altiplano where volcano-sedimentary sequences of the Calipuy, Pacococha Formation and Rumillana Formation appear discordantly overlying the Mesozoic sequences. During the Tertiary, the Mesozoic sequences suffered a strong deformation due to successive major compressive events occurring in this section of the Central Andes since the Eocene (Noble et al.,1979: Mégard, 1984).

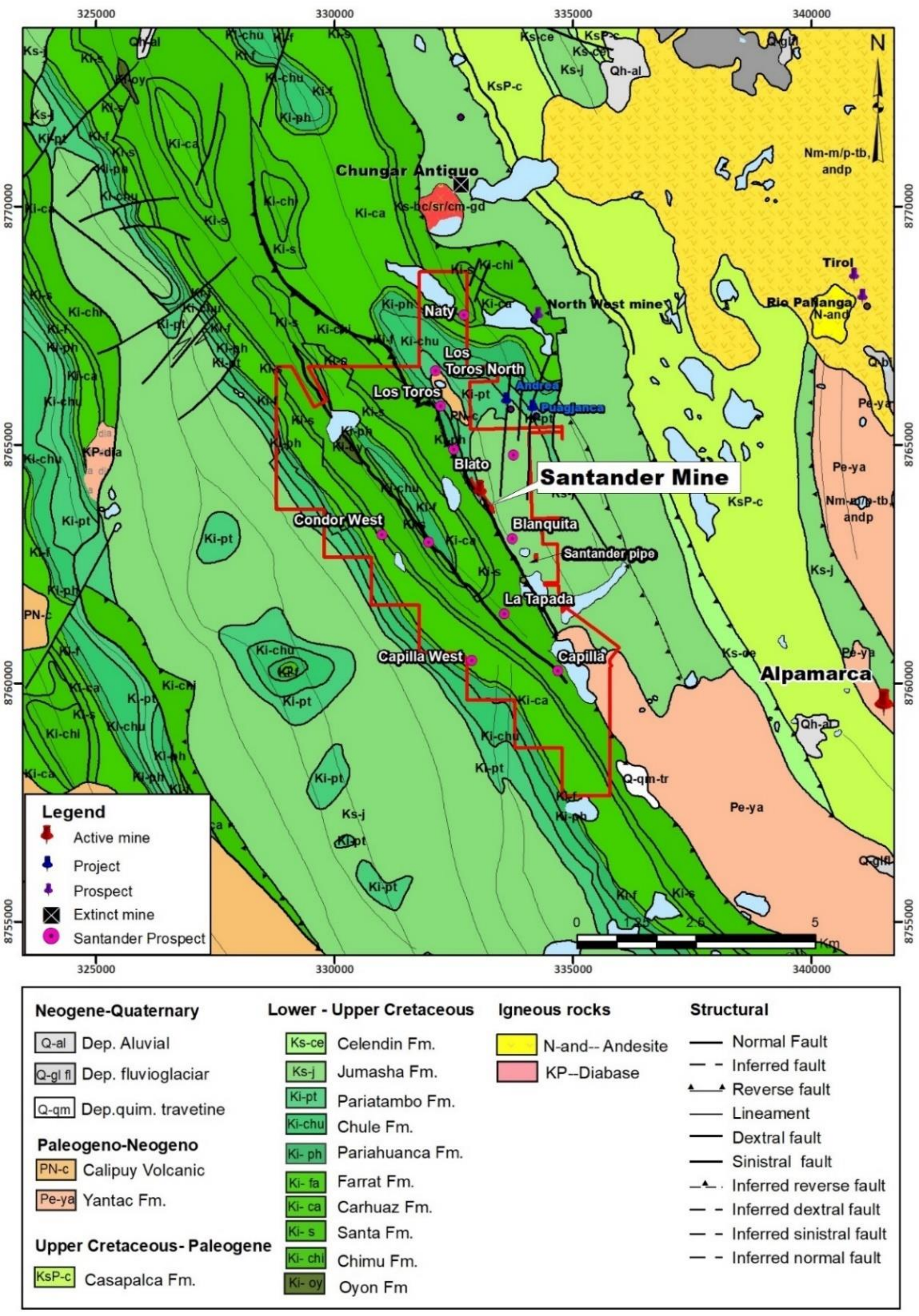


Figure 7.3: Regional Geology Map. Source, Metadata set of GEOCATMIN - INGEMMET, Integrated Geological Maps 100 K (1973 and modified in 2003).

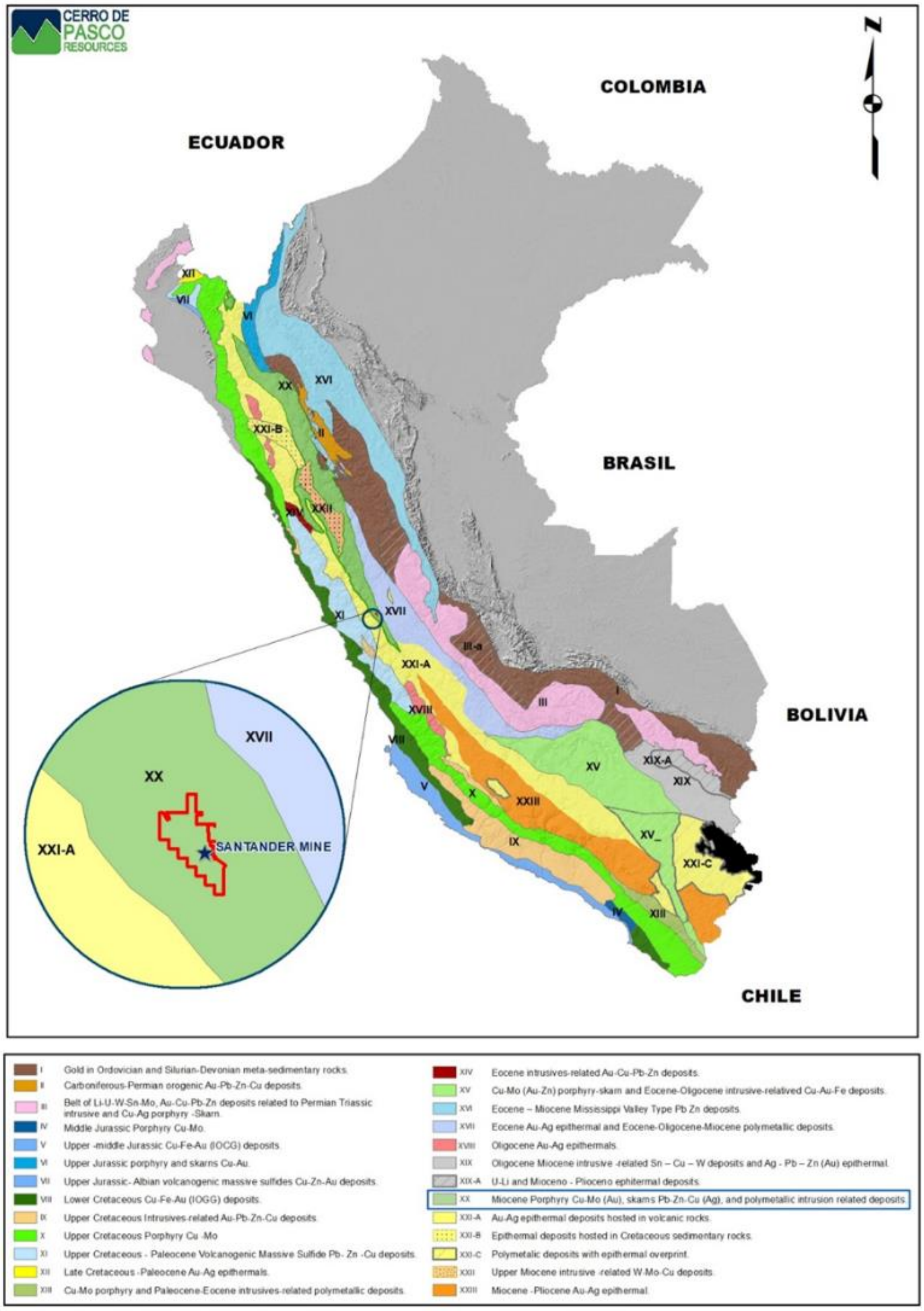


Figure 7.4: Metallogenic belts of Peru with location of Santander Project. Source, Metallogenic Map of Peru (2020 INGEMMET)

In the boundary between Western Cordillera and Altiplano, numerous isolated shallow syn-tectonic intrusive stocks and volcanic domes of late Eocene to early Oligocene (39 – 31 Ma) and Miocene (18 – 5 Ma) age intruded the deformed Mesozoic sedimentary sequences, where they are commonly associated with the development of polymetallic mineralization typical of the Central Peruvian Polymetallic Belt (Bissig et al., 2008), Figure 7.4.

7.2 Local Geology

The property is underlain by a package of Cretaceous carbonate and clastic sedimentary rocks that were tightly folded into a series of northwest-trending anticlines and synclines. The lower, predominantly clastic part of the section was thrust over the mainly carbonate-rich upper portion (the favourable host rocks) along a regional, northwest-trending fault, the Santander regional fault (Figure 7.5).

Several northeast to east-west trending high-angle oblique wrench faults cut the entire section. Tertiary volcanic rocks unconformably overlay the folded carbonate and clastic sedimentary units. These are interpreted to be broadly contemporaneous with Miocene-age stocks considered to be the heat, and possibly fluid, sources that produced the base metal mineralization. Pre- and post- mineralization diabase dykes and sills are locally present within the section.

Syn-mineralization intrusive activity has not been recognized on the property; however, such bodies are inferred to be present at depth and are seen in intimate contact with similar skarn and carbon replacement deposits (CRDs) immediately along the strike to the north and within the Cerro de Pasco district. At the Chungar Deposit and the North West Mine, located approximately 10 km and 3 km to the north-northwest of the Santander Property, respectively, skarn mineralization associated with a granodiorite stock dated at 13.6 Ma old, is present.

7.2.1 Stratigraphy & Magmatism

Lower Cretaceous Succession

At the base of the stratigraphic section is the Oyón formation (Figure 7.5). This unit has limited exposure on the property and generally consists of 15 m to 40 m of shale and quartzite units with intercalated beds of anthracitic coal. Small workings in the west and northwest parts of the property are located on coal beds.

Lying conformably above the Oyón formation is the Chimú formation. This unit consists of an approximately 480-m-thick succession of massive to thickly bedded orthoquartzites that grade into slatey quartzite near the top of the section. The unit outcrops primarily to the west of the Santander fault and, because of its resistant nature, produces steep slopes and escarpments.

The Chimú formation is overlain by the Santa formation. This unit has a thickness of approximately 105 m and consists of thin-bedded, blue to grey limestones with local cherty nodules. The unit outcrops principally to the west of the Santander fault (Figure 7.5), and Figure 7.6 shows the over-thrust displacement under which the Magistral deposits were discovered.

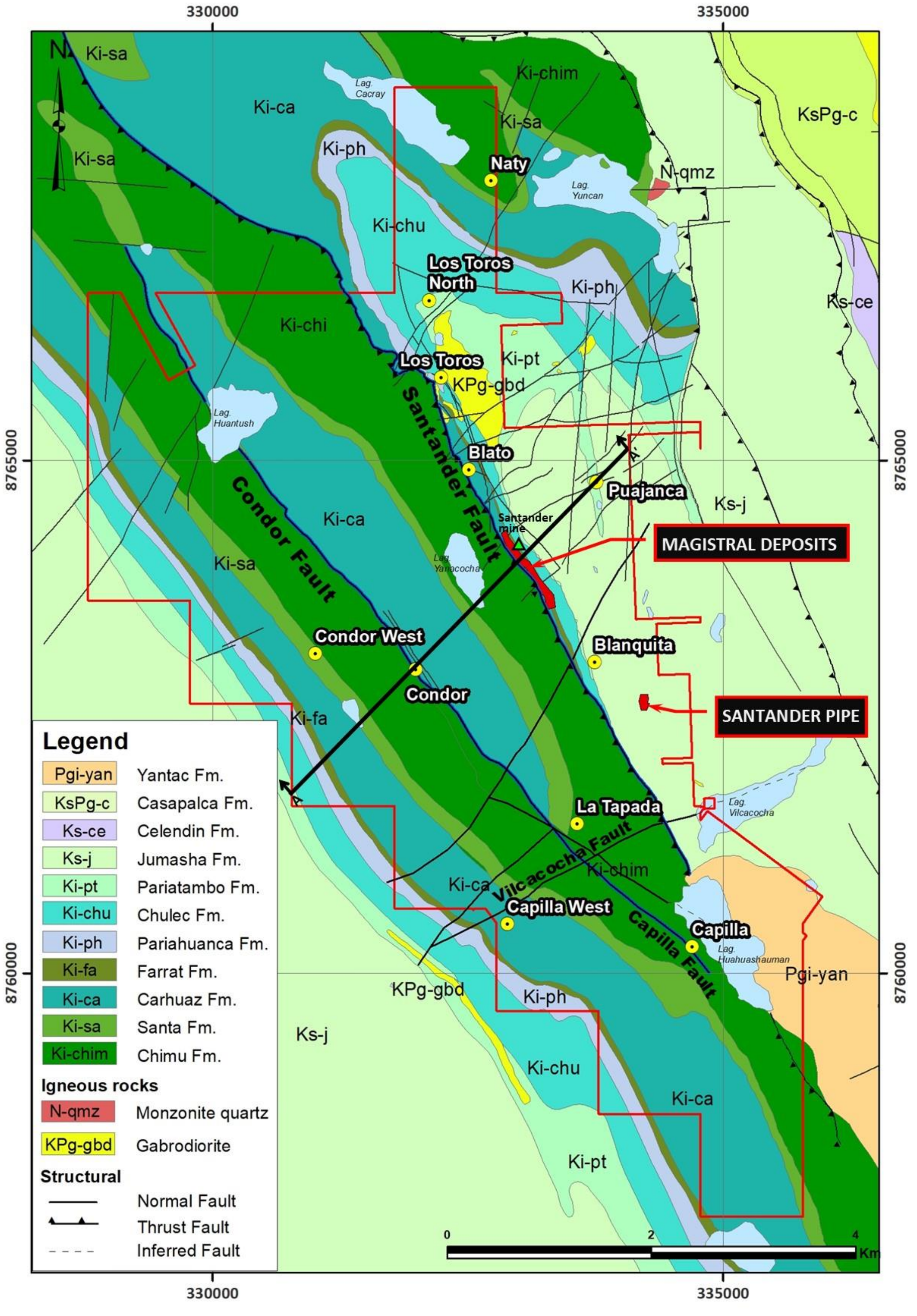


Figure 7.5: Simplified geological map of the Property. Source CDPR (2021).

Lying above the Santa formation is a 630-m-thick section of intercalated shales and sandstones known as the Carhuaz formation (Figure 7.6). This unit is mostly thin-bedded with colours ranging from grey through brown and yellow-brown, with the sandstones occasionally displaying ripple marks.

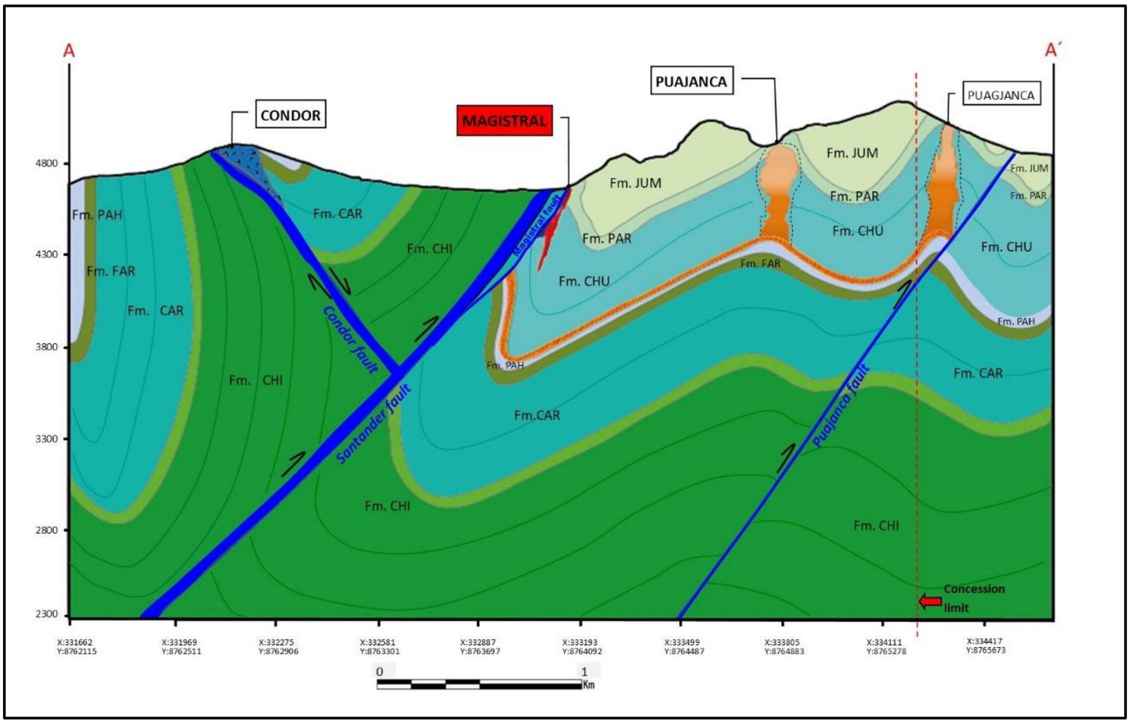


Figure 7.6: Section of the southern part of the Santander-Old Chungar district. NE-SW oriented blue lines in the geological map represent high angle strike-slip faults that that cut the entire section. Source, modified from Jean-Paul Bergoeing Rubilar (June 2020).

The Carhuaz formation is overlain by the Farrat formation (Figure 7.7). This unit consists of roughly 60 m of fine-grained quartzites and sandstones. The beds average 1 m thick, are light grey in colour, and occasionally display cross-bedding. The Farrat Formation marks a change from predominantly clastic sedimentation to carbonate deposits.

The Farrat formation is overlain by the Pariahuanca formation (Figure 7.7). This 280-m-thick unit consists primarily of grey massive limestone with occasionally fossiliferous and more siliceous beds. It is locally cut by diabase sills and dykes and is a favourable mineralization host rock at other base metal districts in the mineral belt.

Overlying the Pariahuanca formation is the Chulec formation (Figure 7.7). This 180-m-thick unit consists of an alternating succession of marls and dark grey limestone, although in some areas it is pure limestone. This formation is the most fossiliferous of all the Cretaceous formations and is an important host rock for “manto type” or replacement mineralization. The Chulec formation hosts all three Magistral deposits as well as the Rosa and Fátima Zones and the lower portions of the Santander pipe (Figure 7.7).

The Chulec formation is overlain by the 70-m-thick Pariatambo formation (Figure 7.7). This unit consists of a succession of thin-bedded limestone, marl, and slate that occasionally contain chert nodules as well as graphitic and pyritic horizons. Outcropping mineralization at the Puajanca prospect is hosted within this unit.

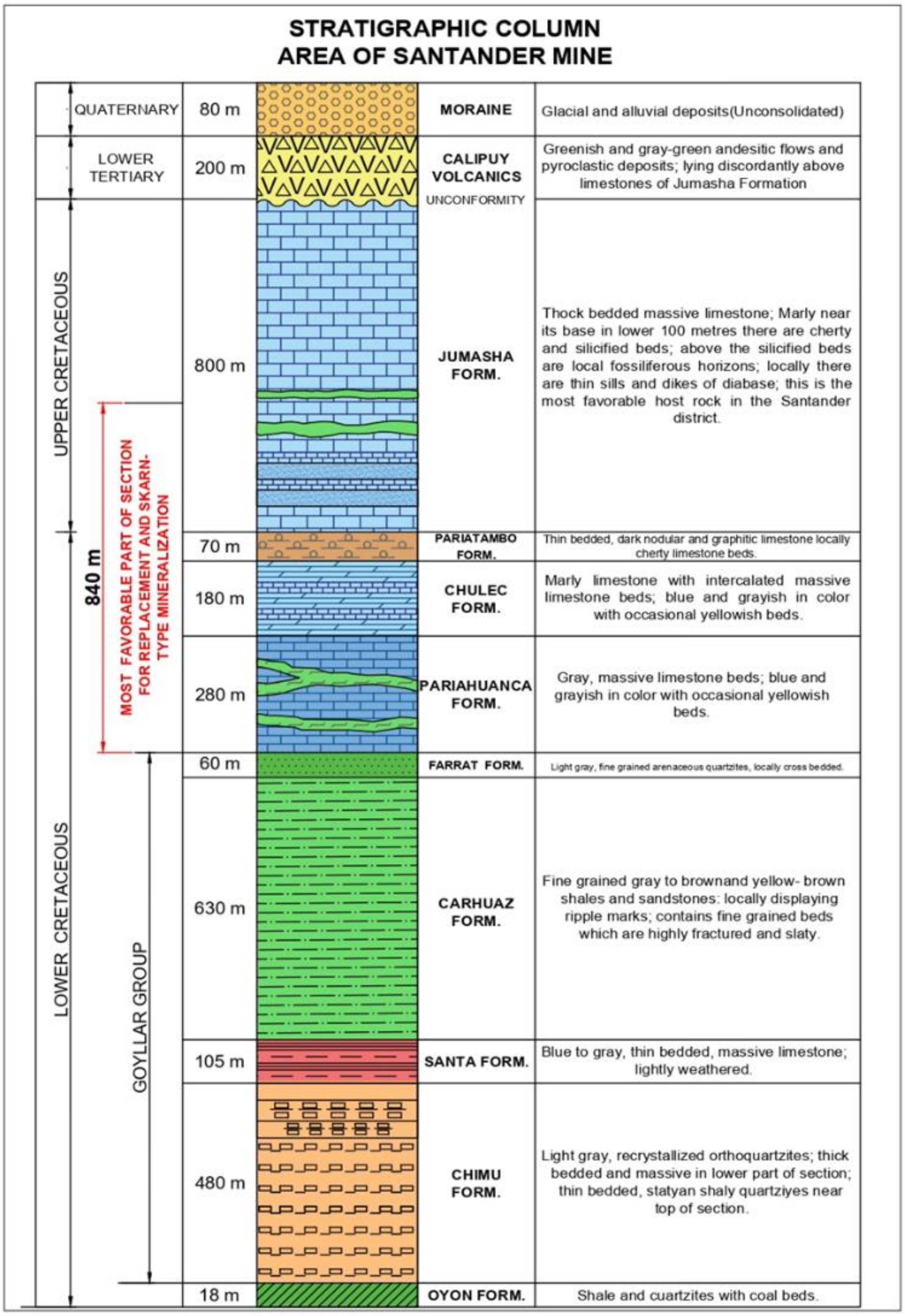


Figure 7.7: Stratigraphy at the Santander Property. Source, modified from Golder (2009).

Upper Cretaceous Succession

The Pariatambo formation is overlain by the Jumasha formation, which is the thickest calcareous unit of the section, at an estimated 800 m (Figure 7.7). It consists primarily of massive light grey to grey limestone. Immediately about its base, the limestone units are marly for approximately 100 m of section, followed by about 130 m of alternating cherty and fossiliferous limestone with beds ranging between 0.5 m and 2 m in thickness. Sills and dykes of the diabase are occasionally seen in the lower half of the formation. The Jumasha and Pariatambo formations host the upper portions of the Santander pipe.

Lying unconformably above the Jumasha limestone are erosional remnants of the Calipuy volcanic rocks. These consist primarily of green-grey andesitic flows and fragmental rocks up to 200 m thick.

Finally, a thin veneer of fluvio-glacial colluvial alluvial deposits and local bogs occur in the valley bottoms typically ranging from 1 m to 15 m thick in the Santander area (Figure 7.7).

Tertiary

Tertiary rocks are minor in volume within the Santander area and correspond to green, grey, beige and reddish andesitic volcanic and volcanoclastic rocks of the Callipuy volcanics, which lie discordantly on top of the Mezosoic units. South of the Santander area these rocks can reach important thickness of up to 1000 meters (Zimmernink, 1985; Jacay, 2011). Within the limits of the property, intrusive rocks are limited to discrete occurrences of microdioritic rocks emplaced as sills and dykes mainly in the lower half of the Upper Cretaceous formations, which have been informally called “the diabase unit”.

No geochronology study has been carried out so far in this unit, but field observations indicate that these rocks appear to be pre-mineralization (Golder, 2012;). To date, syn-mineralization intrusive activity has not been recognized in the Santander area. However, 10 km to the northnorth west of the Santander – (Old) Chungar district, a granodiorite stock dated at 13.3 ± 0.3 Ma and 13.6 ± 0.36 Ma is directly associated with the development of skarn mineralization at the Chungar mine (Soler and Bonhomme, 1988; Bissig et al., 2008).

7.3 Structural Geology and Mineralization

An initial pre-mineralization, northwest-trending fold and thrust belt formed during Incaic orogenic cycle (late Palaeocene to Eocene). A second phase of contractional deformation in the mid-Miocene is thought to be contemporaneous with mineralization, resulting in a series of north-northwest trending anticlines and synclines occasionally disrupted by high-angle thrust faults that parallel the regional structural grain of the Western Cordillera of the Andes. The most prominent of these thrust faults is the Santander fault (Figure 7.6), a regional-scale deformation zone. It is approximately parallel to the fold axes with a strike of 150º and dips moderately to the west. Based on regional stratigraphic reconstruction, it has an estimated minimum displacement of at least 1,000 m. There is also a subordinate system of north-east to east-west-trending transverse oblique wrench faults, some of which are interpreted to cut the Santander fault at a high angle.

Interplay between the various deformation styles has resulted in zones of enhanced fracturing and permeability, ultimately leading to zones of preferential fluid flow and mineralization. The age of mineralization was previously thought to be between 12 Ma and 14 Ma old, based on two potassium-argon age determinations of biotite from a granitic intrusion at nearby skarn-hosted Chungar Mine located approximately 10 km to the north-northwest of the Santander Property.

However, geochronology carried out on garnet samples by Jean-Paul Bergoeing Rubilar (June 2020) for his MSc thesis, University of Geneva, entitled "Distal Zn-Pb(-Ag) skarn mineralization at Santander, Central Peru, yielded U-Pb ages of 10.72 ± 0.56 Ma, 10.72 ± 0.56 Ma and 9.53 ± 0.56 Ma for the Santander Pipe and 9.60 ± 0.33 Ma in Blato for the prograde skarn formation. Titanite associated to the porphyry-style Qz-Moly veins yielded U-Pb ages of 10.89 ± 0.47 in the Santander Pipe and 11.07 ± 0.45 Ma and 11.69 ± 0.35 Ma in the Blato prospect which are younger than the skarn hosted Chungar mine.

The work undertaken by Jean-Paul Bergoeing Rubilar identified four different alteration/mineralization events at Santander. These events have been defined base on a study of representative samples from four of the mineralised centres in the area:

1. A prograde skarn assemblage was identified in all of the studied zones and is characterized by an early massive garnet-clinopyroxene-magnetite-apatite-vesuvianite assemblage and a late formation of garnets and clinopyroxene occurring as veins and disseminations.

2. A retrograde skarn assemblage was also identified in the four studied zones and is characterized by epidote-chlorite-actinolite-magnetite-sericite-K-feldspar-plagioclase-quartz and calcite. The retrograde skarn assemblage is superposed onto the prograde skarn and is genetically associated to two stages of polymetallic mineralization, defined in terms of sulfidation state of the ore mineral assemblages. The early stage is characterized by an early pyrite precipitation followed by a low-sulfidation assemblage dominated by Fe-rich sphalerite, pyrrhotite, arsenopyrite, chalcopyrite and minor galena. The late stage is characterized by an intermediate-sulfidation ore assemblage that includes the replacement of former pyrrhotite by late pyrite and the generation of two different Fe-poor sphalerites together with galena and minor As-Sb-Ag tellurides and sulphides. The two mineralization stages occur superimposed in a single sample and even within a single vein. Textural evidence suggests that the transition between them was a continuous process and reflects the evolution of a single mineralizing fluid. The polymetallic mineralization at Santander can be correlated to an early low to

intermediate-sulfidation mineralization stage reported in various polymetallic deposits associated to the intrusion of Miocene porphyry-stocks in the Central Peruvian Polymetallic Belt. Major and minor element geochemistry of skarn silicates associated to the mineralization show systematic variations resulting from different temperature conditions during the ore deposition in the four studied areas.

3. Porphyry-style quartz-molybdenite-pyrite veins were observed in the deep sections of two of the studied areas (Santander Pipe and Blato prospect). They are characterized by multiple vein formations with variable amounts of sulphide and gangue minerals. Alteration associated to this event shares characteristics of potassic alteration in porphyry systems, dominated by K-feldspar, biotite, quartz and titanite with minor amounts of sericite and chlorite. In the Santander Pipe, the veins appear cross-cutting the prograde skarn mineralogy and are in turn cross-cut by the polymetallic mineralization associated with the retrograde skarn formation. In Blato prospect, the veins appear directly cross-cutting the retrograde alteration. These differences suggest a protracted porphyry-style activity during the formation of the skarn alteration and polymetallic mineralization in Santander.

4. A late carbonate stage was recognized in all of the studied zones. This fourth event occurs as late vein infill, replacement of skarn minerals and late barren calcite stockwork.

7.3.1 Magistral Deposits

Magistral is the only actual mining operation at Santander, situated 1.5 km NW of Santander Pipe (Figure 7.5). It consists of three main mineralised bodies (Magistral North (MN), Magistral Central (MC) and Magistral South (MS)) and six minor bodies—Rosa, Bono, Fatima North (FN), Fatima South (FS), Magistral Central-North (MCN) and Oyon. The three main bodies strike approximately N 330° and dip between -55° and - 67° to the southeast. Figure 7.8 shows a 3D graphical representation of the Magistral deposits along with current mining depth.

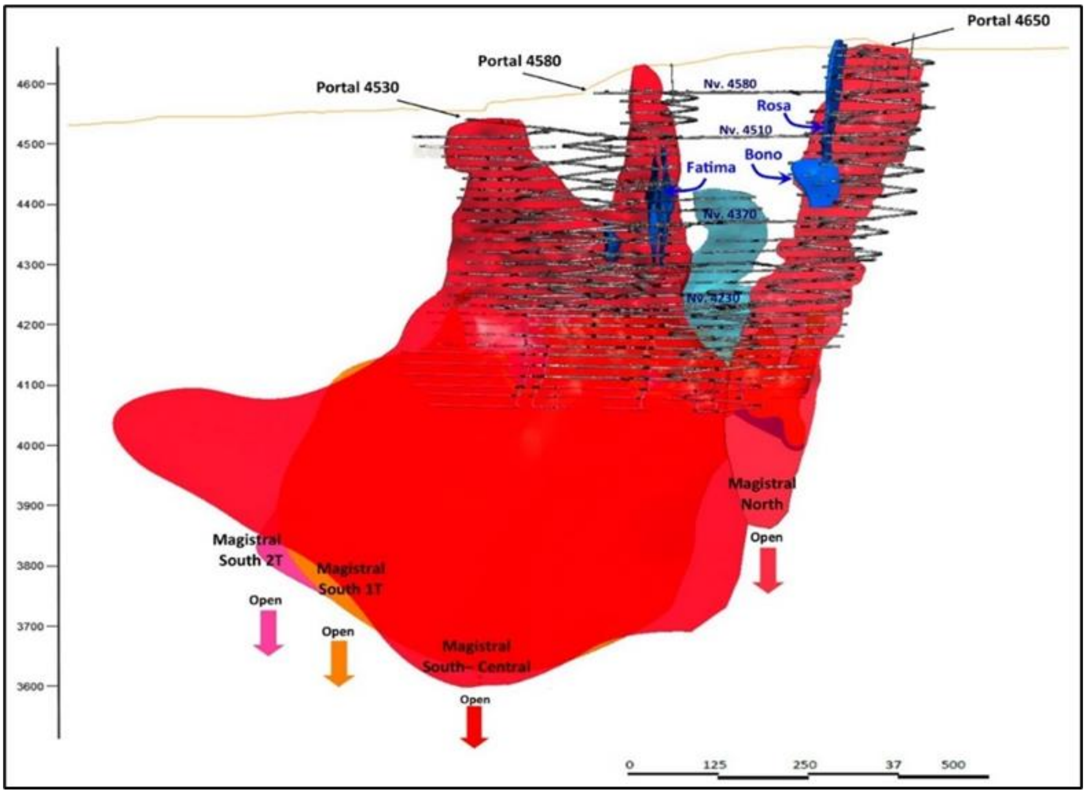


Figure 7.8: Longitudinal 3-D View of the MN, MC, MS, Oyon, Rosa, Bono, Fatima North and South Zones. Source: CDPR (2021).

In the Magistral deposits the east-west-trending Rosa and Fátima structures (Figure 7.9) cross-cut the southern end of the MN and the central part of MC deposits. The open extensional style of the narrow but high-grade veins and related massive sulphide replacement that make up these mineralised zones along with the east-west trend means that it is highly unlikely that the Rosa and Fátima structures formed contemporaneously with the Magistral deposits during D2 shearing, as the east-west faults are interpreted to have been low-angle thrusts during this period.

An apparent difference in metal contents compared with the Magistral deposits is also supportive of a different hydrothermal phase, most likely during regional D3 age deformation. This D3 event is recognized regionally and likely formed part of the Quechua III Event that is considered to have occurred between 7 Ma ago and 5.5 Ma ago. The absence of the later east-west overprinting veins in the MS body also adds weight to the idea that the Rosa-Fátima event is of a different age with a distinct hydrothermal centre.

The geometry and structural position of the Magistral deposits is consistent with their control by local clockwise strike-swings along the Magistral fault zone, as indicated by the underground mapping. The loose association of the Magistral sulphide bodies with late-stage northeast-trending steep faults mapped in the footwall of the Magistral zone suggests that dextral off-sets of the Magistral thrust during late-stage (Quechua I) D1 deformation resulted in perturbations along the trace of the main fault zone that then formed local dilation sites during the D2 (Quechua II) dextral strike-slip event (Figure 7.9).

The most recent drilling and sections produced in this area also suggest that there was a reverse component of movement along the Magistral structure with significant increases in the sulphide body thickness where the fault plane is more shallowly dipping and which is expected for the dextral transpressional shearing associated with the D2 event. The effect of this overprinting mineralization at Santander is to generate the orthogonal keel-like form on the west side of the Magistral sulphide body when seen in 3D.

The presence of the Rosa and Fátima sulphide bodies and their continuity into the footwall sequence implies also that rather than being a weak phase of east-west compression, the D3 deformation resulted in strike-slip reactivation of the Magistral structure as a sinistral shear with the formation of east-west veining as tensional splay veins within the reactivated corridor (Figure 7.10). There are many narrow, isolated east-west to west-northwest trending sulphide-bearing veins in the MN and MC zones, and the concentration of sulphide veining and related replacement along the Rosa and Fátima structures may suggest that it may have originated as a pre-mineralization sinistral tear or conjugate fault that was reactivated during D3. This would explain the coincidence of the Rosa mineralization with the southern limit of the MN sulphide body. It may be that not all the Magistral structure underwent sinistral strike-slip shearing. The lack of later veining at MS suggests the Rosa zone may have formed in a dilational overstep between the Magistral fault zone and one or more sub-parallel bedding contacts such as between the Chulec and Pariatambo formations.

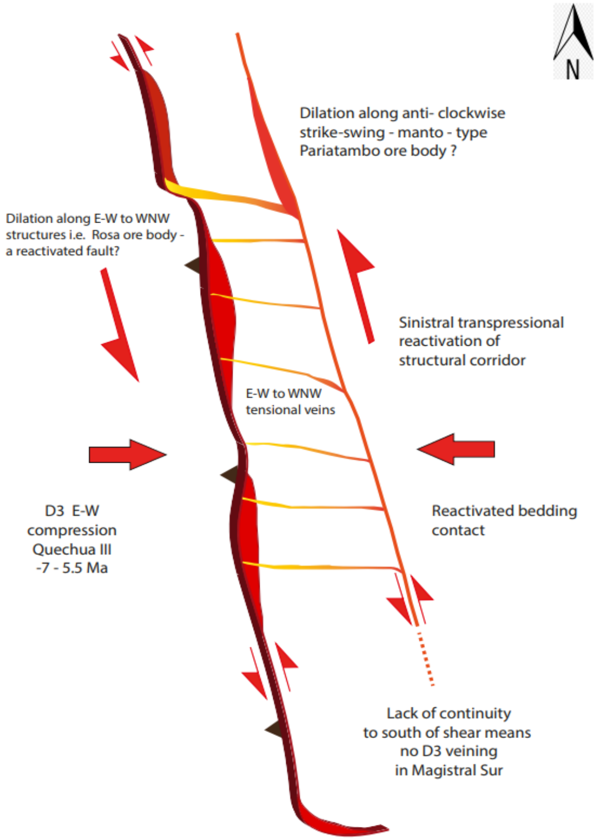


Figure 7.9: Sketch of Magistral-age D2 Deformation Model (not to scale). Source: Telluris Consulting (2011).

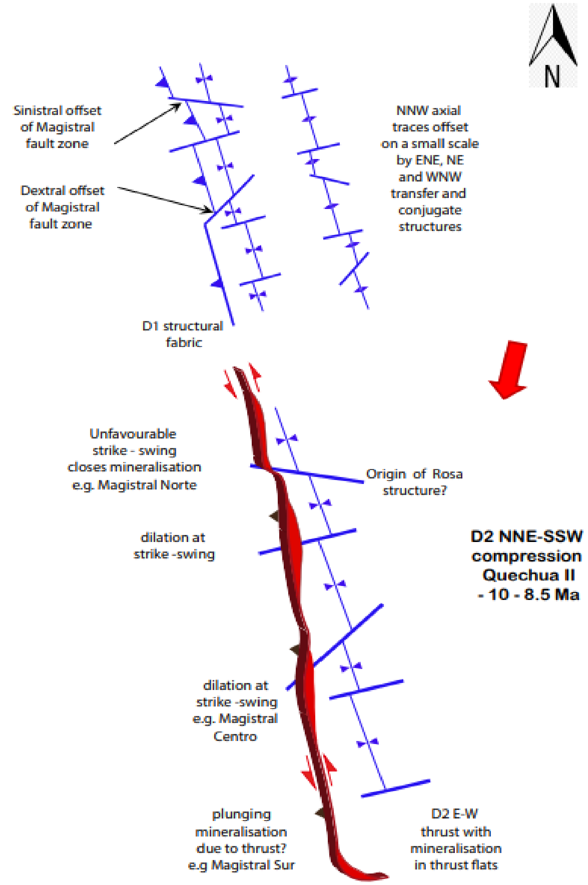


Figure 7.10: Sketch of Magistral-age D2 Deformation

The thermal focus for the Rosa and Fátima vein systems is likely to be in the area proximal to the Magistral fault and dies out to the east towards the contact with the Pariatambo formation. This suggests that fluid flow was focused up the intersection of the Rosa-Fátima structures and the footwall of the Magistral fault. This contrasts with the Magistral system, which displays higher temperature mineralization in MS, where Rosa and Fátima-age and style veins are absent.

Alteration (in terms of skarn silicates) in the Magistral area is limited. Mineralogy is characterized by the sporadic occurrence of garnet, carbonates, quartz, chlorite, epidote, clinozoisite and zoisite (Zimmernink, 1985). The most abundant ore mineral is sphalerite with minor amounts of galena and chalcopyrite. Pyrite is much more abundant than in the Santander Pipe. Ore minerals may be spatially associated to skarn minerals but they are also present as massive replacement or veins associated to a sericitization of the host rock.

From observations carried out during a field campaign in 2019 by Jean-Paul Bergoeing Rubilar, alteration and ore mineralogy shows a lateral zonation within the Magistral orebodies. In Magistral North the mineralization is characterized by veins and disseminations to semi massive replacement of the carbonate rocks by Gn, Sl, Cp with Py>Po and no development of skarn cal-silicate mineralogy, whereas the Magistral Central and Magistral South bodies show a semi massive to massive mineralization with more abundant Po and local development of skarn mineralogy with presence of garnet, diopside, epidote and chlorite. Chemically, the Zn/Pb ratio increases from MN (1:1) to MS (2:1), accordingly to the higher presence of modal sphalerite compared to galena towards the south of the Magistral, and in general, the base metal grade increases with depth (Golder, 2012).

7.3.2 Santander Pipe

The Santander Pipe was in operation between 1958 and 1992, both as open pit and underground workings that reached a depth of up to 480 m below the surface. Past production from the Santander Pipe reached 7.9 million tonnes at 10.88% Zn, 0.98% Pb, 0.31% Cu and 2.1 Oz/t Ag (SRK Consulting, 2017). During its operation lifetime it produced approximately 8 Mt of Zn, Pb-Ag and Cu concentrates associated to sphalerite-galena-hessite and chalcopyrite respectively.

Mining ceased at 480 m depth in mineralization, due to adverse metal prices and underlying hyper-inflation. The last drill program indicates that mineralization (Zn-(Cu-Pb-Ag)) continues at least 400 m further below the lowest working and at depth the Qtz-Moly mineralization reaches 700 m further and is still open at depth. The geometry of the Santander Pipe is modelled as manto replacement in favourable rocks of the Chulec Formation in depth and as a vertical pipe-like geometry in the shallower parts where it cuts through the Jumasha limestones using the axial plane of a regional anticline (Figure 7.11). In the upper cylindrical part of the Santander

Pipe, mineralization is concentrated along the borders of a massive garnet-pyroxene skarn core, forming an annular outer layer of sulphide-rich material with a diameter between 6 and 20 m. Below this ring-zone, the ore minerals appear as manto-like bodies, alternating with the occurrence of skarn-rich levels. Their strike and dip coincide with the surrounding Cretaceous sediments where they reach a thickness between 5 and 25 m. The contact between the limestones and the skarn body is extremely sharp and it is usually characterized by a 4 to 8 mm chlorite rich part which is followed by a zone of diopside (some 1 - 3 cm, but not always clearly developed) and then by a zone which contains garnets (Zimmernink, 1985).

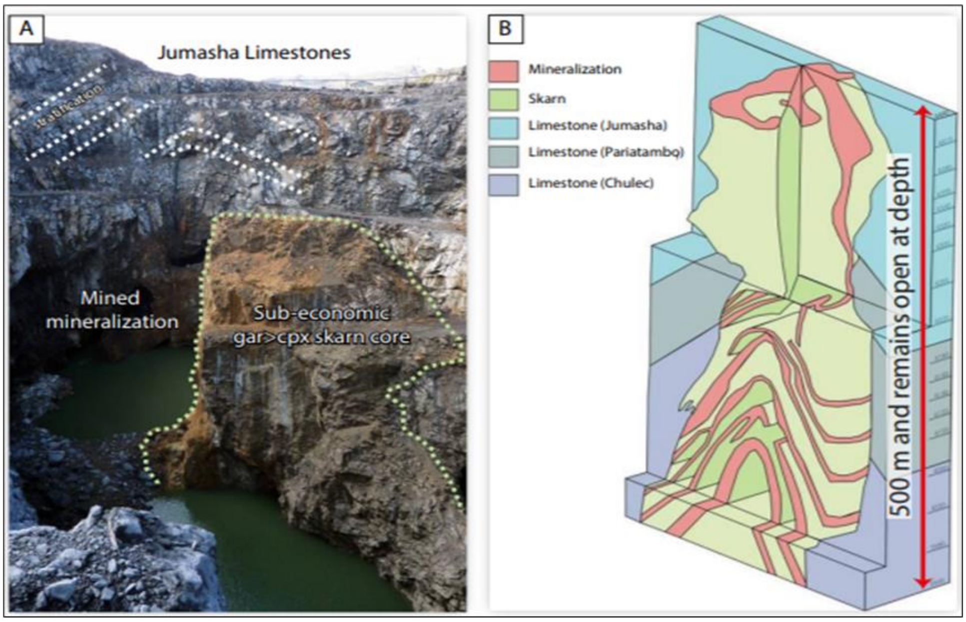


Figure 7.10 A & B:

A:Open pit of the Santander Pipe (old mining operation, now inactive). In this segment of the profile the host rocks are the massive limestones of the Jumasha Formation, which are folded in an anticline. Orange colour corresponds to the massive barren skarn body (gar>px) that formed in the axial trace of the anticline. Mineralization was mainly focused in the margins of the skarn body, forming a ring ring-like geometry which was mined between 1958 and 1992. Underground workings extend for more than 300 meters depth. The inactive mine is currently flooded as all the water pumped from the actual Magistral mine goes directly to the old Santander Pipe open pit. Source Jean-Paul Bergoeing Rubilar, (June 2020).

B:Schematic representation of the geometry of mineralization and alteration in the Santander Pipe. Note the "manto like" geometry of the skarn and mineralization at depth, contrasting to the "pipe like" geometry in the uppermost part of the profile. Mineralization extends for more than 500 meters and it remains open at depth. Source Jean-Paul Bergoeing Rubilar, (June 2020).

The gangue minerals consist mainly of garnets (andradite and grossular), calcite, quartz, diopside, epidote, chlorite, vesuvianite, orthoclase, clinozoisite and zoisite (Zimmernink, 1985).

Ore minerals include mainly Fe-rich sphalerite, with variable amounts of chalcopyrite, argentiferous galena, pyrrhotite, pyrite and minor amounts of mackinawite, marcasite, bornite, hessite, and various bismuth tellurides (Zimmernink, 1985). Complex textures of dissolution and replacement suggest a complex evolution of the mineralizing fluids where different stages of alteration and mineralization were superimposed in a single hand specimen (Zimmernink, 1985). Of special interest is the great variety of up to 5 different garnet types described by Zimmernick (1985) in terms of optical characteristics. The distribution of both gangue and ore minerals within the vertical profile of the Santander Pipe indicate mineralogical zoning. For example, a change in composition of garnets from andraditic to grossularitic towards depth was observed by Zimmernink (1985), who also points out that vesuvianite, orthoclase and clinozoisite are found in minor amounts only in the lower parts of the mine.

Zimmernink (1985) also reports that the occurrence of zoisite appears to be more abundant towards the deepest parts of the Santander Pipe where it usually forms small prisms and needles, or appears as a rim in clinozoisite. Chlorite shows variable colours that range from nearly transparent to greenish to brownish and forms very fine-grained masses usually associated with quartz and sulphides. In parts of the old Santander Pipe mine it appears forming a transition zone between the skarn body and host rock (limestone), where it can make up 70 % of the rock (Zimmernink, 1985). Exploration drilling campaigns carried out by Trevali since 2017 have revealed the occurrence of a magnetite-rich skarn zone and an intense Qz-Moly-Py stockwork in the deep levels of the Chulec Formation. This stockwork extends to deeper levels into the siliciclastic rocks of the Chimu Formation. No intrusive bodies spatially and genetically associated with the skarn or the Qz-Moly-Py stockwork, have been discovered so far.

7.3.3 The Puajanca Prospect

The Puajanca prospect is located approximately 3 kilometres NNW of the Santander Pipe and approximately 2 kilometres east-northeast of the Magistral area (Figure 7.6 and Figure 7.12). Mineralization is strongly controlled by the axial plane of an anticline that also hosts the mineralization in the Santander Pipe. This feature is observed at different scales, where fluid circulation is focused along the axial plane of the folds (Figure 7.13).

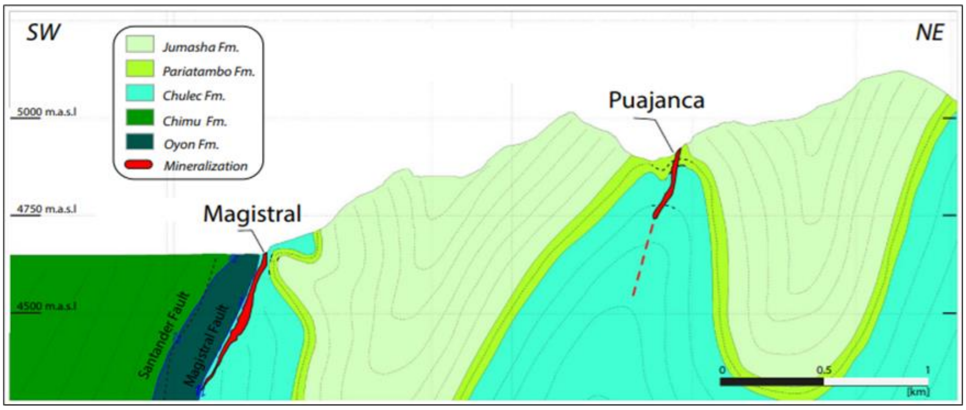


Figure 7.11:Schematic cross-section across the Magistral and Puajanca areas. The location of the cross-section coincides with the location of the cross-section A-A' in Figure 7.5. Width and vertical extension of the mineralised zones according to results obtained in drill-cores carried out during exploration campaigns. Source, Jean-Paul Bergoeing Rubilar (June 2020).

Puajanca is characterized mainly by several thin structures and sporadic replacement mantos, both with Pb-Ag-Zn-(Mo). The total outcrop reaches 300 m wide and 400 m long having the Jumasha limestones as a host rock. At depth mineralization occurs within the Pariatambo Formation and uppermost portions of the underlying Chulec Formation. The Puajanca prospect was discovered after the closure of the Santander Pipe as the progressive retreat of the glaciers in the zone exposed the altered and mineralised rocks in the area. Re-sampling of historic exploration drilling indicates that significant mineralization extends to vertical depths of approximately 225 meters and remains open (SRK Consulting, 2017). Within the Chulec limestone, host-rock replacement and vein mineralization are associated with weak skarnification with local development of garnet, pyroxene, epidote and quartz. The mineralization styles include both replacement and vein mineralization with high grade Pb-Ag veins and less Zn values than the Santander Pipe. At an outcrop scale, veins of pyrite (± calcite ± quartz ± galena) are characterized by a preferred EW and NNE-NNW trends and variable widths (1 to 12 cm) with some zones where vein coalesce to form irregular bodies of mineralised and altered limestones (Figure 7-13 A), usually sharp (Figure 7-13 B).

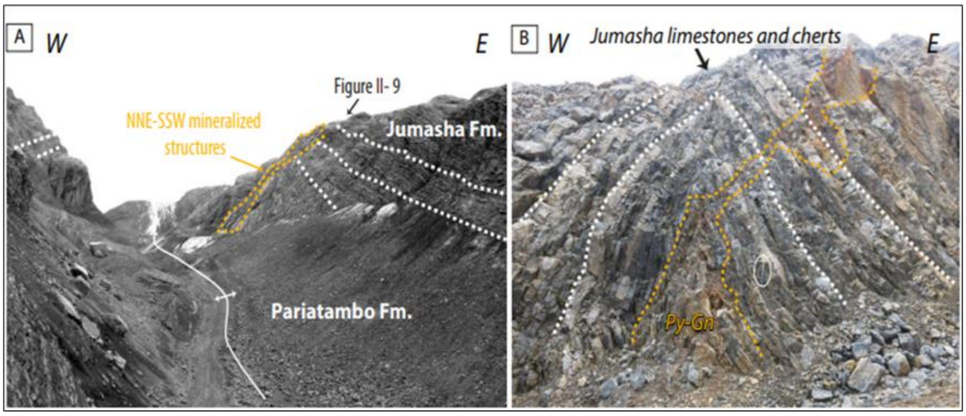


Figure 7.12 A & B:

A: View of the Puajanca prospect from the south. In the zone, mineralization is mainly controlled by the axial plane of an anticline affecting the carbonate rocks of the Pariatambo and Jumasha formations (same anticline that controls the mineralization in the Santander Pipe, 3 km to the SSE). Source, Jean-Paul Bergoeing Rubilar (June 2020).

B: Second order anticline showing the importance of the strong structural control for the mineralization in Santander. White circle indicates a hammer for scale. White dashed lines indicate the stratification. Source, Jean-Paul Bergoeing Rubilar (June 2020).

Close to mineralised pockets, intense veinlets of orange carbonate and barren white calcite are well developed with preferred E-W orientation. Locally, diabase bodies that appear intruding the carbonate sequences are affected by sulphide mineralization. Another family of N-S mineralised structures appears associated with elongated breccia bodies that extend in some cases for more than 100 meters in strike and show average widths of 1-2 meters. At the contact with the breccia body, the limestones of the Jumasha Formation develop intense calcite veinlets and locally some recrystallization with epidote. However, the contact between mineralised structures and the host-rock is sharp. Figure 7-14: Outcropping mineralization in Puajanca prospect. Mineralization appears with preferential orientations (N-S and E-W trends). They appear spatially associated to N-S elongated diabase bodies.

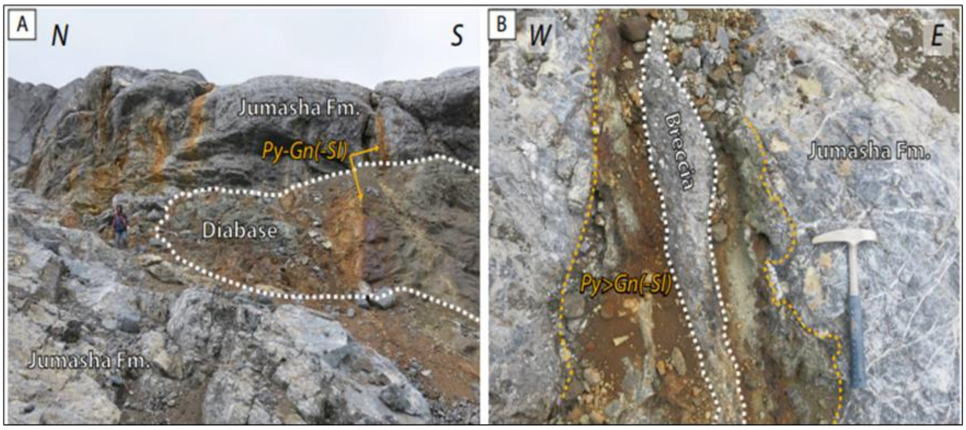


Figure 7.13 A & B:

A: E-W and N-S sulphide (py-sl-gn) veins coalesce to form a mineralised area. Diabase sill intruding the limestones of the Jumasha Formation appears cut by the mineralised structures. Source, Jean-Paul Bergoeing Rubilar (June 2020).

B: "Diabase" Breccia spatially associated to a N-S mineralised structure. Abundant Py(-Gn-Sl). Note the abundant calcite stockwork affecting the limestones of the Jumasha Fm. and the sharp contact between the mineralised structures and the host-rock. Source, Jean-Paul Bergoeing Rubilar (June 2020).

Figure 7.15 shows field view of Puajanca looking north, surface oxide staining of E-W veining (Py, Pb, Zn), similar to what is seen above the Magistral Deposits.

Figure 7.14: Puajanca looking north, surface oxide staining of E-W veining (Py, Pb, Zn), similar to what is seen above the Magistral Deposits. Source CDPR (2021).

7.4 Other Prospects

A number of other prospects are situated on the project which have different levels of geological understanding, these include the following defined "greenfield exploration" targets.

Table 7.1: Summary of the Greenfield Exploration targets within the Santander property

PROSPECT	TREND	LOCATION
Blanquita	Magistral trend	0.7 km S. of Magistral South
Blato	Magistral trend	0.7 km N. of Magistral North
Los Toros	Magistral trend	1.7 km N. of Magistral North
Los Toros Norte	Magistral trend	2.4 km N. of Magistral North
Naty	Puajanca Trend	3 km S. North of Puajanca
Condor	Condor Trend	1.45 km SW of Magistral
Condor West	Condor Trend	2.2 km WSW of Magistral
Capilla	Condor Trend	3.5 km WSW of Magistral
Capilla West	Capilla West	3.1 Km S of Magistral

The location of these prospects can be seen in Figure 7.5 (Local Project Geology) and Figure 7.16 (Magistral and Santander mineralisation trends and Project prospects).

Details re these exploration targets is summarized in Section 9 of this report.

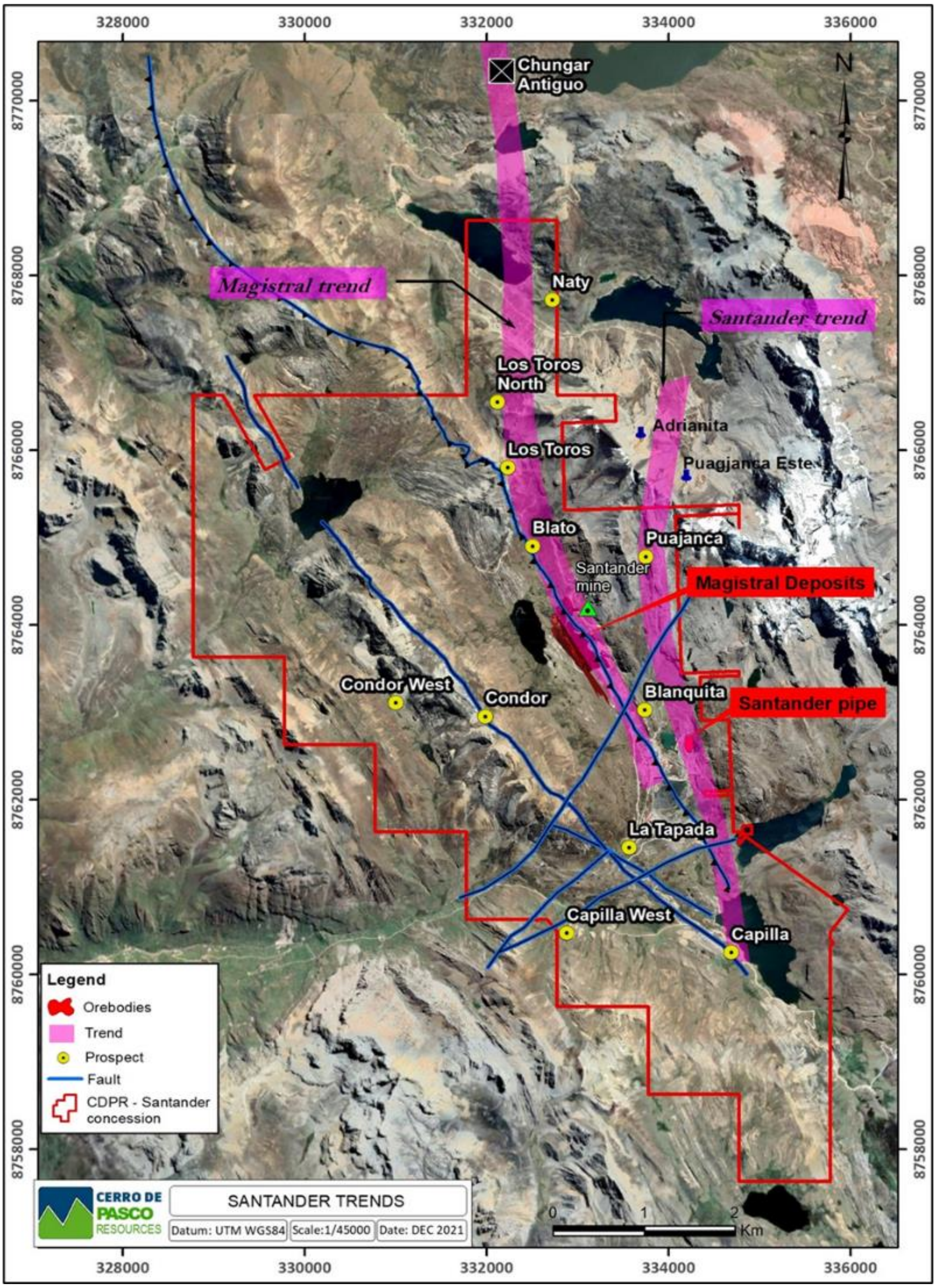


Figure 7.15: Magistral and Santander Trends with location of Project prospects. Source, CDPR (2021).

8 DEPOSIT TYPE

The characteristics and setting of the mineralization at the Santander Property are consistent with intrusion related, carbonate-hosted zinc-lead (copper, silver) deposits (Megaw, Balton and Falce 1996; Megaw 1998; Meinert, Dippert, and Nicolescu 2005), also known as CRD or high-temperature carbonate (HTC) deposit types. Such deposits form a continuum between relatively lower-temperature replacement types to higher-temperature skarn-hosted types (Figure 8-1).

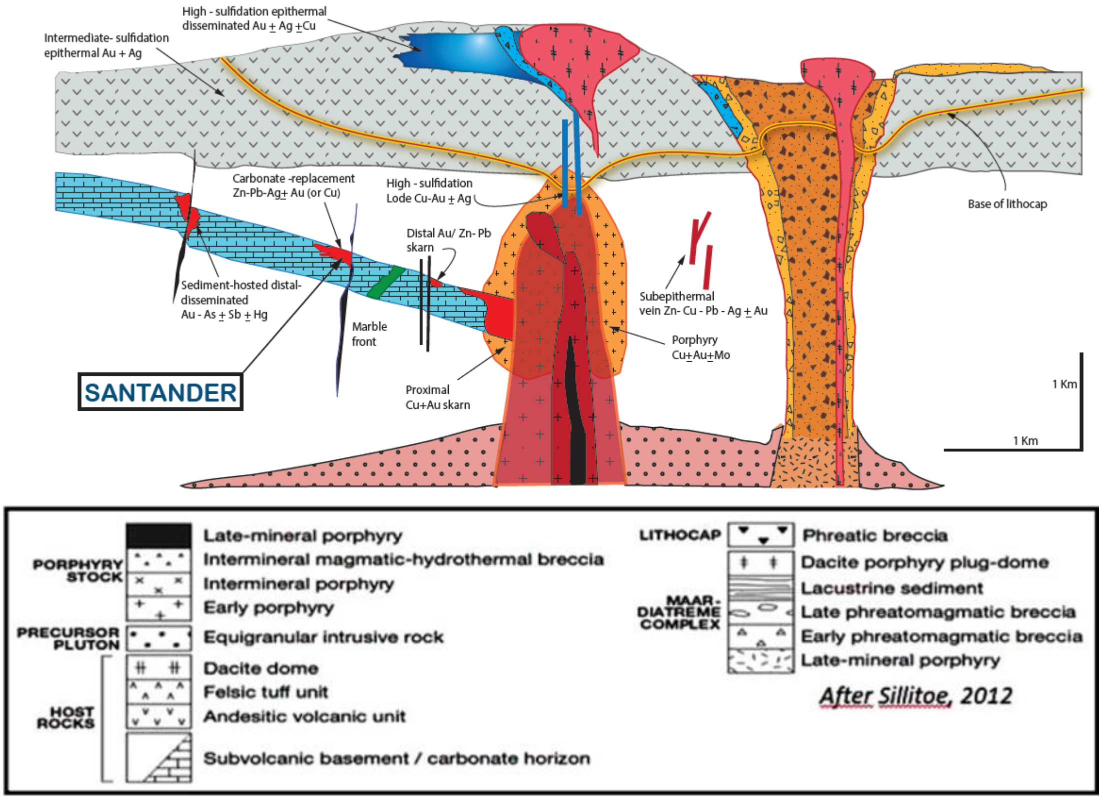


Figure 8.1: Santander Carbonate Replacement Deposit Model in Relation with the Intrusive related System. Source, Sillitoe (2012).

The mineralization occurring at the Santander property is typical of productive CRD silver-lead-zinc districts, such as those found in the Central Mineral Belt of Perú. Deposition of acidic metalliferous brines is considered to have been caused by a variety of physio-chemical triggers, such as rapid pressure drop, temperature gradients, and/or reactions with neutralizing host rocks. Such deposits may display a variety of geometries from irregular, tabular types to extensive "manto and chimney" or pipe systems.

Zoning of metals is common from the central part of the systems outward to the less-altered host rocks. A typical classic gradational zonation (vertical or horizontal) from proximal to distal is as follows: copper ± gold to zinc to lead-silver to iron-manganese in the uppermost or outermost portions of the systems.

Rocks of the Magistral Deposits indicate a high to intermediate position in the system with the Magistral North, Oyon, Magistral Central-North and Magistral Central deposits as well as the Puajanca Prospect falling within the lead-silver-rich zones and the Magistral South and Santander Pipe within the intermediate to lower-level zinc-rich zones. All zones remain open for expansion.

The deposit model is developed further in Section 9 of this report.

9 EXPLORATION

It was only following the 2007 Trevali acquisition of the Santander property, that an auditable and systematic approach was introduced into exploration, starting with the exploration drilling and sampling of the known Magistral deposits, and then extending out into the area covered in the concessions where mapping, geochemical sampling and different geophysics studies have been undertaken to explore for new possible sources of economic mineralization. The various exploration campaigns carried out together with the findings, are summarized in the following sub-sections.

CDPR has already started the process of reviewing all available information, starting with the Due Diligence carried out prior to making a successful bid to acquire the Santander property. The CDPR team is currently evaluating the early findings made during and after 2019 in order to determine the Company's own exploration programs.

9.1 Geological Mapping and Structural Interpretation

Several mapping campaigns and studies have been undertaken to understand the district and local structural framework. The mapping campaigns and studies were all undertaken by Trevali and have assisted in the understanding of the project geology and structural framework along with identification of exploration targets, interpreted in conjunction with other data sets (sampling and geophysics).

Field mapping studies were undertaken in 2009, 2010, 2011 and 2019 to map lithology, alteration and structures. The 2019 work was used to verify or reject structures interpreted from a Sentinel-2 imagery by Murphy Geological Services, that had not been observed in previous mapping campaigns.

The most authoritative studies are as follows:

Jacay (2011) produced the report "Observaciones sobre la estratigrafía y estilo tectonico de la Mina Santander "(Observations of the stratigraphy and tectonic framework of the Santander Mine). The stratigraphic and tectonic framework for the project is discussed in **Section 7** (Geological Setting and Mineralisation).

- Telluris Consulting conducted a 5 day field visit to the Santander deposit, on behalf of Trevali Mining Corporation (June 2011). The aim of this visit was to outline the principal structural controls and provide a series of recommendations for continued exploration. Telluris Consulting did a follow up visit in October 2013 with the aim of reviewing the recent advances in underground access to the Magistral group of ore bodies and to reassess the structural model for the controls on mineralisation. The interpretation reached by Telluris Consulting is documented in Section 7 (Geological Setting and Mineralisation) with some modifications to the descriptions to account for changes in mineralization geometry and its interpretation arising from mine mapping undertaken since 2013.

- Murphy Geological Services (2018) provided a district scale structural interpretation of Sentinel-2 imagery including all anomalies previously identified. The study included an interpretation of a 65 km (E-W) by 120 km (NNW-SSE) extract from two Sentinel-2 tiles centered on the Santander claims and was undertaken at 1:15,000-1:20,000 scale and locally at up to 1:10,000 within the claims and in areas of structural complexity. 145 sq. km of Pleiades high resolution imagery for the Santander claims was interpreted at up to 1:1,500 scale. The objectives of the study were to establish the structural framework of the district and to generate exploration targets principally for skarn and carbonate replacement mineralization. The structural maps shown throughout this report are based on the work undertaken by MGS and modified through field mapping. The geological map produced for the Project, can be seen in Figure 7.5 in Section 7 (Geological Setting and Mineralisation).

9.2 Geochemical Sampling

9.2.1 Systematic Rock Chip and Selective Rock Samples

Geochemical sampling is principally divided into rock chip sampling and soil sampling.

Systematic rock chip and selective rock sampling took place in 2013, 2018 and 2019. Selective rock samples signify samples that were taken in mineralised structures, dikes, sills, faults veins etc. while the systematic rock chip samples were generally sampled on a pre-defined grid.

