Independent Technical Report on Resources Estimate for the Luanga PGM+Au+Ni Project, Pará State, Brazil

Developed by GE21 Consultoria Mineral on behalf of:

Bravo Mining Corp.

Effective Date: 22nd October 2023

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Date and Signature Page

This report, titled "**Independent Technical Report on Resources Estimate for the Luanga PGM+Au+Ni Project, Pará State, Brazil**" ("Technical Report"), having an effective date of 22nd October 2023, was prepared on behalf of Bravo Mining Corp. by Porfírio Cabaleiro Rodriguez and Bernardo Viana and signed by them. This Technical Report supersedes and replaces the technical report that had an effective date of 28th. March 2023, and that report should no longer be relied upon,

Dated at Belo Horizonte, Brazil, this December 1st 2023

ORIGINAL SIGNED BY	ORIGINAL SIGNED BY
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UNITS, SYMBOLS AND ABBREVIATIONS

Unless otherwise stated, the units of measurement in this Report are all metric in the International System of Units ("SI"). All monetary units are expressed in United States Dollars ("USD"), unless otherwise indicated.

Bravo used the Universal Transverse Mercator coordinate system ("UTM") Zone 22 Southern Hemisphere with a SIRGAS 2000 Datum.

Ac/Ab	Definition/Term
A	
Ag	Silver
AIG	Australian Institute of Geoscientists
ANM	National Mining Agency
Amp	Amphibole
As	Arsenic
Au	Gold
B	
B	Boron
Be	Beryllium
BHEM	Borehole Electromagnetics
Bi	Bismuth
BNDES	Banco Nacional de Desenvolvimento Econômico e Social
Bravo	Bravo Mining Corp.
BSc	Bachelor of Science
C	
Ccp	Chalcopyrite
Ce	Cerium
CEF	Caixa Econômica Federal
CEP	Código de Endereçamento Postal (Postal Code)
CFEM	Compensação Financeira pela Exploração de Recursos Minerais
Chl	Chlorite
Chr	Chromite
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CPRM	Companhia de Pesquisa de Recursos Minerais
cm	centimetre(s)
CMM	Companhia Meridional de Mineração
Co	Cobalt
Cpx	Clinopyroxene
Cpy	Chalcopyrite
Cr	Chromium
CRM	Certified Reference Materials
CTSZ	Cinzento Transcurrent Shear Zone
Cu	Copper
CVRD	Companhia Vale do Rio Doce (now Vale S.A.)
CW	Central West
D	
DD	Diamond Drilling
DEM	Digital Elevation Model
DNPM	Departamento Nacional de Produção Mineral (now ANM)
Docegeo	Rio Doce Geologia e Mineração S.A. (subsidiary of CVRD) (Now Vale SA)
E	
E	East
e.g.	for example
EOH	End of Hole
ESG	Environmental, Social and Governance
E-W	East-West
F	
FA/AAS	Fire Assay/Atomic Absorption Spectrometry
Fe	Iron
FFA	FFA Legal
FFAH	FFA Holding e Mineração Ltda
FLTEM	Fixed-Loop Transient Electromagnetics
FR	Fresh Rock
G	
g	gram(s)
Ga	Billion years
g/t	grams per ton
H	
ha	Hectares
HELITEM	Time Domain Electromagnetic and Magnetic
HQ	96.4 mm diameter drill core
I	
IBGE	Instituto Brasileiro de Geografia e Estatística
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometry
ICP-MS	Inductively Coupled Plasma/Mass Spectrometry

Ac/Ab	Definition/Term
ID	Identification
K	
K	thousand
kg	kilogram(s)
km	kilometre(s)
km^2	square kilometre(s)
kV	kilovolt
L	
La	Lanthanum
LI	Installation License
LMIs	Layered Mafic Intrusions
LIP	Large Igneous Province(s)
LO	Operation License
LP	Preliminary License
LS	Low Sulphur
M	
m	metre(s)
M	Million(s)
Ma	Million years
Mag	Magnetite
MAIG	Member of Australian Institute of Geoscientists
MG	Minas Gerais State
mm	millimetre(s)
MME	Ministry of Minerals and Energy
Moz	million ounces
MSZ	Main Sulphide Zone
Mt	Million tonnes
MW	Megawatt
MZ	Mafic Zone
N	
N	North
NA	Not Applicable
NE	Northeast
Ni	Nickel
NQ	76.2mm diameter core drilling
N-S	North-South
NSR	Net Smelter Return
NW	Northwest
NX	Cross polarized light
N//	Plane polarized light
O	
Ol	Olivine

Ac/Ab	Definition/Term
Opx	Orthopyroxene
OX	Oxide
P	
PA	Pará State
Pb	Lead
Pd	Palladium
PGC	Projeto Grande Carajás
PGE	Platinum Group Elements
PGM	Platinum Group Metals
Pl	Intercumulus plagioclase
Pn	Pentlandite
Po	Pyrrhotite
ppb	parts per billion
ppm	parts per million
Pt	Platinum
PVC	Polyvinyl chloride
Py	Pyrite
Q	
QA/QC	Quality Assurance and Quality Control
R	
RL	Reflected Light
Rh	Rhodium
RTK	Real Time Kinematic
RQD	Rock Quality Designation
S	
S	Sulphur
SAD69	South American Datum
Sb	Antimony
Sc	Scandium
SE	Southeast
SIRGAS	Sistema de Referência Geocêntrico para as Americas
Sn	Tin
SPDS	Serra Pelada Divergent Splay
Sr	Strontium
Srp	Serpentine
Sul	Sulphide
T	
T	Tonnes
Te	Tellurium
TEM	Transient Electromagnetic
Ti	Titanium
TZ	Transition Zone

Ac/Ab	Definition/Term
U	
U-Pb	Uranium-Lead
US$	United States dollar
USD	United States dollar
UTM	Universal Transverse Mercator (coordinate system)
UZ	Ultramafic Zone
V	
V	Vanadium
Vale	Vale S.A. (ex-Companhia Vale do Rio Doce - CVRD)
vol%	volume percent

Ac/Ab	Definition/Term
vs.	versus
W	
W	West
W	Tungsten
Z	
Zn	Zinc
Symbols	
°	degrees
#	mesh
%	percentage

1 SUMMARY

GE21 has been commissioned by Bravo Mining Corp.(“Bravo”) to prepare the Mineral Resource Estimate Technical Report for the Luanga PGM+Au+Ni Project (the “Project”, “Luanga”) in Pará, Brazil, in accordance with the directives of National Instrument 43-101 (NI 43-101).

Mr. Porfirio Cabaleiro Rodriguez is one of the Qualified Persons (“QP”) with respect to the objectives of this report. Mr. Porfirio was responsible for all Chapters and co-responsible for Chapters 11 and 12. Mr. Porfirio is a Mining Engineering, a Fellow of the Australian Institute of Geoscientists (“FAIG”) and has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration to be considered as a QP, as defined by the NI 43-101. Mr. Porfirio has over 44 years’ experience working with exploration and mining projects. Mr. Porfirio visited the property on the periods July 4th 2023 to July 7th 2023 and 3rd October to 6th October 2023. On the site visit, some diamond drill hole collars were located, the recorded coordinates validated with a handheld GPS, and the core was inspected in the onsite core storage facility.

Mr. Bernardo Viana is one of the QP’s responsible for this Report. Mr. Viana is co-responsible for Chapters 11 and 12. Mr. Viana is a geologist, a Fellow of the Australian Institute of Geoscientists (‘’FAIG’’) and has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration to be considered as a QP, as defined by the NI 43-101. Mr. Viana has more than 20 years’ experience working with exploration and mining projects.

1.1 Project Description

Luanga is an exploration stage mineral project located in Pará State, Brazil which is comprised of the PGM plus Au & Ni mineral occurrence known as the Luanga deposit. It is held under Exploration Licence Nº.1961 and designated ANM.851.966/1992, comprising an area of 7,810.02 hectares in extent.

1.2 Mineral Tenements and Status

On September 5th, 1995, the Ministério de Minas e Energia (Ministry of Minerals and Energy – “MME”) issued to Vale SA (“Vale”) Exploration Licence No.1961 under the process designated ANM.851.966/1992. This Exploration License is located 40km north-east of the town of Parauapebas in Para State, Brazil.

The license, which covers the Luanga Project, comprises an area of 7,810.02 hectares, currently in the name of Bravo Mineração Ltda, a wholly owned Brazilian subsidiary of Bravo, as summarized in Table 1-1. Exploration License 851.966/1992 remains valid while the Mining License application is pending. In Brazil at the time of this report, exploration Licences are administrated by the Agência Nacional de Mineração (“ANM”), the Brazilian National Mining Agency.

Table 1-1: Mineral Tenement Summary
Source: ANM – October 2023

ANM Process	Municipality	Stage	Mineral	Title Owner	Size (hectares)	License No.	Expiry Date
851.966/1992	Curionópolis	Application for Mining License	Gold, Palladium, Platinum, Nickel	Bravo Mineração Ltda	7,810.02	1961	
Comments: Mining License pending				**TOTAL**	**7,810.02**	*ANM = Mining National Agency*	

Luanga is located on private farmland generally used for cattle farming. There are no indigenous claims or protected forests in this area. To carry out exploration works, such as drilling, an access agreement is required with the owner of the surface rights (landowner).

Land access agreements are in place with 5 key landowners, covering 100% of the known mineralized envelope of the Luanga deposit.

Luanga is centred approximately at coordinates -05º57'24.34" S/-49º32'51.00" W. Bounding coordinates of Exploration License No.1961 from ANM title documents are presented on Table 1-2.

Table 1-2: Vertexes of Luanga mineral property (Exploration License No.1961)

Vertex	Latitude	Longitude		Vertex	Latitude	Longitude
v1	-05°54'40"284	-49°30'09"580		v10	-06°00'05''795	-49°35'30''045
v2	-05°57'27"643	-49°30'09"580		v11	-05°56'28''677	-49°35'30''072
v3	-05°57'27"638	-49°32'36"608		v12	-05°56'28''677	-49°35'34''710
v4	-05°58'41''177	-49°32'36''614		v13	-05°54'40''336	-49°35'34''693
v5	-05°58'41''177	-49°32'36''617		v14	-05°54'40''300	-49°31'50''304
v6	-05°59'26''752	-49°32'36''617		v15	-05°55'51''911	-49°31'50''304
v7	-05°59'26''758	-49°32'36''617		v16	-05°55'51''911	-49°30'45''503
v8	-05°59'26''758	-49°30'09''580		v17	-05°54'40''289	-49°30'45''503
v9	-06°00'05''822	-49°30'09''580		v18	-05°54'40''284	-49°30'14''770
Exploration License Nº 1961, ANM.851.966/1992 – Datum SIRGAS2000						

1.3 Historical Exploration

<u>The Carajas Mineral Province:</u>

The first successful mineral exploration in the Carajás was carried out by Companhia de Desenvolvimento de Indústrias Minerais ("CODIM"), a subsidiary of Union Carbide which, in 1966, discovered the manganese deposit of Serra do Sereno. This discovery motivated US Steel, through its subsidiary Companhia Meridional de Mineração ("CMM"), to commence regional-scale exploration in the Carajás. In July 1967, a Brazilian team discovered high-grade iron ore with an average grade of 66% Fe. US Steel wanted to develop the Carajás iron deposit, but the Brazilian Government was unwilling to give a foreign company control over such an important national asset. Instead, in April 1970, the Brazilian Government created a joint venture company, Amazônias Mineração SA ("AMSA"), where 51% was owned by Companhia Vale do Rio Doce ("CVRD", which now is "Vale") the Brazilian Government state enterprise, and 49% was owned by CMM. By presidential decree, on 6 September 1974, AMSA was granted the rights to all iron ore in the Carajás Mineral Province.

Iron ore exploration continued until 1977 when CMM, concerned over the high capital cost and poor outlook for iron ore, withdrew from the project. CVRD purchased CMM’s 49% for US$55 million. AMSA, now wholly owned by CVRD, was granted the rights for mineral exploration and development of the entire Carajás Mineral Province.

In June 1978, the construction of the Carajás railroad, linking Ponta da Madeira on the Maranhão coastline to the Carajás, launched the development of the Carajás Iron Ore Project. This is reported to have cost CVRD US$3 billion in direct investments.

With the establishment of the Carajás Iron Ore Project and its associated infrastructure, the Carajás Mineral Province was established and recognised. Decades on it is the one of the largest mineral provinces in the world, and the largest mining region in Brazil.

The Luanga Project:

Mafic-ultramafic rocks of the Luanga Complex were identified in 1983 during regional exploration completed by DOCEGEO in the Serra Leste region. Following the discovery of up to 2m thick chromitites, DOCEGEO carried out geological mapping, soil geochemistry survey (400m x 40m grid) and ground magnetic surveys over the Luanga Complex. Four diamond bore holes were drilled to test the thickness and lateral continuity of outcropping chromitites. The drilling was not positive for chromitite mineralization, but intersected anomalous concentrations of Pt and Pd, including 9 metres at 2.57ppm of Pt+Pd (drillhole PPT-LUAN-FD0004).

In 1997, a joint-venture between DOCEGEO-Barrick Gold carried out a stream sediment campaign over the Luanga Complex area that identified Au anomalism.

In 2000, Vale carried out a new soil geochemistry survey to test the Au anomalies indicated by Barrick Gold. The sampling grid, covering the southern portion of Luanga Complex, indicated a 1km long trend of Pt and Pd anomalies. Due to this anomalous trend, Vale carried out additional soil geochemistry survey in the northern portion of the Luanga Complex (next to chromitite layers), which identified another 1km long Pd and Pt anomalous trend. The geochemical survey was extended to the central portion of the layered complex, adding a further 2km extension, now joining up to form a continuous Pt-Pd anomalous trend along the entire length of the layered intrusion.

1.4 Geology and Mineralisation

Luanga’s principal geological unit is the Luanga Layered Mafic-Ultramafic Complex (the “Luanga Complex”). The Luanga Complex comprises an 8.1km long and up to 3.5km wide (~18km^2) sequence of mafic-ultramafic layered rocks. There is an abundance of unweathered, outcropping rocks, in comparison to adjacent areas of the Carajás Mineral province, comprising predominantly massive blocks and boulders. The most prominent geomorphologic feature consists of an elongated arc-shaped hill of mainly ultramafic units interlayered with mafic units. This hill is up to 60m higher than the surrounding flat areas of predominantly gabbroic rocks. Country rocks include highly foliated gneiss and migmatite of the Xingu Complex in the south/southeast and mafic volcanics and iron formations of the Grão Pará Group in the north/west.

Several thin chromitite layers occur in the Luanga Complex, mainly in the upper and lower stratigraphic portions of the Transition Zone (''TZ''), where they are hosted by ultramafic cumulates, and through the immediate contact with the overlying Mafic Zone (''MZ''), where they are hosted by plagioclase-bearing norite cumulates. This stratigraphic interval consists of several cyclic units interpreted as the result of successive influxes of primitive magma.

Currently six different styles of mineralization have been identified within Luanga; (i) High Pd-Pt, low Rh-Au-Ni mineralization; (ii) High Ni-Rh, low Pd-Pt-Au mineralization; (iii) High Pd>Pt, +/- Rh-Au-Ni mineralization (the MSZ, which represents the substantial majority of the tonnage contained in the MRE), (iv) High Pt>Pd, low Rh-Au-Ni mineralization associated with sulphide-poor layers, (v) High Pt-Rh, +/- Pd, with low Ni mineralization related to chromitite-rich layers and (vi) High Pd>Pt + high Ni-Cu, low Rh-Au mineralization associated with massive sulphide layers or zones.

1.5 Bravo Exploration

In 2023, RR Topografia & Engenharia of Brazil completed a new Orthophotography and Digital Elevation Model ("DEM"). Commercial drone surveying equipment was used to complete the aerial work, while ground surveying was used for control of accuracy, positioning and georeferencing. A mosaic of the ortho-imagery overlain on the 3D digital terrain model was created from the DEM.

The first geophysical work for completed for Bravo was in 2021 by Southern Geoscience Consultants of Australia ("SGC") and Southernrock Geophysics of Chile ("Southernrock"). Southernrock reprocessed the historic Induced Polarization ("IP") data, while SGC reprocessed the historic magnetic data.

Ground geophysical activities conducted during 2022 and January 2023 included borehole electromagnetics and surface electromagnetic surveys. Both surveys were conducted by Geomag S/A ("Geomag").

Borehole electromagnetic surveys ("BHEM") were carried out along five drill holes (DDH22LU047, DDH22LU052, DDH22LU068, DDH22LU073 and DDH22LU077), totaling 1,109.35 linear metres. The best BHEM response was associated with drill hole DDH22LU047 which intersected 11 metres of massive sulphides.

A Fixed-Loop Transient Electromagnetics ("FLTEM") survey was concentrated on the Central and North Sectors along 34 survey transversal lines (total of 30.27km) using the established loops CSL02, CSL03, CSL04, CSL05, NSL01 and NSL02. Loop dimensions were 600 x 400 metres and survey lines were spaced 100 metres apart.

All geophysical data (BHEM and FLTEM) is currently being processed and interpreted in Australia by SGC.

A trenching program started in Q4/2022 aimed to provide detailed information about the mineralized zones at surface. Up to the effective date of this report, 10 trenches were opened totaling 1,339.38 linear meters. All opened trenches were mapped, sampled, and their channel samples were precisely surveyed with an RTK. After the work was completed, all trenches were closed. A total of 1,559 samples, including QA/QC samples, were collected and analysed for 3PGM and Au at independent laboratories.

To improve the geological understanding of the deposit, a petrographic study was carried out using 65 samples selected from drill core and thin polished sections were made up for all of them.

Petrographic studies were carried out under an academic collaboration with Professor Cesar Ferreira Filho from the University of Brasilia. Preliminary results of this study were presented at the International Platinum Symposium in 2023 (Ferreira Filho et al., 2023).

Bravo hired PRCZ Consultores Associados (PRCZ) to carry out detailed geological and structural mapping work at the Luanga Project. This work was performed from November 2022 to July 2023. A total of 88 field points were fully described and a further 52 stations were marked where observations were made by quick reference to lithologies or contacts. The description, structural measures, photos and location coordinates of each field point were stored in a spreadsheet. The information provided was compiled by Bravo and considered for geological map elaboration.

Geological units identified in the Project area included rocks from the basement of the Carajás Domain, consisting mainly of gneiss–migmatite–granulite terrains of the Xingu Complex, and metavolcanic and meta-plutonic rocks of the Grão Pará Group.

The rocks of the Luanga Complex consist of three main zones: (i) Ultramafic Zone (UZ), comprising ultramafic cumulates (harzburgites and minor dunites), at the lower potion; (ii) Transition Zone (TZ), comprising interlayered ultramafic and mafic cumulates (harzburgite, orthopyroxenite and minor norite); and (iii) Mafic Zone (MZ) comprising a monotonous sequence of mafic cumulates (norite) with minor orthopyroxenite layers, at the upper portion. Additionally, a diorite rocks are interpreted as a late, intrusive part of the complex. The rocks of the Luanga Complex are metamorphized to amphibolite facies, but with largely preserved primary textures.

1.5.1 Drilling

Bravo’s exploration programs at Luanga commenced in late 2021 with data collection and interpretation and, in 2022, a major relogging and resampling program on Vale’s historical core, drilling of new infill and twin diamond drill holes and metallurgical testing.

The historic drill core is being relocated from the Vale core yard to the Bravo core yard. To date, 224 complete diamond drill holes have been received at the Bravo core yard, representing a good cross section of the geology intersected by historical drilling (Table 1-3).

Table 1-3: Historical Drill Core – receipt status.

Historical Drill Core				
Actual Location	Vale (N5)	Bravo Camp	% Transported	Pending
Total Drill Holes	228	224	98.24	4
Total Metres	45,166	44,461	98.43	705
Total Boxes	12,565	12,168	96.84	397

Following the receipt of historic drill core, Bravo technical staff repaired and cleaned the core boxes, their markings, and labels prior to relogging the core geologically (Table 1-4).

Following this relogging, the historic core was cleaned and photographed before the commencement of resampling.

Table 1-4: Historical Drill Core – quantity of relogging and resampling.

Relogging & Resampling 2022 Program					
Received Core (YTD)	Bravo Camp	Relogged	% Relog	Resampled	% Resample
Total Drill Holes	224	180	80.35	77	34.38
Total Metres	44,461	34,304	77.15	4,278	9.62

To date, historical drill core sample data and Bravo's drill core resampling shows an expected positive correlation for PGM assayed. Correlated assay data shows modest divergence due to the difference in preparation and analytical laboratory methods, generally resulting in moderately higher PGM grades in the resample vs the original split of the core.

Resampling of mineralized zones will continue as personnel resources are available. The aim is to resample all of the historic mineralized zones, creating a complete new set of assays, assayed by a modern ISO certified laboratory and with an expanded assay suite.

Approximately 94,892 m in 470 exploration holes has been drilled on the Property since 1993. Of these, 252 (50,352 m) are diamond drill holes executed by Vale and include both the Luanga and Luanga South geological targets (Table 1-5).

The drilling by Vale in 1993 was for early-stage exploration while the drilling between 2001 and 2003 was exploration-focused programs and for initial resource estimates.

The drilling that Bravo started in March 2022, and has continued since then, was designed primarily for infill drilling and resource definition at Luanga and, subsequently step out drilling to expand the mineral resource. Also, Bravo completed 8 geometallurgical drill holes.

Bravo has been carrying out its diamond drilling program using a local third-party company Servdrill Perfuração e Sondagem ("Servdrill"), reaching six drill rigs on site at the same time. Drill inspection is carried out by Bravo's own employees.

Table 1-5: Diamond drilling quantitative.

Year	Drill Type	Drill Holes	Total Metres	Company	Contractor
1993	DD	4	643.69	Docegeo	Docegeo
2001	DD	89	15,392.10		Geosol
2002	DD	68	14,603.40		Geosol
2003	DD	91	19,713.70		Geosol
					Rede
2022	DD	137	23,398.90	Bravo	Servdrill
2023	DD	81	21,140.40		Servdrill
TOTAL		**470**	**94,892.19**		

1.6 Data Verification and QA/QC

GE21 team members have conducted several field visits, since 2022, at Luanga to verify the company's infrastructure, the procedures being utilized, and the results obtained from the activities carried out by Bravo staff.

Engineer Porfirio Rodriguez is an independent consultant and has conducted field visits at the Project in 2023. Mr. Rodriguez has accompanied Bravo personnel in the development of the mineral resource estimate activities. Two site visits were conducted in the period from July 4th, 2023, to July 7th, 2023 and 3rd October to 6th October 2023. In this latter period, GE21 Qualified Person Team comprised of geologist Bernardo Viana in addition to Mr. Rodriguez.

The standard sample size is 1 meter length, with a tolerance of 0.70 m to 1.20 m length sample, respecting lithological contacts, weathering zones, and intervals with low recovery.

Drill core samples are prepared at Parauapebas-PA and analyzed at Lima (Peru) by ALS laboratories or at Vespasiano-MG (Brazil) by SGS Geosol Laboratórios Ltda ("SGS Geosol"). Until December of 2022 SGS Geosol was used as secondary laboratory, but in January of 2023 Bravo started using SGS as the reference laboratory instead of ALS.

Drill core samples are dried, crushed (90% passing the 2mm), split (riffle splitter) and pulverized (200 mesh). Analytical methods applied are fire assay with ICP-AES finish (Pt, Pd, Au), nickel sulphide leach with ICP-AES finish (Ni) and fire assay with ICP-MS finish (Rh).

ALS's Fire Assays use the 'Pb Collection' method, while SGS's Fire Assays use the 'NiS' method for metal collection. ALS and SGS are ISO-accredited (ISO: 17025:2005) commercial laboratories, completely independent of Bravo.

The Quality Assurance and Quality Control ("QA/QC") procedures for assays adopted in Bravo's diamond drilling campaign include Field Duplicates, insertion of Certified Reference Materials ("CRMs"), Blank samples and Umpire Assay samples.

Blank and CRM samples are commercial, acquired from OREAS, AMIS and Brasil Minas suppliers. Control samples (blank, CRM and duplicate) are inserted in the analytical batch at the site at a ratio of 1:20 regular samples.

Bravo's Quality Assurance and Quality Control program includes the assaying of 14,281 control samples, including Certified Reference Materials, Blank Samples, Field Duplicates and Umpire Check Assays, representing 15% of the total samples.

Bravo's QA/QC program also includes a Resampling Campaign, aiming to validate the Vale database and establish a correlation between total (silicate, oxide and sulphide) Ni grades analyzed by Vale and recoverable sulphide Ni grades. A total of 2,056 core intervals were re-sampled and analyzed, representing 5% of the Vale samples. The re-sample results were entered into the drilling database, replacing the previous assays. Twin holes were also drilled to evaluate the quality of Vale's previous drilling, sampling, and assaying.

Bravo's team produces regular QA/QC internal reports to constantly monitor the quality of the received assay results. GE21 has accessed the reports from May 2022 to May 2023. These reports are also used as a Quality Assurance measure, specifying batches or parts of batches to be reanalyzed.

Quality Assurance and Quality Control procedures, sampling methodology, and analytical methods applied by Bravo are within the industry's best practices standard. The QP responsible for this report, considering the data presented in this chapter, is of the opinion that the Luanga Project's Database is suited for mineral resource estimation work.

1.7 Metallurgical testing

1.7.1 Historical Work

Historical metallurgical testing on mineralised Luanga material was initiated at various stages of its development, with the bulk of the work having been completed between 2002 and 2004. Test work was completed at bench scale and pilot plant scale on core samples from diamond drilling. The studies completed include:

- 2001/2002 – CABRI: Mineralogical Characterisation Study
- 2002 – MINTEK: Flotation Studies and Mineralogical Characterisation Study
- 2003/2004 – LAKEFIELD: Flotation Studies and Mineralogical Characterisation Study
- 2003 – HDK ENGENHARIA: Preliminary Milling Circuit Sizing Study
- 2002/2004 – AVEC: Evaluation of the Global PGM Market

Historical metallurgical efforts at Luanga were summarized in Vale's final evaluation report as follows:

The studies of mineral processing carried out with samples of sulphide ,aterial have indicated that the traditional route, which involves crushing/grinding and flotation, produces a concentrate with commercially accepted grades [80-154g/t PGE] and PGE recoveries on the order of 74%. The closed-circuit study obtained a concentrate for Luanga that is mainly a [bulk] PGE+Ni+Au one, and not simply a PGE+Au concentrate.

1.7.2 Bravo's Work

At the initiation of the 2022/2023 program, Bravo submitted approximately 3 tonnes of sulphide metallurgical samples to CETEM, TESTWORK and MINTEK Laboratories respectively for metallurgical tests work.

The scope of test work completed to date includes:

1. To confirm the historic sulphide ore flotation results achieved by the previous Project owner through the replication of the original flotation test work results including exploratory optimization,
2. To complete exploratory and condemnation test work on the oxide ore considering a host of potential process methodologies including desliming, gravity separation, leaching under various conditions, and flotation,
3. To support the ongoing flow sheet development for Luanga and assist in establishing a robust, justifiable and demonstratable economic cut-off grade in support of MRE.

Milling and Flotation

Two individual BBWi tests were performed on samples of Luanga ore material to determine preliminary grinding power requirements. The methodology was consistent with the standard Bond method. The tests were performed on composite blends from two major ore zones at Luanga, namely the central and southwest, together accounting for approximately 75% of historical contained resources. One composite was produced consisting of fresh sulphide ore material and one of transitional ore material. The preliminary BBWi results indicate an ore hardness classification of medium hardness. The results are tabulated below:

Test	WI kWh/t
1 Fresh	13.94
2 Transition	10.29

Fresh Rock Flotation

Through its 2022/2023 flotation program of ca. 120 flotation tests, Bravo has reproduced and validated the nature of the historical results achieved by Vale and elucidated further areas of improvement, either achieved in test results or demonstrated to have a high probability of achievement based on preliminary test results and comparable test work.

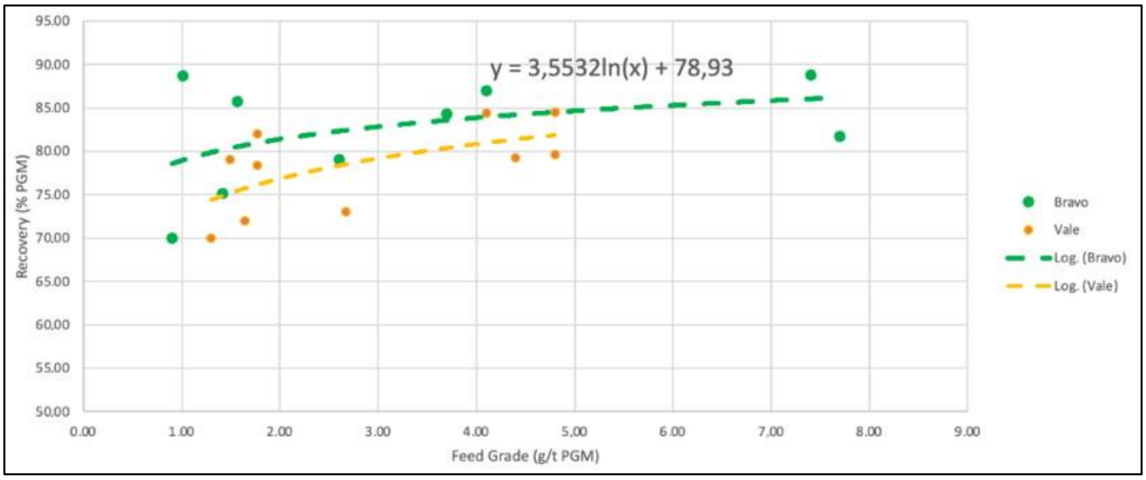
For the purposes of mineral resource estimation, the recovery numbers were simplistically modelled for tests across the grade profile and achieved concentrates that are at saleable grades (80 - 90 g/t).

Recovery numbers were adjusted to accommodate for improvement demonstrated on Luanga recoveries through exploratory ultrafine hydrodynamic cavitation tests. An improvement of 6.1% was achieved at rougher stage flotation. This result replicates improved recoveries reported from Rustenburg tailings retreatment facilities at materially lower grades (0.69 g/t) of 5% at rougher stage. Global recovery improvement stabilized at 10% under these reported results. The Luanga metallurgical model currently adjusts global recovery improvement at a potential of 7%, assuming only a further 1 % global improvement relative to a further 4% improvement observed in comparable plant work.

The average concentrate grade of tests under consideration equaled 134 g/t. Maintaining a saleable concentrate grade target of 80-90 g/t, additional recovery benefits may be realized by blending cleaner tails into final concentrate and/or adjusting flotation times. Considering average concentrate grades achieved of 134 g/t, consistent cleaner recoveries achieved at 80% across 2023 tests and a final concentrate/ cleaner tail blend, an 80-90 g/t concentrate is modelled with an estimate 3,99% improvement in global final recovery. The current MRE metallurgy model accommodates a risk adjusted 2% improvement in this regard (ie. 50% risk adjustment).

The current metallurgical model shows recoveries of ca. 76 – 85% across a feed grade of 0.9 – 7.0 g/t PGM+Au for concentrates above 80 g/t.

The graph below demonstrates the modelled metallurgical input parameters for the purposes of the 2023 Luanga Mineral Resource Estimate.



Nickel recoveries have been demonstrated through Vale locked cycle tests to be achievable with 45 and 47% recoveries at a feed grade of 0.19 %. A fixed recovery of 50% is recommended.

MRE Recommendation Fresh Material	Pt	Pd	Rh	Au	Ni
Recovery (1-2 g/t)	88 %	80 %	59 %	56 %	50 %

Historically, a component of the ore body below the oxide horizon was classified as “transition” material based on geological observations including surficial, oxidative staining on host rock samples. The process metallurgical relevance of this domain was evaluated by performing comparative rougher flotation tests at a coarse grind and benchmarked against the initial characterization flotation tests of the T series and additional fresh rock comparative float.

Transition flotation tests were performed through a grade range of 0.38 – 7.95 g/t. Samples were milled to p60 -74µm. The table below shows Test T1-2 as benchmark, fresh rock, control tests vs TBS 19, 11 and 16 as transition material flotation tests.

The comparative results above demonstrate that the previously classified “transition” domain ore responds similarly to the rougher performance of fresh rock material at Luanga and thus it is concluded, from a process metallurgy perspective, that the “transition” domain be considered as fresh rock material.

Oxide Ore Leaching

The hydrometallurgical recoveries achieved to data, although robust, are exploratory in nature and have few external comparable verification data sets. The recoveries have been verified through multiple leaching tests and the conceptual processing flowsheet has been validated with tests including PGM solubility in the presence of cyanide at ambient temperature, pressure and within reasonable reagent dosage conditions, PGM adsorption onto carbon, and final product generation as saleable, high grade, PGM residue. The current data demonstrates a high probability for economic recovery of PGM from oxide material at Luanga through conventional sodium cyanide leaching and carbon-in-leach extraction.

The recommendations for oxide metallurgical input into the Mineral Resource Estimate are therefore based solely on laboratory generated data from the Luanga 2022/2023 program and do not accommodate undemonstrated potential further improvements, however likely. Principally, this is believed to be a sufficiently risk adjusted approach in the absence of external comparable results.

The recommended recoveries for gold, platinum and rhodium were generated from feed material averaging 1.8 g/t. With the initiation of Phase 2 test work, palladium has demonstrated recoveries up to 81% for a feed grade of 3.2 g/t. The recommended palladium recovery has been adjusted to reflect the grade weighted average recovery for recoveries observed at the two grade data points.

MRE Recommendation Oxide Material	Pt	Pd	Rh	Au
Recovery (1-3 g/t)	24 %	73 %	61 %	94 %

1.8 Mineral Resources

With the intention to simplify the mineral resource statement, an additional variable, based on the valuation of a calculation of palladium equivalent grade ("PdEq") was created based on the following assumed metal prices and recoveries:

- Metal price assumptions are based on 10-year trailing averages: Pd price of US$1,380/oz, Pt price of US$1,100/oz, Rh price of US$6,200/oz, Au price of US$1,500/oz, Ni price of US$15,648/t.

  Palladium Equivalent ("PdEq") Calculation

- The PdEq equation is: PdEq = Pd g/t + F1 + F2 + F3 + F4

Where: e: $F1 = \frac{(Pt_p * Pt_R)}{(Pd_p * Pd_R)} Pt_t$, $F2 = \frac{(Rh_p * Rh_R)}{(Pd_p * Pd_R)} Rh_t$, $F3 = \frac{(Au_p * Au_R)}{(Pd_p * Pd_R)} Au_t$, $F4 = \frac{(Ni_p * Ni_R)}{(Pd_p * Pd_R)} Ni_t$

$_P$ = Metal Price $_R$ = Recovery

Several of these considerations (metallurgical recovery, metal price projections for example) should be regarded as preliminary in nature, and therefore PdEq calculations should be regarded as preliminary in nature.

Bravo's maiden MRE has an effective date of October 22, 2023, and it comprises 73 Mt grading 1.75 g/t PdEq for a total of 4.1 Moz of PdEq in the Indicated category and 118Mt grading 1.50 g/t PdEq for 5.7 Moz PdEq in the Inferred category. Table 1-6 shows a breakdown of the MRE by tonnage, grade and metal content for each metal, weathering type, and mineral resource classification category.

Table 1-6: MRE Statement at a Cut-off of 0.5g/t PdEq*

Resource Classification	Weathering	Average Grades and Contained Metal Estimates												
		Tonnes	Pd Eq		Pd		Pt		Rh		Au		Ni	
		Mt	g/t	Oz	g/t	Oz	g/t	Oz	g/t	Oz	g/t	Oz	%	Tonnes
Indicated	Oxide	4.6	1.43	212,990	0.91	135,949	0.54	79,901	0.07	10,031	0.08	11,944	n/a	n/a
	Fresh rock	68.5	1.77	3,892,313	0.78	1,705,709	0.53	1,159,078	0.06	131,248	0.07	146,263	0.13	89,539
	Total	**73.1**	**1.75**	**4,105,303**	**0.78**	**1,841,658**	**0.53**	**1,238,979**	**0.06**	**141,279**	**0.07**	**158,207**	**0.13**	**89,539**
Inferred	Oxide	10.0	1.30	418,810	0.75	241,117	0.72	230,367	0.08	25,738	0.04	12,444	n/a	n/a
	Fresh rock	108.1	1.52	5,286,970	0.60	2,082,479	0.57	1,997,054	0.05	190,746	0.04	122,076	0.10	104,640

	Total	**118.1**	**1.50**	**5,705,800**	**0.61**	**2,323,596**	**0.59**	**2,227,421**	**0.06**	**216,484**	**0.04**	**134,520**	**0.10**	**104,640**

Notes:

- *The MRE has been prepared by Porfírio Cabaleiro Rodriguez, Mining Engineer, BSc (Mine Eng), MAIG, director of GE21 Consultoria Mineral Ltda., an independent Qualified Persons ("QP") under NI 43-101. The effective date of the MRE is 22 October 2023.*
- *Mineral resources are reported using the 2014 CIM Definition Standards and were estimated in accordance with the CIM 2019 Best Practices Guidelines, as required by National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").*
- *Mineral resources that are not mineral reserves do not have demonstrated economic viability. There is no certainty that all mineral resources will be converted into mineral reserves.*
- *This MRE includes inferred mineral resources which have had insufficient work to classify them as Indicated mineral resources. It is uncertain but reasonably expected that inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.*
- *The Mineral Resource Estimate is reported/confined within an economic pit shell generated by Whittle software, using the following assumptions:*

  Generated from work completed by Bravo and historical test work:
  - *Phase 1 and 2 Metallurgy testwork – Metallurgical recovery in sulphide material of 80% Pd, 88% Pt, 59% Rh, 56% Au, 50% Ni to a saleable Ni-PGM concentrate.*
  - *Phase 1 and 2 Metallurgy testwork– Metallurgical recovery in oxide material of 73% Pd, 24% Pt, 61% Rh, 95% Au to a saleable PGM ash residue (Ni not applicable).*
  - *Independent Geotechnical Testwork – Overall pit slopes of 40 degrees in oxide and 50 degrees in Fresh Rock.*
  - *Densities are based on 26,898 relative density sample measurements. Averages are 1.58 t/m³ oxide, 2.71 t/m³ Saprock and 2.85 t/m³ fresh rock.*
  - *External downstream payability has not been included, as the base case MRE assumption considers internal downstream processing.*
  - *Payable royalties of 2%.*

  Metal Pricing
  - *Metal price assumptions are based on 10-year trailing averages: Pd price of US$1,380/oz, Pt price of US$1,100/oz, Rh price of US$6,200/oz, Au price of US$1,500/oz, Ni price of US$15,648/t.*
  - *The PdEq equation is: PdEq = Pd g/t + F1 + F2 + F3 + F4*

    Where: $F1 = \frac{(Pt_p * Pt_R)}{(Pd_p * Pd_R)} Pt_t$ $F2 = \frac{(Rh_p * Rh_R)}{(Pd_p * Pd_R)} Rh_t$ $F3 = \frac{(Au_p * Au_R)}{(Pd_p * Pd_R)} Au_t$ $F4 = \frac{(Ni_p * Ni_R)}{(Pd_p * Pd_R)} Ni_t$

    $_P$ = Metal Price $_R$ = Recovery
  - *Costs are taken from comparable projects in GE21's extensive database of mining operations in Brazil, which includes not only operating mines, but recent actual costs from what could potentially be similarly sized operating mines in the Carajás. Costs considered a throughput rate of ca. 10mtpa:*
    - *Mining costs: US$2.50/t oxide, US$3.50/t Fresh Rock. Processing costs: US$8.50/t fresh rock, US$7.50/t oxide. US$2.50/t processed, for General & Administration. US$1.00/t processed for grade control. US$0.50/t processed for rehabilitation.*
- *Several of these considerations (metallurgical recovery, metal price projections for example) should be regarded as preliminary in nature, and therefore PdEq calculations should be regarded as preliminary in nature.*
- *The current MRE supersedes and replaces the Historical Estimate, which should be no longer relied upon.*
- *The QP is not aware of political, environmental, or other risks that could materially affect the potential development of the Mineral Resources.*
- *Totals may not sum due to rounding.*

1.9 Interpretation and Conclusion

1.9.1 Mineral Exploration and Geology

In general terms, the geological descriptions, sampling procedures and density tests that were evaluated were found to be of acceptable quality and in accordance with industry best practices.

It was noted that the data collection process was executed with the aim of maintaining data security. Data was stored in a standardized database, which was found to be secure and auditable.

GE21 believes that the current QA/QC program supports the quality of the exploration data used in the resource estimates.

GE21 supervised the process through which density was determined and concluded that it was in conformity with industry best practices.

1.9.2 QA/QC

GE21 performed the evaluation of the data generated and concludes that the QAQC procedures are being followed using the same standards. GE21 considered the standard QA/QC procedures to be in accordance with mining industry best practice and appropriate for use in the current mineral resource estimate.

1.9.3 Geological Model

The procedure that was adopted to produce the 3D geological model (wireframes), consisting of generating triangulations between interpreted geological cross sections, was executed properly and in accordance with the opinions of GE21 staff.

1.9.4 Grade Estimation

The heterogeneity of the geological model lead GE21 to select the MIK to estimate the grades for Luanga Project.

The cutoffs used for variographic structural analysis used a rational distribution of metal content and are in accordance with best practices.

The variograms that were used in the estimation method are satisfactory and consistent with respect to the grade estimation that was calculated via Multiple Indicator Kriging, making use of search anisotropy determined in the variographic study.

The PdEq Kriging estimation strategy that was chosen made it possible to classify the mineral resource in accordance with an empirically calculated search radius and the requisite data density for mineral resource classification.

GE21 considers the mineral resource classification model and the analysis of criteria for the classification of those Mineral Resources, to be satisfactory although some items could be improved.

1.9.5 Mineral Resource Estimate

GE21 has not identified any mining, metallurgical, infrastructure, permitting, legal, political, environmental, technical, or other relevant factors that could materially affect the potential development of Mineral Resources.

1.10 Recommendations

The Luanga recommended program of work going forward is concentrated on (but not limited to) three principal areas:

1. MRE Growth to support future studies.
2. Luanga Exploration Potential.
3. Luanga Carbon Capture Potential.

The recommended work program comprises:

<u>PHASE 1 – Completed</u>

PHASE 2 (Remaining)

A. Mineral Resource definition
   - Updated estimation of mineral resources in accordance with NI 43-101:
     - Estimate US$0.15M

B. Exploration of mineral resource expansion potential and new targets
   - Geological, geophysical and drilling programs to evaluate the potential for the discovery of additional zones of mineralization:
     - Geology & geophysical studies US$0.2M
     - Drilling 10 holes @ ~200m for 2,000m @ US$400/m = US$0.8M

C. Updated Technical Report
   - Preparation of an updated technical report
     - Estimate US$0.1M

Sub-total – Phase 2	*US$1.25M*

PHASE 3 (Remaining)

A. Mineral Resource Expansion
   - Additional extensional drilling at depth across the Luanga deposit.
     - 30 holes @ ~400m = 12,000m @ US$500/m[1] = US$6.0M

Sub-total – Phase 3	*US$7.00M*

PHASE 4

A. Mineral Resource Classification
   - Additional infill drilling across the Luanga deposit to upgrade Inferred resources to Indicated resources in the next MRE.
     - 100 holes @ 100m to 200m = 15,000m @ US$400/m = US$6.0M

B. Metallurgical Studies
   - Advance Metallurgical Studies to support a PFS and alternative processing route Studies.
     - Estimate US$1.0M

C. Carbon Capture Potential
   - Carbon Capture/Sequestration Studies.
     - Estimate US$0.2M

Sub-total – Phase 3	*US$7.20M*

These work programs and cost estimates are preliminary in nature and will be refined, adjusted and modified as additional information is compiled, contracts for the various aspects of the work program entered into, and results from new work are received. This could result in some movement in funds between different categories.

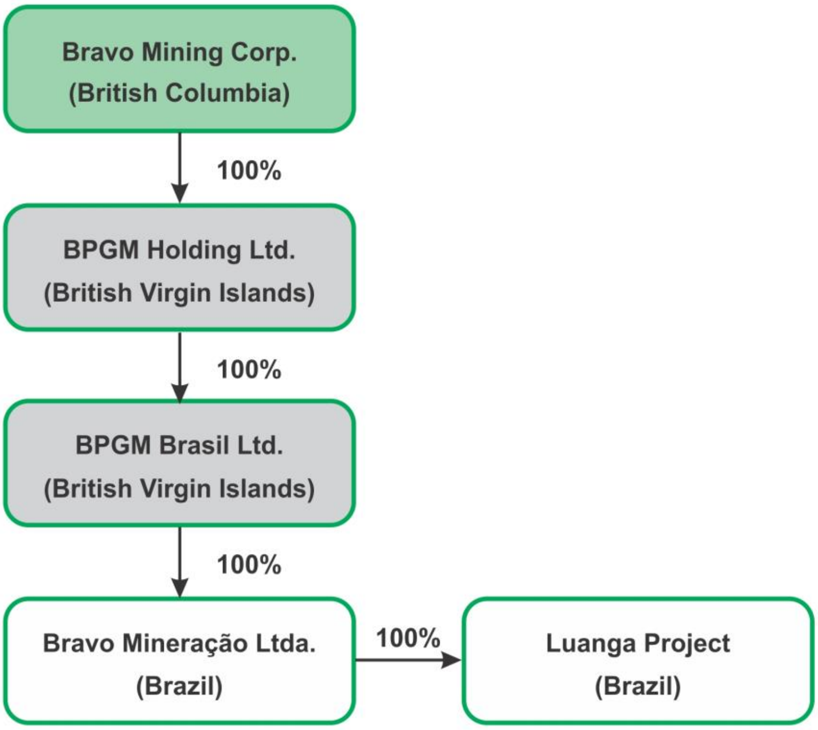
[1] *Includes additional US$100/m for deeper portions of holes.*

2 INTRODUCTION

Bravo has commissioned GE21 to prepare a Mineral Resource Estimate ("MRE") Technical Report for the Luanga Project in Pará, Brazil, in accordance with the directives of NI 43-101.

The Effective Date of October 22, 2023, is based on the receipt date for the Project database.

Bravo indirectly owns 100% of the Luanga Project. The organizational structure of Bravo and ownership of the Luanga Project is shown in Figure 2-1.



(BVI = British Virgin Islands)

Figure 2-1: Bravo Organizational Chart.

2.1 Qualifications, Experience, and Independence

GE21 is a specialized, independent mineral consulting company. The geological reconnaissance and due diligence evaluation have been conducted by GE21 staff members, who are members of the Australian Institute of Geoscientists (AIG) and are QPs as defined by NI 43-101.

2.2 Qualified Persons

The QPs responsible for this independent Technical Report are Mr. Porfírio Cabaleiro Rodriguez and Mr. Bernardo Viana.

Mr. Porfirio Cabaleiro Rodriguez is one of the QPs with respect to the objectives of this report. Mr. Porfirio was responsible for all Chapters and co-responsible for Chapters 11 and 12 with Mr. Viana. Mr. Rodriguez visited the property on the periods July 4th, 2023, to July 7th, 2023 and 3rd October to 6th October 2023. On the site visit, some diamond drill collars were located, its recorded coordinates validated with a handheld GPS, and the core was inspected in the onsite core storage facility.

Mr. Bernardo Viana is one of the QPs responsible for this Report; Mr Viana is co-responsible for Chapters 11 and 12. Mr. Viana is a geologist, a FAIG and has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration to be considered as a QP, as defined by NI 43-101. Mr. Viana has more than 20 years' experience working with exploration and mining projects.

Neither GE21 nor the Authors of this Technical Report have had any material interest invested in Bravo or any of its related entities. GE21's and the Author's relationship with Bravo is strictly professional, consistent with that held between a client and an independent consultant. This report was prepared in exchange for payment based on fees that were stipulated in a commercial agreement. Payment of these fees is not dependent on the results of this report. Table 2-1 below relates each QP with their report items' responsibility.

Table 2-1: QP and Report Items Responsibility Relations

Company	QP	Chapter Responsibility	Site Visit	Responsibility
GE21	Porfírio Cabaleiro Rodriguez, FAIG	All Chapters, with co-responsibility for Chapters 11 and 12	July 4th, 2023, to July 7th, 2023, and 3rd October to 6th October 2023	Author
GE21	Bernardo Viana, FAIG	Co-responsibility for Chapters 11 and 12	3rd October to 6th October 2023	Author

The Effective Date of this report is 22nd October 2023. The Authors have relied on information provided by Bravo which was provided in a database with full access given to the QPs.

2.3 Forward Looking Information

The Technical Report is based on information and data supplied to the Authors by Bravo and other parties. The quality of information, conclusions, and estimates contained herein are consistent with the level of effort involved in the services of Authors, based on: (i) information available at the time of preparation of the Report, and (ii) the assumptions, conditions, and qualifications set forth in this Report.

The results of the Technical Report represent forward-looking information. The forward-looking information used to estimate the Mineral Resource Estimate includes pricing assumptions, sales forecasts, projected capital, and operating costs, mine life and production rates, and other assumptions. Readers are cautioned that actual results may vary from those presented. The factors and assumptions used to develop the forward-looking information, and the risks that could cause the actual results to differ materially, are presented in the body of this Report under each relevant section. The Authors have used their experience and industry expertise to produce the estimates in the Technical Report. Where these estimates have been *made, they are subject to qualifications and assumptions, and it should also be noted that all estimates contained in the Technical Report may be prone to fluctuations with time and changing industry circumstances.*

Cautionary Note for U.S. Investors Concerning Mineral Resources

This Technical Report has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ from the requirements of United States securities laws. The terms "mineral resource", "indicated mineral resource" and "inferred mineral resource" are defined in and required to be disclosed by NI 43-101; however, these terms are not defined terms under the U.S. Securities and Exchange Commission ("SEC") modernization rules, known as "S-K 1300", and are normally not permitted to be used in reports and registration statements filed with the SEC. Investors are cautioned not to assume that all or any part of an "indicated mineral resource" or "inferred mineral resource" will ever be upgraded to a higher category or converted into mineral reserves in accordance with S-K 1300. "Inferred mineral resources" have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies, except in rare cases. Investors are cautioned not to assume that all or any part of an inferred mineral resource exists or is economically or legally mineable. Disclosure of "contained ounces" in a mineral resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC S-K 1300 standards as in place tonnage and grade without reference to unit measures. Accordingly, information contained in this Technical Report contain descriptions of the Company's mineral deposits that may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder.

3 RELIANCE ON OTHER EXPERTS

The authors of this Report are Qualified Persons as defined under NI 43-101, with relevant experience in mineral exploration, data validation, and mineral resource estimation.

The information presented regarding the tenure, status and work permitted by permit type within the Bravo property in Chapter 4 – Property Description and Location, is based on information published by the National Mining Agency of Brazil (Agência Nacional de Mineração, “ANM”) and is available to the public.

The environmental licensing status information and work plans related to community and social outreach included in Chapter 20 – Environmental Studies, Permitting and Social or Community Impact, were prepared by Bravo and reviewed by GE21. GE21 determined that the economic factors used in the determination of specific technical parameters of this Report, including, gold, PGM, nickel and the USD:BRL assumptions used were in-line with industry norms, broader market consensus and are acceptable for use in the current mineral resource estimate. The Authors of this Report have not identified any significant risks in the underlying assumptions, as in addition to the above, the underlying assumptions are in-line with spot market conditions as at the date of this Report.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Project Description & Ownership

Luanga is an exploration stage mineral project comprising the Luanga deposit, located in Pará State, Brazil, which contains PGM plus Au, plus Ni, as shown in (Figure 4-1). It is held under the Exploration Licence Nº.1961 and designated ANM.851.966/1992, comprising an area of 7,810.02 hectares in extent.

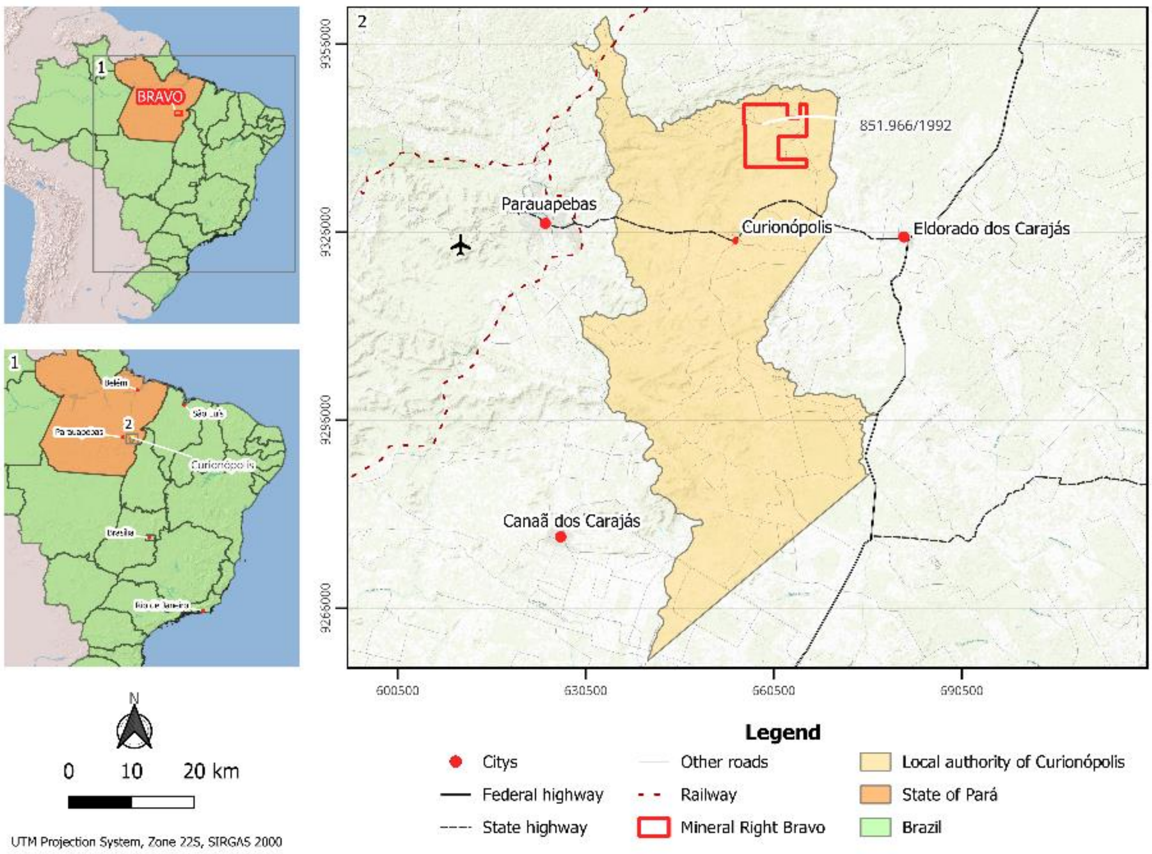


Figure 4-1: Luanga Project Location Map.

4.2 Land Access

The Luanga Project is located on private farmland generally used for cattle farming. There are no indigenous claims or protected forests in the area. To carry out exploration/feasibility works, such as drilling, an access agreement is required with the surface rights owner (landowner).

Land access agreements (Figure *4-2*) are currently in place with five key landowners, covering 100% of the known mineralized envelope of the Luanga deposit. These agreements have recently been renewed and are valid for two years each time. There is no reason to believe that the land access contracts will not be renewed again in the future. See Chapter 4.3 for discussion on Bravo's rights in respect of non-owned surface rights.

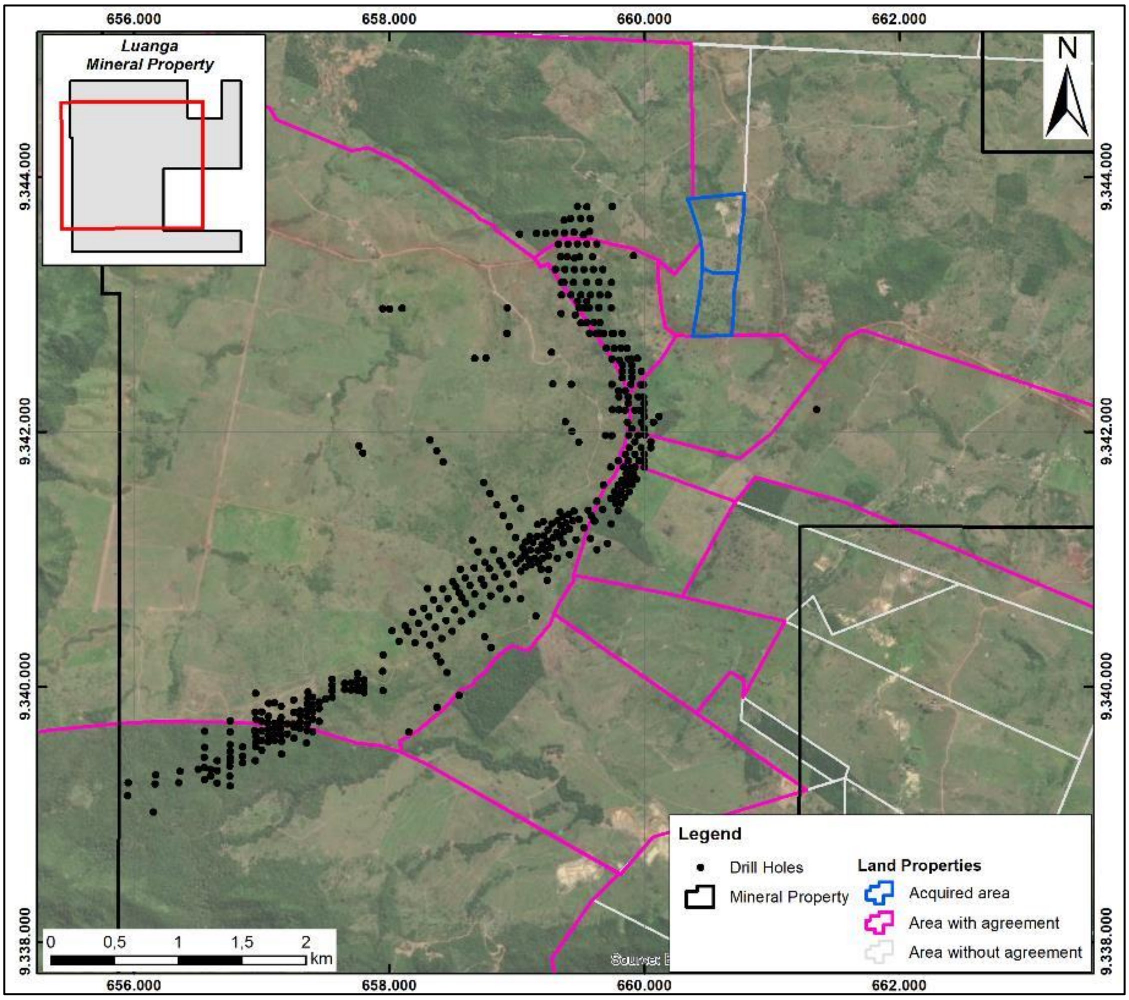


Figure 4-2: Luanga Land Access Agreements Map.

Under Brazilian mining law, exploration and study work (including all works in the recommendations of this report) do not require any permits, as the land is privately owned, and permission to conduct work is incorporated under the land access agreements with various owners.

As far as the Authors are aware, there are no other significant factors or risks that may impede access or the ability to perform the proposed work on the property; the information contained in this report is current and complete as of the report's Effective Date and complies with Section 4.2(8) of NI 43-101.

4.3 Mining Legislation, Administration and Rights

Brazilian Mining Legislation, Administration and Rights are governed by the Brazil Mining Code (Federal Law Decree No. 227/1967), which regulates the exploration and development of mineral resources and mining projects in Brazil.

Mineral tenements in Brazil generally comprise Prospecting Licenses, Exploration Licenses and Mining Licenses. These are granted subject to various conditions, including an annual fee per hectare payment and reporting requirements. Each tenement is granted subject to standard conditions that regulate the holder's activities and regulations that are designed to protect the environment.

The holder of a granted Prospecting License, Exploration License or Mining License is not required to spend a set annual amount per hectare in each tenement on exploration or mining activities. There is no statutory or other minimum expenditure requirement in Brazil. However, annual rental payments are made to the Brazilian National Department of Mineral Production (Mining National Agency, ANM), and the holder of an Exploration License must pay rates and taxes ranging, based on the current exchange rate, from US$0.69 to US$1.03 per hectare to the Government.

If a mineral tenement is located on private land, then the holder must arrange or agree with the landowners to access the property; however, in the absence of an agreement, the company can request access in court and by depositing a compensation value that is established and estimated by the court.

4.3.1 Prospecting Licenses

A Prospecting License entitles the holder, to the exclusion of all others, to explore for minerals in the area of the License but not to conduct commercial mining. A Prospecting License may cover a maximum area of 50 hectares and remain in force for up to 5 years. The holder may apply for a renewal of the Prospecting License, which is subject to approval by ANM. The period of renewal may be up to a further five years.

4.3.2 Exploration Licenses

The federal department responsible for issuing Exploration Licences is ANM. Exploration licenses are typically granted for three years and can be extended for a further three years maximum, subject to ANM approval. An exploration license allows the holder to explore for minerals in the granted concession but not to conduct commercial mining.

License applications must include applicant details, the elements or metals to be explored for, the application license area, and be accompanied by stipulated technical documents prepared under the responsibility of a qualified geologist or mining engineer. Such documents typically include:

- Budget forecasts for the planned exploration program.
- Maps of the intended area.
- Payment of governmental fees and taxes.
- Proof of sufficient funds or financing for the investment forecast set forth in the proposed exploration plan.

Licenses are deemed granted when they are published in the National Official Gazette.

In order to renew the exploration license, the ANM shall take into consideration the development of the work performed. The request for renewal of the exploration license must be presented 60 days before the expiration date of the original license. As to the renewal request, a report must be presented of the work already carried out, indicating the results achieved, as well as reasons justifying the work continuation. The renewal of the exploration license does not depend on the publication of a new license but only on the publication of the decision to renew it.

A final exploration report summarizing the economic viability and technical feasibility of the claim must be supplied to the ANM prior to the expiration of the granted period. Such report must be prepared under the technical responsibility of a legally qualified professional and must also contain the following:

- (i) information on the area, means of access and communication.
- (ii) plan of the geological surveys completed.
- (iii) description of the main aspects of the deposit.
- (iv) quality of the mineral substance and definition of the deposit.
- (v) genesis of the deposit, as well as its qualification and comparison to similar deposits.
- (vi) report on the assay results of samples collected.
- (vii) demonstration of the economic feasibility of the deposit, and
- (viii) the necessary information for the calculation of the reserve, such as the density, area, volume, and grade.

The final exploration report must be presented independently from the work results and shall indicate the feasibility or non-feasibility of the development and exploitation of the mineralization or the non-existence of the deposit. The holder of an exploration license who does not present a final exploration report within the date established by the regulations will be fined. Nevertheless, the exemption from submitting the report is permitted when the titleholder relinquishes the license. The ANM must confirm the relinquishment, provided it happened in one of the two following instances:

- (i) at any time, if the titleholder has not been successful at entering the area, despite all the efforts made, including judicial means, or;
- (ii) before one-third (1/3) of the term of duration of the exploration license has passed.

Should the final exploration report conclude that mineral exploitation or development is temporarily non-feasible (due to economic conditions, logistics, and commodities prices). In that case, the license holder may request the postponement of the decision related to the report ("Sobrestamento"), which the ANM shall review.

A concession holder has one year from the approval of the report to apply for a mining concession or to transfer this right to a third party. The application period may be extended for longer than a year at the discretion of the ANM, if requested by the holder before the expiration date, with necessary motivations and justifications (for example, more time to obtain environmental approvals or conduct further studies on economic viability and technical feasibility).

Development of mining projects is governed by three phases: Preliminary Licence (LP), Installation Licence (LI) and Operating Licence (LO). Issuance of these licences is governed by the Brazilian Institute of Environment and Renewable Natural Resources ("IBAMA"), the State Environmental Agencies, which would be the Pará State Environmental Agency ("SEMA") for the Luanga Project or the Municipal Authorities.

Stage 1 Licencing: Preliminary Licence (LP)

Receipt of the LP requires the licencing agency to evaluate the location and overall design of the project, environmental impact, social/community impact and establish terms of reference for future development. The Luanga Project occurs on predominantly privately owned, cleared land. There are no indigenous communities within the property boundary or a 10km radius, so there is no consultation requirement under the National Foundation of the Indian Fundação Nacional do Índio ("FUNAI"), the federal agency that establishes and manages policies relating to indigenous communities.

Stage 2 Licencing: Installation Licence (LI)

Receipt of the LI allows earthworks and mine construction to start. Application for the LI must include the layout of the mine, processing plant, tailings dam and all associated infrastructure. It also details mining methods, recovery methods, tailings dam design (and dam failure studies). The LI also expands and updates the environmental and social/community studies included in the LP terms of reference and conditions.

Stage 3 Licencing: Operating Licence (LO)

Receipt of the LO allows operating activities to start and is essentially a review of the operation to ensure it was constructed according to the detail provided in the LI.

4.4 Mineral Tenure

On September 5th, 1995, the Ministério de Minas e Energia (Ministry of Minerals and Energy – "MME") issued Vale Exploration Licence No.1961 under the process designated ANM.851.966/1992. The ANM administrates Exploration Licences. This Exploration License is located 40km northeast of Parauapebas in Para State, Brazil.

The license, which covers the Luanga Project, comprises an area of 7,810.02 hectares, currently in Bravo Mineração Ltda's name, as summarized in Table 4-1 and illustrated on Figure 4-3. Exploration License 851.966/1992 remains valid while the Mining License application is pending.

Table 4-1: Mineral Tenement Summary
(Source ANM – October 2023).

ANM Process	Municipality	Stage	Mineral	Title Owner	Size (hectares)	License No.	Expiry Date
851.966/1992	Curionópolis	Application for Mining License	Au, Pd, Pt, Ni	Bravo Mineração Ltda	7,810.02	1961	
Comments: Mining License pending				**TOTAL**	**7,810.02**	*ANM = Mining National Agency*	

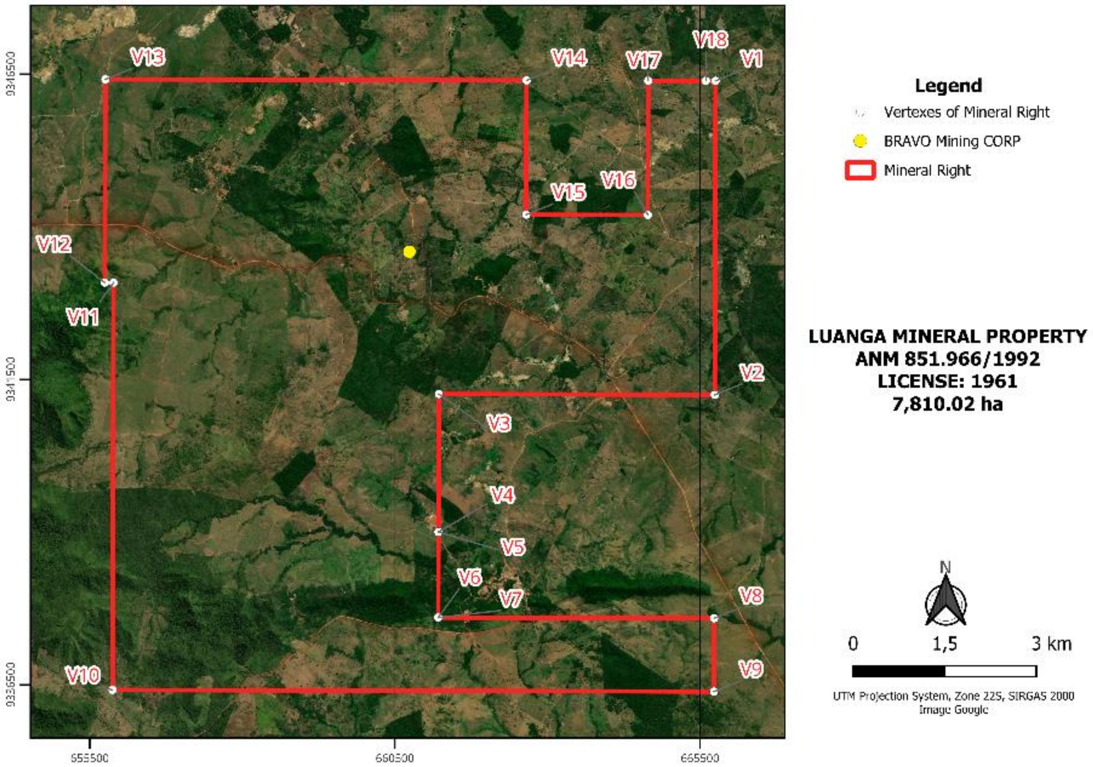


Figure 4-3: Luanga Project Tenement Map.

The Luanga mineral property is centred approximately at coordinates -05º57’24.34” S/-49º32’51.00” W. Bounding coordinates of Exploration License No.1961 from ANM title documents are presented in Table 4-2.

Table 4-2: Vertexes of Luanga mineral property
(Exploration License No.1961)

Vertex	Latitude	Longitude		Vertex	Latitude	Longitude
v1	-05°54’40”284	-49°30’09”580		v10	-06°00’05’’795	-49°35’30’’045
v2	-05°57’27”643	-49°30’09”580		v11	-05°56’28’’677	-49°35’30’’072
v3	-05°57’27”638	-49°32’36”608		v12	-05°56’28’’677	-49°35’34’’710
v4	-05°58’41’’177	-49°32’36’’614		v13	-05°54’40’’336	-49°35’34’’693
v5	-05°58’41’’177	-49°32’36’’617		v14	-05°54’40’’300	-49°31’50’’304
v6	-05°59’26’’752	-49°32’36’’617		v15	-05°55’51’’911	-49°31’50’’304
v7	-05°59’26’’758	-49°32’36’’617		v16	-05°55’51’’911	-49°30’45’’503
v8	-05°59’26’’758	-49°30’09’’580		v17	-05°54’40’’289	-49°30’45’’503
v9	-06°00’05’’822	-49°30’09’’580		v18	-05°54’40’’284	-49°30’14’’770
Exploration License Nº 1961, ANM.851.966/1992 – Datum SIRGAS2000						

The first three years of the exploration permit expired on September 5th, 1998. Still, the ANM only provided renewal of Exploration License on April 12th, 2005, due to its internal bureaucracy, renewing for an additional three years until April 12th, 2008. On April 11th, 2008, Vale presented a Final Exploration Report to the ANM, and on April 19th, 2013, the Company applied for a Mining License.

The ANM continues to postpone the decision on the Project's Final Exploration Report. Bravo expects this status to continue until such time that the Company submits a new study that demonstrates the technical and economic feasibility of the Project.

Bravo retained Linneu de Albuquerque Mello, whose lawyers are qualified to practice law in the Federative Republic of Brazil. According to a title opinion by Linneu de Albuquerque Mello dated January 20th, 2023, the Luanga Mineral Rights were valid and in good standing at that time.

4.4.1 Acquisition or Transaction Terms

On June 3rd, 2020, Vale, FFA Holding e Mineração Ltda ("FFAH") and Brazil Americas Investments and Participation Mineração Ltda ("BAIP"), where Bravo is the beneficiary party, appointed FFAH and BAIP to acquire the Luanga Project. Payment terms are as follows, with royalties shown in Chapter 4.5.

- USD300k paid in Dec 7, 2021
- USD500k paid in Nov 09, 2022
- USD500k to be paid on Nov 12, 2023 (subsequently paid)

<u>Total: USD1.3 million</u>

On 24 January 2022, Bravo´s wholly owned subsidiary acquired 100% of the shares of AIPL (Americas Investments & Participation Ltd.), giving it a 100%, undivided interest in the Luanga Project.

4.5 Royalties

The following royalties are applicable to the Luanga Project:

- 1% NSR royalty to Vale
- 2% NSR royalty to BNDES
- CFEM Government Royalties:
  - 1.5% NSR royalty Au
  - 2% NSR royalty on precious metals (Pd, Pt, Rh)
  - 2% NSR royalty on base metals (Ni, Cu)
- The Private Landowner Royalty is equal to 50% of CFEM royalties.

4.6 Environmental and Social Liabilities

No environmental liabilities have been identified within the Luanga Exploration License. The current land use at the Luanga Project is solely agricultural cattle grazing. There are no significant rivers within the property. There are also no existing forests on the property, thus no deforestation is required. However, it is the stated intention of Bravo to plant 10 trees for every drill hole completed (Figure *4-4*).

Figure 4-4: Seedling nursery.

The most significant activity to be completed by the company in the next few years is relatively low impact drilling. Bravo will concurrently rehabilitate drill sites.

It is expected that social or community impact will also be negligible since the nearest community is the village of Serra Pelada, which is approximately 8km away. There are no indigenous communities within 25km of Luanga.

The unpaved road to Serra Pelada crosses Luanga in the northern half of the property. This road is currently in the process of being asphalted by Vale. A low voltage power line parallels this road. Bravo does not expect to encounter major difficulties in moving the road and associated power line if the Project advances to a construction decision. The location of the road and power line will not impact planed exploration activities.

4.7 SUDAM

Bravo is subject to corporate income tax rate of 25% which is applied to pre-tax profit. The company can apply for a tax incentive under SUDAM (Superintendência do Desenvolvimento da Amazônia) based on Federal Law Nº 13,799, January 3, 2019. If granted this reduces the 25% income tax by 75% for a 10-year period, starting from the year in which the Appraisal Certificate from SUDAM is issued. The total tax burden in this case is 15.25% (75% of 25% + 9% social contribution tax), plus royalties as defined in Chapter 4.5.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE & PHYSIOGRAPHY

5.1 Accessibility & Physiography

The Luanga Project is located in the municipality of Curionópolis in the central-eastern region of Pará State, approximately 500km south of Belém (a sizeable coastal port city and capital of Para, Figure 5-1). Luanga is accessible via paved and unpaved roads from two regional centres, Parauapebas and Marabá Figure *5-2*). Both cities have commercial airports with multiple flights a day to Brasilia and Belém from Parauapebas and to Brasilia, São Paulo, Rio de Janeiro, Salvador, and others from Marabá (Figure 5-3). Access to the Project is via a municipal paved road that turns off Highway PA-257 (Table 5-1).

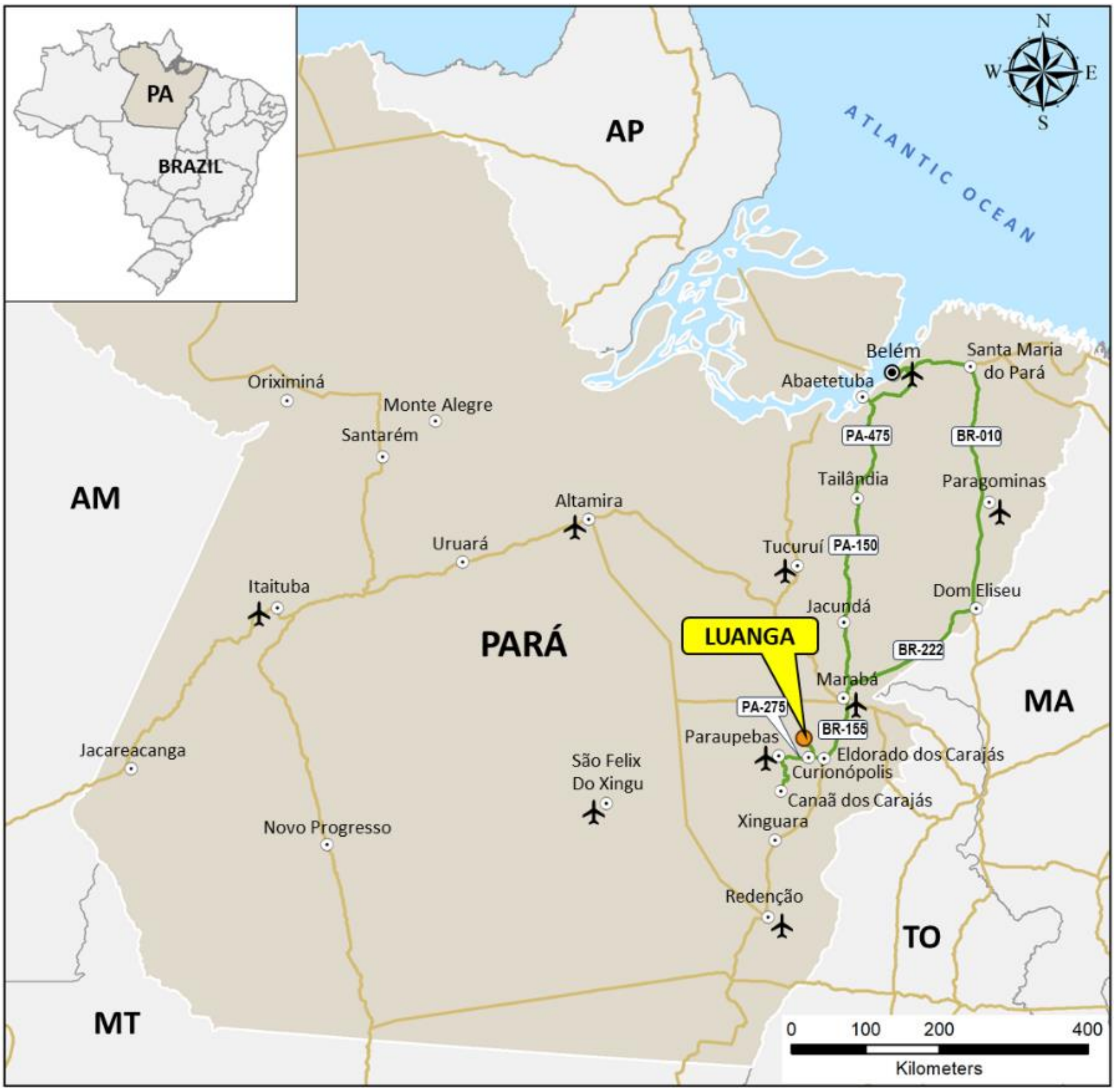


Figure 5-1: Regional location of Luanga Project in Pará State, Brazil

The closest population centres to the Project are the small town of Curionópolis, with a population of approximately 17,846, approximately 17km south-southwest of Luanga and the mining community of Serra Pelada, approximately 12km west of Luanga. There are no communities within the Project boundary. Bravo's centre of operations is in the north-central part of the area.

Parauapebas, located approximately 40km to the west-southwest of Luanga, is the region's critical service provider and labour source. Parauapebas is the largest mining town in the state, with a significant labour force resident in the town supporting multiple world-class sized iron ore and copper-gold mines in the Carajás. Parauapebas is also home to all the region's mining-related services and mining infrastructure. Parauapebas was recorded as having a population of 213,576 in 2020. Any future operation is expected to be able to source all labour from the local region.

The nearest rail services are those privately owned by Vale in Parauapebas, which connect to Marabá. As part of the purchase agreement with Vale, Bravo has access to this train line. The nearest commercial-scale port facility is Vila da Conde, located adjacent to the state capital, Belém, approximately 660km to the north. The port facilities can also be accessed via barge on the Tocantins River, the nearest access to which is also in Marabá.

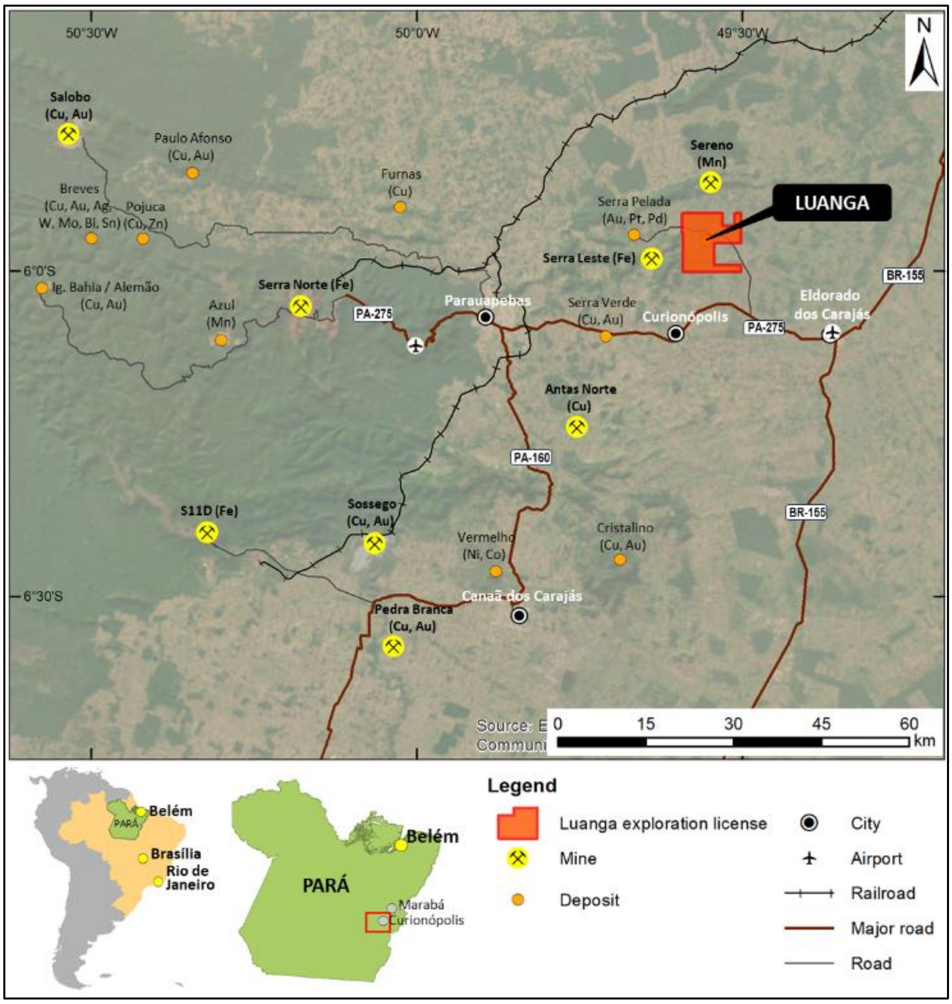


Figure 5-2: Access map for Luanga Project

Figure 5-3: Carajás airport 17km WSW of Parauapebas (top), Marabá airport (bottom).

Table 5-1: Distances for ground access to Luanga Project.