All the sample programs were designed and managed by Trevali. The rock chip sample program for all years was laid out on a 50 m spacing on East-West trajectory and 100 m separation North – South and the sampling covers the majority of the central area of the Santander concessions.

Table 9.1 shows the samples taken per exploration target. A total of 3,507 rock chip samples have been taken since 2013. Figure 9.1 shows the location of the sample points in a geochemical interpretation undertaken by Pim van Geffen in 2020.

9.2.2 Systematic and Contour Soil Samples

229 soil samples have been taken that either follow surface contours or as an approximate 100 m by 100 m grid. The areas sampled correspond to:

- Nati Prospect – 25 samples;
- Los Toros Prospect -70 samples;
- Los Toros Norte Prospect – 43 samples;
- Condor Prospect – 91 samples.

Figure 9.2 shows the location of the Project soil samples with Zn results plotted showing several anomalous areas.

9.2.3 Interpretation of surface sampling programs and focused studies

In 2020, Pim van Geffen, PhD, P.Geo, Vancouver, British Colombia, Canada Geochemistry, was requested to review the surface geochemical data, comprising >4,000 aqua-regia ICP-MS analyses of rock-chip and vein samples, predominantly of carbonate and siliciclastic sediments. The aim of the review was to establish geochemical gradients that can be used as vectors towards known and unknown skarn-related, carbonate replacement zinc-lead-silver mineralization, and the geochemical characterization of major host-rock lithologies.

The work completed included the following:

- Data validation: assessment of data quality (precision) and spatial and compositional consistency.
- Exploratory Data Analysis (EDA): univariate, bivariate, and multivariate analysis to recognize structure in data space (i.e., trends, clusters, and outliers).
- Rock-type classification: cluster analysis of major elements that define the main sedimentary and igneous units.
- Vectors to mineralisation: fingerprinting trace-element associations related to CRD-style mineralisation.

Initial data validation and EDA revealed significant structure in the data, even though the aqua-regia digest does not provide whole-rock compositions, allowing for the compositional classification of the major rock types in the Santander area.

An unbiased approach to identify data groupings in multivariate space by K-means cluster analysis resulted in a close match with the mapped formations and lithological units. Igneous and siliciclastic rocks could only be grouped at a relatively high level because of their incomplete dissolution in aqua regia, the various carbonate units show a more detailed breakdown than recognized in surface mapping. Analysis of the principal components was used to help classify the identified compositional clusters into lithological units, whilst at the same time being validated by mapped lithology.

In summary, the results showed:

- The Santander surface rock-chip and vein geochemistry were analyzed to establish classification of the main lithological units and some of their subdivisions, as well as identification of pathfinder-element suites associated with CRD and related deposit styles.

- The aqua-regia digest is excellent for dissolving sulphides and carbonates, and for retaining their trace elements in solution. Natural clustering of the chalcophile trace elements identified the main element suite related to known mineralisation at Santander, Magistral, and Los Toros (Cu, Pb, Zn, Ag, As & Te), highlighted structural trends, and provided new prospective zones in the surrounding areas (Figure 9.3).
- Carbonates are easily dissolved in aqua regia, and four distinct units could be classified: limestone (Jumasha Fm), dolomite (Santa Fm), carbonaceous limestone (Pariatambo Fm), and Mn-rich limestone. Most of the dolomite is considered diagenetic, particularly where it forms continuous units that conform with the main stratigraphy, but some isolated, structurally controlled units of dolomitic composition may indicate hydrothermal alteration of the host limestones.
- Black shale-like carbonaceous limestone of the Pariatambo formation is recognized by its elevated U and V content, as well as accessory Tl, Mo, and Zn. Where structural trends carrying mineralizing fluids intersect these strata, the combination of high pH (alkaline, carbonate) and low Eh (reducing, organic C), results in most elements precipitating from solution, including relatively mobile oxy-anionic complexes such as sulphate and molybdate.
- The incomplete nature of the aqua-regia digest precludes detailed reconstitution of silicate rocks, but still allowed for the recognition of the main siliceous units in the Santander area, including intrusive and extrusive igneous rocks, arkosic sandstone (Carhuaz), and quartzite (Chimu Formation).
- Overall, the lithogeochemical classification of the surface rock data corresponds very well to the mapped lithology and may provide more detail within carbonate units that has not previously been mapped (Figure 9.1).

The work undertaken by Pim van Geffen (2002) and Jean-Paul Bergoeing Rubilar (2020) has resulted in some potential mineral and geochemical vectors that may effectively guide future exploration efforts within the property and provide a basis for future studies to build a genetic model for the magmatic-hydrothermal system at Santander.

Table 9.1: Summary of Rock Chip and Selective Samples taken 2013, 2018 & 2019

		Number of Samples per Year		
Prospect	**Type of Sample**	**2013**	**2018**	**2019**
Capilla	Rock Chip	76	10	210
	Selective		1	67
	Total	**76**	**11**	**277**
Capilla West	Rock Chip			239
	Selective			33
	Total			**272**
La tapada	Rock Chip			172
	Selective			24
	Total			**196**
Puajanca	Rock Chip	136	76	
	Selective		73	
	Total	**136**	**149**	
Anticlinal Santander	Rock Chip	37		
	Selective			
	Total	**37**		
Blanquita	Rock Chip	36	14	
	Selective		26	
	Total	**36**	**40**	
Santander Pipe	Rock Chip	67	4	
	Selective		12	
	Total	**67**	**16**	
Santander Pipe Extension	Rod\ Chip	41	36	
	Selective		22	
	Total	**41**	**58**	
Los Toros	Rock Chip		222	
	Selective		77	10
	Total		**299**	**10**
Los Toros North	Rock Chip		116	8
	Selective		21	15
	Total		**137**	**23**
Blato (Sorroundings)	Rock Chip		200	14
	Selective		36	0
	Total		**236**	**14**
Condor	Rock Chip		3	241
	Selective		16	29
	Total		**19**	**270**
Condor West	Rock Chip			212
	Selective			18
	Total			**230**
Condor North	Rock Chip			418
	Selective			13
	Total			**431**
Naty	Rock Chip		44	179
	Selective		4	53
	Total		**48**	**232**

Magistrales (Surface cropouts)	Rock Chip	92	7	28
	Selective		13	6
	Total	92	20	34
	Total Per Year	**485**	**1033**	**1989**

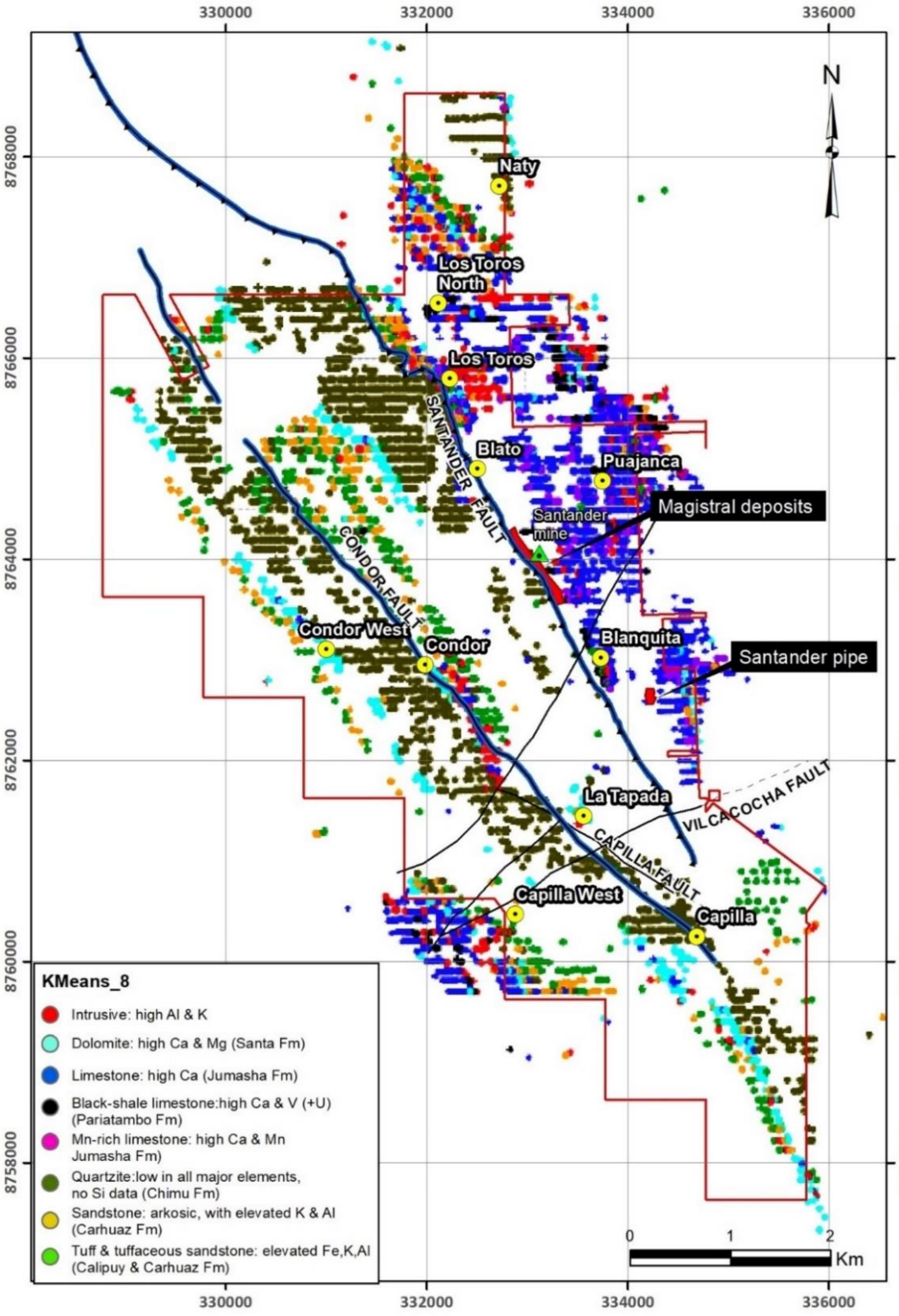


Figure 9.1: Santander Carbonate Replacement Deposit Model in Relation with the Intrusiverelated System. Source, Sillitoe (2012).

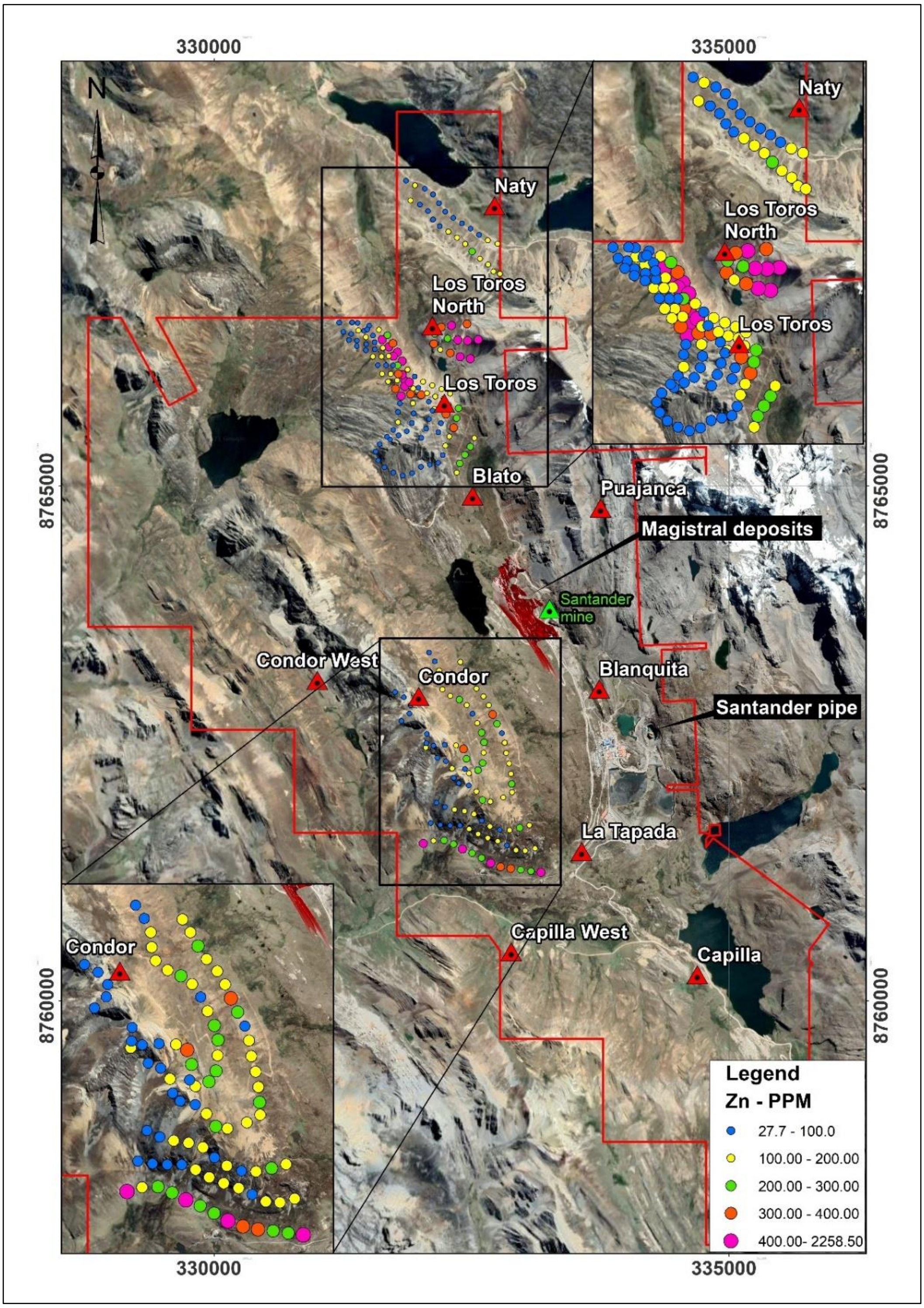


Figure 9.2: Location of Soil Samples with Zn Results Plotted in PPM. Source CDPR (2021).

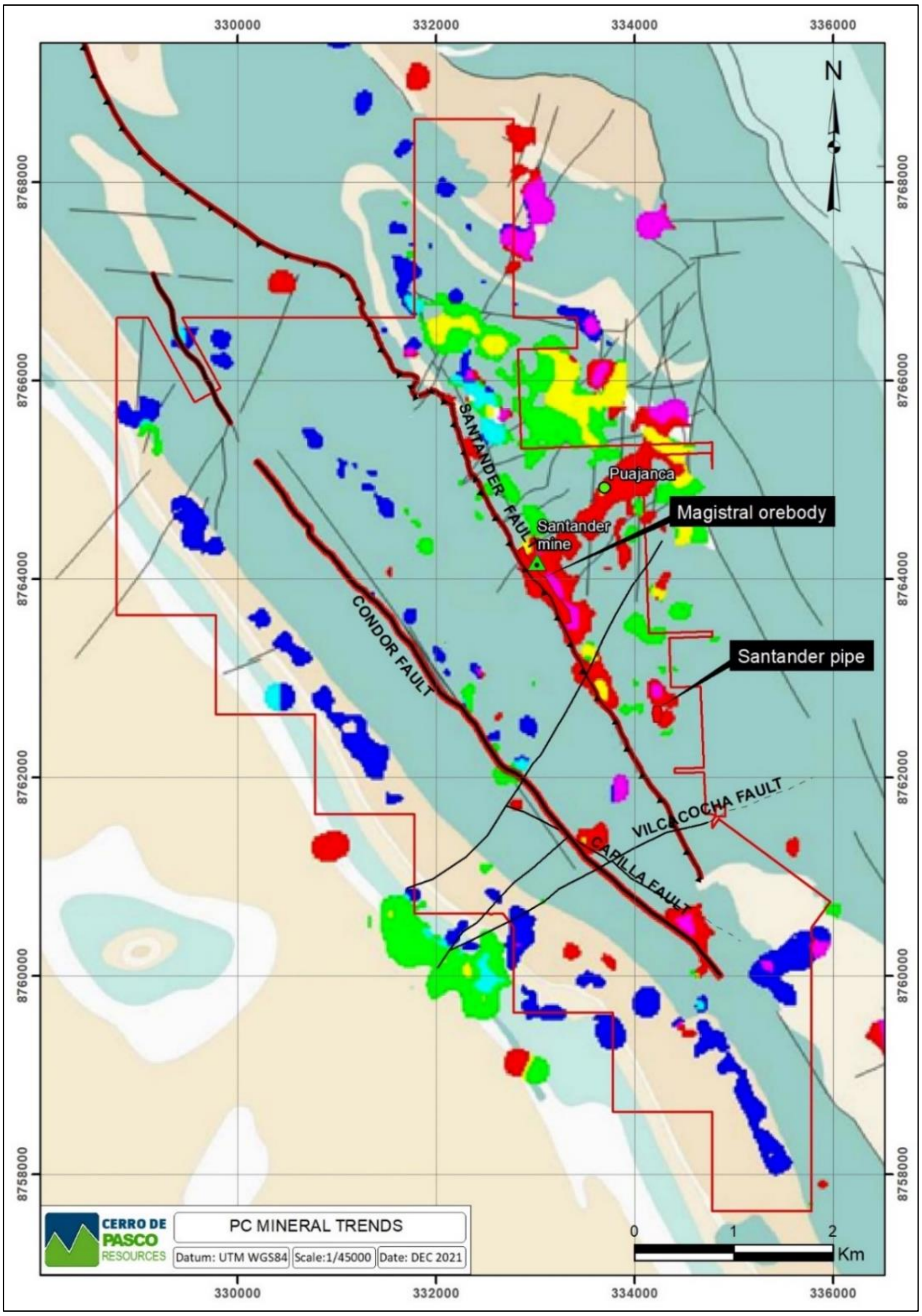


Figure 9.3: Mineral Trends. Source, Pim van Geffen (2020). Red and pink reflect mineralisation aligned with the main NW trend of the stratigraphy as well as NE cross-cutting structures, green and yellow represent elevated U & V with yellow carrying more base metal grade. Cyan may reflect igneous input as interpretated from spatial distribution

9.3 Geophysical Surveys

Pyrrhotite and magnetite dominated mineralization is highly magnetic compared to the surrounding limestone dominated host rocks and forms an excellent geophysical target. Different companies were involved in historical geophysical surveys. Table 9.2 shows the geophysics surveys done in chronological order and Figure 9.4, Figure 9.5, Figure 9.6 and Figure 9.7 shows the coverage of each survey. The following text provides a summary of the different geophysical methods carried out and the companies involved.

Table 9.2: Summary of the Different Geophysics Methods Used to Date

Geophysical Method	2007	2008	2009	2011	2012	2015	2018-2019	2019 to present
Company	**Valdor**	**Valdor**	**Quantec**	**Valdor**	**Valdor**	**Glencore**	**EM Pulse**	**Crone Geophysics**
Magnetic	240 km		159.1 Km	32.6 Km				
Gravimetry				130 Stn				
IP		8.45 Km		9.15 Km				
Electromagnetic (BHEM)					08 holes			Holes and surfaces
Reprocesing (MAG-IP-EM)						X		
Manetoteluric (MT)							120 Stn	120 Stn

9.3.1 *2007 - Val d'Or Geophysics of Perú (VDG) – Ground Magnetic Survey*

In August 2007, a 240-line km ground magnetic survey on 50-m line spacing was completed by Val d'Or Geophysics of Perú (VDG) over the accessible portions of potential host horizons (Val D'or Geofísica del Perú S.A.C. 2008a).

VDG undertook the survey using two instruments, one moving magnetometer and one fixed magnetometer (base). The instruments used in this survey were two Gem System, Model GSM-19W magnetometers.

The ground magnetic survey successfully highlighted known mineralization at MN, MC, and MS deposits in addition to delineating several similar magnetic anomalies located along the strike of the Santander fault and Magistral deposits, both to the north and south.

9.3.2 *2008 - Val d'Or Geophysics of Perú (VDG) – IP Survey*

VDG followed up the 2007 Ground Magnetic Survey with an induced polarization (IP) survey over the Santander mine area that consisted of 8 IP lines for a combined 8.45 linear km survey. All the lines were designed with an SW-NE azimuth which cut the Santander fault and similar structures perpendicularly. The survey consisted of pole-dipole electrodes configuration with depth of penetration between 190 to 380 m.

In this study the IP survey highlighted a strong chargeability anomaly with an obvious correlation to a low resistivity zone suggesting the presence of metallic sulphides. This anomaly was located along the Santander fault with an approximate strike of N.220 W.

9.3.3 2009 - M. A. King - A field Investigation of Ground Magnetic Geophysical Anomalies

The field program consisted of geological and structural mapping, focusing on Magnetic Anomalies defined throughout the block in the 2007 Val D'or Geophysics survey mentioned above. This ground magnetic survey delineated the three Magistral deposits along with highlighting the relict Santander "Pipe" deposit. The processed data delineated several similar magnetic anomalies located along strike and east of the Magistral mineralization and the Santander "Pipe" deposit. The anomalies and their field characteristics were the principal subject of the field investigation work undertaken by M.A. King. The investigation focused on mapping of geological structure and alteration in greater detail in the vicinity of the magnetic anomalies including the Magistral bodies.

The magnetic targets were followed up in the field to identify potential geological explanations for the magnetic survey response. Follow up recommendations were included for each magnetic target identified.

9.3.4 2009 - Quantec Geosciences Perú S.A.C. (Quantec) - Ground Magnetic Survey

Expanding on the 2007 VDG survey, Quantec Geosciences Perú S.A.C. (Quantec) conducted 159.13 line km ground magnetic survey on 50 m and 100 m line spacings in August 2009 (Quantec 2009). All data were levelled and merged with the Val D'or data to create a single unified dataset.

The ground magnetic survey successfully outlined a smooth magnetic relief in the survey area compared to the eastern half of the previous VDG survey which is more magnetic and clearly identified the Magistral deposits.

9.3.5 2011 - Val D'or Geophysics of Perú (VDG) – Ground Magnetic Survey

Continuing with the geophysical surveys, VDG carried out 32.63 line km of another Ground Magnetic Survey on 100 m line spacing. The survey aimed at infilling areas that were not covered during the 2007 and 2009 ground magnetic surveys.

These areas were in the middle of both 2007 and 2009 surveys, specifically in the area known as the Condor and Capilla West targets. All data were levelled and merged with the 2007 and 2009 data to create a single unified dataset during the processing stage.

The results of the combined ground magnetic surveys (2007, 2009, and 2011) outlined a smooth magnetic response in the western half of the grid whilst the eastern half is more magnetic. The Magistral deposits correspond to a clear break between the background relief and a large positive feature known as the Santander thrust fault. The presence of pyrrhotite associated with semi-massive to massive sulphides in Magistral Central and South has generated peaks along the survey lines. The magnetic response along the Santander fault extends 400 meters south of the Magistral South deposit.

The principal magnetic anomalies in the combined 2007, 2009 and 2011 surveys can be seen in Figure 9.6.

9.3.6 2011 - Val d'Or Geophysics of Perú (VDG) – Gravity Survey

In June 2011, VDG completed a gravity survey over Santander mine which consisted of 130 stations that were focused on North Magistral and the Blato target. The instrument used was a La Coste & Romberg Gravity meter, (serial # G642).

The survey was aimed at testing the presence of heavy mineralization at depth along the favourable geological contact to the north of the Magistral deposits. The survey detected a high gravity gradient over the survey area which coincided with one of the identified IP anomalies. The gravity anomaly remains open towards the east due to a lack of coverage of the survey which was elongated N-S, but limited in the E-W direction. Therefore, only the west flank of the gravity anomaly was detected.

9.3.7 2011 - Val d'Or Geophysics of Perú (VDG) - IP Survey

During 2011, VDG continued with an IP survey that consisted of 8 IP lines for a combined 9.15 linear km. The survey was completed in pole-dipole electrodes configuration using two different acquisition sequences for the dipole length which allows a depth penetration study of 250 m to 500 m. The IP lines were designed for specific targets, 1 line was located over the Naty prospect at the Northern end of the Santander property. 2 lines were located over Los Toros prospect located south of Naty. 1 line was orientated E-W to cut the gravity anomaly (Blato Target). 1 line was orientated N-S over the Puajanca prospect. 1 line was orientated to cross perpendicular to MS and the Magistral fault. The last 2 lines were located over Capilla West prospect.

The IP survey aimed at testing the geophysical response over the Magistral Deposits and other exploration prospects on the property. The IP results successfully highlighted the mineralised corridor that hosts the Magistral deposits when all IP lines were combined (2008 and 2011), showing a high chargeability value coinciding with low resistivity values. It is important to mention that the other prospect with a similar response to Magistral was the Puajanca prospect.

9.3.8 2012 - Val d'Or Geophysics of Perú (VDG) - Electromagnetic Survey

During 2012, VDG del Perú conducted a borehole electromagnetic survey over 8 exploration holes that were located over the Magistral deposits using Crone geophysical tools.

Most of the holes presented in-hole anomalies related to the intersection of massive sulphides. Unfortunately, some of the holes were not deep enough to allow a full interpretation of the EM curves and channels. Some results suggested the presence of possible anomalies related to deep hole conductors.

9.3.9 2015 - Glencore Exploration Team – Data Reprocessing

Glencore Corporation Exploration Team (GCET) conducted a review of the geophysical data available at the project with the objective of defining new exploration targets and restructure exploration strategy.

After the review of EM, magnetic and IP surveys, the GCET concluded that EM was probably the best method for detecting Magistral type deposits.

9.3.10 2018-2019 – EM Pulse – Magnetotelluric (MT) Survey

During the end of 2018 and the beginning of 2019, Trevali hired EM Pulse to conduct a magnetotelluric survey over nearly all of the Santander property with the objective of identifying a possible regional structure in depth like a porphyry or intrusive source for the known mineralisation.

Three-dimensional joint inversion of the impedance phase tensor and tipper indicated two NW-SE trending conductive corridors that parallel the Santander fault and which merge at depth into one continuous feature. Phase tensor inversion also indicated this pattern but additionally revealed discrete resistivity lows to the East of the Santander pipe and at the extreme NW edge of survey coverage (Los Toros area).

A weak, diffuse resistivity low is also seen at the extreme northern edge of survey coverage, but is poorly sampled spatially. Although quite contaminated with power-line noise, the tipper responded strongly to anomalous structure in the Los Toros area and to the South of the Santander pipe. However, current channeling anomalies appear to be subdued on the Santander grid due to the relatively conductive, generally carbonate, background geologic environment ($\approx 500\ \Omega - m$). For this reason, the Magistral deposits themselves appear only weakly in the tipper (and phase tensor) data with the clearest, isolated conductor response seen over the Magistral North deposit. Figure 9.7 shows the anomalous areas derived from the MT Survey.

9.3.11 2019 - 2021 – Crone Geophysics – Electromagnetic Survey

From 2019 to 2021 the Trevali exploration team together with Crone Geophysics have conducted electromagnetic surveys over Santander property focused on all the different targets identified to date, around and including the Magistral deposits. EM surveys have taken place in nearly all the boreholes drilled since 2019. Fluxgate and induction coils have been used for both the surface and borehole surveys. Maxwell software has been used for the design of the loops, vectoring and interpretation of the conductive plates.

The electromagnetic surveys have showed different anomalies/plates along the different holes and surface surveys, most of these conductors are related to intersected massive sulphide mineralisation.

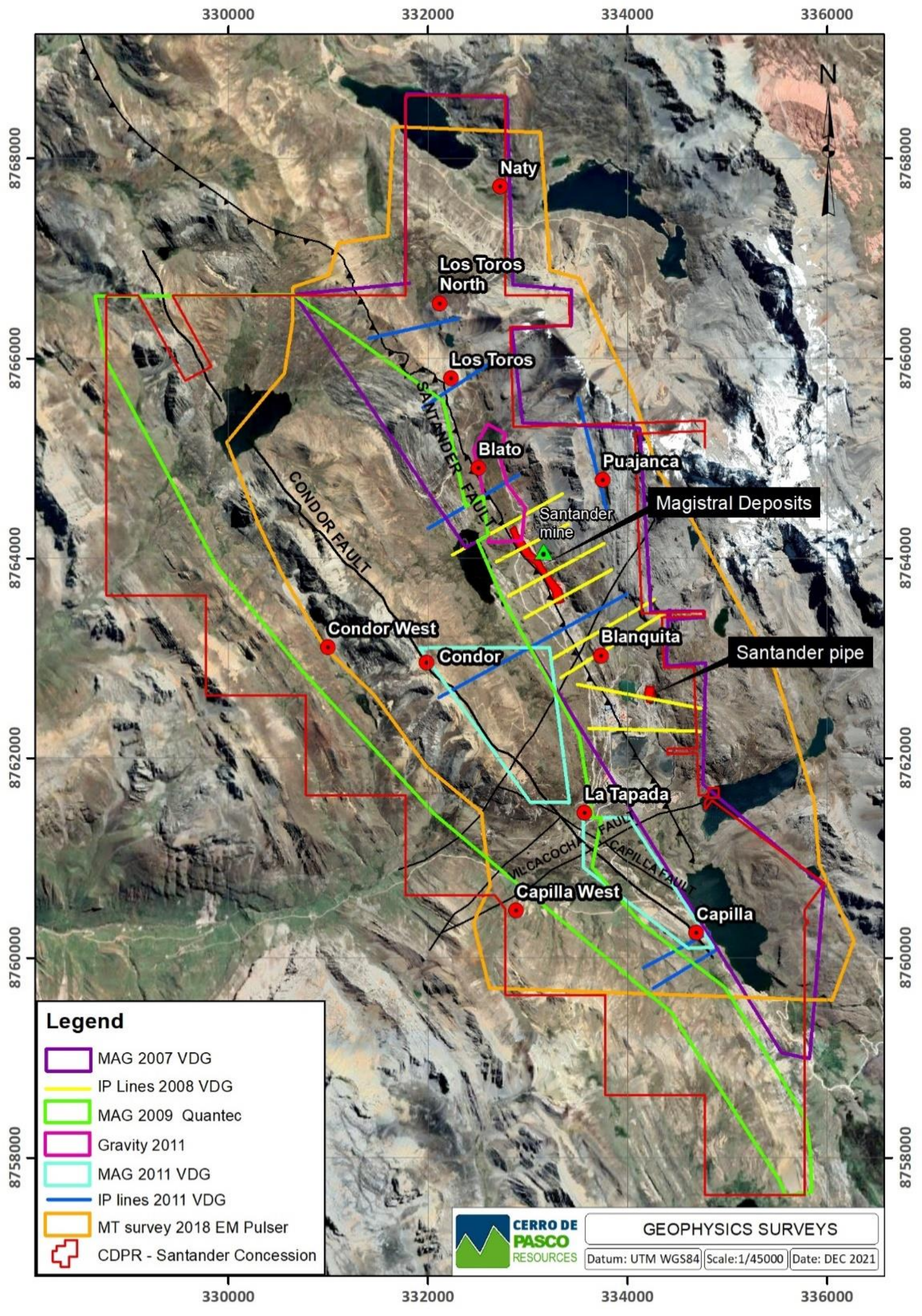


Figure 9.4: Outline of Geophysics Surveys that have taken place from 2007 to 2018. Source, CDPR (2021)

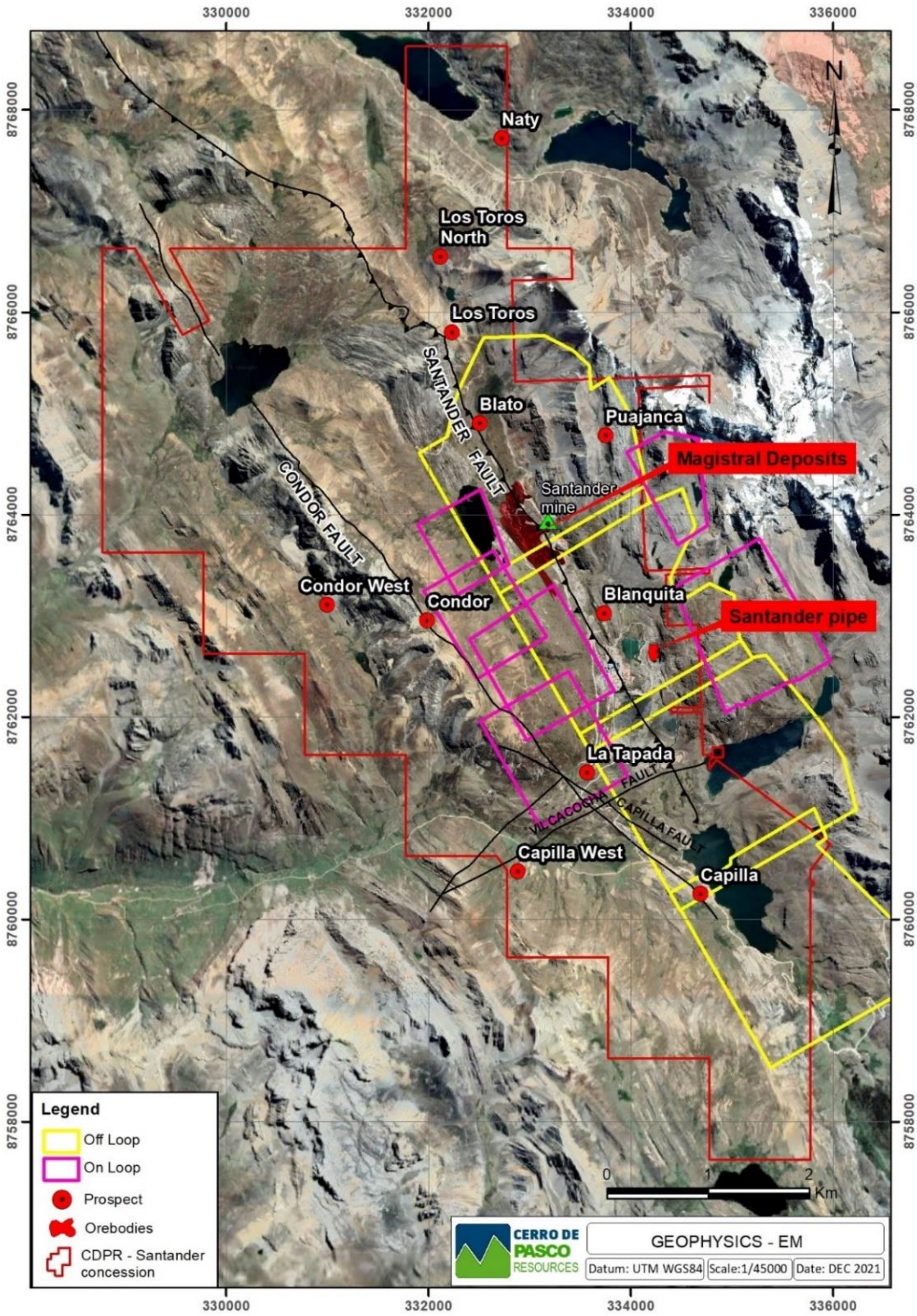


Figure 9.5: Outline of EM Loops and Boreholes with EM Surveys that have taken place from 2019 to 2021. Source, CDPR (2021).

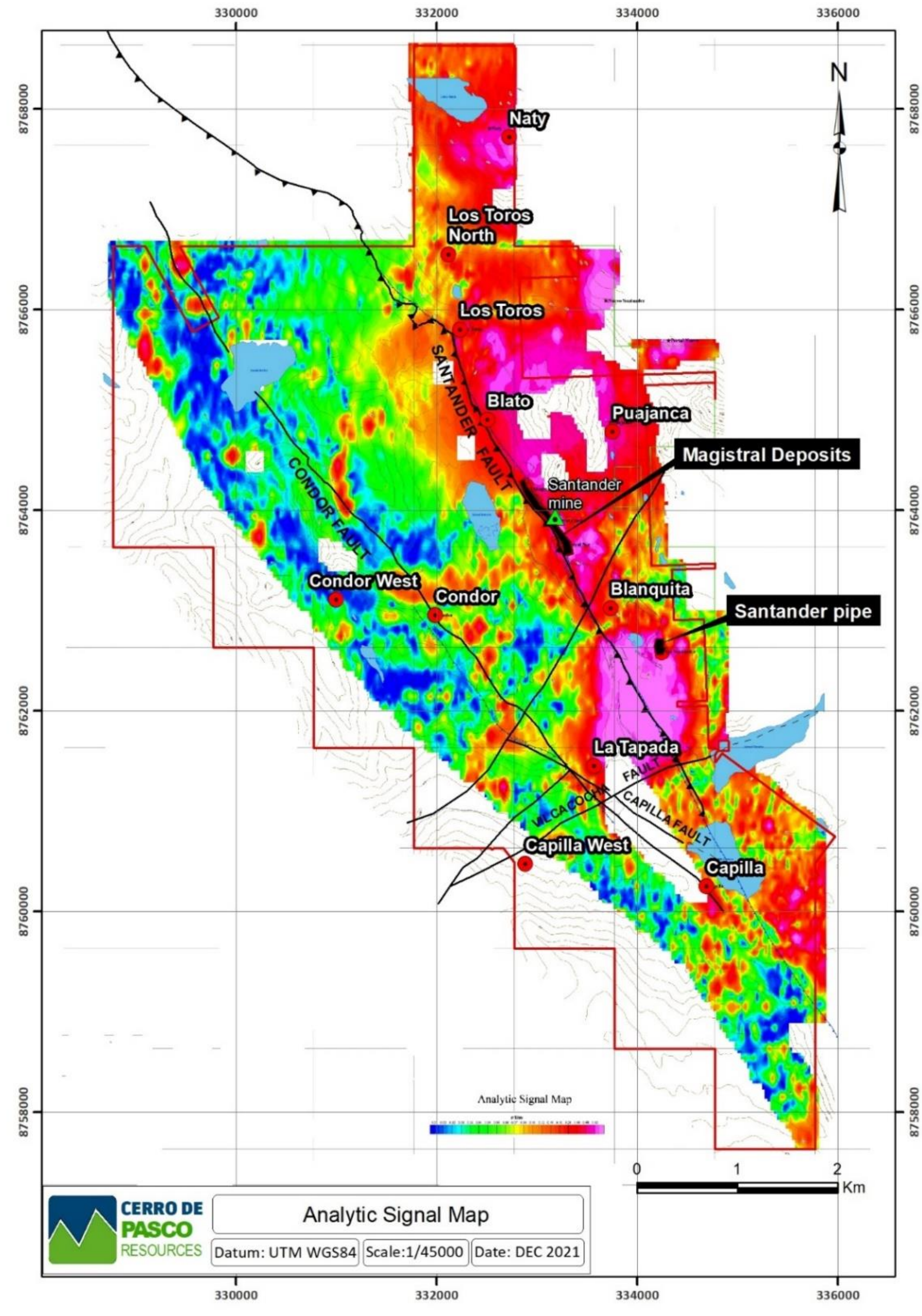


Figure 9.6: Combined Magnetic Analytic Signal Map (2007 and 2011 by Val d'Or Geophysics, and 2009 by Quantec Geoscience) Survey Results and Targets. Source, CDPR (2021).

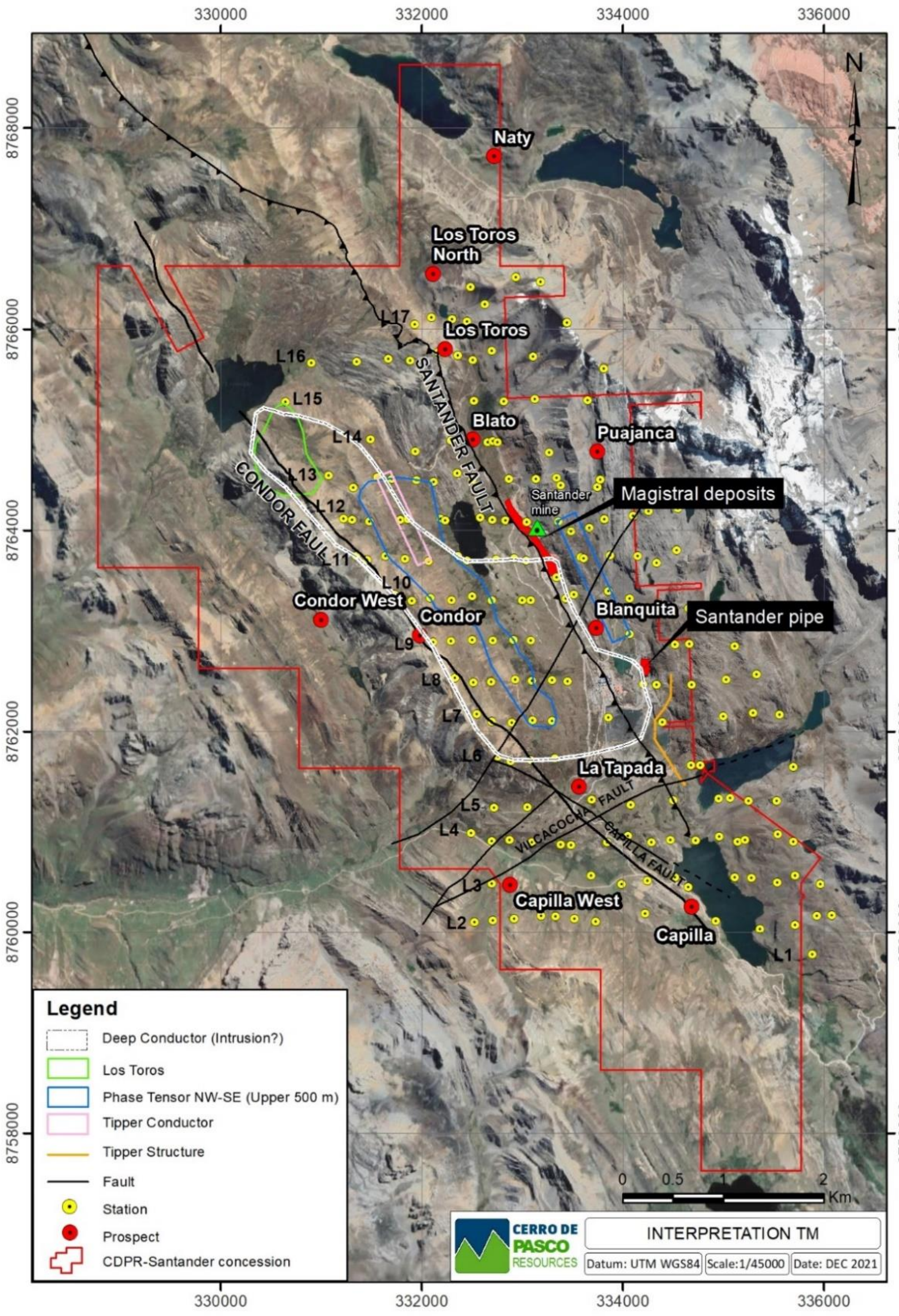


Figure 9.7: MT Anomalies and Station Points. Source CDPR (2021).

9.4 The Greenfield Exploration Targets

The following 10 exploration targets have been determined from the exploration work undertaken at the Project to date. Figure 7.6 in Section 7 shows the location of all the below mentioned targets and should be referenced when reading the text below.

9.4.1 Blanquita Prospect

Blanquita is a CRD target located in the same Magistral structural corridor, 0.7 km SE of Magistral South and 0.5 km NW of Santander pipe. It has some interesting IP geophysical anomalies along with mapping and sampling which have indicated a pervasive jasperoid silica alteration area (470 m x 20 m) and As, Mn, Sb, Mo, Tl, Cs and Sr geochemical anomalies. E-W and NE-SW trending comb quartz and calcite-MnOx veinlets cut the jasperoid silica alteration and the Jumasha´s limestones respectively.

In 2017, Trevali drilled one hole (SAN-0227-17) aimed to test the Blanquita target without any significant results but with interesting alteration, which shows moderate to strong recrystallization from 392 metres to hole end at 485 m, with traces of sphalerite-galena-pyrite towards the end of the hole.

9.4.2 Blato Prospect

Blato is a hidden target located in the same structural corridor as the Magistral orebodies, 0.8 km to the NW of Magistral North (Figure 7.16 and Figure 9.8A). Rather than an individual prospect, it comprises a zone 1 km2 showing magnetic and IP geophysical anomalies, and hydrothermal alteration observed in brecciated limestones that show skarnification of the clasts, and mineralised veins containing variable amounts of sulphides like pyrite and ilvaite, and a structurally favourable location along the Magistral mineralization trend. Drilling programs in the zone have identified that the alteration and mineralization is similar to Zn, Pb, Ag-(Cu-Mo) mineralization seen in the Santander Pipe. Drilling results have shown short intercepts of mineralization with high grades of Zn, Pb and Ag (1.85 – 10.63 Zn%, 1.13 – 4.34 Pb% and 0.17 – 2.53 AgOz/t). Likewise, polymetallic (galena, sphalerite, pyrite) structures have been intersected as distal alteration and mineralization.

An interesting feature within the zone, is the occurrence of diabase dikes and sills that intrude the carbonate and siliciclastic Cretaceous sediments with a preferred NW-SE orientation. These rocks correspond to inequigranular microdiorites with abundant elongated plagioclases, and intense alteration to chlorite and albite. Spatially associated to these diabase dikes and sills, multiple breccia bodies show a polymictic composition with clasts that vary from a couple of centimetres to tens of centimetres. The clasts are mainly composed by limestones with fewer amounts of sandstones. Some carbonate clasts show skarnification with some development of magnetite and garnet. The spatial association of some of these breccia bodies with the diabase has been used to suggest a phreatomagmatic origin for them. Locally, the occurrence of an intense stockwork of manganese oxides together with calcite, which affects the brecciated carbonate rocks (Figure 9.8 B, C), whereas calcite-pyrite-ilvaite veinlets with chlorite-sericite halos appear to be cutting through the diabase bodies (Figure 9.8 D, E).

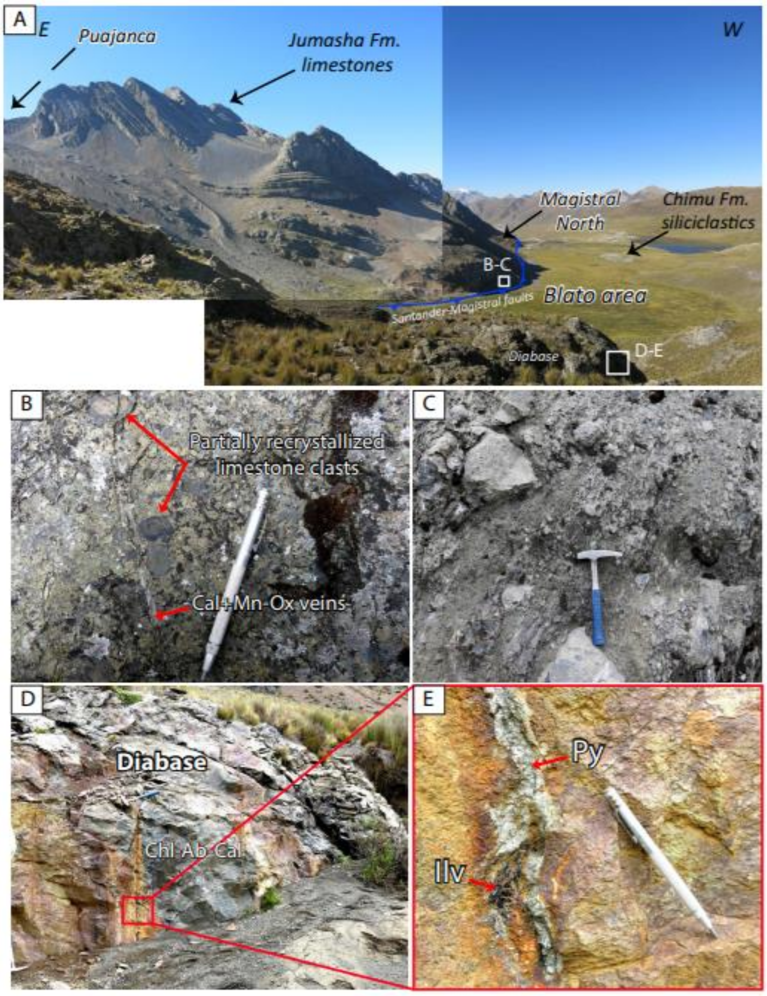


Figure 9.8: Blato Prospect (A-E)

A) Panoramic view of Blato prospect from the north with the approximate location of the regional Santander-Magistral faults, the Magistral North deposit and Puajanca prospect. White inlets indicate the approximate position of the pictures shown in B-C and D-E. B) Breccia body cut by late calcite and Mn oxide veinlets. Some limestone clasts in the breccia show recrystallization in the border (black tint). C) Tectonic breccia associated to the Magistral-Santander faults. Clasts are mainly composed by massive limestones that show partial recrystallization. D) Diabase outcrop with calcite-marcasite-Ilvaite veinlets and as disseminated concentrations. Sulphides partially oxidized to jarosite and goethite. Rock is pervasively altered to chlorite, albite and calcite. E) Closer look to the mineralised vein show in D. Source, Jean-Paul Bergoeing Rubila (June 2020).

During 2018, drilling-programs were carried out in the zone to test the hypothesis of the development of a mineralised system analogous to the Magistral. These drill-cores failed to prove the hypothesis as they did not intersect any favourable alteration along the foot-wall of the Santander-Magistral faults. However, they intersected at greater depths, levels of garnet-pyroxene-magnetite skarn alteration with minor sphalerite mineralization, and showed the occurrence of intense quartz-molybdenite-pyrite veining affecting the carbonate rocks of the Pariahuanca Formation, similar to what has also been observed in the Santander Pipe. The geometry of the altered skarn bodies has been modelled as a manto-like shape following favourable horizons within the carbonate sequences.

9.4.3 Los Toros Prospect

Los Toros is a CRD target located in the same Magistrals' structural corridor, 1.7 km NW of Magistral North. It is characterized mainly by several structures with manganese oxides, and where the surface expression is up to 200 m in width, and where the Pariahuanca and Chulec formations as well as a polymictic intrusive breccia acts as a host, the latest of them showing diabase as a matrix. Sporadic galena and yellow-reddish sphalerite are seen as disseminations, and magnetite occurs as thin mantos, and as a selective replacement within the polymictic intrusive breccia.

9.4.4 Los Toros Norte Prospect

In Los Toros Norte Prospect, and the Jumasha and Paritambo formations are cut by a polymictic breccia with volcanic matrix, and clasts of limestone and diabase. Both the breccia and the Jumasha and Paritambo formations are cut by calcite veining. Soil and rock chip sampling in the area of Los Toros Norte has identified a Zn-Pb anomaly.

9.4.5 Naty Prospect

Naty is a hidden target located 1.8 km to N-NE of Los Toros target, north of the Santander area in the Santander – (Old) Chungar district. At the eastern border, on the adjoining property, mineralisation and alteration can be seen cropping out in the limestones of the Santa Formation. Structurally, Naty is hosted in the same anticlinal axis as the Puajanca target. The skarn system is characterized by a garnet (grossular-andradite) prograde phase and a chlorite-epidote retrograde phase, the latter being associated with sphalerite mineralization.

9.4.6 Condor Prospect

The Condor Prospect (Figure 9.9) is located on the Condor fault where the Parihuaca-Farrat-Carhuaz-Santa Formations contact with the Chimú Formation. On the east side of the fault, there is a polymictic breccia with volcanic matrix, and limestone-diabase-sandstone clasts with traces of chalcopyrite observed within the limestone clasts. On the western side of the fault within the quartzites of the Chimú Formation there is a strong oxidation in the form of hematite and goethite.

Figure 9.9: Field View Looking NW of the Condor Prospect. Source CDPR (2021).

9.4.7 Condor West Prospect

The Condor West Prospect is located within the Santa Formation, where calcite breccia (Figure 9.10) is present, as well as weak recrystallization and dolomitization of the limestones.

Figure 9.10: Calcite Matrix Breccia in the Condor West Prospect. Source CDPR (2021).

9.4.8 La Tapada Prospect

This prospect is located within the Santa Formation. It presents as calcite cementing a hydrothermal breccia (Figure 9.11) within limestone with traces of galena and pyrite.

Figure 9.11: Calcite cementing hydrothermal breccia in the La Tapada Prospect. Source (CDPR 2021).

9.4.9 Capilla Prospect

The Capilla prospect, located in the south margin of the Santander concessions, is characterized by a zone of at least 250 m x 50 m of milky comb quartz veinlets which are similar to those in the upper part of Magistral North and Magistral Central ore bodies.

The veins show open space filling textures and suture of sulphides (pyrite and arsenopyrite) partially oxidized to jarosite. Geochemically, the veins show values of up to 1.4 g/t Au and anomalous concentrations of As, Sb and Hg. At an outcrop scale, there are two clearly distinguishable orientations of veins: N40W and E-W, and preferential plane of diaclases in the direction N65W. Some veinlets reach up to 5 cm in width and partially follow stratification planes. Only some shallow drilling in the zone has been carried out. The favourable horizon for mineralization (Chulec Formation, estimated to be 750 m deep) has not been intersected by drilling. In the past, the zone was mined by artisanal miners for gold (shallow excavations). In addition, the prospect is located in an area of increased structural complexity, and adjacent to an interpreted major basement discontinuity.

9.4.10 Capilla West Prospect

This prospect is located in the southwest of the Santander property and presents as a polymictic breccia that surrounds a diabase. A small artisanal mine working (Figure 9.12) has been excavated into the richest area of the mineralization.

Figure 9.12: Small Artisanal Mine Working in the Capilla West Prospect. Source CDPR (2021).

9.5 Current Exploration Conclusions

The main advances in exploration understanding comprise:

1. The combined Magnetic Analytic Signal map (Figure 9.6) which indicates that further exploration along the line of the Santander fault should be continued. This over-thrusting fault may be obscuring further mineralization, in particular to the north and south of the Magistral deposits, and therefore, more local EM and IP geophysics and scout drilling is required.

2. The EM Pulse (2018-19) Magnetoteluric (MT) Survey (Figure 9.7) which indicates a deep low-resistivity anomaly to the immediate west of the Magistral and Santander mineralization.

A new observation made whilst compiling the current report comes from annotations made from the surface topography (Figure 9.13) from which satellite imagery indicates that the Santander Pipe and the Magistral deposits occur within what is interpreted as a collapsed caldera, and that the deep low resistivity MT anomaly is indicating a diapiric or porphyry type structure at depth (see the model modified from Sillitoe, Figure 8.1).

The high walls of the collapsed caldera can only be seen surrounding the eastern half of the interpreted feature, because the western half has been denuded and obscured by the over-thrusting Santander fault. Furthermore, another part caldera circle can be seen immediately to the north of the interpreted “Santander caldera” and within which lies Volcan’s Romina pipe deposit, and further north of that lies another part caldera circle within which lies the Cerro Chungar laccolith and associated skarn-type mineralization. These three part-caldera circles are added to the exploration map ((Figure 9.13) and a proposed model for the Santander mineralization occurrences is shown in Figure 9.14.

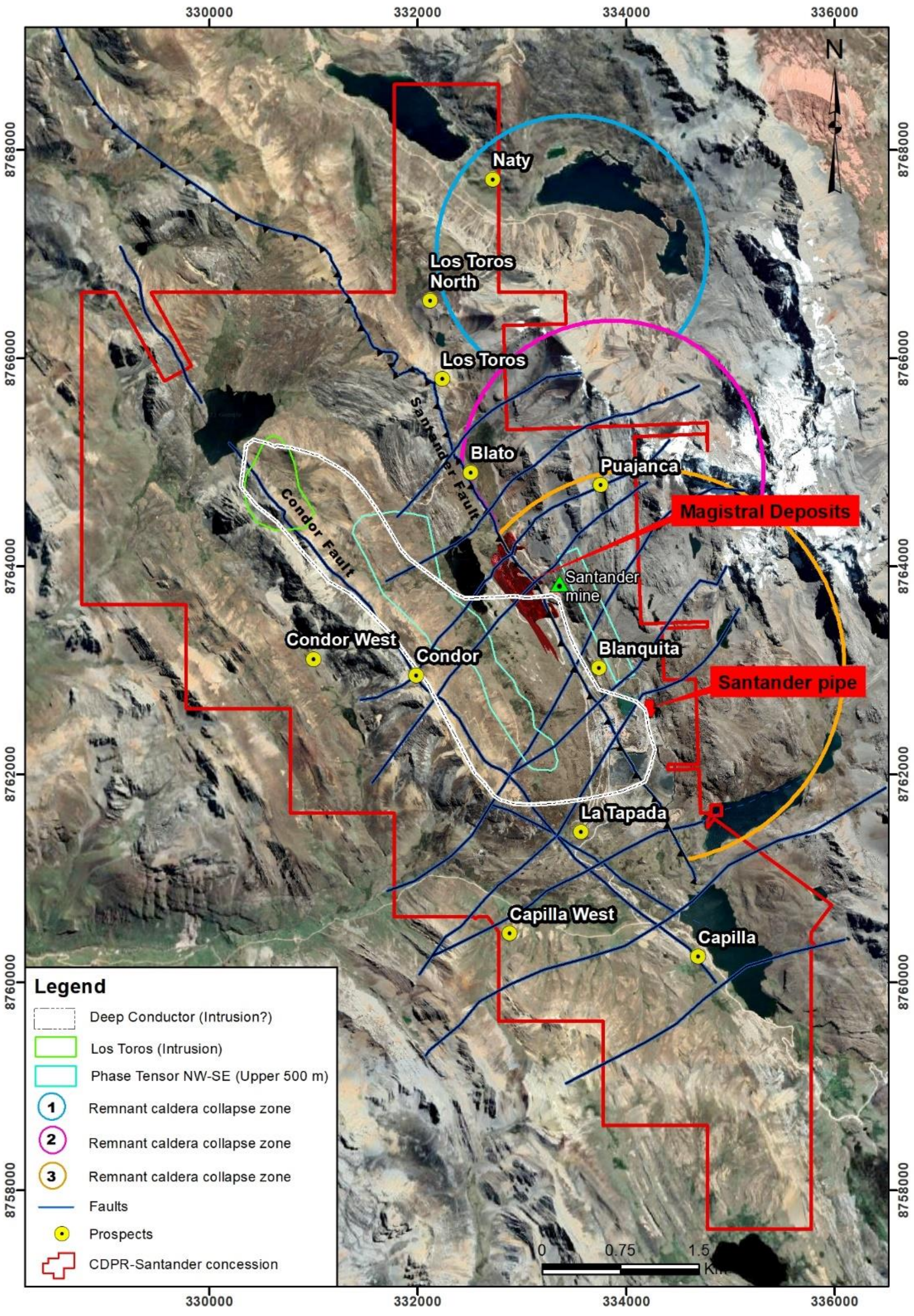


Figure 9.13: Interpreted Collapsed Caldera. Source, CDPR, M. Mount (2021).

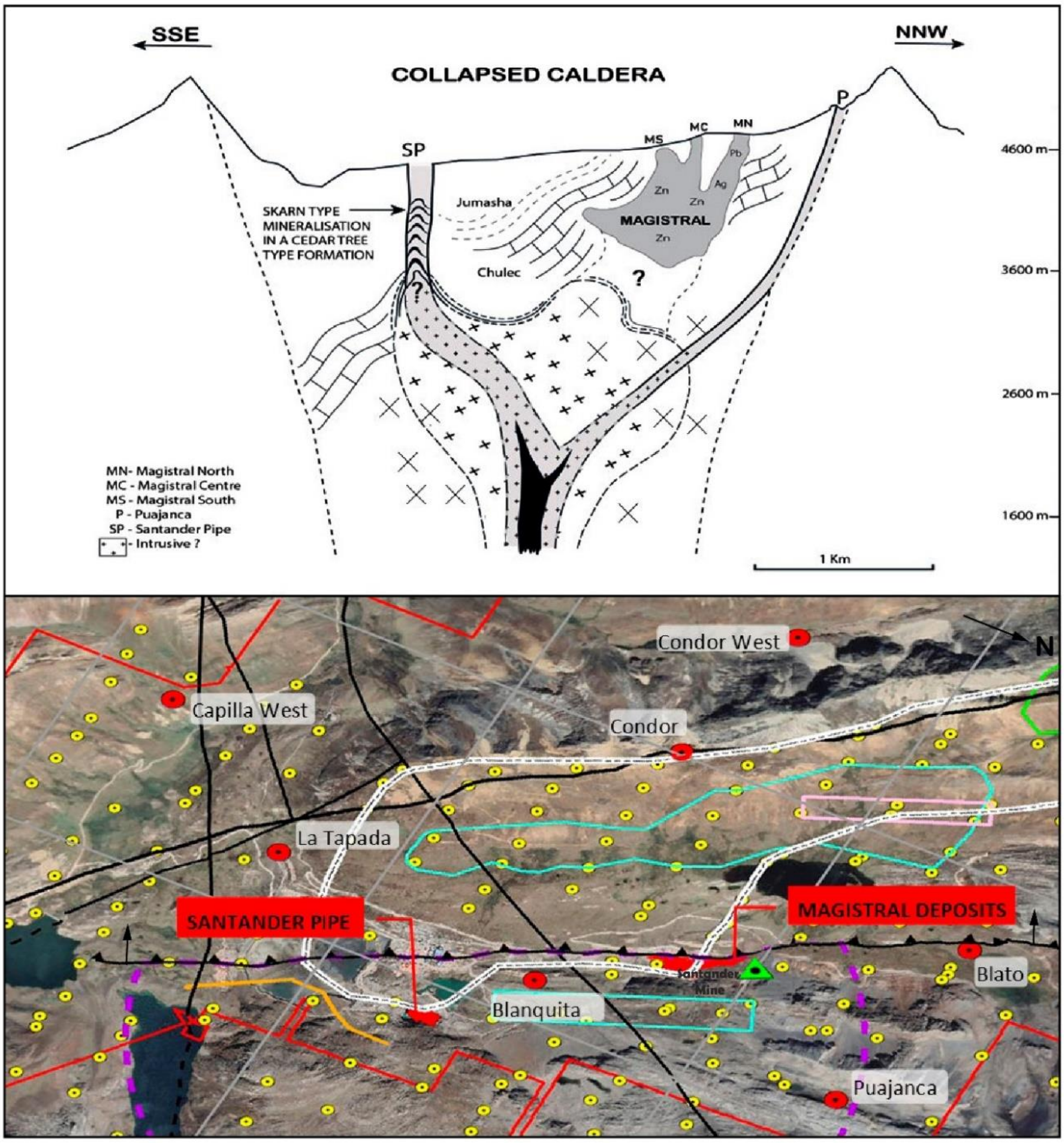


Figure 9.14: Proposed Model for the Santander Mineralisation Occurrence. Source, (M. Mount, 2022).

10 DRILLING

10.1 CDPR Drill Program

As of the Effective Date, CDPR has not completed a drill program on the Project. Section 26 (Recommendations) describes CDPR proposed drill programs (Exploration and Mine Infill) for 2022 and the objectives for each.

10.2 Previous Operators Drill and Sample Programs

Previous operators' drill program data is presented including the data from underground channel sampling. The Property has had two known prior owners that have completed drilling and channel sample programs prior to CDPR's acquisition**:**

1. CMS with drill hole and channel sample data available from 1976 to 1993; and

2. Trevali with drill hole and channel sample data available from 2007 to end of November 2021.

The following tables relate to the previous operators drill and sample programs:

- **Table 10.1** summarises the drilling per year and per project. This table shows that Trevali changed its strategy in 2020 and 2021 with very little drilling in Magistral deposits, and with its focus changing to preliminary testing some of the other exploration targets on the property.
- **Table 10.2** shows the drilling completed in the principal greenfield exploration targets namely Blanquita, Blato, Los Toros, Capilla and Condor.
- **Table 10.3** summarises all the drilling and channel samples undertaken during tenure of previous operators.
- **Table 10.4** provides a summary of data supporting CMS drilling programs.
- **Table 10.5** provides a summary of data supporting the Trevali drilling programs.
- **Table 10.6** informs on the number of boreholes used in the interpretation of the geological models as well as the number of boreholes used in the interpretation of the geological model for the historic SRK 2016 MRE of the Puajanca deposit.

Table 10.1: Summary of annual Project drilling

Year	Magistral deposits		Santander Pipe		Puajanca deposit		Other exploration	
	Boreholes	Metres	Boreholes	Meters	Boreholes	Meters	Boreholes	Meters
1928-1992	67.00	10,043.32	324.00	18,719.31	7.00	1266.70		
2007	17.00	2,248.92						
2008	87.00	18,427.40					34.00	610.50
2009	16.00	3,870.85	1.00	625.95	7.00	1,232.85	9.00	681.35
2010	30.00	5,670.45			2.00	231.90	1.00	218.75
2011	18.00	7,824.45	4.00	1,489.20	2.00	546.20	4.00	757.90
2012								
2013	47.00	4,896.55						
2014	113.00	9,344.40						
2015	123.00	17,232.50						
2016	144.00	19,374.70						
2017	159.00	15,374.70	9.00	5,453.20			1.00	485.00
2018	206.00	23,957.70	9.00	5,459.75			3.00	2,122.10
2019	130.00	12,294.80	12.00	9,383.50			4.00	3,493.10
2020	3.00	1,569.10	6.00	2,076.60			3.00	2,881.50
2021	20.00	1,637.10			9.00	4,525.50	7.00	3,640.63

	1180	**153,766.94**	**365**	**43,207.51**	**27**	**7,803.15**	**66**	**14,890.83**

Table 10.2: Summary of Drill Holes Completed on the Principal Greenfield Targets

SUMMARY of TREVALI GREENFIELD TARGET DRILL HOLES	N° Holes	Metre
Blanquita Target- Exploration from Surface	9	4,529.95
Blato Target - Exploration from Surface	4	3,349.8
Los Toros Target - Exploration from Surface	1	1,023.4
Capilla Target - Exploration from Surface	2	214.7
Condor Target - Exploration from Surface	4	1,187.83

10.2.1 Compania Minera Santander S.A.C.

Table 10.3 provides a summary of data supporting CMS drilling programs. No QA/QC was present during this time period and other supporting protocols have been lost over time. Borehole logs and section interpretations exist and Trevali recompiled this information to form a database of historic drilling information. From the surviving information, it can be concluded that data collection was carried out to a high standard.

10.2.1.1 Surveying

The collar positions of the CMS boreholes were located by conventional surveying techniques. There is no documentation on how they orientated the drilling machines, but they were probably aligned by the survey department as the dip and azimuth on the logging sheets, which recorded this data down to degrees, minutes and seconds. Also recorded on most of the logging sheets are scale drawings of where the boreholes were located **(Figure 10.1**).

Downhole surveys did not exist during the time period in which CSM operated the mine, however it is noted that the majority of the boreholes were of short length and unlikely to deviate much. The following summarises the drillholes by length:

- 191 boreholes between 0 - 50 m in length,
- 119 boreholes between 50—100 m in length,
- 41 boreholes between 100 to 150 m in length, and,
- 47 boreholes 150 m or greater with the longest hole drilled 450m.

All surveying was done on a local grid with Trevali converting the coordinates to WGS-84 for use in interpretation and modelling work.

10.2.1.2 Drilling

CMS undertook exploration and infill drilling programs from 1976 to 1993. The core for the majority of this drilling no longer exists. Some CMS core was observed during the site visit, but it has not been inventoried, sorted or relogged by either Trevali or CDPR. Neither Trevali or CDPR have done any studies to quantify how much historic CMS core still exists.

Drilling undertaken by CMS included:

- 320 boreholes (18,100.72 m) drilled in the Santander Pipe underground mine,
- 4 boreholes (618.59 m) drilled targeting the Santander Pipe from surface,

- 67 boreholes (10,043.32 m) drilled from surface in the area of the Magistral Deposit,
- 7 boreholes (1,266.70 m) drilled in the Puajanca Prospect.