Departing (from)	Destination (to)	Road distance (km)	Estimated time (hours)
Marabá town	Eldorado dos Carajás town	102 (on BR-222)	01:30
Eldorado dos Carajás town	Unpaved road access	16 (on PA-275)	00:20
Municipal paved road	Luanga property	17	00:20
TOTAL		**135**	**02:10**
Departing (from)	**Destination (to)**	**Road distance (km)**	**Estimated time (hours)**
Parauapebas town	Curionópolis town	36 (on PA-275)	00:40
Curionópolis town	Unpaved road access	16 (on PA-275)	00:20
Municipal paved road	Luanga property	17	00:20
TOTAL		**69**	**01:20**
Departing (from)	**Destination (to)**	**Road distance (km)**	**Estimated time (hours)**
Curionópolis town	Unpaved road access	16 (on PA-275)	00:20
Unpaved road access	Luanga property	17	00:20
TOTAL		**33**	**00:40**

The Luanga Project is located in the Carajás Mineral Province, which lies within the South Pará Plateau, where the altitudes vary from 500m to 700m above sea level. A series of NNE-SSW trending ranges project above the plateau, remnants of an older surface that was eroded to a peneplain and uplifted during the Paleozoic. Luanga lies on the southeast flank of the Serra Sereno range, with peaks up to 600m above sea level. The stream banks are terraced and capped with iron-aluminous laterite, which is currently being actively eroded (Figure 5-4).

The drainage of the area flows into the Sereno River, part of the Rio Vermelho system. A system of tributaries flows from Serra Leste to northeast crossing the Luanga mineral property till discharge into the Sereno River.

Inside the Luanga Project area, vegetation has been cleared for pasture and subsistence cultivation, which is indicated in Figure *5-5* by the pink areas, versus dark green which is forested areas. The Luanga Project covers 7,810 ha, which is more than sufficient for any contemplated future mining related activities, including waste rock and tailings disposal, process plant and related infrastructure. Similarly, the other surface rights agreements discussed in Chapter 4 and shown in Figure 4 2, will also provide sufficient space within the 7,810 ha for proposed work programs and any contemplated future mining-related activities.

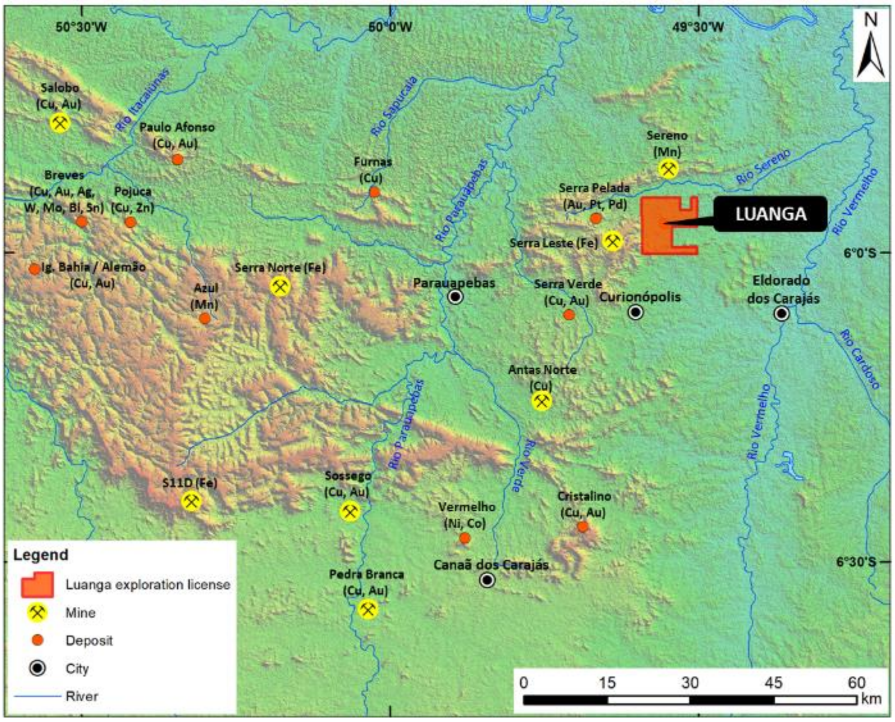


Figure 5-4: Physiography of Carajás region

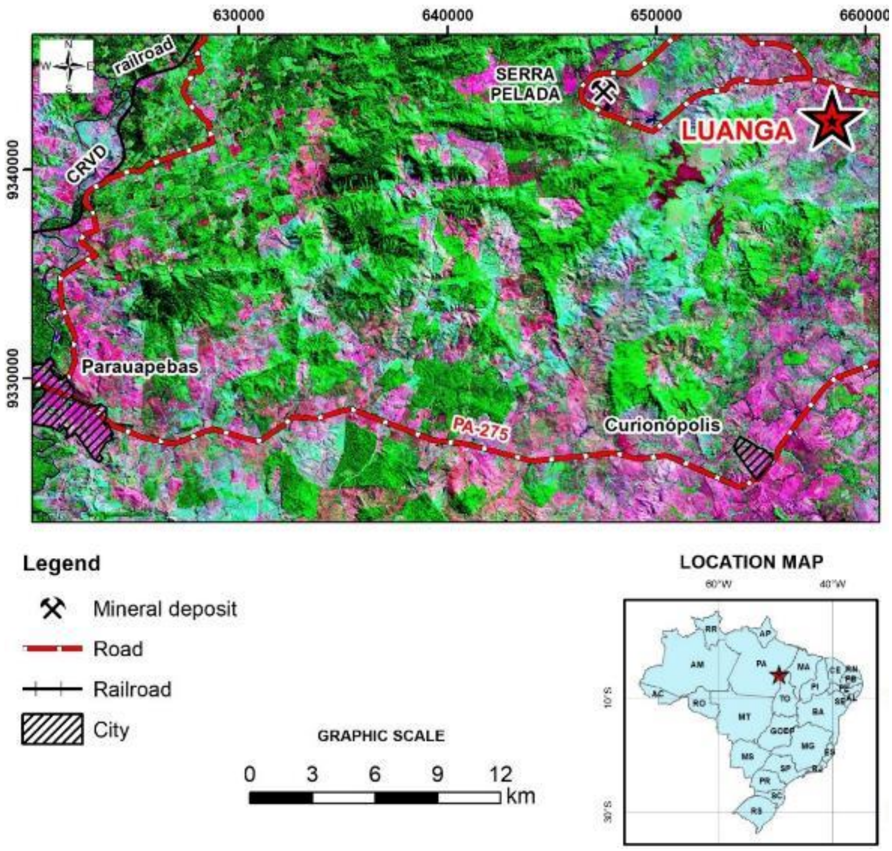


Figure 5-5: Sat Image (RGB composition 342) with relief and vegetation of Carajás region

5.2 Climate and Length of Operating Season

Situated approximately 6º south of the equator, the climate at Luanga Project is typically equatorial, with slight variation in mean monthly temperatures throughout the year. The average maximum temperature is 32ºC while the average minimum is 22ºC. There are two distinct seasons: the winter is warm and dry, while the summer is wet and humid. Three-quarters of the annual precipitation falls from December through April. In August, the average rainfall is 10mm, while in January, February and March, the monthly rainfall exceeds 150mm. Rainfall intensity can be high. For these reasons, water availability for any contemplated future mining-related activity in the region is plentiful and readily accessible. Figure 5-6*:* shows the climate data for Curionópolis. The annual rainfall average is 2,082mm.

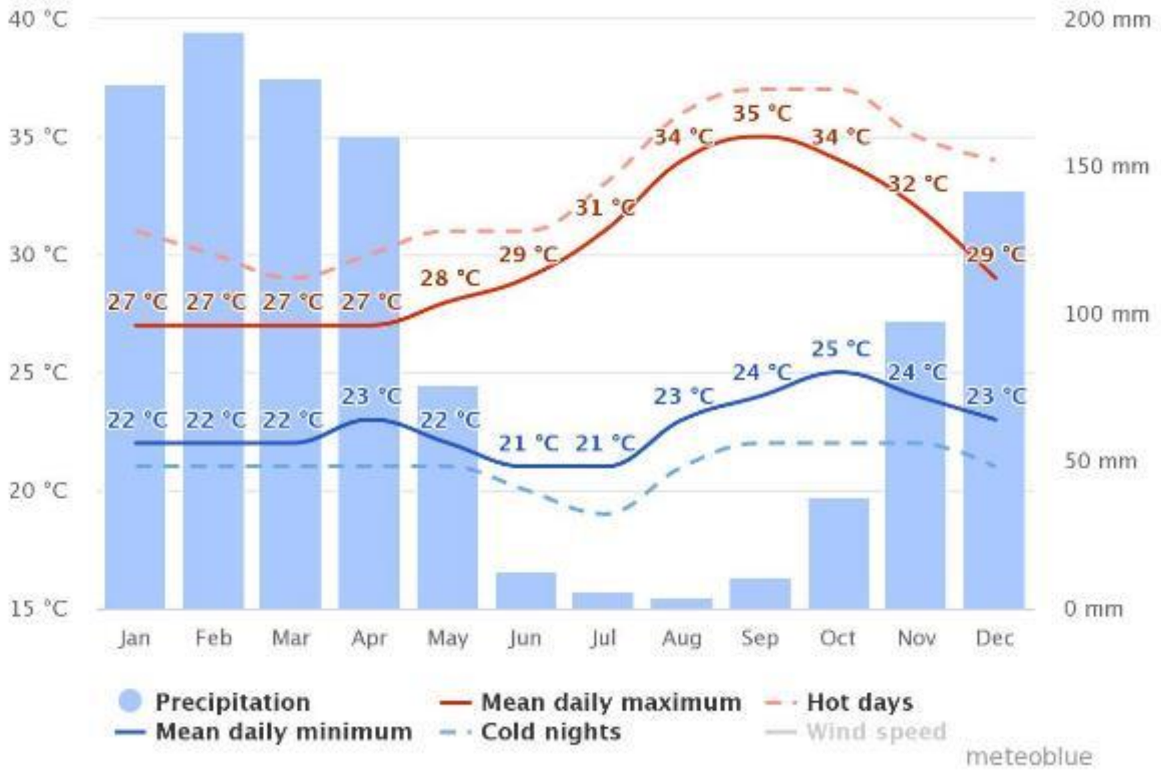


Figure 5-6: Average monthly temperature and rainfall at Curionópolis.
Source: Meteoblue.com, 2023

5.3 Local Resources and Infrastructure

The Luanga Project area is in a moderately fertile red/yellow podsols region. Agricultural production includes rice, corn, beans, palm oil, banana, tomato, watermelon, coffee, avocado, guava and cashew nuts. Throughout the region, there is extensive cattle ranching, producing both milk and meat, using natural pastures that are annually burnt to stimulate the growth of young grasses. Total stock numbers include up to 400,000 head of cattle and 50,000 pigs in the region. The remaining forest areas have been intensively exploited for fuel wood for domestic use and specially to produce charcoal. This is an essential material to produce pig iron for small plants in Marabá.

The burgeoning mining industry in the Carajás Mineral Province required a massive investment in infrastructure to create transport routes for industrial and agricultural exports. One of the most significant mining projects in Brazil is based on the iron ore deposits in the Serra dos Carajás near Parauapebas. With a reported 18 billion tonnes of ore, this is one of the world's most significant iron ore deposits. The Luanga Project lies within the Projeto Grande Carajás Mining and Industrial Zone ("PGC") that, is reportedly gazetted over an area of 400,000 km^2 and involves a total investment of US$62 billion. The town of Carajás has been completely rebuilt and is closed to all but Vale's workers. Vale constructed a heavy-duty rail line over 892 km from the iron mines to the Atlantic port of São Luís. The nearest railhead to Luanga Project is at Carajás, 55 km by road from Luanga.

Besides iron ore, other minerals such as gold, copper, nickel, manganese, and bauxite have been discovered in significant quantities in the Carajás Mineral Province, with additional discoveries a regular occurrence. Much of the metal mined in the region is exported in its raw form, but there has been some attempt at metal refining. These include the aluminum smelter in Belém (the most significant industrial plant in Latin America) and a steel mill in São Luís. Mining developments have led to increased energy demands, spurring the construction of dams for hydroelectric power generation.

The region's economy is heavily dependent on mining, principally from the iron ore mines of Carajás. Vale is reportedly developing five projects in Southern Pará located within a radius of 90km from Carajás, three of them to the southeast and two to the northeast.

The city of Parauapebas is equipped with all the local amenities, such as banks, hospitals, hotels, and supermarkets. In addition, the long history of mining in the town has provided the area with a skilled workforce experienced in disciplines that support mining, such as machinery mechanics and general maintenance.

Marabá is the market centre for the region and a hub for road, rail, and river transport. Along with the mining industry, the city economy relies on agriculture, cattle raising, handcraft production and commerce. Many experienced miners are in the vicinity, and the university in Marabá is focused on training professionals for the mineral industry.

The Tocantins River and its tributaries are of vital economic importance to the region, both as a source of fresh water for the population and industry and as a source of hydroelectric power. Downstream from Marabá, the Tucuruí hydroelectric dam expanded its capacity in 2005 to lift output to 8,370MW. Three other hydroelectric plants on the Tocantins River have a combined capacity of 2,630MW, and an additional plant is near completion. Seven more hydroelectric plants are planned on the Tocantins River (Figure 5-7).

A branch of the main 230kV hydroelectric power transmission line from Tucuruí to Carajás has the available capacity to supply the necessary power to the Luanga Project area for any contemplated future mining-related activity. This power transmission line is approximately 25km to NW of the Luanga property.

However, it is worth noting that Bravo has existing office facilities close to the Project, on land that is leased by Bravo and is within a local farm which is close to Curionópolis and Parauapebas (Figure 5-8).

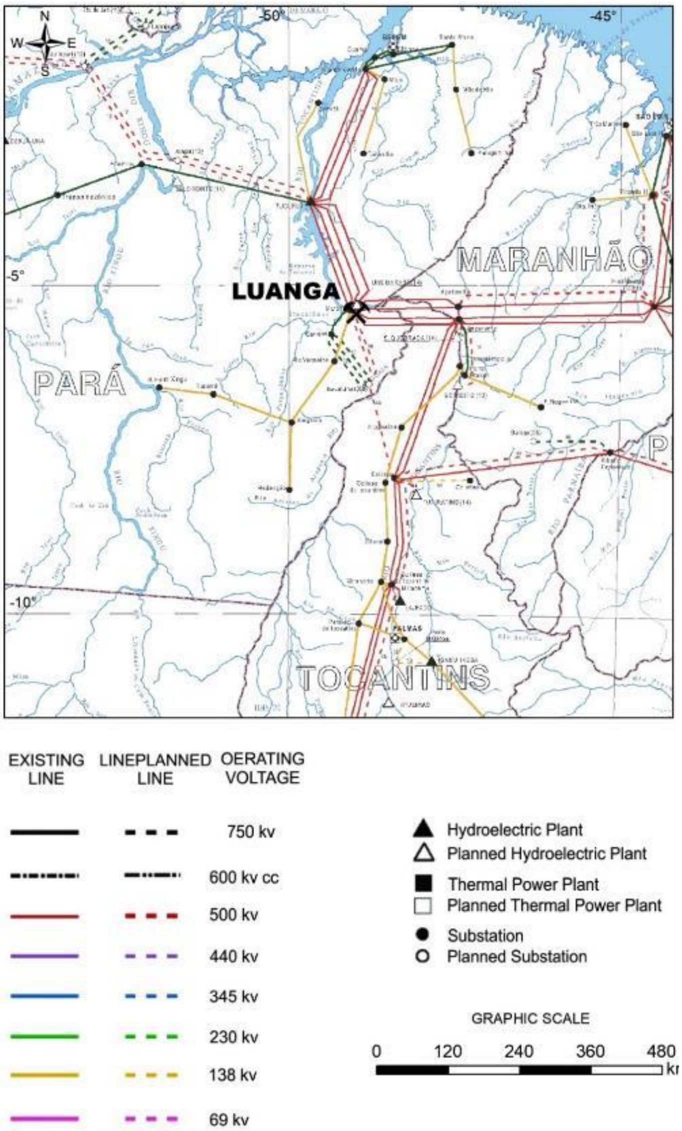


Figure 5-7: Power transmission lines in the region of Luanga Project

Figure 5-8: Bravo facilities at Luanga Project.

5.4 Social and Community

The branch of the main 230kV hydroelectric power transmission line from Tucuruí to Carajás has the available capacity to supply the necessary power to the Luanga Project area for any contemplated future mining-related activity. This power transmission line is approximately 25km to NW of the Luanga property.

Bravo has implemented several initiatives related to Environmental, Social, and Governance ("ESG") performance during the implementation and development of Luanga. One of the ESG initiatives is related to environmental management. Bravo has implemented measures to minimize the impact of its operations on the environment. For example, it has developed a water management plan that includes monitoring water quality and quantity and implementing measures to reduce water consumption. Additionally, Bravo has implemented a waste management plan that provides recycling and proper disposal of waste material. In order to enhance the natural environment, Bravo created an internal procedure to plant ten new trees for each drill hole carried out on the Project area and, to the Effective Date, has planted 11,630 trees (or approximately 50 trees per hole drilled). Currently, the company has over 20,000 trees in its local nursery, awaiting planting. (Figure 5-9).

Figure 5-9: Bravo's nursery at Luanga camp.

Figure 5-10: Just Some of Bravo´s social projects at Serra Pelada community.

The company is committed to the highest possible health and safety standards to achieve a zero-incident work environment.

The company also provides training programs for residents to develop skills that can be used in the mining industry or in other areas of the local economy, establishing partnerships with local communities to promote sustainable development in the region. Currently, 80% of Bravo's workforce is part of the local communities in the Carajás region, exceeding Bravo's goals for local hiring.

Bravo has also set a goal of local spending, with significant contracts such as drilling and assaying being let to companies within the Carajás region. As part of Bravo's ESG strategy, the company developed, approved, and disseminated the following policies:

- Code of Conduct & Ethics Policy.
- Anti-Bribery & Anti-Corruption Policy.
- Disclosure & Confidentiality Policy.
- Diversity & Inclusion Policy.
- Whistleblower Policy.
- ESG Policy (including Health & Safety, and Environment).

6 HISTORY

6.1 The Carajás Mineral Province

The history of the Carajás region is essential to contextualize the discovery and subsequent evaluation of the Luanga deposit. Until the 1960s, geological work carried out in the Carajás region was restricted by a lack of access to the vicinity of the major rivers. In 1966, DNPM/PROSPEC published the results of Project Araguaia. This involved the acquisition of aerial photo coverage and photo interpretation of the Carajás region. No mineral discoveries were reported as the fieldwork was restricted to the major drainages. The bare patches in the rainforest that later turned out to be high-grade iron ore were interpreted at the time to be calcareous sandstone.

The first mineral exploration in the Carajás region was carried out by Companhia de Desenvolvimento de Indústrias Minerais ("CODIM"), a subsidiary of Union Carbide, which, in 1966, discovered the manganese deposit of Serra do Sereno. This discovery motivated US Steel to commence broad-scale exploration in the region through its subsidiary Companhia Meridional de Minerações ("CMM"). In July 1967, a Brazilian team discovered high-grade iron ore with an average grade of 66% Fe. US Steel wanted to develop the Carajás iron deposit. However, the Brazilian Government was unwilling to give a foreign company control over such an important national asset. Instead, the Brazilian Government created in April 1970 a joint venture company, Amazônias Mineração SA ("AMSA"), of which the Companhia Vale owned 51 percent do Rio Doce ("CVRD," which now is "Vale"), the Brazilian Government state enterprise, and 49 percent were owned by CMM. By presidential decree on 6 September 1974, AMSA was granted the rights to all iron ore in the Carajás Mineral Province.

Exploration continued until 1977, when CMM, concerned over the high capital cost and poor outlook of the international market for iron ore at the time, withdrew from the project. Vale purchased CMM's 49% for US$55 million. AMSA, now wholly owned by Vale, was granted the rights for mineral exploration and development of the entire Carajás Mineral Province.

In June 1978, at the commencement of laying the Carajás railroad, linking Ponta da Madeira on the Maranhão coastline to the Carajás reserves effectively launched the implementation of the Carajás Iron Ore Project, which was to cost CVRD US$3 billion in direct investments:

- 56% for the railroad
- 20% for the mine and beneficiation plant
- 14% for the marine terminal
- 10% for infrastructure

With the establishment of the Carajás Iron Ore Project and its associated infrastructure, the Carajás Mineral Province was established and recognized. Decades on, it is one of the largest mineral provinces in the world and the most significant mining region in Brazil. As a result of the recognition of the global importance of the Carajás Mineral Province, meaningful exploration was undertaken over the following decades by Vale and other domestic and foreign mining companies. This work resulted in the discovery of several deposits in the province and the development of several mines.

6.2 The Luanga Project

Mafic-ultramafic rocks of the Luanga Complex were identified in 1983 during regional exploration developed by DOCEGEO in the Serra Leste region. After discovering up to 2m thick chromitites, DOCEGEO conducted geological mapping, soil geochemistry survey (400m x 40m grid) and ground magnetic survey in the Luanga Complex. Four diamond boreholes were drilled to test the thickness and lateral continuity of outcropping chromitites. The drilling was not favourable for chromitite mineralization but intersected anomalous concentrations of Pt and Pd, including 9 metres at 2.57ppm of Pt+Pd (drillhole PPT-LUAN-FD0004).

In 1997, a joint venture between DOCEGEO-Barrick Gold, carried out a stream sediment campaign over the Luanga Complex area that identified Au anomalism.

In 2000, Vale carried out a new soil geochemistry survey to test the Au anomalies outlined by Barrick Gold. The sampling grid, covering the southern portion of Luanga Complex, defined a 1km long trend of Pt and Pd anomalies. Due to this anomalous trend, Vale carried out an additional soil geochemistry survey in the northern portion of the Luanga Complex (next to chromitite layers), identifying another 1km long Pd and Pt anomalous trend. The geochemical survey was extended to the central portion of the layered complex, adding a further 2km extension, now joining up to form a continuous Pt-Pd anomalous trend along the entire layered intrusion.

In 2001, Vale started an exploration program for PGM in the Serra Leste region. Systematic geological and structural mapping using RADARSAT and Landsat-TM5 integrated data, along with airborne geophysical survey, led to several other layered mafic intrusions.

6.3 Historical Drilling

Considerable diamond drilling was completed by Vale in the 1993, 2001, 2002 and 2003 campaigns. Drill logs and assay summaries and certificates for all historical drill holes are available and have been compiled into a database along with more recent drill data. This historical work has been thoroughly documented.

Historical Vale drilling consisted of 252 diamond drill holes (50,352.89 linear metres) at Luanga between 1993 to 2003 (Table *6-1*). Most diamond drilling occurred between 2001 and 2003 over two main targets, Luanga and Luanga South. At Luanga, 228 diamond drill holes (45,165.74 linear metres) were completed, representing approximately 90% of the drilling program. At Luanga South, 24 drill holes (5,187.15 linear metres) were completed.

Most of the diamond drilling was carried out by two Brazilian diamond drilling companies Geologia e Sondagem S.A. (“Geosol”) and Engenharia e Sondagem Ltda (Rede). DOCEGEO was responsible for the first four drill holes at the Project.

Table 6-1: Historical Drilling Summary

Year	Drill Type	Drill Holes	Total Metres	Contractor
1993	DD	4	643.69	DOCEGEO
2001	DD	89	15,392.10	Geosol
2002	DD	68	14,603.40	Geosol

Year	Drill Type	Drill Holes	Total Metres	Contractor
2003	DD	91	19,713.70	Geosol
				Rede
TOTAL		**252**	**50,352.89**	

6.4 Historical Mineral Resource

The "Historical Estimate" of mineral resources for Luanga was prepared internally in 2017 by Vale and reported in Mansur *et al*., 2020 as:

142Mt@1.24g/t 3E (Pd + Pt + Au) + 0.11% Ni using a cut-off grade of 0.5g/t PGE + Au.

<u>This disclosure is made as per *Section 2.4 of NI 43-101, parts 1 to 7 inclusive*</u>:

1. The "Historical Estimate" was prepared internally in 2017 by Vale and reported publicly by Mansur *et al*., 2020, with other Vale geologists as co-author.
2. Bravo acquired the Project directly from Vale and has since conducted a significant amount of infill drilling, resampling of historical core, metallurgical testwork, geophysics and other works. Given these substantive works the Authors believe that this "Historical Estimate" is strongly supported by Bravo's work to date and is relevant to the reader's understanding of the status of the Project and its future potential. Further, given that this estimate was prepared by Vale, a major mining company with global operations, the Authors believe it is likely to have been prepared to standards a reasonable person would use and is therefore considered reliable for the purposes of defining recommendations for future work.
3. No breakdown of the individual metals contributing to this Historical Estimate has been published and no technical report related to this Historical Estimate is available to the authors. As a result, aside from the information quoted above, nothing is known of the key assumptions, parameters, and methods used to prepare the Historical Estimate.
4. The "Historical Estimate" used no categories to define it.
5. There are no more recent estimates or data available to the Authors.
6. The work needed to be done before the "Historical Estimate" could be classified as a current mineral resource is defined in Chapter 26 of this report.
7. (i) A QP has not done sufficient work to classify the "Historical Estimate" as a current mineral resource; and

   (ii) Bravo is not treating the "Historical Estimate" as a current mineral resource.

Bravo also cautions that that the "Historical Estimate" was not prepared in accordance with NI 43-101 and should not be relied upon since it has been superseded by the Mineral Resource Estimate detailed in this report. Nevertheless, Bravo believes the information is relevant to the reader. Further, readers should be aware that the assays values used to calculate the nickel content in the "Historical Estimate" are total Nickel, and thus contain both sulphide Nickel (recoverable) and silicate nickel (unrecoverable). It is

unknown to Bravo whether the nickel content in the "Historical Estimate" has been modified to account for this or not.

6.5 Historical Metallurgical Testwork

The Project is an exploration stage project and, as a result, historical metallurgical testwork has been limited to first pass (or fatal flaw) metallurgical testwork.

This testwork is early stage, however it indicated that a "saleable" Pd-Pt- Au-Ni concentrate could potentially be produced.

The focus of historical metallurgical testwork has been on samples from the Sulphide Zone, since this represents the bulk of the historical PGM mineralization identified at Luanga. Work was performed at several facilities between 2002 to 2007 and can be summarised as follows:

- Mintek, 2002
- CDM (internal Vale laboratory), 2002-2004
- SGS Lakefield, 2003-2004

Initial work by Mintek and CDM used a higher-grade sample (5.0g/t Pt+Pd+Au) from the Sulphide Zone. Metallurgical testwork by both companies demonstrated that recoveries to concentrates of approximately 70% could be achieved using conventional milling, griding and froth flotation, similar to other sulphide PGM deposits globally.

Testwork subsequently carried out SGS Lakefield (Canada) on a lower grade, 200kg sample from the Sulphide Zone, also indicated that recoveries of approximately 70%, with a concentrate from 0.78% of the fed mass of 132g/t PGM+Au. Internal work by CDM using the same sample also supported these results.

Results of historical metallurgical work are summarised in Table 6-2.

Table 6-2: Results of historical metallurgical work.

Sample	Lab	Test	Average Grade (g/t 3E*)	Mass	Concentrate Grade (g/t 3E*)	Recovery
M1	Mintek	Lock Cycle Test	5,00	2.2%	137	66.2
M2	CDM	Open Circuit	5,00	3.4%	104	72.1
S1A3	CDM	Lock Cycle Test 1	1.70	1.2%	95	73.0
S1A3	CDM	Lock Cycle Test 2	1.70	0.89%	137	69.3
S1A3	Lakefield	Lock Cycle Test	1.49	0.78%	132	69.4

**3E = Pt+Pd+Au. No data is available for Rh or Ni.*

7 GEOLOGICAL SETTING AND MINERALIZATION

The following is summarized from published academic works describing the regional geological framework of the Amazon Craton.

7.1 Regional Geology

The Brazilian Shield extends over much of South America east of the Andes Mountains. The major tectonic units of the Shield are the Amazon, São Francisco and the Rio de la Plata Cratons, surrounded by Neoproterozoic orogenic belts. There are many smaller cratonic fragments, such as the São Luís Craton. Paleoarchean rocks occur as small cratonic nuclei in north-eastern Brazil. The cratons contain voluminous 2,600-3,000 Ma granitic and greenstone belts and a large volume of Paleoproterozoic rocks. The Neoproterozoic orogenic belts are dominantly derived from re-working of older Archean crust but also include Mesoproterozoic sedimentary rocks and volcanogenic sedimentary rocks. Major orogenic activity ceased in the Cambrian. Deformation of the Shield in the Phanerozoic is limited to re-activation of older sub-vertical shear zones.

The Amazon Craton represents one of the main tectonic units of South America (5,600,000 km^2) and is the largest preserved block in the Brazilian Shield. The craton is separated from the Andean orogenic belt by extensive Cenozoic coverage (Colombian Llanos, Venezuelan Llanos, Paraguayan Chaco, etc.), which covers both Paleozoic basins and extensions of the craton. Several Phanerozoic basins in the northeast (Maranhão), south (Xingu and Alto Tapajós), southwest (Parecis), west (Solimões), north (Tacutu) and center (Amazonas) cover the craton area. In the eastern flank, the craton is limited to the Araguaia Orogenic Belt, part of the Tocantins Province, formed during the Neoproterozoic, as result of the convergence and collision of the Amazon Craton, to the west; São Francisco Craton, to the east; and Paranapanema Craton, to the southwest.

Currently, the Amazon Craton is subdivided into 7 geological provinces, based on geochemical and geochronological data (Figure 7-1):

1 – Carajás (3.0 – 2.5 Ga)

2 – Central Amazon (Archean?)

3 – Transamazonas (2.26 – 2.01 Ga)

4 – Tapajós–Parima (2.03 – 1.86 Ga)

5 – Rio Negro (1.82 – 1.52 Ga)

6 – Rondônia-Juruena (1.82 – 1.54 Ga)

7 – Sunsás & K'Mudku (1.45 – 1.10 Ga)

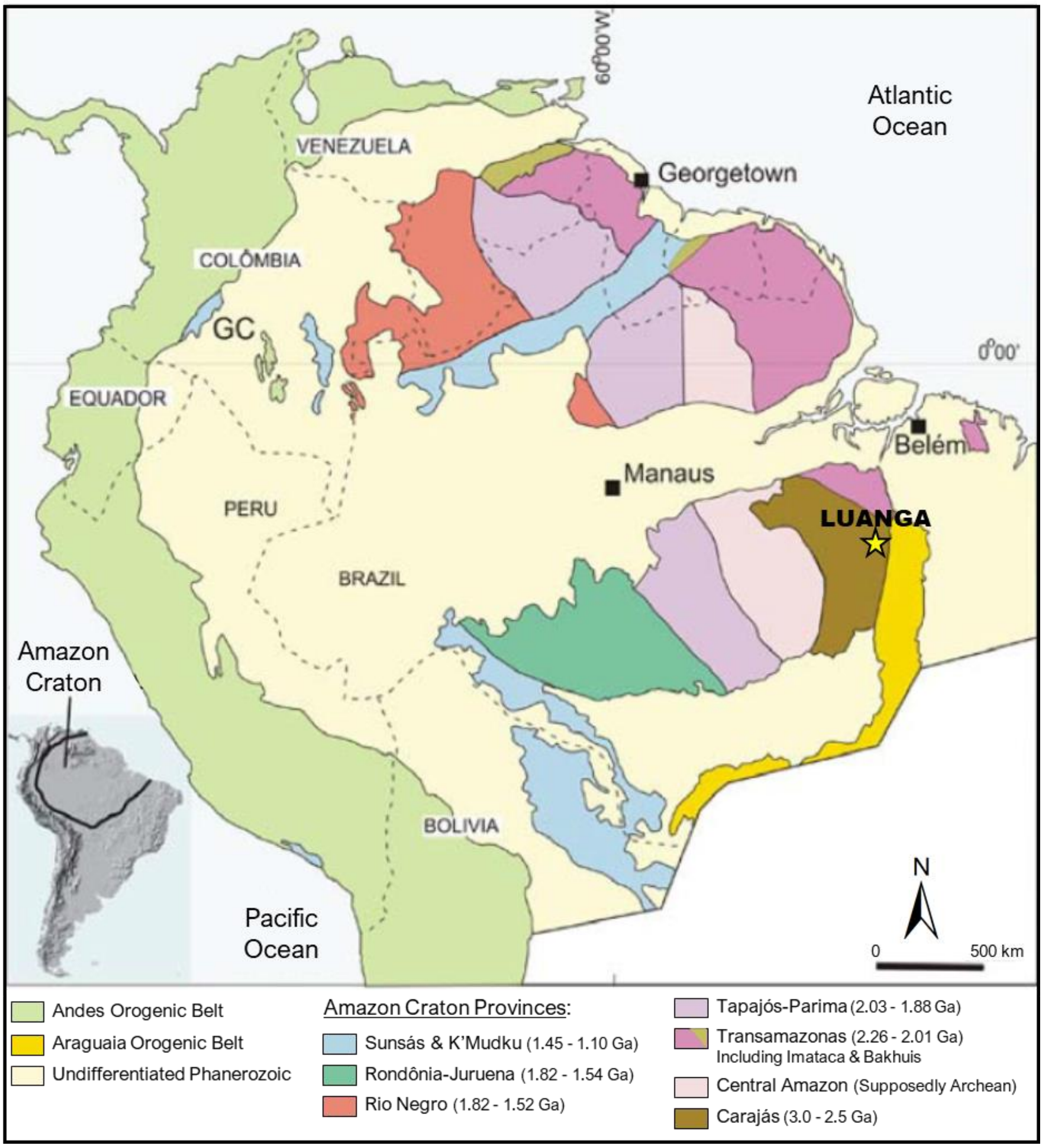


Figure 7-1: Geological provinces of the Amazon Craton (modified from: Santos et al. 2006).

The Luanga Project is located within the Carajás Mineral Province (CMP), located in the southeastern margin of the Archean Amazonian Craton (**Figure 7-1**). The CMP is composed mostly of granites and greenstone belts and hosts the largest gold deposits in the Amazon Craton, including Serra Pelada and the Salobo and Igarapé Bahia Cu-Au deposits. Gold deposits are concentrated in the Archean and Paleoproterozoic terranes, including the Archean Carajás Mineral Province.

Like similar PGE/PGM deposits (such as Chalice's Gonneville deposit (Julimar Project)), the Luanga Complex is intruded close to the edge of the Amazon craton, within a dilational splay at the end of the Cinzento Shear.

7.1.1 The Carajás Mineral Province

The Carajás Mineral Province (CMP) is one of the most important mineral provinces of the South American continent, hosting several world-class Fe, Cu-Au and Ni deposits. It is located in the south-eastern portion of the Amazonian Craton, bounded by the Neoproterozoic Araguaia

Belt in the east and south, and overlain by Paleoproterozoic sequences generically assigned to the Uatumã Supergroup in the west (Araújo and Maia, 1991; Docegeo, 1988). To the north, where Paleoproterozoic gneiss-migmatite-granulite terrains predominate (Vasquez *et al*., 2008), geological limits are not precisely defined. The Carajás Mineral Province is subdivided into two Archean tectonic domains: the older Mesoarchean Rio Maria Domain to the south and the younger Neoarchean Carajás Domain to the north (Araújo and Maia, 1991; Araújo *et al*., 1988; Dall'Agnol *et al*., 2006; Docegeo, 1988; Feio *et al*., 2013). A regional E–W shear zone, known as the Transition Subdomain (Feio *et al*., 2013), separates the Rio Maria and Carajás domains (**Figure 7-2**).

The Rio Maria Domain is a typical granite–greenstone terrain (Vasquez *et al*., 2008). The Andorinhas Supergroup comprises several individual Mesoarchean greenstone belts (2904 ± 29 Ma) and metasedimentary rocks (Huhn *et al*., 1986; Souza and Dall'Agnol, 1996; Souza *et al*., 2001). The recent characterization of spinifex-textured komatiites in a greenstone belt sequence within the Transition Subdomain (Siepierski and Ferreira Filho, 2016) suggests that granite–greenstone terrains extend further north than indicated in previous regional maps.

The basement of the Carajás Domain consists mainly of gneiss-migmatite-granulite terrains of the Xingu Complex (Machado *et al*., 1991; Pidgeon *et al*., 2000). Different models have been proposed to explain the evolution of the Archean volcano-sedimentary sequences, which includes the large sequence of metabasalts of the Grão Pará Group (ca. 2.75 Ga). While several studies have proposed an intraplate rift model (Gibbs *et al*., 1986; Villas and Santos, 2001), others have suggested subduction-related environments (Dardenne *et al*., 1988; Teixeira and Eggler, 1994). These volcano-sedimentary sequences are covered by low-grade metamorphic sequences of clastic sedimentary rocks of the Águas Claras Formation.

Several mafic–ultramafic complexes intrude into both the Xingu Complex and the Archean volcano-sedimentary sequences (Docegeo, 1988; Ferreira Filho *et al*., 2007). These intrusions host large Ni laterite deposits (e.g., Onça-Puma, Vermelho and Jacaré) as well as PGM deposits (e.g., Luanga, Lago Grande) and were ascribed as part of the Cateté Suite in regional studies. Significant differences in the magmatic structure and evolution of the layered intrusions suggest, however, that they belong to different Neoarchean magmatic suites (Ferreira Filho *et al*., 2007; Rosa, 2014; Teixeira *et al*., 2015).

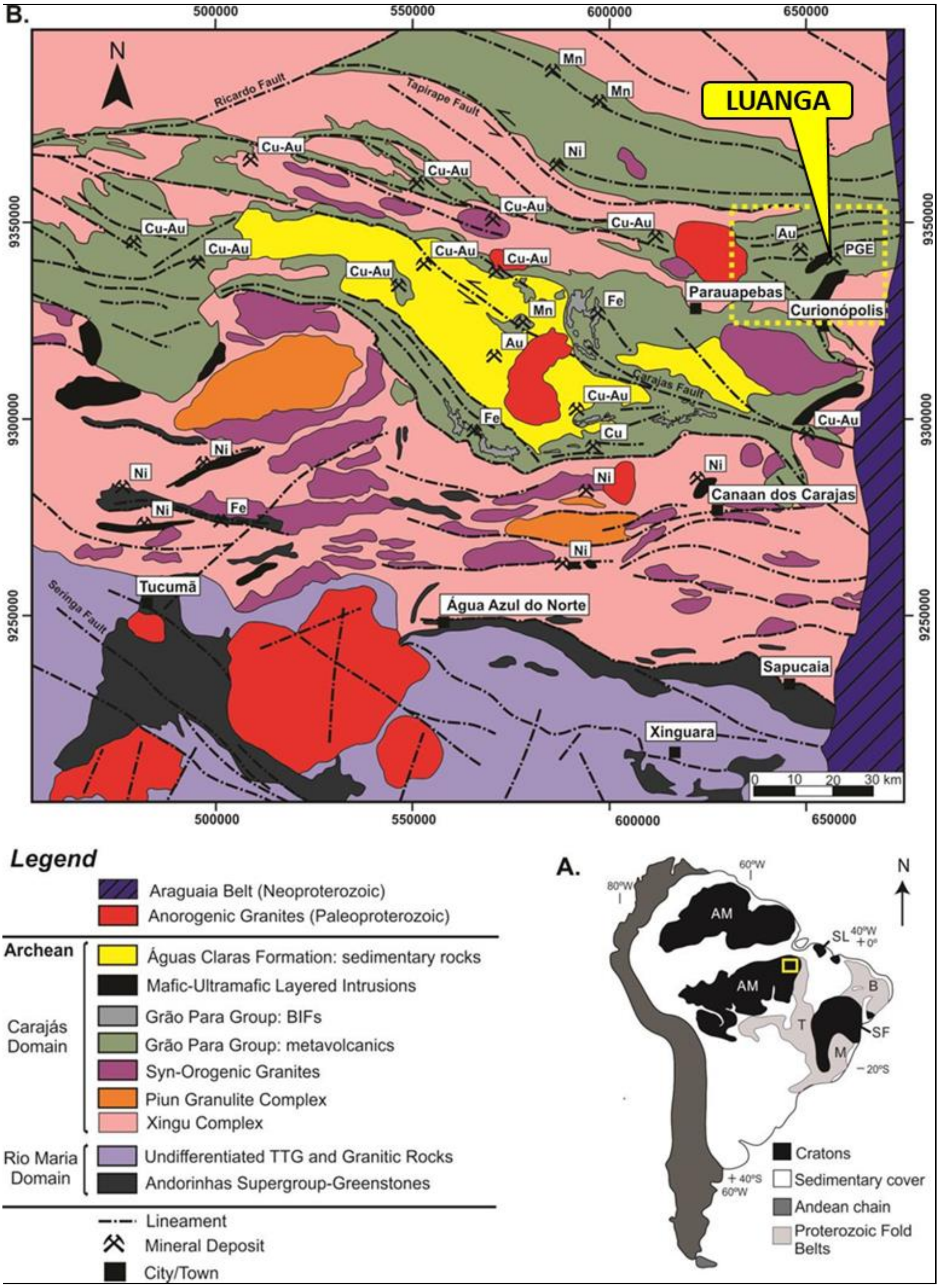


Figure 7-2: Geology and mineral deposits of the Carajás Mineral Province.

(Modified from Vasquez *et al.*, 2008)

7.1.2 The Serra Leste Magmatic Suite

The Serra Leste Magmatic Suite (Ferreira Filho *et al.*, 2007) consists of a cluster of small- to medium-size layered mafic-ultramafic intrusions located in the north-eastern portion of the CMP (**Figure 7-3**). Mafic-ultramafic complexes are intruded into gneissic rocks of the Xingu Complex and/or volcanic-sedimentary rocks of the Grão Pará Group. This suite was originally grouped, based on the abundant PGE anomalies in the layered intrusions, disregarding any geological, stratigraphic or petrological consideration (Ferreira Filho *et al*., 2007). Magmatic ages of the layered intrusions overlap with the age of the bimodal volcanism of the Grão Pará Group (2,759 ± 2 Ma, U-Pb in zircon and 2,760 ± 11 Ma, U-Pb in zircon), supporting the interpretation that they are part of a major Neoarchean magmatic event (Machado *et al*., 1991; Ferreira Filho *et al*., 2007).

The architecture of the intrusion and the crystallization sequence described in the Luanga and Lago Grande complexes indicate an overturned layered sequence (Ferreira Filho et al., 2007; Teixeira *et al*., 2015). Even though the tectonic processes leading to the overturned sequence of layered rocks in the Lago Grande and Luanga complexes have so far not been studied in detail, regional structural studies in the Serra Leste region indicate significant tectonic transport that may lead to major overturned blocks (Holdsworth and Pinheiro, 2000; Tavares, 2015).

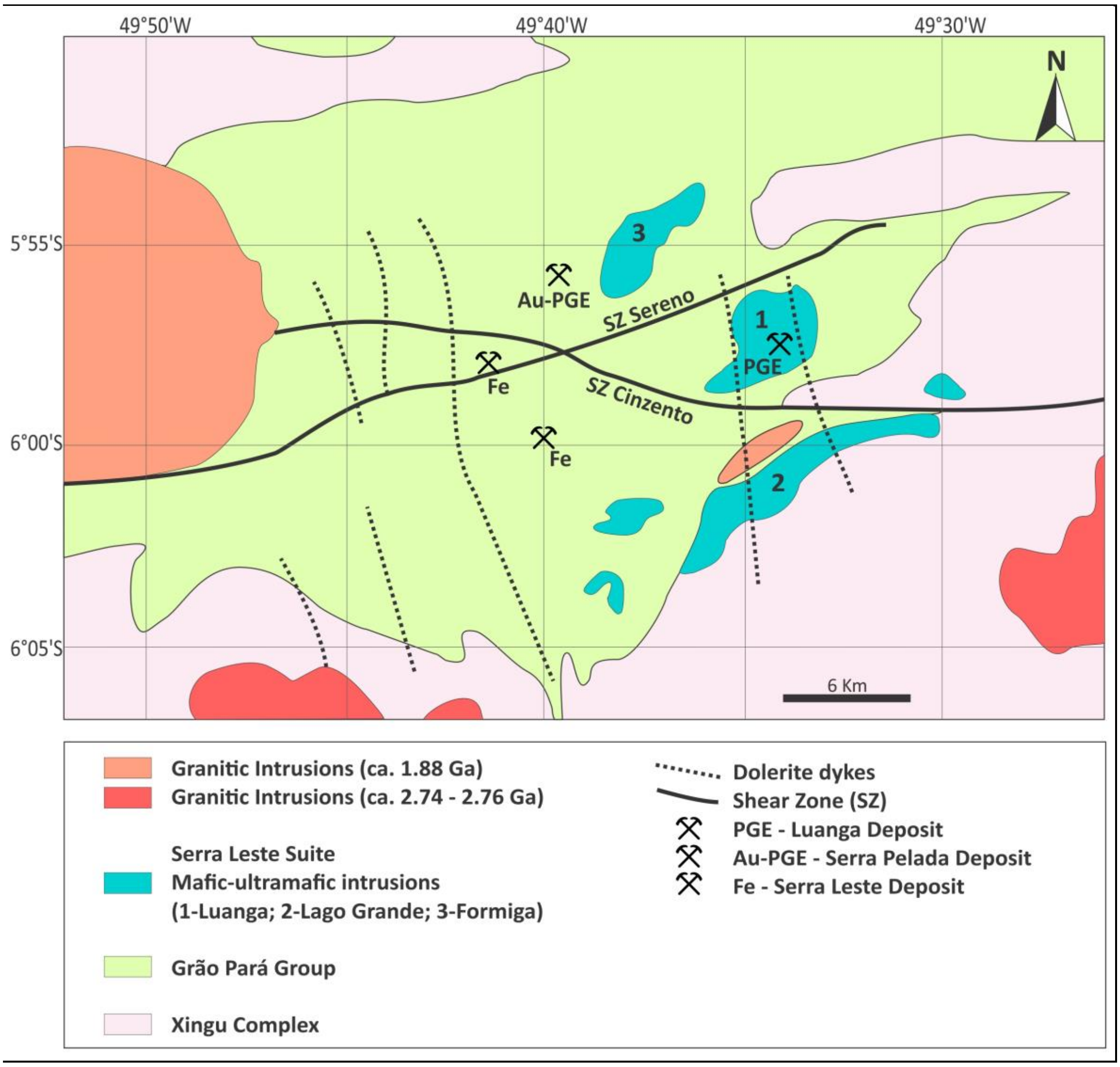


Figure 7-3: Geology of the Serra Leste region.
(Teixeira & Ferreira Filho, 2016)

7.2 Regional Geophysics

The Luanga Project area is covered by airborne geophysical surveys carried out on behalf of the Brazilian Government and currently available in the public domain. These surveys include magnetic, radiometric and electromagnetic data obtained by Geoterrex-Dighem in 1999, using flight lines oriented along an E-W direct with lines spaced 250m apart. Control flight lines were N-S oriented and spaced 5km apart. Flying height was 120m above the ground.

Magnetic field anomalies highlight the structural framework and main geological features in the area. High signal values are associated with meta-ultramafic rocks of the mafic-ultramafic complexes and magnetite-rich shear zones related to the Serra Pelada Divergent Splay (SPDS). The meta-ultramafic rocks include dunite, meta-peridotite, serpentinite, sulphide-rich zones with pyrrhotite, and shear zones with magnetite. Formation of magnetite in meta-peridotite occurs simultaneously with talc and serpentine as a product of olivine alteration.

The axes of the anomalies appear as anastomosed features that are ductile shear zones. Magnetite-rich, sub-parallel splays related to the Cinzento Transcurrent Shear Zone ("CTSZ") crosscut the Luanga mafic-ultramafic complex (**Figure 7-4**). Magnetic highs are associated with magnetite-enriched meta-ultramafic rocks, such as dunite, peridotite, serpentinite, and talc-schist, as well as shear zones that truncate these complexes and remobilized the magnetite from the meta- ultramafic units. PGM mineralization in the mafic–ultramafic Luanga Complex is associated with pyrrhotite-rich meta-pyroxenite and chromitite layers close to the contact between meta-pyroxenite and peridotite/serpentinite.

Discrete circular high magnetic anomalies can be seen in the central part of the area. These anomalies are associated with shallow depth magnetic banded iron formation sources such as the Serra Leste iron deposit.

Discontinuities in the high values of the N-S or NNW anomaly patterns likely represent magnetite-enriched gabbroic dikes, which are widespread in the Itacaiúnas Supergroup.

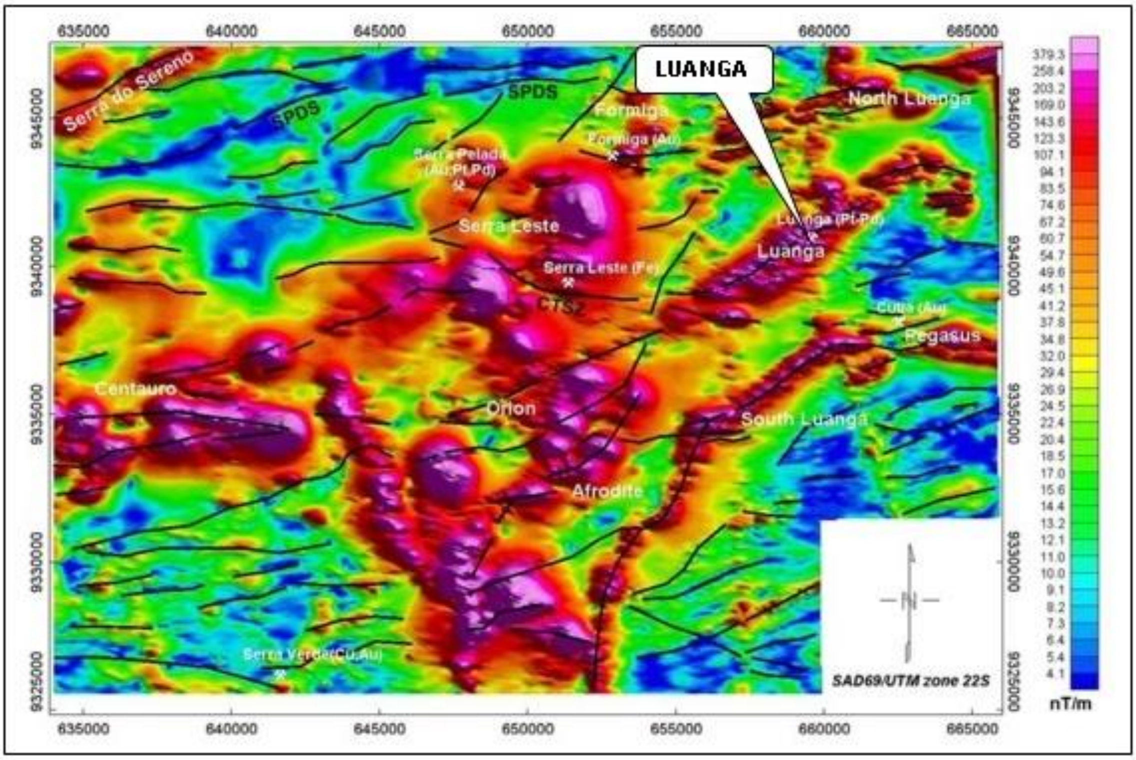


Figure 7-4: Regional Aeromagnetic image.
(CPRM data, 1999)

The transient electromagnetic ("TEM") data shows conductive zones in: (a) the NE portion of the map, where there are NE-trending aligned features (part of the Serra Sereno), which may represent carbonate and manganese-rich phyllite of the Rio Fresco Group; (b) the surroundings of the Formiga deposit, highlighting the thick alteration mantle, the meta-ultramafic rocks of the Formiga complex as well as banded magnetite-rich formations; (c) the mafic-ultramafic Luanga complex, where sulphide-related PGM mineralization occurs; and (d) the Serra Pelada Au-Pd-Pt deposit, where highly conductive zones occur due to the presence of carbonaceous meta-siltstone (**Figure 7-5**).

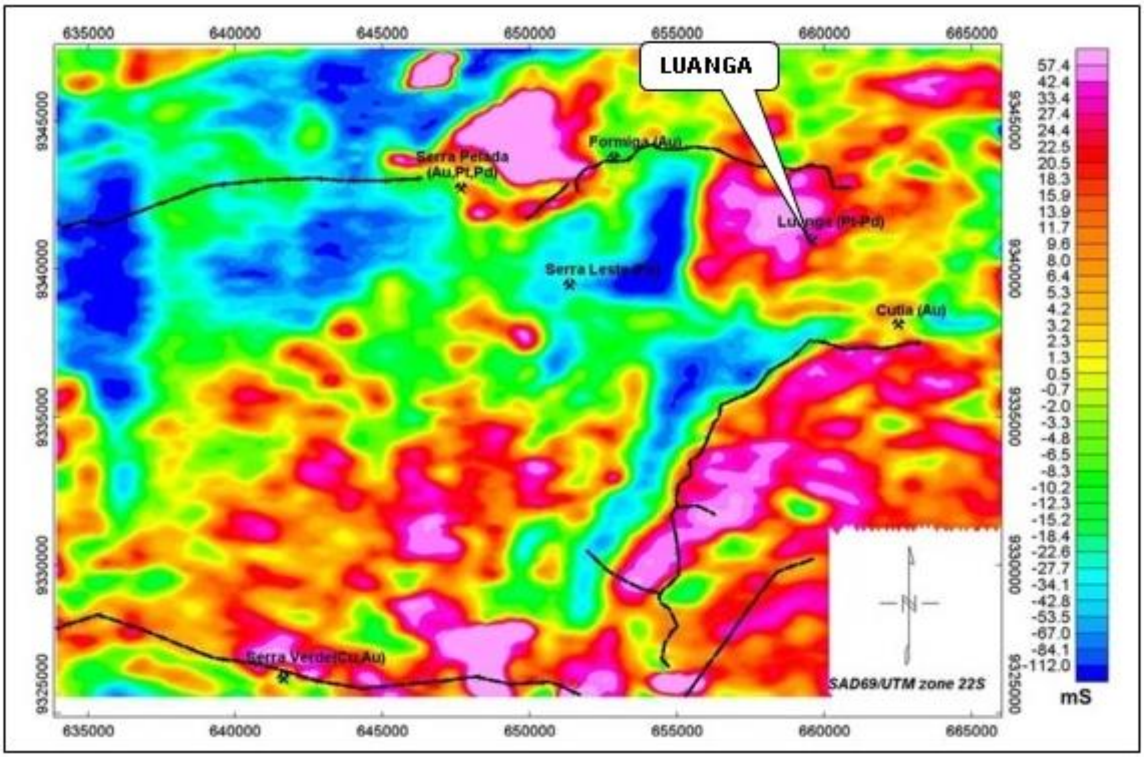


Figure 7-5: Regional Airborne TEM Image.
(CPRM data, 1999)

High values of total radiation count can be related to the presence of Archean granitic rocks of the Estrela Granite Complex, the Xingu Complex and Paleoproterozoic Cigano-type granites. Intermediate to high total radiation count values in the central area reflects the sericite-rich metasiltstones of the Rio Fresco Group.

Low values of total gamma radiation count are associated with outcrops of the mafic–ultramafic complexes (a = Luanga, b = Luanga South) and appear as dark colours (**Figure 7-6**). It is interesting to note that immediately east of the Serra Pelada Au-Pt-Pd deposit there is a small area of low values that is compatible with the radiometric signature of meta-mafic to ultramafic units. The possible presence of buried meta-mafic and meta-ultramafic rocks near this mineralization could provide a source for the Pt and Pd associated with Au in the Serra Pelada deposit.

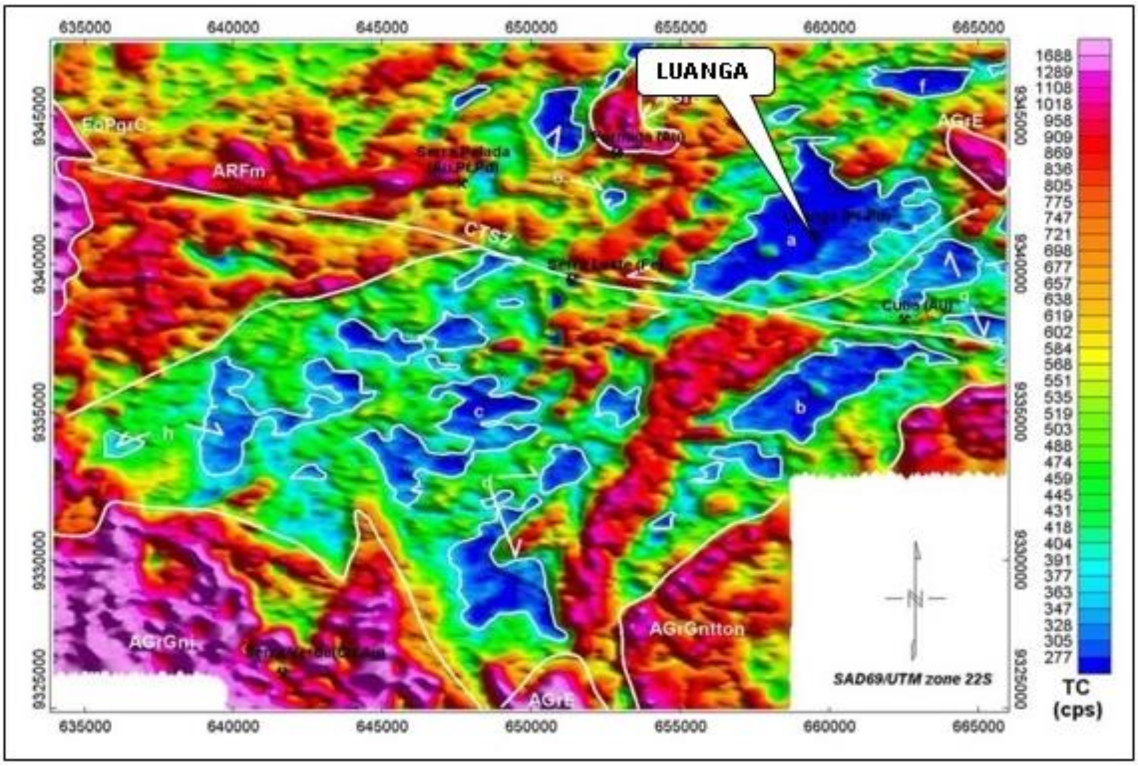


Figure 7-6: Regional air-radiometric image (Total Count Channel)
(CPRM data, 1999)

7.3 Local Geology

The principal geological unit on the mineral property is the Luanga Layered Mafic-Ultramafic Complex (The "Luanga Complex"). The Luanga Complex consists of a 6km long and up to 3.5km wide (~18km²), sequence of mafic-ultramafic layered rocks. There is an abundance of unweathered outcrops, relative to adjacent areas of the Carajás Mineral province, that consist mainly of massive blocks and boulders. The most prominent geomorphologic feature consists of an elongated arc-shaped smooth hill underlain mainly by ultramafic rocks, up to 60m higher than flat areas where noritic rocks prevail. The layering forms an arc-shaped structure that matches the morphology. Pre-existing host rocks of the Luanga Complex consist of highly foliated gneiss and migmatite of the Xingu Complex in the south/southeast and mafic volcanics and iron formations of the Grão Pará Group in the north/west (**Figure 7-7**).

The central portion of the Luanga Complex has the thickest sequence of layered rocks. To the north and northeast, the layered sequence is truncated by granitic intrusions and to the south, it becomes progressively thinner. The Luanga Complex and host rocks are crosscut by NNW-SSE dolerite dykes. These vertical dykes are up to several metres wide and consist of fine- to medium-grained intergranular to ophitic textured rocks with thin aphanitic chilled margins. Diabase dykes consist mainly of clinopyroxene, olivine and plagioclase, with accessory Ti-magnetite. They belong to a Proterozoic swarm of magnetic mafic dykes that occurs in the Serra Leste region (Teixeira, 2013; Teixeira et al., 2015).

Geological sections (**Figure 7-7**) defined by drilling indicate that igneous layers have steep dips to the SE. These sections indicate that the Ultramafic Zone overlies the Transition Zone, which overlies the Mafic Zone, suggesting that the layered sequence is tectonically overturned.

An overturned layered sequence was previously described for the Luanga Complex (Ferreira Filho *et al*., 2007) and for the Lago Grande Complex (Teixeira, *et al*., 2015). These studies suggest the existence of regional scale structures leading to large, overturned blocks in the Serra Leste region.

The subdivision of the rocks of the Luanga Complex into three zones, 'Ultramafic', 'Transition' and 'Mafic', is based on the different type and/or proportion of cumulus minerals. The estimated thickness of the layered sequence is some 3,500m thick, as indicated in both the stratigraphic column (**Figure 7-7**) and schematic block diagram (**Figure 7-8**) and supported by the extensive drilling in the central portion of the Complex, which is likely to represent the axial portion of the original magma chamber.

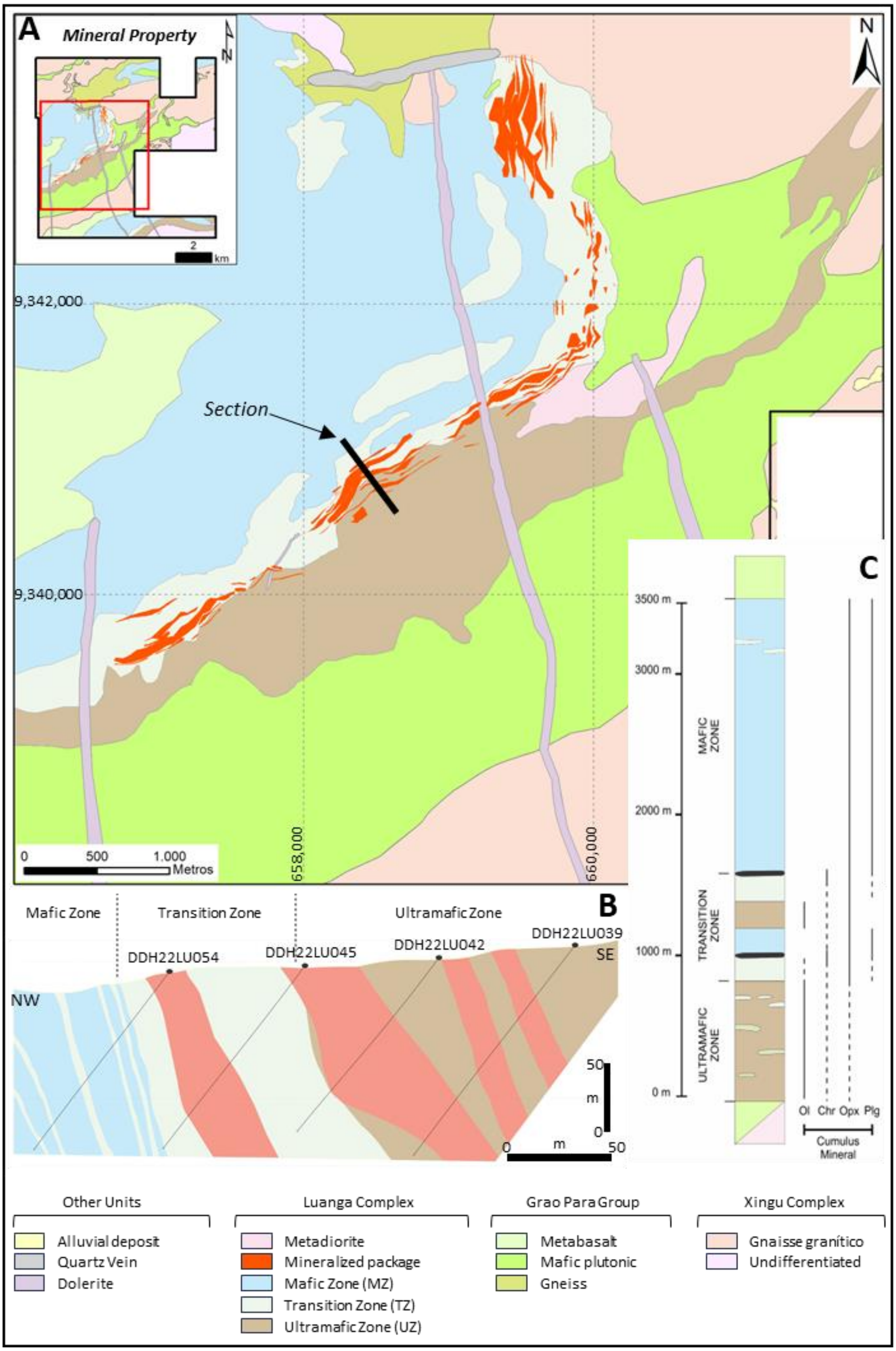


Figure 7-7: Luanga A) Geology. B) Section of the Central Sector, C) Stratigraphic column.

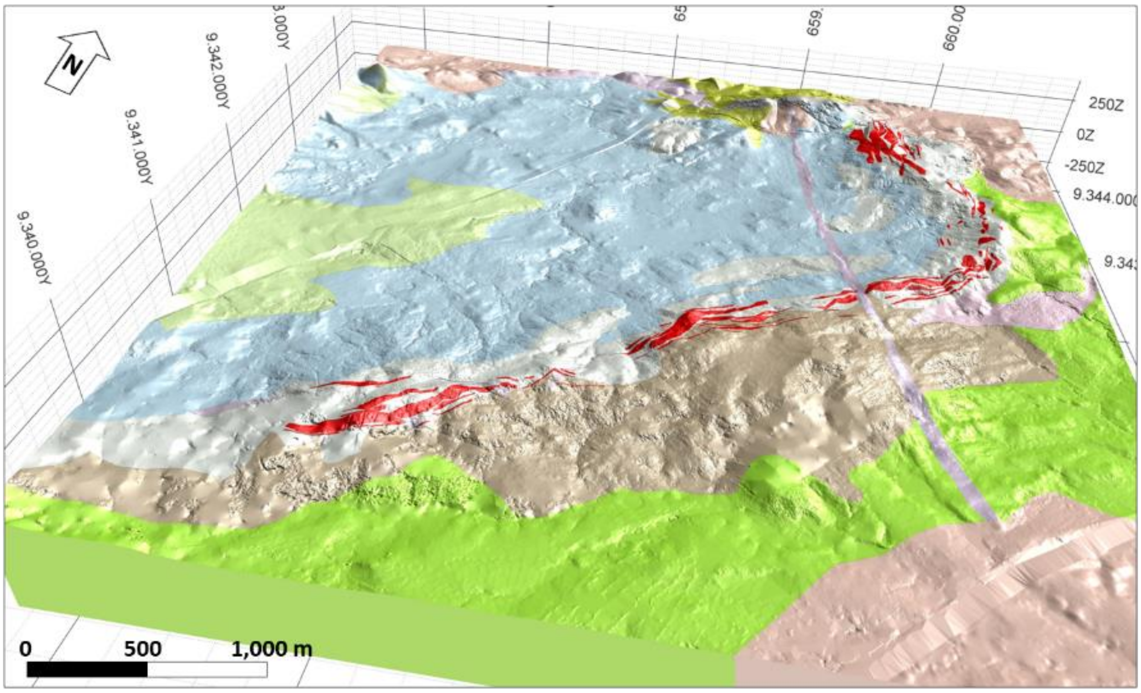


Figure 7-8: 3D geological model (Colour legend as shown in Figure 7-7).

7.3.1 Ultramafic Zone

The Ultramafic Zone, about 5km long and up to 1km wide, is up to 800m thick and consists of harzburgites with lesser dunites and lenses of orthopyroxenite at the upper portions (based on facing criteria, considering the overturned sequence). The lower contact of the Ultramafic Zone with the Xingu Complex and Grão Pará Group is poorly exposed and was mapped mainly by assays of soil samples and ground+air magnetic data. The contact with the stratigraphically overlying Transition Zone is gradational and characterized by a 5-10m thick sequence of variably altered interlayered orthopyroxenite and harzburgite. Typically, ultramafic rocks in the basal ultramafic zone are extensively sheared and altered, consisting of variable proportions of serpentine, talc, amphiboles and magnetite. Domains where primary magmatic textures and minerals are preserved include clinopyroxene-bearing peridotites and pyroxenites. Ultramafic rocks extending to the NE of the Luanga Complex are delineated by Cr-Ni anomalies in soil geochemical grids and very rare outcrops or blocks of serpentinite. This irregular zone of ultramafic rocks may represent the feeder conduits of the Luanga Complex.

7.3.2 Transition Zone

The Transition Zone is about 5km long and up to 1km wide, comprises a pile of interlayered ultramafic and mafic cumulate rocks, which is up to 500m thick. Interlayering of different rock types in different scales (from a few centimetres up to dozens of metres), is a distinctive feature of the Transition Zone. Cumulate rocks have variable textures, from adcumulate to orthocumulate, and variable assemblages of cumulus and intercumulus minerals. The most common rock types are orthopyroxenite locally with chromite-rich zones/chromitite layers and minor norite/harzburgite layers.

Orthopyroxenite is a medium- to coarse-grained orthopyroxene cumulate. The texture varies from adcumulate (**Figure 7-9**) to meso- and orthocumulate with plagioclase as the predominant intercumulus mineral. Primary textures and minerals are variably altered to fine-grained aggregates consisting mainly of talc, serpentine, chlorite and minor magnetite.

Chromitite layers with variable thickness and textures occur mainly in the upper portions of the Transition Zone and the lowermost portion of the Mafic Zone. The thickest chromitite-rich layer is up to 60cm wide and is located at the contact between the upper harzburgite and orthopyroxenite layers of the Transition Zone. Several thin chromitites layers (<10cm thick), up to 100m in extension to discontinuous in the most of cases, occur in the Transition Zone and in the lowermost portion of the Mafic Zone. Thin chromitites hosted by noritic rocks are commonly overlain by a thin layer of harzburgite. These chromitites are fine to medium-grained chromitite cumulates with intercumulus plagioclase and orthopyroxene. The upward transition from massive chromitite, to chain textured chromitite and disseminated chromitite is common and provides a facing criterion for the igneous stratigraphy of the Luanga Complex (**Figure 7-9**).

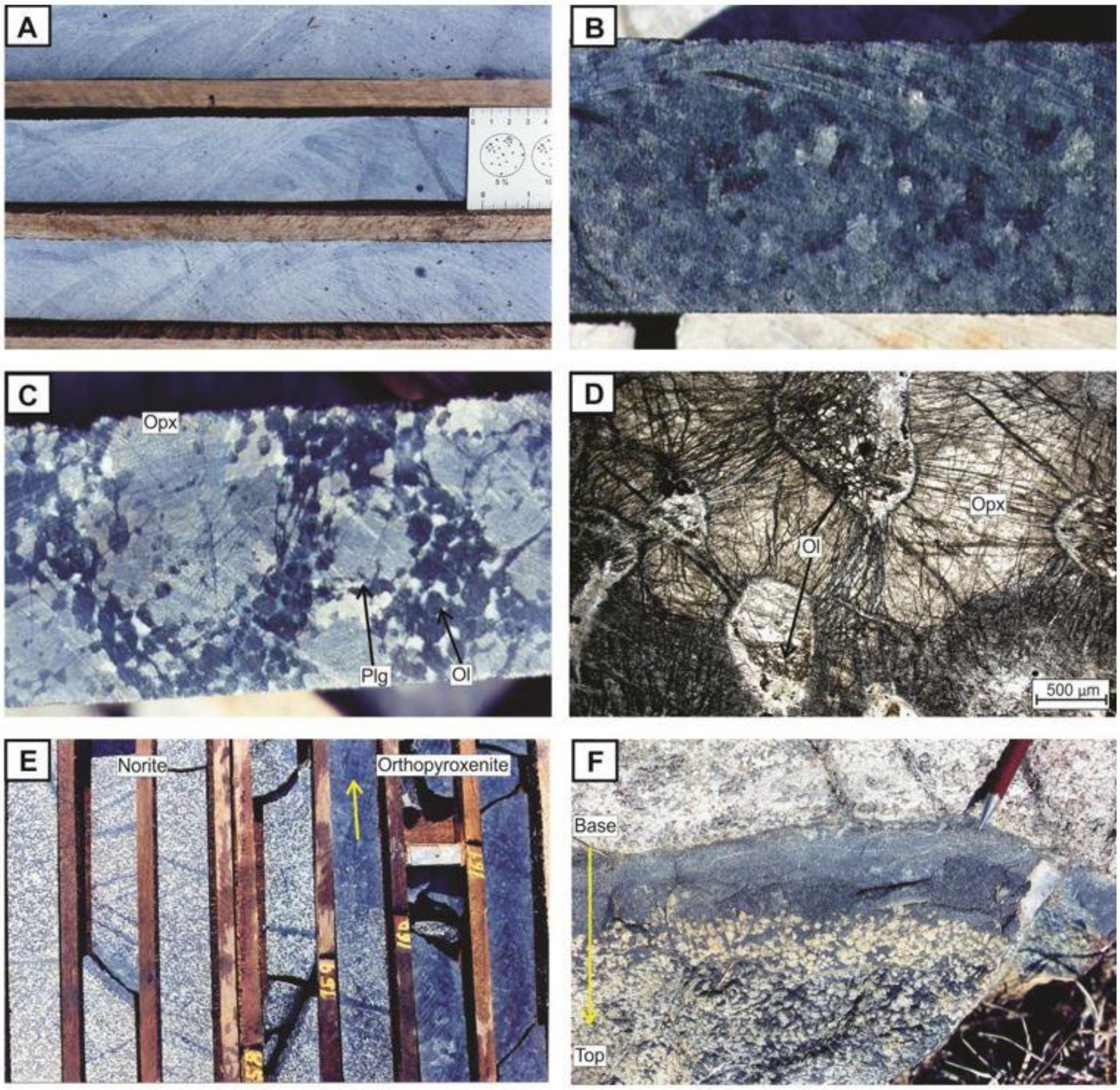


Figure 7-9: Luanga rock types

A) Serpentinite B) Adcumalte orthopyroxenite C) Harzburgite D) Harzburgite E) Orthopyronenite/norite contact F) Chromitite layer.

7.3.3 Mafic Zone

The Mafic Zone, about 5km long and up to 1.5km wide, comprises an up to 2,000m thick sequence of monotonous noritic rocks. Norite consists of medium-grained orthopyroxene + plagioclase cumulates (**Figure 7-9**). Primary textures and minerals are variably altered to fine-grained aggregates consisting mainly of amphiboles (hornblende-actinolite), chlorite and epidote-group minerals.

Minor interlayered ultramafic rocks in the Mafic Zone consist mainly of orthopyroxenite.

7.3.4 Tectonic Setting

The current model of the tectonic evolution of the CMP implies that it is a product of oblique rift evolution (2.76-2.06 Ga) controlled by the Canaã and Cinzento strike-slip system (**Figure 7-10**). The Carajás rift is hosted in the tonalite-trondhjemite-granodiorite (TTG)-greenstone Rio Maria terrains (3.0-2.85 Ga). It is postulated that it overlies a Mantle plume and is filled by the Carajás plutonic-volcanic sedimentary sequences. The rifting stage (Igarapé Bahia Group + Grão Pará Group) began with intense tholeiitic fissure volcanism with basalt and rhyolite flows, coeval intrusions of alkali granites and mafic-ultramafic bodies, BIFs, shales and restricted tuff beds. The strain developed during passive rifting or plume-initiated active rifting generates deep rooted structural zones which control the migration of magma from the mantle to the surface. The high magnesium and platinum-group elements (PGE) contents of mafic ultramafic complexes indicate extensive partial fusion, conditions that are indicative of a plume origin (Teixeira *et al.* 2021) (**Figure 7-11**).

The oblique rifting results in dextral shearing along the Canaã dos Carajás and Cinzento shear zones. Stages 1 is responsible for mafic-ultramafic intrusions, alkalic granite emplacement, and early IOCG mineralization at the Igarapé Bahia, Bacaba, Sequeirinho, and Sossego deposits. In Stage 2 the most important IOCG deposits like Salobo, Alemão and Igarapé Bahia were formed.

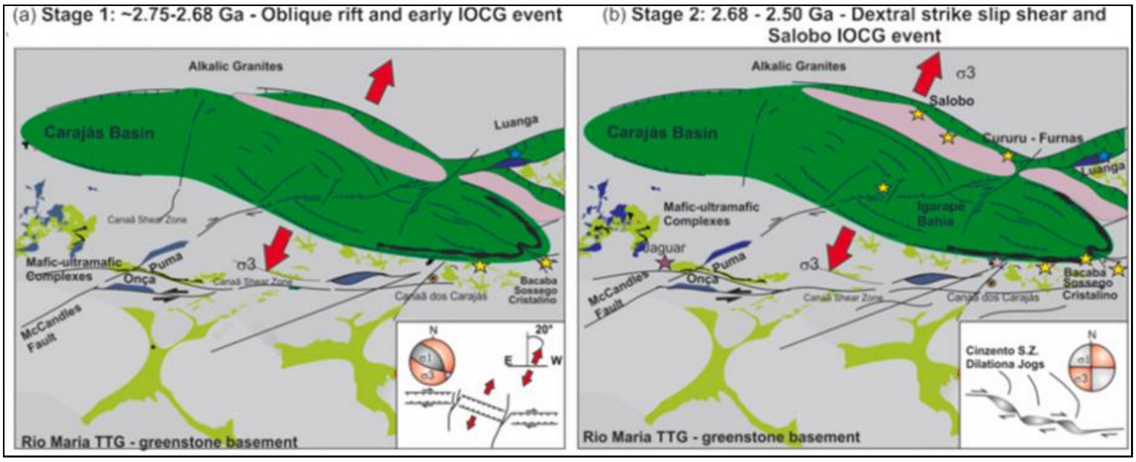


Figure 7-10: Simplified early tectonic evolution of the Carajás Basin and adjoining regions.
(Teixeira *et al.*, 2021)

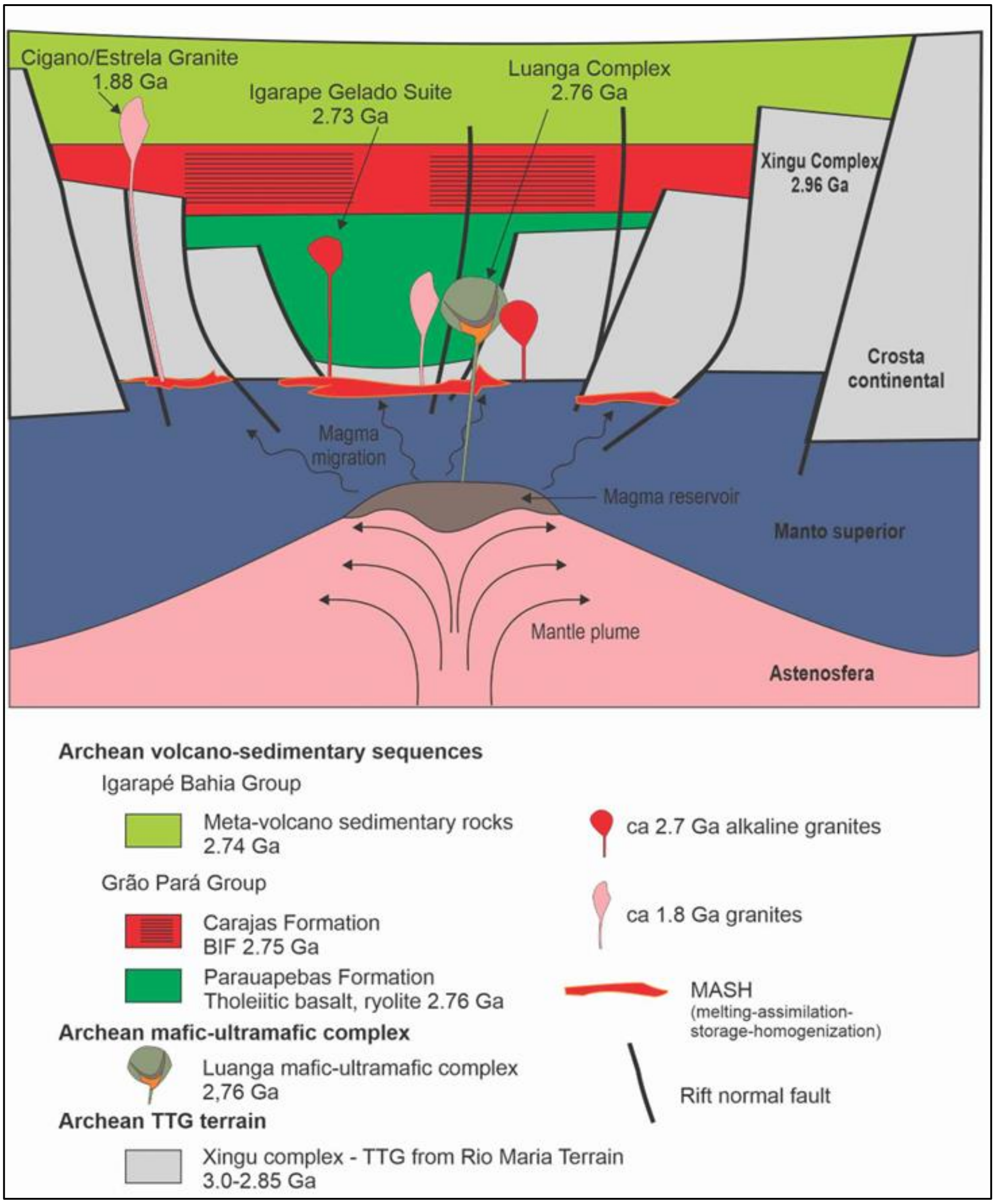


Figure 7-11: Carajás rift system.
(Modified from Teixeira *et al.*, 2021)

The Luanga complex is positioned between the Sereno and Cutia sinistral strike-slip faults. A transtensional zone of this transcurrent system could generate space and pumping (high pressure zones) or suction forces (low pressure zones) that would favor the entry of mafic-ultramafic magmas of the Luanga Complex (**Figure 7-12**).

Strike-slip faults comprise a sub-set of structures which typically develop in response to anisotropy of the motion of Plate margins. The structures associated with strike-slip motion include both restraining and releasing bends. Within areas of transpression there is no opportunity for structural space to be generated which can be exploited by ascending magma (Lightfoot & Evans-Lamswood 2015).

In contrast, releasing structures at sites of transtension may take the form of rifts and pull-apart basins where the detailed internal geometry of motion of blocks within the rift or pull-apart has a vertical and lateral sense of displacement. Transtension generates local open space in the crust, and sub-vertically connected open spaces provide a pathway through which mantle-derived magmas can migrate from the mantle to the crust (Lightfoot & Evans-Lamswood 2015).