10.2.1.3 Channel Samples

Minera Santander S.A.C. took channel samples in the Santander Pipe mine. Trevali digitised the channel sample information from historic mine level plans. In total, Trevali encountered sufficient data (location and assays) from 974 channel samples.

10.2.1.4 Logging, Sampling and Assaying

Logging, sampling and assaying of the drill core and channel sampling has been described in Section 11 (Sample Preparation Analyses and Security). In summary, apart from the detailed logging sheets and geological and production section interpretations not much information exists for the time period 1976 to 1993. However, the reconstruction of the existing data by Trevali shows that the original logging and geological interpretation was done to a high standard and provides useful geological data that can be used for geological interpretation and resource estimation purposes (with restrictions to classification). This data also clearly indicates where further drilling is required to improve the mineral resource estimation for mine planning purposes.

10.2.1.5 Trevali Reconstruction of Minera Santander S.A.C. borehole data

Trevali undertook a program of digitising the historic borehole data recorded on logging sheets and geological and production plans and sections to build a database on the historic drilling and associated data.

The drilling machine used is recorded on most of the borehole logs along with the initial core diameter and changes in core diameter as the drilling advanced.

Figure 10.1 shows the data collected from a typical Minera Santander S.A.C. logging sheet. Trevali scanned and digitised the data from all the historic logging sheets. The data collected in the logging sheets (in Spanish) consisted of a north orientated 1/4000 scale drawing showing the location of the borehole, Mine, Page x of x, Borehole Identification Number (BHID), Location, Coordinates - Easting, Northing and Elevation, Azimuth, Dip, Final length, Diameter of core drilled, date of commencing drilling, date of finishing drilling, Machine used, logged by, drilled interval (from, to, length and core diameter), lithology description (type of rock, alteration, hardness etc.), recovery (drilling advance, meters recovered, percentage recovered), meters drilled scale and graphic for recording the lithology, description of mineralisation and structures (structure angle, written description of identified minerals, horizons, veins, faults etc. and sampling (interval and sample number, % of core recovered for sample interval, and oz Ag, Cu%, Pb% and Zn%).

Figure 10.2 shows examples of interpretive sections (geology, borehole traces and mined out areas) used by CMS. All the sections that were found at the project were scanned and digitised and reorientated from the local grid to WGS-84.

Table 10.3: Summary of data supporting Minera Santander S.A.C drilling programs

COMPAÑÍA MINERA SANTANDER S.A.C	
Drill Hole Data	**Comment**
Drilling Company	Cia Minera Santander S.A.C.
Sample Type	Half-core (HQ-NQ-BQ)
Period (Years)	1976-1993
Total number of core drill holes	398
Total core drill hole metres	30,029.33
Number of verified core drill holes	398 (Surface = 78: Underground = 320)
Total verified core drill hole metres	29,587.83
Verified core drill holes:	
a) less than 50 m	a) 191 drill holes
b) between 50 m and 100 m	b) 119 drill holes
c) between 100 m and 150 m	c) 41 drill holes
d) greater than 150 m	d) 47 drill holes (longest hole 450.00 metres)
Number of verified drill hole samples	5,667
Number of drill holes to be verified	69
Collar Location	No official surveyed collar but its noted on the borehole logs. 329 of the 398 drill holes have location sketches on their respective drill log.
Drilling deviation - azimuth	Noted on borehole logs. No other source of survey data. No downhole surveys
Drilling deviation - dip	Noted on borehole logs. No other source of survey data. No downhole surveys
Recovery	Recovery information recorded on original logs and recovery in the digital database
Laboratory	There was an onsite laboratory, but no recorded data
QA/QC program	Exploration samples do not have QA/QC

COMPAÑÍA MINERA SANTANDER S.A.C	
Drill Hole Data	**Comment**
Independent External Check Laboratory	No core, sample reject material or sample pulp material exists to test.
Density Measurements	No core exists to do density measurements.
Borehole data used in models	320 boreholes (lithology, structure, assays) have been used to build the existing Santander Pipe model along with 41 additional boreholes drilled by Trevali. 2 boreholes (lithology, structure, assays) were used in the Puajanca model (SRK 2017).
Additional Comments	Verified drill holes have an auditable physical backup such a logging sheet. Unverified drill holes refer to drill holes with observed errors or omissions in geolocation, lack of drill hole records, or if validity of the drill hole information is questioned.

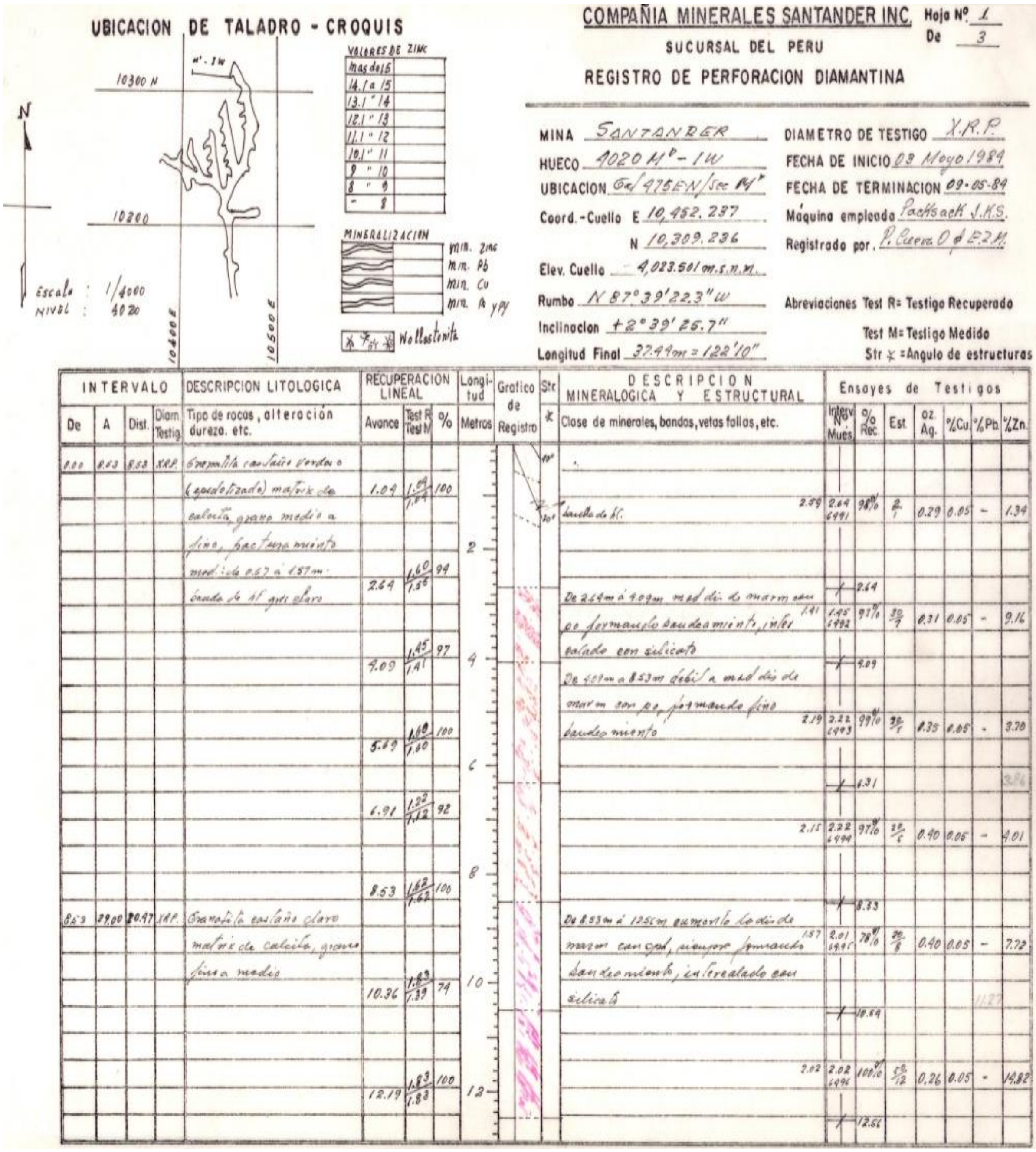
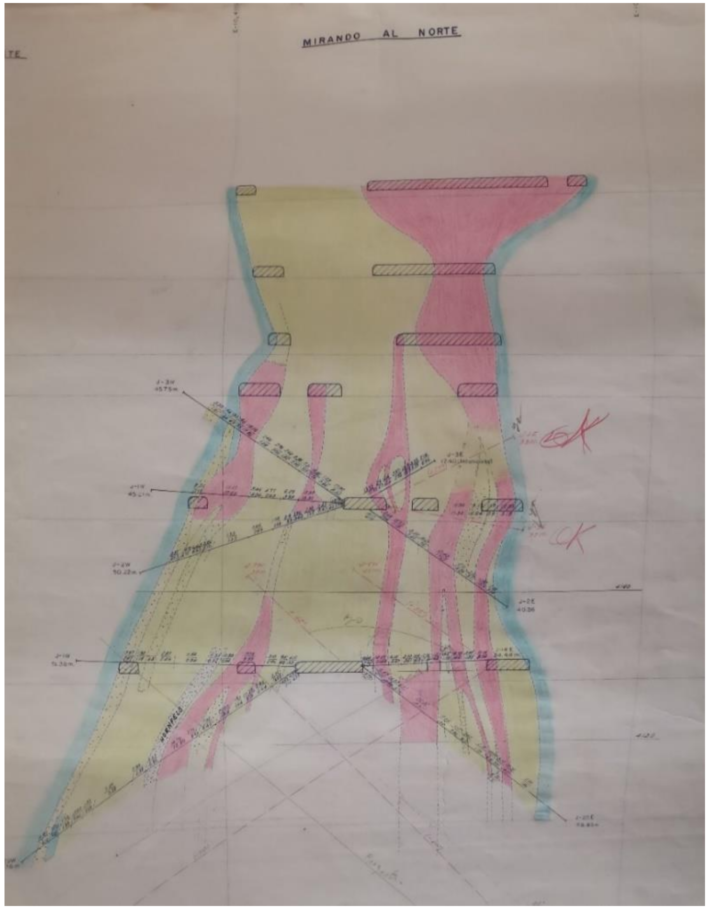


Figure 10.1: Shows a typical logging sheet used by CMS(1984). Source CDPR (2021).



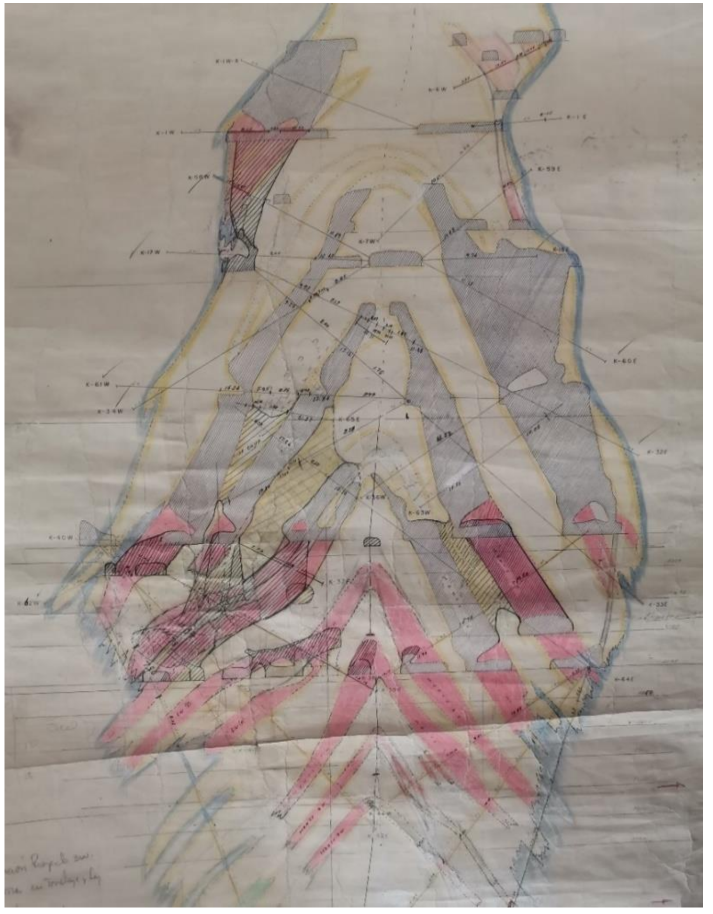


Figure 10.2: Shows historic working sections with development, mined out stopes and boreholes traces. Source CDPR (2021).

10.2.2 Trevali Peru S.A.C.

Table 10.4 provides a summary of data supporting Trevali drilling and channel sample programs. QA/QC Program and protocols were implemented early in the exploration phase and have been modified over time.

10.2.2.1 Surveying

The collar position of the Trevali boreholes was surveyed using conventional surveying techniques which differed depending on location (surface or underground).

Markup and Survey Procedure – Exploration Drilling, Surface and Underground - The procedure for locating and orientating the drilling machine has changed over time. From 2007 to 2018 the Geology Department located the collar position in the field using hand held GPS and painted the azimuth trace of the borehole on the ground to help orientate the drilling machine. The azimuth of the drilling machine was checked using compass and the dip of the drilling mast was orientated by clinometer. After drilling, the down hole survey would take place and the collar position would be surveyed using Total Station.

From 2019, the procedure changed to what is in use today. The collar position would first be located by GPS and then the survey department would locate the true planned position. The survey department would also align the drilling machine with a surveyed centreline and then orientate the inclination by compass clinometer.

The procedure for marking up and orientating the underground exploration boreholes was carried out by the mine survey department to mark the collar position, either on the floor or the heading face, while also marking a centreline on the floor and walls to orientate the drilling machine to the correct drilling azimuth. The surveyors would then supervise the adjustment of the drilling mast to the prescribed drilling angle using a compass clinometer.

For surface and underground exploration boreholes the downhole survey has changed over time:

- 2007: Acid bottle technique was used on two (2) boreholes - A glass bottle filled with acid was lowered into the borehole where the acid would settle at an angle in the bottle lying parallel to the angle of inclination. After some time, the acid etched the glass, which allowed measurement of the borehole inclination at a given depth.
- 2008 – 2020: Reflex multi-shot was used for approximately five hundred and twenty exploration boreholes (surface and underground), with the last underground Reflex survey carried out in 2020.

- 2019 – 2021: Gyro used for forty-three surface exploration boreholes. Used exclusively for surface exploration boreholes from 2019.

Markup and Survey Procedure – Underground Infill Drilling - The procedure for marking up the heading and orientating the drilling machine for infill drilling has not changed much since 2007, and is the same as described for orientating the underground exploration drilling.

The only difference is that they did not carry out downhole surveys. The procedure was to pick up the collar before and after drilling. When drilling was finalised, they put a drill rod into the hole and the surveyor's picked up two points on the drill rod approximately 1m apart. With these two survey points the surveyor's calculated the dip and azimuth of the borehole.

10.2.2.2 Drilling

Trevali undertook exploration and infill drilling programs from 2007 to 2021 (infill drilling starting in 2014), drilling principally the Magistral, Santander Pipe and Puajanca Prospect but also drilling several exploratory holes on targets such as Condor, Los Toros, Blanquita, Blato and Capilla (**Table 10.2).**

The core, sample reject material and sample pulps for all the Trevali drilling programs exist on site in various core sheds.

Drilling undertaken by Trevali included:

- 203 surface exploration boreholes (52,397.57 m) drilled in the Magistral Deposits,
- 259 underground exploration boreholes (49,545.10 m) drilled in the Magistral Deposits,
- 651 underground production infill boreholes (41,750.55 m) drilled in the Magistral Deposits
- 41 surface exploration boreholes (24,488.20 m) drilled in the Santander Pipe Deposit.
- 20 surface exploration boreholes (6,536.45 m) drilled in the Puajanca Prospect.

10.2.2.3 Channel Samples

Trevali systematically took channel samples in the Magistral Deposit. Channel samples were taken in the face as the development drives advanced. The technician would measure the distance to the face from a survey control point and then draw the location of the channel samples on a survey plan. The drawing would be passed to the geology draft person who would plot the channel sample into AutoCAD and pass the sample number, start coordinate point, length, azimuth and dip (always 0 in this case) to the geology database.

The exploration department also took channel samples in Puajanca where mineralisation can be seen on surface.

For both mine and exploration, the recorded channel samples can consist of more than one sample. Samples lengths are not systematic as they respect changes in mineralisation styles and geological contacts. A series of samples taken along the same sample line are termed a channel and are recorded as a mini borehole with weighted average grades (Zn, Pb, Ag, Cu, Fe and sometimes Bi and As).

Channel samples undertaken by Trevali included:

- 7,293 underground channel samples (33,834.96 m) in the Magistral Deposits,
- 17 surface channel samples (540.40m) in the Magistral Deposits,
- 73 surface exploration channel samples (286.70 m) in the Puajanca Prospect.

10.2.2.4 Logging, Sampling and Assaying

Logging, sampling and assaying of the Trevali drill core and channel sampling has been described in Section 11 (Sample Preparation Analyses and Security). In summary, the data collected is suitable for geological interpretation and resource estimation purposes.

Table 10.4: Summary of data supporting Trevali drilling programs

TREVALI PERU S.A.C	
Drill Hole Data	**Comment**
Drilling Company	Geotec SAC, AK Drilling, Redrillsa Drilling, Spektra drilling, Recon Drilling.
Sample Type	Half-core (HQ-NQ-BQ)
Period (Years)	2007 – 2021
Total number of core drill holes	1,205
Total core drill hole metres	189,261.90
Number of verified core drill holes	1,205
Total verified core drill hole metres	189,261.90
Verified core drill holes: a) less than 50 m b) between 50 m and 100 m c) between 100 m and 150 m d) greater than 150 m	a) 297 drill holes b) 441 drill holes
	c) 146 drill holes
	d) 311 drill holes (longest hole 1,990.30 metres)
Number of verified drill hole samples	50,608
Number of drill holes to be verified	5 abandoned

TREVALI PERU S.A.C	
Drill Hole Data	**Comment**
RC drill holes	0
Auger holes (tailing)	34
Archived drill core remaining	All core drilled is stored on site.
Collar Location	All collar positions surveyed in by total station. Process varied between underground and surface boreholes.
Drilling deviation – azimuth	Collar surveyed by total station and azimuth by downhole survey (Reflex and Gyro). Infill drilling had azimuth estimated by surveying in an extension of the drill rod after drilling.
Drilling deviation – dip	Collar per total station survey and downhole surveys. Final dip of infill drilling estimated by surveying in an extension of the drill rod after drilling.
Recovery	Recovery information recorded on original logs and recovery in the digital database
Laboratory	Infill drilling and mine channel samples processed in mine Laboratory (SGS Santander). Sample preparation procedures, analytical methods and QA/QC.
	Exploration samples sent to independent commercial laboratory ACME and ALS with QA/QC.
QA/QC program	Exploration QA/QC analyses began in 2007
QA/QC Supervisor	Tim Kingsley/Ewald Palpan/Edinson Rosell
QA/QC Blanks	Exploration blank QA/QC analyses began 2013
QA/QC Duplicate	Exploration duplicates QA/QC began 2007
QA/QC Standards	Exploration Standard QA/QC analyses began 2013
Independent External Check Laboratory	2015 - check samples sent to ALS (pulps), 2016 - check samples sent to SGS (pulps), 2019 check samples sent to Inspectorate (sample reject material). SGS onsite laboratory sends check samples to SGS Lima on a regular basis
Density Measurements	All samples have density measurements by gravimetric method since 2007.
2008-2021 Drill holes used in the mineral resource models	Santander pipe model (Current): 41 drill holes 24,488.2 metres
	Magistral model (Current): 1,112 drill holes 143,693.2 metres
	Puajanca Model (SRK 2017): 20 drill holes 6,536.45 metres
Additional Comments	Verified drill holes have an auditable physical backup such a logging sheet and/or archived drill core. Unverified drill holes refer to drill holes with observed errors or omissions in geolocation, lack of drill hole records, or if validity of the drill hole information is questioned. There are 5 drill holes abandoned because of Covid 19

10.3 Drillhole and Channel Sample Data used in Geological Interpretation and Resource Estimation

Table 10.5 summarised the drillholes used to develop de Magistral, Santander Pipe and Puajanca geological interpretations along with the respective resource estimates, Magistral (DRA 2021), Santander Pipe (DRA 2021), and Puajanca Prospect (SRK 2017).

Figure 10.3, Figure 10.4 and Figure 10.5 shows 3D views of the Magistral, Santander Pipe and Puajanca deposits with drillhole traces.

Table 10.5: Summary of drillholes used in the Resource Models

Company	Period	Total Drill Holes	Magistral model	Santander pipe model	Puajanca model	Drill Holes used in the resource models
COMPAÑÍA MINERALES SANTANDER S.A.C	1976 - 1993	398	0	320	2	322
TREVALI PERU S.A.C	2007-2021	1,239	1,112	41	20	1,173

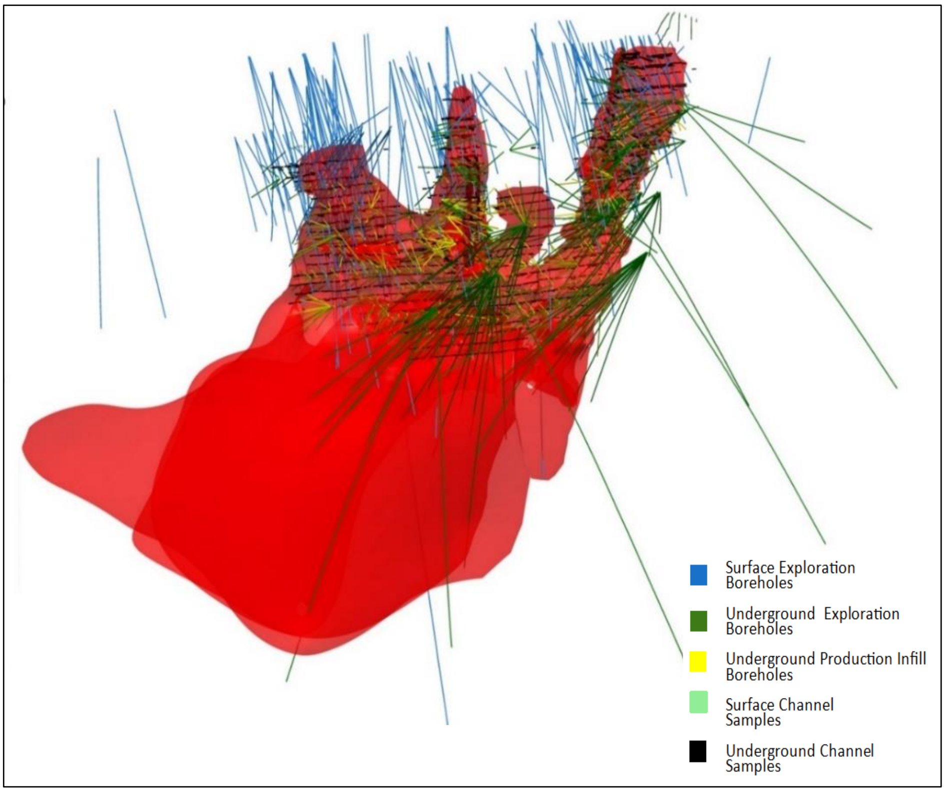


Figure 10.3: 3D view of the Magistral Deposit with Drill Hole and Channel Sample Data. Source CDPR (2021).

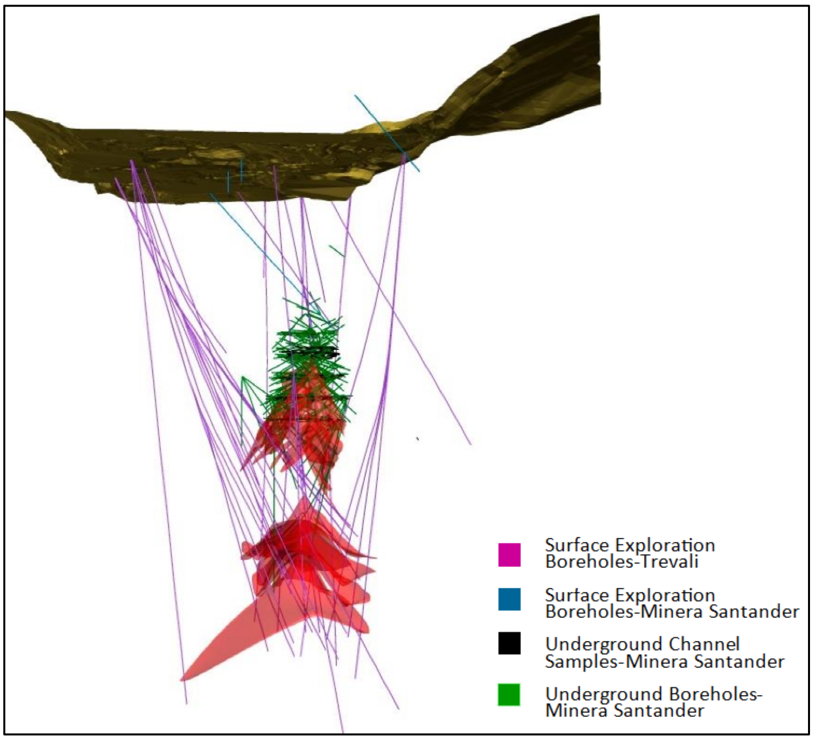


Figure 10.4: 3D view of the Santander Pipe Deposit with Drill Hole and Channel Sample Data. Source CDPR (2021).

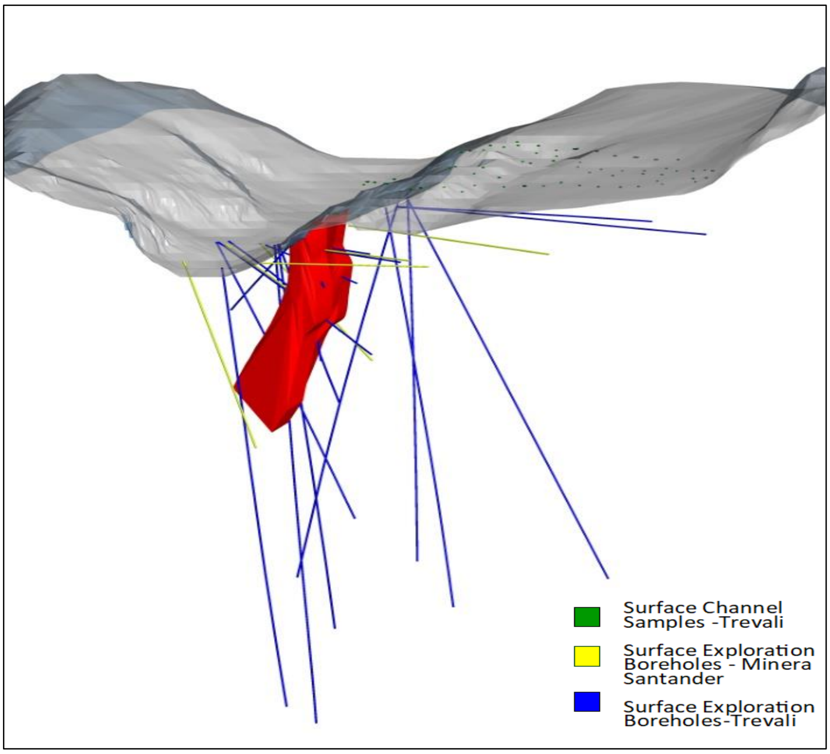


Figure 10.5: Shows a 3D view of the Puajanca Prospect with Drill Hole and Channel Sample Data. Source CDPR (2021).

11 SAMPLE PREPARATION, ANALYSIS AND SECURITY

11.1 Introduction

The Santander database contains 1,640 drill holes and 8,357 channel line samples (a channel line can consist of one or more samples and looks like pseudo drillhole data when plotted). Of the 1,640 drill holes, 1,240 (75.6%) were drilled by Trevali and sampled following the procedures described in this Section of the report. Of the 8,357 channel line samples, 7,383 (92%) were taken by Trevali and sampled following the procedures described in this section of the report. The remaining core and channel line samples were taken by Compañía Minera Santander S.A.C. (CMS) with unwritten sampling and quality-control procedures.

The sampling and quality-control procedures of the CMS historical holes and channel samples are not known. DRA evaluated the impact of the historic CMS holes and noted that 324 of the 398 historical holes are situated in the Santander Pipe area, 67 were drilled in the Magistral deposit, and 7 were drilled in the Puajanca deposit.

CDPR has not carried out any field sample preparation to date. What is described in this report is the field sample preparation carried out by the previous owners (Trevali). Trevali's sample-preparation, security, and analytical procedures conformed to industry best practice, and the derived database is considered suitable for MRE.

The following sub-sections provide a summary of the Sample Preparation, Analyses, and Security Protocol undertaken by Trevali in the Project.

11.2 Core Logging and Sampling

11.2.1 Transport of Core to the Core Shed and Preparation for Logging

Core boxes are loaded onto the back of a truck and delivered by geological technicians to the geologists at the core shed. The core is received by the geologist in charge and a geological technician cleans and orientates the core before logging. This process is the same for exploration and infill-drilling core.

11.2.2 Core Logging Procedures

The core-logging procedure carried out by CMS is preserved in their paper logging format as summarised in Section 10.2.1.4 of this report, and was concluded to be of high quality and meeting former mining-industry standards.

The core-logging procedure adopted by Trevali (2007–2021) is the same for exploration and infill drilling programs and has not changed much during this period. The logging process started as a paper logging format (2007 to 2015) and evolved to a digital logging process, involving logging with computers and electronic tablets with direct upload to Geobank (2015 to 2018), and currently Geotic (2018 to date). Prior to 2015, the detailed paper logs were manually uploaded to DH Logger. A "quick log" takes place before detailed logging, in order to identify major lithological units and mineralization and focus on the detailed logging requirements. Geotechnical logging of the core started in 2008 for exploration drillholes and during 2017 for mine infill drill holes, and is carried out immediately after the quick log, before the core is disturbed or broken for geological-logging purposes. The logging process (geological and geotechnical) is the same for exploration and infill drilling core.

The paper logging format (2007 to 2015) was structured in two sections:

- Section 1 had the following fields: Drilling company, Machine, Start date, Finish date, Programmed (Northing, Easting, Direction, Inclination, Elevation, Longitude), Executed (Northing, Easting, Direction, Inclination, Elevation, Longitude), Location, Level, Logged by, Date, BHID and Page number.
- The second section of the logging sheet recoded the geologic and technical data, and included the following fields: Downhole survey, Core length (m)/drilled length (m), Silicification (weak, moderate, strong), dolomitization (weak, moderate, strong), Skarn (weak, moderate, strong), recrystallization (weak, moderate, strong), Chlorite (weak, moderate, strong), Other alteration (weak, moderate, strong), Graphic log for faults/fractures, Lithological contact, Graphic log for lithology, Colour, Geological description, Other alterations/mineralization sph, gn, ccp, py, mr, sd, mt, hem, ba, qtz, etc. % sulphides/% Zn/Pb, the Sample number, Density, Analytical results Cu%, Pb%, Zn%, Ag/g.

The Geobank and Geotic databases were structured in a similar way to the original logging sheet, and as such, few modifications have been made to the logging database over time.

11.2.3 Core Photographs

Following logging and prior to sampling, a technician takes digital photographs of each core box in consecutive order. Care is taken to ensure that geological/geotechnical features (rock-quality data, total core recovery, joints, and fractures) are adequately captured.

11.2.4 Specific Gravity

Specific-gravity determinations are made for both exploration and underground infill-drilling core.

After logging, the specific gravity of the core is then measured using the Archimedes air-and-water method. The core is not sealed with wax. This is not considered an issue, as the core samples were not indicated to be porous.

All diamond-borehole intervals are marked for sampling, and their bulk density is determined prior to cutting and sampling. To date, a total of 44,972 specific-gravity measurements (32,245 in Magistral deposits, 6,164 in Santander Pipe deposit and 3,563 in other drilling) have been collected. The bulk density of a sample is determined using the following formula:

$$\text{Specific Gravity} = \frac{(\text{Sbair} - \text{bair})}{(\text{Sbair} - \text{bair}) - (\text{Sbwater} - \text{bwater})}$$

Where:

- Sbair = Weight of sample and tray in air (kg),
- bair = Weight of tray in air (kg),
- Sbwater = Weight of sample and tray in water (kg),
- bwater = Weight of tray in water (kg).

11.2.5 Drill-Core sampling

11.2.5.1 Exploration drill core

Several measures are undertaken to ensure appropriate sample selection. The samples are consistently taken from the same side of the core after the core is laid out with bedding planes facing up the hole and interlocked; a core reference line is drawn on the crest of the bedding planes and a wavy line or hatching is drawn on the side of the core to be retained before splitting. This practice allows the sampler, geologist, and any other interested party to confirm that no sampling bias is introduced by the preferential selection of mineralised features. The core is then cut using a diamond saw with a rail guide on the core-saw bench to ensure that core halves are approximately equal. Once cut, samples are bagged in 6-mm heavy-duty plastic bags and weighed. The sample ticket/tag number is inserted into the bag. A duplicate of the sample ticket/tag is stapled to the core box to ensure a permanent record and the triplicate sample ticket/tag remains in the sample booklet. Approximately eight core-sample bags are combined into rice bags, which are then placed into larger bags holding up to 20 samples.

The remaining core is stored within the core logging facility, in corrugated plastic boxes. The boxes are labelled in the following manner: the outside cover of the core box is labelled with the project name, BHID and From - To measurements and the sides of the box are labelled with the BHID, From-To, box number and drilling machine used.

Samples taken are typically 1 m in length within continuous geological intervals or broken at visible geological contacts. The smallest sample interval is 0.1 m and the largest interval is 2.75 m. DRA reviewed the drill-core sampling techniques and agrees that the sampling techniques are appropriate for this style of mineralization.

Samples are shipped in a company vehicle to Lima with a completed sample shipping form. Three different laboratories have been used to process Santander Project exploration samples:

- 2007 to 2011 – exploration core samples were sent to the ACME facility in Lima and the pulps were then sent to Vancouver, British Columbia, Canada for assaying.
- 2014 to 2018 – exploration samples were processed in the SGS managed on-site analytical laboratory.
- 2013, 2018 to 2021 exploration core samples were sent to **ALS Global** in Lima.

11.2.5.2 Infill-drill core

Trevali infill drilling was normally BQ diameter and, for this reason, the sample is not cut. As per the exploration sampling procedure, the site geologist determines the length of the core to be sampled. Samples are bagged and tagged similarly to the process described above, and the samples are delivered to the Santander on-site SGS-managed laboratory for analysis.

After the BQ size core has been logged and photographed, the core that has not been sampled is disposed of in the underground mine. The SGS on-site mine laboratory has prepared and assayed infill drill core since 2014.

11.3 Channel Sampling

Channel samples were taken by both CMS and Trevali. No evidence exists on how CMS took their channel samples or the condition of the onsite assay laboratory that would have assayed the samples.

Trevali systematically took channel samples in the Magistral Deposit. Channel samples are taken in the face as the development drives advanced. The technician would measure the distance to the face from a survey control point and then draw on a survey plan the location of the channel. The drawing would be passed to a drafting person, who would plot the channel sample location in AutoCAD, and record the sample number, start coordinate point, length, azimuth, and dip (always 0 in this case) into the geology database.

The samples are left inside the entrance door to the onsite laboratory run by SGS, with results returned via Excel certificate within 24 hours. The Excel certificates are then uploaded to the geology database via a macro.

11.4 Sample Preparation and Analyses

During the history of the project, samples have been sent to four different laboratories:

- Onsite assaying was carried out for Ag, Cu, Pb, and Zn. The on-site laboratory was operated by CMS (1976 to 1993) and it was located in the same building where the current SGS laboratory is located (see Section 18 Infrastructure for details). No documentation (procedures, laboratory reports, assay certificates, etc.) exists for the CMS assay laboratory, which primarily assayed geology and concentrate samples produced during the mining of the Santander pipe.
- From 2007 to 2011, exploration samples were sent to **Acme Analytical Laboratories Ltd**. in Vancouver (Acme Vancouver) and its affiliate preparation laboratory in Lima.
- In 2013 and later from 2018 to 2021, exploration samples were sent to **ALS Global** in Lima.
- Trevali implemented an on-site analytical laboratory in 2013 that is still operational today. This is managed and operated by **SGS Peru,** and primarily assays, mine channel and grab samples, infill-drilling samples (2014 to date), plant samples and concentrates, and was also used to prepare and assay exploration samples from 2014 to 2018. The onsite laboratory is fully certified and CDPR is continuing the use of this laboratory for the processing of mine-geology and production samples.

Subsections 11.4.1 and 11.4.2 describe the sample preparation for exploration samples, which have been processed by Acme Analytical Laboratories Ltd. in Vancouver (Acme Vancouver) and ALS Lima respectively.

Subsection 11.4.3 describes the sample preparation procedures for channel samples, production samples, infill-drilling samples and 2014 to 2018 exploration samples that were processed at the on-site mine laboratory managed by SGS Perú.

11.4.1 Laboratory Preparation Procedures and Analysis 2007 to 2011 - Acme Vancouver

Between 2007 and 2011, all samples were processed by Acme Analytical Laboratories Ltd. in Vancouver (Acme Vancouver) and its affiliate preparation laboratory in Lima. Upon arrival at Acme Lima, samples were weighed by the laboratory, and this weight was then cross-referenced with the in-house weight recorded by Trevali staff to ensure that no sample mix-up or tampering had occurred.

Following standard sample preparation in Acme´s Lima preparation facility, the resultant sample pulps (250 g) were flown to Acme Vancouver for geochemical analysis and assaying. All samples were analysed using Acme Vancouver’s multi-element 7AX package, which utilizes an aqua regia digest of a 1-gram sample split with a combination of induced coupled plasma/atomic emission and mass-spectrometry finishes (ICP-AES and ICP-MS). High-grade samples above the assay upper limits were re-analysed (>4% Pb and/or >20% Zn, respectively), according to the Group 7AR package (0.1 g split, aqua-regia digestion with an atomic emission spectrometry finish). Samples containing greater than 400 ppm Ag were analysed by Acme Vancouver's Group 6 fire assay (30 g aliquots) as an internal check on the data.

11.4.2 Laboratory Preparation Procedures and Analysis 2013 and 2018 to 2021 – ALS Lima

In 2013 and between 2018 and 2021, all exploration samples were processed by ALS Global in Lima.

Samples are crushed to 70% less than 2 mm, riffle-split to 250 g, and pulverized to >85% passing 75 µm. The 0.25 g aliquots are processed using the ME-ICP61 method with HNO_3 -$HClO_4$ -HF-HCl digestion. The residue is topped up with dilute hydrochloric acid, and the resulting solution is analysed by ICP-AES. The method provides assays for Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, and Zn.

Over limits (Zn, Pb, Ag, Cu) are analysed using a 4-acid digestion and an ICP-AES finish (0.4g sample).

Au is analysed using method Au-GRA21 package, which uses a 30 g charge in fire assay and gravimetric finish.

11.4.3 Sample Preparation and Analysis, 2014 to date: on-site SGS laboratory

Exploration samples (2014 to 2018) and mine samples (underground channel, production and infill drill) are received in a preparation area, separate from the process samples. Samples are weighed and dried in the oven for three to five hours, then crushed to 90% passing 10 mesh. Bar codes are applied to each sample after crushing. The crushers are cleaned with compressed air (pressure of 80 pounds per square inch) after each sample. At the beginning and end of each batch of 40 samples, the crushers are cleaned with quartz.

The samples are then split, retaining 200 g. Each 200 g sample is pulverized to 95% passing 140 mesh. Laboratory control standards and blanks are inserted, making up 10% of the total number of samples. Digestion uses three acids, and results are obtained by atomic absorption spectroscopy AAS). The AAS machine is calibrated each shift and cleaned and calibrated when changing from geology samples to mill samples.

Five percent of all geology samples are sent to an independent external certified laboratory for confirmation. External check sample assays were reduced during Covid-19 due to restriction, but are planned to resume in early 2022. SGS generates monthly reports on QA/QC compliance and general laboratory management, and complies, through its parent company certification, with the requirements of ISO 9001:2000 and ISO 17025:1999.

11.5 Geological Quality Control

The exploration core samples, infill-drilling samples and channel samples all have associated geological quality control (QC) programs. In addition to those programs, the onsite SGS-managed laboratory and the off-site laboratories (ALS Lima), being where exploration samples were sent, have implemented internal QC programs.

The QC program started in 2007 and was upgraded over time. The geological QC program is similar for mine infill drilling and production samples (channels, grab, and core samples), and exploration samples (rock-chip, channels, and core). The only difference between the two QC programs is that the mine samplers have taken duplicate channel samples, whilst the exploration department has infrequently used this method for sampling.

Both the mine geology and the exploration assay results are stored on the same database, with macros used to import the assay results directly from the laboratory Excel certificates into Geotic software.

The QC programs and results covering the current areas of resources in the Magistral and Santander Pipe deposits are described in Subsection 11.6 of this Report. Previous QC programs (pre-2017) have been described in NI 43-101 reports issued by SRK in 2017 and Golder in 2012, which adequately record the QC programs during those periods.

11.6 Quality Control Review

The current QC program implemented by CDPR follows the previous Trevali practice, and includes the insertion of control samples separately for the underground operation (channel rock-chip samples) and exploration drilling (core samples) as follows:

- For underground workings: twin samples (1%), coarse duplicates (1%), and coarse blanks (1%)
- For exploration drilling: quarter-core twin samples (2.5%), coarse blanks (2.5%), and standard reference materials (SRMs, 5.0%)
- No external controls have yet been implemented.

11.6.1 *DRA Evaluation Procedure*

The standard procedure followed by DRA for evaluation of the QC results is discussed below.

Duplicate Samples

DRA evaluates the duplicate samples following the Hyperbolic Method (Simon, 2004). The failure rate for each duplicate type is calculated by evaluating each sample pair against the hyperbolic equation $y^2=m^2x^2+b^2$. Sample pairs exceeding the y value so calculated are considered failures. An acceptable, conventional level of precision is achieved if the failure does not exceed 10% of all pairs.

Max-Min plots can be constructed for the studied elements, to visualize the results, by plotting the maximum and minimum values of the sample pairs in the y and x-axes, respectively. This way, all the points are plotted above the x=y line. The failure line is plotted as per the hyperbolic formula, and sample pairs plotting above this line are considered failures.

SRMs

For evaluating the SRMs, control charts can be constructed for each SRM and each documented element. The values reported for the inserted SRM´s are plotted in a time sequence (after the certificate dates). Lines corresponding to the AV, AV±2*SD, and AV±3*SD are plotted (AV, SD: average value and standard deviation, respectively, calculated from the actual assay values of the inserted SRMs). Additionally, lines corresponding to the BV (BV: best value reported for the SRM) and the n-data moving average (the value of n being determined on a case-to-case basis) can also be plotted.

In principle, the SRM values must lie within the AV±2*SD boundaries to be accepted. Otherwise, these values would be qualified as outliers. However, isolated values within the AV±3*SD and AV±2*SD limits are also accepted as valid. The analytical bias is calculated as follows:

Bias (%) = $(AV_{eo} / BV) - 1$

where AV_{eo} represents the average recalculated after the exclusion of the outliers. The bias values are assessed as per the following ranges: good: between -5% and +5%; questionable, with care: from -5% to -10% or from +5 to +10%; unacceptable: below -10% or above 10%.

Blank Samples

Possible contamination is suspected if the blank value exceeds three times (for fine blanks) to five times (for coarse blanks) the practical detection limit (PDL) for the studied element. The PDL is determined based on pulp-duplicate samples, as the grade under which analytical precision decreases exponentially, resulting in ERs approaching or exceeding 100%. The Blank-versus-

Preceding-Sample plots can also be prepared; such plots allow the better identification of possible incidents of cross-contamination during preparation and assaying.

The contamination rate is calculated by determining the proportion of possibly contaminated blanks, and significant contamination is suspected when the contamination rate exceeds 5%, but reasonable judging should be applied in each situation.

Check Samples

For evaluating the check samples, Reduced-Major-Axis (RMA) plots are constructed for the studied elements. The RMA method (quoted by Long, 2005) offers an unbiased fit for two sets of pair values (original samples and check samples) that are considered independent from each other. In this case, the coefficient of determination R^2 between the two laboratories is determined, and the bias of the primary laboratory for each element as compared to the secondary laboratory is calculated as follows:

Bias (%) = 1- RMAS

where RMAS is the slope of the RMA regression line of the secondary laboratory values versus the primary laboratory values for each element.

11.6.2 Evaluation of QC Data – Mine Samples

Twin Channel Samples

DRA reviewed 1,087 twin-sample data collected from 2017 to 2021. These twin samples correspond to channel and rock-chip samples averaging 3 kg that were assayed at the SGS mine laboratory. DRA prepared Max-Min plots, and calculated the failure rates for Zn, Pb, Cu, and Ag. As no pulp-duplicate data were available, DRA conditionally established the PDLs as 0.03% for Zn and Pb, 0.01% for Cu, and 1 g/t for Ag. The failure rates for Zn (24.5%) and Ag (39.4%) considerably exceed the conventionally established limits (10%), whereas the failure rates for Cu and Pb were 0.5% and 11.0%, respectively (Table 11.1).

Table 11.1: Duplicate Summary – Channel samples

Sample Type	Element	Pairs	Failures	Failure rate (%)
Twin Samples	Zn	1087	266	24.50%
	Pb	1087	120	11.00%
	Cu	1086	5	0.50%
	Ag	1087	428	39.40%
Coarse Duplicates	Zn	1079	4	0.40%
	Pb	1079	1	0.10%
	Cu	1079	1	0.10%
	Ag	1079	25	2.30%

Although a certain component of these error rates may be related to sample preparation and/or assaying, it is apparent from Max-Min plots of twin samples and coarse duplicates that the highly variable, rock-chip sampling method has an overwhelming contribution, as shown in the Zn example (Figure 11.1 and, Figure 11.2, respectively). A certain component of the overall error is certainly related to preparation and assaying, but only a comprehensive QC program, including coarse and pulp duplicates, would be able to determine what proportion of the error corresponds to each step of the process.

DRA believes that the rock-chip sampling method implemented in the underground workings does not yield representative samples, for which its results should be restricted to the classification of Mineral Resources of a lower category (Inferred). It is recommended that this sampling method be improved by properly cutting actual channel samples weighing at least 4 kg per meter, accompanied by detailed precision monitoring using twin samples.

Coarse-Duplicate Samples

DRA received 1,079 core-duplicate data collected from 2017 to 2021. These coarse duplicates were obtained after crushing and were assayed at the SGS-run mine laboratory. DRA prepared Max-Min plots and calculated the failure rates for Zn, Pb, Cu, and Ag. As no pulp-duplicate data were available, DRA conditionally established the PDLs as 0.03% for Zn and Pb, 0.01% for Cu, and 1 g/t for Ag. The failure rates for the four elements are very low, within conventionally acceptable limits, ranging from 0.1% for Pb and Cu, and 2.3% for Ag (Table 11.1). Although a few duplicate coarse sampling mistakes can be observed in the Max-Min plot (Figure 11.2), DRA concludes that the crushing and splitting processes are adequate for this type of mineralization.

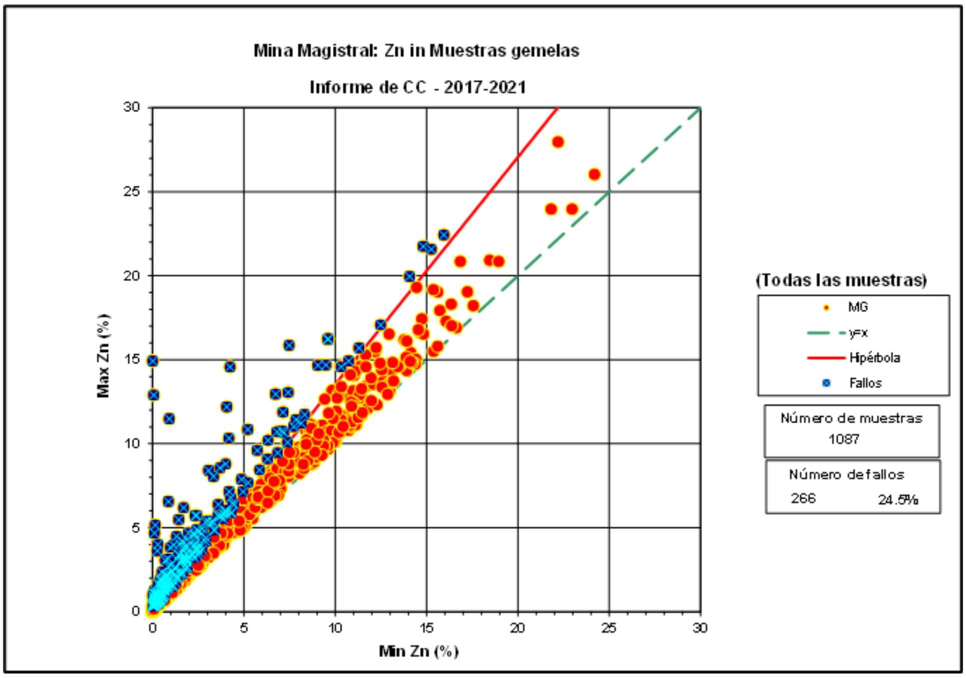


Figure 11.1: Magistral Mine. Zn in channel twin samples. Source, A. Simon (2021).

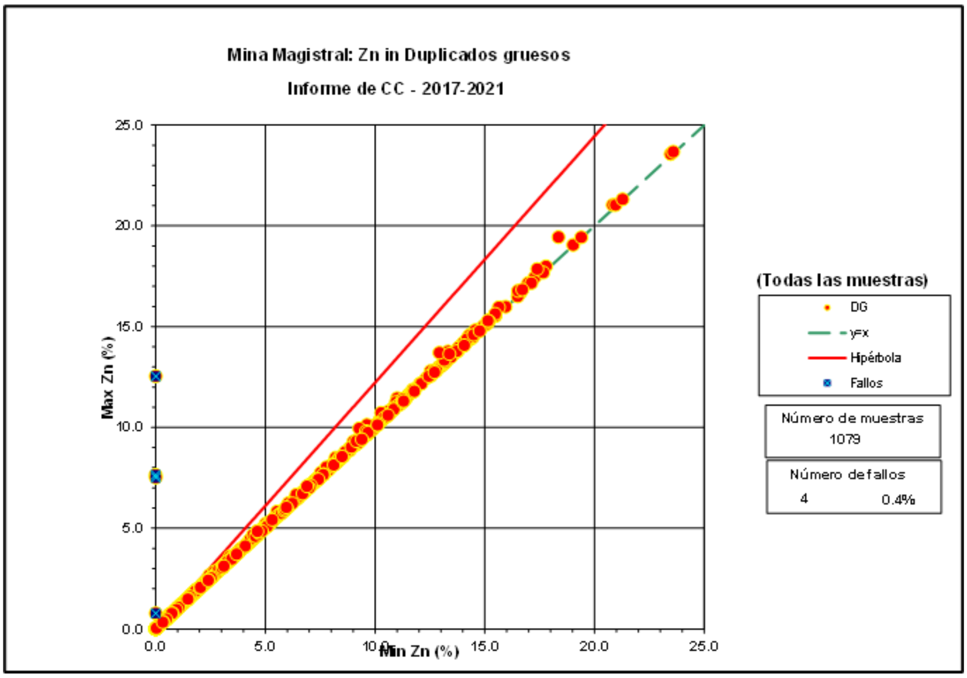


Figure 11.2: Magistral Mine. Zn in coarse-duplicate samples. Source, A. Simon (2021).

DRA reviewed 997 coarse-blank data inserted from 2017 to 2021. Blank versus Precedent sample plots were prepared for Zn, Pb, Cu, and Ag, and only two evident mixups were detected. DRA concluded that no significant contamination was produced during preparation and assaying.

11.6.3 Evaluation of QC Data – Core Samples

During the assessed period (2018-2021), all exploration-drilling samples were submitted to ALS Laboratory. However, a number of samples were also submitted to the SGS-run mine laboratory. The duplicate assessment will be conducted independently for both laboratories.

Twin Core Samples - ALS

DRA reviewed 254 twin quarter-core data collected from 2018 to 2021 and assayed at ALS. DRA prepared Max-Min plots and calculated the failure rates for Zn, Pb, Cu, and Ag. As no pulp-duplicate data were available, DRA conditionally established the PDLs as 0.005% for Zn, 0.001% for Pb and Cu, and 1 g/t for Ag. The failure rate for Zn was 12.2% (Figure 11.3), slightly exceeding the conventionally established limit (10%), whereas for the other elements the error rates ranged from 2.8% for Ag and 7.1% for Pb (Table 11.2).

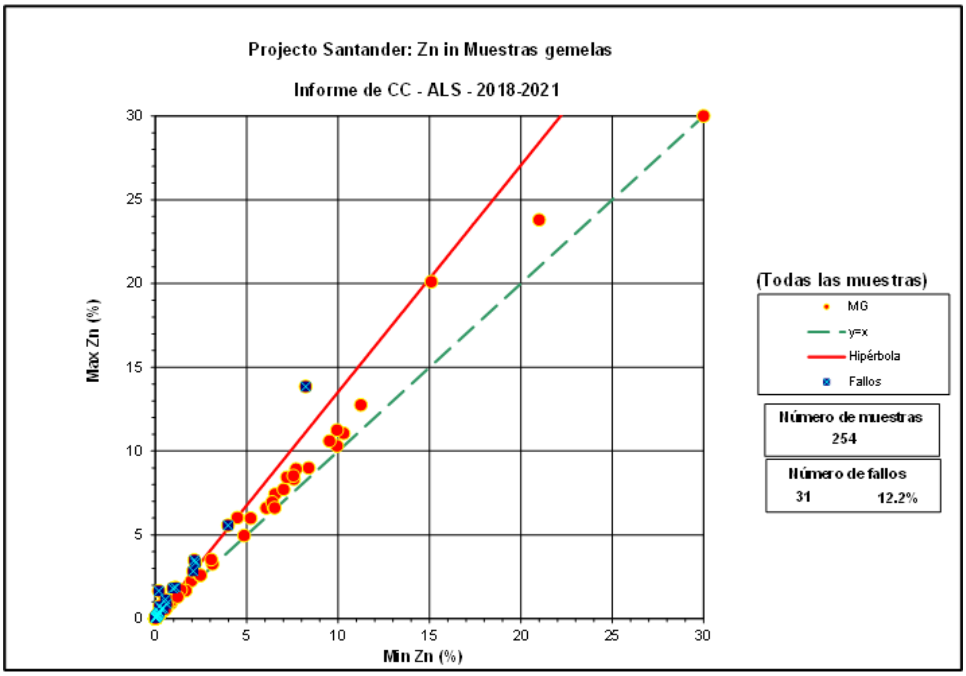


Figure 11.3: Santander Project - Zn in quarter-core twin samples – ALS. Source, A. Simon (2021).

Table 11.2: Duplicate Summary – Core-drilling samples

Sample Type	Element	Pairs	Failures	Failure rate (%)
Twin Samples - ALS	Zn	254	31	12.20%
	Pb	254	18	7.10%
	Cu	254	16	6.30%
	Ag	254	7	2.80%
Twin Samples - SGS	Zn	704	96	13.60%
	Pb	704	53	7.50%
	Cu	704	8	1.10%
	Ag	704	79	11.20%

DRA believes that these error rates are magnified by the fact that twin samples consist of quarter-core. However, a correct evaluation of precision should be always conducted in repeatability conditions. Assessing half-core sampling can only be properly performed using similar twin samples, i.e., half-core. In addition, a certain component of the overall error is related to preparation and assaying. Only a comprehensive QC program, including coarse and pulp duplicates, would be able to determine what proportion of the error corresponds to each step of the process.

Given the duplicate data presented in Table 11.2, DRA believes that the regular sampling procedure is adequate for this type of mineralization, despite the relatively high error rate for Zn. DRA strongly recommends that the QC procedure be modified to use half-core twin samples instead of quarter-core.

Twin Core Samples - SGS

DRA reviewed 704 twin quarter-core data collected from 2013 to 2021 and assayed at the SGS-run mine laboratory. DRA prepared Max-Min plots, and calculated the failure rates for Zn, Pb, Cu, and Ag. As no pulp-duplicate data were available, DRA conditionally established the PDLs as 0.03% for Zn and Pb, 0.01% for Cu, and 1 g/t for Ag. The failure rates for Zn and Ag were 13.6% and 11.2%, respectively, slightly exceeding the conventionally established limit (10%), whereas for the other two elements the error rates ranged from 1.1% for Cu and 7.5% for Pb (Table 11.2; Figure 11.4).

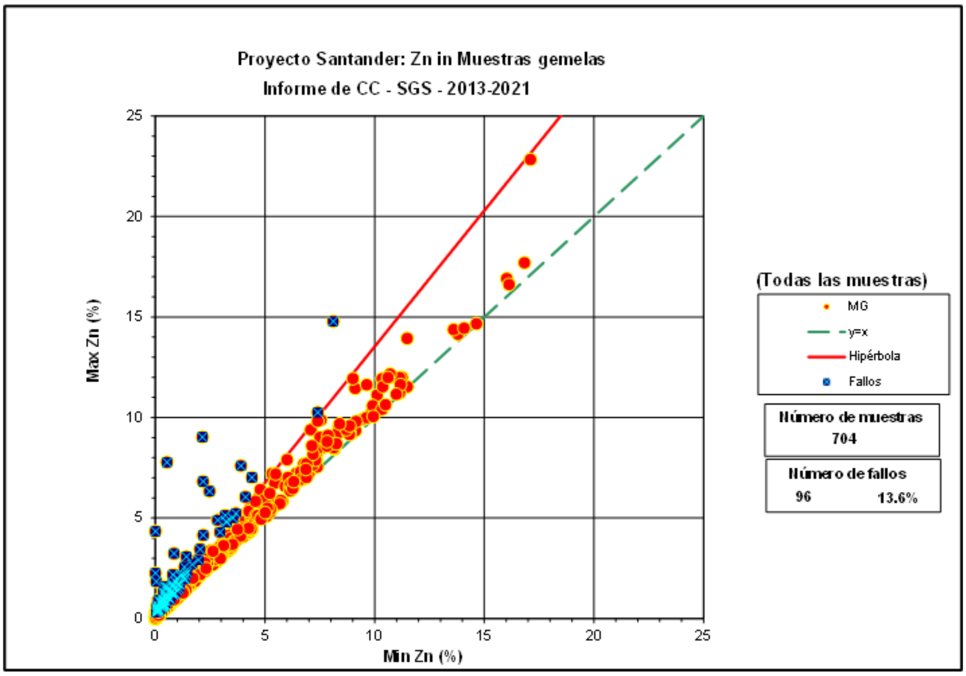


Figure 11.4: Santander Project - Zn in quarter-core twin samples – SGS (Mine Laboratory). Source, A. Simon (2021).

DRA believes that these error rates are magnified by the fact that twin samples consist of quarter-core. However, a correct evaluation of precision should be always conducted in repeatability conditions. Assessing half-core sampling can only be properly performed using similar twin samples, i.e., half-core. In addition, a certain component of the overall error is related to preparation and assaying. Only a comprehensive QC program, including coarse and pulp duplicates, would be able to determine what proportion of the error corresponds to each step of the process.

Given the duplicate data presented in Table 11.2, DRA believes that the regular core sampling procedure is adequate for this type of mineralization, despite the relatively high error rate for Zn and Ag. DRA strongly recommends that the QC procedure be modified to use half-core twin samples instead of quarter-core.

Blanks – ALS

DRA reviewed 246 coarse-blank data inserted from 2018 to 2021 and assayed at ALS. Blank versus Precedent sample plots were prepared for Zn, Pb, Cu, and Ag. The possible contamination rates ranged from 0.0% for Ag and 3.3% for Pb, and only a few evident mixups were detected. DRA concluded that no significant contamination was produced at ALS during preparation and assaying.

Blanks – SGS

DRA reviewed 664 coarse-blank data inserted from 2018 to 2021 and assayed at the SGS-run mine laboratory. Blank versus Precedent sample plots were prepared for Zn, Pb, Cu, and Ag. The possible contamination rates ranged from 0.2% for Pb to 4.4% for Cu, and only a few evident mixups were detected. All but one of the blanks showing apparent contamination for Cu yielded 0.06% Cu and followed samples with grades lower than 0.2% Cu, for which DRA believes that these blank values were most probably related to sample mixups or to poor precision at very low grades. DRA concluded that no significant contamination was produced at the mine laboratory during preparation and assaying.

Standard Reference Materials

DRA reviewed data from 460 samples corresponding to five SRM´s (Table 11.3) assayed at ALS. Control plots were prepared as described in Section 11.6.1, and biases and coefficients of variations were calculated. The results of this processing are presented in Table 11.3. Biases were within conventionally accepted limits, ranging from -2.5% for Zn on SRM BVIP-006 to 3.1% for Pb on SRM GBM397-7. Data from three SRMs with very low BVs (for Cu, Pb, and Ag), close to the detection limits, were excluded from the analysis. The maximum value obtained for CV was 3.3%, confirming a good analytical precision for the four assayed elements. As a result, DRA concluded that analytical precision and accuracy at ALS were adequate for this type of mineralization.

Table 11.3: SRM Summary – ALS

(SRM	Element	Unit	BV	Mean	Samples	OCS	OCS (%)	Bias (%)	CV (%)
BVIP-006	Zn	(%)	2.57	2.56	261	2	0.8	-0.3	2.5
BVIP-007	Zn	(%)	4.84	4.87	90	0	0	0.6	2.2
BVIP-008	Zn	(%)	12.78	12.94	64	1	1.6	1.3	2.4
BVIP-006	Pb	(%)	0.28	0.27	261	3	1.1	-2.5	2.9
BVIP-007	Pb	(%)	2.82	2.79	90	0	0	-1.4	2.1
BVIP-008	Pb	(%)	6.08	5.94	64	2	3.1	-2.3	1.7
STM-02	Cu	(%)	0.59	0.58	33	0	0	-0.3	2.3
STM-03	Cu	(%)	1.13	1.12	12	0	0	-1.5	1.4
BVIP-006	Ag	(g/t)	18	18	261	4	1.5	0.8	3.3
BVIP-007	Ag	(g/t)	116	117	90	0	0	0.5	2.5
BVIP-008	Ag	(g/t)	105	106	64	0	0	1.3	2.6

Note: SRM: standard reference material; BV: Best Value; OCS: out-of-control samples; CV: coefficient of variation.

11.7 Summary re Section 11.0

In the opinion of the QP, the sample preparation and assaying procedures are adequate for this type of mineralization. However, some improvements are required in the current sampling and QC protocols:

- Channel sampling could be significantly improved by cutting proper channels, using an adequate device (a battery-powered diamond saw, for example), and ensuring at least 4 kg per meter sample weight.
- A detailed QC protocol, describing the use of control samples and the actions to be taken in the event of non-conformities, should be prepared, formally approved and adopted.
- Twin samples for core drilling should consist of half-core, not of quarter-core, to ensure repeatability conditions.
- Coarse duplicates for core drilling should be included in the QC protocol to be able to assess the sub-sampling precision.
- Pulp duplicates should be inserted in the assay batches to be able to assess the analytical precision.
- There is no need to monitor accuracy with SRMs at very low grades, and well below a reasonably valid cut-off grade.

- External check samples should be regularly submitted to a secondary laboratory to independently monitor the relative accuracy. The check-assay batches should include reasonable proportions of pulp duplicates and SRMs.
- The first step in QC data assessment should be the identification of coarse sample preparation mistakes, which should be excluded from the evaluation of the experimental uncertainty.
- The following QA-QC insertion rate is recommended:

Sample Type	Recommended Insertion Rate (%)
Twin samples	2
Coarse duplicates	2
Pulp duplicates	2
Coarse blanks	2
Fine blanks	2
SRM´s	6
External check samples	4
Totals	**20**

Core assay data for Zn, Pb, Cu, and Ag appear to be sufficiently precise and accurate for the estimation and classification of Mineral Resources and Reserves. However, channel assay data should only be used for estimation and classification of Inferred Resources, due to their low precision.

12 DATA VERIFICATION

12.1 Historic Data Verification

12.1.1 Golder 2010 and 2012

As part of the historic resource estimates in 2010 and 2012, verification of the database was carried out by Golder included the following:

- original electronic assay certificates comprising 100% of the database were sent directly to Golder by Acme Vancouver. These included Zn, Pb, Ag, and Cu assays records for 7,902 samples. Golder's comparison of these records to the Trevali database revealed 21 Zn and 12 Cu minor discrepancies due to rounding/truncation errors that were subsequently corrected.
- a total of 24 collar positions were checked against original surveys conducted by an independent survey company, Peru Land S.A.C. No discrepancies were found.
- 3,771 survey records for all the Trevali drill holes were checked for inconsistencies. Initially, questionable readings were identified, explained, and found to be acceptable.
- lithology codes and depth intervals were verified for the 20 selected holes against scanned copies of the original logs. One formation boundary depth error was found and was corrected by Golder and Trevali in the database.
- a random selection of 279 bulk-density measurements was verified by comparing scanned copies of the original field records against the database. Only minor rounding issues were identified, as well as two typing issues, which were corrected directly by Golder in the database.

As part of a two-day field visit in 2008, Golder inspected the ongoing drilling, core-handling, and logging procedures concluding that these were completed to industry standards. During the site visit, 17 collars were surveyed by Golder using a Garmin 60 CSx handheld GPS, obtaining differences averaging +/-7 m. During the site visit, Golder took five independent samples: one from outcrop, two from tailings, and two from core. The assays confirmed the presence of mineralization returning values from 1.1% to 11.4% Zn, 11 to 31 g/t Ag, and 0.1% to 2.5% Pb.

12.1.2 SRK 2017

Data verification for the 2017 NI 43-101 was conducted by consulting geologist Dr. Gilles Arseneau, PGeo from Arseneau Consulting Services (ACS). Verification of the database included the following:

- drill-hole collar coordinates were checked by examining their location on the surface topography or underground drill stations. Downhole surveys were examined for inconsistencies. No issues were identified.

- historical assay data were validated against historical plans and sections prepared by the mine operators at the time of mining. All assay data for the Trevali drilling were validated against original assay certificates provided directly by SGS.

ACS carried out a two-day site visit to the Santander project in October 2016. Drill core and core-logging procedures were examined. ACS also reviewed the sampling procedures, assay security, and bulk-density sampling protocols. The underground workings and the onsite SGS assay laboratory were also examined. Mineralization was observed in drill core as well as in the underground workings.

ACS reviewed the digital database, geological models, and sampling techniques and concluded that the quality of the data was adequate for inclusion in resource estimation.

12.2 DRA Data Verification

12.2.1 Database

DRA was provided with two leapfrog projects used for developing the Santander Pipe and Magistral Mineral resource models.

The Santander Pipe Mineral resource model was developed at the end of 2020. The project was included in a compressed zip file: ***SAN_MinRes_Leapfrog_20210223.zip.***

The Magistral Mineral resource model was finalized in August 2021. The project was included in a compressed zip file: ***Santander_2021.zip.***

DRA was not able to verify the Leapfrog datasets against the official CDPR database, as this was not functional during the site visit due to software lisencing issues generated during the takeover transition period.