Due to the complex internal structures of ductile shear zones, many igneous bodies intruded into transtension-generated spaces have the plan shape of an asymmetrical rhomboid with the long axis subparallel to a fault zone and contacts that are often structurally modified during and/or after placement of the magma. The typical cross section of these asymmetric rhomboid intrusion is a downward-closing cone shape with curved walls and often a dyke-like keel at the base.

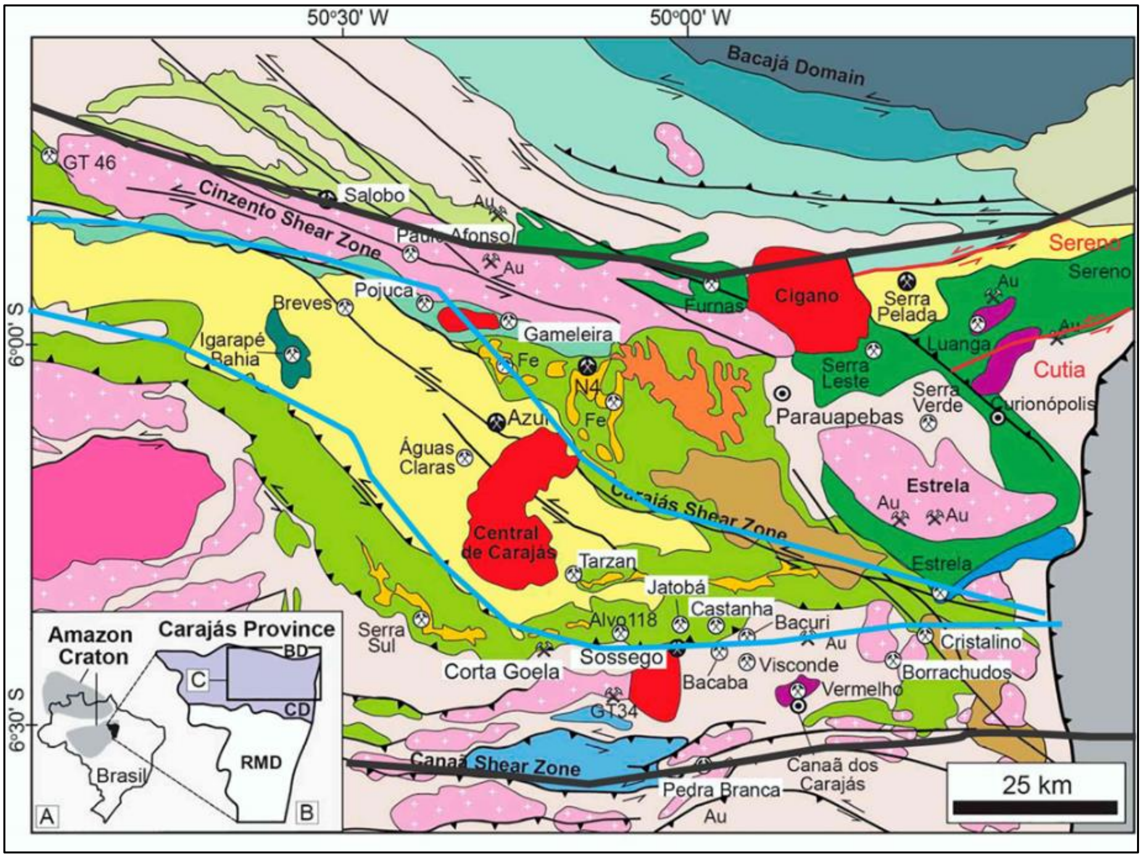


Figure 7-12: Geological map of the Carajás Domain showing the main strike-slip faults and shear zones.
(Modified from Trunfull *et al.*, 2020)

7.3.5 Metamorphism

Metamorphic assemblages commonly replace some primary igneous minerals of the Luanga Complex. This metamorphic alteration is heterogeneous and characterized by an extensive hydration that largely preserves primary textures, bulk rock compositions and the compositional domains of igneous minerals. The penetrative fabric is restricted to narrow domains of up to a few metres across, and igneous textures are identified in adjacent non-deformed domains. These assemblages include serpentine + talc + magnetite ± cummingtonite in replaced olivine-bearing ultramafic rocks; and talc + serpentine + magnetite ± cummingtonite in replaced orthopyroxenites; and hornblende + chlorite + epidote in replaced mafic rocks.

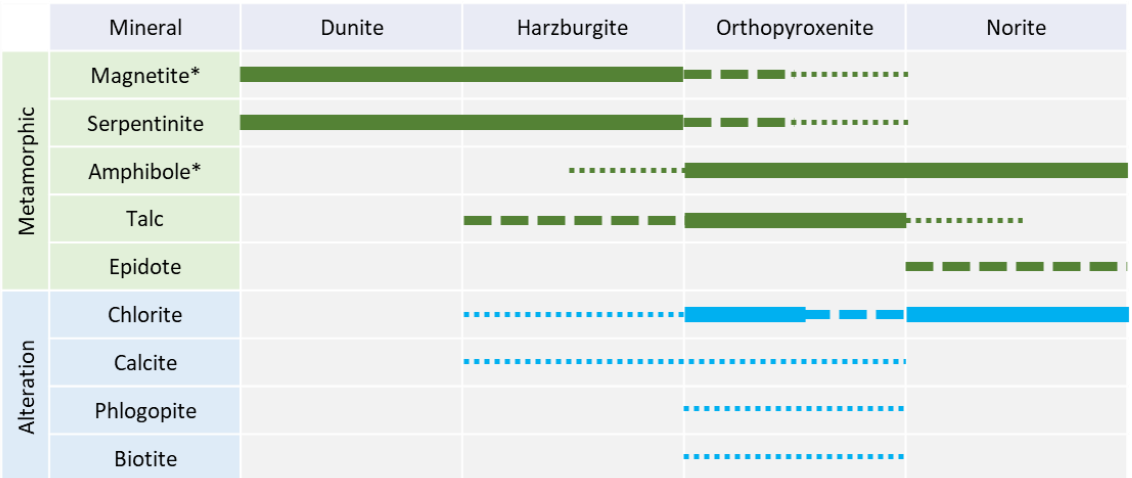
Metamorphic assemblages indicate temperatures mostly of the greenschist facies, but up to the amphibolite facies of metamorphism in the Luanga Complex (Ferreira Filho *et al.*, 2007) and Lago Grande Complexes (Teixeira *et al.*, 2015). The age and type of metamorphism affecting the layered intrusions and their host metavolcanic and metasedimentary rocks in the Serra Leste region is a debated issue. However, the effect of metamorphism on sulphides is relevant for discussions regarding PGM mineralization that are hosted by sulphide-bearing and sulphide-poor cumulate rocks, respectively in the Luanga Complex.

The metamorphic alteration is heterogeneous, as indicated by rocks with magmatic minerals and texture closely associated (i.e., a few metres, to tens of metres apart in drill core) with rocks where primary textures are preserved but magmatic minerals are extensively replaced. Apart from highly variable hydration, the compositions of variably altered samples are very similar, when recalculated on anhydrous basis, thus supporting that metamorphic alteration does not result a significant change in composition.

Later hydrothermal alteration at Luanga Complex is minor and does not significantly affect the main mineralization zones. The relatively restricted hydrothermal alteration zones are characterized by occurrence of chlorite, calcite, phlogopite and biotite, mainly in the upper stratigraphic portion of Transition Zone and in the Mafic Zone. Hydrothermal magnetite occurs locally associated with sulphides and Fe-rich silicates.

Table 7-1presents the general distribution of metamorphic and hydrothermal alteration minerals in the major lithotypes of the Luanga Complex.

Table 7-1: Distribution of metamorphic and alteration minerals in the major Luanga lithotypes.



** Also occurs as alteration mineral*

7.3.6 Mineralization

The Luanga mineralized envelope follows the arc-shaped structure of the Mafic-Ultramafic Complex along approximately 8.1 km. The deposit is subdivided into three separate mineralized sectors, named North, Central and Southwest (**Figure 7-13**).

The Transition Zone (TZ) of the Luanga Complex hosts several PGE mineralized units, including the Main Sulphide Zone (MSZ) which hosts the bulk of PGE resources of the Luanga Complex. Other mineralized units are identified within the Ultramafic Zone (UZ) and within the TZ.

In addition, several thin chromitites layers or lenses occur in the Luanga Complex either in the upper or in lower stratigraphic portions of the TZ, the latter occurring where they are hosted by ultramafic cumulates. The upper chromitite layers are developed on the immediate contact with the overlying MZ, where they are hosted by plagioclase-bearing norite cumulates.

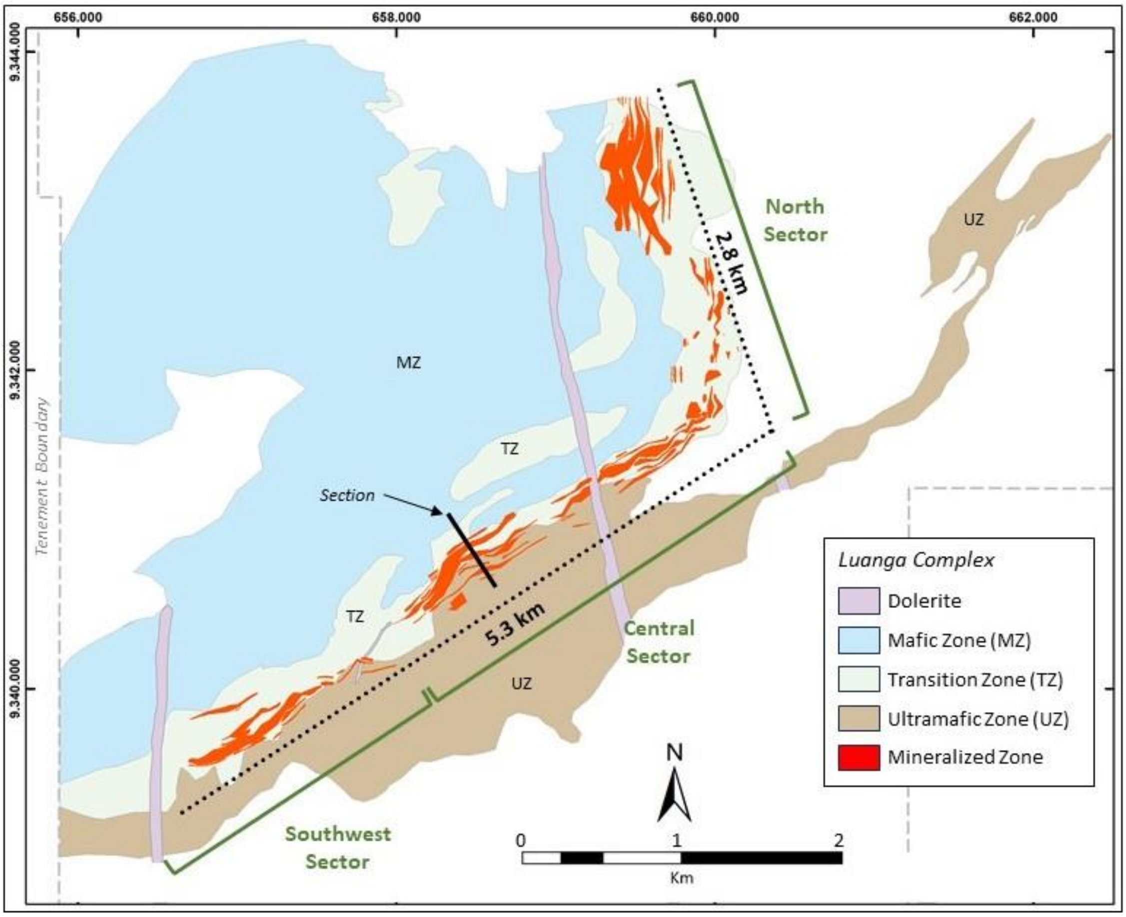


Figure 7-13: Mineralization Sectors and Mineralized Zones at the Luanga Complex

The proposed genetic model for PGE mineralization considers: (i) the magmatic evolution of the complex; (ii) the petrographic and geochemical differences of mineralization styles; (iii) the PGM assemblages. Six styles of PGE mineralization occur in the Luanga Complex are, which are closely related to the identified mineralization zones (**Table 7-2**): (i) High PGE low Rh ("Pd-Pt"), (ii) High Ni-Rh ("Ni-Rh"), (iii) Main Sulphide Zone ("MSZ") (bulk of tonnage), (iv) Chromite PGE Related ("CHR"), (v) Low Sulphur High PGE ("Low S") and (vi) Massive Sulphides ("MASU").

The mineralization stages are briefly described below and summarized in the **Figure 7-14**.

Stage 1 – Early segregation and precipitation of the Pd-Pt and Ni-Rh sulphide zones during the crystallization of olivine cumulates in the UZ.

Stage 2 – The crystallization of olivine cumulates in the UZ with minor crystallization of sulphide minerals progressively upgrades the S content of the residual magma. The TZ marks an abrupt change in the dynamics of the magmatic chamber, caused by several magma inputs characterized by cyclic units. S saturation may be triggered by the changes in the magmatic chamber and the Main Sulphide Zone (MSZ) PGE rich layer is precipitated.

Stage 3 – Periodic magma influxes with continuous segregation from the base metal sulphide liquid and precipitation of the "Low Sulphide – High PGE" zone (Low S), in similarly conditions to the MSZ.

Stage 4 – Alteration promoting S loss and PGE are combined with other semi-metals (As, Sb, Te, Sn and Bi) and formed PGM at the "Low S Zone". Precipitation of the Massive Sulphide Zone ("MASU") as a product of a late hydrothermal-magmatic event controlled by local shear zones.

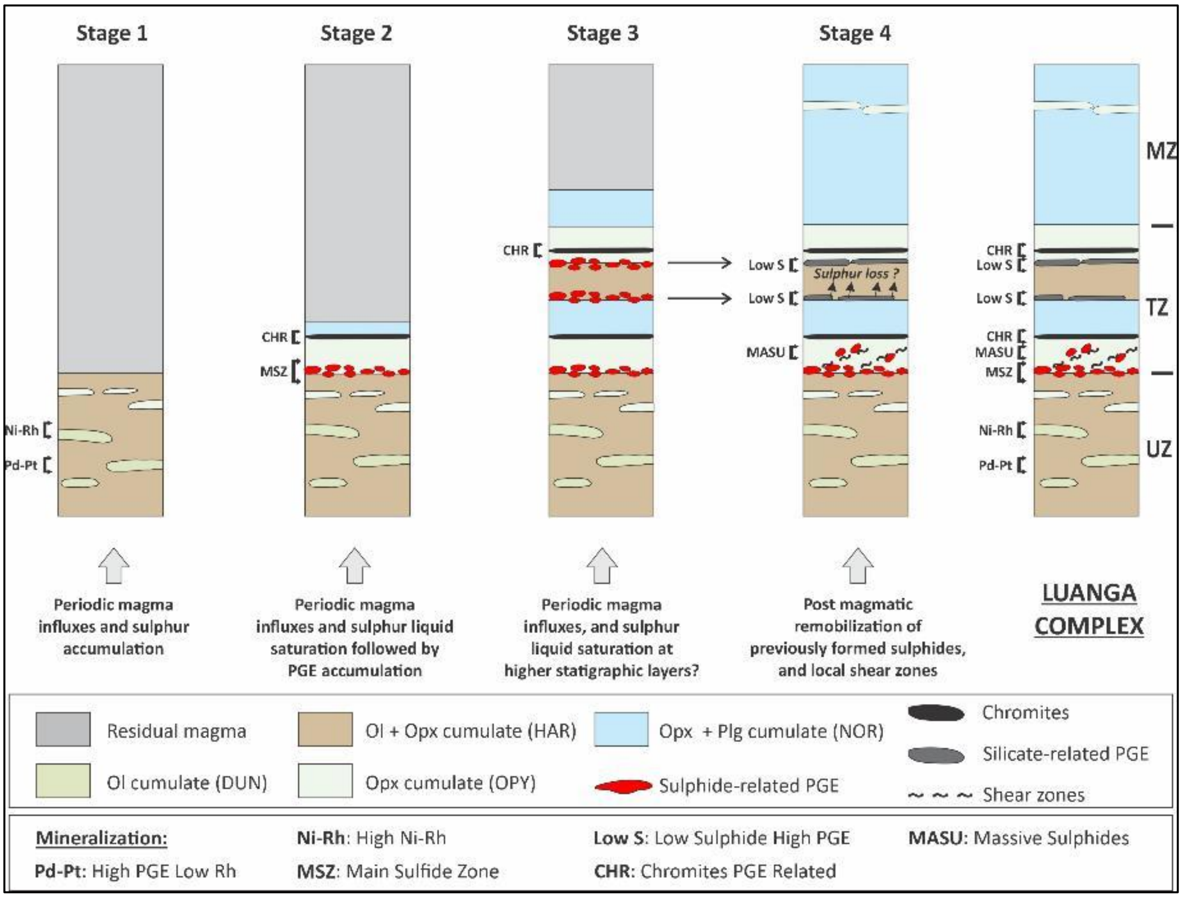


Figure 7-14: Schematic model illustrating the formation of different styles of PGE mineralization.

An example of the mineralized zones in a cross section from the Central Sector is presented in the **Figure 7-15**.

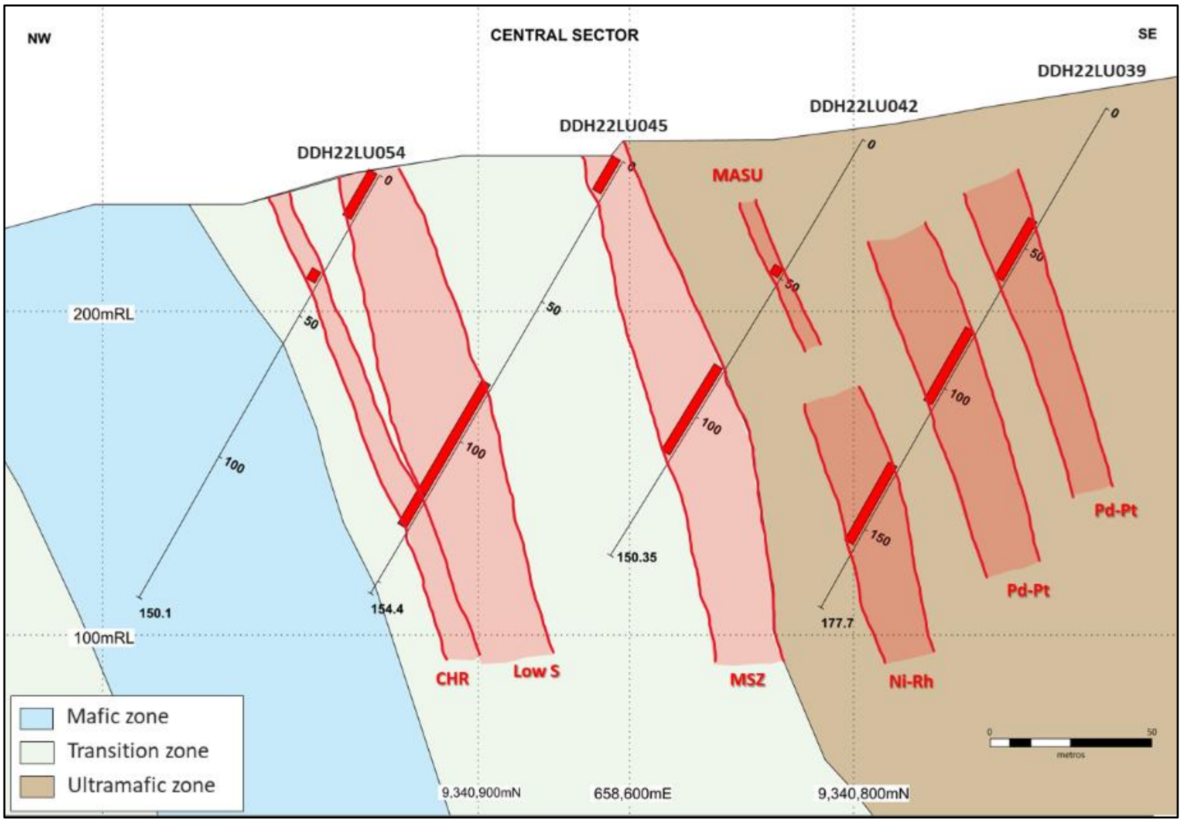


Figure 7-15: Drill section with the mineralized zones identified at Luanga.
See section location in Figure 7.13.

Table 7-2: Luanga mineralized zones and corresponding mineralization styles.

Zone	Stage	Stratigraphy	Sulphide	Sulphide (%)	Pt/Pd	Rh/Pt	Thickness (m)	3 PGM+Au (g/t)	Ni (%)	Cu (%)	Sector	Host Rock	Style / Comments
Pd-Pt	1	UZ	Po - Pn>>>CCp	2 - 3%	~0.4	-	5 - 40	> 0.8	> 0.2	-	Southwest Central	HAR (UZ)	Fine disseminated sulphides / Low Rh
Ni-Rh			Po > Pn	5 - 10%	~0.2	~0.2	1 – 40	> 0.5	> 0.4	-	Southwest Central	HAR and DUN (UZ)	Net Texture / Lower Pt-Pd contents than MSZ
MSZ	2	TZ	Po > Pn >>>CCp	1 - 4%	< 0.5	~0.05	10 – 50	> 1.0	> 0.2	-	Southwest Central North	TZ (OPY) near the contact with / UZ (HAZ)	Disseminated sulphides / Thick stratabound
CHR	2/3		-	-	~4	~0.3	1 - 22	0.2 to 1.0	-	-	Southwest Central North	OPY/NOR contact (TZ)	Thin seams or pods of chromitite) / Chain-textured to massive / Discontinuous
Low S	4		-	< 1%	~1	-	4 – 32	> 0.5	-	-	Southwest Central North	TZ (OPY/HAR)	Thick stratabound
MASU	4		Po > Pn >>>Ccp	> 70%	< 0.1	-	1 - 15	> 3.0	> 1%	> 0.2	Southwest Central North	HAR (UZ)/OPY (TZ)	Hydrothermal-magmatic sulphides; Ni > Cu; Discontinuous

7.3.6.1 High PGE low Rh (Pd-Pt)

The high PGE - low Rh mineralization (Pd-Pt) occurs associated with very fine to fine disseminated sulphides (~ 2-3 vol. %), mainly pyrrhotite and pentlandite, hosted in harzburgites and orthopyroxenites of the UZ (**Figure 7-16**), within zones of very variable thickness of between 5m and 40 m (**Figure 7-17**).

The high - PGE low Rh zones of the Luanga Complex have highly variable Pt+Pd and very low Rh content. These zones have characteristically very high Pt-Pd correlation, Pt/Pd ratio of approximately 0.4 and good Pd-Ni correlation (Figure 7-18). The sulfide assemblage consisting of 2-3 vol.% of mainly pentlandite suggests very high Pt-Pd and Ni tenors for this style of mineralization.

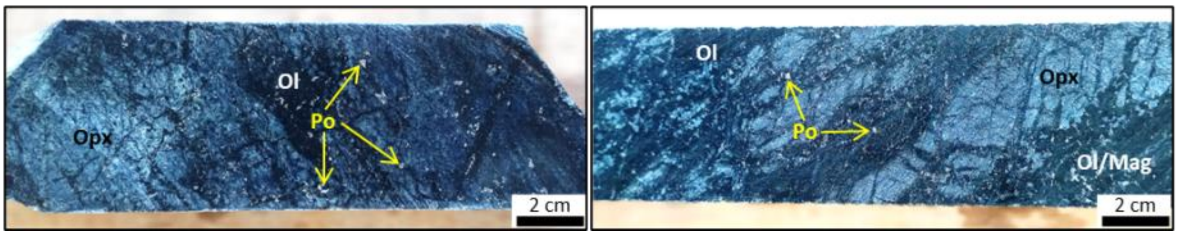


Figure 7-16: Drill core samples showing vey fine to fine pyrrhotite (Po) hosted by UZ orthopyroxenite.

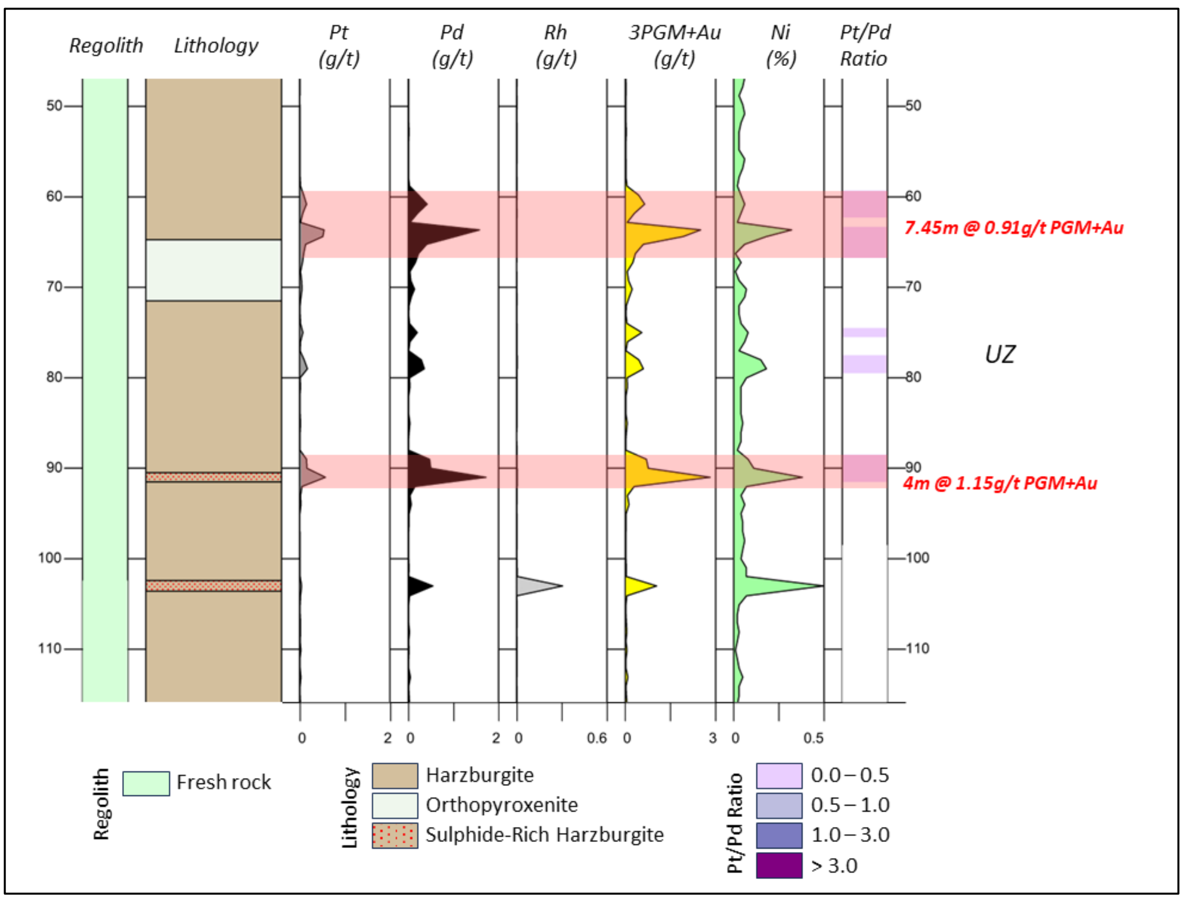


Figure 7-17: Strip log with example of Pd-Pt mineralization.

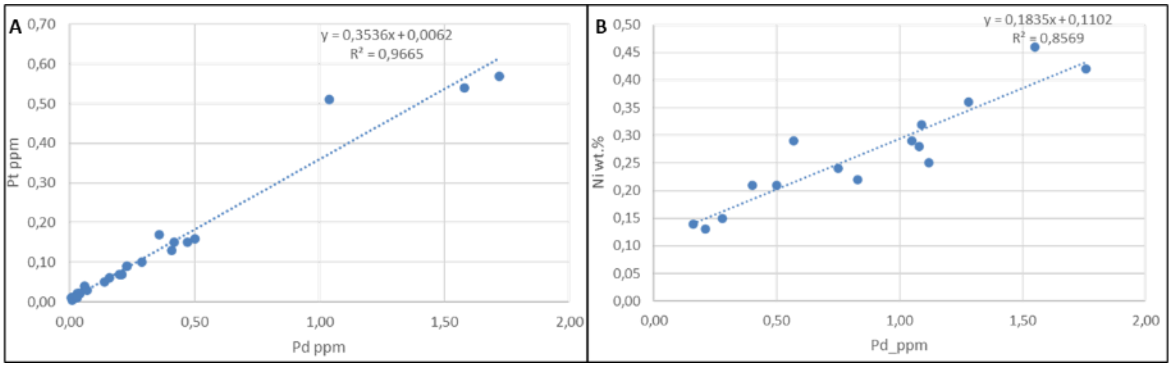


Figure 7-18: Pd-Pt zone correlation charts: (A) Pt (ppm) vs. Pd (ppm) and (B) Ni (%) vs. Pd (ppm).

7.3.6.2 High Ni-Rh (Ni-Rh)

The Ni-Rh mineralized zone has been identified within harzburgite and minor interlayered orthopyroxenite of the UZ. Distinctive sulphide-rich intercepts with net-textured sulphides enclosing olivine characterize this zone (**Figure 7-19**). Sulphides (~ 5-10 vol. %) consist of pyrrhotite (Po) and pentlandite (Pn) with minor chalcopyrite (Cpy). Partially altered sulphides, replaced by magnetite and Fe hydroxides are identified within the olivine-rich domains.

Thickness varies from 1 to 40 m with Ni grades commonly higher than 0.4% (**Figure 7-20**). Generally, the metals correlations are low. Pt and Pd tenor are lower when compared with the MSZ. Both Pt/Pd and Rh/Pt of approximately 0.2 (**Figure 7-21**).

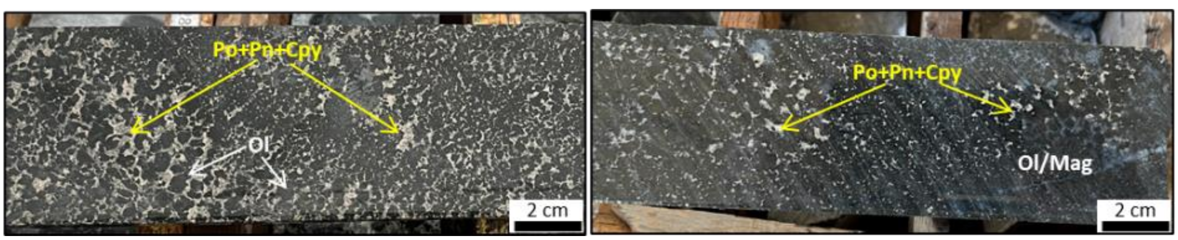


Figure 7-19: Drill core samples showing net-textured sulphides enclosing euhedral olivine pseudomorphs

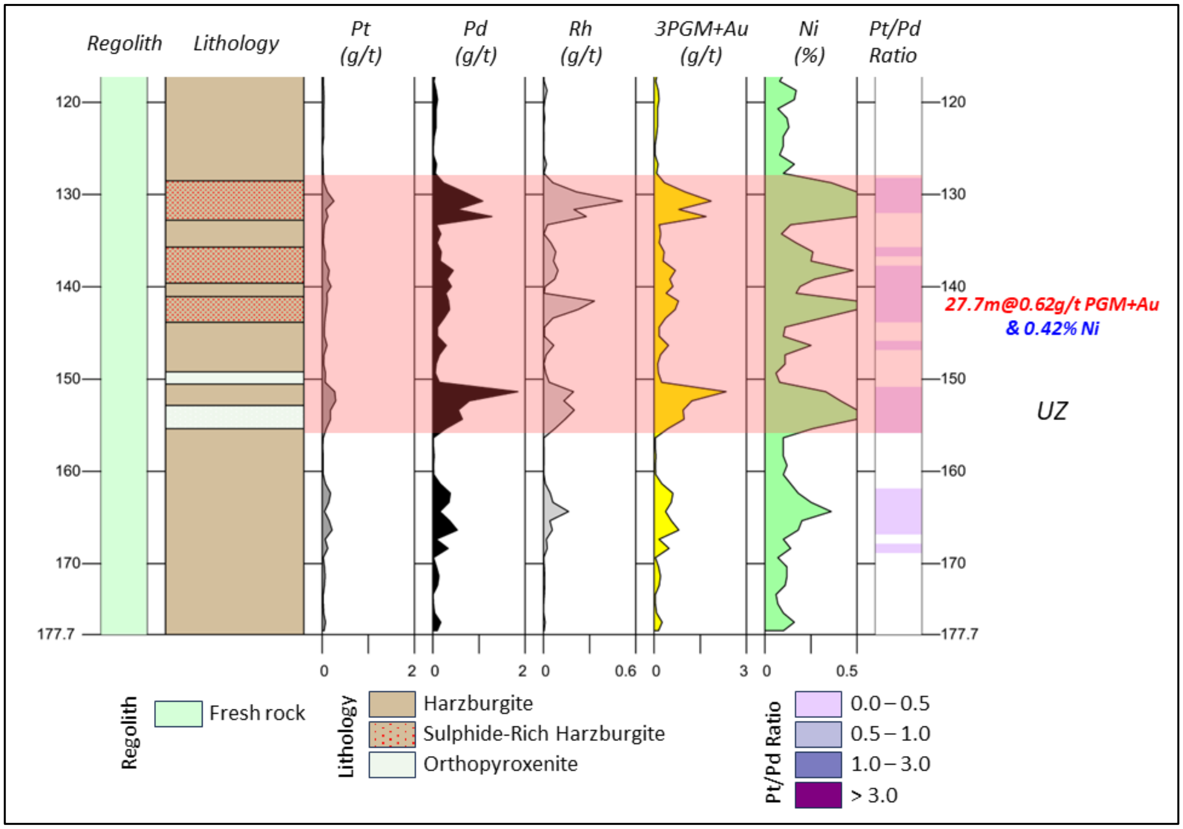


Figure 7-20: Strip log with example of Ni-Rh mineralization.

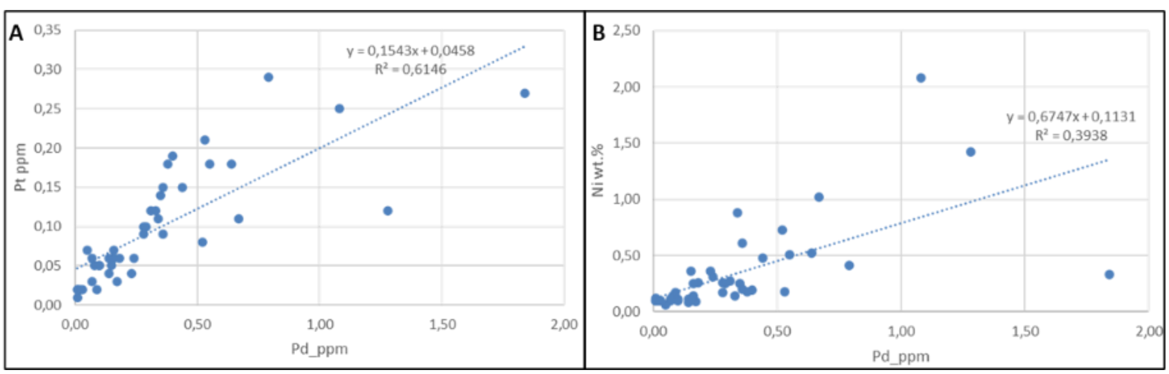


Figure 7-21: Ni-Rh zone correlation charts: (A) Pt (ppm) vs. Pd (ppm) and (B) Ni (%) vs. Pd (ppm).

7.3.6.3 Main Sulphide Zone (MSZ)

PGM mineralization associated with disseminated sulphides hosts the bulk of PGM mineral resources of the Luanga Complex. The stratigraphic interval hosting the PGM deposit, referred to as the Main Sulphide Zone (MSZ), previously named "Sulphide Zone", consists of a 10–50m thick interval with disseminated sulphides located along the contact of the UZ and TZ.

The MSZ is stratabound-style PGM mineralization consisting of interstitial sulphides (~ 1-4vol%) (Figure 7-22) hosted by variably altered orthopyroxenite and minor harzburgite. Pt/Pd ratio are commonly less than 0.5 and Rh/Pd ratio is approximately 0.05. Pt/Pd and Rh/Pd correlations are high to very high (Figure 7.23).

The location of the MSZ along the contact the UZ and TZ is variable, such that sulphides may be hosted just by the lowermost orthopyroxenite of the TZ or encompass both the orthopyroxenite and the underlying peridotite of the UZ (***Figure 7-24***). The mineralogy of the MSZ does not show major variation through the deposit and consists of base metal sulphides with pyrrhotite> pentlandite>>chalcopyrite. Magnetite is commonly developed at the outer border or along fractures in sulphide blebs. Both magnetite and rare pyrite crystals occur in partially altered sulphide aggregates. Chalcopyrite is not abundant (<10 vol. % of the sulphides) and commonly occurs as fine-grained crystals at the borders of larger pentlandite and/or pyrrhotite crystals. Additionally, thin lamellar chalcopyrite occurs enclosed within pentlandite crystals. The metamorphic transformation of primary igneous silicates of the hosting rocks does not seem to significantly modify the sulphide mineralogy.

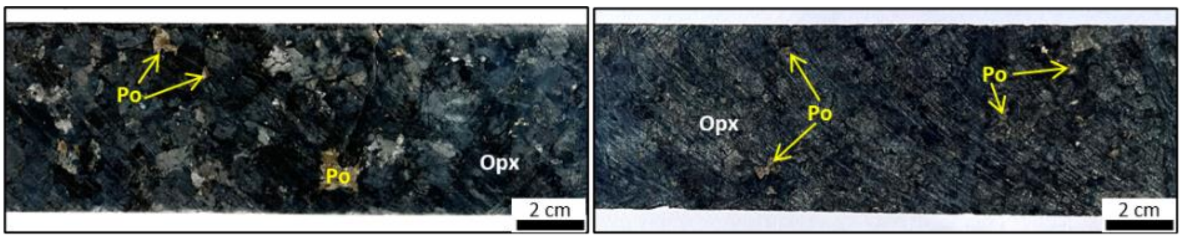


Figure 7-22: Drill core samples of MSZ, showing disseminated sulphide blebs consisting of Po+Pn+Ccp in orthopyroxenite.

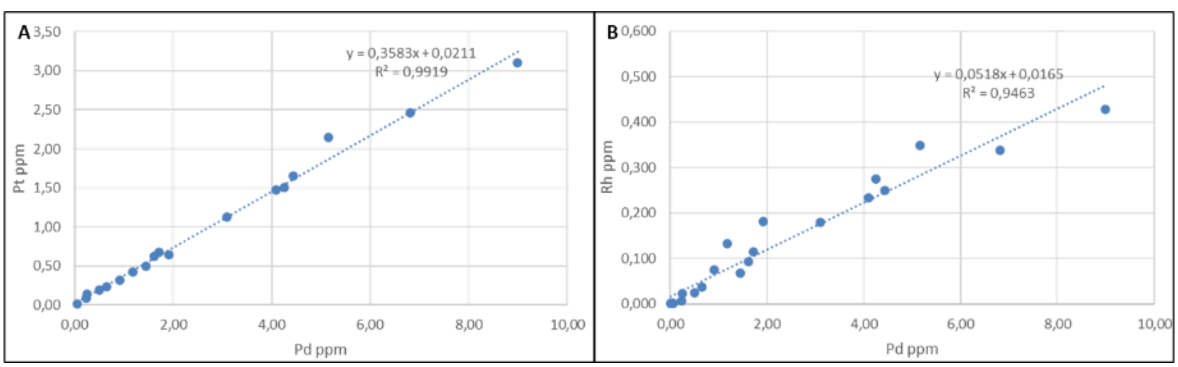


Figure 7-23: Ni-Rh zone correlation charts: (A) Pt (ppm) vs. Pd (ppm) and (B) Rh (ppm) vs. Pd (ppm).

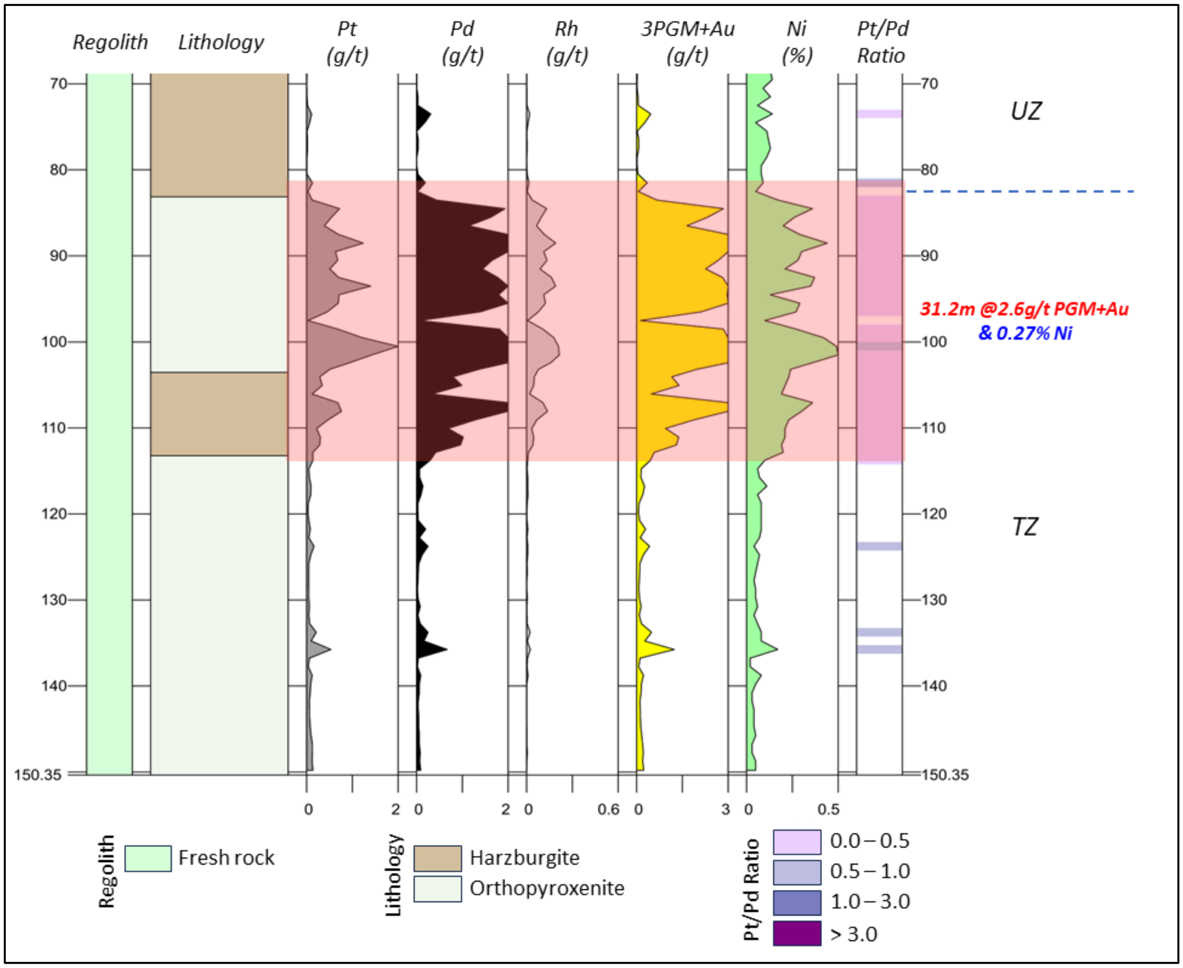


Figure 7-24: Drill core showing disseminated sulphides in PGE mineralized rock of the MSZ.

7.3.6.4 Chromite PGE Related (CHR)

PGE mineralization associated with chromitites (CHR) occurs as thin and discontinuous chrome-rich layers and pods within the TZ (**Figure 7-25**).

Chromitites and chromite-rich zones (i.e., chromite content above cotectic proportions) of the Luanga Complex have highly variable PGE contents (Pt+Pd+Rh). These zones have characteristically high Pt/Pd ratios (~ 4) and Rh/Pt ratios of approximately 0.3. High PGE contents occur in rocks without sulphides and very low Ni contents (**Figure 7-26**).

In general, the CHR zones occur discontinuously at the upper portion of the TZ (based on the original stratigraphy), hosted mainly by variably altered orthopyroxenite and norite (Figure 7.27).

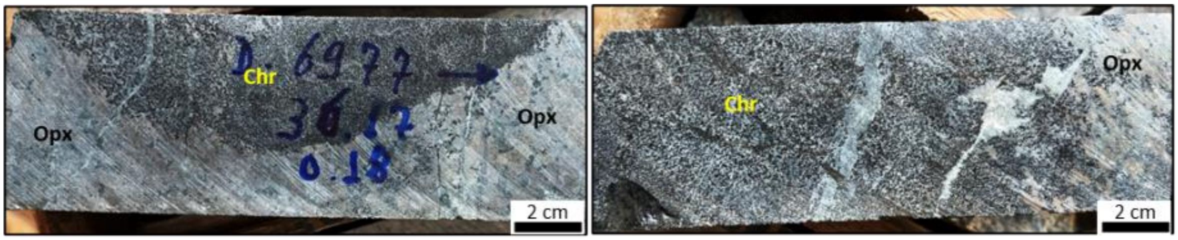


Figure 7-25: Drill core samples showing chromitite hosted by orthopyroxenite of the TZ.

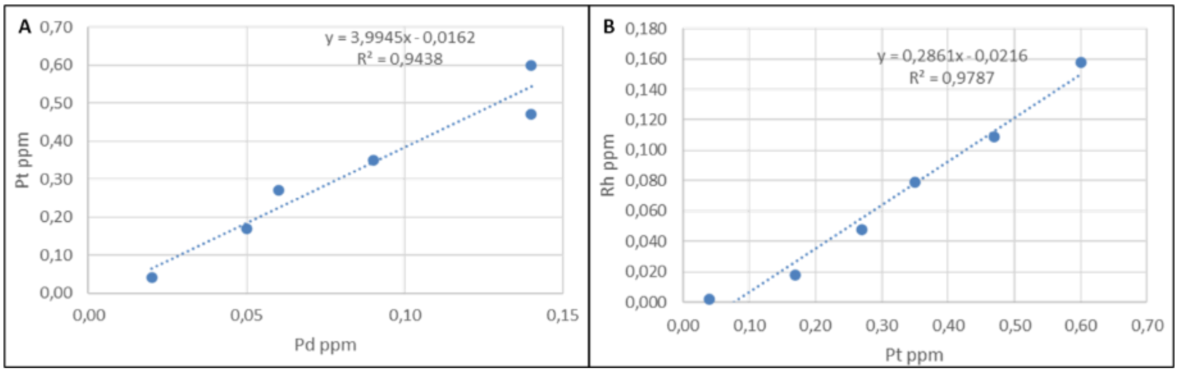


Figure 7-26: CHR zone correlation charts: (A) Pt (ppm) vs. Pd (ppm) and (B) Rh (ppm) vs. Pt (ppm).

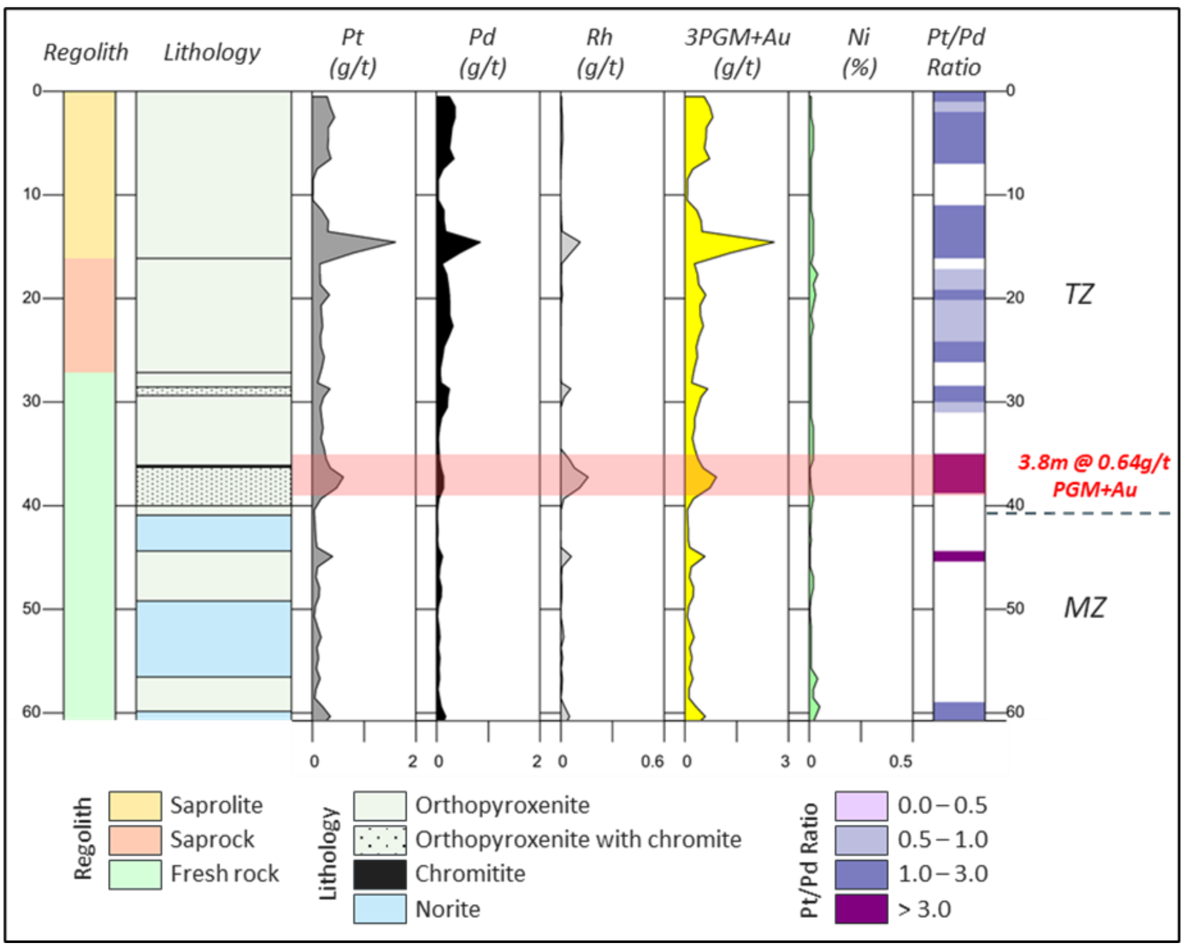


Figure 7-27: Strip log with example of CHR mineralized zone.

7.3.6.5 Low Sulphur High PGE (Low S)

The "Low S" style of mineralization comprises PGM-mineralized rocks devoid of base metal sulphides and/or chromitite. The Low S mineralization of the Luanga Complex consists of 4-32m thick stratabound zones across the TZ. These zones occur above the MSZ and do not show extensive lateral continuity. Low S zones commonly occur at the contact between layers of distinct cumulate rocks in the Transition Zone, but its occurrence within one rock type is also observed. The hosting rocks, mainly harzburgite and orthopyroxenite, do not show any distinctive texture or change in modal composition that characterize the PGM enrichment (**Figure 7-28**). As a result, the PGM enriched intervals were not identified during core logging or routine petrographic studies. These PGM-anomalous intervals were only indicated by their anomalous Pt-Pd assay values. A remarkable feature is the occurrence of anomalously Ni-rich olivines in harzburgites closely associated with low-sulphur PGM mineralization.

Compared with the MSZ, the Low-S mineralization has higher Pt/Pd ratio (> 0.5 to ~1) and distinct PGM (**Figure 7-29**). 3PGM+Au contents are commonly above 0.5 g/t (**Figure 7-30**).

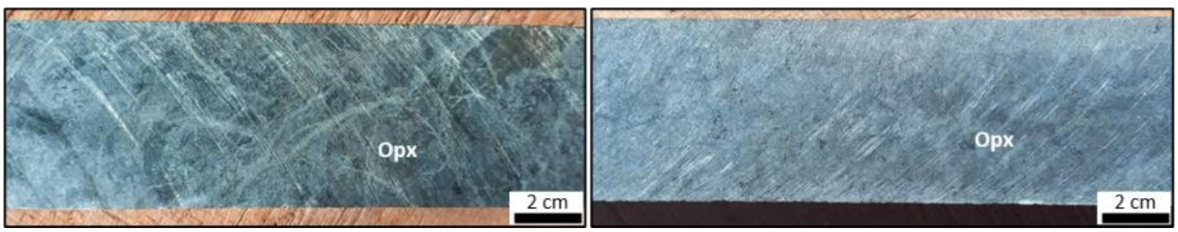


Figure 7-28: Drill core samples showing Low S mineralization within the orthopyroxenite of the TZ.

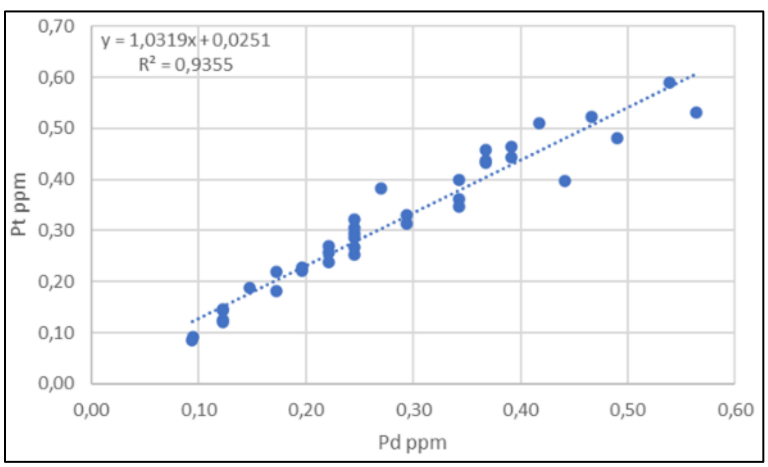


Figure 7-29: Low S zone correlation charts of Pt (ppm) vs. Pd (ppm).

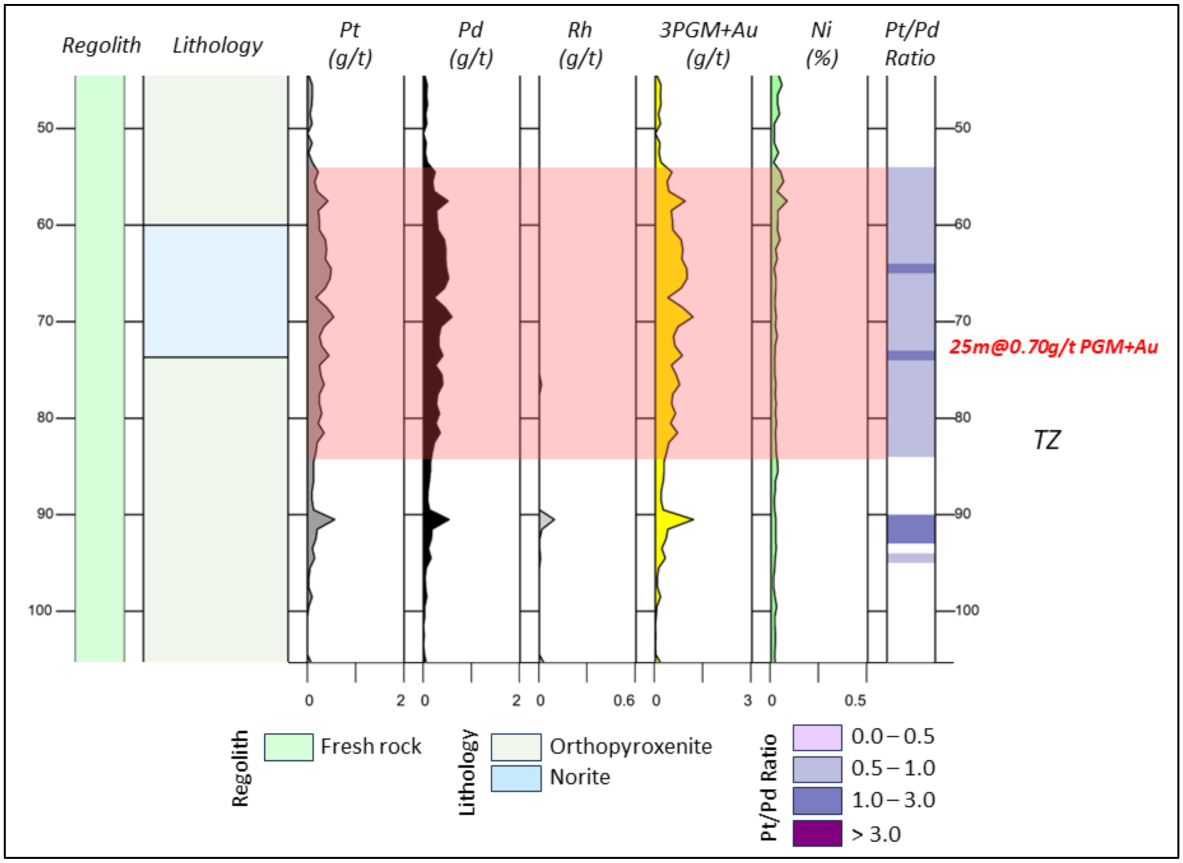


Figure 7-30: Strip log with example of Low S mineralized zone.

7.3.6.6 Massive Sulphides (MASU)

Infill drilling campaign by Bravo in 2022-23 has identified a new zone and style of mineralization at Luanga, namely Massive Sulphide (MASU) (**Figure 7-31**). This mineralization is located in the harzburgite footwall rocks close to the contact of TZ and UZ. Ni grades are frequently greater than 1.0% and PGM+Au over 3.0 g/t (**Figure 7-32**). Thickness varies from 1 to 15m.

In the Northern Sector, magmatic massive sulphide nickel and copper mineralization was intersected, while in the Central Sector step-out drilling targeting deeper intersections of PGM mineralization, has intersected net-textured and cumulus magmatic nickel sulphide mineralization.

These results demonstrate the potential for higher-grade nickel ± copper sulphides at Luanga, Complex.

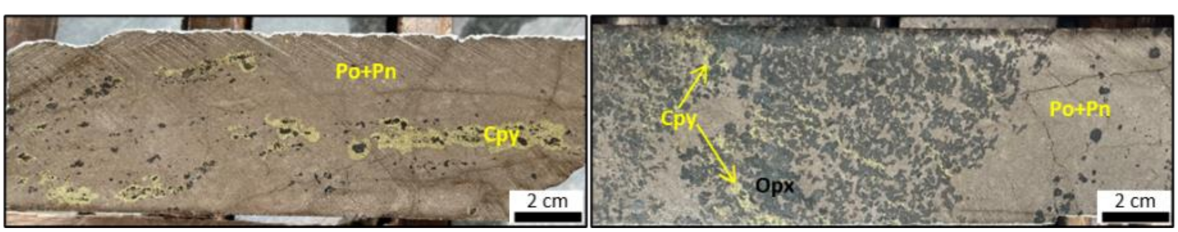


Figure 7-31: Drill core samples showing MASU mineralization zone at Luanga.

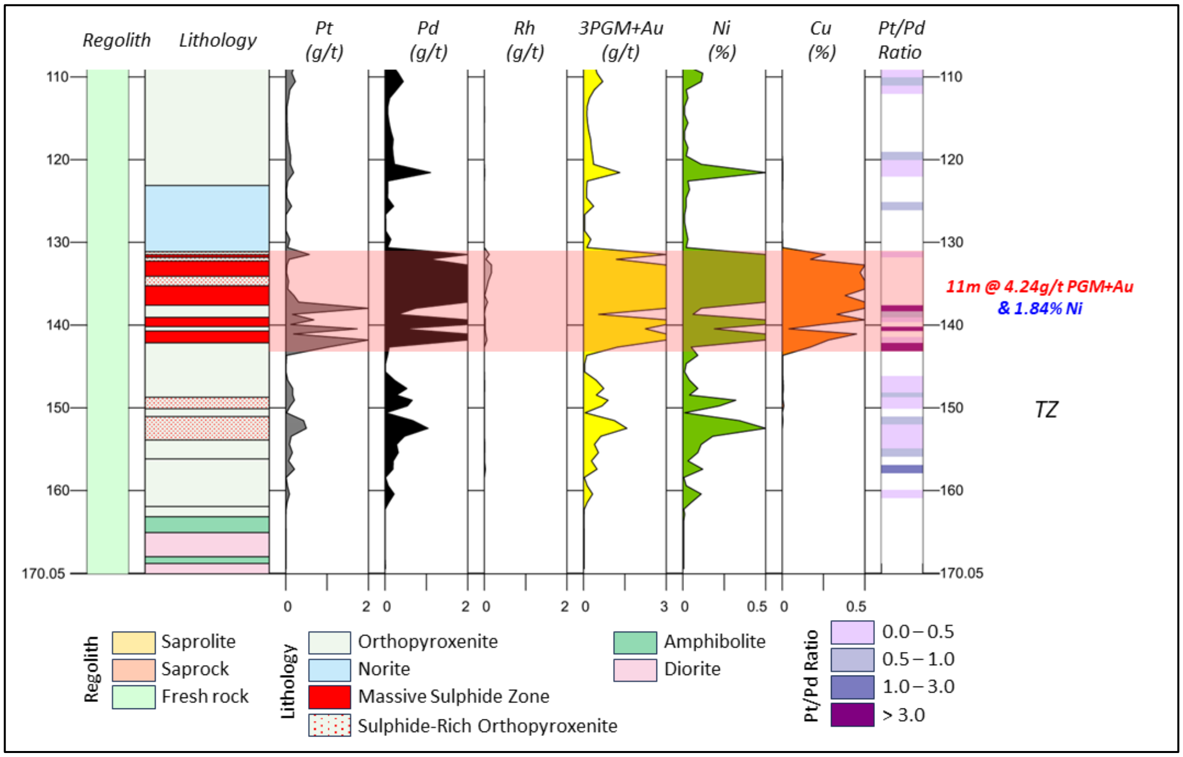


Figure 7-32: Strip log with example of MASU mineralized zone.

8 DEPOSIT TYPES

The alternating magmatic layers and the stratabound nature of magmatic sulphide mineralization encountered at Luanga Complex fit with the “reef” model of mineralization for layered mafic-ultramafic complexes such as Bushveld, Stillwater, Great Dyke, Penikat, Julimar and the Skaergaard.

Layered mafic intrusions (“LMIs”) are significant sources of PGE/PGMs, base metal sulphides, chromitite, magnetite and ilmenite. These types of deposits (magmatic deposits) are derived from accumulations of crystal of metallic oxides, or immiscible sulphide, or oxide liquids that formed during the cooling and crystallization of magma, typically with mafic to ultramafic compositions, according Zientek, M.L., 2012.

“PGE/PGM reefs” are stratabound enriched lode mineralization in mafic to ultramafic layered intrusions. The term “reef” is derived from Australian and South African literature for this style of mineralization and used to refer to (1) the rock layer that is mineralized and has distinctive texture or mineralogy or (2) the enriched sulphide mineralization that occurs within a rock layer.

The dominance of the Bushveld Complex in world-wide production of minerals related to mafic layered intrusions (***Figure 8-1***) gives this intrusion an archetypal status in exploration and resource models for mafic intrusions.

A schematic model of an LMI-related layered intrusion is presented on ***Figure 8-2***, showing the relative position and petrological affinities (e.g., chromitite vs. sulphide dominated; ultramafic vs. mafic; reef vs. contact styles of mineralization) of the differing types of LMI-related PGE/PGM-dominated magmatic sulphide deposits. A single layered intrusion is unlikely to host all these styles of mineralization, and that PGE/PGM deposits with differing magmatic affinities can occur in similar positions within an intrusive system.

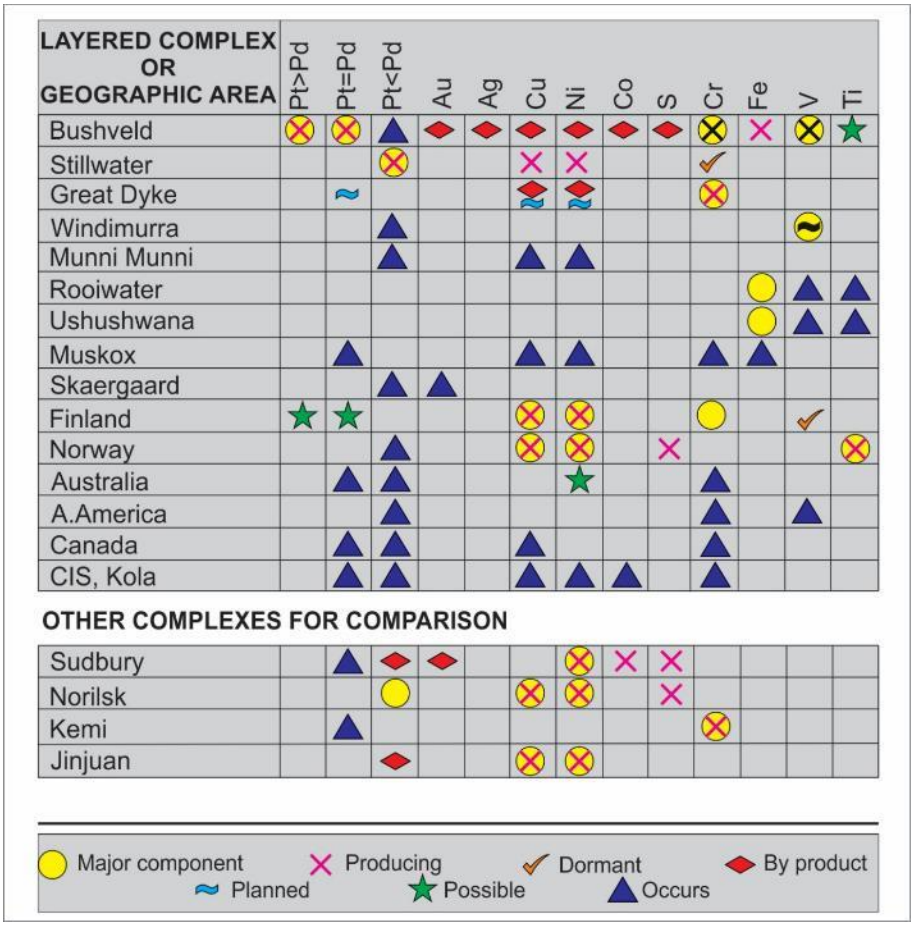


Figure 8-1: Chart summarizing mineralization in a variety of layered mafic intrusions.

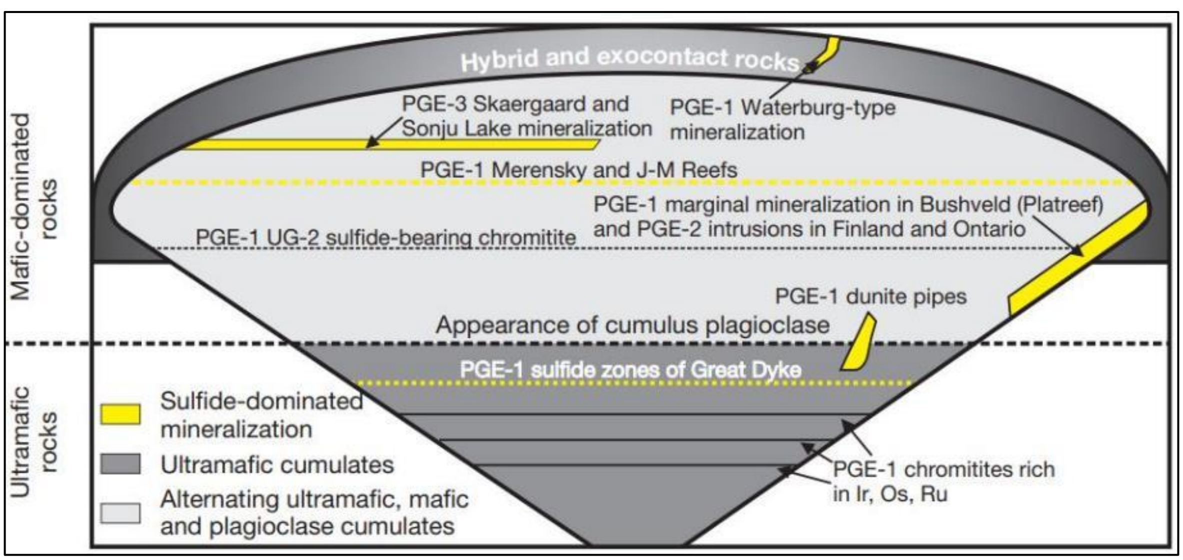


Figure 8-2: LIP layered intrusion schematic.

Adapted from Hoatson et al. (2006) and Naldrett (2010a)

9 EXPLORATION

Bravo has been diligently following a systematic approach in its exploration programs for the Luanga PGM+Au+Ni Project.

9.1 Preliminary Works

The earliest exploration completed by Bravo was from the 21st to the 23rd of September 2020. Bravo staff visited Vale´s core facilities where they collected five verification core samples from four historical drill holes (**Table 9-1**). Samples were ¼ core from mineralized intervals previously sampled by Vale (***Figure 9-1***). Those samples were cut and bagged in Vale's facilities by Bravo personnel, who were responsible for the identification (the same ID as the original sample) and shipping of the sample bags.

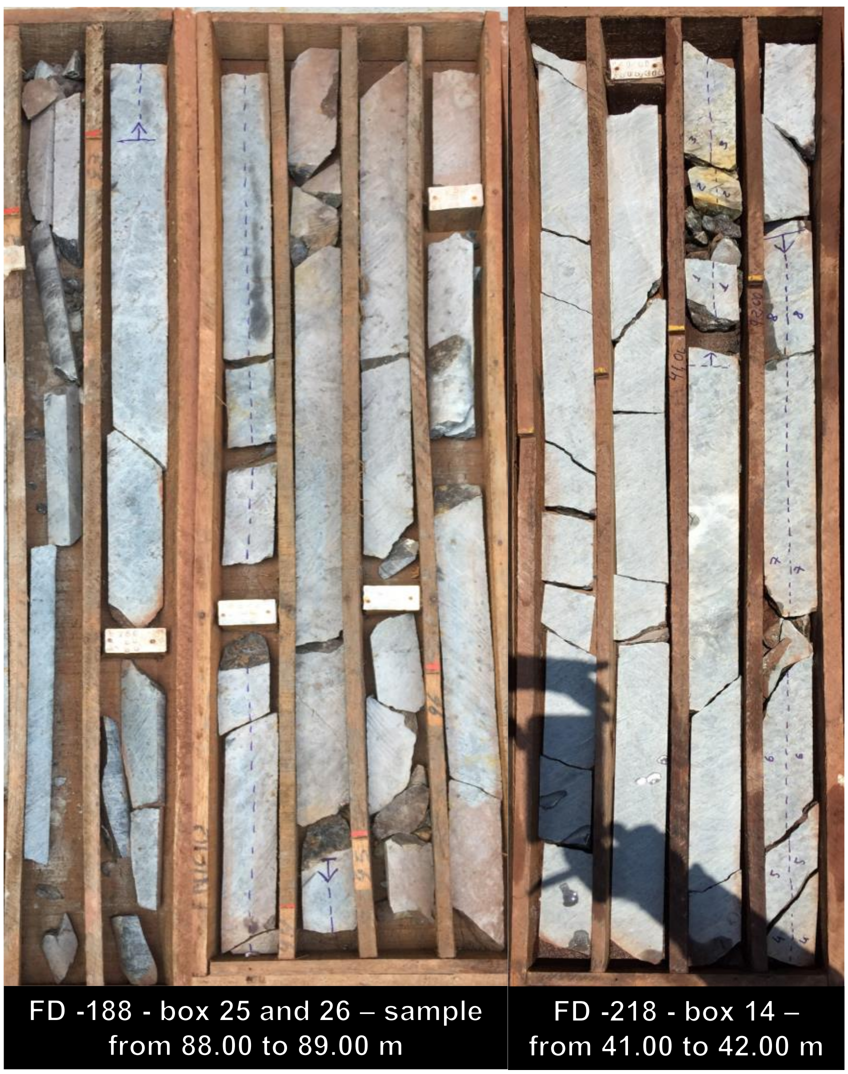


Figure 9-1: Examples of drill holes selected for independent re-sampling.

Samples chosen for assay analysis by Bravo were shipped directly to the analytical laboratory of ALS Brasil Ltda in Belo Horizonte, Minas Gerais state. ALS Brasil Ltda. is a part of ALS

Global, an international laboratory company with certified labs all over the world. ALS are ISO/IEC 17025:2017 and ISO 9001:2015 certified/accredited. At ALS, all samples were weighed, dried, crushed, split, and pulverized up to 85% <75µm.

All samples were analysed for Pt, Pd, and Au by fire assay with ICP-AES finish, and for Rh by fire assay with ICP-MS finish. The samples also were analysed for 48 elements by four acid and ICP-MS finish.

In 2021, Bravo conducted a detailed review on Vale data, including results from previous diamond drilling database campaign and results validation based on chemical results from core resampling conducted in 2020.

After Bravo assumed management of the Luanga Project in 2022, historical drill core, drilled by Vale, has almost entirely been relocated from the Vale core yard to the Bravo core yard. To date 228 complete diamond drill holes have been received at the Bravo core yard, representing a good cross section of the geology intersected by historical drilling (***Table 9-2***).

Table 9-1: Sampling PGM and Gold Check Results

Historical Drill Core				
Actual Location	**Vale (N5)**	**Bravo Camp**	**% Transported**	**Pending**
Total Drill Holes	228	224	98.24	4
Total Metres	45,166	44,461	98.43	705
Total Boxes	12,565	12,168	96.84	397

Following the receipt of historical drill core, Bravo technical staff repaired and cleaned the core boxes, their markings and labels prior to relogging the core geologically (***Table 9-2*** and ***Figure 9-2***). Following this relogging, the historical core was cleaned and photographed before the commencement of resampling.

Table 9-2: Historical Drill Core – quantity of relogging and resampling.

Relogging & Resampling 2022 Program					
Received Core (YTD)	**Bravo Camp**	**Relogged**	**% Relog**	**Resampled**	**% Resample**
Total Drill Holes	224	180	80.35	77	34.38
Total Metres	44,461	34,304	77.15	4,278	9.62

Figure 9-2: Historic Core now at the Bravo Facilities.

For the resampling programme, half core was cut in half again by a standard industry core saw and, in cases where only quarter remains, it was sampled in its entirety. 77 holes received to date have been resampled, for a total of 4,278 samples collected (***Figure 9-3***). Certified Reference Materials (blanks and standards) were inserted throughout the sample sequence at a ratio of one in every twenty samples for each, resulting in a quality control sample after every ten primary samples. Standards were purchased from both OREAS in Australia and AIMS in South Africa. These standards cover a variety of grades, while also being the best matrix match for the type of mineralization at Luanga. Samples were submitted to ALS Brasil at their sample reception facility located in Parauapebas.

Following the receipt of the remaining core boxes containing all the rest of the Luanga historical mineralized zones, the resampling will continue. The aim is to re-assay all the historical mineralized zones, creating a complete new set of assays, assayed by a modern ISO certified laboratory and with an expanded assay suite.

Figure 9-3: Resampling programme.

Historical drill core sample data and Bravo's drill core resampling to date shows an expected positive correlation for the PGM assessed. Minor variations from Vale's original assays to the re-assay are attributed to updated preparation and analytical methods and refined assaying for Rh and Ni. Ni resampling data assays presents two different populations, one probably related to the silicate and other sulphides. GE21 emphasizes the importance of completing the relogging and resampling programs historical DD core and in receiving the remaining historical core.

9.2 Soil Samples

9.2.1 **Historical Soil Sampling**

A total of 5,241 soil samples were collected by Vale during the exploration works conducted at Luanga. All soil samples were submitted to chemical analyses for a suite of 16 elements (in ppb), including: Ag, As, Be, Bi, Ce, Co, Cr, Cu, La, Ni, Pb, Sb, Sn, Te, W and Zn. This suite of elements was analysed by inductively coupled plasma/mass spectrometry ("ICP/MS") by the three different laboratories (Nomos, Lakefield and SGS). Soil samples were also analysed for Au, Pt and Pd (in ppb) by fire assay/atomic absorption spectrometry ("FA/AAS"). Information about the laboratory responsible for the FA/AAS analyses is not included in the database.

The results from historical soil sampling were reprocessed by Bravo (***Figure 9-4***). Cr and Ni soil anomalies fits very well with mafic and ultramafic rocks of Luanga Complex and Luanga South. Pd and Pt anomalies in soil are coincident with the rocks of Transition Zone of Luanga Complex.

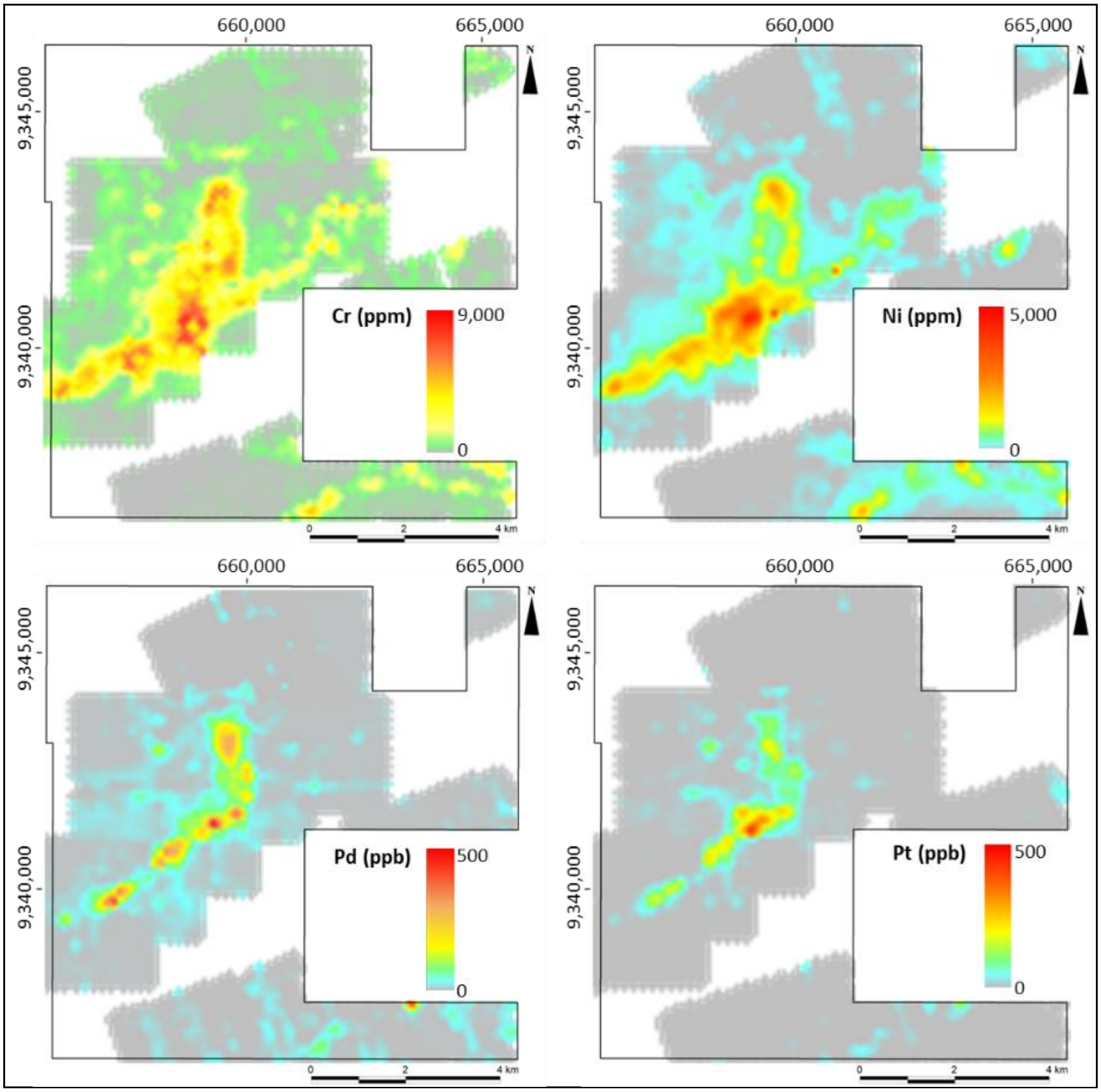


Figure 9-4: Maps with reprocessed results from historical soil sampling campaign.

9.3 Topographic Surveys

RR Topografia & Engenharia of Brazil completed the Orthophotography and new Digital Elevation Model. Commercial drone surveying equipment was used to complete the aerial work, while ground surveying was used for control of accuracy, positioning and georeferencing. A mosaic of the ortho-imagery overlain on the 3D digital terrain model created from the DEM, is shown below in ***Figure 9-5***.

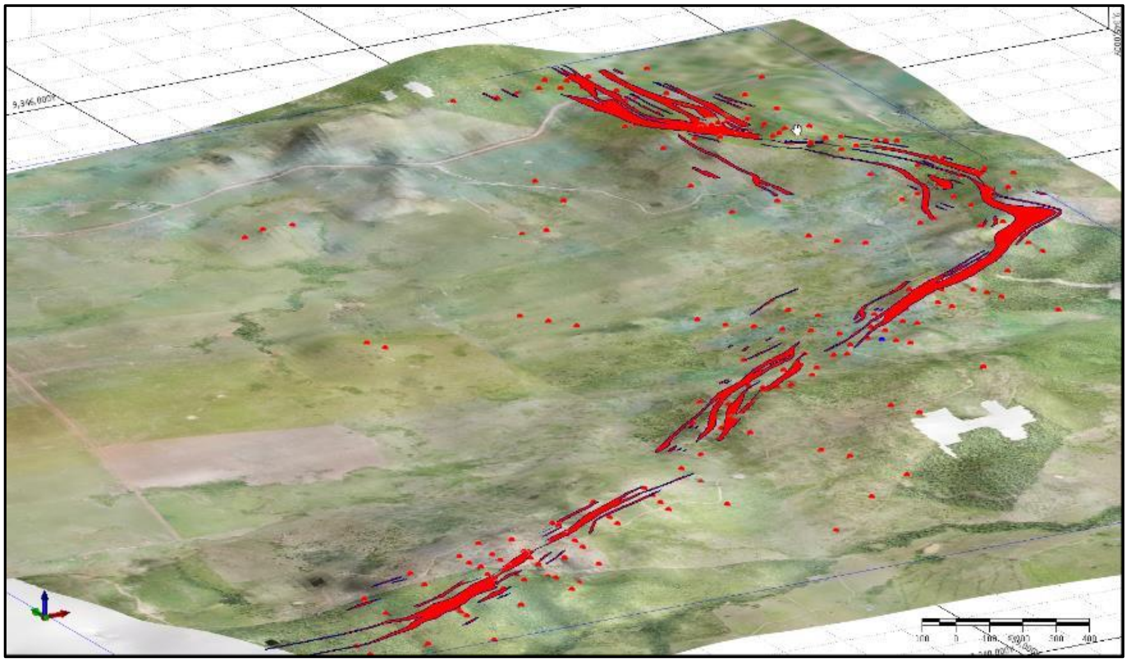


Figure 9-5: Luanga Project: Digital Elevation Model, Ortho-image, Drill Collars and Ore Zones.