DRA verified Zn, Pb, Cu, and Ag assays exported from the Leapfrog dataset for five of the Trevali deep drill holes at Santander Pipe against digital copies of laboratory reports provided by CDPR. Four of these holes (SAN-0225E-17, SAN-0225E-19, SAN-0228D-17, and SAN-0237-19) including 805 assay intervals that were assayed at ALS Lima. One hole (SAN-0334-17) including 158 assay intervals, was assayed at the SGS on-site laboratory. A perfect match was obtained, except for four samples that assayed above a 30% Zn overlimit threshold.

DRA has inspected the drill-hole and channel data in three dimensions. At Magistral, a number of channel samples were identified outside the drift development outlines. CDPR had previously detected the problem and indicated that this was a result of a switched direction (+180º) in the channel survey and has since corrected the data. DRA considers that the impact on the Resource Model is not significant, considering that most of the affected channels were in the mined-out areas. The fact that some of these fell outside of the mineralised envelope means that they were not used in the grade interpolation. DRA did not note any other significant inconsistencies in the data.

12.2.2 Site Visit

DRA representatives, Graeme Lyall (QP), Javier Aymachoque (QP), and Walter Neisser, conducted property visits to the Santander mine site between the 13th and the 17th of December of 2021.

During the site visit, DRA's representatives held discussions with the Santander site-geology team and with the management of CDPR, including the following:

- Mr. Shane Whitty, CDPR Vice-President Exploration & Technical Services, regarding the geology and tenure of the property.
- Mr. Manuel Lizandro Rodríguez Mariátegui Canny (via internet link), Managing Director, on legal issues, legal due diligence, and concession status.
- Mr. Edwin Mitchell, Vice-President Safety, Health, Environment & Community, on environmental, community, and health and safety requirements.
- Mr. Diederik Duvenage, Vice-President Operations & Project, on project operational issues.
- Mr. John Grewar (via internet link), Vice-President Processing Operations, on metallurgy, test work, and process-plant layout and condition.
- Mr. Paul Camacho, Technical Manager, regarding mine planning and the underground operation at Magistral.
- Mr. Omar Saavedra, Senior Mine-Geology Supervisor, regarding the mining method, underground geology, and sampling protocols, grade control, stockpiling and blending, mine to mill reconciliations, and drilling and development requirements.
- Mr. Edinson Rosell, Senior Exploration-Geology Supervisor, regarding the property geology, geological controls on the mineralization, geological interpretation and the development of 3D models, and evidence supporting historical data.
- Mr. Víctor Loayza, Mine Superintendent, regarding underground mine-operation management, extraction system, production rate, operational bottlenecks, geomechanics, mining method, mine dewatering system, dilution and recovery reconciliation and mining cost.
- Mr. Juan Poma, Ventilation Supervisor, regarding mine ventilation system and mine dewatering system.
- Mrs. Yéssica Juárez, Environment Lead on environmental and historical and ongoing permits.

- Mr. Julio Bazán, Senior Environment Supervisor, on environmental issues of the project infrastructure.

A visit to the Magistral underground operation verified mining at two production faces. DRA observed a well-managed operation with a strong safety culture in place.

The on-site laboratory operated by SGS and responsible for assaying mine-geology and process samples was found to be well organized with internal protocols and QA/QC in place.

Random drill-hole collar locations were checked with a portable GPS, returning differences of less than 5 m. Where possible, drill-hole collars from the Trevali drilling have been preserved with a concrete monument and hole casing protruding through the concrete. The drill-hole collars were clearly identified and labelled. CDPR indicated that not all drill-hole collars have been preserved in this way, due to local remediation requirements.

Mineralization was observed in surface outcrops at Puajanca in altered calcareous sediments. Controls on the mineralization, including the Magistral fault and the anticline hosting the mineralization at the Santander Pipe and the Puajanca deposit, are clearly identified.

There was no drilling activity ongoing during the site visit. The core-logging facilities were inspected. Drill core from two deep holes at Santander Pipe (SAN-0225-17 & SAN-0225D18) and two holes from Magistral (SAN-0167 & SAN-0165) were reviewed, confirming mineralization at intervals with the higher assay results.

While most of the core is stored in the old mine buildings, organization needs to be improved. DRA also observed that core boxes stored in open ground will deteriorate, as they are exposed to sun, wind, and rain. The new ownership under CDPR is fully aware of these conditions and plans to rectify them.

DRA reviewed historic mine plans and sections from the Santander Pipe and found them to be consistent with the information included in the database. While the latest mine plans used for the modelling are dated from February 1991, 19 months before ultimate closure, a closer review showed that mining over this final period was not significant and had focused on mining mineralization left in the upper levels of the mine, above the elevation to which Mineral Resources are declared.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

This section has information which was provided by CDPR.

13.1 Introduction

The Santander concentrator plant has been operational since 2013 and is made up of the following; a three-stage crusher circuit; two parallel milling circuits, each with a rod and ball mill; skim air lead flotation in milling circuit; lead rougher, scavenger and cleaner flotation; zinc rougher, scavenger and cleaner with regrind flotation; lead concentrate thickening and filtration; zinc concentrate thickening and filtration; zinc tailings thickening; and a tailings storage facility.

This section includes summaries of test work that was used to optimise the plant design and process flow diagram for the processing of Santander Mine mineral.

13.2 Historical Testwork

The following sub sections are extracted from previous "Santander Project Resource Estimate, Technical Report", Submitted to Trevali Mining Corporation – Santander Mine, Prepared by Golder Associates, December 17, 2010.

13.2.1 Golder Associates Technical Report and November 2010 Resource Estimate, December 17, 2010

In 2008, Trevali provided a representative composite sample from the Magistral North Deposit, that assayed 4.4 oz/T (137 g/t) Silver, 4.23% Lead, 6.07% Zinc and 0.14% Copper, to Resource Development Inc. of Denver, Colorado, USA, for standard grinding and flotation testwork. The test program was designed to establish the basic Mineral Processing Plant grinding mill flow sheet, determine the comparative Bond work index of the mineral and provide basic flotation test work in order to optimize eventual saleable concentrate parameters. The results indicated acceptable separation of the silver-lead and zinc mineralisation.

An additional test work programme, based on the results of the June 2009 Golder Resource estimate calculation, was designed and supervised by Holland and Holland Consultants and completed at Trevali's on-site metallurgical test facility. The programme examined various mineral composite blending scenarios between the Magistral North and Central deposits and the Magistral North and South deposits, respectively. The results of the test work indicate recoveries to the separate rougher concentrates of: Silver 75-80%, Lead 90% and Zinc 80%, to their respective concentrates. This indicated excellent separation of the silver–lead mineralization and moderate to good separation of the Zinc mineralization, from the host rock, with further work warranted.

13.2.1.1 *Grinding Test*

The comparative Bond Ball-Mill Work Index (metric) was calculated to be 11.73 at 150 mesh product sizing, equating to an "average" mineralization-hardness typical of the deposit.

13.2.1.2 *Flotation Test*

Basic flotation testwork was conducted at various primary grinds to observe the differential flotation of the Silver-Lead and Zinc. Preliminary results indicated excellent silver-lead separation and zinc mineralisation. Both mineral composites tested showed approximately 75%-80% silver recoveries and greater than 90% lead recoveries with the potential to upgrade concentrates through open and closed-circuit test work.

Zinc mineralisation showed grades ranging from 48%-50% with recoveries in the 75%-80% range, respectively. However, the test work indicated that a re-grind would be required on the intermediate products of the cleaner circuit to achieve high-grade concentrates at high recoveries. The results observed were typical for early-stage test work and future work would seek to improve upon this.

13.2.1.3 *Concentrate Test Results*

Testwork conducted indicated good separation and recoveries for both the silver-lead and zinc mineralisation at a primary grind of 80% passing 150 mesh and 200 mesh, respectively. Results are presented below in Table 13.1: Summary of Concentrate Test Results.

Table 13.1: Summary of Concentrate Test Results

Composite	Assay			Recoveries		
	Ag (oz/T)	Pb (%)	Zn (%)	Ag (%)	Pb (%)	Zn (%)
Magistral North – Central	35-40	40-50	48-50	75-80	+90	75-80
Magistral North – South	25-35	45-50	48-50	75-80	90	75

The lead metallurgy was consistent with high grade (50%) concentrates in the open circuit test work, reducing to nominally 40% in the closed-circuit test work at recoveries of 90% and above. The test work suggested that zinc recoveries of approximately 80% can be achieved in the operating plant to produce concentrates with grades of 48% to 50% zinc.

A series of Tailings metallurgical results indicated saleable zinc concentrates at acceptable recoveries rates as seen in Table 13.2

Table 13.2: Estimated Metallurgical Balance Tailings Retreatment

Composite	Assay			Recoveries		
	Ag (oz/T)	Pb (%)	Zn (%)	Ag (%)	Pb (%)	Zn (%)
Conc. Zn	2.5	0.65	47	14.78	9.76	70

13.3 SGS Minerals Services Perú Testwork

The information in the following sub-sections are either translated, largely drawn and/or summarised from the report entitled "Servicio de Pruebas Metalúrgicas Para la Optimización de Minerales de Zinc, Informe Final"("Metallurgical Testing Service for the Optmization of Zinc mineralisation, Final Report"), Submitted to Trevali Mining Corporation – Santander Mine, Prepared by SGS del Perú S.A.C., Cz. MET 0119/2019 MIN-SGS, September 2019.

Trevali carried out a metallurgical test program that included the determination of comminution indices, analytical characterisations, mineralogical characterisations, as well as flotation tests of lead and zinc ores with the objective of optimising the recovery and quality of the lead and zinc concentrates.

For these tests, a blended head sample was prepared with the following breakdown: 40% Magistral Centro, 20% Magistral Norte, 30% Magistral Sur, and 10% old tailings.

Analyses were conducted by SGS Minerals Services and have been documented in the above-mentioned report (SGS 2019).

13.3.1 Analytical Characterisation

To determine the content of lead, zinc, and other elements of interest, 500 grams of the head composite sample was split out from the main sample and sent to SGS for analytical assay characterisation. Table 13.3 and Table 13.4 summarise the results obtained.

Table 13.3: Analytical Characterisation Results

Element	Ag	Cu	Zn	Fe	Pb	Cu_SS	Cu_CN	Cu_R	S_Sulfur	$S_{\_Total}$	Pb_Ox	Zn_Ox
Unit	%	%	%	%	%	%	%	%	%	%	%	%
Head	18.55	0.057	4.65	15.85	0.49	<0.001	0.010	0.050	10.99	11.72	0.150	0.17
Dupl. Head	18.07	0.058	4.76	16.00	0.51	<0.001	0.012	0.044	11.11	11.71	0.146	0.18

***Cu_SS:** Oxide Copper* ***Cu_CN:** Secondary Copper* ***Cu_R:** Primary Copper*

Table 13.4: Inductive Coupled Plasma Results

Element	Al	Ca	Fe	K	Mg	Na	P	S	Ti	As	Cu	Mn	Pb	Zn	Ag	Ba	Be	Bi
Unit	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm
Head	3.58	9.41	14.6	1.81	0.94	0.46	0.07	>10	0.19	0.17	0.06	0.82	0.48	>1	19.6	219	1	27
Dupl. Head	3.52	9.40	14.8	1.83	0.94	0.45	0.08	>10	0.19	0.18	0.056	0.84	0.49	>1	19.1	214	1	32

Element	Cd	Co	Cr	Ga	La	Li	Mo	Nb	Ni	Sb	Sc	Sn	Sr	Tl	V	W	Y	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Head	136	15	33	<10	17	13	8	17	19	29	7	13	152	4	51	12	13	52
Dupl. Head	141	16	31	<10	17.2	13	7	18	18	31	6	14	153	3	53	19	14	51

13.3.2 Mineralogical Characterisation

The mineralogical study was carried out at the SGS Chile laboratory by SGS Perú using a PMA-type TIMA electron microscopy with X-ray diffractometry on samples with a particle size of 130 µm. and is summarised below:

- The sample was composed of the following:
  - 9% lead and zinc minerals, namely galena and sphalerite/marmatite;
  - 20% iron sulphides, mainly pyrrhotite and pyrite;
  - 15% carbonates, mostly calcite; and,
  - 56% hard silicates, mainly quartz, feldspar, garnet, and pyroxene.
- The occurrences of lead minerals are represented by galena (PbS), and zinc minerals by sphalerite/marmatite ($Zn_{0.73}Fe_{0.27}S$ where the maximum percentage of pure zinc would be 50% (100% liberated and without contaminants).
- Liberation (%)
  - Zinc: 86% of the particles are liberated and > 50% of their area exposed with the ability to be recovered by flotation. The remaining 14% of the particles show complex mineralogical associations and thus are difficult to liberate – these are associated with hard silicates and iron sulphides.
  - Lead: 79% of the particles are liberated and > 50% of their area exposed with the ability to be recovered by flotation. The remaining 21% of the particles show complex mineralogical associations and thus are difficult to liberate – these also are associated with hard silicates and iron sulphides.

The mineralogical study result showed that 21% of the lead minerals and 14% of the zinc minerals would be difficult to recover during flotation. It indicates that with a higher recovery of lead and zinc, lower final concentrate grades would be achieved as the fine size fractions (approximately 35 µm) have complex mineralogical associations.

13.3.3 Abrasion Index

Abrasion index (Ai) tests were conducted to assist in the determination of the wear of steel components and coating in crushers, roller mills and ball mills. The Ai test results are shown in Table 13.5.

Table 13.5: Abrasion Tests

Sample Code	**Abrasion Index (Ai)**	**Classification**	**Steel Consumption Prediction, kg/kw-h**							
			Wet rod mills. rods	Wet rod mills. liners	Wet ball mills. balls	Wet ball mills. liners	Dry ball mills. balls	Dry ball mills. liners	Crusher, liners	Roll crusher, shells
Test 1	0.2047	Low Abrasion	0.113	0.010	0.092	0.007	0.010	0.001	0.018	0.034
Dupl. Test 1	0.2180	Low Abrasion	0.113	0.010	0.092	0.007	0.010	0.001	0.018	0.034
Average	0.2113	Low Abrasion	0.114	0.010	0.093	0.007	0.010	0.001	0.018	0.034

The resulting average Ai is 0.2113, which is considered as low abrasion. This value is used in the Bond Mathematical Model to predict steel consumption.

13.3.4 Work Index Test

Work index tests were conducted to determine the Bond work index. This parameter can then be used to estimate the net energy requirements of the grinding circuit using Bond's Third Law of Comminution using the following equation:

$$W = W_i\left(\frac{10}{\sqrt{P}} - \frac{10}{\sqrt{F}}\right)$$

Work index test results indicated the sample having an average energy consumption of 13.1372 kw-h/t, and classified the mineral as being of medium hardness, as show in Table 13.6.

Table 13.6: Work Index Tests

Sample Code	Work Index (Wi) kw-h/t	Mineral Classification	Average of the Last Three Cycles		
			Gpr (g/rev)	Mass (g)	% Circulating Load
Test 1	13.0999	Medium	1.825	495.20	249.31
Dupl. Test 1	13.1744	Medium	1.885	498.70	249.47
Average	**13.1372**	**Medium**	**1.855**	**496.95**	**249.39**

13.3.5 Grinding Time

Grinding time tests were conducted to determine the time required to prepare samples for metallurgical flotation. The grind kinetic curve can be seen in Figure 13.1. A P_{80} of 129 µm was achieved in 14 minutes and 7 seconds (847 seconds), as shown in Table 13.7.

Determination of Optimal Grind Time

Table 13.7: Determination of Optimal Grind Time

Grind Time				
P80 (µm)	**Time (min)**	**Minutes**	**Seconds**	**Total Seconds**
130	14.12	14	7	847

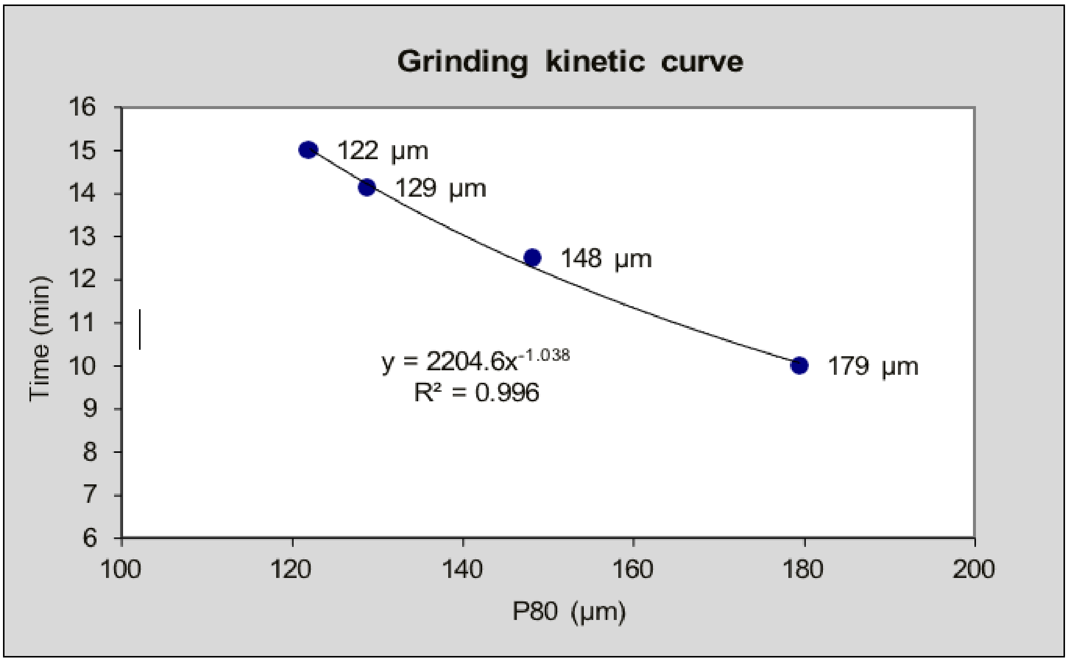


Figure 13.1: Grinding Time Tests Results. Source SGS (2019).

13.3.6 Flotation

13.3.6.1 Open Circuit Flotation Tests

Open circuit flotation tests were carried out and focused on identifying operational parameters that could improve the recovery and grade of the final zinc concentrate that is currently obtained in the plant. Operational parameters evaluated were: type of water; % liberation; Xanthate (Z-11) collector dosage; and the use of zinc selective collectors to reduce the flotation of iron sulphides without affecting the recovery of zinc minerals.

Table 13.8 shows the summary of the tests carried out and the results obtained.

Table 13.8: Open Circuit Tests

Evaluation Variables	Rougher-Scavenger Bulk Pb-Cu Concentrate				Rougher-Scavenger Zn Concentrate				Final Zn Concentrate (after three cleaning stages)			
	Grade		% Recovery		Grade		% Recovery		Grade		% Recovery	
	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe
Standard conditions	7.39	22.47	4.41	3.95	14.65	34.83	92.03	64.47	41.05	18.04	65.34	8.46
Test water effect (SGS Lab)	8.10	22.46	4.89	3.91	15.06	34.33	90.58	59.56	45.04	14.93	52.87	5.06
70% tail water + 30% mine water	7.24	19.10	4.39	3.49	15.79	34.19	92.35	60.27	43.97	17.42	57.54	6.87
Regrinding, P80 60 µm	7.24	19.10	4.39	3.49	15.79	34.19	92.35	60.27	43.97	17.42	57.54	6.87
Regrinding, P80 50 µm	7.77	18.24	3.97	2.81	15.14	34.93	92.07	63.87	46.79	13.57	52.76	4.99

Evaluation Variables	Rougher-Scavenger Bulk Pb-Cu Concentrate				Rougher-Scavenger Zn Concentrate				Final Zn Concentrate (after three cleaning stages)			
	Grade		% Recovery		Grade		% Recovery		Grade		% Recovery	
	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe	Zn	Fe
Standard dosage, Z-11= 65 g/t, $CuSO_4$= 450 g/t	7.77	18.24	3.97	2.81	15.14	34.93	92.07	63.87	46.79	13.57	52.76	4.99
Reduction dosage, Z-11 = 30 g/t, $CuSO_4$=300 g/t	6.82	16.60	3.52	2.56	13.81	33.46	92.60	67.23	44.45	15.61	66.29	6.98
A-3418, Cytec	6.92	18.40	3.36	2.68	14.89	35.06	92.45	65.27	45.65	15.48	59.97	6.10
F-4234, Diamond	6.08	11.95	3.07	1.82	15.59	32.94	92.74	59.11	48.97	12.70	48.73	3.81

From the tests conducted, the following was observed in the bulk lead concentrate:

- The use of water from the SGS laboratory resulted in more zinc reporting to the bulk lead concentrate.
- The reduction in Xanthate (Z-11) dosage resulted in lower zinc content in the bulk lead concentrate, plus the economic benefit of consuming less Xanthate.

From the tests conducted, the following was observed during zinc flotation and zinc cleaning:

- Lower zinc recovery with a higher zinc grade occurred when water from the SGS laboratory was used. In essence, mine water is favourable to the zinc flotation process.
- Re-grinding to a P_{80} of 50 μm did not produce a significant improvement in the recovery of zinc, although higher zinc grades were observed in the final concentrates due to better selectivity in the open cleaner circuit.
- Reducing the dosage of Xanthate (Z-11) and copper sulphate ($CuSO_4$) had a favourable effect in the recovery of zinc.

13.3.6.2 Closed Circuit Test

A six-cycle closed circuit flotation test was carried out to observe the impact of recirculation during cleaning and scale up feasibility. The results obtained indicate that the maximum zinc recovery is approximately 82% with a maximum zinc grade in the final concentrate of approximately 46% zinc, which can be seen in Table 13.9.

Table 13.9: Results Summary – Closed Circuit Test

Product	Mass	Grade				Recovery			
		Ag	Pb	Zn	Fe	Ag	Pb	Zn	Fe
	%	g/t	%	%	%	%	%	%	%
Rougher Pb Concentrate	2.51	518.78	17.40	6.64	21.67	68.44	87.88	3.50	3.83
Zn Cleaner Concentrate	8.43	22.80	0.25	46.21	13.18	10.11	4.19	81.80	7.82
Rougher + Scavenger Tails	89.07	4.58	0.04	0.79	14.08	21.45	7.93	14.71	88.35
Calculated Head	100.00	17.90	0.47	4.61	15.78	100.00	100.00	100.00	100.00

13.4 Metallurgical Variability

Metallurgical variability was not deemed to be an issue and thus is not covered in this report.

13.5 Deleterious Elements

As noted in Section 19.2.1, iron is a deleterious element that needs particular management at the Magistral mine, due to its impact on the value of Zn concentrate. The evolution of iron content in Zn concentrate from September 2013 to January 2020 can be seen in Figure 13. Over that period, such content has increased by 2 percentage points on average, from about 11.0% Fe to over 13.0%.

Additional testing and mineralogical studies are required to understand and address this issue.

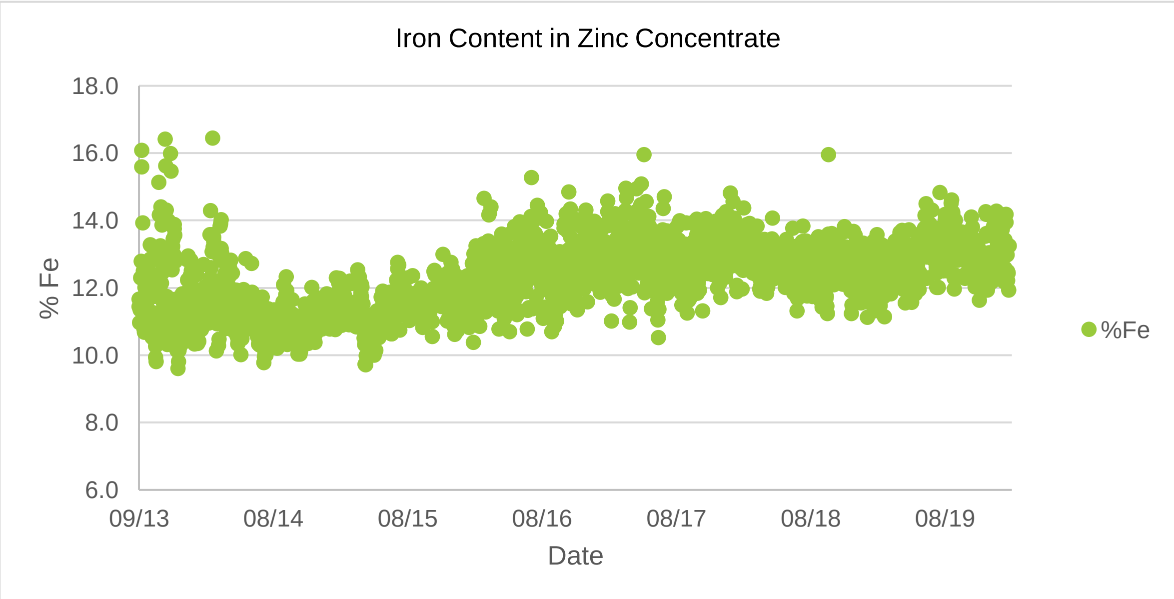


Figure 13.2: Iron Content in Zinc Concentrate. Source DRA (2021).

14 MINERAL RESOURCE ESTIMATE

14.1 Introductory Statements

DRA was commissioned by CDRP to review and prepare an Independent NI 43-101 compliant Technical Report to support public disclosure of Mineral Resources at their Santander property in Peru.

Historic Mineral Resources for the Santander property have been reported for four discrete areas: (1) Magistral Deposits, (2) Santander Pipe, (3) Puajanca deposit and (4) Tailing's area (Subsection 6.2, historic mineral resource estimates). The current NI 43-101 report covers Mineral Resources only for the Magistral and Santander Pipe deposits.

The resource models for Magistral and Santander Pipe were initially developed under the supervision of the previous owners, Trevali. The Magistral model was completed using data collected up to mid-2021. The Santander Pipe model was completed at the end of the year 2020. All aspects relating to the Mineral resource estimates have been reviewed and, where necessary, revised by DRA to comply with CIM reporting standards.

14.2 Magistral Resource Modelling

14.2.1 Data available for estimate

The drilling and channel sampling information used in the Magistral resource estimation is summarised in Table 14.1. 67 historic Magistral drill holes (pre-1993 CMS drilling) totalling just over 10,000m are excluded.

Table 14.1: Data used in the Magistral resource modelling.

Type	Number	Total Length(m)
Surface Drill Hole	202	52,416
Underground Drill Hole	911	91,639
Underground Channel	7,310	34,376

14.2.2 Geological Model and domains

3D geological models had previously been developed by Trevali for each of the fifteen Magistral deposits using the Leapfrog Geo implicit 3D modelling software. The modelling process also included and integrated the following geological interpretations:

- 20m spaced geological cross sections outlining the extents of mineralization in the different deposits. These were interpreted based on underground geological mapping, channel sampling and drilling.
- surface and underground mineralised drill hole intercepts, interpreted and assigned to one of the specific deposits.
- manually interpreted control points were locally added to avoid inconsistencies in the 3D volumes

The fifteen deposits were grouped into the following 3 main domains for grade estimation:

- **Main Zone:** comprises the bulk of Magistral mineralization extending for 800m along a N20ºW direction and dipping in the upper levels parallel to the Santander fault at approximately 60º to the WSW. At deeper elevations, the mineralised zone steepens as controls on the mineralization become mostly stratigraphic. Mineralization along the Main zone has been identified by drilling to depths of 900m below surface. Widths of the Main zone are generally between 5 and 15 metres in the mined-out portion of the deposit. At deeper elevations the mineralised zones are thinner, frequently less than 5 metres, as the mineralization splits to follow favourable stratigraphic units. The modelled deposits contained in the Main zone are eight and include: Magistral Norte, Centro-Sur, Centro-1, Centro-P2, Norte-P1, Centro-Norte, Sur-2 and Sur-1.
- **T Zone:** comprises mineralization in the hanging wall and parallel to the Main zone at depths below 4,200 masl, where controls are mostly stratigraphic. Thicknesses are mostly less than 5 metres and similar to that of the Main zone at these elevations. The modelled deposits contained in the T Zone are four and include: Magistral Centro-T1, Centro-T2, Norte-T1 and Norte-T2.
- **Secondary Zone:** comprises secondary late mineralization in the footwall and running perpendicular to the Main Zone. The mineralization is characterised by sheeted East-West veining rich in argentiferous galena. The mineralised zones dip steeply to the south and have been identified along lengths of over 100 metres extending in depth to up 200 metres. The modelled deposits contained in the Secondary Zone are three and include: Rosa, Fatima Norte, and Fatima Sur.

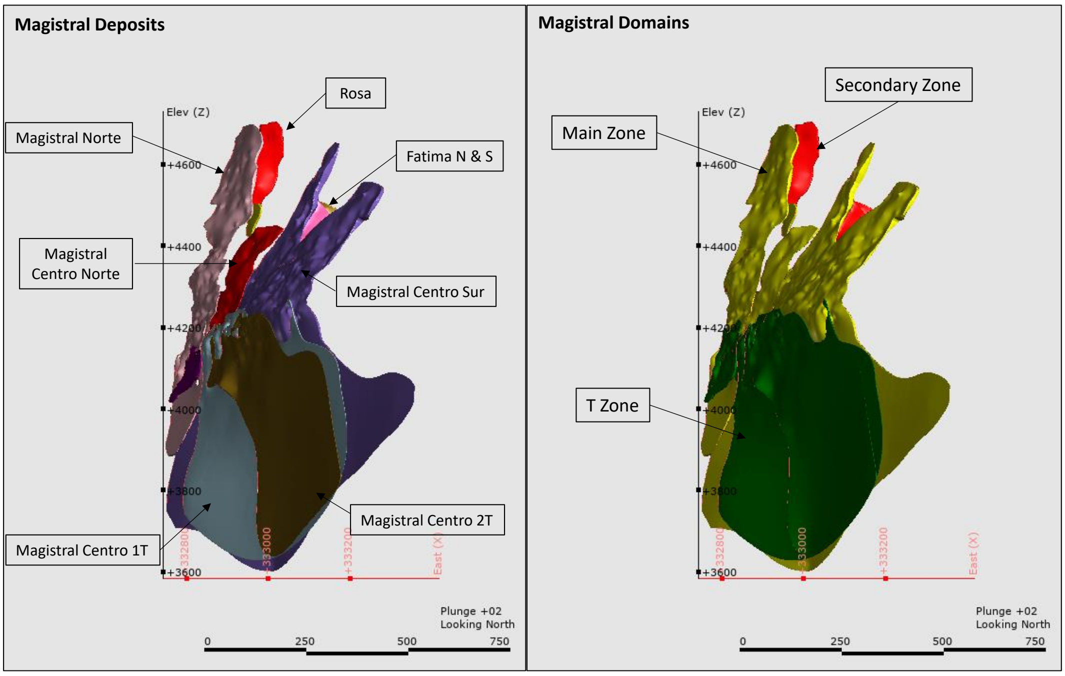


Figure 14.1: Shows a North facing view of the 3D models for the Magistral Deposits and the final Domains. North facing view showing 3D models Magistral Deposits (left) and Domains (right). Source, DRA (2021).

Figure 14.2 includes three cross sections looking NNW and perpendicular to the Main an T mineralised domains.

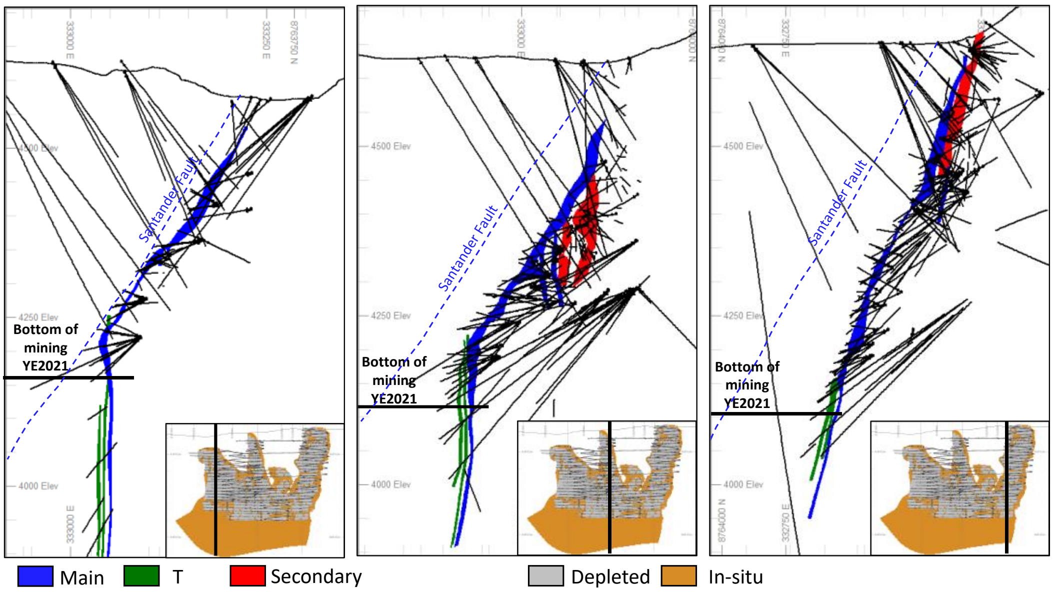


Figure 14.2: Cross Sections facing N30ºW. Source, DRA (2021).

14.2.3 Exploratory Data Analysis

14.2.3.1 Sample lengths & Compositing

Table 14.2 shows the statistics for drill hole and channel sample lengths included in the Magistral mineralised zone. The average sample length for both types of samples is close to 1 metre, with 80% of the data falling between 0.4 and 1.6 metres.

For grade interpolation, sample lengths for channels and drill holes were regularised to 1-meter composites. The statistics included in the following sections are based on these 1-meter composites.

Table 14.2: Magistral Deposits - Sample Lengths inside mineralised envelope

	Drill hole	Channel
Number	13,577	21,080
Mean	1	1
Standard Deviation	0	0
Minimum	0	0
Maximum	3	12
Percentile $_{0.1}$	0	0
Percentile $_{0.9}$	2	2

14.2.3.2 Statistics

Statistics and histograms for Zn%, Pb%, Cu%, Ag g/t, and specific gravity of the 1-meter composites within the Main, T and Secondary zones are shown in Table 14.3, Table 14.4, Table 14.5, and Figure 14.3, Figure 14.4 and Figure 14.5. Statistics are presented separately for Drill Hole and Channel data. Correlation matrices are included in Table 14.6.

Noteworthy observations include:

- channel and drill hole grades compare closely within each of the mineralised zones.
- 80% of the drill hole samples and the great majority of the channels are contained within the Main Zone.
- the Secondary Zone shows slightly higher Pb (1.2%) and Silver (47g/t) contents whilst compared to the other zones. The T zone has significantly lower Pb (0.4%) and Ag (25g/t), which is characteristic of the deeper mineralization.
- skewed histograms for all grade variables, especially for Pb and Ag. Care will be required to ensure that outliers are handled appropriately in the grade estimation. The Specific Gravity statistics and histogram shows much better symmetry and outliers are not considered an issue.
- strong correlations are observed between Pb and Ag as well as between Zn and Cu. The former is explained by the existence or argentiferous galena.

Table 14.3: Main Zone – Zn, Pb, Ag & Cu statistics for 1m composites

	Variable	Nº	Min	Max	Mean	StdDev	CoV	p(0.05)	p(0.10)	p(0.90)	p(0.95)	p(0.9)
Channels	**Zn**	17,247	0.01	32.1	4.51	4.29	1.0	0.06	0.15	10.7	12.6	16.6
	Pb	17,247	0.004	22.5	1.07	2.32	2.2	0.005	0.010	3.4	6.3	11.7
	Ag	17,247	0.16	1383	40.2	76	1.9	2.02	2.02	105	167	375
	Cu	17,247	0.003	1.14	0.08	0.08	1.0	0.005	0.006	0.17	0.21	0.37
Drill holes	**SG**	10,704	2.14	4.97	3.10	0.35	0.1	2.70	2.73	3.59	3.76	4.13
	Zn	10,704	0.00	31.2	4.34	4.04	0.9	0.08	0.23	10.14	12.05	16.2
	Pb	10,704	0.000	19.5	1.04	2.09	2.0	0.00	0.01	3.21	5.58	10.7
	Ag	10,704	0.01	932	40.6	71	1.8	0.01	1.0	106	167	361
	Cu	10,704	0.000	1.55	0.07	0.08	1.0	0.00	0.01	0.16	0.20	0.37

Table 14.4: T Zone – Zn, Pb, Ag & Cu statistics for 1m composites

	Variable	Nº	Min	Max	Mean	StdDev	CoV	p(0.05)	p(0.10)	p(0.90)	p(0.95)	p(0.9)
Channels Total	**Zn**	113	0.04	28.0	2.21	4.29	1.9	0.10	0.31	4.4	5.4	10.0
	Pb	113	0.005	2.9	0.16	2.32	14.8	0.009	0.015	0.3	0.4	2.1
	Ag	113	2.00	262	20.9	76	3.7	2.02	2.02	42	62	227

	Cu	113	0.005	0.49	0.06	0.08	1.4	0.005	0.010	0.09	0.16	0.42
Drill holes Total	**SG**	1,060	2.03	3.95	3.00	0.26	0.1	2.68	2.70	3.37	3.47	3.62
	Zn	1,060	0.00	18.5	2.65	2.64	1.0	0.05	0.12	6.31	7.89	10.5
	Pb	1,060	0.000	12.0	0.38	1.00	2.6	0.00	0.01	1.02	1.80	5.3
	Ag	1,060	0.01	527	25.1	50	2.0	0.01	0.0	64	114	262
	Cu	1,060	0.000	0.27	0.05	0.05	0.9	0.00	0.01	0.12	0.14	0.19

Table 14.5: Secondary Zone – Zn, Pb, Ag & Cu statistics for 1m composites

	Variable	Nº	Min	Max	Mean	StdDev	CoV	$p_{(0.05)}$	$p_{(0.10)}$	$p_{(0.90)}$	$p_{(0.95)}$	$p_{(0.99)}$
Channels Total	**Zn**	1,886	0.01	21.3	3.68	3.89	1.1	0.03	0.07	9.3	11.1	15.0
	Pb	1,886	0.005	20.1	1.50	2.49	1.7	0.006	0.020	5.3	7.4	10.5
	Ag	1,886	0.16	935	50.9	77	1.5	2.02	2.02	135	194	360
	Cu	1,886	0.005	1.30	0.09	0.10	1.1	0.005	0.006	0.20	0.27	0.45
Drill holes Total	**SG**	1,569	2.22	3.98	3.00	0.27	0.1	2.71	2.74	3.42	3.55	3.77
	Zn	1,569	0.00	27.1	3.59	3.93	1.1	0.02	0.06	9.43	11.11	15.0
	Pb	1,569	0.000	13.5	1.18	2.07	1.7	0.01	0.02	3.61	6.51	9.3
	Ag	1,569	0.01	655	47.5	65	1.4	0.01	0.5	128	189	288
	Cu	1,569	0.000	0.81	0.09	0.09	1.0	0.00	0.01	0.20	0.26	0.42

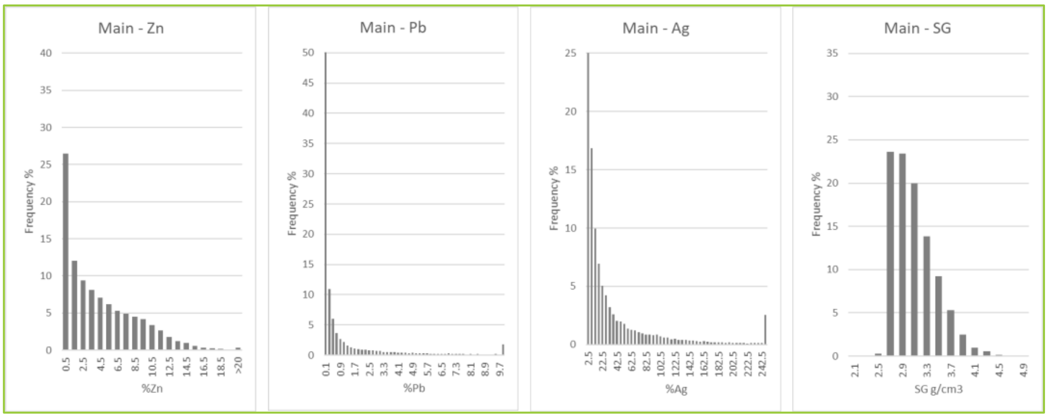


Figure 14.3: Main Zone – Zn, Pb, Ag and SG histograms for 1m composites. Source DRA (2021).

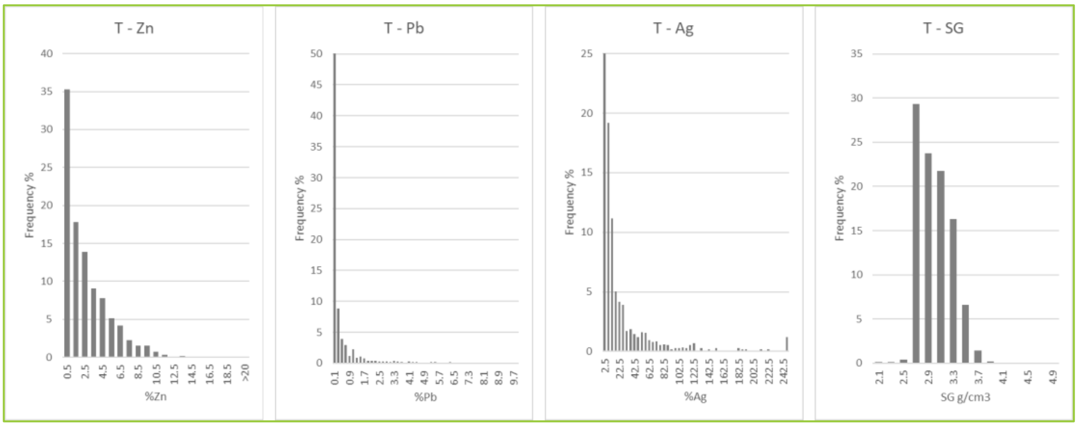


Figure 14.4: : T Zone – Zn, Pb, Ag and SG histograms for 1m composites. Source DRA (2021).

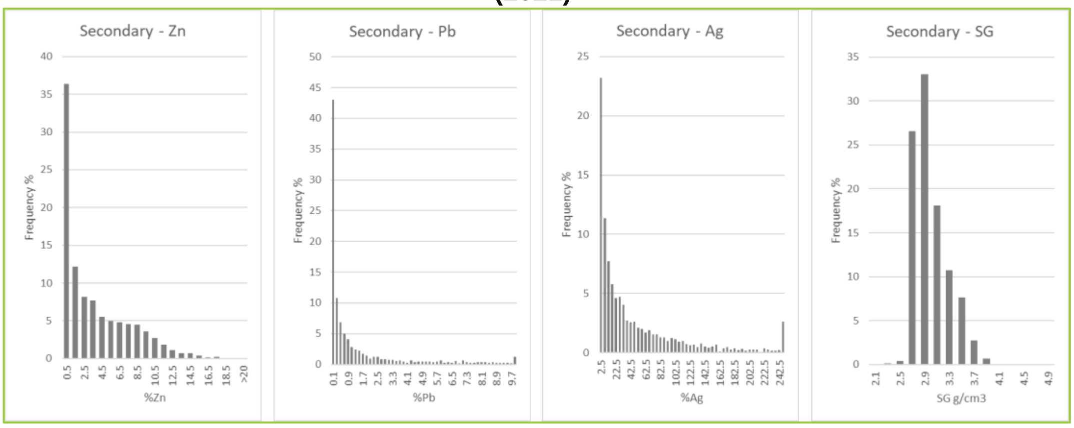


Figure 14.5: Secondary Zone – Zn, Pb, Ag and SG histograms for 1m composites. Source DRA (2021).

Table 14.6: Magistral – Zn-Pb-Cu-Ag Correlation Matrices – 1m composites

Main Zone

	Zn	Pb	Cu	Ag
Zn	1.00	0.32	0.63	0.36
Pb	0.32	1.00	0.49	0.60
Cu	0.63	0.49	1.00	0.45
Ag	0.36	0.60	0.45	1.00

T Zone

	Zn	Pb	Cu	Ag
Zn	1.00	0.34	0.64	0.38
Pb	0.34	1.00	0.32	0.72
Cu	0.64	0.32	1.00	0.36
Ag	0.38	0.72	0.36	1.00

Secondary Zone

	Zn	Pb	Cu	Ag
Zn	1.00	0.44	0.75	0.58
Pb	0.44	1.00	0.63	0.60
Cu	0.75	0.63	1.00	0.60
Ag	0.58	0.60	0.60	1.00

14.2.4 *Mineral resource Modelling*

14.2.4.1 *Block Model*

The block model for the Magistral mineralization was developed in Leapfrog Geo. The block model parameters and extent are summarized in Table 14.7.

Table 14.7: Magistral – Block Model Parameters

	Origin (minimum)	Rotation	Parent Block Size (m)	Nº Blocks	Sub-block size (m)
Easting	333,050	340º clockwise around Z axis	5	100	1
Northing	8,763,000		5	260	1
Elevation	3,600		5	220	0.001

14.2.4.2 *Interpolation Parameters and Variography*

Zinc, lead, silver, and specific gravity (SG) were interpolated in Leapfrog Edge by Ordinary Kriging.

Zinc, lead, and silver outlier grade composites were capped at threshold values shown in Table 14.8. SG was not capped, considering the nature of its frequency distribution and low variability. The thresholds chosen for capping the grade variables correspond approximately to the 99th percentile values. A comparison between the capped and uncapped average values shows that the impact of capping in the overall average grade is small. For the main element, zinc, the difference is -1% relative to the uncapped value.

A block discretization of 5x5x5 was used to represent the block volume for estimation.

The variogram models used in the block estimation were determined from the experimental variograms calculated in Leapfrog Edge and are included in Table 14.9.

Estimation was carried out in three consecutive search passes. Details are included in Table 14.10.

Variable orientation of searches and variogram axes were used in the interpolation. The orientations were determined using Leapfrog Edge. Whilst the major axis orientation was determined from the "pitch" of the variogram model (Table 14.9), the dip and dip direction were oriented parallel to the faces of the mineralised wireframe envelope.

Table 14.8: Magistral - Capping of 1m composites inside mineralised zones

Zone	Variable	Maximum Value	99th percentile	Capped Value	Uncapped Mean	Capped Mean	% Difference
Main	Zn %	32.1	16.5	15	4.44	4.39	-1.0%
	Pb %	22.5	11.3	10	1.06	1.03	-3.3%
	Ag g/t	1383	367	300	40.3	37.9	-6.0%
T	Zn %	28.0	10.5	15	2.61	2.60	-1.0%
	Pb %	12.0	5.0	10	0.36	0.36	-0.5%
	Ag g/t	527	257	300	24.7	24.2	-2.0%
Secondary	Zn %	27.1	15.0	15	3.64	3.61	-1.0%
	Pb %	20.1	10.1	10	1.36	1.34	-1.0%
	Ag g/t	935	332	300	49.4	48.0	-3.0%

Table 14.9: Magistral - Semi-variogram Models

Variable	Domain	Direction			Nugget	Structure 1					Structure 2				
		Dip	Dip Dim	Pitch		Sill	Type	Major	S-major	Minor	Sill	Type	Major	S-major	Minor
Zn	Main	60	240	125	0.05	0.79	Sph	45	35	5	0.16	Sph	100	70	10
Zn	Secondary	88	172	125	0.05	0.79	Sph	20	10	5	0.16	Sph	40	20	10
Zn	T(HW)	80	240	72	0.05	0.79	Sph	30	25	3	0.16	Sph	80	65	10
Pb	Main	60	245	125	0.05	0.79	Sph	60	38	6	0.16	Sph	100	60	10
Pb	Secondary	88	172	120	0.05	0.79	Sph	75	60	5	0.16	Sph	100	80	10
Pb	T(HW)	80	240	55	0.07	0.77	Sph	25	15	3.5	0.16	Sph	100	45	8
Ag	Main	63	240	135	0.05	0.65	Sph	40	30	4.5	0.3	Sph	80	50	10
Ag	Secondary	88	172	125	0.05	0.79	Sph	2	10	2	0.16	Sph	60	40	4
Ag	T(HW)	80	240	72	0.05	0.79	Sph	25	15	3	0.16	Sph	40	25	4
SG	Main	60	245	140	0.05	0.39	Sph	30	25	2	0.56	Sph	85	60	5
SG	Secondary	88	172	120	0.05	0.39	Sph	10	6	3	0.56	Sph	25	16	9
SG	T(HW)	80	240	72	0.05	0.39	Sph	45	35	2	0.56	Sph	85	65	10

Table 14.10: Magistral – Search Parameters

Domain	Variable	1st Pass					2nd Pass					3rd Pass				
		Search (m)			N° Samples		Search (m)			N° Samples		Search (m)			N° Samples	
		Major	S-major	Minor	Min	Max	Major	S-major	Minor	Min	Max	Major	S-major	Minor	Min	Max
Main	Ag_gpt	60	45	7.5	4	20	100	40	10	4	24	200	80	20	2	20
Secondary	Ag_gpt	30	15	3	4	20	60	40	4	3	20	120	80	10	2	16
T (Hanging Wall)	Ag_gpt	25	15	3	4	20	40	25	4	4	20	80	50	10	2	16
Main	Pb_pct	60	40	6	4	20	100	60	10	3	20	200	120	20	2	16
Secondary	Pb_pct	75	60	5	4	20	100	80	10	3	20	200	160	20	2	16
T (Hanging Wall)	Pb_pct	40	20	5	4	20	60	45	10	3	20	120	90	20	2	16
Main	SG_gcm3	45	40	3	4	20	85	60	5	3	20	170	120	10	2	16
Secondary	SG_gcm3	15	10	5	4	20	25	20	10	3	20	50	40	20	2	16
T (Hanging Wall)	SG_gcm3	65	50	5	4	20	85	65	10	3	20	170	130	20	2	16
Main	Zn_pct	65	50	7.5	4	20	100	70	10	3	20	200	140	20	2	16
Secondary	Zn_pct	30	15	7.5	4	20	40	20	10	3	20	80	40	20	2	16
T (Hanging Wall)	Zn_pct	45	40	5	4	20	80	65	10	3	20	160	130	20	2	16

14.2.4.3 Resource Classification

Under CIM Definition Standards, Mineral Resources are classified into three confidence categories. In order of increasing confidence, blocks can be classified as either Measured, Indicated, or Inferred. Important considerations in assigning a resource category are spatial aspects including continuity of grade, and the locations, types, and spatial density of the informing data. In addition, it is important to consider the relative confidence of all the data

inputs. All drill hole and channel samples used in the Resource estimate were obtained during the Trevali ownership period (post-2007), during which, rigorous controls were implemented to maintain and verify the quality of the data. Details are included in Sections 11 and 12. Spatial aspects were therefore deemed more relevant for the classification of the Mineral Resources for the Magistral mine.

Blocks were initially assigned a category based on proximity and abundance of informing data. The criteria used are included in Table 14.11. In a second step, larger volumes with predominance of Indicated or Inferred blocks were outlined using wireframes. The predominant resource category was assigned to each of the enclosed volumes resulting in continuous zones of Measured, Indicated and Inferred mineralization.

Table 14.11: Magistral - Searches used for Resource Classification

Category	Search	Minimum Samples	Nearest Data point
Measured	Estimated in 1st pass (search 65x50x7.5m)	15	<50
Indicated	Estimated in 1st or 2nd pass (search 100x70x10m)	8	<80m
Inferred	Estimated in 1st, 2nd or 3rd pass (search 200x140x20m)	4	<150m

14.2.5 Model Validation

An essential step in the resource modelling is the validation or verification process. Statistics, swath plots (spatial averages) and visual checks comparing the block estimates to the informing data are presented in the following sections.

Spatial clustering of the data has been accounted for by means of running a “nearest neighbour” block grade assignation. In other words, each block within the mineralised envelope is assigned the grade of the closest 1-meter composite sample. By this way, the composite statistics (weighted mean and variance) are preserved, and appropriate weighting is provided for comparing with the kriged interpolated grade estimates.

14.2.5.1 Statistics

The 1-meter composites are compared to the block estimates in Table 14.12. The results show only minor differences between composite and estimated grades. The slightly lower block estimate averages can be explained by capping. Block variances are lower than the composite sample variances, with Variance Reduction Factors (vrf = Sample Variance / Block Variance) mostly falling between 0.5 and 0.6. This suggests that grade-tonnage estimates include an important degree of smoothing necessary to account for volume variance adjustments required for mine development studies

Table 14.12: Magistral – Grade Statistics comparing composites to block estimates

Zone	Variable	Composites (Nearest Neigbour)					Block Model					Diffference	
		Min	Max	Mean	SD	Var	Min	Max	Mean	SD	Var	Mean	vrf
Main	Zn %	0.001	29.8	4.36	17.12	4.14	0.0002	16.2	4.3	6.61	2.57	-1%	0.62
	Pb %	0.0001	22.5	0.781	3.55	1.884	0.0001	10	0.761	1.677	1.295	-2%	0.69
	Ag g/t	0.01	1369.2	33.1	4269.5	64.6	0.001	308.4	31.3	1352.2	36.90	-5%	0.57
	SG	2.14	5	3.139	0.126	0.355	2.6525	4.5	3.085	0.032	0.18	-2%	0.51
T	Zn %	0.005	28	3.26	9.44	3.07	0.001	9.5	3.09	2.29	1.51	-5%	0.49
	Pb %	0.0001	12	0.261	0.463	0.68	0.0001	4.3	0.266	0.143	0.38	2%	0.55
	Ag g/t	0.01	527.3	19.2	1612	40.2	0.001	246.1	16.5	465.6	21.60	-14%	0.54
	SG	2.03	4	3.11	0.079	0.281	2.593	3.6	3.111	0.035	0.19	0%	0.67
Secondary	Zn %	0.002	27.1	3.48	15.47	3.93	0.001	12.9	3.35	4.65	2.16	-4%	0.55
	Pb %	0.0001	13.5	1.651	6.887	2.624	0.00001	8.4	1.594	2.827	1.68	-3%	0.64
	Ag g/t	0.01	654.7	50.2	4849.5	69.6	0.001	220	48.8	1025.3	32.00	-3%	0.46
	SG	2.22	4	2.97	0.079	0.281	2.657	3.8	2.998	0.012	0.11	1%	0.39
All	Zn %	0.001	29.8	4.09	15.69	3.96	0.0002	16.2	3.99	5.87	2.42	-2%	0.61
	Pb %	0.0001	22.5	0.734	3.252	1.803	0.00001	10	0.717	1.537	1.24	-2%	0.69
	Ag g/t	0.01	1369.2	31.4	3756.4	61.3	0.001	308.4	29.5	1218.2	34.90	-6%	0.57
	SG	2.03	5	3.122	0.115	0.339	2.593	4.5	3.085	0.032	0.180	-1%	0.53

14.2.5.2 Swaths

Swath plots are commonly used to compare block estimates to sample averages within coordinate slices oriented in specific directions. Observed differences may be suggestive of extrapolation or over-smoothing of the block estimates. Large differences can often be attributed to areas with little sampling or mineralised material.

Figure 14.6, Figure 14.7, Figure 14.8, Figure 14.9, Figure 14.10 and Figure 14.11 include a selection of swath plots comparing block estimates to the composite (NN) averages along Elevation, and Northing coordinate slices. DRA note similar behaviour of estimated and sample value averages along the different directions, replicating trends. There is no indication of biases, extrapolation, or over-smoothing of the block estimates. Differences between the estimated (MZn) and Nearest Neighbour (MZn-NN) zinc grades noted in the southern part of Magistral (Figure 14.9 are due to the scarceness of drilling in this area. Consequently, the Mineral Resources modelled in this area have been classified as Inferred.

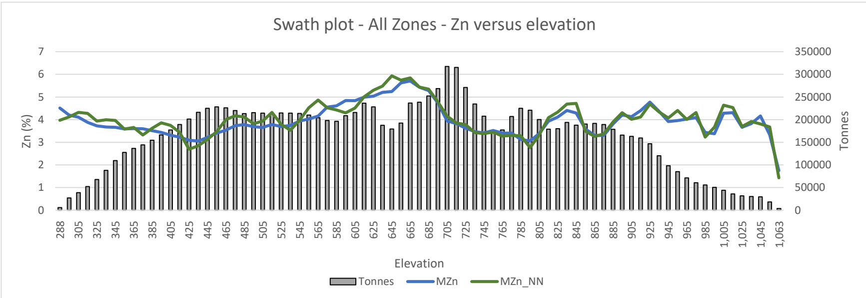


Figure 14.6: Magistral – Swath Plot – Zn vs Elevation – All Zones. Source, DRA (2021).

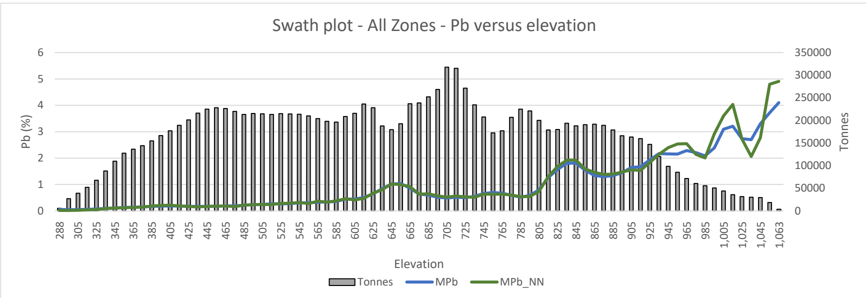


Figure 14.7: Magistral – Swath Plot – Pb vs Elevation – All Zones. Source, DRA (2021).

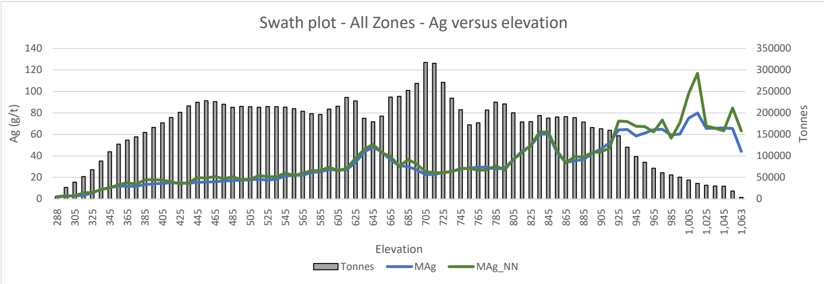


Figure 14.8: Magistral – Swath Plot – Ag vs Elevation – All Zones. Source, DRA (2021).

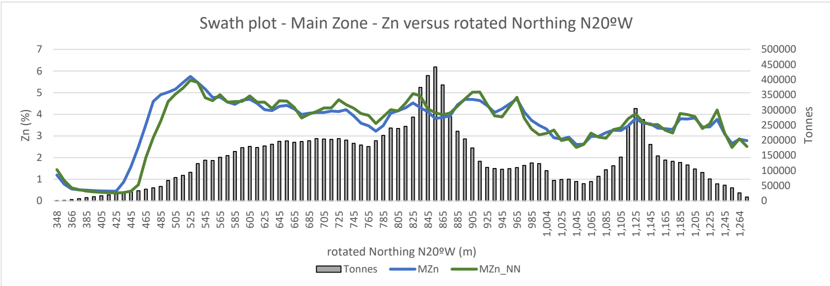


Figure 14.9: Magistral – Swath Plot – Zn vs rotated Northing – All Zones. Source, DRA (2021).

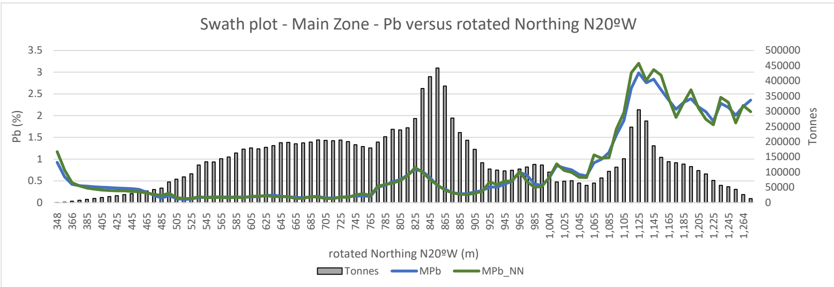


Figure 14.10: Magistral – Swath Plot – Pb vs rotated Northing – All Zones. Source, DRA (2021).

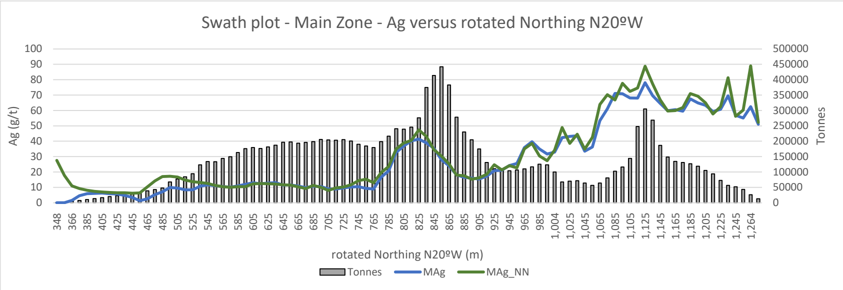


Figure 14.11: Magistral – Swath Plot – Ag vs rotated Northing – All Zones. Source, DRA (2021).

14.2.5.3 Visual Checks

Possibly the most important step in the verification process is to visually review the block estimates against the informing data. For relatively narrow and extensive vein or manto-type geometries such as the Magistral deposits, the best comparisons are often visualized along long sections perpendicular to the mineralised zones. For this purpose, 2D vertical models oriented along the principal direction of continuity (N20ºW) representing the full width of the mineralization, were derived from each of Main and T Zone 3D models by accumulating block in the perpendicular direction. The 2D zinc and NSR models for the Main and T domains are compared to full width sample composites in Figure 14.12 and Figure 14.13. The long sections also show the final Resource classification (NSR>US$40) as well as areas discounted as already mined or sterilized, against areas that remain in situ included in the current Mineral Resource. Plots are not included for the Secondary Zone, considering that this zone is largely already mined. Overall, the estimated grades compare well to the informing composites. DRA also notes that the remaining resources represent relatively large continuous zones potentially amenable to underground mining methods.

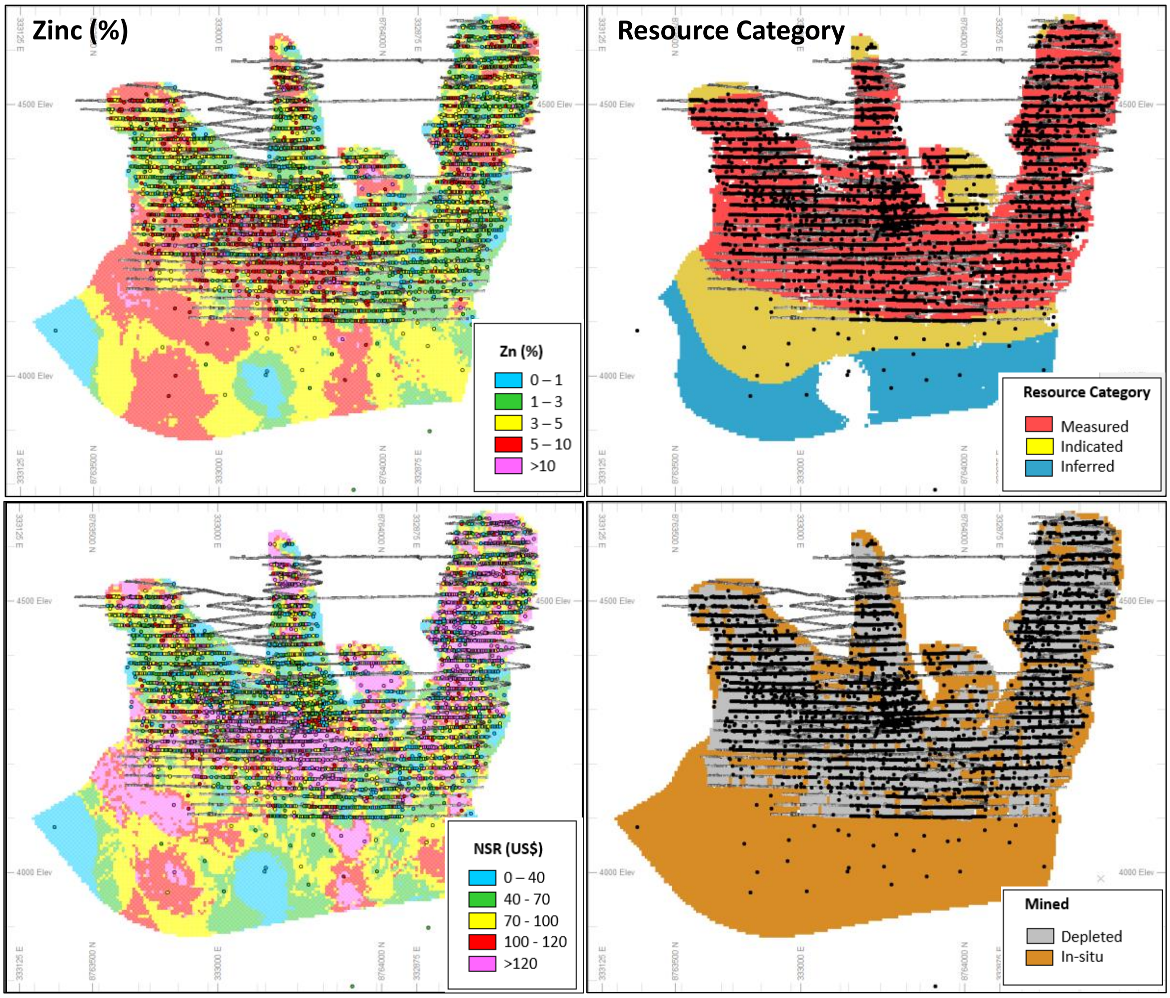


Figure 14.12: Main Zone – 2D long section comparing data to Resource Model. Source, DRA (2021).

Note: Resource Classification long-section showing zones with NSR>US$40.