A detailed Drone Survey was performed over the Luanga deposit in June 2023. The survey covered a total area of 26.96 km^2 over Luanga Complex and provided a detailed Digital Elevation Model (DEM) (***Figure 9-6*** A) and an ortho-mosaic image (***Figure 9-6*** B).

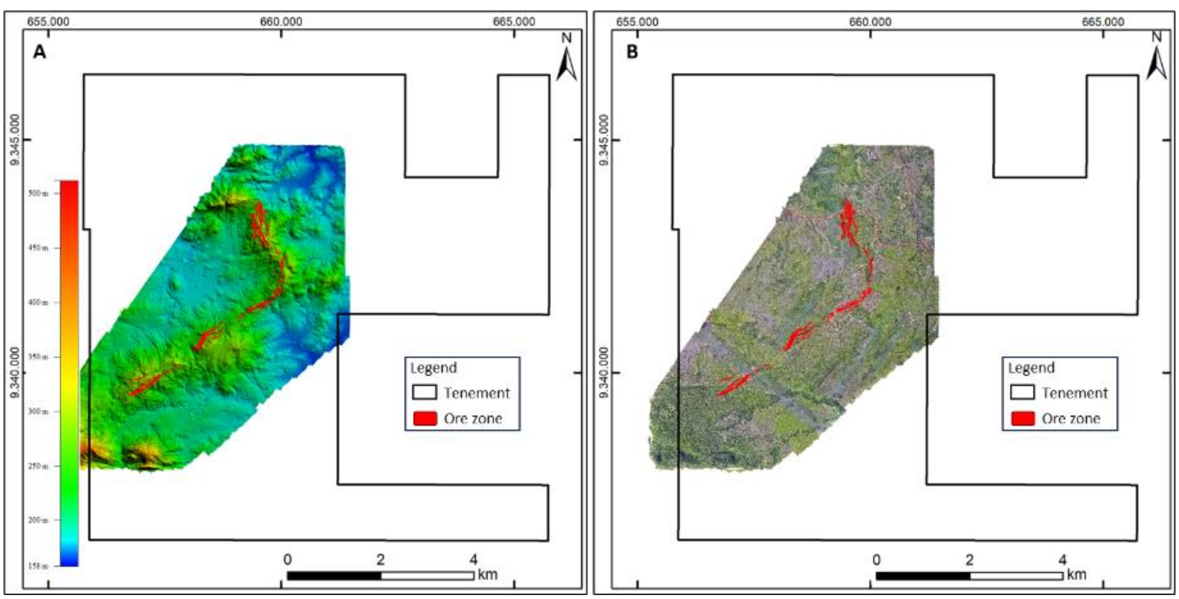


Figure 9-6: (A) Digital Elevation Model, and (B) Ortho-image. Both with identified Mineralized Zones.

9.4 Geological Mapping

The geological mapping of the Luanga exploration permit was executed by Bravo geologists on a scale of 1:10,000 (***Figure 9-7***). Mapping was performed along north-south profiles at intervals of 100m. Within the area surrounding the mafic-ultramafic complex, geologic mapping was completed at a scale of 1:5,000.

Additionally, Bravo hired PRCZ Consultores Associados ("PRCZ") to carry out the geological and structural mapping work at the Luanga Project. This work was performed from November 2022 to July 2023. A total of 88 field points were fully described and a further 52 stations were marked where observations were made by quick reference to lithologies or contacts. The description, structural measurements, photos and location coordinates of each field point are stored in a spreadsheet. The information provided by PRCZ was compiled by Bravo and used in the compilation of the geological map.

Geological units identified in the Project area included rocks from the basement of the Carajás Domain, consisting mainly of gneiss–migmatite–granulite terrains of the Xingu Complex, and metavolcanic and metaplutonic rocks of Grão Pará Group.

The rocks of the Luanga Complex consist of three main zones: (i) Ultramafic Zone (UZ), comprising ultramafic cumulates (harzburgites and minor dunites), at the lower potion; (ii) Transition Zone (TZ), comprising interlayered ultramafic and mafic cumulates (harzburgite, orthopyroxenite and minor norite); and (iii) Mafic Zone comprising a monotonous sequence of mafic cumulates (norite) with minor orthopyroxenite layers, in the upper part. Additionally, a late intrusive diorite body is interpreted as part of the complex. The rocks of the Luanga Complex are metamorphized to amphibolite facies, but with largely preserved primary textures.

Dolerite dykes intruded throughout the Luanga complex rocks. Minor quartz veins occur locally.

Recent sedimentary rocks are restricted to alluvial deposits related to water courses. Artisanal gold mines have been mapped surrounding the Luanga Complex.

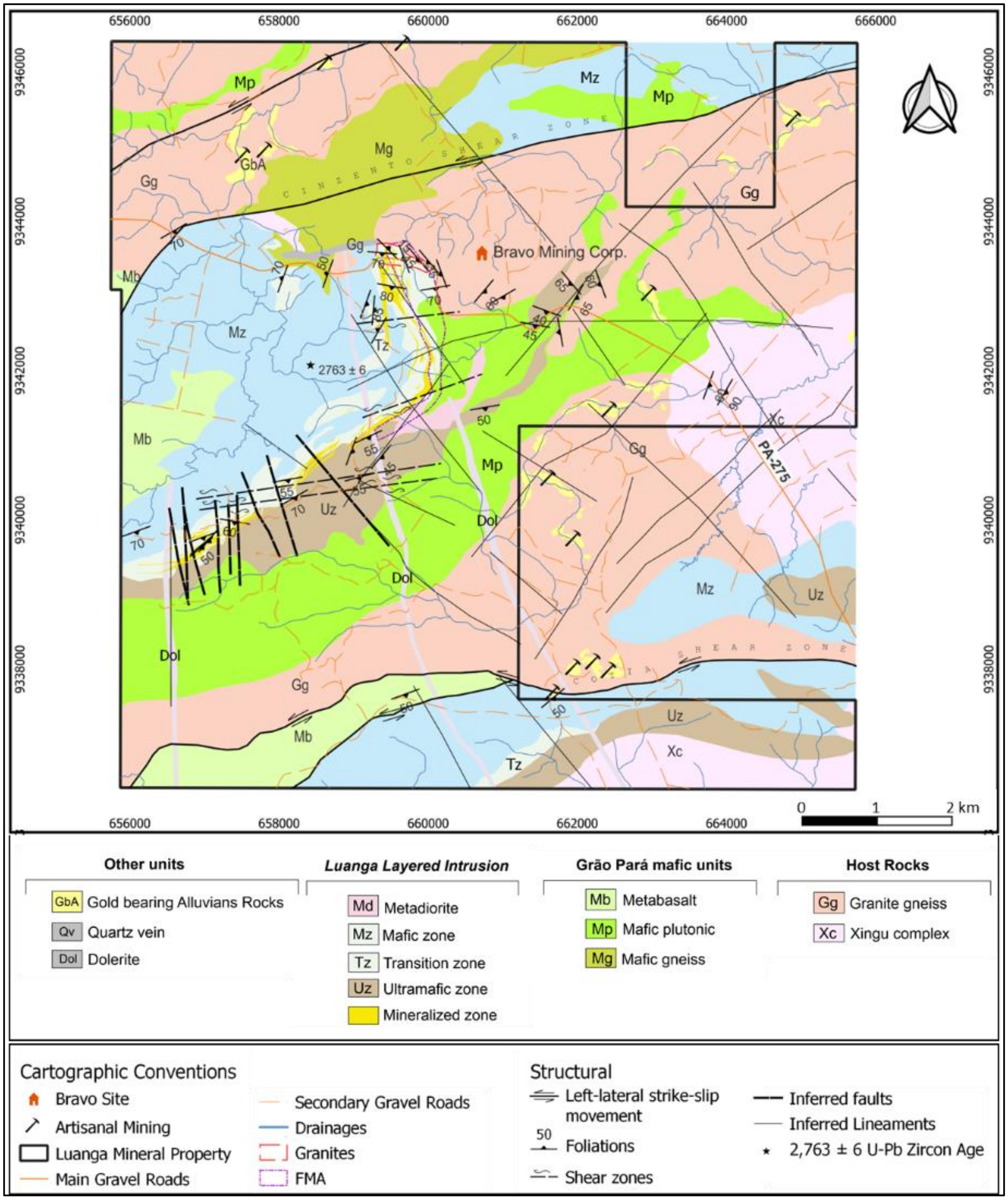


Figure 9-7: Geological Map of Luanga Project

9.5 Geophysics

9.5.1 Historical Geophysics

Geophysical processing and interpretation for Luanga was performed by both Southern Geoscience Consultants of Australia ("SGC") and Southernrock Geophysics of Chile ("Southernrock") in 2021. Southernrock reprocessed the historical IP data, while SGC reprocessed the historical magnetic data. The images below show the IP from one of the images form the Southernrock work (***Figure 9-8***) and IP overlaid on reprocessed magnetic image produced by SGC (***Figure 9-9***). Location of this work is entirely within the property boundary and shown in ***Figure 9-8***.

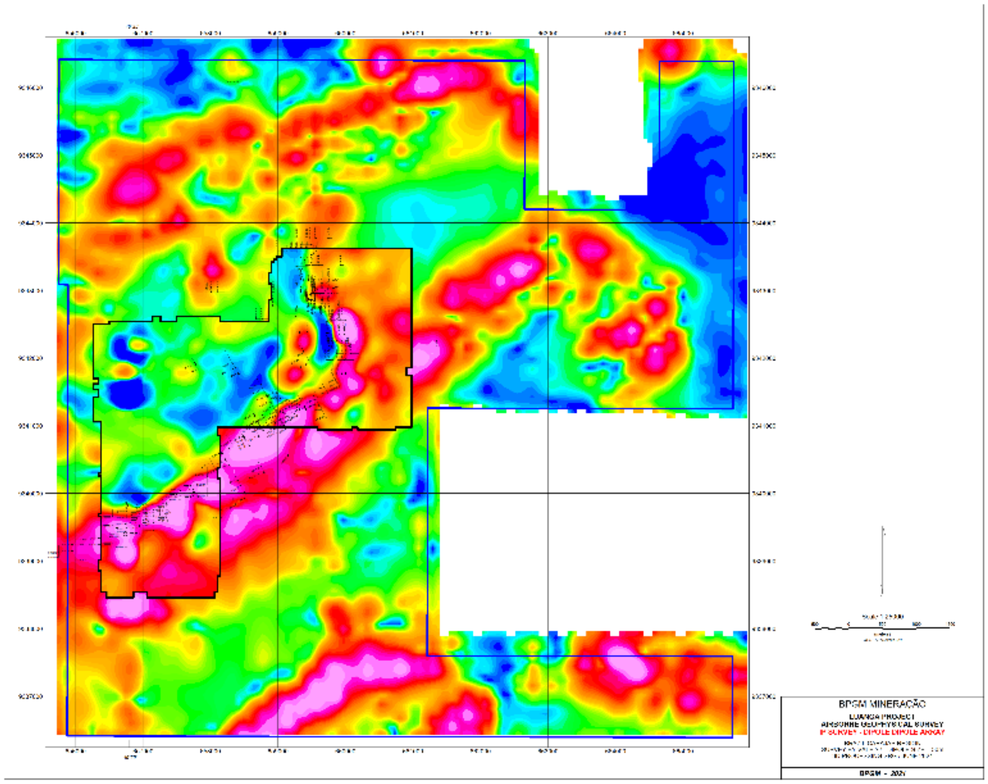


Figure 9-8: Luanga Project: IP over Reprocessed Magnetic Imagery.

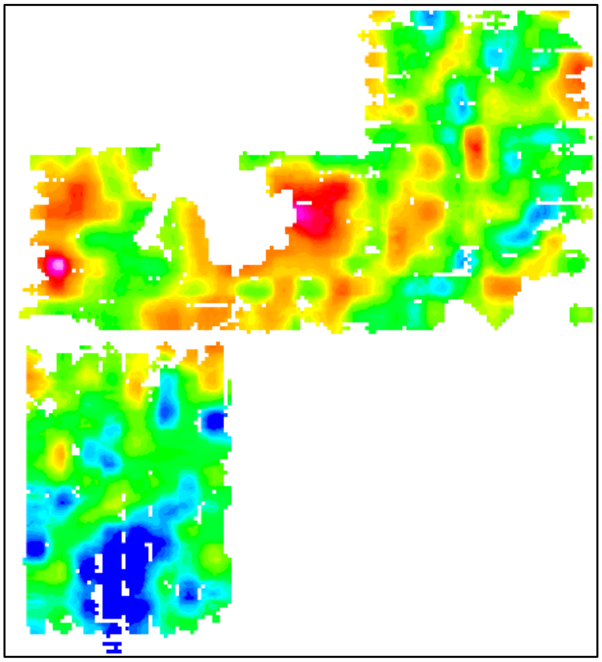


Figure 9-9: Luanga Project: 3D Inversion of IP Resistivity, Depth -125m.

9.5.2 Borehole Electromagnetics

Ground geophysics activities conducted during 2022 and January 2023 included borehole electromagnetics and surface electromagnetic survey. Both surveys were conducted by Geomag S/A ("Geomag").

Borehole electromagnetics ("BHEM") were carried out in five drill holes (DDH22LU047, DDH22LU052, DDH22LU068, DDH22LU073 and DDH22LU077), totaling 1,109.35 linear metres (***Figure 9-10***). The best BHEM response was related to drill hole DDH22LU047 which intersected 11 metres of massive sulphide (***Figure 9-11***).

Figure 9-10: BHEM survey in DDH22LU047.

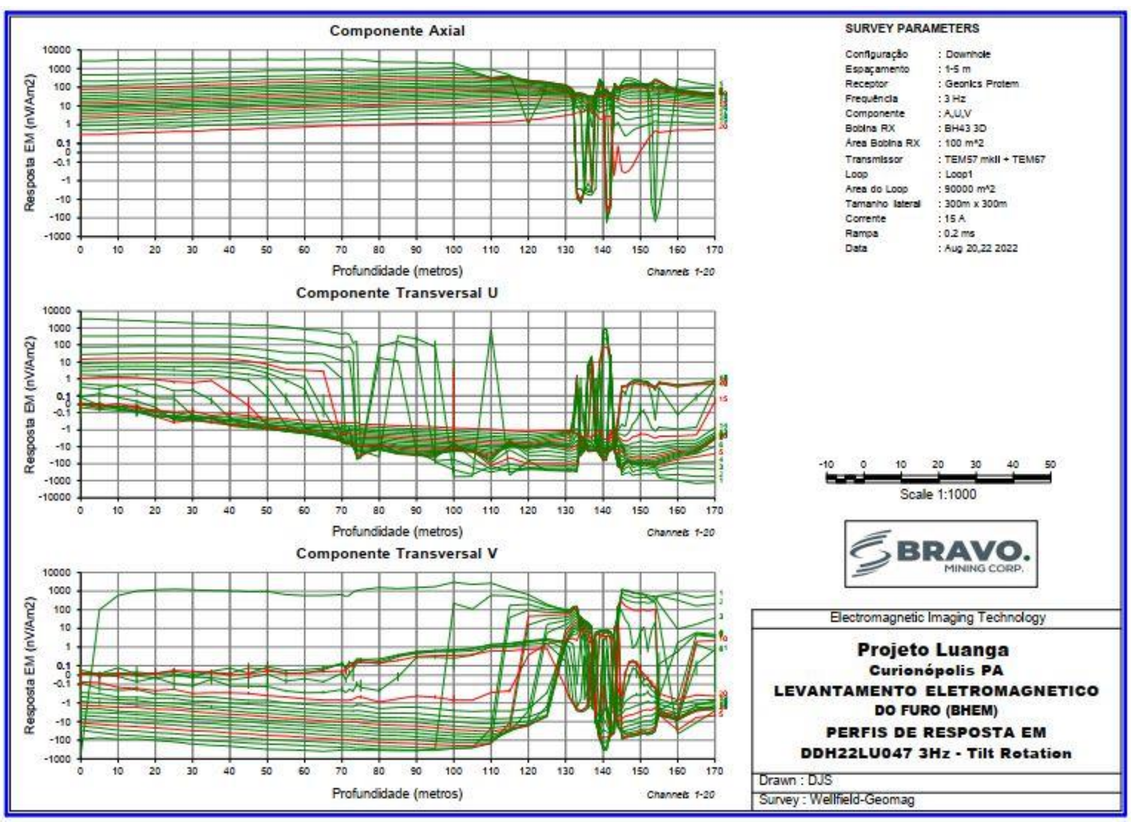


Figure 9-11: BHEM profile on drill hole DDH22LU047.

9.5.3 Fixed-Loop Transient Electromagnetics

Fixed-Loop Transient Electromagnetics ("FLTEM") survey was concentrated on the Central and North Sectors along 34 survey transversal lines (total of 30.27 km) using the established loops CSL02, CSL03, CSL04, CSL05, NSL01 and NSL02. Loop dimensions were 600 x 400 metres and survey lines were spaced 100 metres apart (***Figure 9-12***).

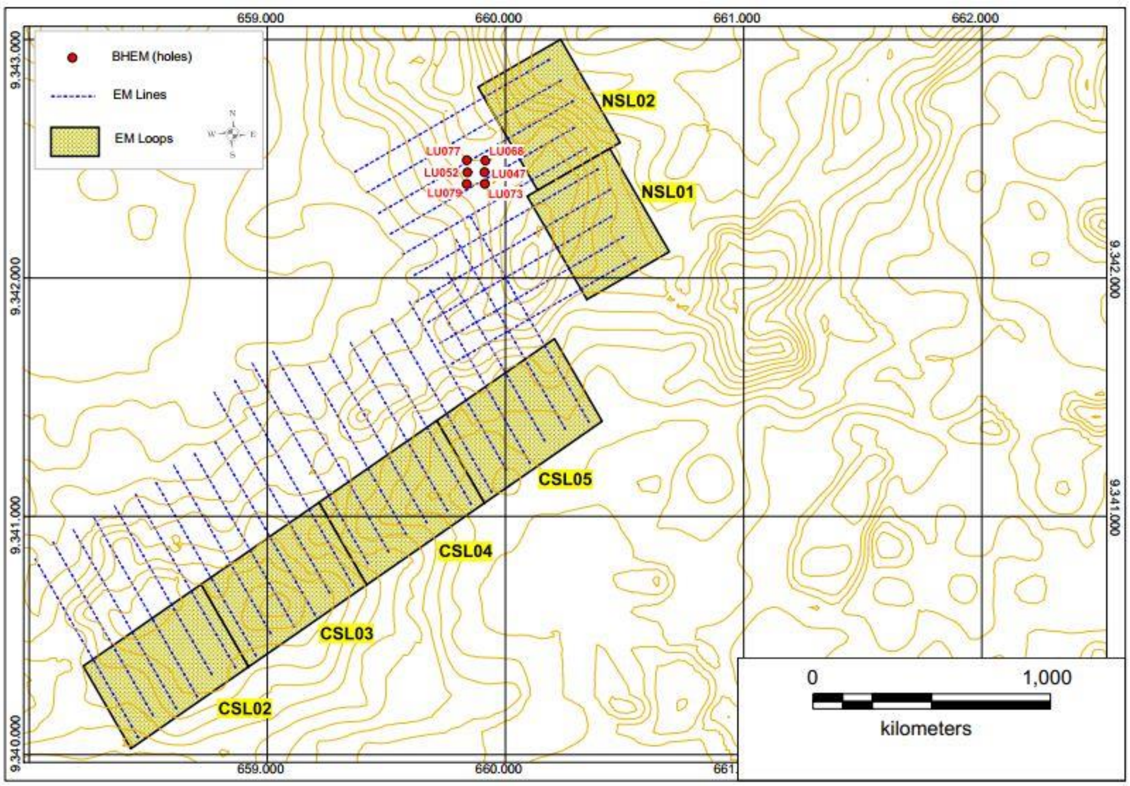


Figure 9-12: Location map of BHEM and FLTEM surveys.

9.5.4 Ground Magnetometry and Gravimetry

A ground geophysics survey consisting of magnetometry and gravimetry, using 100 m spaced lines, was performed over an area of approximately 15.5 km^2, covering the Luanga Complex. Ground magnetometry was performed with continuous measurements along the lines and the gravimetric survey was conducted with one measurement recorded in 50 m spaced stations along the lines. The acquisition was conducted by the Bravo team from March to July 2023. Raw data was submitted to SGC for quality control checking and processing.

The ground data and thematic maps produced distinguish between the magnetic domains in the covered block. The magnetic domain with high defined amplitudes in the Analytical Signal image (***Figure 9-13A***) corresponds to the occurrence of mafic-ultramafic rocks of Luanga Complex. The mafic-ultramafic rock package generated a dipole anomaly elongated to NE-SW with a flank to S-N (North Sector), which is well marked on the Total Magnetic Intensity (TMI) Image (***Figure 9-13*** B).

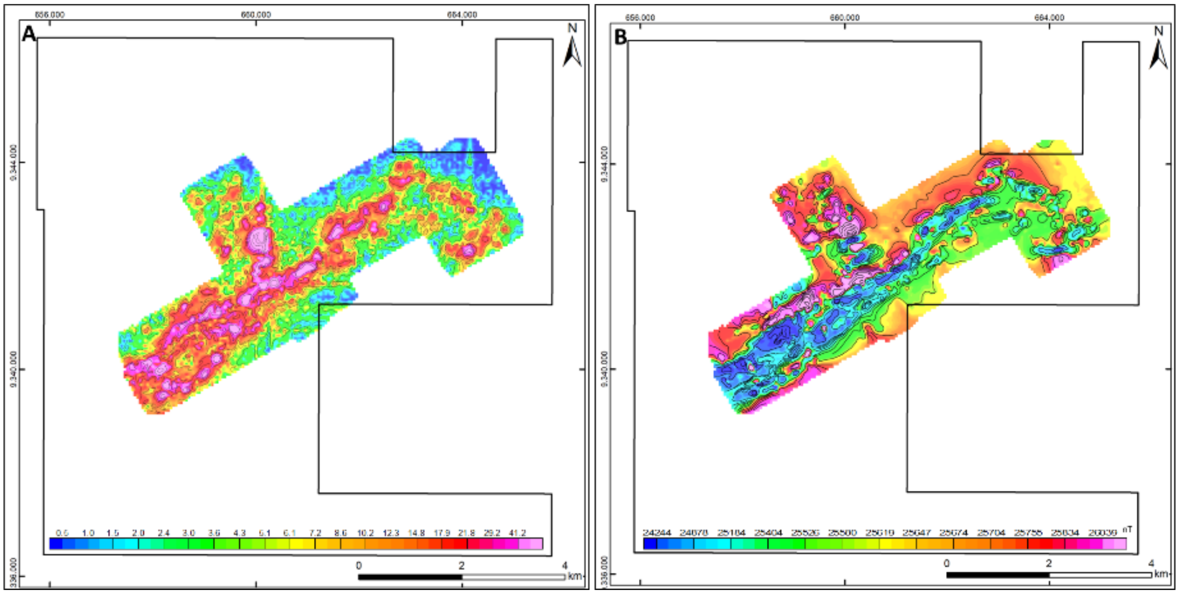


Figure 9-13: (A) Analytical Signal Image. (B) TMI Image.

9.5.5 Time Domain Electromagnetic and Magnetic Survey

Time Domain Electromagnetic and Magnetic airborne geophysical survey (HELITEM) was carried out over an area of 99.72 km^2. The survey was conducted by Xcalibur Multiphysics ("Xcalibur") and consisted in a total of 771.2 km of lines, being 697.1km along NW-SE transverse lines, spaced from 150m, and 70.9km along SW-NE control lines, spaced from 1,500m. The data was processed by Xcalibur and currently being modelled reprocessed by SGC.

The apparent conductivity maps show zones of high conductance zones coincident with the rocks of Luanga Complex (***Figure 9-14***).

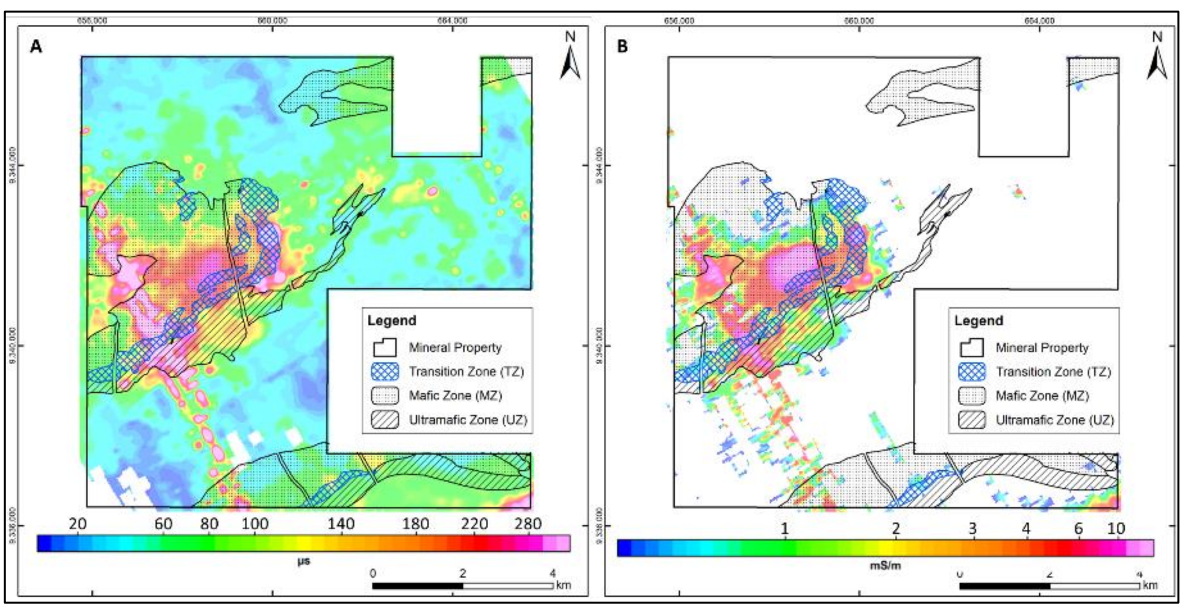


Figure 9-14: Apparent Conductivity Maps. (A) TAU – Maximum time constant. (B) Late off-time.

9.6 Trenching

The trenching program started in Q4/2022 aiming to provide detailed information about the mineralized zones at the surface level. Up to the Effective Date of this report, 10 trenches were opened totaling 1,339.38 linear meters. All opened trenches were mapped, sampled, and their channel samples were precisely surveyed with an RTK. After the work was completed, all trenches were closed (**Table 9-3** and ***Figure 9-15***). A total of 1,559 samples, including QA/QC samples, were collected and analysed for 3PGM and Au at independent laboratories.

Table 9-3: Trench opening program.

Trenching Program - Southwest & North Sectors					
Trench_ID	**Survey**	**Mapping**	**Length (m)**	**# Samples**	**Results**
TRC22LU002	completed	completed	82.61	99	Received
TRC22LU003	completed	completed	168.43	193	Received
TRC22LU004	completed	completed	81.08	96	Received
TRC22LU005	completed	completed	80.85	94	Received
TRC22LU006	completed	completed	39.3	48	Received
TRC23LU021	completed	completed	101.3	117	Received
TRC23LU022	completed	completed	125.64	145	Received
TRC23LU023	completed	completed	157	183	Received
TRC23LU024	completed	completed	258.17	300	Received
TRC23LU025	completed	completed	245	284	Received
TOTAL			**1,339.38**	**1,559**	

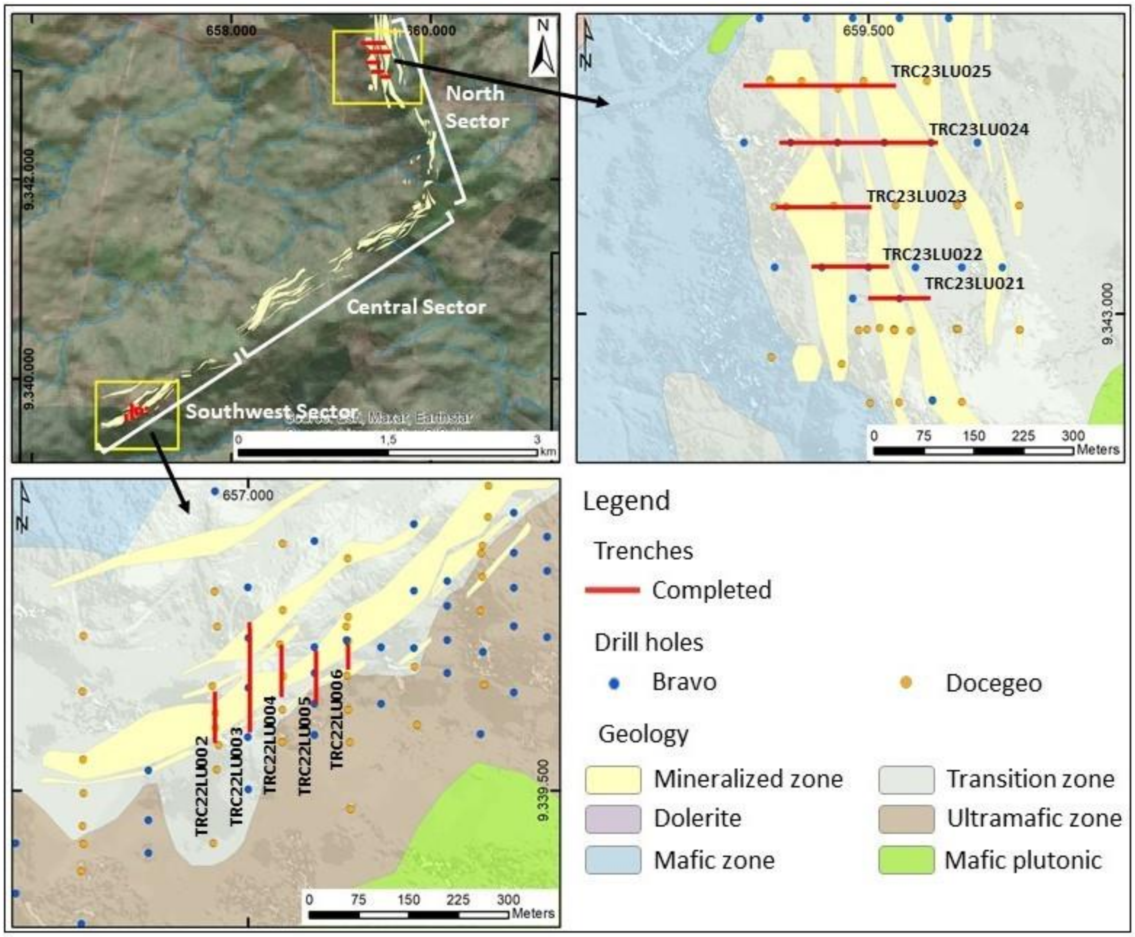


Figure 9-15: Trench opening program.

The ***Figure 9-16*** illustrates the cross section with a shallow mineralized zone of 58.5m @ 2.13 g/t PGM+Au identified in the Trench TRC22LU002.

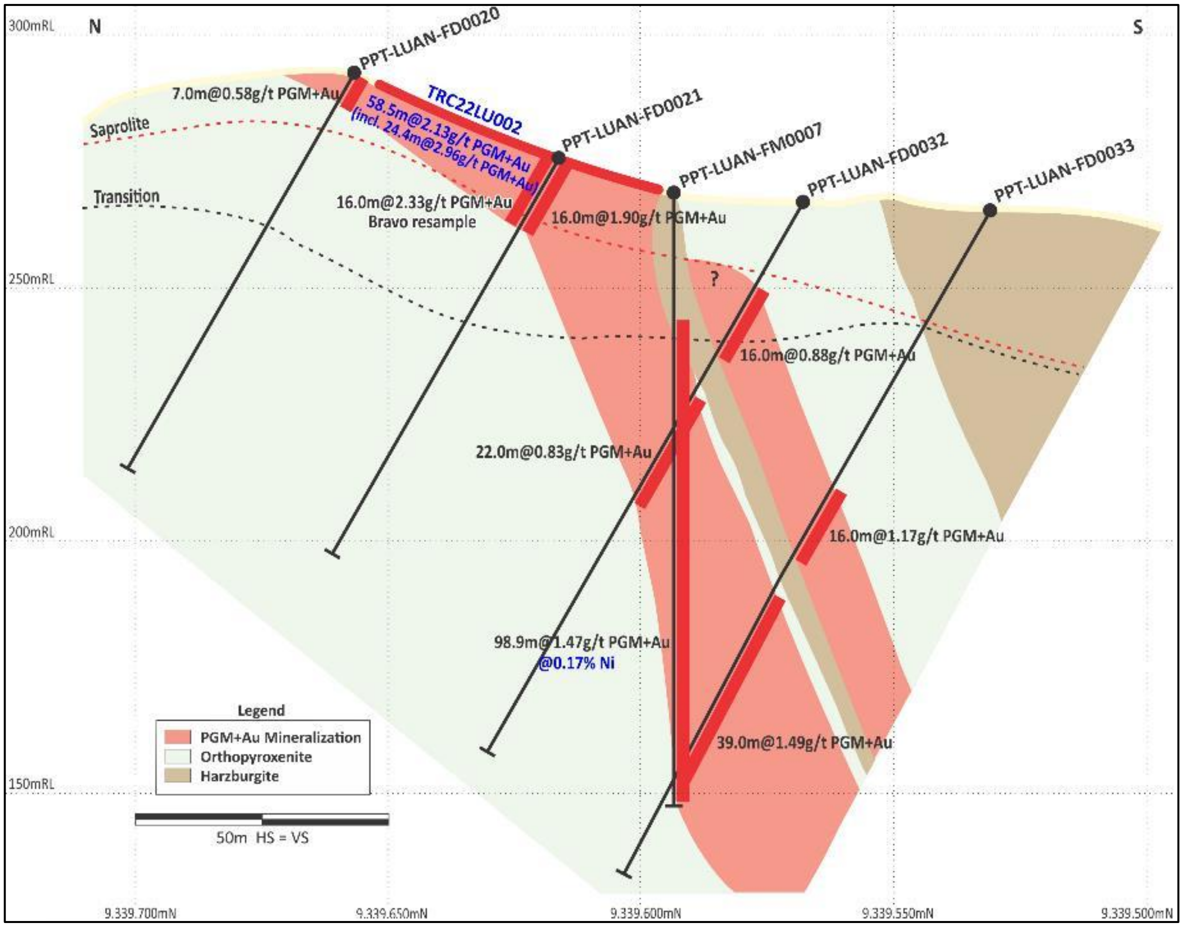


Figure 9-16: Section Bravo DDH22LU014 with Trench TRC22LU003.

9.7 Petrography

To improve the geological understanding of the deposit, a petrographic study was carried out using 65 samples selected from drill core and polished thin sections were made up for all of them.

Petrographic studies were developed under an academic collaboration with Professor Cesar Ferreira Filho from the University of Brasilia. Preliminary results of this study were presented at the International Platinum Symposium in 2023 (Ferreira Filho *et al*., 2023). ***Figure 9-17*** and ***Figure 9-18*** show photomicrographs representative of common textures described at Luanga.

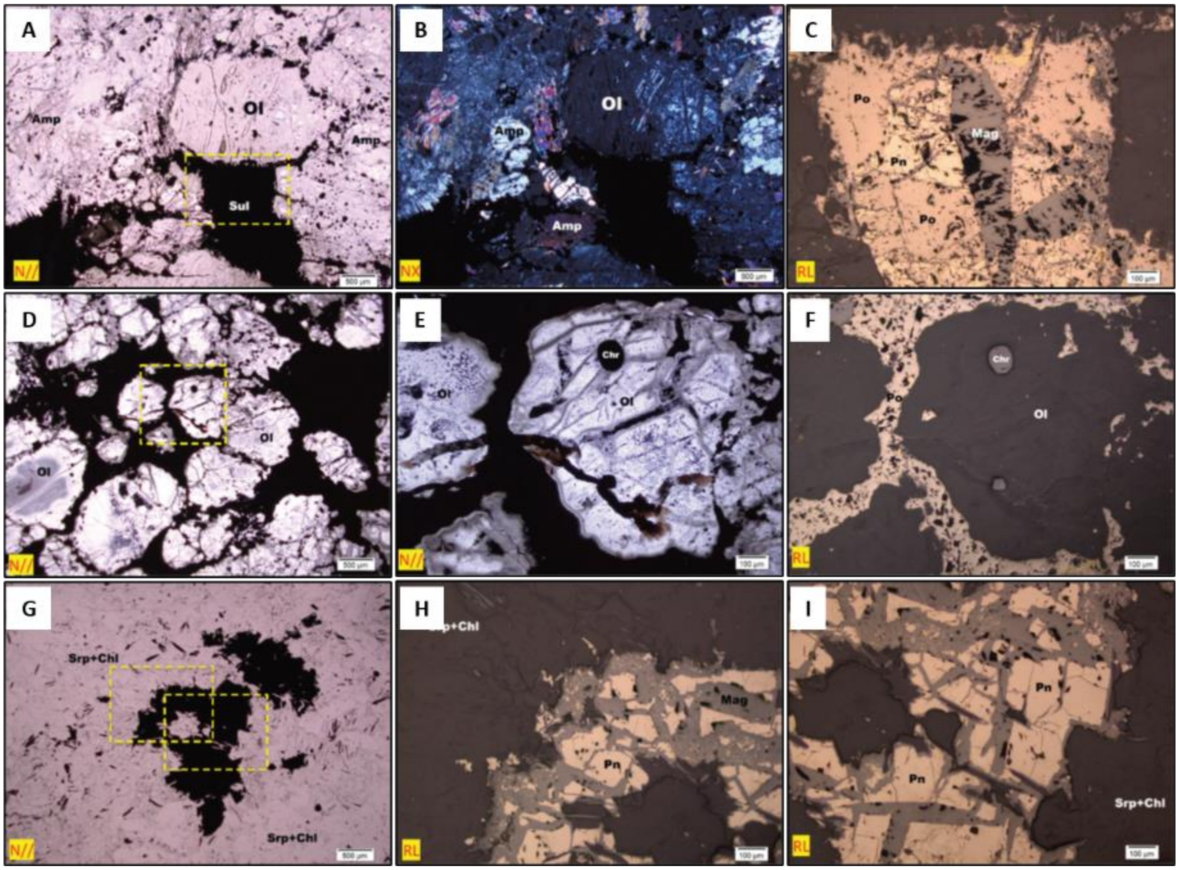


Figure 9-17: Sample Ptr-23 photomicrographs:

(A) and (B) Olivine orthopyroxenite Olivine is altered to fine-grained aggregates of Srp+Mag, while Cpx is altered to colorless amphibole (Amp) and Mag. (C) Po and Pn with minor Ccp. Sulphides are partially altered to Mag - Detail of the dashed rectangle area showed in A. Sample Ptr-09 photomicrographs: (D) Dunite with interstitial to net-textured sulphide. Sulphides (Po+Pn) interstitial to olivine pseudomorphs (Ol). Note euhedral chromite crystals (opaques) enclosed in Ol. (E) and (F) Detail of the dashed rectangle area showed in D. Sample Ptr-15 photomicrographs: (G) Harzburgite (Serpentinite) with fine-grained aggregate of Srp and Chl. Opaques consist of magnetite (irregular elongated crystals) and sulphides. (H) and (I) Sulphide blebs consisting mainly of Pn variably altered to Mag. Note Mag. developed along cleavage planes of Pn - Details of the dashed rectangles area showed in G.

N// = plane polarized light. NX = cross polarized light. RL = Reflected Light. Amp = amphibole, Chl = chlorite, Chr = chromite, Cpy = chalcopyrite, Mag = magnetite, Serp = serpentine, Sul = sulphide, Ol = olivine, Pn = pentlandite, Po = pyrrhotite.