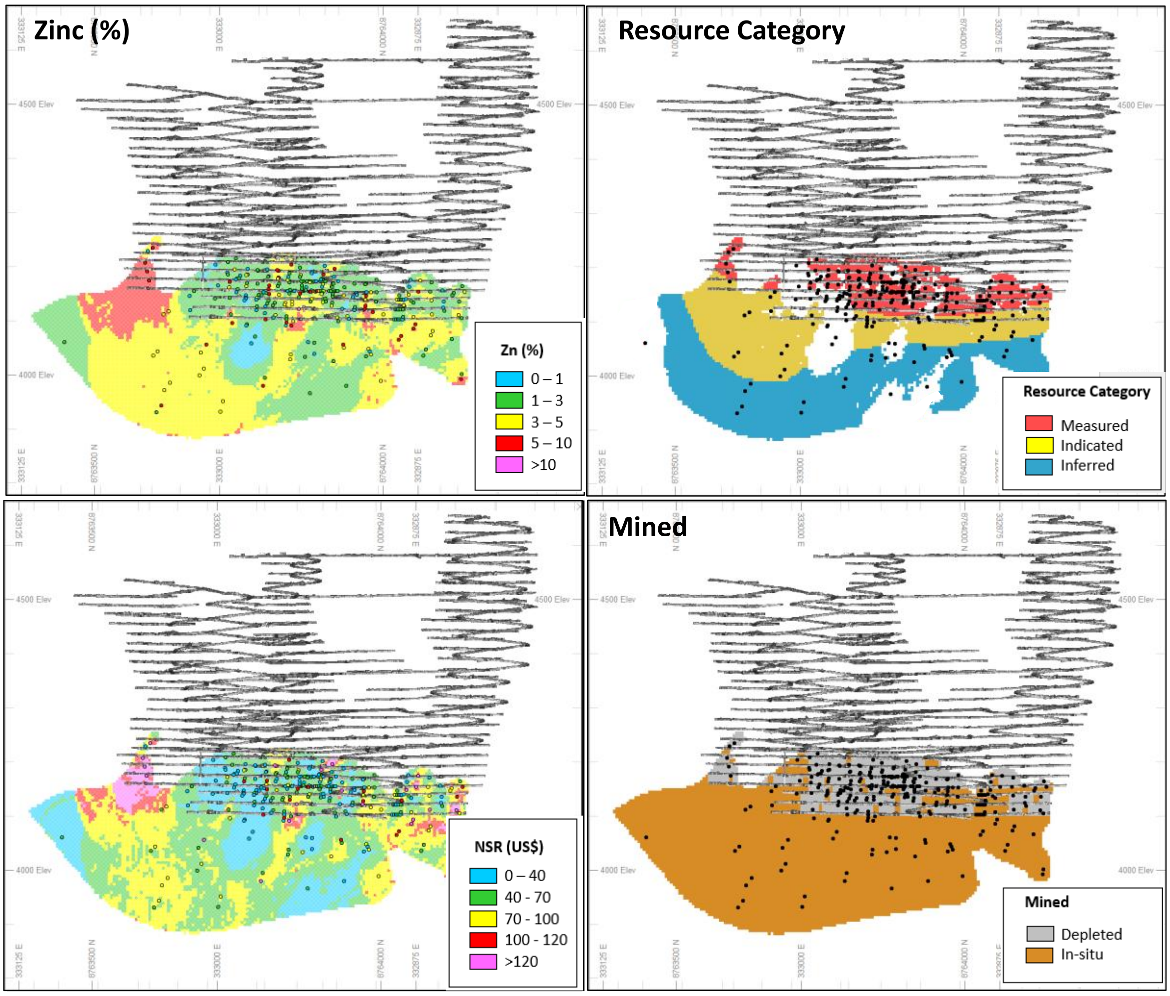


Figure 14.13: T Zone – 2D long section comparing data to Resource Model. Source, DRA (2021).

Note: Resource Classification long-section showing zones with NSR>US$40

14.2.6 Mineral Resources

14.2.6.1 Mining Considerations

By definition, a Mineral resource must have "reasonable prospects for eventual economic extraction".

CDPR is currently mining at Magistral using bench and fill underground methods. The reported Mineral Resources represent depth extensions to the same structures currently being mined, as well as containing portions of the mineralization in the mined areas that were left in-situ and that are still considered potentially mineable in the future.

The deeper mineralization is interpreted and modelled as relatively large continuous zones that are potentially amenable to underground mining methods.

Approximately 30% of the remaining Measured and Indicated Resources are from areas that have been largely mined in the past. These include remnants, pillars, and low-grade mineralisation falling above the established NSR Mineral resource cut-off. DRA believes that there are reasonable prospects that a portion of these can be recovered towards the end of the mine life or when conditions require.

Mineralization contained within an area located in Magistral south which has stability issues resulting from interaction with the Santander fault, is of unlikely future mine access and has therefore been excluded from the Mineral Resource.

It should be noted that Mineral Resources do not include considerations for dilution or mining losses and these this will need to be included in any eventual more detailed mining evaluation.

Processing parameters consider milling and flotation, recovering zinc, and lead-silver in concentrates using current infrastructure.

Mineral Resources are here reported above a Net Smelter Return (NSR) cut-off of US$40. The calculation of the NSR, factors in metal prices, recoveries, as well as treatment and refining charges, and deductions in accordance with current contracts, including the Glencore off-take agreement. The numbers used are based on recent production and processing of the Magistral mine products as recorded by Trevali, and CDPR corporate guidance. Metal prices are based on LME 2021 averages. The metal prices, recoveries and the final multiplying factors required to calculate the NSR are included in Table 14.13.

Table 14.13: Magistral – NSR Calculation Parameters

	Metal Prices	Recoveries	Factors
Zinc	USD/tonne3,000	90%	16.7 x %Zn
Lead	USD/tonne2,200	75%	11.9 x %Pb
Silver	USD/oz25	55%	0.41 x g/t Ag

14.2.6.2 Mineral resource Statement

The Mineral Resources for the Magistral Deposits have been depleted using the mined-out volumes to the 31st of December of 2021. The Mineral Resources are summarized in Table 14.14

Table 14.14: Mineral resource Statement, Magistral Deposits

Category	Tonnes (000)	Zn (%)	Pb (%)	Ag (g/t)
Measured	1,013	3.92	0.92	36.1
Indicated	1,370	4.86	0.22	17.2
Measured + Indicated	2,383	4.46	0.51	25.2
Inferred	1,601	3.95	0.19	15.7

14.3 Santander Pipe Resource Modelling

14.3.1 Data available for estimate

The data available for the Santander Pipe Resource modelling includes 323 historic boreholes (18,549m) and 39 core holes drilled by Trevali between 2009 and 2021. Five of the Trevali holes executed between 2009 and 2011 failed to reach mineralization below the unmined levels at 4,020m asl. From 2017 to 2020 Trevali drilled a further 34 deep holes, including 21 deflections off mother holes, targeting mineralization below the mined areas at elevations between 3,600 and 4,000 m asl.

Table 14.15 and Table 14.16 summarises the drill hole information used for developing the Santander Pipe resource model. The tables distinguish data between three elevation intervals: (1) above 4,020 represents the historic mined levels (Mineral Resources are not reported above this elevation), (2) between elevations of 3,885 and 4020 represents the unmined portion of the main mineralised zone, and (3) below 3,885 represents a discrete and deeper mineralised zone outlined through drilling.

Table 14.15: Santander Pipe drill hole data

	Total	Above Level 4020		Betweem Levels 4020 and 3885		Below Level 3885	
	N° Holes	Drill length	N° Holes	Drill length	N° Holes	Drill length	N° Holes	Drill length

	Total		Above Level 4020		Betweem Levels 4020 and 3885		Below Level 3885	
	N° Holes	Drill length	N° Holes	Drill length	N° Holes	Drill length	N° Holes	Drill length
Historic	323	18,549	318	15,511	44	2,628	4	410
Trevali Surface	18	12,452	18	8,330	12	1,630	9	2,492
Trevali Deflection	21	12,211	21	3,609	20	3,005	20	5,597

Table 14.16: Santander Pipe drill hole data inside mineralised skarn envelope

	Total		Above Level 4020		Betweem Levels 4020 and 3885		Below Level 3885	
	N° Holes	Drill length	N° Holes	Drill length	N° Holes	Drill length	N° Holes	Drill length
Historic	159	4,680	155	3,330	33	1,231	3	119
Trevali Surface	9	284			5	158	6	125
Trevali Deflection	18	671			9	130	16	541

14.3.2 Geological Model and Domain

At Santander Pipe, primarily zinc skarn mineralization is hosted in stratigraphic bounded units. The geometry of the mineralised units is controlled by an NNW trending dome-shaped anticlinal structure with mineralization mostly along the fold limbs. Current drilling has recognised mineralization extending along a 170-meter diameter pipe-like feature to depths of 800m below surface (3,700 masl). Two main mineralised zones are recognised at depth: (1) mineralised strata above 3,950 masl that has been largely mined down to level 4,020, and (2) mineralization below 3,850 outlined by the deeper exploration drill holes. Between these two zones, lies approximately 100 metres of mostly unmineralised strata, where the predominance of unfavourable marls in this part of Chulec formation are responsible for the lack of mineralization.

Geological interpretations of the mineralised envelopes were initially based on historic cross sections and plans developed using information collected from the underground mine. Digital copies of the historic information were 3D referenced in Leapfrog Geo and used, together with the historic and new drill hole data, to generate a 3D wireframe model of the mineralised volume using Leapfrog's implicit 3D modelling capabilities. Figure 14.14 shows a North facing section and two level plans through the interpreted model.

For the Santander Pipe, mineralization falling inside the mineralised envelope was considered as a single domain for estimating grades and specific gravity.

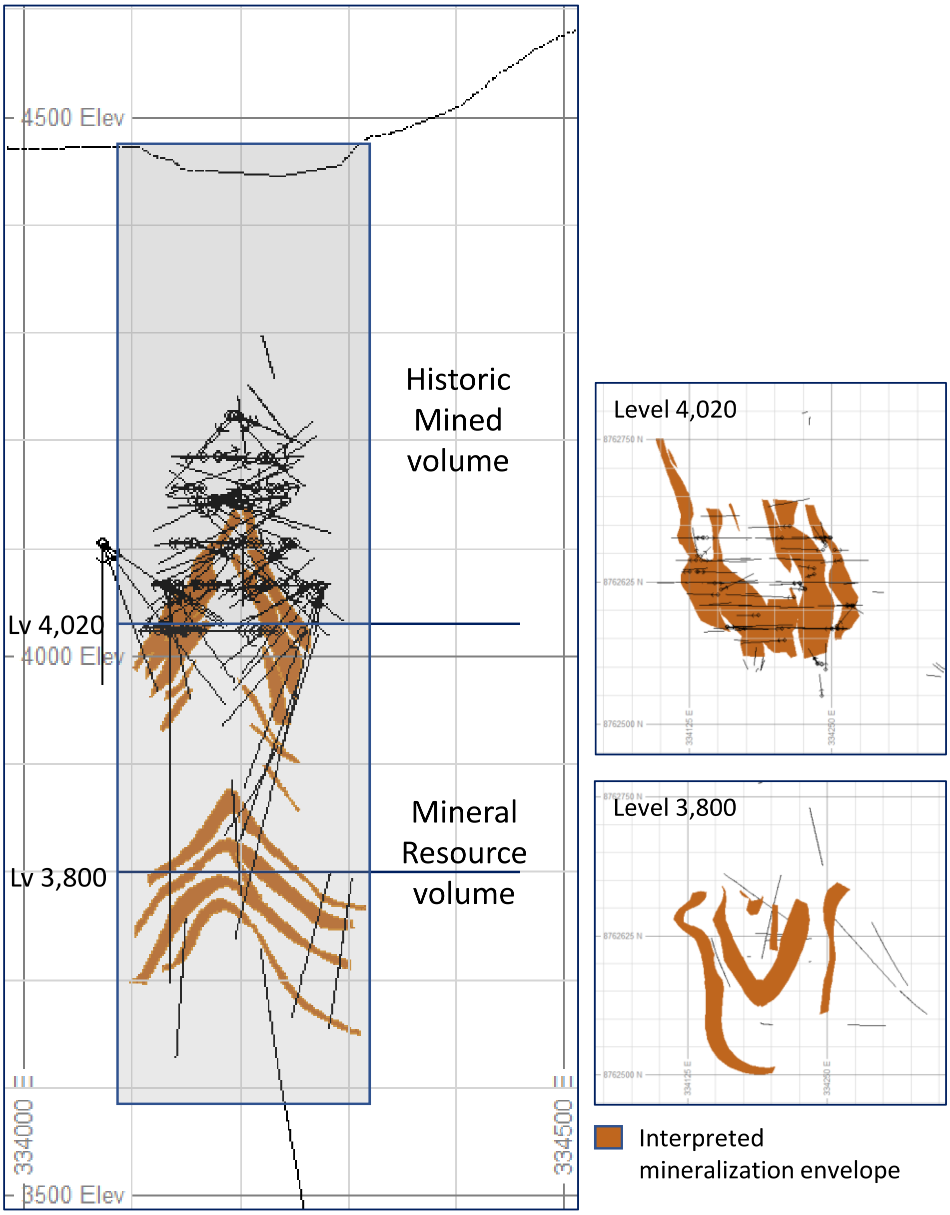


Figure 14.14: Santander Pipe Mineralization Model – Section N8,762,620 and two level plans. Source, DRA (2021).

14.3.3 Exploratory Data Analysis

14.3.3.1 Sample lengths & Compositing

Table 14.17 shows the statistics for sample lengths included in the Santander Pipe mineralised zone. For the historic data, 80% of the data have lengths between 1.6 and 3.6 metres, averaging 2.6 metres. Note that this data may not correspond to the original sample lengths as it was digitised from historic sections and plans. For the holes drilled by Trevali, sample lengths average 1.1m with 80% of the lengths falling between 0.5 and 1.9 metres.

For grade interpolation, sample lengths from the historic and new drilling were regularised to 2-metre composites. The statistics included in the following sections are based on these 2-meter composites.

Table 14.17: Sample lengths inside mineralised skarn envelope – Historic and Trevali drilling (<4,020 masl)

	L_Historic	L_Trevali
Number	1699	792
Mean	2.62	1.14
Standard Deviation	0.77	0.50
Minimum	0.36	0.20
Maximum	5.70	2.00
Percentile $_{0.1}$	1.61	0.50
Percentile $_{0.9}$	3.59	1.90

14.3.3.2 Statistics

Statistics and histograms for zinc, lead, copper, and silver contents of 2-metre composites falling within the mineralised envelopes (<4,020 masl) are shown in Table 14.18 and Figure 14.15.

The Santander Pipe mineralization is characterised by high Zn, low Pb and moderately elevated copper and silver contents. Correlations between Ag and Pb and Ag and Cu are indicative of argentiferous galena and Cu-Ag sulphide minerals.

Table 14.18: Zn, Pb, Cu & Ag - Statistics and Correlations for 2m composite samples inside mineralised envelope (<4,020 masl)

Statistics

	Zn	*Pb*	*Cu*	*Ag*
Count	1069	1069	1068	1060
Mean	5.99	0.03	0.12	12.7
Standard Deviation	5.17	0.18	0.21	17.4
Coefficient of Variation	0.86	6.28	1.79	1.37
Minimum	0.0021	0.0001	0.0001	0.0100
Maximum	32.7	4.06	2.43	184
p05	0.09	0.0001	0.0001	0.01
p95	16.0	0.11	0.44	39
p99	23	0.4	1.1	100

	Zn	Pb	Cu	Ag
Zn	1			
Pb	0.01	1		
Cu	0.33	-0.01	1	
Ag	0.18	0.47	0.4	1

Correlation

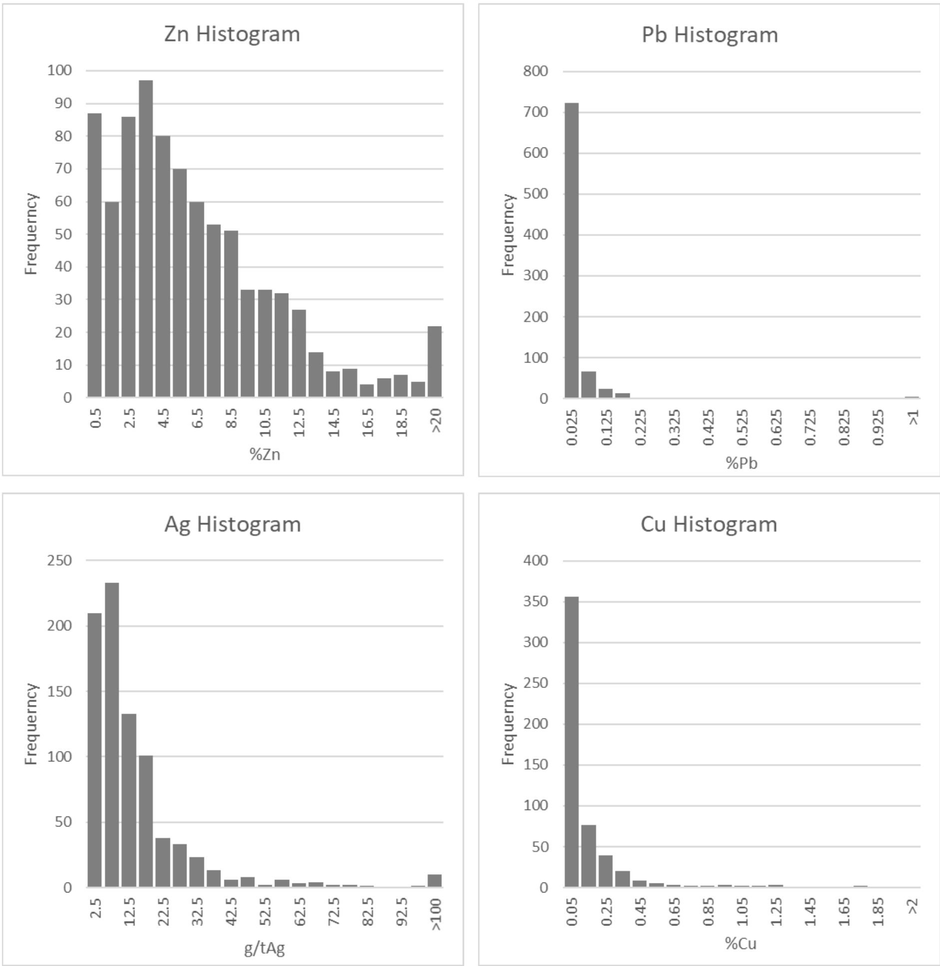


Figure 14.15: Zn, Pb, Cu & Ag – Histograms for 2m composites (<4,020 masl). Source, DRA (2021).

14.3.4 Mineral resource Modelling

14.3.4.1 Block Model

The block model for the Santander Pipe mineralization was developed in Leapfrog Geo. The block model parameters and extent are summarized in Table 14.19.

Table 14.19: Santander Pipe – Block Model Parameters

	Minimun (m)	Maximun (m)	Parent Block Size (m)	N° Blocks	Sub-block size (m)
Easting	333,890	334,440	5	110	0.5
Northing	8,762,000	8,762,500	5	100	0.5
Elevation	3,455	4,255	5	160	0.5

14.3.4.2 Interpolation Parameters and Variography

Zinc, Lead, Silver and Copper contents were interpolated in Leapfrog Edge by Ordinary Kriging.

Outlier grade composites were capped at threshold values shown in Table 14.20. In most cases, the chosen threshold corresponds approximately to the 99th percentile value. A comparison between the capped and uncapped average values shows that the impact of capping in the overall average grade is negligeable.

Table 14.20: Capping for 2m composites inside mineralised envelope (<4,020 masl)

	Maximum Value	99th percentile	Capped Value	Uncapped Mean	Capped Mean
Zinc %	33	23	25	5.99	5.97
Lead %	4.06	0.43	2.5	0.029	0.027
Copper %	2.43	1.12	1.3	0.117	0.114
Silver g/t	184	100	109	12.7	12.5

A block discretization of 2x2x2 was used to represent the block volume for estimation.

The variogram models used in the block estimation were determined from the experimental variograms calculated in Leapfrog Edge and are included in Table 14.21.

Estimation was carried out in three consecutive search passes. Details are included in Table 14.22.

Table 14.21: Santander Pipe - Semi-variogram Models

Variable	Direction			Nugget	Structure 1					Structure 2				
	Dip	Dip Dirn	Pitch		Sill	Max	Major	S-major	Minor	Sill	Max	Major	S-major	Minor
Zn	47	255	93	0.05	0.8	Sph	15	15	12	0	Sph	45	30	25
Pb	47	255	93	0.05	0.8	Sph	12	12	10	0	Sph	40	30	10
Ag	47	255	93	0.05	0.8	Sph	20	15	15	0	Sph	40	25	25
Cu	47	255	93	0.05	0.8	Sph	25	20	20	0	Sph	40	25	25

Table 14.22: Santander Pipe – Search Parameters

Variable	1st Pass					2nd Pass					3rd Pass				
	Search (m)			N° Samples		Search (m)			N° Samples		Search (m)			N° Samples	
	Major	S-major	Minor	Min	Max	Major	S-major	Minor	Min	Max	Major	S-major	Minor	Min	Max
Zn_pct	20	20	10	6	15	45	30	20	4	15	90	60	40	3	10
Pb_pct	20	20	10	6	15	45	30	20	4	15	90	60	40	3	10
Ag_gpt	20	20	10	6	15	45	30	20	4	15	90	60	40	3	10
Cu_pct	20	20	10	6	15	45	30	20	4	15	90	60	40	3	10

Variable orientation of searches and variogram axes was used in the interpolation. The orientations were determined using Leapfrog Edge. Whilst the major axis orientation was determined from the “pitch” of the variogram model (Table 14.21), the dip and dip direction were oriented parallel to the faces of the mineralised wireframe envelope.

14.3.4.3 Specific Gravity

Recent drilling carried out by Trevali includes 24 holes with 774 specific gravity determinations falling inside the modelled mineralised skarn at Santander Pipe. Considering that the historic data supporting a large part of the Resource does not include Specific Gravity measurements, density values were assigned to blocks using the following multilinear regression:

Calculated SG = (0.0143 x Zn) + (0.0983 x Pb) + (0.1076 x Cu) + (0.0247 x Fe) - (0.0017 x Ag) + 3.0270

DRA has reviewed the regression applied and considers it appropriate. Figure 14.16 compares the Measured Specific Gravity determinations against the values calculated from the regression. The average values are similar.

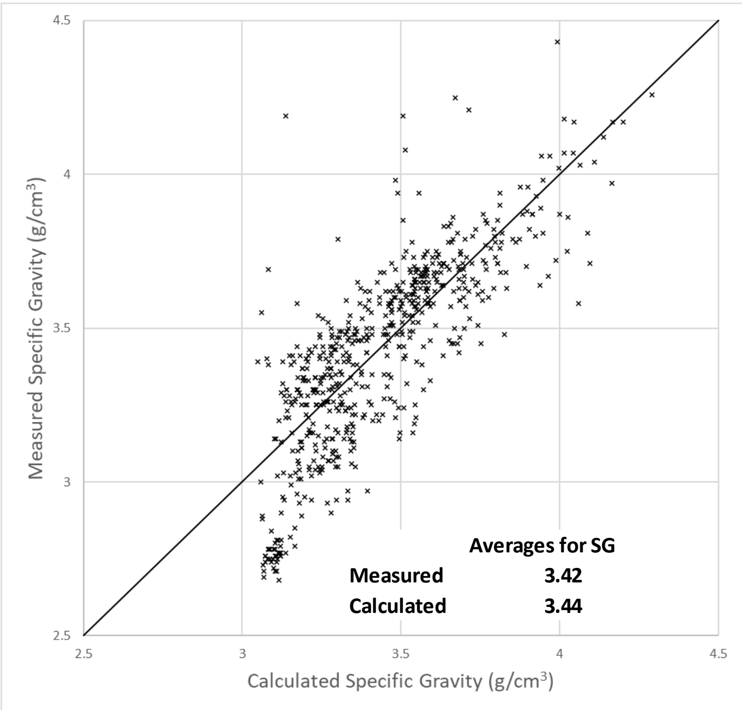


Figure 14.16: Santander Pipe – Specific Gravity – Comparison between Measured and Calculated values. Source, DRA (2021).

14.3.4.4 *Resource Classification*

Under CIM Definition Standards, Mineral Resources are classified into three confidence categories. In order of increasing confidence, blocks can be classified as either Measured, Indicated, or Inferred. Important considerations in assigning a resource category are spatial aspects including continuity of grade, and the locations, types, and spatial density of the informing data. In addition, it is important to consider the relative confidence of all the data inputs.

DRA has reviewed and revised the original classification employed by Trevali to conform with CIM standards. Revisions were made as follows:

- whilst a significant portion of higher elevation (3885 to 4020 masl) mineralization had originally been classified as Measured, DRA has downgraded these to Indicated in consideration of the limitations in the historic data outlined in Section 10 (Drilling), and the reliance of the resource model on this data in the upper parts of the model (Table 14.16).
- some inconsistencies were noted in the mineralization envelopes in the lower section of the model (below 3,885 masl) that impart uncertainties in the current model. These included: (1) discrepancies between logged-assayed mineralised intervals and what was included in the envelope, and ultimately used for the block estimation, and (2) not assayed unmineralised intervals included in the mineralised envelope but ignored in the grade interpolation. Whilst the former (Item 1) may lead to local block underestimations, the latter (Item 2) will result in the opposite, local block over-estimations. In addition, detailed inspections of drill sections suggest that the mineralization in the lower section of the deposit is more erratic and shows a lower degree of geological continuity when compared to the upper section. Given these uncertainties, DRA has downgraded mineralization originally classified as Indicated in this part of the model to Inferred. DRA is of the opinion that a significant portion could be upgraded to Indicated following a more detailed revision of the model for this part of the deposit.

Despite the modifications, DRA has noted opportunities to potentially increase the mineral resource, and is of the opinion that more drilling and an improved geological model should lead to additions in the mineral resources.

For the revised classification, mineralization has been classified as either Indicated or Inferred based on the spatial configuration of data informing the block estimate, as well as on the confidence in the informing data and the geological model.

For the upper levels (between 3,885 and 4020 masl), blocks were initially assigned a category based on proximity and abundance of informing data. The criteria used are included in Table 14.23. In a second step, larger volumes with predominance of Indicated or Inferred blocks were outlined using wireframes. The predominant resource category was assigned to each of the enclosed volumes resulting in continuous zones of Indicated and Inferred mineralization.

Table 14.23: Santander Pipe – Searches used for Resource Classification

Category	Search	Minimum Samples	Nearest Data point
Indicated	Estimated in 1st or 2nd pass (search 45x30x20m)	7	<30m
Inferred	Estimated in 1st, 2nd or 3rd pass (search 90x60x40m)	4	<45m

For the lower elevation blocks (below 3,885), the mineralization was classified as Inferred.

A vertical section through the classified model is shown in Figure 14.23.

14.3.5 Model Validation

An essential step in resource modelling is the validation or verification process. Statistics, swath plots (spatial averages) and visual checks comparing the block estimates to the informing data are presented in the following sections.

Spatial clustering of the data has been accounted for by means of running a "nearest neighbour" block grade assignation. In other words, each block within the mineralised envelope is assigned the grade of the closest 2m composite sample. In this way, the composite statistics (weighted mean and variance) are preserved, and appropriate weighting is provided for comparing with the kriged interpolated grade estimates.

14.3.5.1 Statistics

The 2-meter composites are compared to the block estimates in Table 14.24. The results show only minor differences between composite and estimated grades. The slightly lower block estimate averages can be explained by capping (Section 14.3.4.2 and Table 14.20). Block variances are significantly lower than the composite sample variances, with Variance Reduction Factors (vrf = Sample Variance / Block Variance) mostly falling between 0.25 and 0.4. This suggests that grade-tonnage estimates include an important degree of smoothing necessary to account for volume variance adjustments required for mine development studies.

Table 14.24: Santander Pipe – Grade Statistics comparing composites to block estimates

Elevation Interval	Variable	Composites (Nearest Neigbour)					Block Model					Difference	
		Min	Max	Mean	SD	Var	Min	Max	Mean	SD	Var	Mean	vrf
3885 to 4020 2,078 kt	zn%	0.01	32.7	7.12	4.96	24.6	0	21.7	7.01	2.44	5.98	-2%	0.24
	Pb%	0	4.1	0.04	0.179	0.03	0	1.6	0.03	0.087	0.008	-16%	0.24
	Ag%	0.01	184.1	14.8	16.2	263	0	85.2	14.3	8.2	66.9	-3%	0.25
	Cu%	0	1.8	0.11	0.159	0.03	0	0.8	0.1	0.086	0.007	-2%	0.29
below 3885 to 3,888kt	zn%	0	26.4	4	4.81	23.1	0	20.6	3.99	2.88	8.32	0%	0.36
	Pb%	0	0.1	0	0.006	0	0	0.1	0	0.003	0	-7%	0.34
	Ag%	0.01	111.8	6.1	11.3	128	0	69.4	6.1	7.4	55.3	-1%	0.43
	Cu%	0	2.4	0.13	0.257	0.07	0	1.3	0.13	0.164	0.027	-2%	0.41
Total 5,967 kt	zn%	0	32.7	5.09	5.08	25.9	0	21.7	5.04	3.09	9.56	-1%	0.37
	Pb%	0	4.1	0.02	0.107	0.01	0	1.6	0.01	0.053	0.003	-15%	0.25
	Ag%	0.01	184.1	9.2	13.8	192	0	85.2	9	8.6	74.8	-2%	0.39
	Cu%	0	2.4	0.12	0.228	0.05	0	1.3	0.12	0.142	0.02	-2%	0.39

14.3.5.2 Swaths

Swath plots are commonly used to compare block estimates to sample averages within coordinate slices oriented in specific directions. Observed differences may be suggestive of extrapolation or over-smoothing of the block estimates. Large differences can often be attributed to areas with little sampling or mineralised material.

Figure 14.17, Figure 14.18, Figure 14.19, Figure 14.20, Figure 14.21 and Figure 14.22 compare block estimates to the composite (NN) averages along Elevation, Northing and Easting coordinate slices, for Zn, Pb, Ag and Cu. Averages for slices representing less than 50,000 tonnes have been omitted from the graphs. DRA note similar behaviour of estimated and sample value averages in all directions, replicating trends. There is no indication of biases, extrapolation, or over-smoothing of the block estimates.

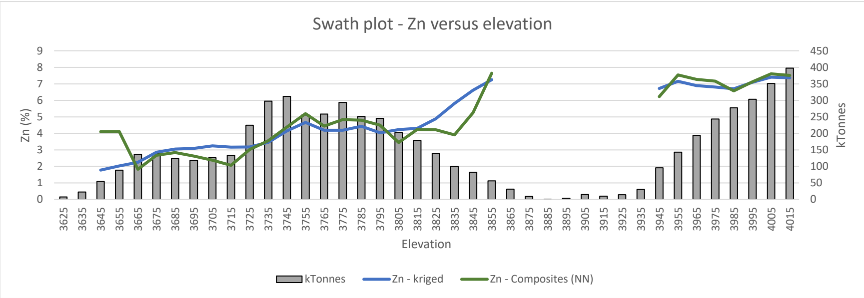


Figure 14.17: Santander Pipe – Swath Plot – Zn vs Elevation. Source, DRA (2021).

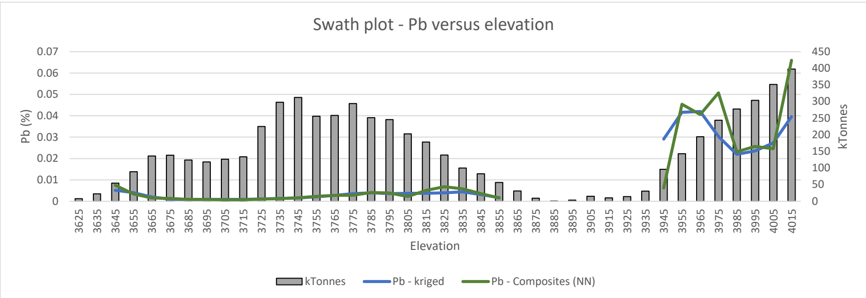


Figure 14.18: Santander Pipe – Swath Plot – Pb vs Elevation. Source, DRA (2021).

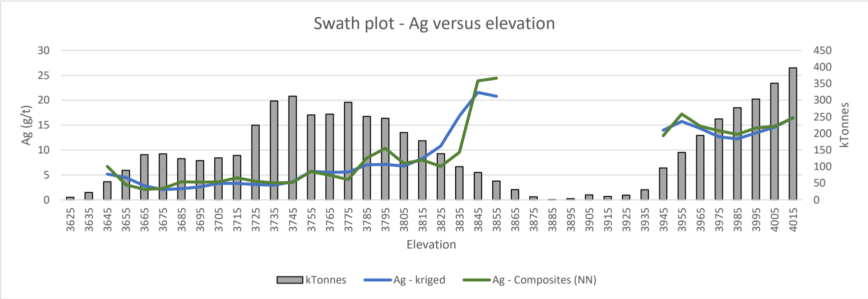


Figure 14.19: Santander Pipe – Swath Plot – Ag vs Elevation. Source, DRA (2021).

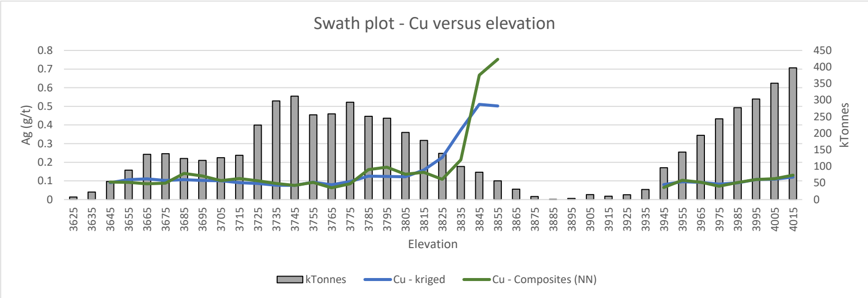


Figure 14.20: Santander Pipe – Swath Plot – Cu vs Elevation. Source, DRA (2021).

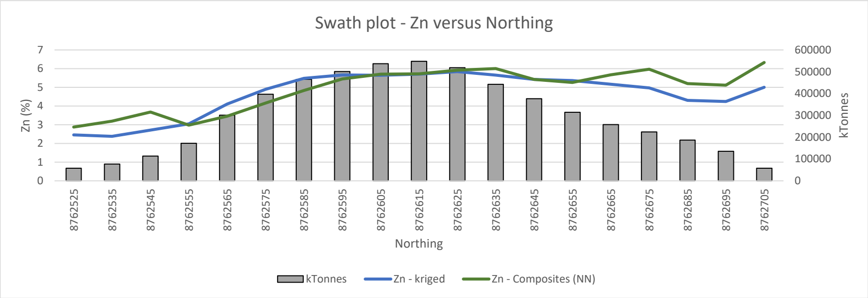


Figure 14.21: Santander Pipe – Swath Plot – Zn vs Northing. Source, DRA (2021).

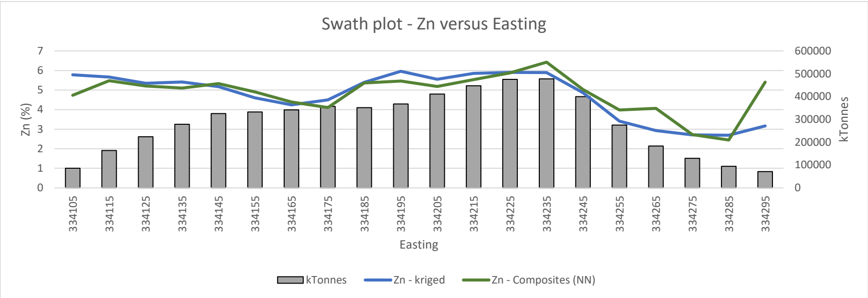


Figure 14.22: Santander Pipe – Swath Plot – Zn vs Easting. Source, DRA (2021).

14.3.5.3 *Visual*

The final step in the verification process was to visually review sections and/or plans comparing block estimated values against the drill hole composite assays. DRA completed a cross section review identifying some inconsistencies described in Section 14.3.4.4, and which consequently led to a revised classification.

Figure 14.23 shows a North section through the centre of Santander Pipe comparing composite grades to block estimated grades, noting a good correlation. The right-hand-side of the section shows the final classification of the blocks.

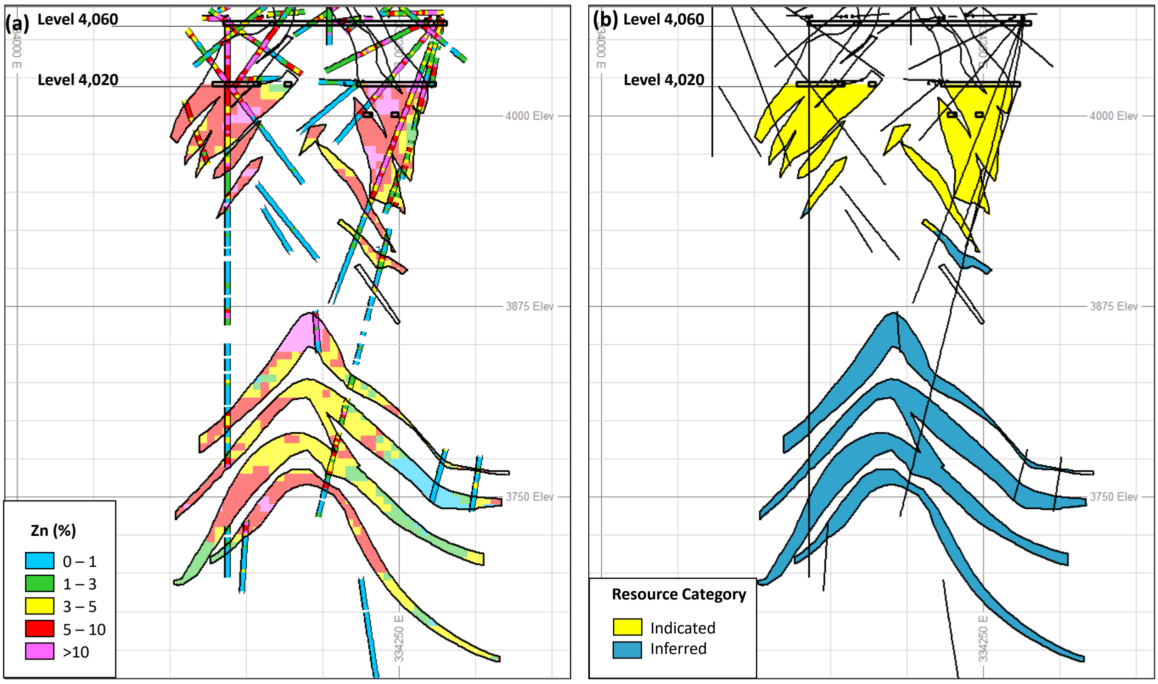


Figure 14.23: Santander Pipe Section N8,762,620 - (a) Comparison between Zn in composites vs estimated block grades, (b) Resource Classification. Source, DRA (2021).

14.3.6 *Mineral Resources*

14.3.6.1 *Mining Considerations*

By definition, a Mineral resource must have “reasonable prospects for eventual economic extraction”.

The declared Mineral Resources at Santander Pipe are below an elevation of 4,020 masl, nearly 500 metres below surface and an eventual mining operation will require underground methods.

Historic mining continued at Santander Pipe until mid-1992 when production ceased for reasons outlined in Section 6.1, leaving considerable high-grade mineralization in the ground. DRA considers that a substantial portion of this mineralization satisfies the requirement of “reasonable prospects for eventual economic extraction”.

Processing considers milling and flotation recovering zinc, lead, copper, and silver in concentrates using current infrastructure that may require some modifications to include copper in the recovery circuits.

Mineral Resources are reported above a Net Smelter Return (NSR) cut-off of US$40. The calculation of the NSR, factors in metal prices, recoveries, as well as treatment and refining charges, and deductions. The numbers used are based on recent production and processing of the Magistral mine products, and CDPR corporate guidance. Metal prices are based on LME 2021 averages. The metal prices, recoveries and the final multiplying factors required to calculate the NSR are included in Table 14.25. The mineralization at Santander Pipe is excluded from the Glencore off-take agreement and therefore does not include further charges on the final products.

Table 14.25: Santander Pipe – NSR Calculation Parameters

	Metal Prices	Recoveries	Factors
Zinc	USD/3000 tonne	90%	17.5 x %Zn
Lead	USD/2,200 tonne	70%	11.1 x %Pb
Copper	USD/9,300 tonne	60%	40.8 x %Cu
Silver	USD/25oz	50%	0.37 x g/t Ag

14.3.6.2 Mineral Resource Statement

The Mineral Resources for the Santander Pipe deposit are summarized in Table 14.26.

Table 14.26: Mineral Resource Statement, Santander Pipe Deposit

Category	Tonnes (000)	Zn (%)	Cu (%)	Pb (%)	Ag (g/t)
Indicated	1,791	7.18	0.10	0.03	14.8
Inferred	3,189	5.07	0.15	0.004	7.9

15 MINERAL RESERVE ESTIMATES

No mineral reserve estimates have been carried out by CDPR to date.

16 MINING METHODS

This section describes the underground mining methods used at the Santander mine and summarizes mine design and planning practices.

The selection of the mining method is critical as it impacts dilution, productivity, product consistency, production capacity, as well as development, backfill, and ventilation requirements. Bench and fill with a mechanized extraction methodology is the mining method applied at the Santander Mine. Current production capacity is about 2,000 tpd of zinc-lead-silver ore.

Currently, underground mining targets the Magistral Norte (MN), Magistral Centro (MC), and Magistral South (MS) deposits, with three separate portals and ramp systems in place, which are strategically connected underground.

All geology, mine planning, hydrogeology, geotechnical assessment, mine services, ventilation, and electric power supply evaluations are undertaken by the mine technical services department.

16.1 Hydrogeology

Based on recent hydrogeological studies, the estimated groundwater inflows into the proposed development and production areas of the underground mine reach a nominal 650 l/s in the worst case scenario. Recent studies employed a groundwater inflow rate of 650 l/s for the design of the mine dewatering system as part of the 2,000 tpd mine study. The mine dewatering system is discussed in Section **¡Error! No se encuentra el origen de la referencia.**.

16.2 Geotechnical

Santander's geomechanics personnel evaluate ground conditions of the mining areas using the following systems:

- Geological Strength Index (GSI) as described by Marinos et al (2007);
- Rock Mass Rating (RMR) that uses the Bieniawski (1989) classification system.

RMR and GSI are used as the main systems for ranking the rock mass at the Santander Mine from very bad (RMR less than 20), to good (RMR greater than 61) as detailed in Table 16.1.

The maximum stable opening dimensions have been estimated based on this rock mass classification and the hydraulic radius for each mineralised structure. The maximum stable unsupported dimensions for openings excavated in structures at MN, MC and MS are detailed in Table 16.2.

Table 16.1: Geomechanical Rock Mass Classification at the Santander MineGeomechanical Rock Mass Classification at the Santander Mine

Classification	RMR
Good	61 - 80
Regular - A	51- 60
Regular - B	41 - 50
Bad - A	31 - 40
Bad - B	21 - 30
Very Bad	0 - 20

Table 16.2: Stope Design Size

	MAXIMUM DIMENSIONS (m) - STABLE ZONE WITHOUT SUPPORT											
	MAGISTRAL NORTH				MAGISTRAL CENTER				MAGISTRAL SOUTH			
	Nv 4160		Nv 4090		Nv 4160		Nv 4090		Nv 4160		Nv 4090	
Dip	Width	Length	Width	Length	Width	Length	Width	Length	Width	Length	Width	Length
80°-90°	13	37	14	37	16	37	14	35	15	22	12	22
65°-75°	13	33	14	33	16	36	14	33	17	19	14	19
50°-60°	18	20	20	18	19	25	16	25	19	16	15	16

The RMR of the rock for Magistral North, Central and South systems range from 35 to 60, which is adequate for the type of openings required for bench and fill mining with waste rock fill. Ground support for stope openings includes 8-foot long bolts and 2 to 3-inch shotcrete. To ensure appropriate ground support, they should be installed/applied in a timely manner: one robot shotcrete machine and one rock bolter have been incorporated into the mining fleet for this purpose. The RMR estimates of the MN, MS, and MC systems is as follows:

Magistral North

- Mineral**:** Rock mass of Regular to Poor quality, RMR=35-55.
- Footwall: Rock mass of Regular quality; with values of RMR=51-50 in the immediate Wall and RMR=51-60 in the far wall.
- Hangingwall: Rock mass of Regular to Poor quality; RMR=35-60. The Poor quality is associated to the presence of fractured walls.

Magistral Central

- Mineral: Rock mass of Regular quality; RMR=41-60.
- Footwall: Rock mass of Regular quality; RMR=45-55; locally, it presents Poor (RMR=31-40) to Very Bad (RMR<20) quality in areas associated with karstic formations.

- Hangingwall: Rock mass of Regular quality, RMR=41-60.

Magistral South

- Mineral: Rock mass of Regular to Good quality; RMR=41-70.
- Footwall: Rock mass of Regular quality; RMR=41-60; locally, it presents Poor (RMR=31-40) to Very Bad (RMR<20) quality in areas associated with karstic formations.
- Hangingwall: Rock mass of Regular quality, RMR=41-60

To determine pillar resistance, methodologies proposed by three authors (Lunder & Pakalnis, Obert & Duvall, and Bieniawski) have been used to determine the parameters for pillar stability.

Iterations have been carried out taking into account safety factors greater than 1.4, where the width of the pillar (Wp) is determined according to the width of the opening (Wo) for each development level.

The empirical method used for the design of the pillars is the one proposed by Lunder (1994) through his “Pillar Stability Graph”. This graph relates the geometry of a pillar, provided by the width (Wp) divided by the height (Hp), with the resistance conditions of the pillar expressed by the relationship between the load conditions and the resistance to simple compression of the rock. Lunder and Pakalnis (1997) propose that pillars with FS<1.0 have greater potential for failure (collapse), while pillars with FS>1.4 should not suffer any damage. The range 1.0<FS<1.4, corresponds to pillars presenting local instability conditions (spalling) without presenting major failures. This method is used for rib pillars and bridge pillars.

To determine the thickness of the safety pillars, the maximum thickness of the mineralised body has been taken into account, based on information from geological sections.

16.3 Mining Method

As noted before, the mining method selected for underground mining is a modified Avoca method (Table 16.1) comprising overhand bench and fill which requires the removal of mineral in vertical slices, starting from the bottom undercut and advancing upwards. When mineralised widths are greater than 3 m, a combination of bench and fill and room-and-pillar methods has been selected as the most appropriate for the conditions encountered.

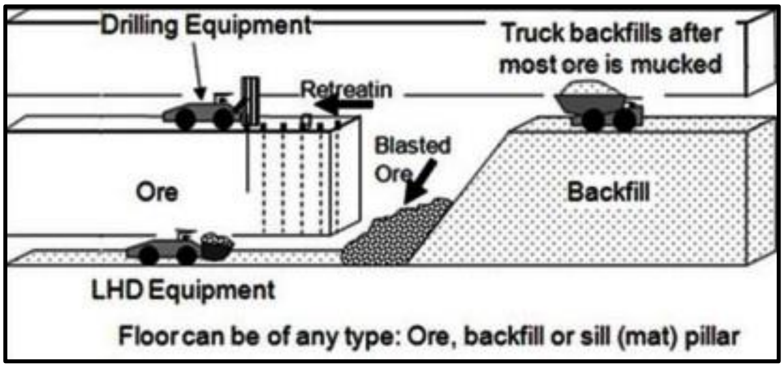


Figure 16.1:Bench and Fill Method (AVOCA). Source, modified from SRK (2016).

Mechanized mining uses a jumbo drill rig to drill blastholes, scooptrams for loading and trucks for ore haulage. Rock support is provided through rock bolts and shotcrete. The deposit width ranges from 13 m to 20 m for the three Magistral deposits. Mechanized mining is regarded as the only methodology suitable based on the geological structure and geotechnical studies to date (Section 16.2). The mechanized mining cycle includes drilling (with a jumbo drill rig), blasting, ground support, loading (by scooptram) and haulage.

A brief description of the mining method is as follows (Figure 16.2 and Figure 16.3):

1. Ore is extracted from the stope in vertical slices that span the entire width and length of the stope using pivot horizontal cuts.
2. After the stope has been mined out, voids are backfilled with waste rock. The key performance indicators for this activity sets 85 t/h production rates for rock waste.
3. Drilling of vertical slices is conducted in sections of 4 m by 4 m by jumbo rigs which have 5 m long booms.
4. Blastholes are charged with an emulsion and ANFO mix. The average powder factor is 0.45 kg/t.
5. After the mine face has been blasted, ventilated, and supported (as defined by the geomechanics personnel), mucking to an underground stockpile is done by 6-yd^3 scooptrams. Trucks with 14 m^3 capacity transport the broken ore to the surface stockpiles.

Stopes are drilled from the upper sublevel or the fully open overcuts as benches using 64 mm diameter blastholes. The blastholes are loaded and blasted in vertical cuts to an open face. Blasted ore gravitates to the bottom of the stope and is extracted from the production sublevel below with LHD equipment.

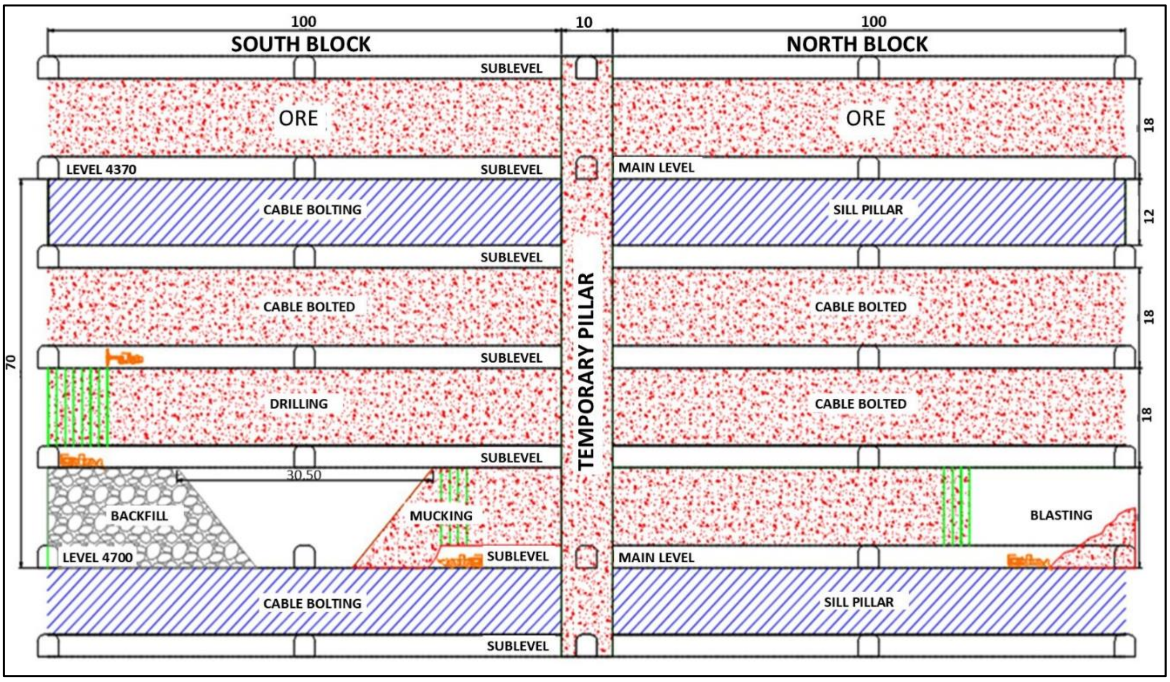


Figure 16.2: Bench and Fill Method at Santander Mine. Source, modified from SRK (2016).

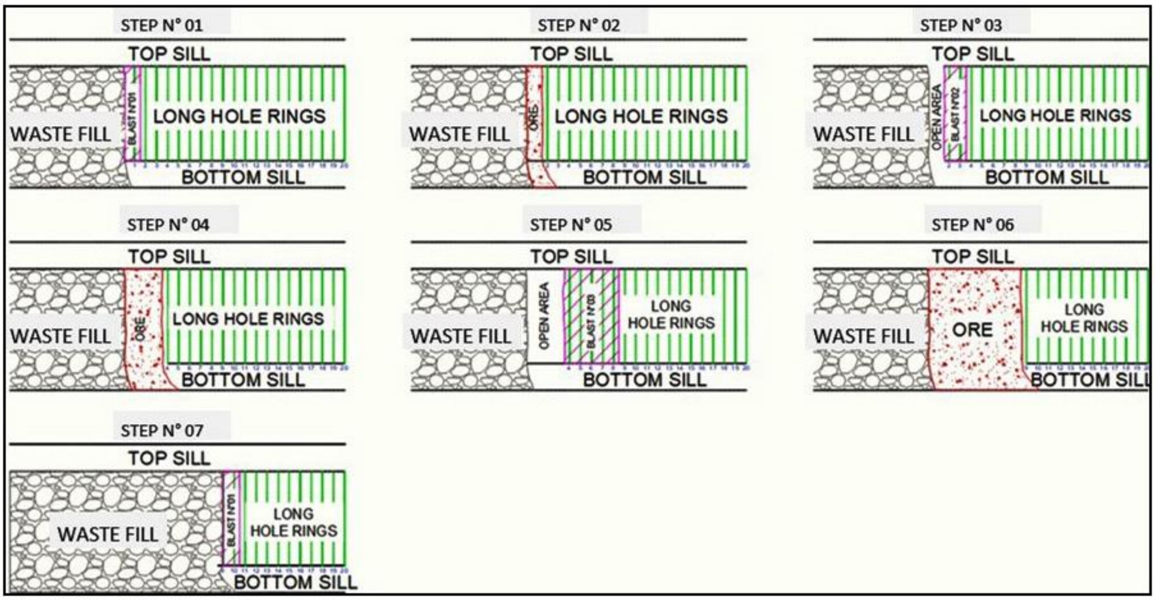


Figure 16.3: Modified Tight-Fill Avoca Mining Method and Blasting Sequence. Source, modified from SRK (2016)

Mined-out stopes are surveyed using cavity monitoring system (CMS) before filling them with development waste rock or temporary waste rock storage areas. Occasionally, if underground development waste rock cannot meet the fill requirements, waste rock from permitted surface borrow pits.

Generally, the external dilution factor and stope recovery are in the range of 8-12% and 95%, respectively.

16.4 Underground Mine Model

16.4.1 Mine Layout

Access to the Santander underground mine is from surface through a main ramp with a total average gradient of 10 % and dimensions of 5.0 m width by 4.5 m height. A longitudinal section of the mine layout is displayed in Figure 16.4.

The Santander Mine has been designed with main extraction levels every 70 m, primarily to limit blast vibration but also to assist with hanging wall and footwall stability.

The mine layout is also determined by the ventilation requirements. Calculations by the Santander mine technical services personnel indicate that the ventilation requirements of the operation are 363,926 cfm (see Table 16.5). The ventilation system brings all the intake air through the main ramps and three main airway networks. Exhaust air is forced to the surface from inside the mine by three principal fans, one operating at 160,000 cfm, one operating at 120,000 cfm and one at 100,000 cfm.

16.4.2 Mine Development

For 2022, the Santander mine requires the resumption of lateral and vertical development in conjunction with the diamond drilling which is being recommended in this Technical Report.

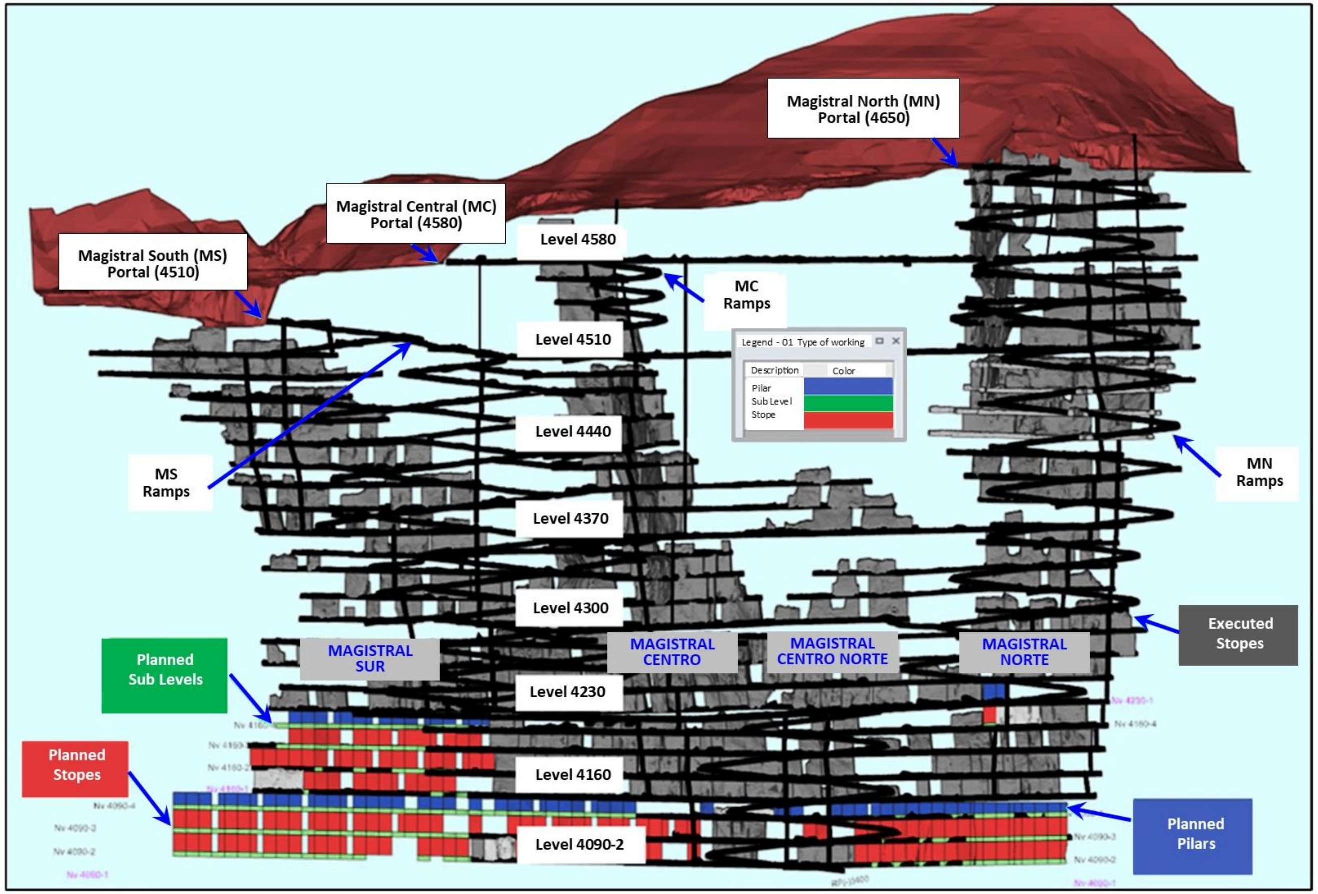


Figure 16.4:Mine Layout – Magistral Orebodies. Source CDPR (2021).

16.5 Equipment, Manpower, Services and Infrastructure

16.5.1 Contractor Development

The underground mine is operated by a mining contractor selected by CDPR based on a competitive bidding process.

The mining contractor is responsible for all underground mining activities, including but not limited to drift development, stope preparation, exploitation, installation of ground support, and waste rock fill.

16.5.2 Mining Equipment

The current mining fleet consists of the following equipment:

- Five 6.3-yd^3 scooptrams;
- Two two-boom electric hydraulic jumbos;
- One electric hydraulic rock bolter jumbo;
- Two Simba jumbos;
- Nine 14-m^3 trucks;
- Two concrete mixer trucks;
- One shotcrete robot;
- One telehandler (telescopic);
- One skid steer;
- One scaler;
- One motor grader;
- One utility truck.

16.5.3 Manpower

The mine operations currently employs a total of 500 employees, consisting of 400 contractors and 100 mine staff.

16.5.4 Ore and Waste Handling

Transportation of ore and waste is done with 14-m3 trucks through the main and secondary ramps. In order to optimize truck speed and maintenance requirements, the ramps have been designed with a 10% gradient and a 17-m curvature radius. Ore is transported to the corresponding stockpile and waste to underground stopes that require filling.

16.5.5 Mine Ventilation

Air requirements at the mine have been analyzed in accordance with the Peruvian Regulation D.S N° 024-2016-EM (amended by D.S N° 023-2017-EM), which establishes the parameters of quantity and quality of air that must be supplied to the working areas of an underground mine. Key aspects of such regulations are shown in Table 16.3 and Table 16.4 below.

Table 16.3: Air Requirements According to Peruvian Regulations

DESCRIPTION	AMOUNT	UNITS
Staff (at more than 4,000 masl)	6	m3/min
Diesel equipment	3	m3/min-HP
Minimum air velocity (dynamites)	20	m/min
Minimum air velocity (ANFO)	25	m/min
Maximum velocity	250	m/min
Flow Leakage	15	%

Source: Extract from Article N° 248 DS 024-2016 EM (air quantity and Annex 38° DS 023-2017 EM).

Table 16.4: Air Quality Parameters According to Peruvian Regulations

Chemical agents (in the air)	TWA	STEL	Limit (C)
Carbon monoxide (CO)	25 ppm		
Carbon dioxide (CO_2)	5,000 ppm	3,000 ppm	
Nitrogen dioxide (NO_2)	3ppm	5 ppm	
Oxygen (O_2)	0.195		0.225
Hydrogen sulfide (H_2S)	10 ppm	15 ppm	

Source: Extract from Annex N° 15, DS 024-2016 EM (occupational exposure limits for chemical agents).

Ventilation at the mine includes:

- The main ventilation system;
- Auxiliary ventilation system (for stopes and blind developments).

For optimal performance of the operation, to provide adequate ventilation to the working faces, the required airflow is 363,926 cfm, taking into account the total number of people working at the mine as well as the equipment required to accomplish daily tasks. Table 16.5 shows the calculation of the mine ventilation requirements resulting from the diesel equipment operating underground.

Table 16.5: Santander Mine Air Flow Requirements

N°	Equipment	Quantity	Nominal HP	F.C Elevation	Effective Power (HP)	DM (%)	FU (%)	Air Velocity m3/min	CFM
1	Simba NAUTILUS	1	97.2	0.76	73.9	74 %	64	104	3,683
2	Simba S7D	1	107	0.76	81.3	71	65	112	3,960
3	Jumbo Boomer S1D	1	100	0.76	76	89	48	97	3,419
4	Jumbo Rockbolter JE-26	1	100	0.76	76	80	28	50	1,178
5	Scoop tram R1600 H	1	100	0.76	76	82	37	68	2,411
6	Scoop tram R1600 H	1	295	0.76	224.4	85	42	242	8,555
7	Scoop tram R1600 H	1	279	0.76	212	86	66	362	12,772
8	Scoop tram R1600 H	1	279	0.76	212	80	62	317	11,178
9	Scoop tram R1600 H	1	279	0.76	212	93	66	390	13,789
10	Scoop tram R1600 H	1	279	0.76	212	90	19	111	3,909
11	Truck	1	425	0.76	323	79	80	608	21,484
12	Truck	1	425	0.76	323	75	90	656	23,184
13	Truck	1	425	0.76	323	79	80	609	21,484
14	Truck	1	425	0.76	323	64	88	543	19,172
15	Truck	1	425	0.76	323	72	64	449	15,851
16	Truck	1	425	0.76	323	90	86	752	26,554
17	Truck	1	425	0.76	374.7	88	84	830	29,321
18	Truck	1	425	0.76	323	63	84	506	17,859
19	Scaler	1	82	0.76	62.3	78	41	59	2,100
20	Robot shotcrete machine	1	73.8	0.76	56.1	80	43	57	2,025
21	Mixer	1	174	0.76	132.2	74	34	101	3,555
22	Mixer	1	174	0.76	132.2	85	53	178	6,295
23	Telehandler	1	98	0.76	74.5	83	77	142	5,020
24	4 x 4 truck	11	120	0.76	1003.2	86	35	911	32,168
25	Explosives truck	1	147	0.76	111.7	86	35	101	3,582
26	Water truck	1	147	0.76	111.7	86	35	101	3,582
27	Service truck	2	147	0.76	223.4	86	35	203	7,165
	Total	**38**			**5,998.6**		**Q_{eq}**	**8,659**	**305,255**

The ventilation airflow balance according to current operating conditions at the mine is shown in Table 16.6 Air intake is through the main access ramps. Exhaust is through three 3-m diameter raise bores.

Table 16.6: Air Flow in-out Balance

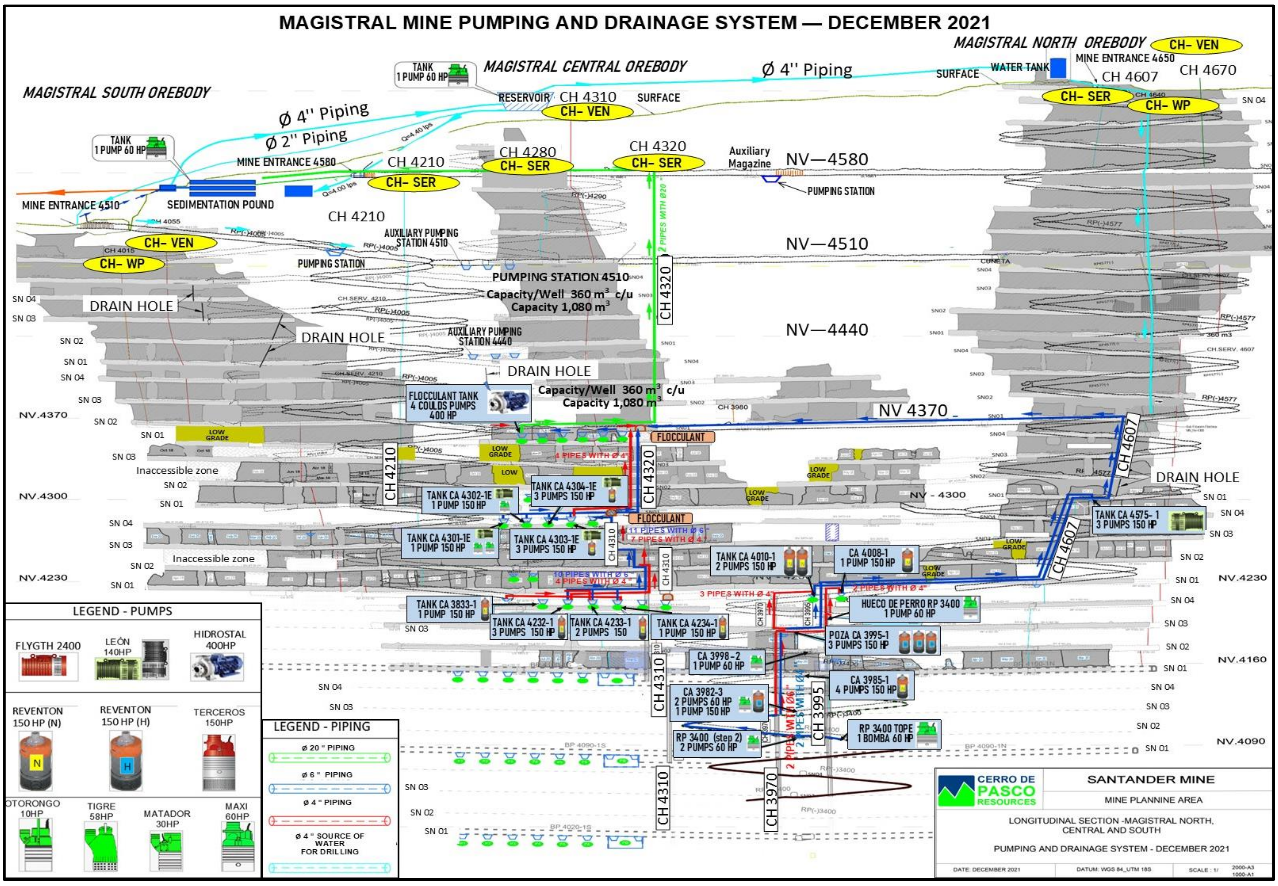
Airways	LoM (cfm)
Fresh air	438,741 (*)
Exhaust air	448,498
Air requirement (**)	363,926
Coverage (%)	120.6%

* Projected by Ventsim Simulator
** Peruvian regulation (75 cfm/hp)

As of December 2021, the ventilation network comprises 99% of the total design (see Figure 16.5).

16.5.6 *Mine Dewatering System*

The mine drainage system (Figure 16.6) removes excess water that is encountered underground. Currently, maximum flow is 650 l/s. The main drainage system includes six pumping stations at each of the main levels of the mine near the Magistral Centro area. The mine dewatering system discharges into a surface sedimentation pond. Clarified water is used in the processing plant.



The following pumping stations comprise the Santander mine pumping system:

Auxiliary Station Level 4090-2:

- 01 Maxi Type "H" pump - 58 HP installed at the top of Rp (-) 3400, that pumps through 4" Ø HDPE pipe towards Poza N ° 1 of Level 4090-2 (average flow: 27 l/s - static head: 59m).

Secondary Station Level 4090-2: Consider the following:

- 02 Type “H” pumps - 150 HP installed in Pond N ° 1_Rp (-) 3400, pump through 6”-Ø HDPE pipes to CA 4008 of Level 4160-1 (average flow: 47.0 l/s - static head: 123m).
- 03 Type “H” pumps - 150 HP installed in Pond N ° 2 that pump through 6”-Ø HDPE pipes to CA 4008 of Level 4160-1 (average flow: 49.7 l/s - static head: 122m).
- 04 Type “N” pumps - 150 HP installed in Pond N ° 3 that pump through 6”-Ø HDPE pipes to Pond CA 3855-1 of Level 4160-1 (average flow: 77.4 - l/s static head: 51m).

Secondary Station Level 4160-1: Consider the following:

- 01 Type “N” pump - 150 HP installed in Pond N ° 1, that pumps through 6”-Ø HDPE pipe to CA 4008 of Level 4230-1 (average flow: 67.0 l/s - static head: 73m).
- 01 Type “N” pump - 150 HP installed in Pond N ° 2, that pumps through 6”-Ø HDPE pipe to CA 4008 of Level 4230-1 (average flow: 71.0 l/s - static head: 73m).
- 03 Type “N” pumps - 150 HP installed in Pond N ° 3 that pump through 6”-Ø HDPE pipes to Pond CA 4008-1 of Level 4230-1 (average flow: 77.4 l/s - static head: 66.6m).

Auxiliary Station Level 4160-3:

- 01 Maxi Type “H” pump - 58 HP installed in Pond N ° 1 of Level 4160-3, that pumps through 4”-Ø HDPE pipe to CA 4008 of Nv.4230-1 (average flow: 37 l/s - static head: 35m).

Secondary Station Level 4230-1: Consider the following:

- 02 Type “H” pumps - 150 HP installed in CA 4010 of Level 4230-1 that pump through 6”-Ø HDPE pipe towards Pond N ° 1 of Level 4300-1-MN (average flow: 45.5 l/s - static head: 77m).
- 02 Type “N” pumps - 150 HP installed in Pond N ° 2 of Level 4230-1 that pump through 6”-Ø HDPE pipe to Pond N ° 5 of Level 4300-1-MS (average flow: 62.15 l/s - static head: 72m).
- 03 Type “N” pumps - 150 HP installed in Pond N ° 3 of Level 4230-1 that pump through 6”-Ø HDPE pipe to pond N ° 5 of Level 4300-1-MS (average flow: 68.6 l/s - static head: 72m).
- 03 Type “N” pumps - 150 HP installed in Pond N ° 4 of Level 4230-1 that pump through 6”-Ø HDPE pipe to Pond N ° 5 of Level 4300-1-MS (average flow: 62.4 l/s - static head: 72m).

Secondary Station Level 4300-1: Consider the following:

- 02 Type “N” pumps - 150 HP installed in pond N ° 1 of Nv. 4300-1-MN that pump through 6”-Ø HDPE pipe towards Pond N ° 6 of Level 4370-1 (average flow: 55 l/s - static head: 61m).

- 01 pump Type "N" - 150 HP installed in Pond N ° 1 of Nv. 4300-1-MS that pumps through 6"-Ø HDPE pipe to Pond N ° 6 of Nv. 4370-1 (average flow: 55.2 l/s - static head: 74m).
- 02 Type "N" pumps - 150 HP installed in Pond N ° 2 of Level 4300-1-MS that pumps through 6"-Ø HDPE pipe to Pond N ° 6 of Level 4370-1 (average flow: 59.7 l/s - static head: 74m).
- 03 Type "N" pumps - 150 HP installed in Pond N ° 3 of Level 4300-1-MS that pumps through 6"-Ø HDPE pipe to Pond N ° 6 of Level 4370-1 (average flow: 67.9 l/s - static head: 73m).
- 02 Type "N" pumps - 150 HP installed in Pond N ° 4 of Level 4300-1-MS that pumps through 6"-Ø HDPE pipe to Pond N ° 6 of Level 4370-1 (average flow: 66.3 l/s - static head: 73m).

Principal Station Level 4370-1: Consider the following:

Train N ° 01:

- 02 pumps - 800 HP installed in the Main Pond Level 4370-1, that pumps through a 20"-Ø steel pipe to the Lv surface. 4580 (average flow: 327.0 l/s - static head: 215m).

Train N ° 02:

- 02 pumps - 800 HP installed in the Main Pond Level 4370-1, that pumps through a 20"-Ø steel pipe to the Lv surface. 4580 (average flow: 327.0 l/s - static head: 215m).

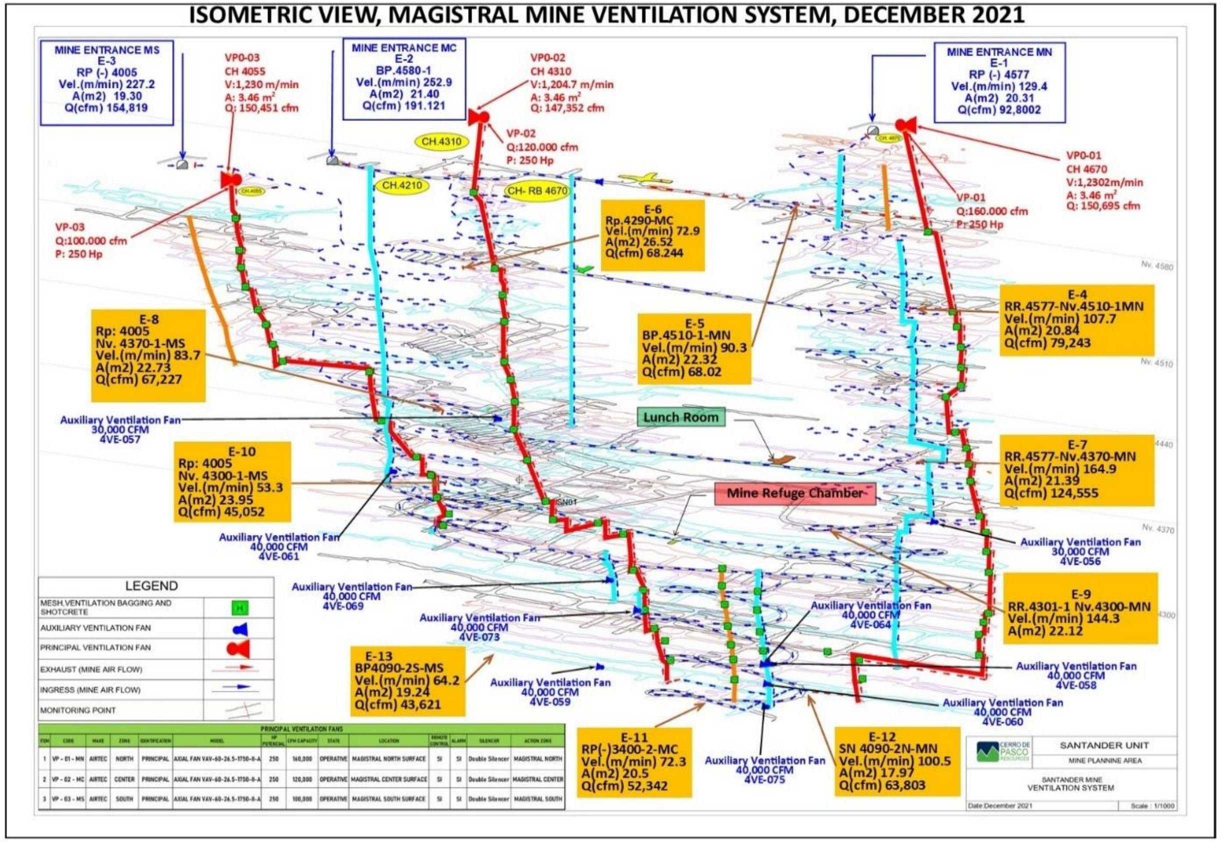


Figure 16.5: Santander Mine Isometric Ventilation Network. Source CDPR (2021).

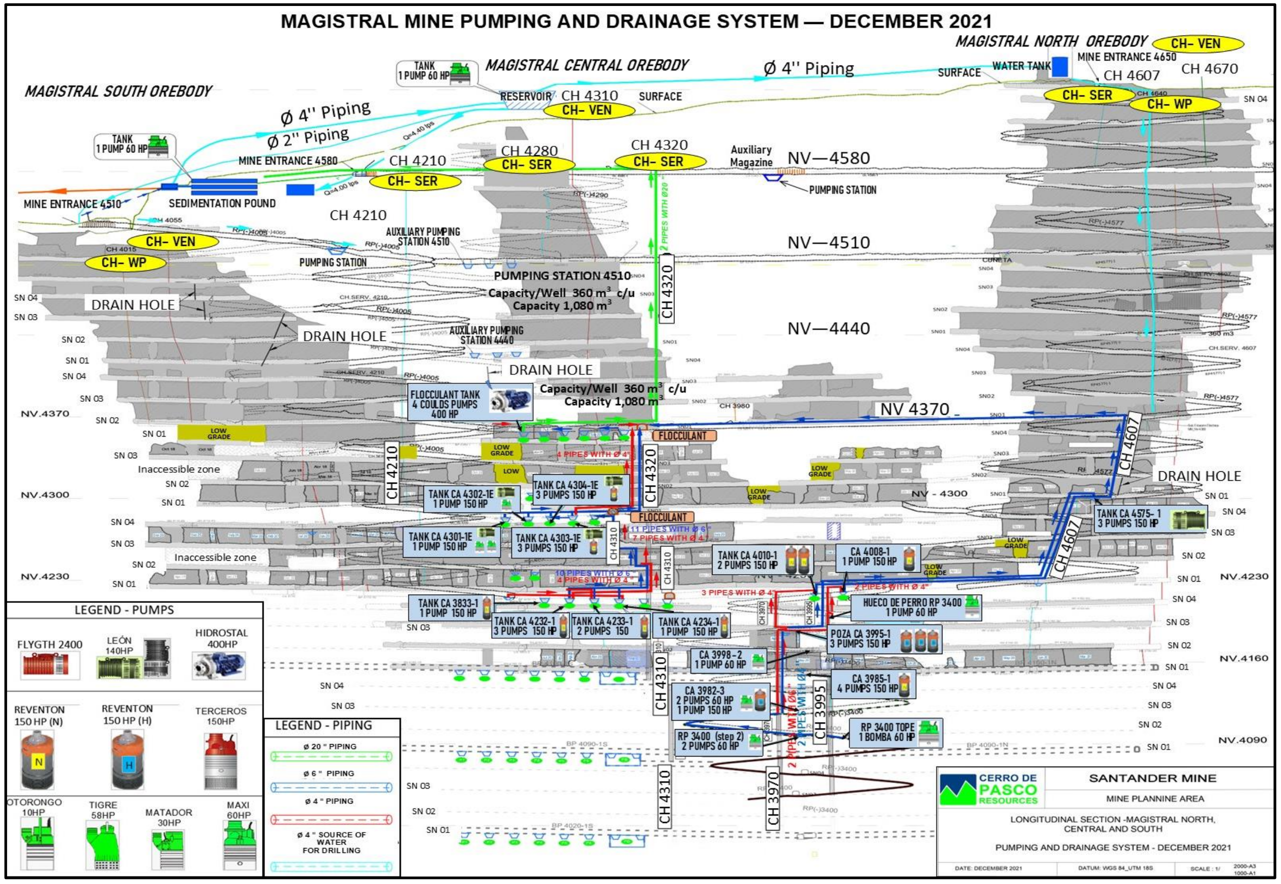


Figure 16.6: Magistral Mine Pumping and Drainage System. Source, CDPR (2021).

16.5.7 Backfill

The mine uses waste rock fill from underground mining activities.

16.5.8 Maintenance Facilities

To increase the productivity of the operation, an underground maintenance workshop was implemented so that the mining contractor can service its equipment without having to transport it to surface. The workshop has been designed to support major and minor maintenance work, both of preventive and predictive nature. The workshop is approximately 1,500 m^2 in area and includes the following:

- Maintenance office;
- Washing area for mechanical equipment;
- Maintenance area for jumbos and scoops;
- Spare parts warehouse;
- Oils and lubricants storage;
- Tire storage;
- Welding area including a ventilation raise;
- Utility area;
- Area for jackleg maintenance;
- Electric board;
- Grease trap;
- Sanitary facilities.

16.5.9 Power Distribution

Power supply for the underground of the mine consists of three circuits with the following arrangements:

Mine

- Volcan Line:
  - Transformer 6/7.5 MVA – Cell 01 (Substation N° 6, 9 and 11) = 2.5 MW

Transformer 6/7.5 MVA – Cell 02 (Substation N° 10) = 2.3 MW

- Shelby Line:
  - Transformer 3 MVA – Cell 01 (Substation N° 8) = 0.8 MW
  - Transformer 3 MVA – Cell 02 (Substation N° 7, 11) = 1.2 MW
  - Transformer 2.25 MVA – Surface (Fans and compressor) = 0.9 MW

Concentrator Plant - Tailings

- Concentrator Plant:
  - Transformer 5/6.5 MVA – 22.9/2.3 kV = 3.6 MW
- Tailings:
  - Transformer 1 MVA – Tailing Substation = 80 KW
  - Transformer 75 KVA – Llacsacocha = 20 KW

Mining Camp Site

- Site:
  - Transformer 800 KVA – Camp Substation = 0.4 MW

16.5.10 Other Services and Infrastructure

Additional complementary underground services and infrastructure include a compressed air supply; an underground explosive storage facility; and refuge stations and mine rescue facilities.

Compressed air supply

Compressed air inside the mine is vital for mining operations, whether as a source of energy, as a means of transporting liquids and solids, as an input for a process, or as a means of transmitting signals for instrumentation and control. At the Santander mine, compressed air is used for the mechanized maintenance activities, shotcrete application and loading bulk ANFO in blastholes.

The Santander mine has two Sullair air compressors with the following characteristics:

- Model: LS25S-300L.
- Power: 300 HP.
- Capacity: 787 CFM.
- Equipment: 01 Compressed air tank.

- Capacity. 4 m3.

Explosive magazine

Explosive storage consists of a magazine located on surface, 300 metres from the Magistral central portal. The facilities are designed to store explosives and blasting accessories separately in accordance with safety and security requirements established by Peruvian Law.

Refuge station and mine rescue facilities

Safety is of paramount importance at Santander mine. A network of vertical manway exits have been constructed to ensure that if a major incident occurred, the workforce has the ability to escape via an alternative route. Additionally, two refuge station have been constructed adjacent to the ramp to provide refuge.

16.5.11 Mining Opportunities

According to an NI 43-101 filing from 2017, at the time of closure in August 1992, the Santander Pipe had historical reserves in the order of 650,000 tonnes with an average grade of 9.74% Zn and 0.66 oz/t Ag (Espinosa and Flores 1993).

Recent exploration programs have been successful in increasing mineral resources, which resulted in a significant potential to extend the lifespan of the mine, particularly in the deepest part of Magistral and the nearby Santander Pipe deposit. CDPR plans to start a conceptual study to examine the viability of the Santander Pipe deposit in 2022.

Santander's historic conversion rate for the category of inferred resources has been 70%. Currently, 1.7 Mt are in the vicinity, under the current mining areas, and will be drilled as extraction from the main areas continues.

Production opportunities include evaluating the dewatering of the Santander Shaft for the pruposes of converting the Santander Pipe mineral resources into mineral reserves and bring the old mine back into production and a PEA study needs to be undertaken to support this proposal.

17 RECOVERY METHODS

17.1 Plant Flowsheet and Process Description

The Santander concentrator was designed by Holland & Holland and built co-jointly by Trevali Peru S.A.C, and Glencore Los Quenales. The now Santander concentrator was purchased, relocated, and rehabilitated from what was previously the Los Quenales' Rosaura concentrator. Production rates were increased from 1,250 t/d to 2,000 t/d with the addition of new equipment.

Operations began in 2013 with continual optimisation of the plant and process, to today's current operating program, which is being led by CDPR management overseeing contracted labour, staff and supervision (Tecnomin). The plant is operated 24 hours a day 7 days per week with monthly scheduled downtime to perform planned maintenance. Since operation began, the plant has operated trouble-free, experiencing only minimal breakdowns, processing a total of 6.5 million tonnes of ore to the end of December 2021.

The concentrator utilises a three-stage crushing plant to reduce ROM material to a nominal size of 80% passing 25mm. The crusher product is then fed into a rod-ball milling circuit where the minerals are prepared for flotation. A differential flotation circuit is used to recover the valuable metals. The concentrates are then dewatered and trucked to Callao (Figure 17.1) depicts the plant flowsheet.

Installed equipment in the Santander mill can be found in Table 17.1

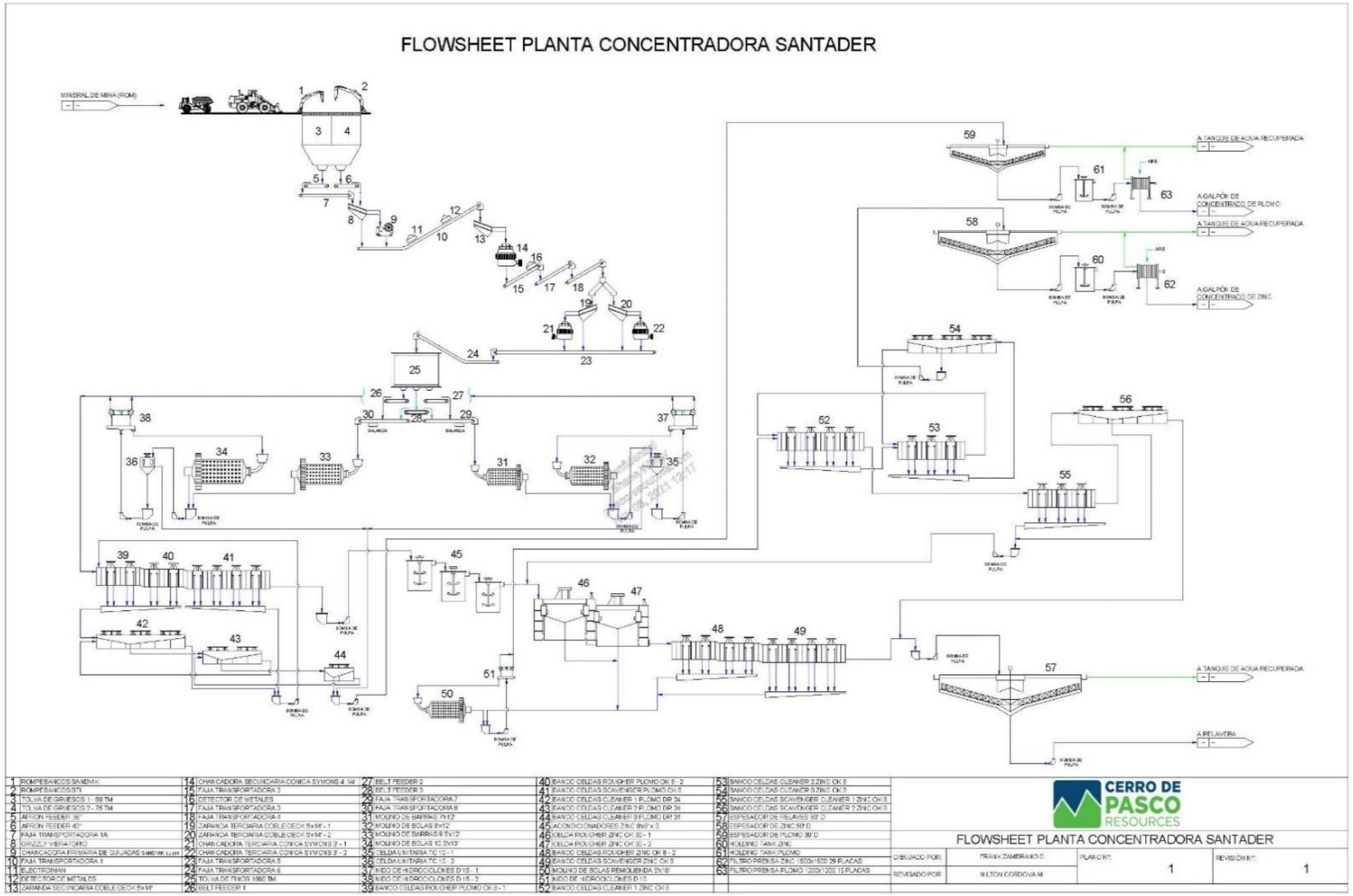


Figure 17.1: Santander Concentrator Plant Flowsheet. Source, CDPR (2021).

17.2 Crushing

Run-of-mine (ROM) material is delivered to the primary crusher pad where it is stored for blending prior to crushing. A fixed grizzly (12 inches aperture), located above the coarse ore bin, prevents oversized material from entering the primary crusher. A rock breaker located above the grizzley is used to break oversized rocks.

The coarse material bin (75 t live capacity) discharges to two (2) 36 in and 42 in wide apron feeders. The discharge from the bin is screened on a 4 ft by 12 ft double deck screen with 8 inches gaps on the top deck and 4 inches gaps on the bottom deck. Screen undersize passes to the collection conveyor while the oversize from both decks passes to the 24 inches x 36 inches primary jaw crusher.

Jaw crusher discharge combines with the by-pass fines for conveying to the secondary cone crusher. A 5 ft by 14 ft double deck screen ahead of the 4.25 ft standard Symons cone crusher is fitted with 3 inches aperture upper deck screen panels and a 1 inches aperture lower deck panels. Fines >1 inches pass to the tertiary crushers while the oversize from both decks passes to the secondary cone crusher operating in an open circuit.

The secondary cone crusher discharge combines with the screen fines >1 inches and are conveyed to the tertiary screens. Tertiary screen oversize passes to tertiary crushing consisting of two cone crushers. The cone crushers are 3-ft short head units, operating in open circuit. Fines from each tertiary screen combine with the tertiary cone discharge and are fed to the fine ore bin, as 1 inches nominal size product. The crushing circuit block flowsheet can be seen in Figure 17.2.

Table 17.1: List of Equipment at the Santander Mill

	MAKE	CAPACITY	HP
CRUSHERS			
Rockbreaker	BTI		30
Rockbreaker	SANDVIK		30
Apron Feeder		36”	
Apron Feeder		42”	
Conveyor Belt 1A			15
Double Deck Screen	DD SIMPLICITY	4´x12´	25
Primary Jaw Crusher	SANDVIK CJ-211	24"x36"	125
Conveyor Belt N°1			25
Electromagnet	ERIEZ SE-7125		15
Secondary Screen	DD SANDVIK	5´x14	25
Secondary Cone Crusher	SYMONS	4 1/4´	200
Conveyor Belt N°2			25
Conveyor Belt N°3			40
Conveyor Belt N°4			25
Tertiary Screen N°1		5´x14´	25
Tertiary Screen N°2		5´x14´	25
Tertiary Cone Crusher N°1	SANDVIK - CH-430	3´	175
Tertiary Cone Crusher N°2	SANDVIK - CH-430	3´	175
Conveyor Belt N°5		36"x151m	50
Conveyor Belt N°6		36"x110m	40
			870
MILL			
Belt Feeder s1@3			33
Conveyor Belt N°7		36"x48m	20
Conveyor Belt N°8		36"x48m	25
Rod Mill N°1	COMESA	7´x12´	400
Ball Mill N°1	COMESA	8´x12´	600
Rod Mill N°2	MARCY	9.5´x12´	500
Ball Mill N°2	COMESA	10.5´x13´	800
Pumps N°1 and 2	WILFLEY 5K		100
Pumps N°3 and 4	WILFLEY 5K		150
Pumps N°7 and 8	M&M SRL-C	5"X4"	100
Vertical Spindle Pumps (2)			25
Hidrostal Pump			25
			2,778
FLOTATION			
Rougher Cell - Pb (4)	OUTOKUMPU	N°8	25
Scavenger Cell - Pb (4)	OUTOKUMPU	N°8	25
Primary Cleaner Cells - Pb (6)	DENVER	Sub A-24	40
Tertiary Cleaner Cells - Pb (2)	DENVER	Sub A-24	40
Secondary Cleaner Cells - Pb (4)	DENVER	Sub A-24	40

Pumps N°2 and 3°			100
Pumps N°1A and 1B			15
Pumps N° 4A and 4B	WILFLEY		75
Pumps N° 5A and 5B			20
Zinc Conditioners (3)		8´x8´	12.5
Rougher Cells - Zn (2)	OUTOKUMPU	N°30	60
Second Rougher Cells - Zn (4)	OUTOKUMPU	N°8	40
Scavenger Cells - Zn (4)	OUTOKUMPU	N°8	25
Regrind Ball Mill		5´x10´	250
Primary Cleaner Cells - Zn (4)	OUTOKUMPU	N°8	25
Primary Scavenger Cleaner Cells - Zn (3)	OUTOKUMPU	N°8	25
Second Cleaner Cells - Zn (3)	OUTOKUMPU	N°8	30
Third Cleaner Cells - Zn (6)	DENVER	N°30	40
Secondary Scavenger Cleaners - Zn (6)	DENVER	N°30	40
Pumps N° 105 and 106			100
Pumps N° 107A and 107B			30
Pumps N° 110A and 110B			25
Pumps N° 108A and 108A-1			25
Pumps N° 108AB and 108B-1			25
Pumps N° 102 and 102A			25
Pumps N° 101 and 101A			25
Pumps N° 109A and 109B			25
Pumps N° 103 and 104			150
			1,357.5
FILTERS			
Pressure Filter Pb	ANDRITZ	1200x1200	30
Thickener Pb		30´x10´	25
Pressure Filter Zn	ANDRITZ	1500x1500	30
Thickener Zn		50´x12´	25
Holding Tank (2)			15
Peristaltic Pump (4)	BREDEL		30
Pumps N° 11, 12, 02 and 03			20
Vertical Spindle Spillage Pumps (3)		2.5"	20
			195
TAILINGS			
Tailings Pump	WILFLEY 5K		60
Open Pit Pump			25
Pumps 2290 1 and 2	FLY 2400		125
			210
TOTAL			**5,410.5**

17.3 Grinding

The grinding stage consists of two circuits in parallel, each containing a primary rod mill in open circuit, followed by a secondary ball mill in closed circuit.

The first circuit has a 7 ft by 12 ft rod mill, operating with an 8 ft by 12 ft ball mill. The second circuit has a 9.5 ft by 12 ft rod mill, operating with a 10.5 ft by 13 ft secondary ball mill. Both circuits are identical in operation and are described below.

A 1,800-t fine ore bin discharges onto two belt feeders equipped with weightometers for metallurgical accounting. The belt feeders deliver the ore to their respective rod mill with a third feeder present as a standby unit.

The discharge from both the rod and ball mills are combined and pumped to a skim-air (SK) flotation cell for high-grade lead recovery. The SK flotation cell concentrate reports to the final lead concentrate.

The SK flotation cell tailing is pumped to a cyclone battery with 15 inches cyclones. The cyclone overflow is recycled into the beginning of the lead crushing circuit and mixed with the fine ore bin discharge, while the cyclone underflow is circulated back into the ball mill feed chute for further grinding.

Overflow from both grinding circuits combine and feed the flotation circuit at approximately 35% solids and a P_{80} of 105 microns. The grinding circuit block flowsheet can be seen in Figure 17.3.

17.4 Flotation and Dewatering

The flotation circuit consists of a two-stage differential float. Lead is floated prior to zinc by depressing the zinc, which is then activated and floated.

The lead rougher-scavenger flotation cells consist of eight OK8 unit cells, in a 2-2-4 configuration. The first four (4) flotation cells produce a lead rougher concentrate that passes to the primary lead cleaner, while the last four (4) cells produce a lead scavenger concentrate which is pumped back to the head of the lead circuit. Scavenger tailings form the feed to the zinc circuit.

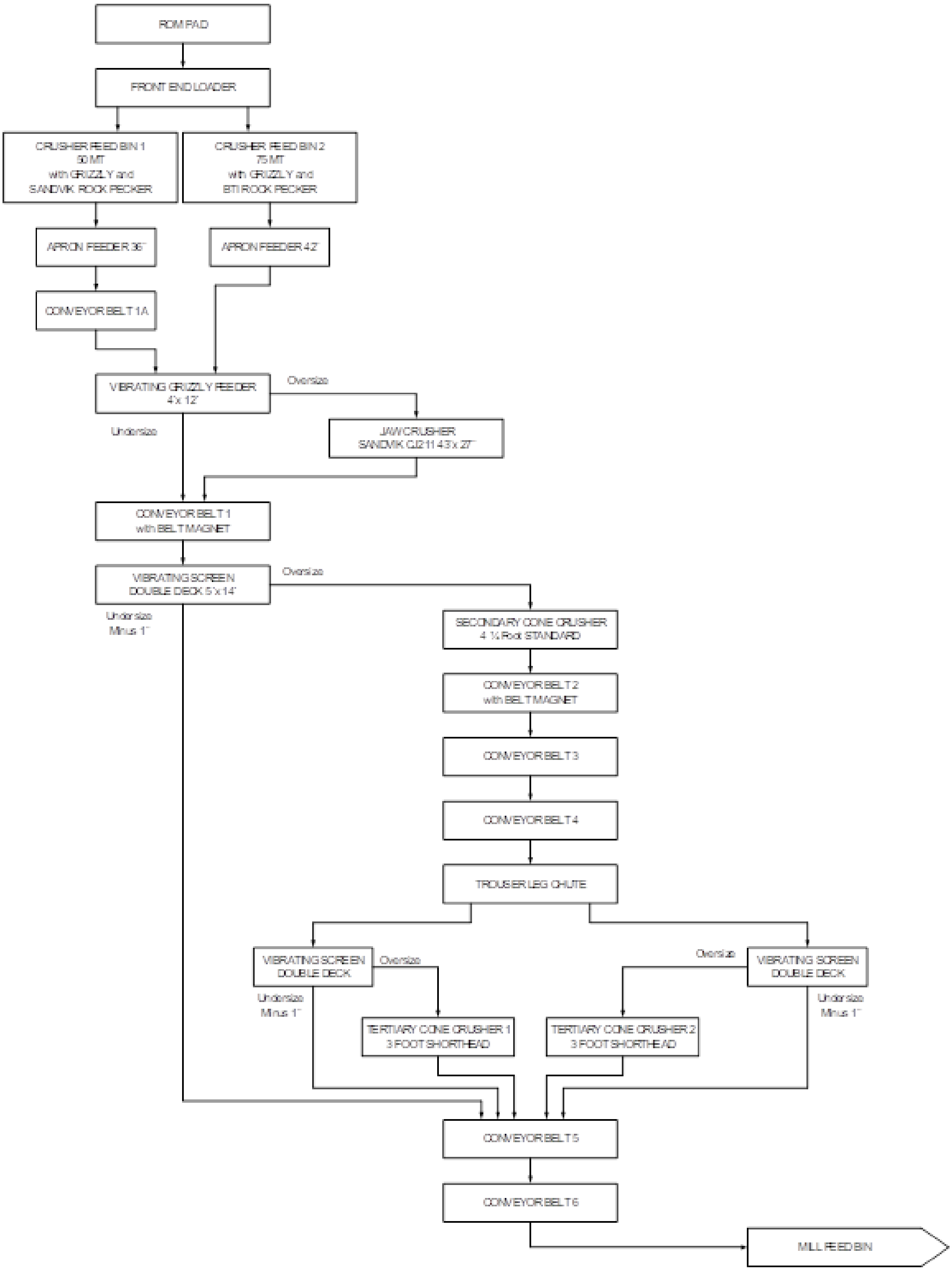


Figure 17.2: Crusher Circuit Block Flowsheet. Source, CDPR (2021).

The primary cleaner consists of six (6) DR24 cells, with primary cleaner tailings combining with the scavenger concentrate, which are recycled to the head of the lead circuit. Concentrate from the primary cleaner flows by gravity to the secondary lead cleaner, which consists of four (4) DR24 cells. Tailings from the secondary cleaner pass to the feed box of the primary lead cleaner. The concentrate from the secondary cleaner flows by gravity to the two-cell DR24 tertiary lead cleaner. The tailings from the tertiary lead cleaner pass to the secondary lead cleaner, while the tertiary concentrate (final lead concentrate) is sampled by an automatic cutter and pumped to the lead thickener.

The tailings from the lead circuit are conditioned with reagents in three (3) zinc conditioner tanks in series. The discharge from the third conditioner flows by gravity to the first zinc rougher flotation cells consisting of two (2) OK30 tank cells operating in series. The discharge from the second tank cell gravitates to a bank of eight (8) OK8 cells operating as the second zinc rougher and scavenger bank in a 2-2-4 configuration. Tailings from the zinc scavenger bank (final tailings) flow to the tailings thickener.

Concentrate from the two (2) tank cells and the eight (8) rougher-scavenger cells combine, and are fed to the zinc regrind cluster cyclones.

Regrind circuit feed is cycloned through 10 inches units, with the underflow passing to the 5 ft by 10 ft regrind mill operating in closed circuit with the cyclone cluster. Cyclone overflow passes to the primary zinc cleaner that consists of seven (7) OK8 cells. Four (4) cells operate as the first cleaner, with concentrate fed to the secondary zinc cleaner, while the tailings are fed to the zinc cleaner scavenger. Cleaner scavenger concentrate is recycled to the head of the zinc feed while the tailing discharges as final tailings.

The secondary zinc cleaner consists of three (3) OK8 cells. Tailings from the second cleaner are recycled to the first cleaner, while the concentrate from the second zinc cleaner gravitates to the third-stage zinc cleaner.

The third zinc cleaner consists of six (6) DR30 cells. Tailings from the third zinc cleaner recycle to the second zinc cleaner, while the concentrate passes to the zinc concentrate thickener for dewatering. The lead and zinc flotation circuit block flowsheet can be seen in Figure 17.4.

The diameters of the lead concentrate thickener, zinc concentrate thickener, and tailings thickener are 30 ft, 50 ft, and 80 ft, respectively.

Water from the concentrate thickeners passes to sedimentation ponds prior to discharging to the process water system where they are recycled back to the plant. Water from the tailing thickener is gravity fed to the tailings pond prior to being recycled back to the process water system.

Tailing thickener underflow (nominal 50-60 % solids by weight) is pumped to the tailing disposal dam. The concentrate thickener underflow is fed to holding tanks and used as a feed supply to the filter units.

The lead concentrate is filtered by an Andritz plate filter press. Concentrate (nominal moisture content 6-7% by weight) is discharged, by gravity, to the holding shed below for storage prior to being dispatched to Callao.

A 29-plate 1.5 m square fully automated unit filters the zinc concentrate. The concentrate (nominal 8% moisture by weight) is discharged to the holding pen below the filter for storage prior to despatch to the port of Callao.

A standby 5-disc filter is available with a diameter of 6 ft.

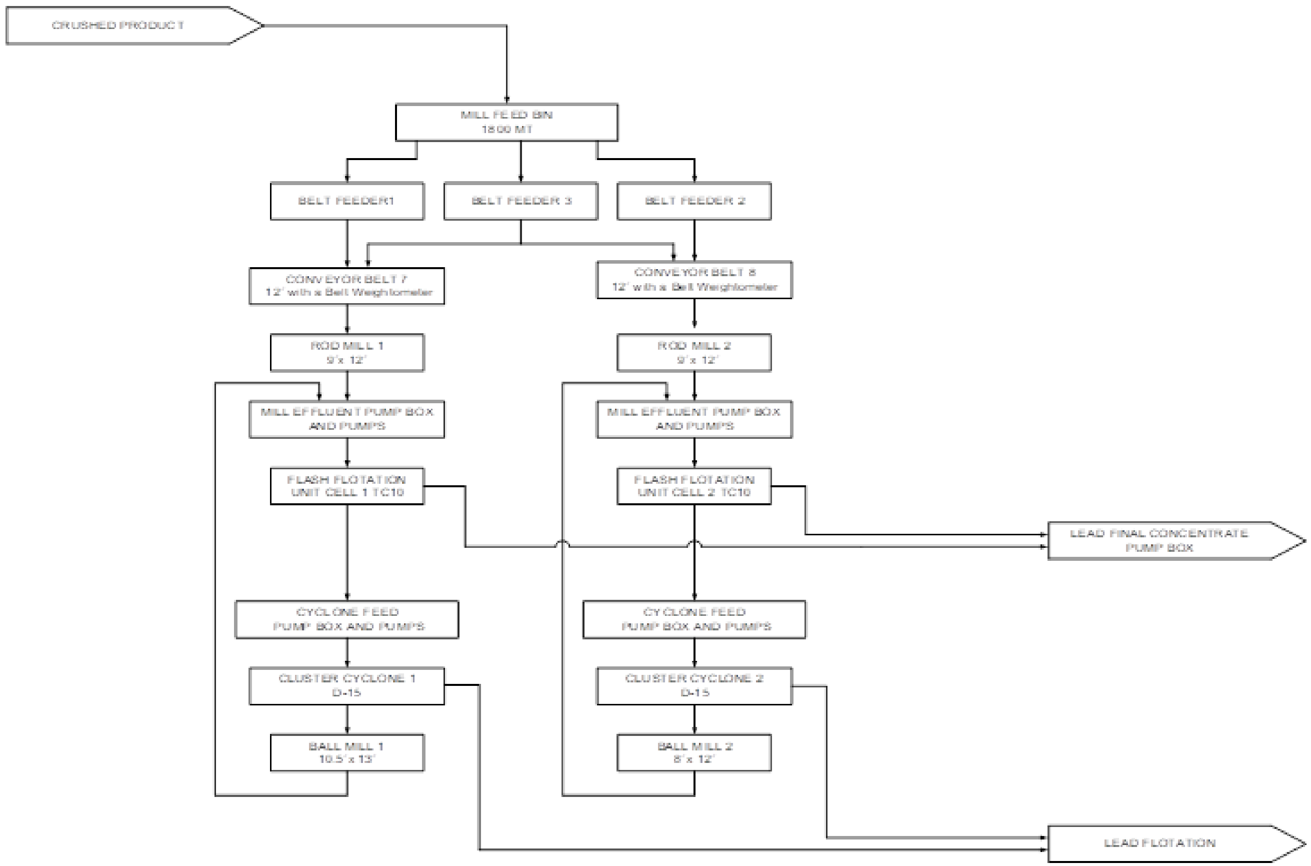


Figure 17.3: Grinding Circuit Block Flowsheet Source, CDPR (2021).

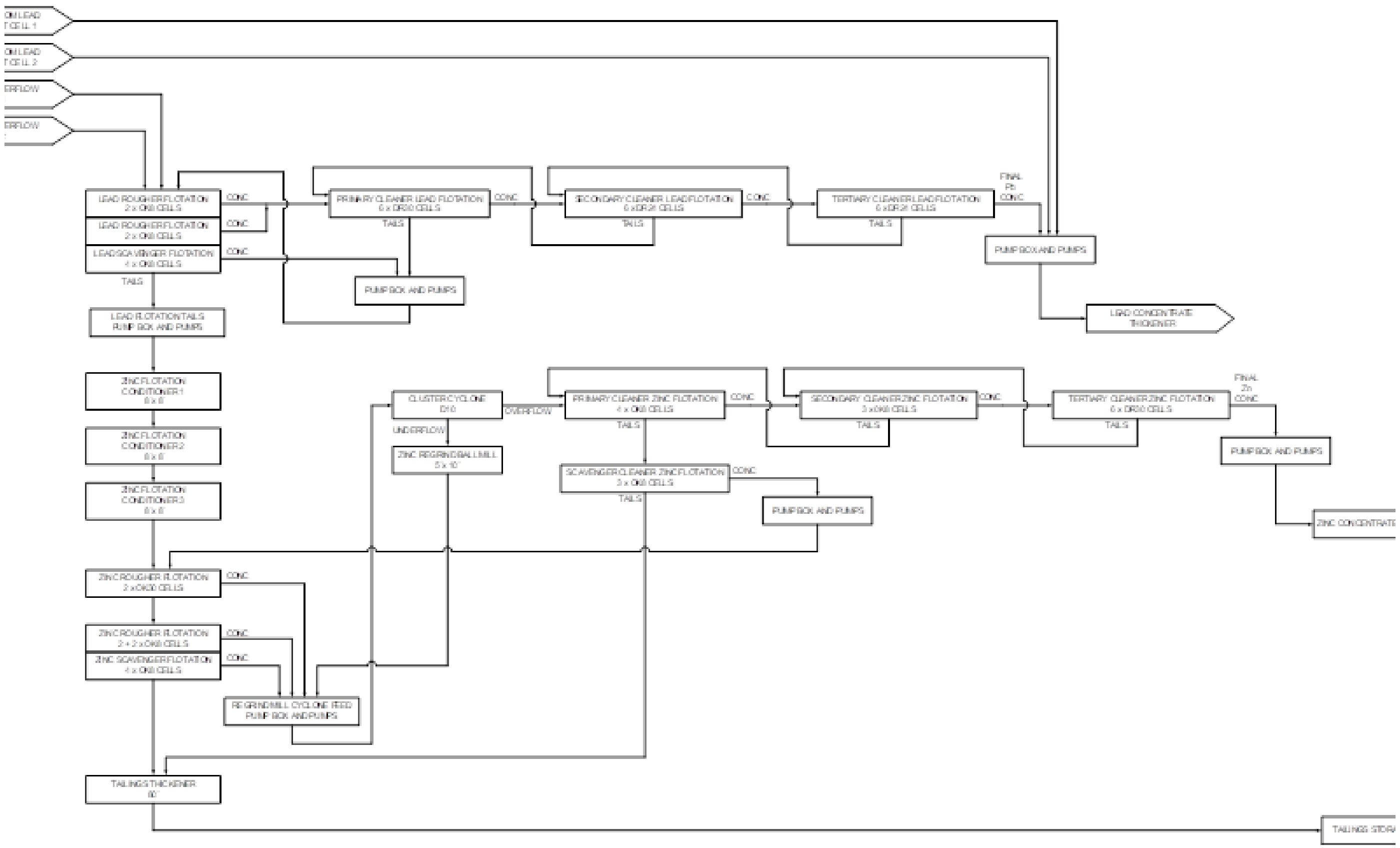


Figure 17.4: Lead and Zinc Flotation Circuit Block Flowsheet. Source, CDPR (2021).

17.5 Plant Performance

Summarized metallurgical results for years 2017 to 2021 can be found in Table 17.2 to Table 17.6. It can be seen that in 2021 the average recovery of zinc (94.07%) and the average grade of Ag in the lead concentrate (75.83 oz Ag/t) were the highest of the 5 years covered in this report. This in spite of lower Zn and Ag head grades.

On the other hand, in 2021 average lead grade and recovery were lower than in previous years.

The lead grade concentrate ratio for head and tail has increased over the years.

Table 17.2: Metallurgical Balance - 2017

			Chemical Analyses					Distribution			
	DMT	**%**	**%Zn**	**%Pb**	**%Cu**	**oz/t Ag**	**%Fe**	**%Zn**	**%Pb**	**%Cu**	**%Fe**
Head	839,546	100.00	3.94	0.75	0.09	1.17	12.21	100.00	100.00	100.00	100.00
Conc. Zn	60,841	7.25	47.56	0.34	0.62	1.79	12.94	87.38	3.34	48.64	7.68
Conc. Pb	10,792	1.29	5.32	47.27	1.99	58.79	11.21	1.73	81.21	27.59	1.18
Tailings	767,914	91.47	0.47	0.13	0.02	0.31	12.17	10.89	15.45	23.78	91.14

Table 17.3 Metallurgical Balance - 2018

			Chemical Analyses					Distribution			
	DMT	**%**	**%Zn**	**%Pb**	**%Cu**	**oz/t Ag**	**%Fe**	**%Zn**	**%Pb**	**%Cu**	**%Fe**
Head	803,263	100.00	4.32	0.60	0.09	1.03	11.95	100.00	100.00	100.00	100.00
Conc. Zn	64,923	8.08	47.68	0.32	0.71	1.78	12.15	89.26	4.41	65.41	8.22
Conc. Pb	7,636	0.95	4.09	49.99	0.98	66.15	34.42	0.90	79.85	10.63	2.74
Tailings	730,704	90.97	0.47	0.10	0.02	0.28	11.70	9.84	15.74	23.96	89.04

Table 17.4: Metallurgical Balance - 2019

			Chemical Analyses					Distribution			
	DMT	%	%Zn	%Pb	%Cu	oz/t Ag	%Fe	%Zn	%Pb	%Cu	%Fe
Head	875,680	100.00	5.02	0.77	0.08	1.17	14.13	100.00	100.00	100.00	100.00
Conc. Zn	82,454	9.42	46.82	0.33	0.62	1.79	12.89	87.75	4.09	70.68	8.59
Conc. Pb	11,153	1.27	4.43	49.91	0.48	56.96	10.63	1.12	83.02	7.47	0.96
Tailings	782,074	89.31	0.63	0.11	0.02	0.31	14.31	11.13	12.89	21.85	90.45

Table 17.5: Metallurgical Balance - 2020

			Chemical Analyses					Distribution			
	DMT	%	%Zn	%Pb	%Cu	oz/t Ag	%Fe	%Zn	%Pb	%Cu	%Fe
Head	724,341	100.00	5.20	0.55	0.08	0.99	14.19	100.00	100.00	100.00	100.00
Conc. Zn	70,836	9.78	47.70	0.25	0.65	1.61	12.48	89.76	4.49	76.21	8.60
Conc. Pb	6,426	0.89	3.63	50.40	0.39	67.38	11.27	0.62	81.36	4.12	0.70
Tailings	647,079	89.33	0.56	0.09	0.02	0.27	14.41	9.62	14.15	19.66	90.70

Table 17.6: Metallurgical Balance – 2021 (to October)

			Chemical Analyses					Distribution			
	DMT	%	%Zn	%Pb	%Cu	oz/t Ag	%Fe	%Zn	%Pb	%Cu	%Fe
Head	598,495	100.00	4.08	0.48	0.07	0.96	12.13	100.00	100.00	100.00	
Conc. Zn	48,269	8.07	47.53	0.42	0.68	1.96	12.24	94.07	7.13	75.43	
Conc. Pb	4,707	0.79	2.79	47.75	0.39	75.83	8.45	0.54	78.22	4.18	
Tailings	545,519	91.15	0.24	0.08	0.02	0.22	12.11	5.39	14.65	20.39	

Yearly average usage of reagents for the lead and zinc flotation circuits can be seen in Table 17.7 and Table 17.8.

Table 17.7: Lead Flotation Reagent Consumption – 2013-Oct 2021

Year / Month	Kw-h/t	Average Tonnage Processed Tons	NaCN Kg/t	Z-11 Kg/t	MT-4220 Kg/t	MX 5160 Kg/t	AR-1242 Kg/t	MIBCKg/t	MIN 125 Kg/t	$NaSiO_3$Kg/t	ZnSO Kg/t	$Na_2S_2O_5$ Kg/t
2013	31.46	50,438	0.014	0.03				0.018	0.001	0.038	0.136	0.096
2014	31.81	50,438	0.015	0.03	0		0	0.019	0	0.019	0.168	0.123
2015	30.44	64,846	0.017	0.03	0.004		0	0.011	0.001	0.006	0.129	0.095
2016	28.44	71,942	0.011	0.03	0.002	0.001	0.003	0.01	0	0.005	0.088	0.061
2017	26.44	69,962	0.013	0.02	0	0.012	0	0.008	0	0.002	0.107	0.07
2018	28.28	66,939	0.012	0.02	0	0.004	0	0.011	0	0	0.09	0.059
2019	31.58	72,973	0.012	0.03	0	0	0	0.017	0	0	0.086	0.033
2020	32.64	60,362	0.008	0.03	0	0	0	0.014	0	0.001	0.027	0.011
Jan-21	35.68	63,758	0.007	0.03				0.021			0.007	
Feb-21	34.96	62,665	0.006	0.03				0.022			0.007	
Mar-21	34.28	67,431	0.009	0.03				0.019			0.013	
Apr-21	35.73	61,663	0.006	0.02				0.025			0.022	
May-21	35.11	63,400	0.007	0.02				0.02		0.001	0.014	
Jun-21	40.79	50,350	0.008	0.03				0.022		0.001	0.027	
Jul-21	43.99	22,964	0.011	0.02				0.022			0.039	
Aug-21	41.4	50,141	0.01	0.02				0.022		0.002	0.026	
Sep-21	36.15	64,285	0.007	0.02				0.021		0.001	0.021	
Oct-21	36.25	63,083	0.006	0.03				0.018			0.021	
Average 2021	**36.78**	**56,974**	**0.008**	**0.03**	**0**	**0**	**0**	**0.021**	**0**	**0**	**0.018**	**0**

Note: A blank cell indicates that the corresponding reagent was not consumed during the period.

Table 17.8: Zinc Flotation Reagent Consumption – 2013-Oct 2021

Year / Month	Kw-h/t	Average Tonnage Processed Tons	CuSo4 Kg/t	Z-11 Kg/t	MIBC Kg/t	MIN 125 Kg/t	Dextrine Kg/t	Quebracho Kg/t	Lime Kg/t
2013	31.46	50,438	0.328	0.032	0.018	0.001	0.002	0.004	1.563
2014	31.81	50,438	0.244	0.029	0.019	0.000	0.005	0.013	1.310
2015	30.44	64,846	0.263	0.033	0.011	0.001	0.004	0.000	1.055
2016	28.44	71,942	0.317	0.028	0.010	0.000	0.003	0.000	1.060
2017	26.44	69,962	0.360	0.019	0.008	0.000	0.001	0.000	1.511
2018	28.28	66,939	0.426	0.023	0.011	0.000	0.001	0.001	1.096
2019	31.58	72,973	0.434	0.034	0.017	0.000	0.001	0.000	1.221
2020	32.64	60,362	0.465	0.030	0.014	0.000	0.001	0.000	0.934
Jan-21	35.68	63,758	0.635	0.026	0.021		0.001		0.910
Feb-21	34.96	62,665	0.685	0.027	0.022		0.001		1.037
Mar-21	34.28	67,431	0.734	0.028	0.019				0.979
Apr-21	35.73	61,663	0.613	0.024	0.025				0.681
May-21	35.11	63,400	0.639	0.023	0.020		0.000		0.820
Jun-21	40.79	50,350	0.661	0.025	0.022		0.001		0.894
Jul-21	43.99	22,964	0.588	0.024	0.022				1.611
Aug-21	41.40	50,141	0.646	0.024	0.022		0.001		1.077
Sep-21	36.15	64,285	0.532	0.022	0.021		0.001		0.669
Oct-21	36.25	63,083	0.628	0.026	0.018				0.602
Average 2021	**36.78**	**56,974**	**0.639**	**0.025**	**0.021**	**0.000**	**0.000**	**0.000**	**0.878**

Note: A blank cell indicates that the corresponding reagent was not consumed during the period.

Yearly average usage of grinding media for the two primary modules and the regrinding circuit can be seen in Table 17.9.

Table 17.9: Grinding Media Consumption – 2013-Oct 2021

Year / Month	Kw-h/t	Average Tonnage Processed Tons	Rods 3.5"Ø x 12' Kg/t	Rods 3"Ø x 12' Kg/t	Balls 1"Ø Kg/t	Balls 1.5"Ø Kg/t	Balls 2"Ø Kg/t	Balls 2.5"Ø Kg/t
2013	31.46	50,438	0.208	0.052				0.379
2014	31.81	50,438	0.266	0.067	0.067	0.101	0.302	0.168
2015	30.44	64,846	0.227	0.057	0.040	0.031	0.116	0.116
2016	28.44	71,942	0.198	0.085	0.030	0.046	0.132	0.093
2017	26.44	69,962	0.192	0.098	0.036	0.055	0.124	0.100
2018	28.28	66,939	0.211	0.139	0.037	0.057	0.122	0.082
2019	31.58	72,973	0.244	0.120	0.043	0.085	0.138	0.077
2020	32.64	60,362	0.324	0.022	0.044	0.162	0.165	0.000
Jan-21	35.68	63,758	0.411		0.031	0.188	0.188	
Feb-21	34.96	62,665	0.386		0.032	0.191	0.191	
Mar-21	34.28	67,431	0.393		0.044	0.237	0.178	
Apr-21	35.73	61,663	0.438		0.049	0.227	0.227	
May-21	35.11	63,400	0.426		0.047	0.221	0.189	
Jun-21	40.79	50,350	0.373		0.060	0.159	0.159	
Jul-21	43.99	22,964	0.364		0.044	0.218	0.218	
Aug-21	41.40	50,141	0.415		0.060	0.179	0.179	
Sep-21	36.15	64,285	0.513		0.047	0.233	0.233	

Oct-21	36.25	63,083	0.426		0.063	0.206	0.206	
Average 2021	36.78	56,974	0.419	0.000	0.047	0.207	0.197	0.000

Note: A blank cell indicates that the corresponding grinding media was not consumed during the period.

17.6 Magistral Mineral 2021 Recovery

Table 17.10 shows monthly recovery data of processing Magistral mineral at the Santander concentrator plant from January 2021 to December 2021.

Figure 17.5 shows the correlation between the recovery of Pb and Ag by bulk flotation.

Table 17.10: Magistral Mineral 2021 Recovery

Date	Historical Recovery 2021		
	Zn	Pb	Ag
Jan-21	92.49	80.23	64.83
Feb-21	93.22	76.45	59.95
Mar-21	94.32	74.94	58.18
Apr-21	93.56	77.91	61.32
May-21	94.31	80.41	62.99
Jun-21	95.11	77.07	66.22
Jul-21	94.38	81.82	71.70

Date	Historical Recovery 2021		
	Zn	Pb	Ag
Aug-21	94.38	80.97	67.29
Sep-21	94.35	78.56	60.69
Oct-21	95.00	71.03	54.20
Nov-21	95.31	76.71	59.93
Dec-21	94.93	77.62	60.88
Average	**94.28**	**77.81**	**62.35**

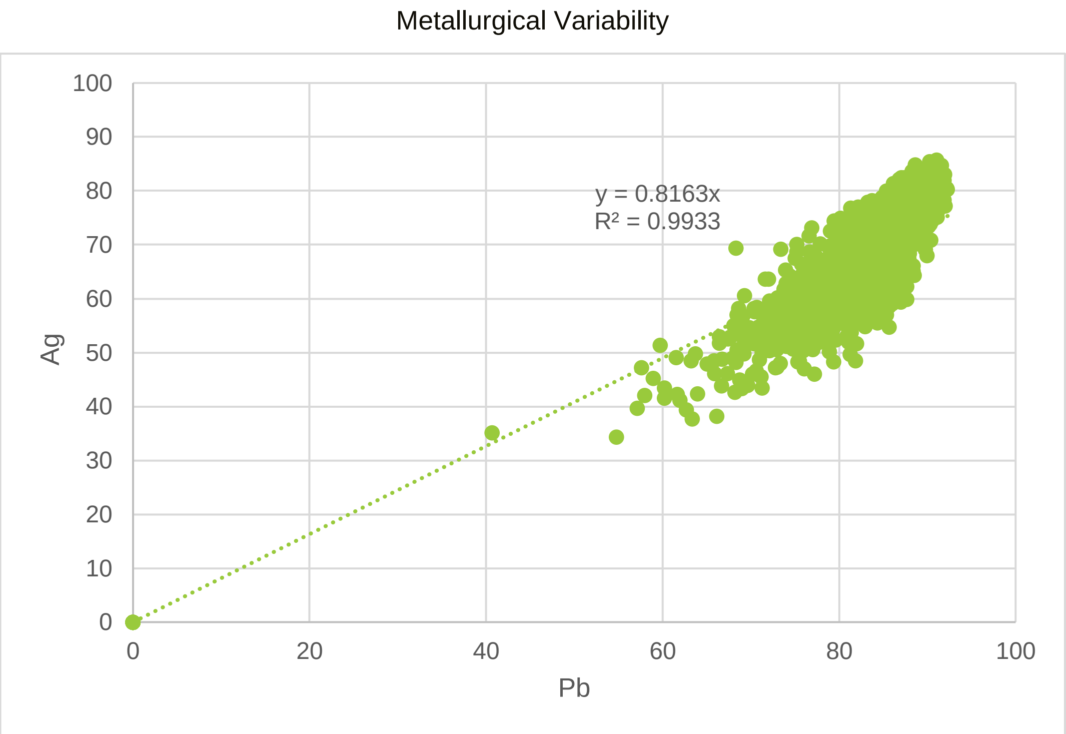


Figure 17.5: Pb Recovery versus Ag Recovery. Source, DRA (2021).

18 PROJECT INFRASTRUCTURE

The property is self-sufficient in terms of infrastructure required to support day-to-day production from the mine, and was constructed during the pre-production period of 2011 through 2013, with the only external inputs being electrical reticulation, fuel, and processing reagents. The process plant was designed by Holland and Holland, and commissioned by Trevali and Glencore Los Quenuales.

18.1 Access

Access to the project is described in **Subsection 5.0** (Accessibility, Climate, Local Resources, Infrastructure, and Physiography). In summary, the site can be accessed via three different routes serving as the means for transporting goods and consumables to the project and transporting concentrates from the project to the port of Callao, near Lima.

- Route 1 – Auxiliary Pan-American North highway from Lima followed by the 20A road to Canta. At the Alpamarca mine, left towards Santander Mine. The total distance is 275 km, and the driving time is approximately 4 hr 40 mins. This route is currently being upgraded by the Peruvian National Government.
- Route 2 – Auxiliary Pan-American North highway from Lima followed by the 1N road to Huaral, then towards San Jose de Baños. The total distance is 179 km and driving time is approximately the same (4 hr 40 mins).
- Route 3 – Highway 22 from Lima to La Oroya, then by the 3N road from La Oroya to just before Villa Pasco. Left on the 101, Left on the 20A. The total distance is 315 km, and the driving time is approximately 7 hr 20 mins.

Route 1 is the preferred route for the transporting of personnel, materials, and consumables to the Project. Route 1 is currently being upgraded by the Government with large sections of road been widened.

18.2 Mine Site Facilities

The mining process, concentrator, TSF and water storage facility (WSF) (acid water storage and treatment) and all other mine facilities are located between an elevation of 4,200 and 4,700 masl. All mine facilities are located within 5 km of the Process Plant (Figure 18.1).

The on-site facilities include:

- Processing plant, facilities and equipment list described in **Section 17** (Recovery Methods).
- Principal central substation, electrical substations, substation No 6 (mine level 4370 MC), No 7 (mine level 4300 MN), No 8 (mine level 4300 MC), No 9 (mine level 4230 MC), No 10 (mine level 4370 MC) and No 11 (mine level 4160 MC).
- Magistral mine entrances; Magistral North (4670 level), Magistral Central (4580 Level), Magistral South (4540 Level).
- Tailings Storage Facility (TSF).
- Pumping and water treatment; separate underground pumping systems for acidic (approximately 15% of total) and neutral waters (approximately 85% of total), surface drainage and pumping network, acid neutralization facility and industrial water treatment facility.
- First aid and emergency response building (including ambulance).
- Assay laboratory (SGS managed).
- Core logging facility and core sheds (various).
- Guardhouses (various).
- Canteen and dining facilities (staff and workers).
- Staff and workers camp.
- Staff offices (safety, security, environment, human resources, technical services and management).
- Contractor offices (mine, plant and other contracted services).
- Truck shop.
- Truck wash facility.
- Shotcrete plant.
- Warehouse.
- Fuel storage and distribution facilities.
- Reagent storage and distribution facilities.
- Explosive magazines.

The location of the infrastructure is listed in Table 18.1 and is shown in Figure 18.1. In addition, Appendix C shows photographs of some of the infrastructure listed in Table 18.1.

Table 18.1: List of All Existing Project Infrastructure

	EXISTING COMPONENTS		EXISTING COMPONENTS	
1	Mine Entrance Level 4670 (Magistral North)	48	Compressed air housing	
2	Mine Entrance Level 4580 (Magistral Central)	49	Lamp house and training room	
3	Mine Entrance Level 4540 (Magistral South)	50	Maintenance workshop	
4	Ventilation Raise CH 2110V (Troncal N°1)	51	Electrical substation	Main substation
5	Ventilation Raise CH 1630V (Troncal N°2)	52		Substation 2011
6	Ventilation Raise CH 1390V	53		Substation 1630
7	Ventilation Raise CH 1860 S	54		Substation 1690
8	Ventilation Raise CH 1540 S	55	Canteen, mine office and warehouse	
8a	Santander pipe mine Shaft	56	Toilets & septic tanks	
9	Industrial zone (Process Plant)	57	Assay Laboratory	Laboratory in Process Plant zone
10	Tailings storage facility (TFS)	58	Fuel station	
11	Waste Dump Desmonte 1 (Ex depósito de desmonte Tacora)	59	Used oil deposit	
12	Waste Dump 2	60	Workers camp	
13	Waste Dump 1	61	Industrial zone	Offices
14	Waste Dump Chupa	62	Staff camp	
15	Borrow area for top soil	63	Waste Dump Polvorin	

EXISTING COMPONENTS			EXISTING COMPONENTS		
16	Borrow area for top soil (explosive magazine)		64	Waste Dump Magistral Central	
17	Catchment pond Yanacocha lagoon		33	Domestic water treatment system	
18	Water supply line-Ch 1860		65	Treatment subsystem N°1	Grates
19	Water supply line-Ch 1540		66		Septic tank N°1
20	Bypass 1860		67		Septic tank N°2
21	Bypass 1570		68		Filtration tanks N°1
22	Coronation canal		69		Filtration tanks N°2
23	Reservoir		70		Filtration tanks N°3
24	Mine drainage pipeline		71		Filtration tanks N°4
25	Recirculation pipeline		72	Treatment subsystem N°2	Septic tanks N°3
26	Sedimentation pond		73		Septic tanks N°4
27	Drying bed		74		Filtration tanks N°5
28	Water reservoir for fire suppressant usage		75		Filtration tanks N°6
29	Tailings pipeline from mills		76		Recirculation tanks
30	Supernatant water pipeline		77	Drilling platforms (30)	
31	Tailings pipeline		78	Increase in the production capacity of the process plant from 2000 TMPD to 2500 TMD	
32	Water supply line to process plant				
33	Domestic water treatment system		79	P1.Waste dump Magistral South	
34	Industrial zone	Reagent warehouse N°1		P2.Waste dump Magistral South	

EXISTING COMPONENTS			EXISTING COMPONENTS	
35		Reagent warehouse N°2	80	Deepening of Magistral Norte from the 4440 to 4370 level
36		Reagent warehouse N°3	81	Run of Mine (RoM) Stockpile
37		General warehouse	82	Industrial zone (Auxiliary workshop)
38		Concentrate warehouse	83	Borrow material (waste) Magistral Norte
39		Core shed	84	Mine water management
40	Explosive magazine 1 - ANFO		85	Coronation channel and runoff water discharge
41	Explosive magazine 2 - Accessories		86	Optimization of the drinking water treatment system
42	Explosives magazine 3 -Explosives & detonators		87	Shotcrete plant
43	Domestic waste storage area (land fill)		88	Mine Canteen (underground)
44	Hazardous waste storage area		89	Communication system
45	Contaminated soils (oil&fuel)-Storage &treatment Area		90	Secondary access to mine & west coronation canal
46	Access to mine		91	Access to explosive magazine
47	Access to Process Plant		92	First aid post & clinic

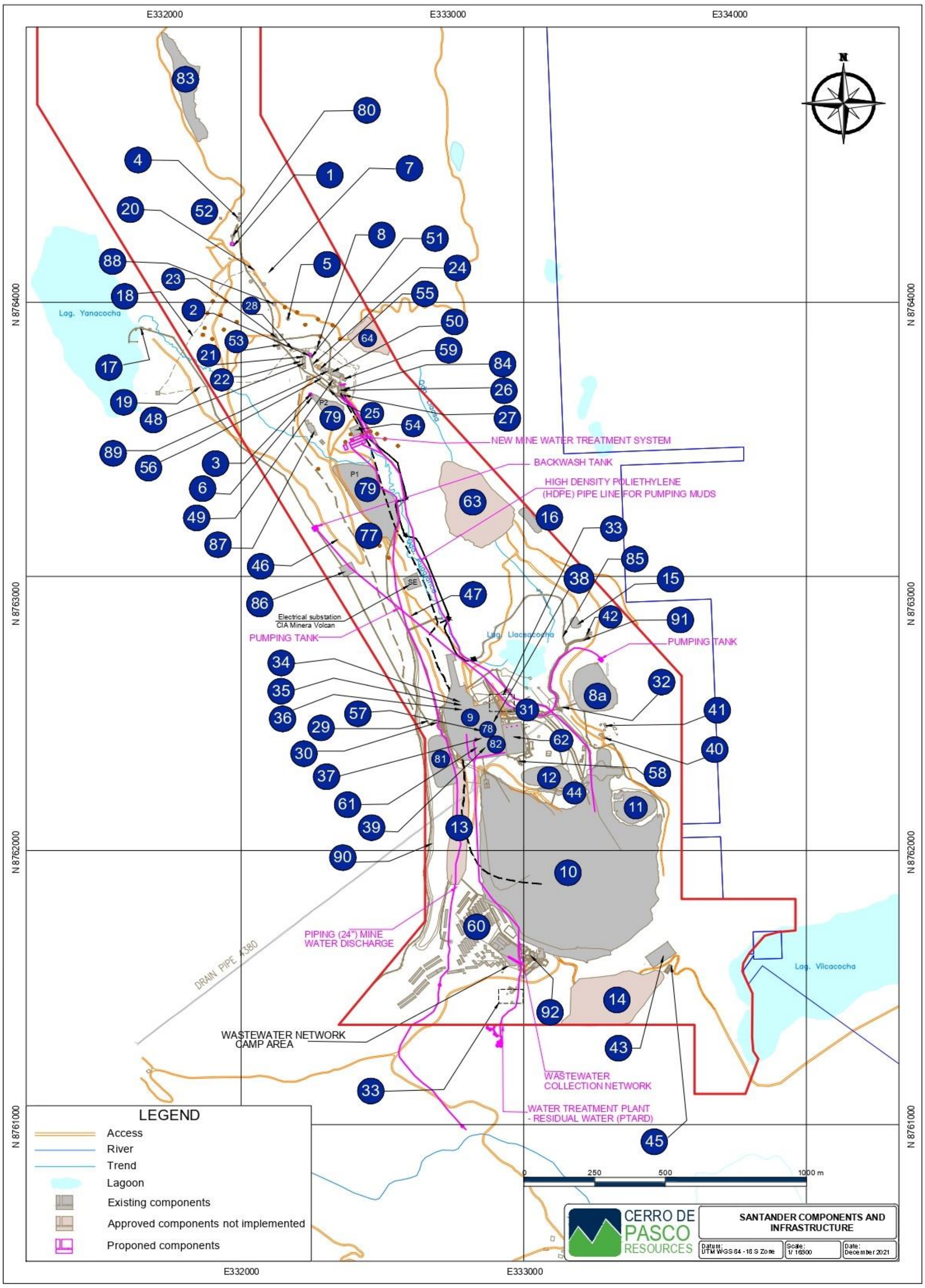


Figure 18.1: Location of infrastructure mentioned in Table 18.1

18.3 Tailings Storage Facility (TSF)

The existing TSF has been constructed in 3 lifts starting in 2013 with the building of dams 1 and 2. Initial construction was to increase the dam wall by 14m in its central part to an elevation of 4,474 masl, but it was only built to 4,471 masl.

Construction continued in May 2018 to reach the original planned 2013 objective of 4,474 masl with construction continuing in 2021 to add an additional 1.40 m resulting in the current elevation of 4,475.40 masl with 5,618,156 tonnes of tails deposited in the TSF since 2013 (Table 18.2).

For tailing deposition, the tailings sludge is pumped approximately 420 m from the process plant to the TSF for disposal. The current TSF elevation is 13m higher than the process plant foundations and this will increase as additional lifts are added to the TSF. The current production of tailings is between 1,800 to 2,250 tpd.

The tailings slurry is sent via 8” diameter high-density polyethylene pipes, by a Wilfley 6k pump (plus one additional on standby), to an 80'x14’ thickener designed by FIMA, from where it is collected and displaced by a Wilfley 5K pump to its final discharge in the TSF. The tailings pipeline (8 ”pipes) runs along the northwest perimeter of the TSF and provides access to 3 different discharge points 50 m apart. Each of the discharge points are fitted with pinch valves in order to favor sedimentation. A concrete reinforced contingency catchment area has been constructed to capture tailings runoff in case of clogging. During tailings transportation it is estimated that the sludge contains 24% solids.

The current TSF is deposited up to the 4,472.5 masl elevation, and control of the tailings deposition is facilitated by two internal dikes which are used to control the migration of the tailings across the facility. The beach slope is continuously changing according to the deposition of the tailings with the objective of assuring secure sedimentation in areas that are considered vulnerable in relation to slope stability.

A supernatant water recovery system has been installed to recover water from the pooled water in the TSF whereby fixed submersible pumps, or pumps installed on rafts, collect and transport supernatant water via pipeline to the main water tank (1,500 m3) located in the upper part of the process plant, to feed the process plant operations.

Table 18.2: Tailings deposited in the TSF since 2013

Year	Tailings (Tonnes)	Tailings (M3)
2013	228,181	162,986
2014	510,563	364,688
2015	694,957	496,398
2016	706,304	504,503
2017	767,914	548,510
2018	730,704	521,932
2019	781,953	615,711
2020	647,079	490,211
2021	550,501	423,463
Total	**5,618,156**	**4,128,402**

18.4 Mine waste dumps

The mine currently has one waste dump (waste dump 2) used for removing waste material that could not be effectively disposed of underground. This waste material does not generate acid waters. The waste is generated mainly from mine development activities and is not expected to increase significantly over the life of the mine unless some additional infrastructure or new mine areas are incorporated into the mineral portfolio.

The historical waste dumps are:

- Waste Dump 1
- Waste Dump 2

- Waste Dump Chupa
- Waste Dump Desmonte 1 (Ex Tacora, old Santander mine waste dump area, now rehabilated)
- Waste Dump Magistral Central.
- P1. Waste dump Magistral South.
- P2. Waste dump Magistral South.

18.5 Mineral Stockpiles (RoM)

The mine currently has three mineral stockpiles which store material from the MN, MC and MS sections of the mine (due to mixing of different ore types). Once stockpile material of unknown grade has been sampled and results obtained, the geology department, in coordination with the mine and planning departments, takes the decision on whether to transport this material to the plant or to the waste stockpile.

18.6 Concentrate transportation

Tractor trailers that can transport two 25 t containers each are used to transport concentrate. The containers must be made of stainless steel. Each container is registered and weighed at the mine scales before loading. The sampling and weighing processes are carried out on the concentrate prior to the unit being sealed and registered. The concentrate is then transported by road to the port of Perubar in the Callao province close to Lima, for subsequent shipping to purchasers in 400 to 600 t lots.

18.7 Power supply

The main power supply to the mine is delivered by two electricity companies.

1. COMPAÑÍA MINERA CHUNGAR S.A.C, which supplies through the Shelby Transmission Lines (50kV) with an approximate distance of 61 km and power of 7MW. Power is distributed through the 50kV Shelby Substation and Infrastructure. All are owned by Compañía Minera Chungar S.A.C., which transforms the 50kV/22.9kV power for subsequent distribution to the substations of the plant 22.9kV / Mine 10kV and Camps 0.23kV.
2. Tingo (Volcán) transmission line, with an approximate distance of 17 km, and power of 5MW. Power supplied by the Tingo Transmission line is received through the Substation

Magistral Centro and related infrastructure. Owned by the Santander Mining Unit, which transforms the 22.9kV / 10kV energy for distribution to the mining operations, and the power supply to the main ventilation fans and pumps.

Both the above-mentioned lines are interconnected to the National Interconnected System (SEIN). At the Magistral Centro substation, both lines at 22.9kV have a link system in the event of an outage to supply power to the circuits considered critical within the unit. The current distribution considering the maximum demands at peak hours is as follows:

- Mine: 7.70 MW
- Plant: 3.60 MW
- Camps and auxiliary infrastructure: 0.40 MW

The maximum demand at peak hours is approximately 11.70 MW out of a contracted power of 12 MW, representing 98% of the contracted power. With a future projection to give continuity to mining operations for exploitation, development and preparation, the following will be required:

1. Optimise/Renovate Transmission Lines.
2. Optimise/Renovate the 50kV Substation section lines to the Magistral Centro Substation.
3. Optimise/Renovate the Magistral Centro substation with equipment and infrastructure.
4. Optimise/Renovate the 50kV substation with equipment and infrastructure.
5. Increase the contracting power with the supply companies per the projection of the operations.

18.7.1 Principal substation

The principal substation of the mine comprises a 6 to 8 MVA transformer with a transformation ratio of 50 to 22.9 kV, connection-disconnection elements, and protection relays.

18.7.2 Distribution

Power distribution at the property is primarily through the use of overhead transmission lines on wooden posts. The basic distribution scheme is a 22,900 volt circuit via substations.

18.7.3 Mine distribution

Power supply for the underground portion of the mine consists of three circuits with the following arrangements:

- Mine
  - Volcán Line:
    - Transformer 6/7.5 MVA – Cell 01 (Substation N° 6, 9 and 11) = 2.5 MW
    - Transformer 6/7.5 MVA – Cell 02 (Substation N° 10) = 2.3 MW
  - Shelby Line:
    - Transformer 3 MVA – Cell 01 (Substation N° 8) = 0.8 MW
    - Transformer 3 MVA – Cell 02 (Substation N° 7, 11) = 1.2 MW
    - Transformer 2.25 MVA – Surface (Fans and compressor) = 0.9 MW
- Concentrator Plant - Tailings
  - Concentrator Plant:
    - Transformer 5/6.5 MVA – 22.9/2.3 kV = 3.6 MW
  - Tailings:
    - Transformer 1 MVA – Tailing Substation = 80 KW
    - Transformer 75 KVA – Llacsacocha = 20 KW
- Camp Site
  - Site:

- Transformer 800 KVA – Camp Substation = 0.4 MW

18.8 Accommodation

The main mine camp facilities can accommodate approximately 75-100 people and is located approximately 200 m to the east of the process plant at an elevation of 4,500 masl. Other lodgings (approximately 350 people) for mine contractors are located in a separate camp situated approximately 830 m southwest of the plant.

Accommodation in the mining camp within the complex is sufficient for the CDPR workforce, contractors, and consultants. A canteen is also located on site with a capacity to feed approximately 500 people.

Covid restrictions have meant changes to living and eating arrangements to comply with sanitary regulations.

18.9 Water

Process water that is required for the process plant and mining operations is sourced from the overflow collection ponds of the TSF and seepage from the underground mine. The total volumetric consumption approved for the process plant is 273.4 l/s (EIAd 2008).

The permitted water usage was originally granted according to the requirements for the full production capacity of the processing plant. Water for current production is within the approved limits. Should extra water be required for potential future expansions, CDPR anticipates that additional water will be sourced from both the TSF and underground mine as required, which are both within the current process plant battery limits.

Facilities associated with water management include:

- Separate underground pumping systems for acidic (approximately 15% of total) and neutral waters (approximately 85% of total).
- Surface drainage and pumping network.
- Acid neutralization facility.
- Industrial Water Treatment facility.

The site water management, including water treatment and permits, is described in Section 20.0

18.10 Communications Systems

The mine site has a communication network of telephones (Telefónica Peru) and licensed radio repeaters within the mining area which covers the site, mine camp and other facilities. There is an onsite server with a link to the CDPR Lima office.

18.10.1 Radio

The daily communication at the operations is undertaken using a radio system. Tunnel Radio's TR-155/500 UltraComm System is a multi-channel system. The TR-155VHF system operates in the 150-170 MHz range and the TR-500 operates in the 400-500 frequency range. The radio system is amplified through a series of antennas that provides signal to the majority of the surface concession area along with the underground mine workings.

18.10.2 Voice

The mine has a SIP TRUNK service provided by Telefonica which is currently located at Av. Guardia Civil 1321 (Ex Trevali offices). CDPR is in the process of transferring the service to CDPR's main offices in Av. Santo Toribio N° 115. SIP TRUNK is a voice over Internet Protocol technology and streaming media service based on the Session Initiation Protocol by which Internet telephony service providers deliver telephone services. CDPR will distribute the SIP TRUNK numbers in two groups with the Lima head office receiving 20 channels, and the mine operations receiving 10. The system is supported through Telefónica's MPLS IP network as an element of interconnectivity that is a standard in the industry, allowing the operation of multiple VOICE SESSIONS.

18.10.3 Data

Telefónica provides the info-Internet and VPN services for the mine installations, 70 mbps of dedicated Internet and a 20mbps of VPN connection with an additional 20 mbps VPN connection for the Lima office.

The Internet service for the mine is managed through an AD server with Fortinet Security support.

The VPN with prioritization of IP traffic is applied on the Real Time Flow (voice or video), and the Data Flow, optimizing the quality of call and file transfer between the Lima – Santander mine offices.

19 MARKET STUDIES AND CONTRACTS

DRA is not reporting an advanced project as the Project has no Preliminary Economic Analysis (PEA), Prefeasibility (PFS) or Feasibility study (FS). However, as the Project is currently producing, it is appropriate to provide this information under Item 19.

The company's revenue is generated through the sale of Zn and Pb-Ag concentrates, as follows:

- Off-take Agreement with Glencore for 100% of Concentrate production LoM on existing mining areas (Magistral deposit). Any production from future developments, such as the Santander Pipe are not within the off-take agreement area, see Section 4.0 for effective area and definition of off-take agreement area.
- Commercial terms include settlements of monthly deliveries considering an average price of the commodity as quoted on the London Metal Exchange (LME), and commercial deductions for content and others variables such as TC's and freight and a logistics roll-back charge that are negotiated in January of each year.

19.1 Market Studies

The Santander Mine is an operating mine with concentrate sales contracts in place, as a result, market studies are not relevant to the sale of concentrate produced from the mining of the Magistral deposits which are bound by the Glencore off-take agreement.

Under the off-take agreement, Zinc, Lead and Silver payment terms are high compared to typical industry TC's. Concentrate that contains iron or contaminant elements in excess of the specification range are subject to penalties that are negotiated with the buyer.

All commercial terms entered between the buyer and CDPR are regarded as confidential.

Exen Consulting Services has provided a market analysis to CDPR (Falls, 2021) as summarized in the following sub-sections.

19.1.1 Zinc

In an historical context, the zinc concentrate market has seen considerable volatility over the past few years, reflected by dramatic movements in treatment charges. Shortly after multi-year high benchmark treatment charges were set in early 2020 in anticipation of a heavily over-supplied concentrate market, spot charges plunged as mine closures and cutbacks caused by the Corona virus pandemic (COVID-19) constricted supply, taking more than 500,000 metric tonnes of contained zinc out of the market according to International Lead and Zinc Study Group ("ILZSG") statistics. Although smelter demand was also impacted, the reduced consumption was not enough to offset the mine losses, driving spot terms for deliveries to China to levels below $70/dmt in early 2021. As a result, 2021 benchmark zinc treatment charges were agreed at $159/dmt, representing a 47% decline from the level agreed the year prior. With COVID-19 related mine production issues persisting throughout 2021, spot terms remained at low levels for most of the year although they began to trend up in the second half in response to environmental and power related smelter cutbacks in China, followed by announced smelter cutbacks and shutdowns in Europe due to record high energy costs witnessed there. Although treatment charges are expected to rise further in 2022, spot terms at end-2021 nonetheless remained in the relatively low $80-100/dmt range on a China delivered basis.

Recovering production from COVID-affected mines along with new production from expansions and greenfield projects in China, India, South America and elsewhere are expected to push the zinc concentrate market into a surplus position through the mid-2020's which will pressure treatment charges. In order to satisfy projected metal demand growth, in the medium to long-term, additional mine supply will be required and, as such, higher incentive prices will be necessary to stimulate growth in mine output towards the second half of the decade.

19.1.2 Lead

Primary lead production has remained relatively range-bound for several years with the concentrate market running on either side of a balanced position, driven primarily by Chinese smelter demands. Similar to zinc, lead treatment charges have been quite volatile, reaching multi-year highs in early 2020 before succumbing to COVID-related cutbacks, primarily in LatAm countries, which saw mine production fall close to 4% year on year according to ILZSG, and pulling charges down as the year progressed. The 2021 benchmark treatment charges fell close to 20% from the 2020 level, set at $141.00/dmt, CIF China basis. Spot charges dropped even more dramatically falling from a peak above $170/dmt in early 2020 to mid-2021 lows of under $50/dmt delivered China.

Lead metal prices continue to reflect automotive industry trends with the market accounting for roughly 85% of lead metal demand. Although off the highs witnessed in August, 2021, lead prices are still up 15% from the start of the year. Moving forward, lead prices are expected to continue to follow the fortunes of the automotive industry. Although growth in electric vehicles output and, more particularly, the risks of substitution from lithium ion and other battery technologies will continue to present a threat to lead demand, lead-acid batteries are expected to maintain a dominant position in the automotive battery market for many years to come. And although recycled lead – primarily from lead acid batteries – contributes more than 50% of annual lead production, primary lead production will continue to offer the critical balance in the overall lead supply chain.

19.1.3 Silver

Silver demand differs from many other metals given its exposure to industrial demand, as well as to factors which also drive the gold price, such as central bank policy. A China-led improvement in global industrial productions, and the potential for silver to narrow its current discount to gold, are expected to support future prices.

19.1.4 Commodity price projections

The QP's have reviewed the key input information, and considers that the data reflect a range of analyst predictions that are consistent with those used by industry peers. Based on these sources, price projections are considered acceptable as long-term consensus prices for use in resource estimation and associated studies.

The long-term price forecasts that are applicable to the Santander Mine are:

- Zn - $3,000 per tonne
- Pb - $2,200 per tonne
- Cu - $9,300 per tonne
- Ag - $25 per troy ounce

Metal prices forecast was estimated by taking a rolling average of the January to November 2021 metal prices with the NSR cut-off calculated as of December 31, 2021. The NSR cut-off includes the Glencore contract off-take TC's for Magistral and benchmark TC's for Santander Pipe resource estimates.

19.2 Contracts

19.2.1 Zinc concentrate

Glencore has stipulated the specifications for Zinc concentrate delivered from Santander, which are regarded to be within standard industry norms.

Iron is a deleterious element that needs particular management at the Magistral Mine. The Iron (Fe) and SiO_2 levels have increased to exceed the specified limit during 2021.Other parameters were found to be at, or within, specification limits.

19.2.2 Lead-silver concentrate

Glencore has stipulated the specifications for Lead-silver concentrate delivered from Santander, which are regarded to be within standard industry norms.

19.2.3 Operations

Santander has 30 major contracts for services relating to operations at the mine regarding mining activities, ground support, raise boring, drilling, transportation, electrical installations, plant and mine maintenance, explosives and civil works, treatment process and energy.

The QP's have reviewed the information provided by Santander on marketing, contracts, metal price projections and exchange rate forecasts, and note that the information provided is consistent with the source documents used, and that the information is consistent with what is publicly available within industry norms.

20 ENVIRONMENTAL STUDIES, PERMITTING

All previous permits have been sourced by Trevali Peru, which to date continues to be the companies legal name and owned by CDPR.

In this report, CDPR has been named as the company that will continue with all future permitting either through the company name Trevali Peru or Cerro de Pasco Resources-Subsidiaria Peru which will be the new local subsidiary company name.

To accompany the reading of this section, an overview of Peruvian Mining and Environmental Law and Regulations can be found in Appendix B.

20.1 Environmental compliance

The Santander Property complies with the terms of the Environmental Impact Report and with each of the conditions provided in the resolutions of the environmental impact authorization issued by the National Environmental Certification Service (SENACE) through official communication R.D. N° 073-2019-SENACE-PE/DEAR dated May 2, 2019 and other official resolutions.

20.2 Background information

The Santander Property is located within the boundaries of the rural community of Santa Cruz de Andamarca (CC Santa Cruz de Andamarca) and is politically located in the district of Santa Cruz de Andamarca, in the province of Huaral, Department of Lima, Perú. Geographically, the mine is situated in the western Andean Mountain range, Cordillera Occidental, at an altitude of 4,000 to 5,300 masl, and in the headwaters of the Baños river, tributary of the Chancay river, which runs to the Pacific Ocean. Environmentally, the mine is located in the Puna ecoregion and its Holdridge life zone is the Subtropical Pluvial Alpine Tundra (tp-AS).

In general terms, the weather in the area of the mine is cold and wet, with an average annual rainfall less than 700 mm and an average annual temperature of 6°C. It has rainy summers and dry winters with moderate frost (SENAMHI).

In terms of land use capacity, soils are suitable for cold climate grassland and protection, and actual land use is limited to urban use (private or government), natural pastures, and unproductive land.

20.3 Permitting Requirements – Legal Framework Overview

The development of economic activities in the Peruvian territory, such as those related to the mining industry, is subject to a broad range of general environmental laws and regulations, such as:

- The General Environmental Law, enacted by Law N° 28611 and its modifications.
- The Organic Law for the Sustainable Exploitation of Natural Resources, enacted by Law N° 26821.
- The Law on the National System of Environmental Impact Assessment, enacted by Law N° 27446 and its Regulations, approved by Supreme Decree N° 019-2009-MINAM.
- The Environmental Quality Standards for Water, approved by Supreme Decree N° 004-2017-MINAM.
- The Environmental Quality Standards for Air, approved by Supreme Decree N° 003-2017-MINAM.
- The Environmental Quality Standards for Soil, approved by Supreme Decree N° 011-2017-MINAM.
- The Environmental Quality Standards for Noise, approved by Supreme Decree N° 085-2003-PCM.
- The General Law on Solid Wastes, enacted by Legislative Decree N° 1278 and its Regulations approved by Supreme Decree N° 014-2017-MINAM, among others. Additionally, the environmental aspects of the mining industry are specifically governed by Supreme Decree N° 040-2014-EM and Supreme Decree N° 042-2017-EM.

These environmental laws and regulations govern, inter alia, the generation, storage, handling, use, disposal and transportation of hazardous materials; the emission and discharge of hazardous materials into the ground, air or water; and the protection of biological diversity. They also set environmental quality standards for noise, water, air and soil, which are considered for the preparation, assessment and approval of any environmental management instrument.

The most important permits that have been granted to Santander, which support its operation are as follows:

- Environmental Impact Assessment for the exploitation of tailings (approved by R.D. N° 158-2009-MEM/AAM).
- Modification of Environmental Impact Assessment for the exploitation of tailings (approved by RD 396-2010-MEM/AAM).
- The Santander Mine exploration environmental impact study (approved by RD N° 122-2012-MEM/AAM, 18/04/2012).
- Tailings Deposit Closure Plan (approved by RD N° 018-2012/MEM-AAM, 26/01/2012).
- The Supportive Technical Report (Informe Técnico Sustentatorio, or ITS) Confirmation of Mineral Resources and Improvements in Wastewater Management at UM Santander (approved by RD N° 457-2015-MEM-DGAAM, 26/11/2015).
- Second ITS for increasing production capacity of the concentrating plant from 2,000 to 2,500 tpd at UM Santander (approved by RD No. 108-2016-MEM/AAM, 13/04/2016).

- Modification of the Santander mine closure plan (approved by RD N°. 013-2014-MEM/AAM, 08/01/2014).
- Detailed technical report (Memoria Técnica Minera or MTD): In compliance with DS N°. 040-2015-EM, a MTD was submitted for all activities, extensions, and/or components declared to be regularized. MINEM approved by RD N° 090-2017-MEM-DGAAM, 27/03/2017.
- Third ITS for the retreatment of tailings through conventional methods: excavation and loading (Approved by R.D. N ° 001-2018-SENACE-JEF / DEAR, 04/01/2018.
- First Modification of the Detailed Environmental Impact Study of the Santander Mining Unit (approved by R.D. N° 073-2019-SENACE-PE/DEAR, 02/05/2019).
- First ITS (to the MEIA) for the expansion of the Santander Tailings Deposit (by 10%) and confirmation of reserves, (approved by R.D. N° 116-2019-SENACE-PE / DEAR, 05/06/2019).
- Second ITS for the replacement of borrow material for the construction of the tailings dam and the addition of three borrow material quarries (approved by R.D. N° 0051-2021-SENACE-PE/DEAR, 24/03/2021).
- Second Modification of the Santander mine closure plan (approved by RD N° 115-2021-MINEM/DGAAD, 18/06/2021).

CDPR is currently in the process of drafting the second modification of its detailed environmental impact assessment study (Second MEIA-d) for a tailings dam and mine expansion with SENACE. This study was initiated in 2019, but due to the pandemic it was put on hold. The main objective of the study is to obtain the environmental certification of the aforementioned components that will allow for the extension of the life of mine.

The formulation process of the Second MEIA-d was initiated in October 2019 and it is in evaluation process. Coordination’s with SENACE are ongoing to define the workplan and required environmental baseline fieldwork that will be accompanied by SENACE. The process of developing the Second MEIA-d includes public participation by means of a plan approved by the authority. This plan includes three participative workshops and the establishment of a permanent information office (to be located in Santa Cruz de Andamarca) where people can receive information on the project, among other initiatives.

To date, a preliminary participative workshop has been completed, as well as a brief ethnographic assessment of the CC San José de Baños and CC Santa Cruz de Andamarca, using surveys and semi-structured interviews.

The mine and its infrastructure are situated on land owned by the CC Santa Cruz de Andamarca. The easement agreement between the CC Santa Cruz de Andamarca and Trevali (now CDPR) for the use of the land for mining purposes was recently renewed and remains valid until 26 September 2030.

20.3.1 Ministry of Energy and Mines (MINEM) and General Mining Directorate (DGM)

The General Mining Directorate (DGM) is a line unit of the Ministry of Energy and Mines (MINEM), dependent on the Office of the Vice Minister of Mines. The DGM is the competent authority for the approval of mining plans and authorizations to start development, preparation and subsequent exploitation activities, which allow for the construction and subsequent exploitation of a deposit to be carried out. Similarly, the granting of Mining Operation Certificates is also the responsibility of this authority.

Additionally, the DGM also has jurisdiction over beneficiation concessions. It authorizes the operation of leaching and concentration plants and subsequently, after the respective field inspections, authorizes their operation.

The Ministry of Energy and Mines, through the General Directorate of Mining Environmental Affairs (DGAAM), used to be the authority responsible for the evaluation and approval of the Environmental Management Instruments (that is, the Detailed or Semi-Detailed Environmental Impact Studies: EIAd and EIAsd) or their respective amendments.

The DGAAM is the competent authority for the approval of the Mine Closure Plan and environmental permits for exploration and its updates and modifications.

20.3.2 Approved Permits

The list of permits and licenses presented was prepared based on reports from the Ministry of Energy and Mines (MINEM), Public Registry of Mining (currently INGEMMET), National Water Authority (ANA), National Public Registry Authority (SUNARP), General Directorate of Environmental Health (DIGESA), notary public documents, and information provided by CDPR. Table 20.1, Table 20.2, Table 20.3 and Table 20.4.Figure 20.1: 20.2, 20.3 and 20.4 summarize the approved environmental permits to date.

Based on current permits and licenses, Trevali has implemented water management control system, including, but not restricted to, a sedimentation pond for the discharge from the mine drainage system; a domestic waste water treatment system; and periodic monitoring and reporting of surface water quality, as required by current laws and regulations.

Current licenses allow CDPR to use 10.6 L/s of surface water from Yanacocha lake, and 24.45 L/s of groundwater from Pique-La Cuñada.

20.4 Social or community impact

CDPR maintains a good relationship with the population of the area of direct and indirect social influence, which is composed of the following four communities: CC Santa Cruz de Andamarca, CC Santa Catalina, CC San José de Baños and CC San Juan de Chauca respectively. To strengthen and maintain the social license to operate, Trevali, the previous operator continually carried out projects and/or actions for the benefit of the population within the framework of its social responsibility policy. In addition, regular community meetings and consultations are held with local stakeholders. Those activities are carried out by the mine's Community Relations area.

Santander's Community Relations department promotes the sustainable development of the mine's neighboring communities. In 2015, Trevali signed an agreement with the community of Santa Cruz de Andamarca for the use of their land for mining purposes. The agreement is for 15 years and expires in September 2030. In compliance with the signed agreements between the community and Trevali, from 2009 to 2021, the company has invested US$ 2,585,171 in the following four key areas:

- Sustainable development
- Health and nutrition
- Education and culture
- Communication and dialogue

Table 20.1: Summary of Santander´s Approved Environmental Permits to Date

Type of Permit	Objective & Description	Approval Authority	Approval Document	Period	Issuance Date
EIA - Tailings Reprocessing	Approval for tailings reprocessing	MINEM/AAM	R.D. N° 158-2009-MEM/AAM	Indefinite	29-Oct-09
	MEIA approval for tailings reprocessing	MINEM/AAM	R.D. N° 396-2010-MEM/AAM	Indefinite	30-Nov-10
EIA - Exploitation	EIA of 50 kV transmission line and Shelby substation	MINEM	R.D. Nº 003-2011-MEM/AAM	Indefinite	5/01/2011
	Environmental assessment of the risks and plans for proposed activities	MINEM/AAM	R.D. N° 122-2012-MEM/AAM	Indefinite	18-Apr-12
	ITS 1 EIA: Confirmation of Mineral Resources and Improvements in water Management in the U.M. Santander	MINEM/AAM	R.D. N° 457-2015-MEM-DGAAM	Indefinite	26-Nov-15
	ITS 2 EIA: Increase production capacity from 2000- 2500 TMD	MINEM/AAM	RD N° 101-2016-MEM/AAM	Indefinite	13-Apr-16
	MTD: Regularize EIA components at Santander site	MINEM	RD N° 040-2015-EM	Indefinite	27-Mar-17
	ITS 3 EIA: Reuse of tailings through conventional methods	SENACE	RD N° 001-2018-SENACE-JEF/DEAR	Indefinite	04-Jan-18
	MEIA - First Amendment to EIA: Environmental assessment of the risks and plans for proposed activities	SENACE	R.D. N° 073-2019-SENACE-PE/DEAR	Indefinite	02-May-19
	ITS 1 MEIA: TSF extension and additional drilling	SENACE	R.D. N° 116-2019-SENACE-PE/DEAR	Indefinite	17-Jul-19
	ITS 2 MEIA: Borrowed material required for tailings construction and mine fill	SENACE	R.D. N° 00051-2021-SENACE-PE/DEAR	Indefinite	24-Mar-21
	ITS 3 MEIA: Modify mine water treatment system to 500 l/s, confirmation of exploration reserves and hydraulic backfill	SENACE	In process (Not identified)	In process	In process

	Second MEIA: Increased depth of mining, expansion of the tailings dam to 4492.5 masl, expansion of the mine water treatment system to 900 l/s	SENACE	In assessment	In process	In process

Table 20.2: Summary of Santander´s Approved Environmental Permits to Date (cont.)

Type of Permit	Objective & Description	Approval Authority	Approval Document	Period	Issuance Date
Mine Closure Plan – Santander Mine	**Closure plan of tailings reprocessing**	MINEM	R.D. Nº 018-2012-MEM/AAM		26/01/2012
	First Closure Plan Amendment: Include or update closure plan	MINEM/AAM	R.D. N° 013-2014-MEM/AAM	2019	08-Jan-14
	Second Closure Plan Amendment: Approve activities related to mine closure, and the budget that reflects the value of a warrant that must be provided by Santander	MINEM/AAM	RD N° 115-2021-MINEM/DGAAM	2030 (including post-closure activities)	18-Jun-21
	Mine Closure Plan Update 2022:	MINEM	To define 2022	To define 2022	To define 2022
Permits Related to the Use of Water for Mining Activities	The National Water Authority (Spanish acronym: ANA) approved the license of the use of water for mining purposes. Santander Mine is authorized to use 0.90 l/s of water from Yanacocha lake and 2.10 l/s of water from la Cuñada Shaft	ANA/ALA	Resolución Jefatural No. 0729-2009-ANA, extended by Resolución No. 026-2011-ANA-ALA.CH.H	Indefinite	12-Oct-09 22-Mar-11
	Pique La Cuñada groundwater use license	ANA/ALA	R.A. N° 026-2011-ANA-ALA.CH.H.	Indefinite	22-Mar-11
	Yanacocha Lagoon surface water use. Santander Mine is authorized to use 10.6 l/s of water from Yanacocha lake	ANA/ALA	R.A. N° 081-2013-ANA-AAA.CF-ALA.CHH.	Indefinite	06-Feb-13

Permits Related to the Discharge of Water	To discharge industrial water to a water body	ANA	R.D. N° 199-2019-ANA-DCERH	04 years from the effective discharge	29-Nov-19
Permits Related to the Discharge of Domestic (non-industrial) Water	Authorization to dispose of domestic water	DIGESA	RD N° 004-2010/DSB/DIGESA/SA	Indefinite	06-Jan-10
Certificate of Absence of Archaeological Remains (CIRA)	Confirm the absence of archaeological remains in the operational area	Ministry of Culture	CIRA N° 2011-431/MC	Indefinite	18-Nov-11
	Confirm the absence of archaeological remains in the north area	Ministry of Culture	CIRA N° 207-2019-DCE/MC (North)	Indefinite	19-Jun-19
	Confirm the absence of archaeological remains in the south area	Ministry of Culture	CIRA N° 225-2019-DCE/MC (South)	Indefinite	19-Jun-19

Table 20.3: Summary of Santander´s Approved Environmental Permits to Date (cont.)

Type of Permit	Objective & Description	Approval Authority	Approval Document	Period	Issuance Date
Surface Property Agreement	Surface and Easement Usufruct Agreement signed on December of 2007 with Comunidad Campesina (Framing Community) of Santa Cruz de Andamarca, for a term of 5 years. On October of 2015 the term was extended for 15 years.	Community – Notary Public	Notary Public ROZ N° Kardex: 158350 (20/12/2007) Notary Public MNP N° Kardex: 81315, Escritura: 1968 (15/10/2015)	Sep-2030	27-Sep-15
Mineral Exploration	DIA - NORTH: Environmental permit for exploration platforms in North area (all Santa Cruz and Catalina areas)	MINEM/AAM	R.D. N° 083-2020-MINEM/DGAAM	18 months	24/07/2020
	EIAsd: Permit for146 surface exploration platforms in the area of Santa Cruz de Andamarca.	MINEM	R.D. N° 090-2012-MINEM/AAM	18 months	26/03/2012
	Closure plan for exploration work	MINEM	R.D. Nº 101-2011-MEM/AAM		7/04/2011
Explosive Magazine Permit	Authorization to store explosives (surface)	SUCAMEC	Resolución de Gerencia N° 1609-2021-SUCAMEC/GEPP	01-May-22	20-Apr-21
	Authorization to store explosive accessories (surface)	SUCAMEC	Resolución de Gerencia N°01569-2021-SUCAMEC/GEPP	01-May-22	15-Apr-21
	Authorization to store ANFO (surface)	SUCAMEC	Resolución de Gerencia N° 01549-2021-SUCAMEC/GEPP	01-May-22	14-Apr-21
	Authorization to store explosives (underground)	SUCAMEC	Resolución de Gerencia N° 01566-2021-SUCAMEC/GEPP	15-Apr-22	15-Apr-21
	Authorization to store explosive accessories (underground)	SUCAMEC	Resolución de Gerencia N° 01565-2021-SUCAMEC/GEPP	16-Apr-22	15-Apr-21
	Authorization to store ANFO (underground)	SUCAMEC	Resolución de Gerencia N° 01570-2021-SUCAMEC/GEPP	17-Apr-22	15-Apr-21

Acquisition and Use of Explosives	Authorization to purchase explosives	SUCAMEC	Resolución de Gerencia N° 00585-2021-SUCAMEC/GEPP	12-Feb-22	12-Feb-21
Radio electric stations	Required to use radio frequency in the mine	MTC	Resolución Directoral N° 986-2020-MTC/28	02-Sep-26	07-Sep-20

Table 20.4: Summary of Santander´s Approved Environmental Permits to Date (cont.)

Type of Permit	Objective & Description	Approval Authority	Approval Document	Period	Issuance Date
Processing Plant Construction and Operation Permit	Mineral processing concession (original authorization)	DGM/ MINEM	R.D. N° 250-2013-MEM/DGM	indeterminate	27-Sep-13
	Increase production capacity of the concentration plant up to 2000 TM/D		RD N° 0396-2014-MEM/DGM/V	indeterminate	01-Sep-14
	Increase the production capacity up to 2500 TM/D		RD N° 0395-2016-MEM/DGM/V	indeterminate	13-Jul-16
	Authorization to expand the tailings storage facility by 10%		Resolución N° 0005-2020-MINEM-DGM/V	indeterminate	06-Jan-20
Approval to Store Hazardous Substances and/or Dangerous Goods	Use, purchase and store dangerous goods, listed by regulator	SUNAT	Renovación N° 7C2000-2021-0001479	17-Sep-23	16-Sep-21
Authorization to Commence Exploitation Activities	Exploitation activities on the approved areas (Magistral mine)	MINEM	R.D. N° 207-2013-MEM/DGM	indeterminate	13-Aug-13
Cyanide use Authorization	Use of cyanide	MINEM	Informe N° 0157-2021-MINEM-DGM/DTM	28-Dec-21	31-Dec-22

20.4.1 *Sustainable development*

The principal goal of the Sustainable Development Program is to stimulate the local economy through the construction of permanent facilities for society development and the technical support to encourage development of local businesses. A total of US$ 70,319 has been invested between 2009 and 2021 in the following projects:

- Improvement of access roads.
- Purchase of 103 heads of cattle in 2018 that Trevali gave to the community. Trevali supported the subsequent implementation of a genetic improvement program through artificial insemination during the years 2018 and 2019.
- A 2020 project to "strengthen the industrialization and commercialization of dairy products".
- Provided conservation and refrigeration equipment for the commercialization of products derived from milk.
- Community strengthening and technical training for livestock, agriculture, water resources management and others.

20.4.2 *Health and nutrition*

Before the pandemic, Trevali developed a campaign to manage chronic childhood malnutrition for children in alliance with the Ministry of Health personnel in the communities of Santa Cruz and San José de Baños. The program worked with local mothers and nutritionists to develop balanced food preparation and also included the provision of nutritious food packages.

For the wider community, Trevali implemented annual health checks focused on prevention and care sessions with specialist doctors such as a pediatrician, a geriatrician, an ophthalmologist, gynecologist, a psychologist and general medical practitioners.

20.4.3 *Education and culture*

Every year Trevali has provided packages of school supplies for all the students (approximately 90 per year) for three Rural Communities (Santa Cruz de Andamarca, San José de Baños and San Juan de Chauca) situated within the area of social influence of the operation.

Up to 2020, Trevali maintained an academic reinforcement program, called “useful vacations” for primary and secondary schoolchildren in the Santa Cruz de Andamarca district which supported elementary courses such as mathematics and communication, English and arts. In 2021 this program was suspended due to the Covid-19 pandemic.

20.4.4 *Communication and dialogue*

A direct communication process has been established between the Santander Community Relations personnel and the representatives of the communities.

This practice has allowed Trevali and now CDPR, to attend to and resolve community requests in a timely manner.

In particular, it has allowed CDPR to ensure that the communities in the area of direct and indirect social influence have a high level of trust in the Company and the risk of conflict has been reduced to a minimum in the last three years.

20.5 Community relations

The community relations policy of CDPR is oriented towards facilitating efficient community development programs based on the potential, input, and commitment of community members, seeking to strengthen local capacities and allow direct participation in the execution of social programs.

In this context, the Community Relations Plan of 2022 prioritizes CDPR relationship with the various community stakeholders by:

- Strengthening the capacities of the communal authorities to improve the management of the community and their relationship with the company.
- Improving parental awareness of the importance of the education of children.
- Developing the capacities of preparing properly balanced meals, especially for children.

The Community Relations Plan 2022 comprises:

- CDPR commitment to comply with the obligations of the signed agreement between Trevali and the Community for use of CC Santa Cruz de Andamarca land for mining purposes.
- Social and political monitoring to improve communication with the communities.
- Payment of the annual fees associated with current community agreements.
- Providing support to community authorities for events such as village anniversaries, and others.

20.6 Mine Closure

20.6.1 *Operating and Post Closure Requirements and Plans*

Feasibility level closure plans are required by Peruvian Law. CDPR has an approved mine closure plan and several mine closure amendments for the Santander Project, these include:

- Mine Closure Plan for the Reprocessing of Tailings from the Santander Deposit (SVS 2010), approved by RD no. 018-2012-MEM-AAM (26/01/2012) and report no. 093-2012-MEM- AAM/ABR/SDC/MES.
- Modification of the Santander Mine Unit Closure Plan, approved by RD no. 013-2014-MEM/AAM (08/01/2014) and Report no. 021-2014-MEM-AAM/ABR/SDC/MES/GPV.
- Update of the Santander Mine Unit Closure Plan, approved by RD no. 097-2019-MINEM/DGAAM (21/06/2019) and report no. 307-2019-MINEM-DGAAM/DEAM/DGAM/PC.
- Second Modification of the Santander Mine Unit Closure Plan, approved by RD no. 115-2021/MINEM-DGAAM (18/06/2021).

20.6.2 Reclamation and Closure Schedule

The closure plan considers temporary, progressive, and final closure activities. The progressive closure is performed simultaneously with the mining operations until August 2022, while the final closure activities will have a duration of three years. Post-closure maintenance and monitoring activities will commence immediately upon completion of the final closure and will last for the subsequent five years.

The closure plan budget and schedule approved by the Second Modification of the Santander Mine Unit Closure Plan, approved by RD no. 115 -2021/MINEM-DGAAM and approved by the DGM as per Report no. 220-2021/MINEM-DGAAM-DEAM-DGAM are shown in Table 20.6

Table 20.5: Closure Plan Budget

Item	Approved Budget US $	Period (years)
Progressive closure	558,902.99	until 2022
Final closure	13,190,182.00	2023-2025
Post closure	639,980.74	2026-2023
Total	14,389,065.73	
Warranty	13,830,162.74	

Source: Report Nº 220-2021/MINEM-DGAAM-DEAM-DGAM

The mining operator shall honour the guarantee by providing/paying annuities each year, so that the total amount required for final and post-closure is recorded by January 2022, as shown in Table 20.6.

Table 20.6: Closure Plan - Annual Program for Guarantee Payment

Due Date	Amount US $	Acumulated Amount US $	Status of Payment
2020		11,616,713	Completed
2021	2,031,241	13,647,954	Partially Completed(*)
2022	1,366,021	15,013,975	To be provisioned

(*)The guarantee was constituted for the amount of US$ 11,616,713, the same amount of the year 2020, because the Second Modification of the Closure Plan was approved in June 2021 and the constitution of guarantees is carried out in January of each year.

The current mine closure document states that progressive closure activities will last until August 2022, following final closure in a span of three years. However, CDPR is currently undertaking work to increase life of mine resources and reserves, and will be filing a new DAC and modification of the mine closure document, along with submitting for a permit to lift the tailing dam, to continue production and reprogram the mine closure schedule.

21 CAPITAL AND OPERATING COSTS

CAPEX and OPEX are not detailed in this Technical Report.

22 ECONOMIC ANALYSIS

Economic analysis are not detailed in this Technical Report.

23 ADJACENT PROPERTIES

The Eocene-Miocene metallogenic belt of central Peru contains numerous examples of carbonate-hosted, vein and skarn-type zinc-lead (silver, copper) deposits that are exposed at various elevations depending on the level of erosion. The Chungar Antiguo deposit, located 7.5 km north of the Santander property, is an example of a contact developed endo-skarn and exo-skarn deposit surrounding an intrusive body which takes the form of a lacolith. All deposit types are associated with deep-seated intrusive systems at greater depth.

The Compañia Minera Chungar Romina project (also referred to as Nuevo Santander) is located 2 km to the north of Santander´s eastern-most concessions. This comprises a pipe-type deposit similar to the Santander pipe, but with lower grades (Table 23.1).

There are several smaller prospects and mineral showings within the same general area, including the Why Not prospect, also referred to as the Northwest Mine. These belong to the same fault-controlled anticlinal structure as the Santander Pipe and Puajanca deposits.

It can be seen from Figure 23.1 that CDPR´s Santander concessions are mostly surrounded by other active exploration and mining companies. As a comparison, see the measured and indicated resources within the surrounding area, summarized in Table 23.1 with information sourced from Volcan Compañía Minera S.A.A., 2020 Annual Report (www.volcan.com.pe).

Table 23.1: Adjacent properties and their end-2020 declared measured and indicated resources.

Company	Deposit	MT	%Zn	%Pb	%Cu	%Oz Ag/t	Location
Cia Minera Chungar	Romina project	10.60	4.75	2.62	0.10	1.24	2km North
Cia Minera Chungar	Animon mine	14.00	7.30	2.20	0.20	2.70	24 Km N-E
Cia Minera Chungar	Islay mine	3.20	1.90	0.80	0.10	5.40	16 km N-E
Cia Minera Chungar	Alpamarca mine	3.70	1.20	0.90	0.10	2.10	8 Km E-S-E
Pan American Silver	Huaron mine	4.20	2.92	1.64	0.43	5.07	25 Km N-E

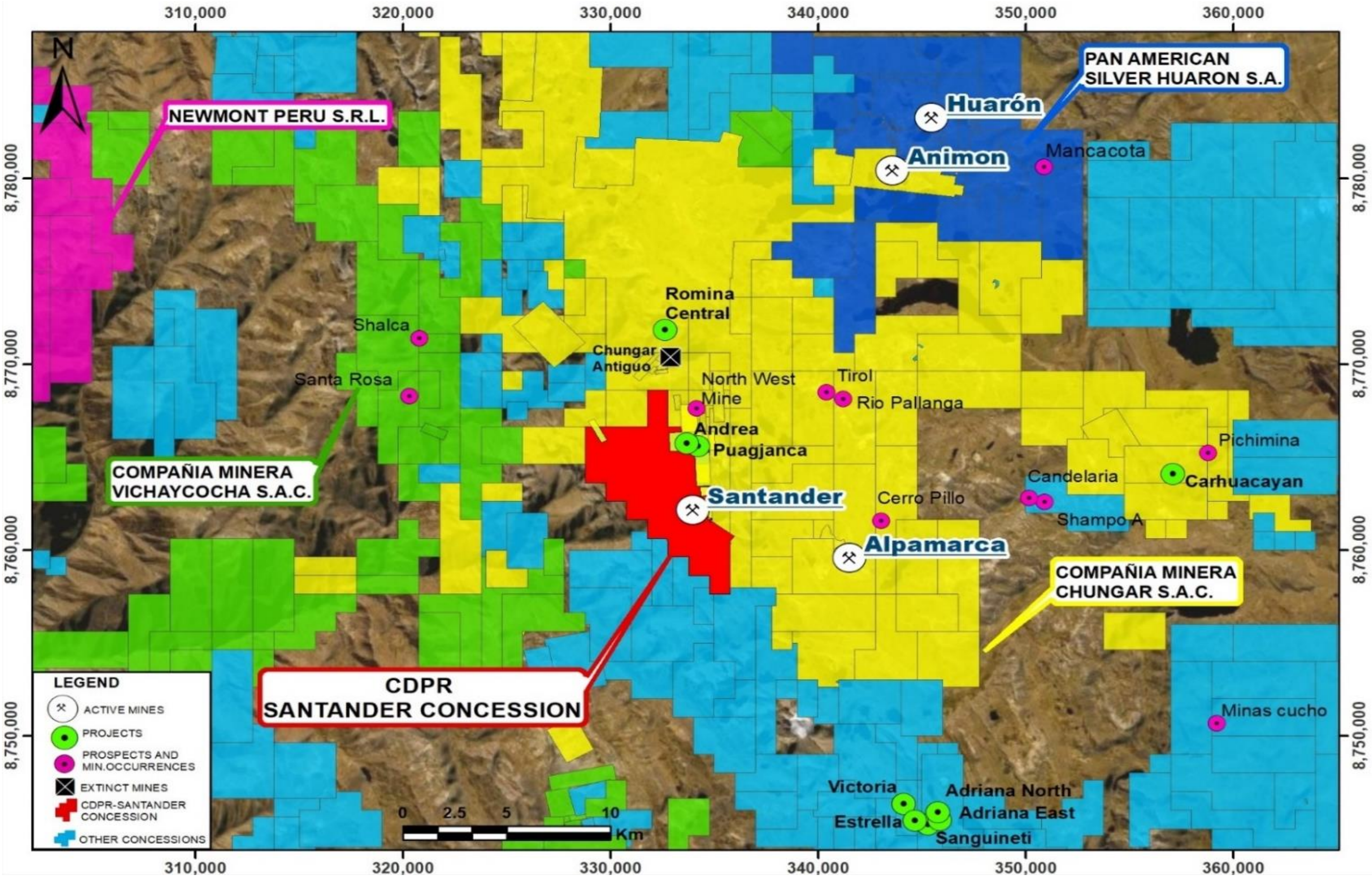


Figure 23.1: Shows the currently active exploration and mining concessions surrounding the CDPR´s Santander proper. Source CDPR (2021).

24 OTHER RELEVANT INFORMATION

It is considered relevant to record that Trevali was built on its acquisition of the Santander mine at the end of 2006, leading to its successful exploration of the Magistral deposits and its ability to bring the mine back into production in 2013. Trevali then restarted production in 2015 at the 3,000 tpd Caribou Mine (Canada) following its acquisition at the end of 2012, and went on to acquire the 2,000 tpd Perkoa Mine (Burkino Faso) and Rosh Pinah (Namibia) mines from Glencore in 2017.

During the last few years and in view of Santander´s dwindling and lower grade Magistral deposit resources, Trevali has clearly moved its focus to higher grade operations and potentially longer-life operations in Canada and Africa, as reflected in the resource estimates last published by Trevali (Table 24.1).

Table 24.1: Current Trevali declared Mineral Resources. Source: Trevali website.

Mine	Measured and Indicated Mineral Resources			
	M.Tonnes	%Zn	%Pb	Ag g/t
Caribou	12.52	6.5	2.5	73.3
Perkoa	3.54	11.98	_	_
Rosh Pinah	18.13	7.27	1.5	28.2

CDPR in its acquisition of the Santander property has recognized the opportunity to continue production at the Magistral deposits which, though narrowing and reducing in grade, are still considered as open in most directions. CDPR´s “due diligence” proposals include planning and executing the re-opening of the Santander pipe mine, which is no longer tied into the Glencore off-take agreement.

25 INTERPRETATIONS & CONCLUSIONS

The Trevali mining company was built upon the successful exploration (2007-2012), development and production (2013-2021) of the Magistral polymetallic mine. However, the acquisition of higher-grade mines in Canada and Africa led Trevali to focus their business elsewhere, and to take a decision to start closing the Magistral mine after mid-2022 and withdraw from Peru. This is evidenced by Trevali´s decision to cease drilling and reduce development of the Magistral Mine once their operations became adversely affected by the Covid-19 pandemic early in 2020.

CDPR first identified the advantages of acquiring the Santander Property in March 2021, and finally closed the purchase on the 3rd December 2021, with a view to establishing CDPR´s first producing operation in Peru.

This technical report comprises a review of the 2021 end-December Santander mineral resources position for the purposes of determining what improvements might have to be made to mineral resource estimation, in order to support a Preliminary Economic Assessment (PEA) aimed at dewatering the Santander pipe deposit for future in depth production, whilst at the same time maintaining on-going production from its Magistral mine operations.

25.1 Geology and Mineral Resources

The Santander Mine is a producing polymetallic deposit, located in west-central Andean mountains of Perú. The mine complex comprises the historically mined Santander pipe open pit and underground workings (1957-93), as well as the producing Magistral mine which started production in 2012, and feeds its fully permitted 2,500 tpd processing plant and concentrator.

The mine is located within the prolific Eocene-Miocene metallogenic belt of central Perú. Mineralization is interpreted to have occurred as a pre-lower Miocene Quechua I compressive event, and is predominantly hosted by shelf carbonates and other sedimentary rocks of Late Triassic, Jurassic, and Cretaceous age, and by volcanic and intrusive rocks mainly of Neogene age.

1. Mineralization occurs in three discrete areas on the Property: The Magistral CRD associated deposits which include MN, MC, and MS orebodies as well as Fatima, MCN, and Oyón mineralised lenses.
2. Skarn-type mineralization within the Santander intrusive pipe, where deep drilling indicates that the mineralization continues in depth and below the last producing levels mined in 1992.
3. A similar indicated skarn-type occurrence, the Puajanca deposit which warrants further exploration, and the old pre-1992 process tailings.

25.1.2 Magistral Mine

Lyall Consult of Santiago Chile carried out an independent revision and update of the Mineral Resources for the Magistral deposits for DRA, effective as of 31st December 2021(Table 25.1), and included the deduction of mined-out volumes up to the close of 2021. It considered a NSR cut-off of US$40/tonne. The NSR values were calculated from the block estimates using a Zn price of US$ 3,000/tonne, Pb price of US$ 2,200/tonne, and an Ag price of US$ 25/oz.

Table 25.1: Mineral Resource Statement, Magistral Deposits

Category	Tonnes (000)	Zn (%)	Pb (%)	Ag (g/t)
Measured	1,013	3.92	0.92	36.1
Indicated	1,370	4.86	0.22	17.2
Measured + Indicated	2,383	4.46	0.51	25.2
Inferred	1,601	3.95	0.19	15.7

CDPR and DRA recognize from the above estimate, that the Magistral mine has not been worked to conclusion, and that there is strong geological evidence, from the supporting information reviewed, of a continuation of mineralization in depth (Figure 25.1), and that there are further extensions to the mineralization to be explored along strike, both to the north and south of the current mine workings.

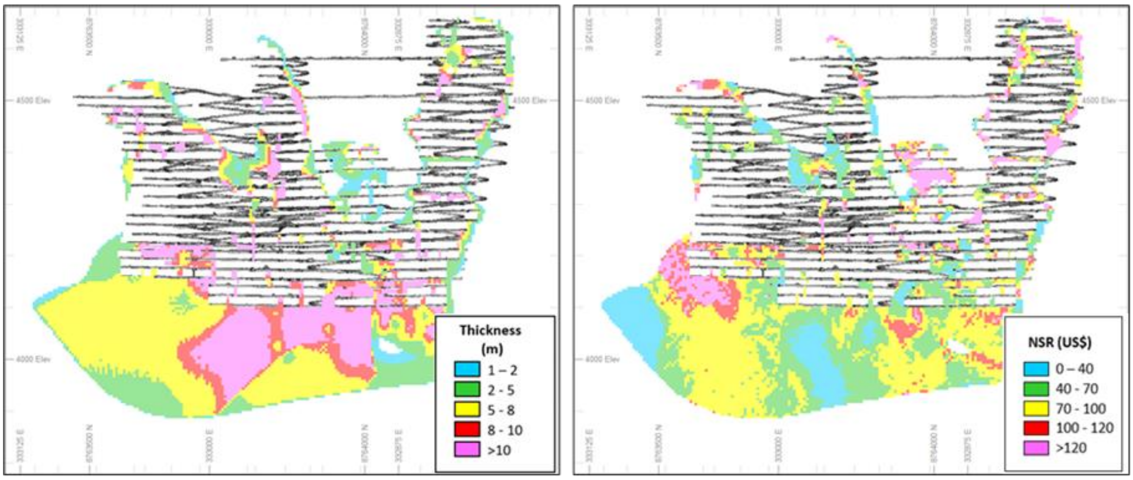


Figure 25.1: Magistral Mine Main Zone showing the modelled Mineral Thickness and NSR Value of the Mineral Resources effective as at 31st December 2021. Note that the projected thickness includes the accumulated thickness over what is often more than one mineralised structure. Source DRA (2021).

It is also recognized by DRA that an appropriate mining method is in place, and all the necessary infrastructure and operational permits are in place, as required for continued operation of the Magistral mine, and that improvements can probably be made within the mine in order to reduce operational costs.

DRA concludes in alignment with CDPR, that the most important step towards maintaining a continuation of mining operations in the Magistral mine, is to resume infill drilling (Figure 25.2) and development below the bottom of the mine. Parallel studies should be carried out to improve the geological knowledge of the Magistral deposits, as well as mine planning, and specific mine planning issues like the mine pumping system needs to be reviewed in detail.

The overall objective must be to continue “step-out” and other exploration drilling to strengthen and increase confidence in the Magistral mine´s mineral resources, and with the objective of stabilizing the balance between exploration and development for the purpose of maintaining production for the years to come.

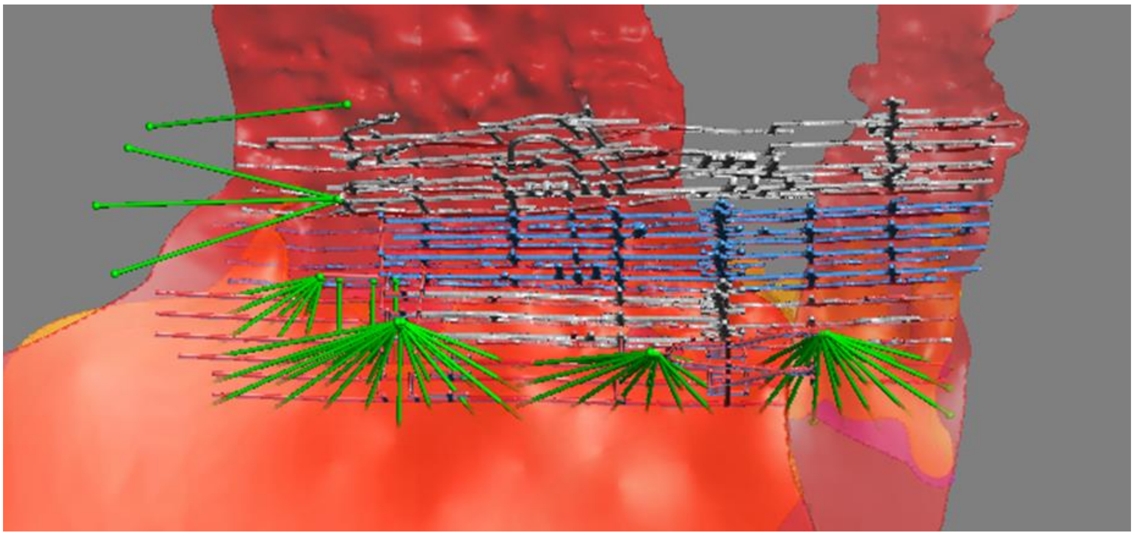


Figure 25.2: Section of the bottom levels of the Magistral Mine showing the currently planned infill drilling .Source DRA (2021).

DRA concludes that once the infill drilling has been completed in mid-2022, the geological model will need updating, and both mineral resource and mineral reserve estimates should be carried out, to plan on-going production, as well as the next drilling stages and development requirements.

25.1.3 The Santander Pipe

Lyall Consult of Santiago Chile carried out an independent revision and update of the Mineral Resources of the Santander pipe deposit for DRA (Table 25.2) as at the 31st of December 2021, and considered an NSR cut-off of US$40/tonne. The NSR values were calculated from the block estimates using a Zn price of US$ 3,000/tonne, Pb price of US$ 2,200/tonne, Cu price of US$ 9,300/tonne, and an Ag price of US$ 25/oz.

Table 25.2: Mineral Resource Statement, Santander Pipe Deposit

Category	Tonnes (000)	Zn (%)	Cu (%)	Pb (%)	Ag (g/t)
Indicated	1,791	7.18	0.10	0.03	14.8
Inferred	3,189	5.07	0.15	0.004	7.9

DRA concludes that CDPR should proceed towards preparing a Preliminary Economic Assessment (PEA) to study what mining methodology needs to be adopted towards dewatering this old mine and resuming the exploration, development and production of this deposit in depth.

Initial studies will require a crane assisted inspection of the Santander shaft together with any accessible underground workings above the current water line.

25.1.4 The Puajanca Deposit

Further drilling of the Puajanca deposit (9 drillholes) was carried out during 2021. These need to be built into the geological model and the mineral resource estimate brought up to date. DRA considers that further drilling and surface sampling should initially look at the potential for possible open pit mining.

25.1.5 Other Exploration Targets

There are other exploration targets located to the north of the Magistral mine, and between the Magistral mine and the Santander pipe to the south. These areas should be evaluated for further geophysics surveys and drilling.

25.2 Mining Methods

The traditional Avoca mining method has been successfully implemented in extraction of the Santander underground mineralization since 2013 and will continue to be the main mining method to extract the LoM Mineral, supplemented by modified Avoca in some extremity stopes along strike and uphole slashing for partial sill pillar recovery.

Groundwater inflows to the Magistral mine workings have increased in depth. Current maximum groundwater inflows are estimated at about 650 l/s and inflows are inversely proportional to ramp base elevations, hence deepening of the mine will result in proportional increases in flows.

25.3 Recovery Methods

The Santander processing plant flowsheet is conventional, comprising three stages of crushing with two stages of grinding, and differential floatation to produce zinc and lead concentrates, which are dewatered on-site and temporarily stored on concentrate pads.

Historical performance of the Santander processing plant from 2015 to 2021 has averaged 821 kt per year, equivalent to approximately 2,400 t/d with utilization of above 93%. During this period, metallurgical recovery averaged 89.5% for zinc, 87.5% for lead, and 74% for silver. Metallurgical recoveries achieved during this period were above the forecast levels of 85% for zinc, 85% for lead, and 68−70% for silver, respectively. The forecast mill recoveries in the LoM will be in line with 2015−2016 actual plant performance, outperforming the designed metallurgical recoveries due to higher feed grades than the design assumptions.

The Santander concentrator plant has been operating for approximately three and a half years at or above expected metallurgical and mechanical efficiency, and the future production is expected to maintain this high standard of operation.

25.4 Infrastructure

All surface infrastructure is in place at Santander mine, and there is no need for new infrastructure to support the on-going production from the Magistral deposits. However, there will be new surface infrastructure needed in relation to the restart of mining of the Santander pipe, this being part of the objectives for preparing a PEA.

25.5 Environmental Permitting

Continued production from the Magistral underground mine will have a limited impact on surface operations. Milling and waste rock handling will essentially remain unchanged. Mine dewatering rates will increase as the mine increase in depth. Any future change in flow rate will have to be addressed in permit applications through the Peruvian authorities.

An expansion of the existing tailings facility is required by January 2023. The proposed expansion configuration will involve a staged raise, of which the first stage will be a raise of 3 m of the existing tailings dam to provide the increased storage, whilst maintaining a similar footprint. Raising the height of the tailings facility will require additional permitting for which the permitting process has already started.

Any proposals to proceed with dewatering Santander shaft and old workings will require additional permits, and these will have to be assessed and included in the preparation of the PEA being considered for this project. Currently mine discharge water goes into the Santander open pit “La Cuñada”, from where it is discharged through a tunnel to the Rio Baños. A project is ongoing to replace the discharge tunnel by the implementation of a pipeline that will connect the water treatment plant directly to the discharge point at the river Baños. This project was approved through the 1st EIA amendment and 60% of the pipeline has been constructed to date.

25.6 Summary

Other than that which has been disclosed in this technical report, DRA Global is not aware of any other significant risks and uncertainties that could reasonably affect the reliability or confidence in the Mineral resource estimates here updated for the Magistral mine and the Santander pipe deposit.

26 RECOMMENDATIONS

DRA´s recommendations are based upon the interpretation and conclusions made in Section 25 of this report, which have been discussed with CDPR in relation to their preliminary plans as needed to:

A. Restart drilling and development in order to update the Magistral Resource Estimate and mine planning to convert mineral resources into mineral reserves for the purpose of maintaining production in 2022 and into 2023.

B. Support CDPR's proposal to dewater the Santander shaft and develop a PEA level study re the mineability of the Santander Pipe deposit.

26.1 Maintaining Production from the Magistral Mine

DRA Global recommends:

C. That CDPR restarts infill drilling (proposed 10,000 metres) in the bottom levels of the Magistral mine, aimed first at upgrading indicated resources to measured resources as required for mine planning, stope definition, and maintaining mine production.

D. That CDPR allows for exploration drilling both from surface and underground (proposed 6,200 metres) aimed at identifying further inferred mineral resources, to be deferred until CDPR knows from updated geological interpretation and modelling as to where step-out drill holes are required.

E. That CDPR restarts development as currently planned (primary development, raising and stope preparation) below the bottom of the Magistral mine.

F. That CDPR reviews the Magistral underground mine design with respect to future dewatering and pumping requirements.

G. That CDPR begins the process of developing a strategic integrated plan for maintaining exploration and development ahead of production, and this should include the necessary advancements in exploration that may be needed to maintain production from other deposit sources.

H. That CDPR carries out all necessary work to improve the geological knowledge and modelling of the Magistral mine, as well as reviewing the status and understanding of nearby exploration projects that could, with renewed exploration and evaluation, provide future production to the process plant. This includes assessing the potential for open pit mining of the upper part of the Puajanca deposit, and further retreatment of old Santander mine tailings.

26.2 The Proposal to Dewater the Santander Pipe mine for Development and Production

DRA Global recommends:

1. That CDPR consolidates the Santander Shaft collar and carries out a crane-assisted inspection of the shaft down to water level, or as far as safe access permits. An attempt should be made to plumb the shaft to its bottom and use a submersible tele-viewer to assess the shaft´s condition within the lower flooded section.
2. This will provide CDPR with information for mining studies considering alternatives for dewatering and reclaiming the flooded Santander Pipe workings, the alternatives being to rehabilitate the Santander Shaft, mine from the Magistral mine (1,500 metres), or driving a new ramp from surface or from within the old open pit.
3. That CDPR makes improvements to the Santander Pipe geological model and Mineral Resource Estimate and associated preliminary studies (metallurgy, geomechanics, hydrogeology etc) with the objective of designing an infill drilling program to be carried out either from surface, or from within the old underground mine.
4. That CDPR determines the additional permitting and permitting times that may affect the dewatering and development of the Santander Pipe mine for production.
5. That CDPR proceeds with the preparation of a PEA evaluating the proposal to dewater the Santander Pipe mine for future exploration, development and production.

26.3 Summary Recommendations

Given that CDPR has only been in possession and control of the Magistral mine for a short time, there is no current Mineral Reserve Estimate on which to base the mine planning process needed to make OPEX and CAPEX estimates in support of ongoing (2022) production and the development currently been planned in order to maintain production.

A cost estimate has been made for the total recommended 16,200 metres of drilling required to increase geological knowledge and confidence in mineral resource classification which will support mine planning and the Mineral Reserve Estimation process. The 16,200m of drilling (underground infill drilling, surface and underground exploration drilling) is estimated at a cost of $2,262,000 (approximately $140/m) which also includes the construction of underground drilling chambers, surface platforms and geological support.

Considering CDPR's objectives, DRA has provided an estimate in relation to the studies that are needed in relation to the preparation of a PEA for the proposed dewatering of the Santander Pipe mine, as summarized in Table 26.1.

Table 26.1:DRA Recommended Studies and Preparation of a PEA for the Santander Pipe Project

	US$'S
GEOLOGY • Revision and corrections to the Santander Pipe (SP) geological model as necessary • Review and relog the old Santander drill cores found during the site inspection • Update the Mineral resource Estimate (MRE) estimate • Plan alternative drilling approach (underground vs surface drilling) to upgrade MRE	100,000
MINE PLANNING • Conceptual study considering the alternatives for re-opening and developing the SP mine • Stabilise the ground around the Santander Shaft collar and install shaft safety doors. • Carry out crane-assisted inspection of the shaft down to the level nearest current water level, estimated to be close to water level in SP pit • Carry out detailed survey of the shaft and level (if accessible) conditions • Plumb the shaft to its bottom and make a tele-viewer recording of the below water conditions	120,000
ENVIRONMENTAL • Opinion required re permits required to dewater and re-equip the Santander Shaft	25,000
NI 43-101 COMPLIANT TECHNICAL REPORT SUPPORTING A PEA TO RE-OPEN THE SP MINE • Prepare a PEA for the dewatering and re-opening of the Santander Pipe mine workings	120,000
Total Phase 1 estimated cost	365,000

27 REFERENCES

Acosta, J, (2015): INGEMMET - Principales Franjas Metalogenéticas y Tendencias de la Datación de Plomo y Zinc en el Perú.

Baumgartner, R. (2007). Sources and evolution in space and time of hydrothermal fluids at the Cerro de Pasco Cordilleran base metal deposit, Central Peru (Vol. 66).

Bendezú, A., Onza, C., Kalin, K., Lluís, F., & Carlos, A. (2008). Miocene Magmatism and Related Porphyry and Polymetallic Mineralization in the Morococha District, Central Peru. In: XII Geological Congress of Perú, Lima, 2008.

Bergoeing Rubilar, J-P. (June 2020). Distal Zn-Pb(-Ag) skarn mineralization at Santander, Central Peru. Masters thesis, University of Geneva.

Bienawski, Z.T. (1989): Engineering Rock Mass Classification: A compete manual for engineers and geologists in Mining, Civil, and Petroleum Engineering. New York, Wliey, xii, 251pp.

Bissig, T., Ullrich, T. D., Tosdal, R. M., Friedman, R., & Ebert, S. (2008). The time-space distribution of Eocene to Miocene magmatism in the central Peruvian polymetallic province and its metallogenetic implications. Journal of South American Earth Sciences, 26(1), 16–35. **https://doi.org/10.1016/j.jsames.2008.03.004**

Cavanagh, J (c. 1991). The Peru Report´s Guide to Mines and Miners in Peru.

Cobbing, J. (1973). Geología de los cuadrángulos de Barranca, Ambar, Oyon, Huacho, Huaral y Canta. Servicio de Geología y Minería, Perú., 26, 171. Retrieved from http://weekly. cnbnews.com/news/article.html?no=124000

Cobbing and Edwin John et al. (1973): Geology of the Barranca, Ambar, Oyon, Huacho, Huaral and Canta quadrangles. INGEMMET Boletin N°26 Series A.

Cruise, M.D. and Kinglsey, T.K. 2008. Drilling – Logging and Sampling Procedures. Trevali Resource Corp. Internal Standard Operating Protocol No. 2.01 69pp.

De La Cruz, N., Jaimes F., et.al. (2003): INGEMMET Memorandum of the revision and update of the Canta quadrangle 23-j.

Einaudi, M. T. (1977). Environment of Ore Deposition at Cerro De Pasco, Peru. 72, 893–924.

Einaudi, M. T., Meinert, L. D., & Newberry, R. J. (1981). Skarn Deposits. Economic Geology, 75th Anniv, 317–391. **https://doi.org/10.1007/978-94-011-3925-0_9**

EMpulse Geophysics Limited, October 2020. Santander Project: Pulsar survey results.

Espinosa, O. and Flores, J. 1993. Informe Geología, Mina Santander, Private Report to DIA. Minera San Ignacio de Morococha.

Falls (2021): Exen Consulting Services Market Study Update

Golder Associates Ltd., Palmer, K. P.Geo., and Holland, L., F.IMMM. May 2009. Technical report and resource estimate – Santander property province de Huaral, Perú.

Golder Associates Ltd., Palmer, K. P.Geo., and Holland, L., F.IMMM. November 2010. Technical report and November 2010 resource estimate – Santander property, province de Huaral, Perú.

Golder Associates Ltd., Greenough, G. P.Geo., and Thomas, B. P.Geo. 2012. Technical report and July 2012 resource update. Santander property, province de Huaral, Perú.

Hampel, A. (2002). The migration history of the Nazca Ridge along the Peruvian active margin: A re-evaluation. Earth and Planetary Science Letters, 203(2), 665–679. https://doi.org/10.1016/S0012-821X(02)00859-2

Jacay, J., Independent Consultant, August 2011. Observaciones sobre la estratigrafía y estilo tectonico de la Mina Santander (observations re the stratigraphy and tectonic style of the Santander Mine).

King, M.A. (June 2009): A Summary of Exploration on the Santander Property, Huaral Province, Peru: A field Investigation of Ground Magnetic Geophysical Anomalies for Trevali Mining Corporation.

Long (2005): Method of Reduced Major Axis (RMA). Discussion and References. Internal document prepared by AMEC.

Love, D. A., Clark, A. H., & Schwarz, F. P. (2000). The Antamina deposit, Ancash, Peru: Anatomy and petrology of a giant copper skarn [abs.]. In Geological Society of America Abstracts with Programs (Vol. 32, No. 7, p. A137).

Lunder, P.J. (1994): Determining Pillar Strength from Pillar Observation.Engineering and Mining Journal, Vol. 8, pp.34-40.

Lunder, P.J, & Pakalnis, R.C. (1997): Determination of the Strength of Hard Rock Mine Pillars. CIM Bulletin, Vol. 90, No. 1014.

Marinos, P. et al. (2007): The Geological Strength Index: Applications and Limitations, Bulletin Engineering Geology, Environment, 64, pp.55-65.

Megaw, P.K.M., Ba1ton M.D., and Falce, J.I. 1996. Carbonate-hosted lead-zinc (Ag, Cu, Au) deposits of Northern Chihuahua, Mexico. Economic Geology, Special Publication 4, pp. 277–289.

Megaw, P.K.M. 1998. Carbonate-hosted lead-zinc-Ag-Cu-Au replacement deposits: An exploration perspective. In Lentz, D.R. (editor) Mineralised intrusion-related skarn systems: Mineralogical Association of Canada Short Course, v. 26, pp 337–357.

Meinert, L.D., Dippert, G.M., and Nicolescu, S., 2005. World skarn deposits. Economic Geology 100th Anniversary Volume, pp. 299–337.

Mégard, F. (1979). Estudio Geológico de los Andes del Perú Central. INGEMMET Bol. Nº8 Serie D. Estudios Especiales.

Mégard, F. (1984). The Andean orogenic period and its major structures in central and northern Peru The Andean orogenic period and its major structures in central and northern Peru. Journal of the Geological Society, 141, 893–900. https://doi.org/10.1144/gsjgs.141.5.0893

Murphy Geological Services (Aug. 2018). Structural Interpretation of Sentinel-2 Imagery for the Santander District, West-central Peru: prepared for Trevali Mining Corporation.

Noble, D. C., & McKee, E. H. (1999). The Miocene metallogenic belt of central and northern Perú: Society of Economic Geologists Special Publication 7. Geology and Ore Deposits of the Central Andes, 7-155.

Obert, L and Duvall, W.I. (1967): Rock Mechanics and the Design of Structures in Rock. New York, Wiley.

Ouchi, A., R. Pakalnis, and T. Brady. 2008. Empirical Design of Span Openings in Weak Rock based upon Support Type Employed. Proceedings of the 99th annual ARMA conference, San Francisco, CA.

Quantec Geosciences Perú S.A.C. August 2009. Geophysical logistics report on the ground magnetic surveys conducted at the Santander project.

Petersen, U. (1965). Regional geology and major ore deposits of central Peru. Economic Geology, 60(3), 407–476. https://doi.org/10.2113/gsecongeo.60.3.4

Quantec Geosciences Perú S.A.C. August 2010. Geophysical Interpretation Report: Surface Transient Electromagnetic Surveys.

Pim van Geffen, PhD, PGeo (Feb. 2020): Surface Rock & Vein Geochemistry of the Santander Project, Central Peru for Trevali Mining Corporation.

Rosenbaum, G., Giles, D., Saxon, M., Betts, P. G., Weinberg, R. F., & Duboz, C. (2005). Subduction of the Nazca Ridge and the Inca Plateau : Insights into the formation of ore deposits in Peru. 239, 18–32. https://doi.org/10.1016/j.epsl.2005.08.003

Soler, P. (1986). La Province polymétalique des Andes du Pérou central. Chronique de la Recherche Minière 482, 39–54.

Soler, P., & Bonhomme, M. G. (1988). Oligocene magmatic activity and associated mineralization in the polymerallic belt of central Peru. Econo, 83, 657–663

Suzuki, Y., & Hayashi, K. Ichiro. (2019). Mineralogy, Fluid Inclusions, and Sulfur Isotopes of the Huanzala Deposits, Peru: Early Skarn and Late Polymetallic Replacement Style Mineralizations. Resource Geology, 69(3), 249–269. **https://doi.org/10.1111/rge.12200**

Sillitoe, R.H. 2012. Copper provinces: Society of Economic Geologists Special Publication 16, pp. 1–18.

Simón (2004): Evaluation of Twin and Duplicate Samples: The Hyperbolic Method. Internal document prepared by AMEC. Lima, 30 September 2004.

SRK Consulting Inc. 2014. Santander geotechnical review presentation, SRK Consulting Inc., July 11, 2014.

SRK Consulting Inc. 2015. Santander Mine ground support review draft memo. SRK Consulting Inc., June 9, 2015.

SVS Ingenieros S.A., 2010, Plan de Cierre del Retratamiento del Relave del Depósito Santander.

SVS Ingenieros S.A., 2011, Estudio de Impacto Ambiental de la UM Santander.

Telluris Consulting Ltd. August 2011. Structural review of the Santander district, Perú field report 06-11.

USGS (2001-2020): Annual Mineral Commodity Summaries.

Val D'or Geofísica del Perú S.A.C. 2008a. Reporte geofísica magnetometría.

Val D'or Geofísica del Perú S.A.C. 2008b. Reporte geofísica GPS, polarización-induc ida.

Val D'or Geofísica del Perú S.A.C. 2011. Geophysical report on downhole transient electromagnetic (TEM) Survey.

Val D'or Geofísica del Perú S.A.C. 2012. Report on magnetic, gravity, and induced polarization surveys.

Zimmernink, W. (1985). Geology and mineralogy of Felicidad and Santander; two Peruvian skarn-type deposits in Cretaceous (sedimentary) host rock. With a case study of various garnet types. Ruprecht-Karls-Universität.

28 CERTIFICATED QUALITY PERSON

CERTIFICATE OF QUALIFIED PERSON

To accompany the Report entitled "Cerro de Pasco Resources - NI 43-101 and Resource Estimate Update for Santander Mine Magistral and Pipe Deposits, Huaral, Department of Lima, Peru" with an effective date of December 31, 2021, and issued on January 25, 2022 (the "Technical Report") prepared for Cerro de Pasco Resources ("CDPR" or the "Company").

I, *Martin Mount, MSc CGeol CEng.*, Lima, Peru, do hereby certify that:

1. I am independent Senior Mining Geologist and Project Engineer with an office at Avenida 28 de Julio 842-A, Miraflores, Lima, contracted to assist DRA Global Limited in the preparation of the above named report;
2. I have an MSc in Mining Geology with "distinction" from the Camborne School of Mines, Cornwall, UK, dated 1995;
3. I am a Licensed Chartered Geologist registered with the Geological Society of London (Fellowship No. 16658) and a Licensed Chartered Engineer registered with the Institute of Materials, Metals and Mining (Fellowship No. 47566).
4. I have worked in the Mining Industry continuously for more than 50 years.
5. My relevant work experience includes:
    - Many years of mine exploration, mine project development, and mining experience, for numerous metallic commodities, clients and employers, in the capacities of Mine Geologist, Chief Geologist, Technical Services Manager, Assistant Mine Manager, and as a Technical Director.
    - Management of numerous studies and projects of varying complexity, involving multi-disciplinary engineering teams for projects in gold, base metals, and other metallic commodities.
    - Participant and author of various NI 43-101 and JORC Code Technical Reports.
6. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with professional associations, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.

7. I am independent of the Company applying all the tests in Section 1.5 of NI 43-101.
8. I am responsible for the preparation of Sections 6 to 10, 23, 24 and 27, and portions of Sections 1, 4 and 5, and for overall report compilation.
9. For health reasons I was unable to visit the property that is the subject to the Technical Report, although I am familiar with the mines and prospects in the surrounding area, and have visited the Santander mine previously.
10. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Dated this 24th day of January 2022

"Original Signed and sealed"

CERTIFICATE OF QUALIFIED PERSON

To accompany the Report entitled "Cerro de Pasco Resources - NI 43-101 and Resource Estimate Update for Santander Mine Magistral and Pipe Deposits, Huaral, Department of Lima, Peru" with an effective date of December 31, 2021, and issued on January 24, 2022 (the "Technical Report") prepared for Cerro de Pasco Resources ("CDPR" or the "Company").

I, *Graeme Lyall,* Santiago, Chile, do hereby certify that:

1. I am Principal Consulting Geologist at Lyall Consult SpA with an office at Guay Guay 58, Colina, Santiago, Chile.
2. I graduated with a BSc. in Geology from the University of Edinburgh in 1990.
3. I am a Fellow Member of the Australian Institute of Mining and Metallurgy (AusIMM Membership Number 224791).
4. I have worked as a Geologist in the Mining and Metals industry continuously since my graduation from university.
5. My relevant work experience includes over 30 years working in the mining industry in exploration, geological modelling and mineral resource estimation in multiple deposit types spanning porphyries, epithermals, intrusion related, orogenic, paleoplacer, and laterites amongst others, and different commodities including, precious, base metals and industrial minerals.
6. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
7. I am independent of the Company applying all the tests in Section 1.5 of NI 43-101.
8. I am responsible for the preparation of Sections 12 and 14, and contributed to Sections 1, 2, 25, and 26.
9. I visited the Santander property between the 13th and the 17th of December of 2021.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
12. As at the effective date of the Technical Report, to the best of my knowledge, information and

belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Dated this 19th day of January 2022

"Original Signed and sealed"

Graeme Lyall
Principal Consulting
Geologist
Lyall Consult SpA

CERTIFICATE OF QUALIFIED PERSON

To accompany the Report entitled "Cerro de Pasco Resources - NI 43-101 and Resource Estimate Update for Santander Mine Magistral and Pipe Deposits, Huaral, Department of Lima, Peru" with an effective date of December 31, 2021, and issued on January 24, 2022 (the "Technical Report") prepared for Cerro de Pasco Resources ("CDPR" or the "Company").

I, *Javier Aymachoque* do hereby certify that:

1. I am independent consultant with an office at Los Ficus 320-201, San Isidro, Lima 15073, contracted to assist DRA Global Limited in the preparation of the above named report;
2. I graduated with a Bachelor of Science Degree in Mining from Universidad Nacional de Ingeniería, Lima, Peru, dated 2001;
3. I am a Registered Member of The Australasian Institute of Mining and Metallurgy, MAusIMM CP (Min) - 317666)
4. I have worked in the Mining Industry continuously for more than 19 years.
5. My relevant work experience includes:
    - Many years of mine engineering, mine project construction, mine project development, and mining experience, for numerous metallic commodities, clients and employers, in the capacities of Senior Mine Engineer, Mine Planning Superintendent, Technical Services Superintendent, Assistant Mine Manager, Technical Director, and as an Innovation and Technology Director.
    - Management of numerous studies and projects of varying complexity, involving multi-disciplinary engineering teams for projects in base metals, gold. silver, and nonmetallic commodities.
6. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with professional associations, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.

7. I am independent of the Company applying all the tests in Section 1.5 of NI 43-101.
8. I am responsible for the preparation of Sections 16, 18, 19, 20, and 21 and portions of Sections 1, 12, 24, 25, and 26.
9. I visited the Santander property between the 13th and the 16th of December of 2021.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
12. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Dated this 17th day of January 2022

"Original Signed and sealed"

CERTIFICATE OF QUALIFIED PERSON

Armando Simón, Ph.D., P.Geo, (PGO, AIG, SME, AIPG, EFG, CCCRRM, CBRR)
Geoexmin SpA
Calle Parque 12650, Casa 3, Lo Barnechea, Santiago, Chile.
Tel. 56-2-2758-8122; armando.simon@geoexmin.com

I, Armando Simon, General Manager of Geoexmin SpA, do hereby certify that:

I graduated from the University of Bucharest with a Bachelor of Engineering degree in Geology and Geophysics in 1974, and with a Ph.D. as Doctor of Engineering in 1985.

I am registered as Professional Geoscientist with Professional Geoscientists Ontario (PGO # 1633).

Since 1974, I have been involved in mineral-exploration projects and mining operations for base/precious/ferrous metals and industrial minerals in Algeria, Argentina, Australia, Brazil, Canada, Colombia, Cuba, Chile, D.R. Congo, Ecuador, Eritrea, Ethiopia, Guatemala, Guinea, Guyana, Jamaica, Kazakhstan, Madagascar, Mali, Mexico, Northern Macedonia, Nicaragua, Peru, Pakistan, Portugal, Romania, Russia, Saudi Arabia, South Africa, Vietnam, and Zambia.

I am fully or partially responsible for the preparation of Sections 1 and 11 of the Technical Report entitled "Cerro de Pasco Resources - NI 43-101 and Resource Estimate Update for Santander Mine Magistral and Pipe Deposits, Huaral, Department of Lima, Peru", with an effective date of 31 December 2021 and issued on 24 January 2022. I have read the National Instrument 43-101 ("NI 43-101") and Form 43-101FI and confirm that this Technical Report has been prepared in compliance with that instrument and form.

I have read the definition of "Qualified Person" set out in NI 43-101 and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to act as a "Qualified Person" for the purposes of this Technical Report.

I am independent of Cerro de Pasco Resources Inc., as independence is described by Section 1.5 of NI 43–101. I conducted a review of QA/QC procedures at the Santander Project in December 2021.

As of the date of this certificate, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

"Signed and sealed"

Armando Simon, PGeo (PGO # 1633)
General Manager, Geoexmin SpA
20 January 2022

CERTIFICATE OF QUALIFIED PERSON

To accompany the Report entitled "Cerro de Pasco Resources - NI 43-101 and Resource Estimate Update for Santander Mine Magistral and Pipe Deposits, Huaral, Department of Lima, Peru" with an effective date of December 31, 2021, and issued on January 24, 2022 (the "Technical Report") prepared for Cerro de Pasco Resources ("CDPR" or the "Company").

I, Niel Morrison, P. Eng, Toronto, Ontario, do hereby certify that:

1. I am a Principal Process Engineer with DRA Global Limited with an office at 20 Queen Street West, 29th Floor, Toronto, Ontario, Canada M5H 3R3;
2. I graduated from the University of Stellenbosch, South Africa with a Bachelor of Chemical Engineering in 1990;
3. I am a registered member of the Professional Engineers of Ontario membership number 100134360 .
4. I have worked as a Metallurgist and Process Engineer in various capacities since 1992.
5. My relevant work experience includes:
   - 30 years of experience, 6 years in research and development, 10 years in process plant operations and the remainder in process plant flowsheet design and engineering;
   - Polymetallic flotation testwork interpretation and flowsheet design for several studies and projects; and
   - Participant and author of several NI 43-101 Technical Reports.
6. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43 101.
7. I am independent of the issuer as described in section 1.5 of Regulation 43-101.
8. I am responsible for the preparation of Sections 13 and 17.
9. I did not visit the site and was not involved with the selection of samples which were used for metallurgical test work.
10. I have had no prior involvement with the property that is the subject of the Technical Report.

11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
12. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Dated this 17th day of January 2022

Niel Morrison

Niel Morrison, P Eng
Principal Process Engineer
DRA Global Limited

APPENDIX A

MEMORANDUM

To: Mr. Shane Witty

Cerro De Pasco Resources, Sucursal del Perú ("CDPR")

Date: October 12, 2021

Subject: Santander Concessions

As instructed, below you will find our findings regarding the legal status and good standing of the mining concessions obtained by TREVALI (as defined below) in connection to the"Santander" Mine and adjacent exploration projects.

This memorandum covers the matters specifically instructed to us by CDPR. Therefore, we have not conducted any further investigation or research in connection to any additional mining concessions, mining pediments, companies or any other mining activities conducted by TREVALI.

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For the purposes hereof, we have relied in the information provided to us through (*i*) the Intralinks Virtual Data Room and (*ii*) the "Baker McKenzie Online" Virtual Data Room. Therefore, unless otherwise specified herein, our review has been based strictly or solely in the information made available in the aforementioned Virtual Data Rooms.

For the purposes hereof, we have not requested from the Public Registry, INGEMMET, the MEM or any other entity, the issuance of certificates officially confirming the results of our review, but we may do so if required.

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I. THE CONCESSION

1.1. **General:** The Concessions have achieved the granting of a mining concession title that is firm and definitive. Such firm and definitive title allows the Concessions' holder to carry out exploration and exploitation activities of metallic substances (as opposed to non-metallic concessions) within its area, as established in such title, though subject to obtaining other complementary required permits and authorizations.

1.2. **Good standing:** The Concessions are currently valid and in good standing.

1.3. **Ownership:** As per the information obtained from the Public Registry, TREVALI is theholder of the Concessions.

1.4. **Recording with the Public Registry:** All the Concessions are recorded with thePeruvian Public Registry. [1]

1 Under Peruvian law, registration of the mining concession title is the last step that must be fulfilled to assure that such title is enforceable before the State and third parties. Accordingly, to determine the holder of a mining concession, its file at the Public Registry should be reviewed.

1.5. **Registered Encumbrances and Contracts:** In our review of the Concession's files with the Public Registry, we have identified that there is a "Trust Agreement" formalized by public deed dated August 29, 2017 (as amended by three addendums), by means of which the Concessions were granted in trust to SCOTIABANK PERU S.A.A. As per our review, this agreement is currently valid. We have not reviewed a copy of the "Trust Agreement".

If there were non-registered encumbrances or contracts, they will be binding between the parties that executed them, but not enforceable before the Peruvian government or third parties.

1.6. **Validity fees and production penalties:** As per the information obtained from INGEMMET:

(a) Validity fees:[2] All the validity fees have been paid with respect to the Concessions since their filing as pediments, as shown in Annex A.

(b) Production penalties:[3] As shown in Annex A, production penalties for not reaching minimum production have only accrued in respect of the "San Jose N° 1" Concession. In this latter case, save for those payable on 2021 (for notreaching minimum production in 2020), all production penalties have been paid in connection to the "San Jose N° 1" Concession.

1.7. **Informal mining:** In the context of the process initiated by the Peruvian government for formalizing informal mining, we have not identified (from our independent research of the MEM's database) any applications filed by informal miners regarding the area covered by the Concessions of the Pediments. Nonetheless, this does not necessarily mean that there are no illegal mining activities being performed within such area.

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[2] The validity fee is a US$ 3 per hectare per year payment that holders of mining pediments or mining concessions are obliged to make each year.

[3] Holders (or assignees) of mining concessions are obliged to reach in their concessions, within an overall 30- year term, the minimum production (equivalent to one Tax Unit per hectare and per year) set forth by law. If minimum production is not reached within the overall 30-year term (counted as from the year following the issuance of the mining concession title or as from 2009 for mining concessions granted up to December 31, 2008), the relevant mining concession will be unavoidably cancelled.

If minimum production is not reached by the tenth year following the issuance of the mining concession title (orby December 2018, for mining concessions granted up to December 31, 2008) "production penalties" will accrue. These penalties are equivalent to: (i) 2% of the minimum production (between years 11 and 15); (ii) 5% of the minimum production (between years 16 and 20); and, (iii) 10% of the minimum production (between years 21 and 30). Note, however, that payment of production penalties may be avoided if evidence is submitted to the mining authorities that an amount at least 10 times the applicable penalty was invested in the relevant concession.

These production penalties are deemed "*an overpayment or an increased payment of the validity fee*". Therefore, their payment is not a separate obligation from the payment of the validity fee (explained above). In other words, the mining concessions' holders shall only pay the validity fees, which amount will vary depending on whether production penalties have accrued or not in respect to each concession (e.g., validity fee = validity fee + applicable production penalty).

1.8. **Prior consultation:** From our independent research of the information available in the "Database of Indigenous and Tribal Peoples", we have identified that there is a peasant community ("Chauca") located in the Santa Cruz de Andamarca District, Huaral Province, where the Concessions are located that has been referentially identified as "Indigenous" by the Ministry of Culture.

Therefore, an expansion of TREVALI's activities, or new projects within the Concessions located in the Santa Cruz de Andamarca District, affecting such peasant community's rights could be subject to prior consultation.

Nevertheless, it is important to mention that the information contained in the "Database of Indigenous and Tribal Peoples" is merely referential. To that extent, it is only a guide and it is not enough to confirm or rule out the presence of indigenous or tribal peoples in a given area.

BENEFICIATION CONCESSION

2.1. **General:** As per the information provided to us in the VDR, TREVALI is the holder of the so-called "*Planta Concentradora Santander"* beneficiation concession. The Beneficiation Plant has an installed capacity of 2,500 metric tonnes per day and an area of 133.11 Ha, but is authorized to operate at a 2,000 metric tonnes per day capacity.

2.2. **Validity fees:**[4] All the validity fees have been paid with respect to the Beneficiation Concession. Minimum production is not an obligation applicable to beneficiation concessions' holders. Thus, production penalties do not accrue in this case.

2.3. **Recording with the Public Registry:** The Beneficiation Concession is recorded in file 13296225 of the Mining Rights Registry of Lima. The Trust Agreement referred to in Section 1.5. is also recorded in this file.

* * * * * * * * * * *

4 The validity fee for beneficiation concessions is payable based on the installed capacity of the plant, asfollows:

- Up to 350 metric tonnes per day, 0.0014 of the applicable Tax Unit.
- More than 350 metric tonnes per day and up to 1,000 metric tonnes per day, one Tax Unit.
- More than 1,000 metric tonnes per day and up to 5,000 metric tonnes per day, 1.5 Tax Units.
- For each 5,000 metric tonnes per day in excess, two Tax Units.

Concession		Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
1.	MAGISTRAL	11000091Y0 2	3.9932	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02009275	---	---	Not applicable	Not applicable
2.	MAGISTRAL N° 2	11000098Y0 2	19.9689	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006746	---	---	Not applicable	Not applicable
3.	MAGISTRAL N° 4	11000102Y0 1	7.9875	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02009274	---	---	Not applicable	Not applicable
4.	MAGISTRAL N° 5	11002704X0 1	7.9873	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006748	---	---	Not applicable	Not applicable
5.	MAGISTRAL N° 6	11002818X0 1	9.9841	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006777	---	---	Not applicable	Not applicable

	Concession	Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
6.	MAGISTRAL N° 7	11002819X0 1	5.9906	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006752	---	---	Not applicable	Not applicable
7.	MAGISTRAL N° 8	11002823X0 2	3.9938	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006749	---	---	Not applicable	Not applicable
8.	MAGISTRAL N° 9	11002823X0 1	3.9936	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006754	---	---	Not applicable	Not applicable
9.	SAN JOSE N° 1	11014192X0 1	44.9457	Lampian, Ihuari / Huaral / Lima	TREVALI	02010890	---	---	---	3,865.33
10.	SAN JOSE N° 2	11014193X0 1	7.9875	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010891	---	---	Not applicable	Not applicable
11.	SAN JOSE N° 3	11014194X0 1	2.9954	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010893	---	---	Not applicable	Not applicable
12.	SAN JOSE N° 4	11014195X0 1	1.9969	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010894	---	---	Not applicable	Not applicable

	Concession	Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
13.	SAN JOSE N° 5	11016047X0 1	24.9606	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02015290	---	---	Not applicable	Not applicable
14.	SAN JOSE N° 6	11016048X0 1	59.9051	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02015215	---	---	Not applicable	Not applicable
15.	SAN JOSE N° 7	11016049X0 1	1.9968	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02015214	---	---	Not applicable	Not applicable
16.	SAN JOSE N° 9	11021153X0 1	7.9891	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02017740	---	---	Not applicable	Not applicable
17.	SAN JOSE N° 14	11021158X0 1	2.9954	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02017753	---	---	Not applicable	Not applicable
18.	SAN JOSE N° 15	11021159X0 1	3.9999	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02029450	---	---	Not applicable	Not applicable
19.	SAN JOSE N° 17	11021161X0 1	2.0001	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02029449	---	---	Not applicable	Not applicable

	Concession	Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
20.	SAN JOSE N° 18	11021162X0 1	30.0002	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02029415	---	---	Not applicable	Not applicable
21.	SANTANDER	11002528X0 1	3.9938	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002789	---	---	Not applicable	Not applicable
22.	SANTANDER A	11008190X0 1	2.9953	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010991	---	---	Not applicable	Not applicable
23.	SANTANDER B	11008191X0 1	5.9907	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010865	---	---	Not applicable	Not applicable
24.	SANTANDER C	11008192X0 1	12.0003	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010867	---	---	Not applicable	Not applicable
25.	SANTANDER C.C.	11013296X0 1	0.9985	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010854	---	---	Not applicable	Not applicable
26.	SANTANDER D	11008193X0 1	1.9971	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	02010866	---	---	Not applicable	Not applicable

	Concession	Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
27.	SANTANDER D.D.	11013282X0 1	1.0090	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010855	---	---	Not applicable	Not applicable
28.	SANTANDER DEMASIA C.	11008749X0 1	1.2099	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02011672	---	---	Not applicable	Not applicable
29.	SANTANDER E	11008194X0 1	9.9846	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	02010853	---	---	Not applicable	Not applicable
30.	SANTANDER EE	11013283X0 1	1.9969	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010858	---	---	Not applicable	Not applicable
31.	SANTANDER F	11008195X0 1	118.8198	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	02010863	---	---	Not applicable	Not applicable
32.	SANTANDER F.F.	11013284X0 1	0.9985	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010856	---	---	Not applicable	Not applicable
33.	SANTANDER G	11008196X0 1	55.9144	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	02010864	---	---	Not applicable	Not applicable

	Concession	Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
34.	SANTANDER H	11008197X01	0.9985	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010852	---	---	Not applicable	Not applicable
35.	SANTANDER M	11008961X01	0.9985	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02011531	---	---	Not applicable	Not applicable
36.	SANTANDER Y	11011253X01	1	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010875	---	---	Not applicable	Not applicable
37.	SANTANDER Z	11011254X01	0.9999	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02010874	---	---	Not applicable	Not applicable
38.	SANTANDER N° 2	11002623X01	31.9496	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002819	---	---	Not applicable	Not applicable
39.	SANTANDER N° 3	11000094Y02	9.9846	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002812	---	---	Not applicable	Not applicable

	Concession	Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
40.	SANTANDER N° 4	11000095Y0 1	39.9372	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002816	---	---	Not applicable	Not applicable
41.	SANTANDER N° 5	11000096Y0 2	23.9621	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002821	---	---	Not applicable	Not applicable
42.	SANTANDER N° 6	11002631X0 1	19.9698	Atavillos Alto /Huaral / Lima	TREVALI	02004946	---	---	Not applicable	Not applicable
43.	SANTANDER N° 7	11002650X0 1	29.9531	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002820	---	---	Not applicable	Not applicable
44.	SANTANDER N° 8	11000099Y0 1	29.9529	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002822	---	---	Not applicable	Not applicable
45.	SANTANDER N° 9	11000103Y0 2	13.9780	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02004947	---	---	Not applicable	Not applicable
46.	SANTANDER N° 10	11002784X0 1	17.9717	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02002788	---	---	Not applicable	Not applicable

Concession		Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
47.	SANTANDER N° 11	11002790X0 1	3.9936	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006745	---	---	Not applicable	Not applicable
48.	SANTANDER N° 12	11002791X0 1	7.4884	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006750	---	---	Not applicable	Not applicable
49.	SANTANDER N° 13	11002792X0 1	23.9627	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02009270	---	---	Not applicable	Not applicable
50.	SANTANDER N° 14	11002783X0 1	29.9537	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006747	---	---	Not applicable	Not applicable
51.	SANTANDER N° 15	11002813X0 1	1.9968	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006753	---	---	Not applicable	Not applicable
52.	SANTANDER N° 16	11002814X0 1	15.9750	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02009271	---	---	Not applicable	Not applicable
53.	SANTANDER N° 17	11002815X0 1	3.9934	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02009272	---	---	Not applicable	Not applicable

Concession		Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
54.	SANTANDER N° 18	11002816X0 1	3.9938	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006778	---	---	Not applicable	Not applicable
55.	SANTANDER N° 19	11002817X0 1	1.9969	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02006779	---	---	Not applicable	Not applicable
56.	SANTANDER N° 21	11005565X0 1	4.0157	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02009273	---	---	Not applicable	Not applicable
57.	SANTANDERI NA	11015169X0 1	0.7899	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02015295	---	---	Not applicable	Not applicable
58.	SANTANDERI NA I	11015292X0 1	9.8372	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02016451	---	---	Not applicable	Not applicable
59.	SANTANDERI NA II	11016022X0 1	2.4835	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02015639	---	---	Not applicable	Not applicable
60.	SANTANDERI NA III	11015637X0 1	2.2688	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02015296	---	---	Not applicable	Not applicable

	Concession	Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
61.	SANTANDERINA IV	11015638X01	0.9983	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	02015223	---	---	Not applicable	Not applicable
62.	SOCAVON BAÑOS	11005967X01	59.9068	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	02004398	---	---	Not applicable	Not applicable
63.	SOCAVON N° 1	11005968X01	47.9256	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	02004396	---	---	Not applicable	Not applicable
64.	SOCAVON N° 2	11005969X01	29.9532	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	02004397	---	---	Not applicable	Not applicable
65.	ATOJ 1	010226707	584.5320	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	12279041	---	---	Not applicable	Not applicable
66.	ATOJ 2	010226807	515.9590	Santa Cruz de Andamarca, Atavillos Alto / Huaral / Lima	TREVALI	12280565	---	---	Not applicable	Not applicable

Concession		Code	Effective Area (Ha.)	Location District / Province / Department	INGEMMET Titleholder	Registry file (Lima)	Outstanding validityfess (US$)		Outstanding production penalties(PEN)	
							2020	2021	2020	2021
67.	ATOJ 3	010226907	340.5510	Atavillos Alto /Huaral / Lima	TREVALI	12281129	---	---	Not applicable	Not applicable
68.	ATOJ 4	010227007	973.2430	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	12281101	---	---	Not applicable	Not applicable
69.	ATOJ 5	010227107	100	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	12281060	---	---	Not applicable	Not applicable
70.	ATOJ 6	010406407	2.8117	Santa Cruz de Andamarca / Huaral / Lima	TREVALI	12280495	---	---	Not applicable	Not applicable

APPENDIX B

OVERVIEW OF MINING & ENVIRONMENTAL LAW AND REGULATIONS IN PERU

A1-1 General Mining Law – Legal Framework Overview

The General Mining Law, approved by the Supreme Decree No. 014-92-EM, is the primary national law that regulates the mining industry in Peru. Said law, its regulations and ancillary rules apply considering the Peruvian Constitution in a Romano-Germanic legal system.

The Ministry of Energy and Mines (MINEM) is the main state government body that administers the mining industry through the General Directorate of Mining (DGM). MINEM also have regional Directorates of Energy and Mines (DREM) that contribute to regulation and administration on a regional basis. Other relevant bodies include the Geological, Mining and Metallurgical Institute (INGEMMET), the Ministry of Environment (MINAM), the National Environmental Certification Authority (SENACE), the Supervisory Agency for Investment in Energy and Mining (OSINERGMIN) and the Agency for Environmental Assessment and Enforcement (OEFA).

In addition to the General Mining Law, other sources of law affecting the mining industry include:

- the Peruvian Constitution
- the Peruvian Civil Code
- the General Environmental Law
- the Law that Regulates Environmental Liabilities for Mining
- the Water Resources Law
- the General Law of Local Communities
- the General Corporations Law, and,
- the General Law of the Public Registries.

A1-1.1 Concession Acquisition and Rights

All natural resources, within the Peruvian territory are owned by the Peruvian State, which has sovereignty on the use and deployment of such resources. The mineral resources are owned by the Peruvian State, and the private sector is only allowed to exploit them as provided in the General Mining Law. According to such law, a concession is required to carry out all mining activities (i.e. exploration, exploitation, beneficiation, general works and transportation – Table A1.1), except for sampling, prospecting, storage and trading of minerals and mining products.

- Mining concessions may be separately granted for metallic and nonmetallic minerals.
    - A mining concession granted for metallic minerals only allows the holder of rights to explore for or mine primary and secondary metallic minerals, as opposed to non-metallic concessions.
    - Concessions can range in size from a minimum of 100 ha to a maximum of 1,000 ha.
    - Mining concessions are granted for indefinite terms (subject to the compliance of the applicable obligations), and the ownership of extracted minerals is vested in the holders of mining concessions.

    - Under the General Mining Law, a mining concession is valid for exploration and exploitation operations; hence there is no complicated “conversion” procedure. Notwithstanding, to execute those rights it is necessary to obtain the permits and authorizations required by law, from appropriate authorities.
- A separate beneficiation (processing) concession is available, granting the right to concentrate, smelt or refine minerals already mined.

Any person (including individuals and entities) is entitled to request INGEMMET for the granting of mining concession rights. These rights are independent from surface and real estate property rights located over the mining concessions. INGEMMET is the government body that consolidates a nationwide publicly available database with all mining concessions for metallic and non-metallic minerals.

Table A1.1: Mining Rights required to conduct mining operations

Mining Rights	Scope
Mining Concession	Exploration activities and exploitation of metallic and non-metallic materials within a determined area.
Beneficiation Concession	Performance of physical and/or chemical procedures required for extraction, concentration, smelting and/or refining.
General Works Concession	Auxiliary activities or complementary services (such as ventilation, sewerage, drainage, lifting, underground access or extraction) for two or more mining concessions.
Mineral Transport Concession	Required for massive and continuous transportation of mineral via unconventional methods, such as conveyor belts, pipelines etc.

Mining concessions are granted on a “first come, first served” basis. If simultaneous requests are made over a specific area, an auction among the interested parties settles such requests. A mining concession provides its holder with the exclusive right to undertake mining activity within a determined area.

All holders of mining concessions are required to pay good standing fees, called validity fees. These fees are calculated based on the concession area and paid on an annual basis to

INGEMMET[3]. Reduced fees apply for artisanal and small mining producers. Failure to pay validity fees for two years results in the cancellation of the mining concession.

Also, holders of mining concessions must achieve a minimum production levels of at least one Tax Unit (As of 2020, approximately US$ 1,303, although this amount may vary each year) per hectare per year[4] within a 10-year term following the year in which the respective mining concession title was granted. If such minimum production is not reached within the referred term, the mining titleholders shall pay a penalty equivalent to: 2% of the minimum production (between year 11 and 15), 5% of the minimum production (between year 16 and 20) and 10% of the minimum production (between year 21 and 30). Titleholders of mining concessions have a 30-year term to achieve the minimum production levels set by law. If minimum production is not reached within this term, the relevant mining concession is cancelled. In principle, the 30-year term is counted as from the year following granting of the mining concession title. However, for those concessions granted before December 31, 2008, the term is counted as from January 2009.

In order to perform mining activities on the abovementioned concessions, additional permits and authorizations are required (such as an environmental impact study, water licenses, construction permits, etc.).

Other rights required to conduct mining activities in Peru include the acquisition of surface and access rights to the area of interest (see **Sub-Section A1-1.5**), environmental certification and permitting (see **Sub-Section A1-2.5**), and, as applicable, authorizations, permits and licenses for the construction of facilities, use of explosives, use of water resources, use of controlled substances and chemicals, fuel storage, management and disposal of waste or hazardous materials, among others.

A1-1.2 Foreign Ownership, Ownership Requirements and Restrictions

Individuals and entities, whether national or foreign, are entitled to apply for and hold mining rights. The latter is based on the Peruvian Constitution, which acknowledges the same rights to all national and foreign individuals and entities.

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3 The current validity fee is US$ 3 per hectare per year.

4 Reduced minimum production requirements are applicable for non-metallic concessions and for artisanal and small mining producers

The foregoing general rule is subject to one exception. Foreigners are restricted to acquire property rights over real estate and/or mining concessions located within 50 kilometers of the Peruvian national border, unless prior authorization is obtained via a Supreme Decree.

Public officers and officials, such as the President, Congressmen, judges, ministers, prosecutors, among others, cannot participate in mining while holding office.

The Peruvian State does not have free carry rights or options to acquire shareholdings in mining companies or other entities that conduct mining in Peru. The Peruvian Constitution provides for the government to have a promotional role for the development of private investment. The government may participate in any business only in a subsidiary manner, provided that a special law is issued and approved by Congress.

A1-1.3 Processing, Refining, Beneficiation and Export

The General Mining Law and its regulations include special provisions for beneficiation rights and related processing and refining procedures. The law defines beneficiation as the conjunction of physical, chemical and/or chemical-physical processes required for extraction or concentration in order to purify, smelt or refine minerals. Beneficiation considers the following:

- Mechanical preparation process, whereby a mineral is downsized, classified or separated through mechanical processes.
- Metallurgy, whereby chemical and/or physical processes are performed to make mineral concentrates.
- Refining of concentrates to produce metal.

A holder of a beneficiation concession has the right to perform extraction and/or concentration processes to purify, smelt and/or refine metals.

There are no restrictions on the export of minerals. Mining producers may freely export their production and no authorization or license is required for such purposes. Notwithstanding, the producer shall follow and comply with tax and custom regulations. In the case of gold, all individuals and entities that trade and/or refine such metal are required to be registered in the Special Registry of Gold Traders and Producers.

A1-1.4 Transfer and Encumbrance

There are no restrictions on the transfer of mining rights in Peru. Mining rights may be freely transferred, mortgaged, sold and, in general, subject to any legal transaction or contract, and no authorization or consent is required from government bodies.

The transfer, encumbrance or other disposition of mining rights agreed among parties or pursued by creditors (such as injunctions) against holders of such mining rights, are all acts that may be registered before the Public Registries. Registration provides publicity to the holder of such rights and enforceability priority of such rights against the Peruvian State and third parties.

Mining rights are capable of being mortgaged, encumbered or otherwise granted as collateral to secure obligations, whether financial or other. In case of mortgages, said security interests are constituted upon their registration in the Public Registries.

The holder of a mining concession is entitled to file a request before INGEMMET to divide or split the mining concession into two or more concessions. If the mining concession is mortgaged or encumbered, the authorization and consent of the creditor or holder of any such creditor rights is required. It is also possible to join individual concessions into a concession accumulation as long as all individual concessions touch one another.

A mining concession may be held by multiple parties or holders in undivided interests or shares. The undivided interests of multiple holders to a mining concession are of similar legal nature to the rights held by multiple owners of a single real estate property. When multiple parties hold rights to a mining concession, they must appoint a common representative.

A1-1.5 Surface Land Usage and Rights

Mining rights are independent from surface rights. Hence, the holders of mining rights may be different parties to those holders or owners of the lands where such mining rights are confined.

There is no restriction for mining concession holders to acquire or purchase lands, real estate properties, easements, rights of way, and/or other surface rights owned or held by third parties.

If the owner of such properties is the government, then a regulated acquisition process would need to be initiated by the mining concession holder before the National Agency of State-owned Properties.

If the owner or holder of such properties or rights is a local community, then such community's approval is required and, generally, an agreement must be negotiated and agreed with the community addressing their expectative in respect of the mining investment.

The holder of a mining concession has to respect the landowner's property or rights of an occupier. A holder of mining rights cannot trespass such property or use surface lands without the landowner's or occupier's consent.

Expropriation rights of the government are limited to events of national security or in case of public necessity, as specifically declared by law. In case of expropriation, the Peruvian State is required to establish it by law and follow a special procedure, which includes the payment of a compensation to the former owner based on fair valuation of the expropriated property. Note that the development of mining activities do not qualify as public necessity, thus expropriation will not apply for that purpose.

A1-2 Environmental & Permitting Requirements – Legal Framework Overview

The development of economic activities in the Peruvian territory, such as those related to the mining industry, is subject to a broad range of general environmental laws and regulations, such as:

- The General Environmental Law, enacted by Law N° 28611

- The Organic Law for the Sustainable Exploitation of Natural Resources, enacted by Law N° 26821

- The Law on the National System of Environmental Impact Assessment, enacted by Law N° 27446 and its Regulations, approved by Supreme Decree N° 019-2009-MINAM

- The Environmental Quality Standards for Water, approved by Supreme Decree N° 004-2017-MINAM

- The Environmental Quality Standards for Air, approved by Supreme Decree N° 003-2017-MINAM

- The Environmental Quality Standards for Soil, approved by Supreme Decree N° 011-2017-MINAM

- The Environmental Quality Standards for Noise, approved by Supreme Decree N° 085-2003-PCM; and

- The General Law on Solid Wastes, enacted by Legislative Decree N° 1278 and its Regulations approved by Supreme Decree N° 014-2017-MINAM, among others. Additionally, the environmental aspects of the mining industry are specifically governed by Supreme Decree N° 040-2014-EM and Supreme Decree N° 042-2017-EM.

These environmental laws and regulations govern, *inter alia*, the generation, storage, handling, use, disposal and transportation of hazardous materials; the emission and discharge of hazardous materials into the ground, air or water; and the protection of migratory birds and endangered and threatened species and plants. They also set environmental quality standards for noise, water, air and soil, which are considered for the preparation, assessment and approval of any environmental management instrument.

The main Regulatory Entities that enforce the general environmental laws and regulations can be considered as follows:

A1-2.1 Ministry of Energy and Mines (MINEM) and General Mining Directorate (DGAAM)

The General Mining Directorate (DGAMM) is a line unit of the Ministry of Energy and Mines (MIMEM), dependent on the Office of the Vice Minister of Mines. The DGAAM is the competent authority for the approval of mining plans and authorizations to start development, preparation and subsequent exploitation activities, which allow for the construction and subsequent exploitation of a deposit to be carried out. Similarly, the granting of Mining Operation Certificates is also the responsibility of this authority.

Additionally, the DGAAM also has jurisdiction over beneficiation concessions. It authorizes the operation of leaching and concentration plants and subsequently, after the respective field inspections, authorizes their operation.

The Ministry of Energy and Mines, through the General Directorate of Mining Environmental Affairs, used to be the authority responsible for the evaluation and approval of the Environmental Management Instruments (that is, the Detailed or Semi-Detailed Environmental Impact Studies, EIAD and EIAsd) or their respective amendments.

The DGAAM is the competent authority in the approval of the Mine Closure Plan and its updates and modifications.

A1-2.2 Ministry of the Environment (MINAM)

The Ministry of the Environment (MINAM) created by Legislative Decree No. 1013, is the governing body of the Executive Power of the environmental sector, which develops, directs, supervises and executes the National Environmental Policy. In its capacity as a national environmental authority, it is the governing body of the Environmental Impact Assessment System, constitutes the normative technical authority at the national level, and as such dictates the rules and establishes the procedures related to the system. The competent sectoral authorities must submit the environmental studies that MINAM requires to the Ministry of the Environment, supporting the decision of approval or disapproval.

Despite the creation of MINAM as a new national environmental authority, the sectoral exercise of environmental functions established by the Framework Law for the Growth of Private Investment, Legislative Decree (DL) No. 757, modified by Law No. 26734, it is kept under the responsibility of the different sectoral authorities. In the specific case of mining activities, the sectorial environmental authority is the DGAAM of MINEM. This scenario has been partially modified with the creation of the National Environmental Certification Service (SENACE) through Law No. 29968 dated December 20, 2012.

A1-2.3 National Environment Certification Service (SENACE)

The National Environmental Certification Agency (*Servicio Nacional de Certificación Ambiental*, SENACE) was created in 2012 through Law No. 29968 and is the competent authority for the approval of detailed Environmental Impact Assessments and their modifications (EIAd, mEIAd), as well as semi-detailed Environmental Impact Studies (EIAsd) and Supporting Technical Reports (ITS).

A1-2.4 Other Authorities

In addition to the previously mentioned authorities, which exercise powers over the main activities that make up the Project, there are other competent governmental agencies with which the Project must also interact to satisfy the legal requirements for complementary activities. These include specific environmental matters such as water, forestry resources, the aquatic environment, and archaeology that regulate and supervise environmental compliance and liability.

The most important of these complementary governmental agencies are as follows:

A1-2.4.1 National Water Authority (ANA)

The National Water Authority (*Autoridad Nacional de Agua*, ANA), attached to the Ministry of Agriculture (*Ministerio de Agricultura*, MINAG), is the governing body and highest regulatory technical authority of the National System for the Management of Water Resources. This authority, through the Water Administrative Authorities, is in charge of evaluating and granting permits related to water resources, in charge of approving water availability (either through a resolution or through a technical opinion as part of the evaluation of the environmental management instrument), authorize the construction of hydraulic infrastructure, and the granting of water use rights (such as permits, authorizations and licenses for water use).

The National Water Authority, through the Water Resources Quality Management Directorate, is also competent to grant authorizations for the discharge of treated industrial water.

A1-2.4.2 General Directorate of Environmental Health (DIGESA)

The General Directorate of Environmental Health (*Dirección General de Salud Ambiental,* DIGESA) is attached to the Ministry of Health (*Ministerio de Salud*, MINSA). This authority provides its Technical Opinion for the processing of requests for authorizations for the discharge and reuse of water before the National Water Authority.

DIGESA is also in charge of the issuance of sanitary authorization for establishments that manufacture, store, distribution of food and beverages for human consumption, as well as other sanitary permits.

A1-2.4.3 Ministry of Culture (MINCUL)

The Directorate for the Qualification of Archaeological Interventions in the Ministry of Culture (*Ministerio de Cultura*, MINCULT) is required for authorizations related to the Archaeological Evaluation Projects and Archaeological Rescue Projects and the Decentralized Directorates of Culture, as appropriate and depending on the territorial scope of the interventions, to obtain the Certificates of Non-Existence of Archaeological Remains and Archaeological Monitoring Plans.

A1-2.4.4 Environmental Assessment and Enforcement Agency (OEFA)

An important authority on environmental matters is the Environmental Assessment and Enforcement Agency (*Organismo de Evaluación y Fiscalización Ambiental*, OEFA), which was created in 2008 by Legislative Decree No. 1013. This agency is in charge of environmental enforcement. Its objective is to ensure that there is an adequate balance between private investment in extractive activities and protection of the environment.

The OEFA has functions of (i) Evaluation, referring to the surveillance and monitoring of the quality of the environment and its components; (ii) Direct Supervision, referring to the field inspection of compliance with environmental obligations, being able to dictate preventive measures, specific mandates and requirements for updating the Environmental Management Instrument; (iii) Inspection and Sanction, through administrative sanctioning procedures that are intended to investigate the commission of possible infractions to environmental regulations and the imposition of sanctions, precautionary measures and corrective measures; and (iv) the function of applying incentives, through the Registry of Good Environmental Practices.

A1-2.5 Environmental Management Instruments (Instrumentos de Gestión Ambiental, IGA)

In 1990, Peru implemented the first environmental regulations through the enactment of the "Environmental and Natural Resources Code". In 1993 the MINEM issued the regulations for environmental protection in mining and metallurgical activities. Pursuant to said regulations, mining companies with active operations had to prepare and submit for evaluation an Environmental Adequacy & Management Plan (PAMA).

In addition, the regulations mandated that new operations and the expansion of existing ones required the approval on an Environmental Impact Assessment (EIA). In 2003 and 2005, the MINEM issued regulations mandating companies to prepare Mine Closure Plans (MCP) for their operations.

Based on current environmental regulations, the titleholder of a mining concession is liable for the emissions, effluents, wastewater discharges, solid wastes, noise, vibrations and any other environmental aspect related to its mining activity. Mining titleholders have to comply with maximum permissible limits (MPL) applicable to mining activities for which monitoring procedures need to be implemented. Also, Environmental Quality Standards (EQS) need to be considered in the structuring and preparation of the corresponding environmental instrument. A detailed description of Peru's environmental regulations is provided on the Ministry of Energy and Mines website (**www.minem.gob.pe**).

No environmental permit is required for prospecting and sampling activities which do not involve the execution of drilling, such as mapping, ground geophysics and geotechnical studies.

In general terms the MINEM requires that mining titleholders prepare an Environmental Technical Report (*Ficha Técnica Ambiental*, FTA), an Environmental Impact Statement (DIA) –

Category I, Semi Detailed Environmental Impact Study (EIAsd) – Category II , or an Detailed Environmental Impact Study (EIAd) – Category III, depending on the scope of activity that will be performed, such as exploration, exploitation, beneficiation, general works or transportation.

The following environmental management instruments are utilised depending on project stage:

A1-2.5.1 Exploration Drilling Activities

Drilling activities require the approval of an environmental permit. The MINEM evaluates and approves drilling environmental permit applications through DGAAM. Based on regulation D.S. No. 042-2017-EM:

- an FTA can cover drilling of up to 20 drill platforms, subject to specific requirements;
- a DIA – Category I can cover drilling of up to 40 drill platforms within a 10 ha area;
- an EIAsd–Category II is applicable to mining and exploration programs with 40 to 700 drill platforms in exploration areas greater than 10 ha.

Both the DIA – Category I and EIAsd – Category II classifications require development of public participation mechanisms, which are mainly administered under R.M. 304-2008-MEM/DM. Once the DIA or EIAsd is approved, a mining drilling permit must be obtained from the General Directorate of Mining Affairs (*Dirección General de Minería*, DGM).

A1-2.5.2 Construction and Exploitation

An EIAd – Category III is required before the initiation of mining exploitation activities (including the construction phase) along with the administrative licenses, authorizations and permits demanded by the current regulations. EIAd - Category III applications are reviewed and approved by SENACE. Also, the titleholder of the mining project is obliged to have the necessary rights for the use of the surface land related to the development of the mining project.

If the description of the project varies over time, departing from what was originally approved in the project certification, the mining licensee must modify its environmental management instrument prior to the execution of the new activities.

A1-2.5.3 Minor Modifications

A Supportive Technical Report (*Informe Técnico Sustentatorio*, ITS) is required to conduct minor modifications that do not entail a significant environmental impact, or that involve a technological improvement to the mining operation. In the case of mining exploration activities an ITS allows the modification of a DIA – Category I or EIAsd – Category II for the relocation of drilling platforms[5] or an increase in the number of drilling platforms. An ITS can also be used to perform non-significant modifications to certain components contemplated under an EIAd – Category III.

The mining concession titleholder who plans to develop mining exploitation activities, may request a modification of its environmental instrument in order to transition into the exploitation phase. This allows the deferral for a term of three years of the final closure and post-closure measures required to close the exploration project, subject to the constitution of a financial guarantee.

A1-2.5.4 Related Permits, Certifications and Authorizations

In addition to the environmental instruments mentioned in A1-2.5.1, A1-2.5.2 and A1-2.5.3, related permits, certifications and authorizations are required, where applicable, for mineral exploration and mining that include:

- Water permits, which may include the license to use certain water resources for domestic or industrial purposes, authorization to discharge domestic or industrial wastewaters or authorization to reuse and/or treat water.
- Certification on the non-existence of archaeological remains (*Certificado de Inexistencia de Restos Arqueológicos*, CIRA), and Archaeological Monitoring Plan (Plan de Manejo Arqueológico, PMA) from the Ministry of Culture (*Ministerio de Cultura*, MINCUL).
- Authorization to store and use explosives for construction and mining.
- Registry and authorization for the use, storage and transportation of controlled substances and chemicals.
- Construction authorization required for construction and implementation of the project's beneficiation facilities.
- Approval of the Mining Plan, which includes the authorization to initiate the exploitation activities.[6]
- Approval and execution of a Mine Closure Plan (MCP) to rehabilitate the areas disturbed by the conduction of mining exploitation activities.

The most important of these related permits, certifications and authorizations are as follows:

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[5] Within the effective area or of direct environmental influence approved in the corresponding environmental instrument.

[6] A MCP will be also required in connection with those exploration activities with underground works that involve the removal of more than 10,000 tons of material or more than 1,000 tons of material with a ratio of neutralization potential (PN) to acidity potential (PA) less than three (PN/PA<3) in representative samples of the material removed.

A1-2.5.4.1 Water use permits, authorizations and licenses

Water resources are an inalienable and imprescriptible property of the Peruvian state. However, water use rights, such as licenses, permits and/or authorizations, may be granted by the ANA (described in A1-2.4.1) to third parties, based on the following efficiency criterion:

- Water Use Permits: granted exclusively over excess water resources, subject to the eventual availability of waters.
- Water Use Authorizations: granted to conduct studies or perform temporary and special works.
- Water Use Licenses: granted for the permanent use of water for a specific purpose.

According to current regulations, water use rights are subject to the payment of relevant fees in favour of ANA. Non-compliance with this obligation for two consecutive instalments results in the expiration of the respective water use right.

The discharge of domestic and/or industrial waste waters into a water body (continental or marine) is subject to the granting of the following authorizations, as the case may be:

- Authorization for the Discharge of Domestic Treated Wastewater granted by the ANA
- Authorization for the Discharge of Industrial Treated Wastewater granted by the ANA

In accordance with the applicable laws and regulations, the discharge of wastewaters is also subject to the payment of relevant fees in favour of ANA. Failure to comply with this obligation for two consecutive instalments results in the expiration of the relevant authorization.

A1-2.5.4.2 Cultural Heritage Permits

Peruvian legislation establishes that performing any works involving archaeological sites requires a previous authorization by the MINCUL (described in A1-2.4.3).

Titleholders of investment projects are also obliged to obtain a CIRA prior to the execution of a project. The CIRA solely certifies the non-existence of archaeological remains on the surface. If any archaeological remains are found as a consequence of the execution of the respective construction activities, the titleholder will be obliged to notify MINCUL of such and to temporarily suspend the execution of its construction activities.

In addition to the CIRA, titleholders must obtain the approval of an Archaeological Monitoring Plan, which is aimed at ensuring the protection of the archaeological remains that may eventually be found below surface due to the execution of earth-removal works.

A1-2.5.4.3 Beneficiation Concession

Concessions are granted under the General Mining Law described in A1-1.1.

For the granting of a beneficiation concession the process is divided into stages. The first two stages refer to construction activities while the last (which is started after the construction of the beneficiation facilities has been completed), refers to the operation of the facilities.

The three stages are:

- **Stage A:** Evaluation of the Application and Authorization for the Publication of Posters – Descriptive report of the plant and its main, auxiliary and complementary facilities, according to the format established by the DGM, construction plans and design of the tailings deposit:
  - detailed engineering of civil works (metallurgical plant, tailings deposit, leach pad, auxiliary and complementary works)
  - detailed engineering of the electromechanical installations
  - detailed engineering of metallurgical processes
  - detailed budget and schedule.
- **Stage B:** Construction Authorization – Requires:
  - the favourable technical opinion of the competent sector, as appropriate, if the project affects roads or other rights of way
  - Detailed engineering will be required.
- **Stage C:** Operation Authorization – After having carried out the construction of the facilities related to the activities the licensee must request an inspection by the authority in order for it to verify that the facilities have been built in accordance with the approved permit. With this verification, the Authority issues the Operating Authorization for the beneficiation facilities.

A1-2.5.4.4 Mining plan and authorization for the start of exploitation activities

The mining plan permit is processed after having obtained the environmental certification and allows its holder to carry out the construction of the facilities related to the mining activities of the mining project (such as the pit, dumps, among others).

The Authorization to Start Exploitation Activities must be requested after having carried out the development and preparation activities authorized by the mining plan permit. To obtain it, it is essential that the activities carried out coincide with the construction permit. This authorization allows its holder to carry out the mining exploitation activity.

A1-2.5.4.5 Mine Closure Plan

The Mine Closure Plan (MCP) establishes the measures that the mining owner must adopt in order to rehabilitate the area used or disturbed by mining activities so that it reaches ecosystem characteristics compatible with a healthy and adequate environment for the development of life and landscape preservation. Rehabilitation includes measures to be carried out before, during and after the closure of operations which will allow the elimination, mitigation and control of the adverse effects on the environment or that could be generated by solid, liquid, or gaseous waste produced as a by-product of the mining activity.

Holders of mining concessions that intend to initiate or reinitiate mining operations are bound to obtain the approval of a MCP. A MCP is also required for mining concession holders intending to carry out underground exploration works involving the removal of more than 10 000 tonnes of material or more than 1 000 tonnes of material which may contain a potential neutralization (PN) over potential acidity (PA) lower than 3 (PN/PA<3) in representative samples of the removed material.

The MCP is an environmental management tool consisting of technical actions aimed at rehabilitating the area used or disturbed by the execution of mining activities. The respective closure measures shall be carried out before, during and after the conclusion of the mining operations, which will enable the elimination, mitigation and control of the adverse environmental effects that are generated or could be generated by the mining activity.

The MCP is required in different stages during the life of mine, as follows:

- A conceptual plan must be filed as part of the relevant exploration projects' environmental impact study, which must be approved prior to the exploration works being conducted;
- A conceptual plan must be filed as part of the relevant exploitation project´s environmental impact study;
- A detailed MCP will be required before the initiation of the operation stage; and
- The Mine Closure Plan will be subject to review and modification:
    - a first time after three years have elapsed since its approval, and subsequently every five years after its last modification or approved update; or
    - when determined by the supervisory authority, due to a significant gap between the budget of the approved MCP and the amounts actually recorded for its execution or that are expected to be executed;
    - when technological improvements or any other change that significantly varies the circumstances by virtue of which the MCP or its last modification or update was approved.

      Maintenance and monitoring reports will be required after the closure of the mine, as well as post-closure follow-up actions.

Titleholders are required to lodge an environmental guarantee in favour of the MINEM that backs the costs associated with the execution of the MCP (final closure and post closure stages). The guarantee is payable by means of annual contributions, the amount of each annual contribution being the result of dividing the total amount of the guarantee by the remaining life of mine. The guarantee becomes payable as from the year immediately following the approval or amendment of the MCP, and within the first twelve working days of each year.

Titleholders are not allowed to develop exploitation and/or beneficiation mining activities before the granting of the guarantee. Non-payment of the guarantee with regards to activities in operation can cause the stoppage of activities for a maximum of a two-year term at the end of which the holder will be obliged to immediately execute the measures established in its MCP, in conjunction with other possible legal sanctions.

A1-2.6 Other Environmental Considerations

A1-2.6.1 Mining Environmental Liabilities

The concept of "mining environmental liability" (pasivo ambiental minero) in the Peruvian mining legal framework specifically refers to the facilities, runoffs, emissions or remains of former mining operations that, by July 2004 (when the relevant law entered into force), had been abandoned or were inactive and entailed environmental or health hazards.

Peruvian environmental law sets out the general environmental liability rule that the one harming or potentially harming the environment is the one liable for such harm, and thus is the one obliged to prevent, mitigate, repair or offset such damage. In the same manner, the legal framework on "mining environmental liabilities" sets out the general liability rule that whoever caused a "mining environmental liability" is responsible for its clean up.

This legal framework also establishes that third parties may be obliged to execute the respective remediation, reclamation and/or reuse of environmental liabilities generated by third parties should they voluntarily wish to intervene in them. In these cases, the interested party should obtain the approval of an Environmental Liabilities Closure Plan or include the measures related to these environmental liabilities into the respective environmental management instrument. The titleholder of the Environmental Liabilities Closure Plan or the environmental management instrument will then be responsible for the timely execution of the remediation, reclamation and/or reuse measures and consequently will be subject to the imposition of fines by OEFA in case of non-compliance.

A1-2.6.2 Prior Consultation

On September 2011, Peruvian Government approved the Law No. 29785 "Consulta Previa Law" (prior consultation) and its regulations approved on April 2012, by Supreme Decree Nº 001-2012-MC. This requires prior consultation with indigenous communities (pueblo indígena u originario) as determined by the Ministry of Culture, before any infrastructure or projects, in particular mining and energy projects, are developed in their areas.

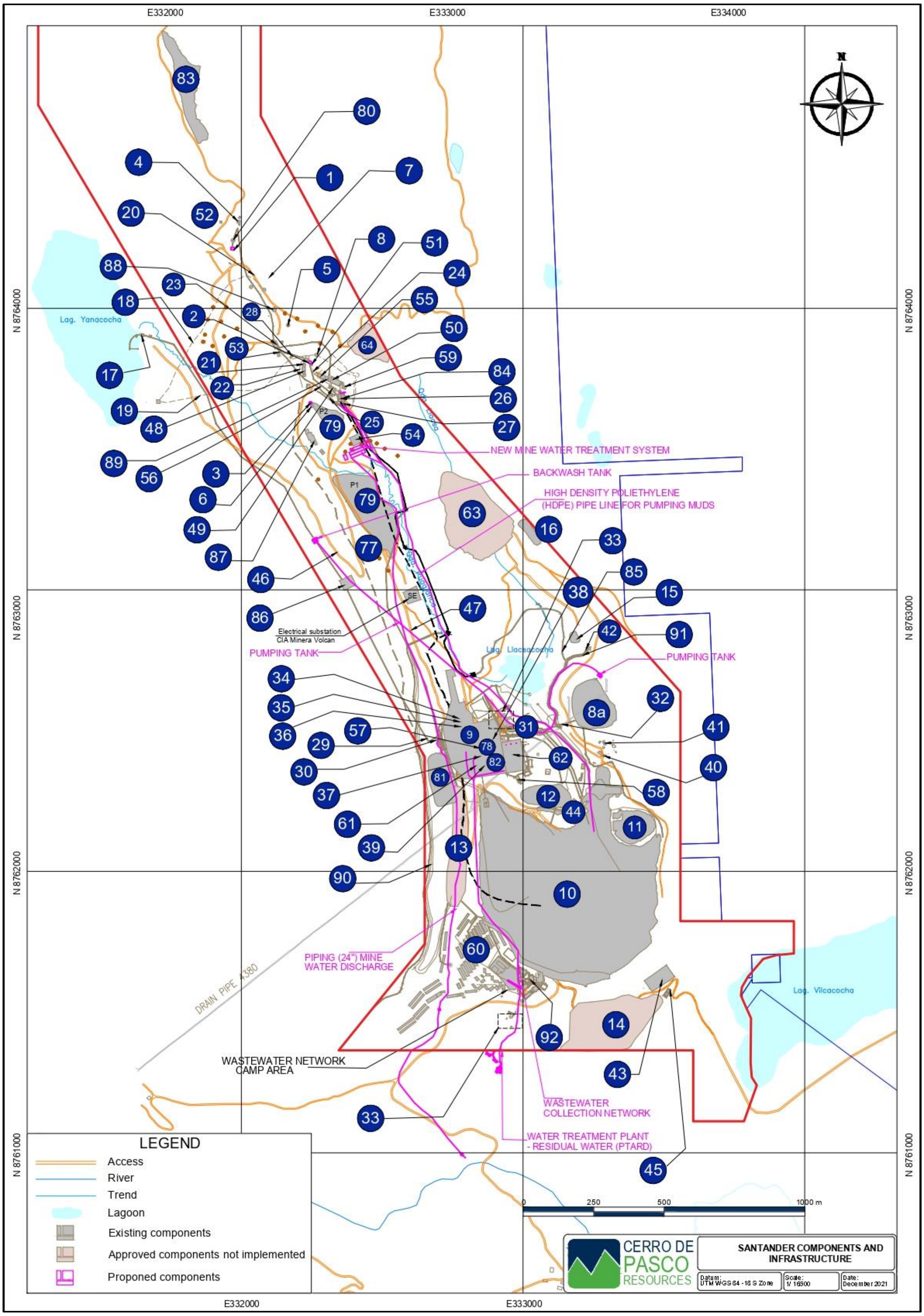
A1-2.6.3 Legal framework for environmental monitoring programs

The following is the legal framework that guides environmental programs.

- Ley N° 28611 - General Law of the Environment
- Ley N°29338 – Water Resources Act
- Ley N°26842 – General Health Law
- D.S. N°040-2014-EM - Regulation on environmental protection and management for exploitation, profit, general work, transport and mining storage activities.

- D.S. N°004-2017-MINAM - Environmental Quality Standards (ECA) for Water
- D.S. N°010-2010-MINAM - Maximum Permissible Limits for the Discharge of Liquid Effluents from Mining – Metallurgical Activities
- D.S. N°031-2010-SA - Water Quality Regulations for Human Consumption
- D.S. N°003-2010-MINAM - Maximum Allowable Limits for Domestic or Municipal Wastewater Treatment Plant Effluents
- D.S. N°003-2017-MINAM - Environmental Quality Standards for Air
- D.S. N°074-2001-PCM - National Air Environmental Quality Standards Regulations
- D.S. N°069-2003-PCM - Set Annual Lead Concentration Value
- D.S. N°085-2003-PCM - Environmental Quality Standards for Noise
- D.S. N°011-2017-MINAM - Environmental Quality Standards (ECA) for Soil
- R.M. N°315-96-EM/VMM - Maximum permissible levels of elements and compounds present in gaseous emissions from mining-metallurgical activities.
- A1-2.3.3 Legal framework for environmental monitoring programs

APPENDIX C – On-site Infrastructure



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33	Domestic water treatment system		79	P1. Waste dump Magistral South
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35		Reagent warehouse N°2	80	Deepening of Magistral Norte from the 4440 to 4370 level
36		Reagent warehouse N°3	81	Run of Mine (RoM) Stockpile
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38		Concentrate warehouse	83	Borrow material (waste) Magistral Norte
39		Core shed	84	Mine water management
40	Explosive magazine 1 - ANFO		85	Coronation channel and runoff water discharge
41	Explosive magazine 2 - Accessories		86	Optimization of the drinking water treatment system
42	Explosives magazine 3 -Explosives & detonators		87	Shotcrete plant
43	Domestic waste storage area (land fill)		88	Mine Canteen (underground)
44	Hazardous waste storage area		89	Communication system
45	Contaminated soils (oil & fuel)-Storage &treatment Area		90	Secondary access to mine & west coronation canal
46	Access to mine		91	Access to explosive magazine
47	Access to Process Plant		92	First aid post & clinic

8a. Santander pipe mine shaft

9. Process Plant

10. Tailing's storage facility (TSF)

11. Waste Dump 1

(Ex Tacora waste dump/Former Santander Pipe stockpile)

15. Borrow area for topsoil

29. Tailings pipeline from mills

31. Tailing pipeline

32. Water supply line to process plant

33. Domestic water treatment system (Left near the plant & Right near the Medical centre for the mine Camp

34. Reagent warehouse N°1

35. Reagent warehouse N° 2

36. Reagent warehouse N° 3

37. General warehouse

38. Concentrate Warehouse (Zn-Left & Pb-Right)

39. Core shed

40. Explosive's magazine 1- ANFO

41. Explosive's magazine 2- Accessories

42. Explosive's magazine 3 - Explosives & Detonators

44. Hazardous waste storage area

47. Access to Process Plant

58. Fuel station

60. Process Plant camp (Left) and Mine Camp (Right)

61. Mine Offices

62. Chalets y Hotel

81. RoM Stockpile

82. Auxiliar Workshop

85. Coronation channel and runoff water discharge

90. Secondary access to mine & West coronation canal

91. Access to explosive magazine