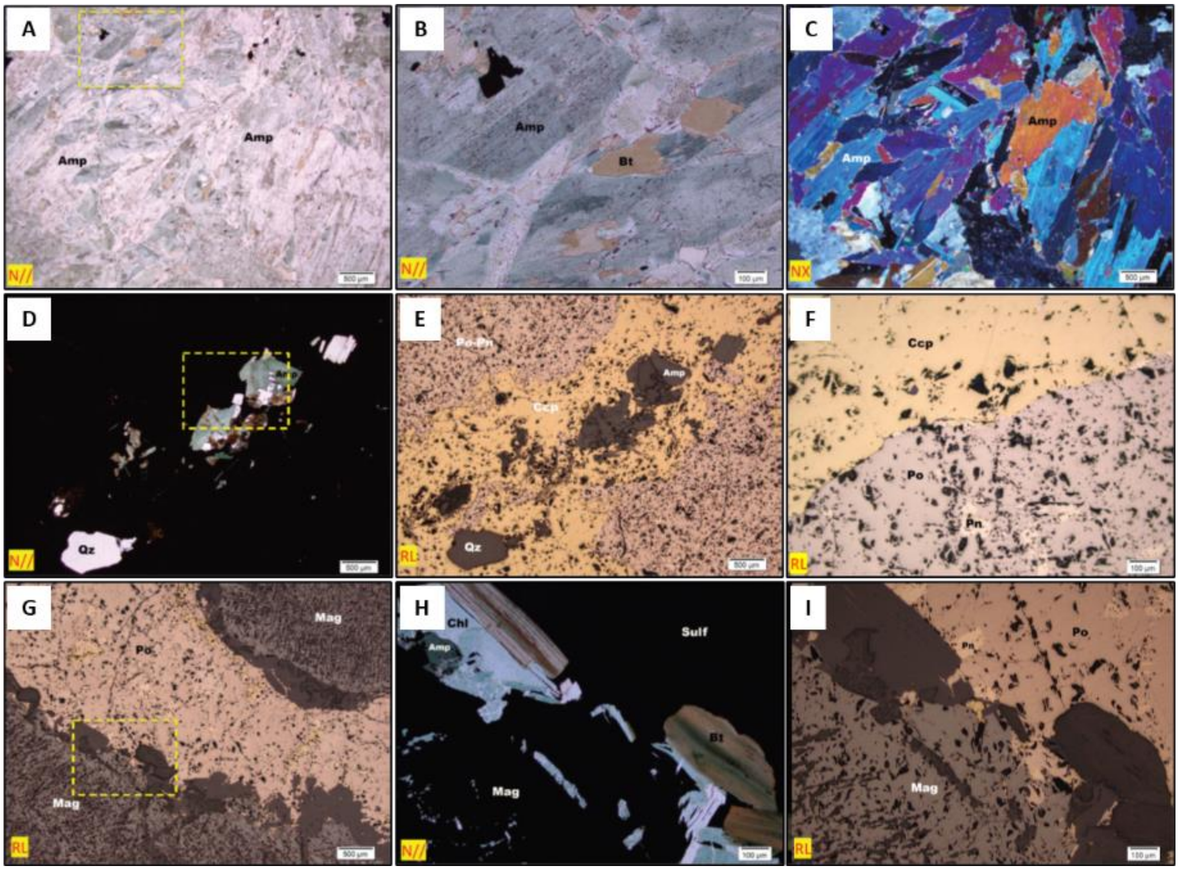


Figure 9-18: Sample Ptr-07 photomicrographs:

(A) Amphibolite (orthopyroxenite/norite) consisting of randomly oriented amphibole (colorless to green pleochroism) and minor Bt (light to dark red pleochroism) and euhedral magnetite-ilmenite (opaques). (B) and (C) Detail of the dashed rectangle area showed in A. Sample Ptr-03 photomicrographs: (D) Massive sulphide zone. Cpy-rich domain with associated Amp, Qz and Bt. (E) Detail of the dashed rectangle area showed in D. (F) Massive sulphide. Cpy with Po with Pn inclusions (crystals and exsolution). Sample Ptr-47 photomicrographs: (G) Coarse-grained orthopyroxenite with Mag crystals associated with sulphides. Alteration minerals (Chl, Bt, Amp) occur at the contact of Mag and sulphides. Trellis exsolutions (Ilm) are abundant in the Mag crystals, except for the outer rim. Sulphides consist mainly of Po and Pn. (H) and (I) Detail of the dashed rectangle area showed in G.

N// = plane polarized light. NX = cross polarized light. RL = Reflected Light. Amp = amphibole, Bt = biotite, Chl = chlorite, Chr = chromite, Cpy = chalcopyrite, Mag = magnetite, Serp = serpentine, Sul = sulphide, Ol = olivine, Pn = pentlandite, Po = pyrrhotite, Qz = quartz

10 DRILLING

10.1 Introduction

Approximately 94,892 m in 470 exploration holes has been drilled on the Property since 1993. Of these, 252 (50,352 m) are diamond drill holes executed by Docegeo (Vale) and include Luanga and Luanga South geological targets.

Details of the various drilling programs are summarized in **Table 10-1**, and drill hole locations are shown in ***Figure 10-1***.

The drilling by Vale in 1993 was for early-stage exploration while the drilling between 2001 and 2003 was exploration-focused programs and for initial resource estimates.

The drilling that Bravo started in March 2022, and has continued since then, was designed primarily for infill drilling and resource definition at Luanga. Bravo also performed 8 drill holes with geometallurgical purposes. The drill holes that were included in the resource estimate are discussed in Chapter 14 of this report.

Table 10-1: Drilling summary for Luanga.

Year	Drill Type	Drill Holes	Total Metres	Company	Contractor
1993	DD	4	643.69	Docegeo	Docegeo
2001	DD	89	15,392.10		Geosol
2002	DD	68	14,603.40		Geosol
2003	DD	91	19,713.70		Geosol
					Rede
2022	DD	137	23,398.90	Bravo	Servdrill
2023	DD	81	21,140.40		Servdrill
TOTAL		**470**	**94,892.19**		

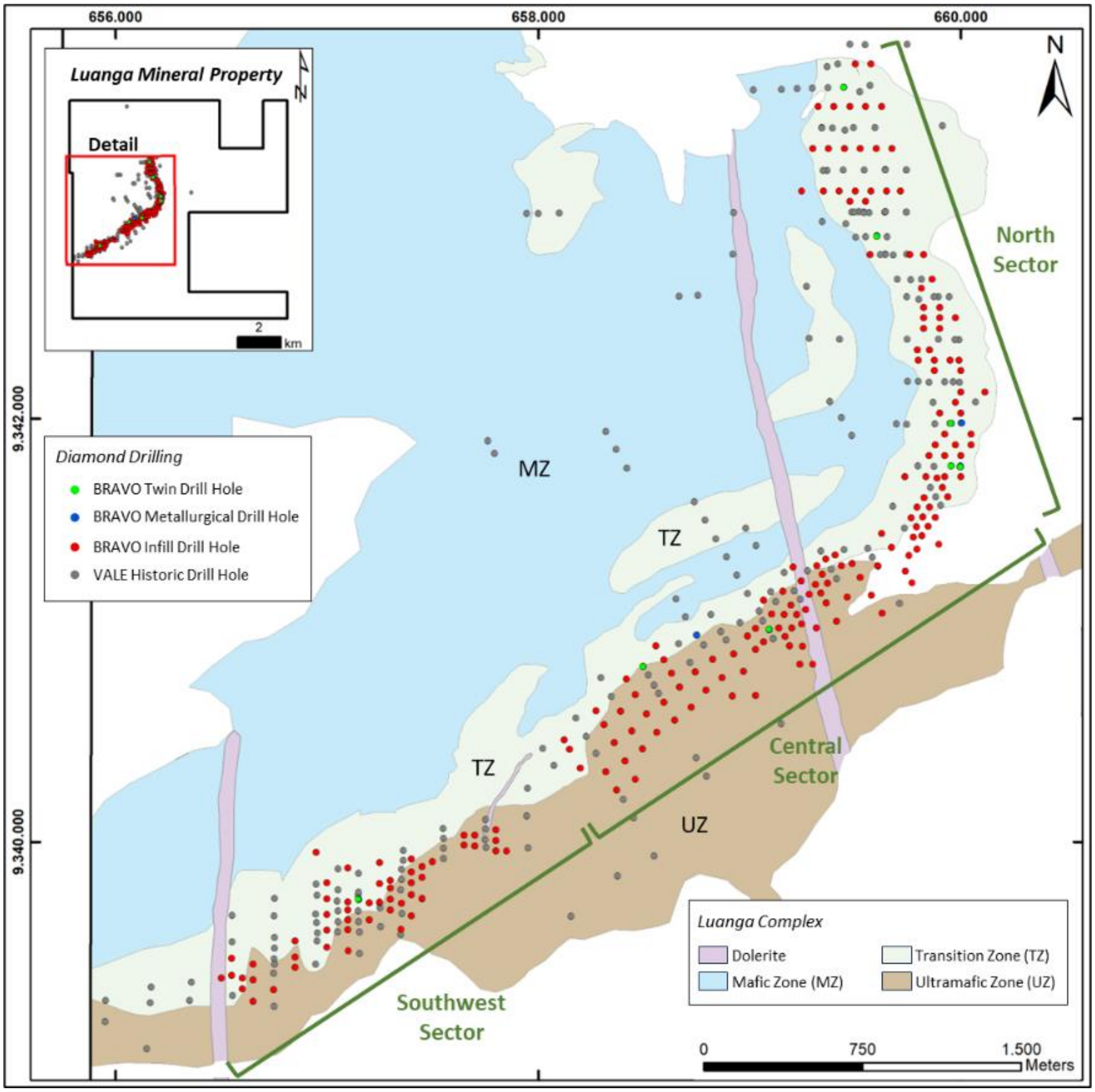


Figure 10-1: Drill Hole Locations at Luanga.

10.2 Historical Drilling

Historical drilling consisted of 252 diamond drill holes (50,352.89 linear metres) at Luanga between 1993 to 2003 (**Table 10-2**). Most of the diamond drilling occurred between 2001 and 2003 over two main targets, Luanga and Luanga South. At Luanga, 228 diamond drill holes (45,165.74 linear metres) were completed, representing approximately 90% of the entire drilling program. At Luanga South, 24 drill holes (5,187.15 linear metres) were completed.

Most of the diamond drilling was carried out by two Brazilian diamond drilling companies Geologia e Sondagem S.A. ("Geosol") and Engenharia e Sondagem Ltda (Rede). Docegeo was responsible for the first four drill holes at the Project.

Table 10-2: Historical Drilling Summary

Year	Drill Type	Drill Holes	Total Metres	Contractor
1993	DD	4	643.69	Docegeo
2001	DD	89	15,392.10	Geosol
2002	DD	68	14,603.40	Geosol
2003	DD	91	19,713.70	Geosol
				Rede
TOTAL		**252**	**50,352.89**	

Most of the diamond drill holes (248 holes) were drilled with inclinations varying from -55.0º to -70.0º, with the predominant inclination at -60.0º (***Figure 10-2***). Only four diamond drill holes were drilled vertically or close to vertical (-90.0º to -80.0º).

Figure 10-2: Historical drilling at Luanga Project, angled drill hole.
Source: Vale

The maximum drill hole length in historical drilling was 497.60m and the average hole length was 199.8 metres. The diamond drilling ("DD") holes were drilled with a HQ (96.40mm) diameter in the weathered zone, changing to NQ (76.20mm) diameter in the fresh rock. There is no information about the drilling recovery in the historical database. However, from visual inspection of available core from these programs, recoveries appear to have been excellent.

The near surface portion of Luanga has been oxidized to depths of a few meters to a few tens of metres and is underlain by a thin transition zone before fresh sulphide mineralization is encountered. PGMs and Au are potentially recoverable from both oxide and sulphide mineralization, based on comparable deposits, whereas Ni would typically only be recovered from sulphide mineralization, in which sulphide minerals are present.

The location of the drill holes at Luanga and Luanga South targets are illustrated on ***Figure 10-3*** and ***Figure 10-4***, respectively.

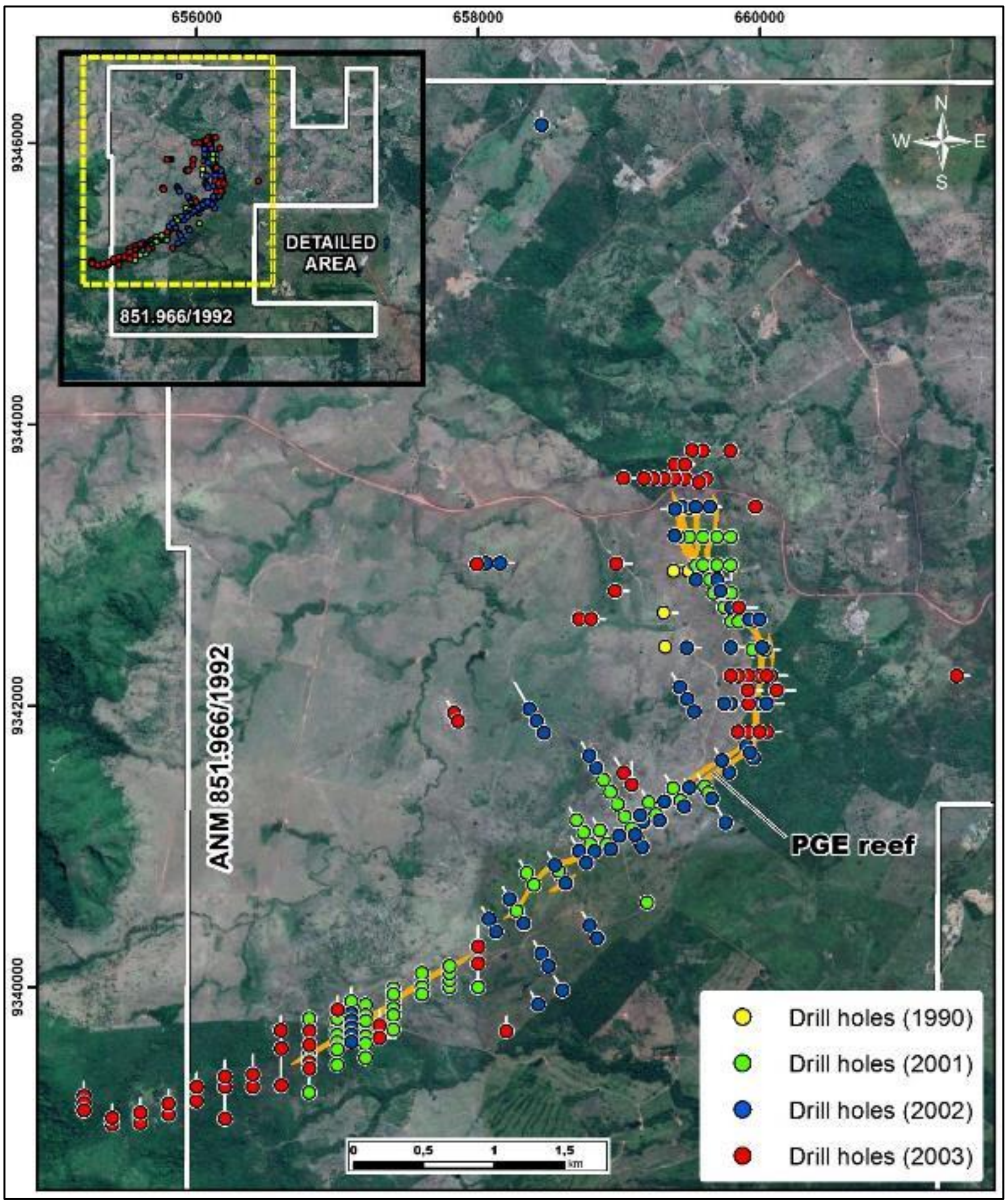


Figure 10-3: Drill hole location map for Luanga target, Luanga Project

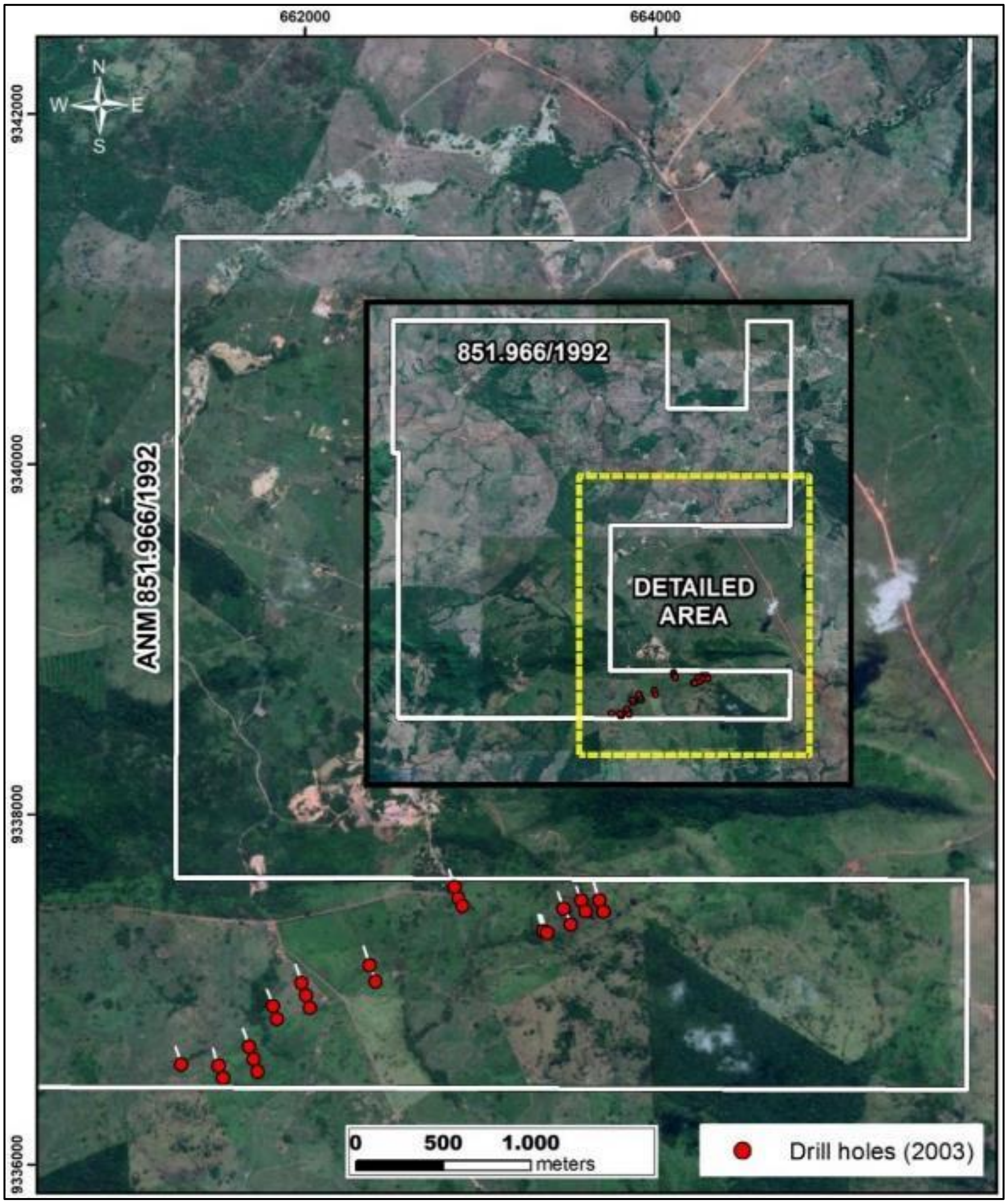


Figure 10-4: Drill hole location map for Luanga South target, Luanga Project

A selection of the main mineralized intervals from Luanga's historical drilling is summarized in Appendix C. It is important to note that many other mineralized intersections exist within the deposit. The original grade units (ppb and ppm) have been restated as g/t and %, respectively.

Table 10-3: Highlights of mineralized intervals from historical drilling at Luanga.

HOLE-ID	From (m)	To (m)	Thickness (m)	Pd g/t	Pt g/t	Rh g/t	Au g/t	3PGE+Au g/t	Type
FD0014	11	21	10	5.65	2.61	0.41	0.05	8.72	Ox
FD0018	0	47	47	1.98	1.36	0.13	0.25	3.72	Ox+ FR
FD0019	79	109	30	1.76	0.97	0.12	0.06	2.91	FR
FD0026	6	20	14	2	1.79	0.26	0.08	4.13	Ox
FD0035	3	18	15	6.18	2.49	0	0.64	9.31	Ox
FD0036	0	71	71	2.22	1.1	0.1	0.28	3.7	Ox+FR
FD0059	55	98	43	0.78	0.93	0.01	0	1.72	FR
FD0068	75	89	14	4.04	3.16	0	0.18	7.38	FR
FD0069	99	124	25	2.1	1.39	0.24	0.15	3.88	FR
FD0095	28	59	31	2.55	1.61	0.21	0.03	4.4	FR
And	*71*	*93*	*22*	*2.63*	*1.59*	*0.09*	*0.02*	4.33	FR
FD0124	0	12	12	9.97	6.12	1.02	0.07	17.18	Ox
FD0132	0	65	65	0.8	0.91	0.04	0	1.75	Ox+ FR
FD0136	0	17	17	17.36	18.36	2.94	0.06	38.72	Ox
FD0137	76	93	17	2.05	0.76	0.12	0.03	2.96	FR
FD0145	0	40	40	1.88	0.69	0.08	0.27	2.92	Ox+ FR
FD0173	0	35	35	0.26	1.16	0.58	0	2	Ox
And	*44*	*77*	*33*	*0.23*	*0.78*	*0.56*	*0*	1.57	FR
FD0218	41	53	12	1.98	1.51	0.98	0.16	4.63	FR
FD0220	108	157	49	1.09	0.62	0.25	0.12	2.08	FR

Notes: All drill holes ID have a prefix "PPT-LUAN-"

All 'From', 'To' depths, and 'Thicknesses' are downhole.

Holes marked with # were drilled sub-parallel to mineralization and therefore do not represent true thicknesses. Intercepts are estimated to be 70% to 100% of true thickness.

NA: Not Applicable as intercept is oxide, or a mix of oxide and fresh rock mineralization.

Ox = Oxide. FR = Sulphide. Recovery methods and results will differ based on the type of mineralization.

10.2.1 Historical Drill Collar Survey

The drill holes collars were sited based on the Instituto Brasileiro de Geografia e Estatística (IBGE) base datum. All the drill holes collars were surveyed at the end of each drilling campaign, using Total Station TOPCOM GTS 229 equipment with the final location entered into the drilling database. The survey Datum used for the Luanga Project was SAD69.

All the drillholes collars were capped with cement blocks, including a PVC tube and aluminium plates, including drillhole number. Information related to hole ID, coordinates, elevation, dip, azimuth and final depth data are included on the collar plugs on the aluminium plates.

10.2.2 **Downhole Survey**

Downhole deviation surveys were carried out along the length of 240 diamond drillholes with readings collected at 3 metres intervals. The downhole survey covered approximately 95% of the total drillhole population.

10.3 Bravo Drilling Program

Bravo has been carrying out its diamond drilling program using equipment from third-party company Servdrill Perfuração e Sondagem (Servdrill), reaching 6 drill rigs at the same time. Drill inspection is carried out by Bravo's own employees (***Figure 10-5***).

To the Effective Date, 218 drill holes have been completed as part of the mineral resource infill and confirmation program, for a total 44,539.30m (**Table 10-4** and ***Figure 10-6***). Of these, 202 are infill holes and 8 are twin holes to historical drilling. In general drill holes intercepted the same lithologies (orthopyroxenites and harzburgites) and the 2 styles of mineralization anticipated based on historical drilling (MSZ e LS). Other (4) styles of mineralization were described by Bravo as presented in the subchapter 7.3.6.

A total of 8 geometallurgical drill holes were drilled for the purpose of obtaining samples for metallurgical tests and not used on mineral resource estimate, as the sampling methodology used do not meet the methodology used on infill and twin holes.

Figure 10-5: Rig in operation.

Table 10-4: Diamond drilling quantitative.

Diamond Drilling Campaign	Infill		Twin		Geometallurgical	
	Drill Holes #	Meterage	Drill Holes #	Meterage	Drill Holes #	Meterage
2022	121	21,382.25	8	1,135.50	8	882.15
2023	81	21,140.40	-	-	-	-
Total	**202**	**42,522.65**	**8**	**1,134.50**	**8**	**882.15**

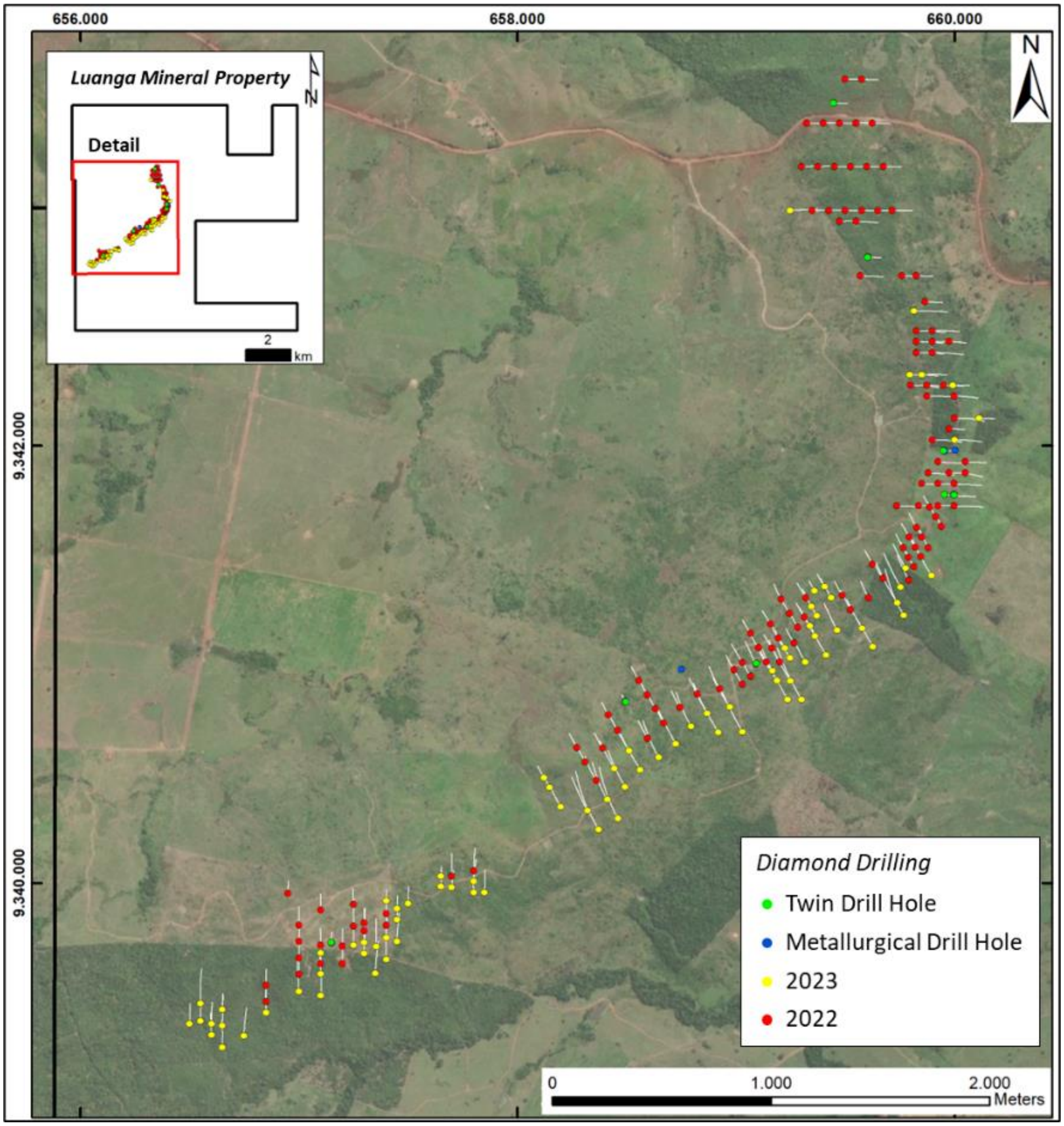


Figure 10-6: Bravo Drill hole location map for Luanga target, Luanga Project

The shallowest hole drilled by Bravo was 76.55m and the deepest hole was 515.60m, with an average depth of 170m. Drilling is by HQ sized diamond core from surface, until reaching competent fresh rock from where drilling is by NQ2 sized diamond core. Core recoveries are generally excellent, with averages of >99% in the fresh rock and 94% for oxidized rocks. Mineralization is finely and evenly disseminated, thus it is believed that there will be no nugget effects or issues affecting accuracy and reliability, as was the case in the historical core.

In the Southwest Sector of Luanga, drill holes are drilled in a northerly direction, with a dip of 60º. In the central part, holes are drilled at azimuth 330°, with a dip of 60º, except holes DDH22LU110 and DDH22LU112 which were drilled with a dip of 70º. In the north part, holes are drilled at azimuth 090°, with a dip of 60º, except holes DDH22LU013 and DDH22LU017 which were drilled with azimuth 330°.

10.3.1 **Bravo Drill Collar Survey**

All drilling holes collars are geolocated with GPS with geodetic accuracy, being initially outsourced through the company RR Top and, currently, done by Bravo's own team. The survey Datum used for the Luanga Project was SIRGAS 2000.

All the drillholes collars were capped with cement blocks, including a PVC tube and aluminium plates, including drillhole number. Information related to hole ID, coordinates, elevation, dip, azimuth and final depth data are included on the collar plugs on the aluminium plates.

10.3.2 **Bravo Downhole Survey**

Once the drill hole is finished, deviation surveys are conducted for all holes by the drilling company itself using REFLEX GYRO SPRINT-IQ device. In addition, runs are guided whenever possible with Reflex ACT3 device (***Figure 10-7***).

Figure 10-7: REFLEX GYRO SPRINT-IQ device used for guided run.

10.3.3 **Core Transport**

At the end of each drilling shift, the wooden boxes containing the drill cores are taken to the drilling shed by the outsourced drilling company or by Bravo employees. The boxes are always transported securely tied and covered (***Figure 10-8***).

Figure 10-8: Safe transport of drill core boxes.

10.3.4 Core Loging

In the core shed (***Figure 10-12***), the boxes are placed on racks for checking the depth, advance and recovery information, in addition to meter-by-meter marking. Then, magnetic susceptibility measurements are taken with the KT-20 S/C device. Marking of the oriented intervals is carried out to then proceed with the taking of structural measurements using the IQ Logger device (***Figure 10-10***).

Figure 10-9: Core shed at Luanga Project.

Figure 10-10: (A) Checking the core boxes and (B) taking structural measurements with IQ Logger.

A geotechnical description of the holes is completed, focusing on obtaining the RQD measurement, which consists of adding the length of all core fragments greater than 10cm, within the same run, dividing this sum by the length of the run. Information about the strength and weathering of the rocks is also collected.

In the geological description, the following information is collected: granulation, texture, colour, mineralogy, magnetism, geological contacts, lithology, geological structures (fractures, faults, veins and crenulations), among others. Magnetic susceptibility and conductivity are measured in the core at each 0.5 m with a handheld KT-20 S/C magnetic susceptibility/conductivity meter.

After the geological description, a sampling plan is drawn up (discussed in detail in Chapter 11). Then the numbering of the samples is marked on the boxes. A marking is also made to guide the sawing of the core into two equal halves (***Figure 10-11***). Photographs are taken of all core boxes, which are then sawed and sampled.

Figure 10-11: (A) Drill cores with core orientation markings and (B) Core Photography Table.

Given the orientation of the holes and the mineralization, the intercepts are estimated to range from ~70 to 100% of true thickness.

Drill hole locations are listed in Appendix B and are shown ***Figure 10-12***. ***Figure 10-13*** to ***Figure 10-15*** exemplify cross sections with mineralized intersections in the North, Central and Southwest sectors of Luanga. A summary of the main intersections is listed is listed in the Appendix C.

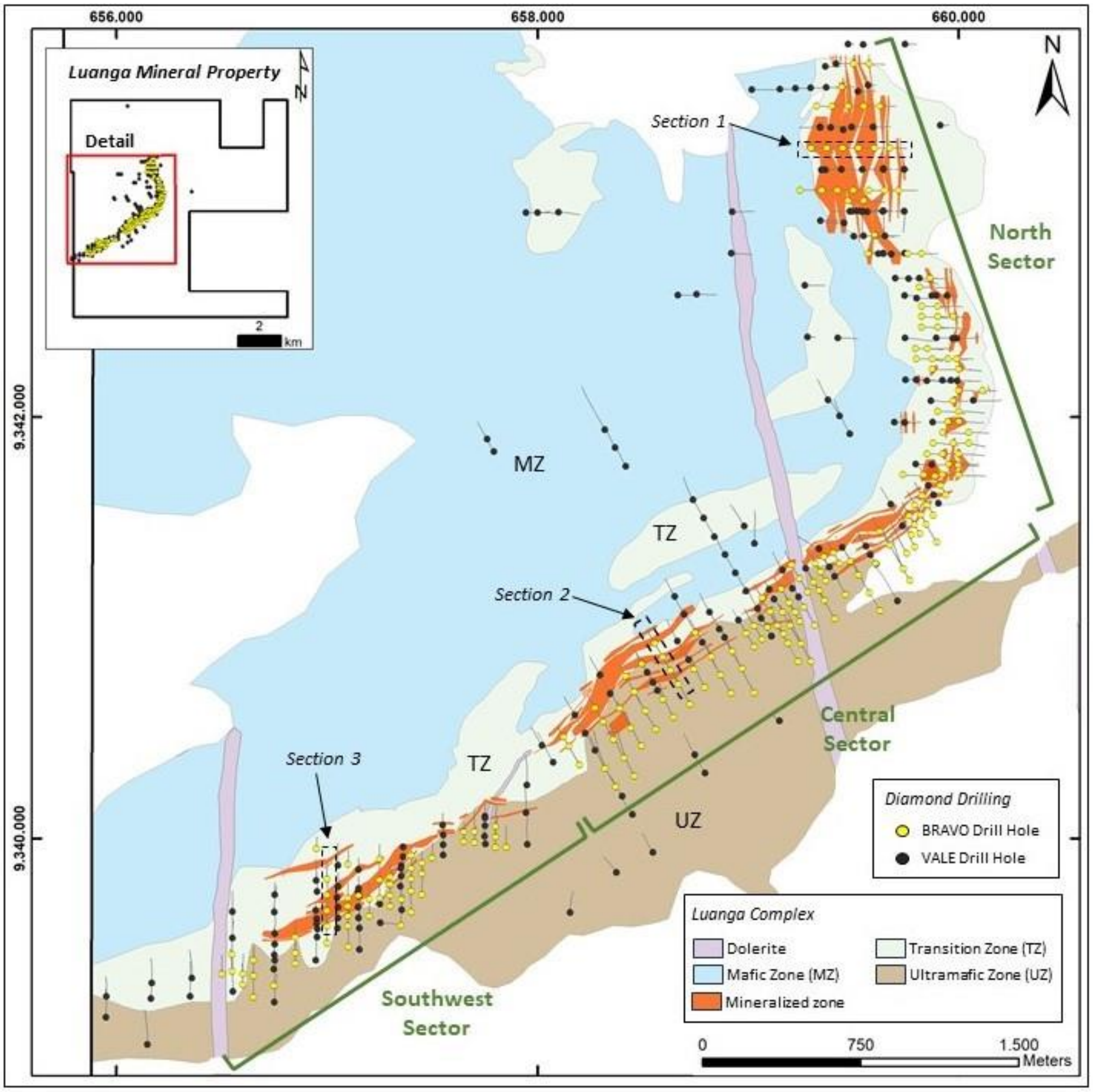


Figure 10-12: All Drilling.

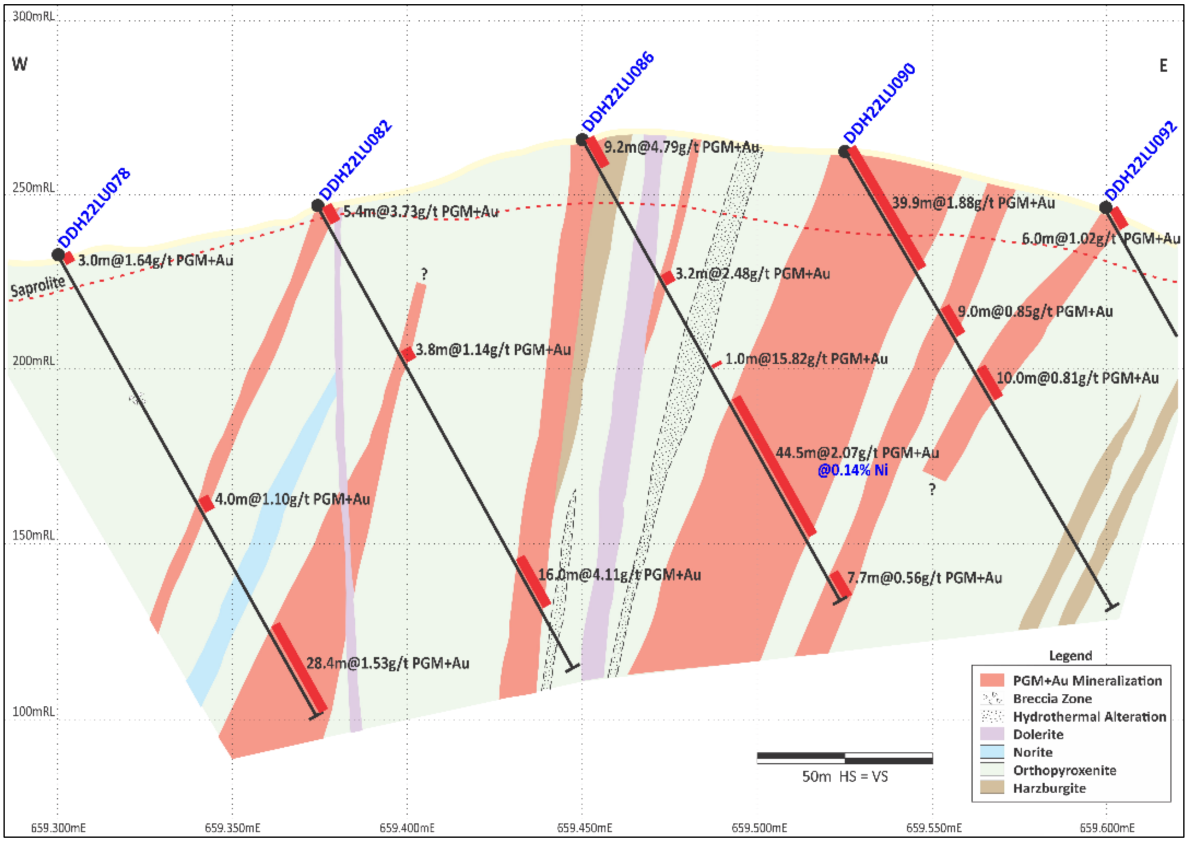


Figure 10-13: Cross Section 1 - North Sector. Multiple stacked mineralization zones (open at depth).

See map in Figure 10-12 for section location.

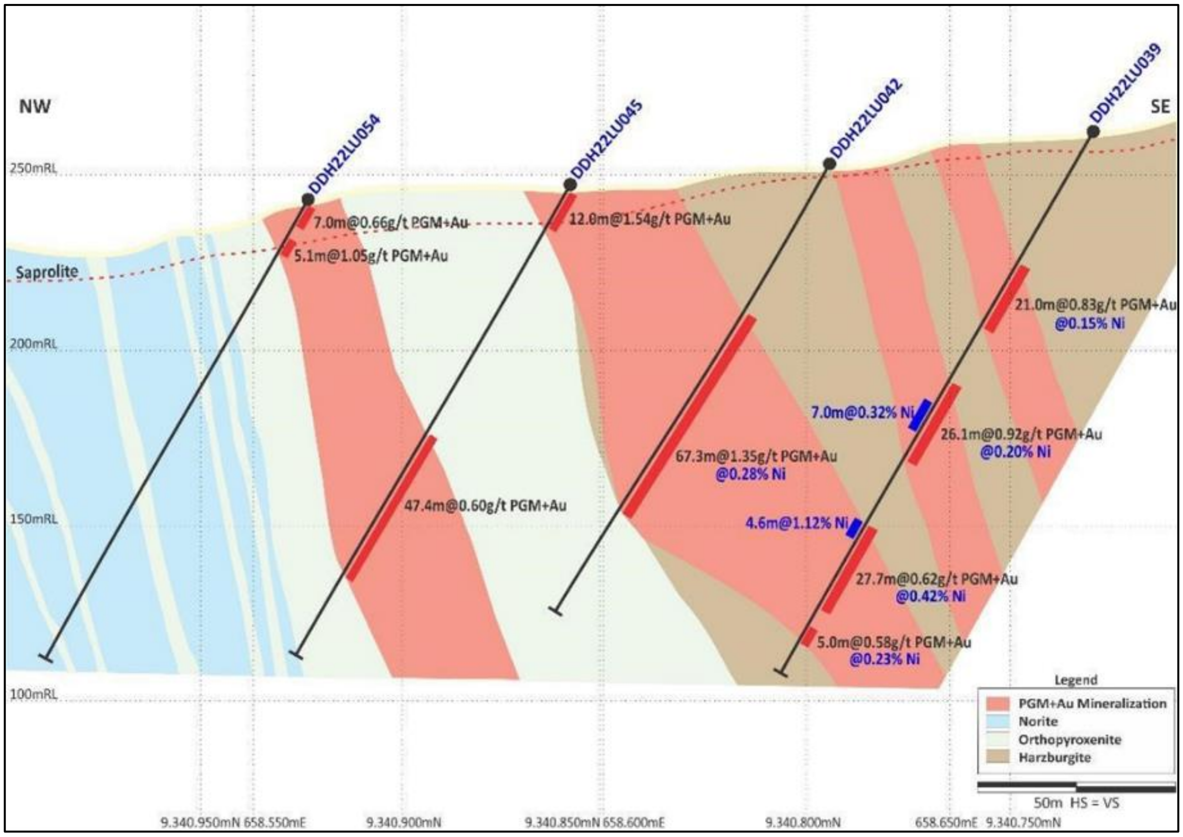


Figure 10-14: Cross Section 2 (Central Sector) – Increasing nickel grade to the SE (open at depth).

See map in Figure 10-12 for section location.

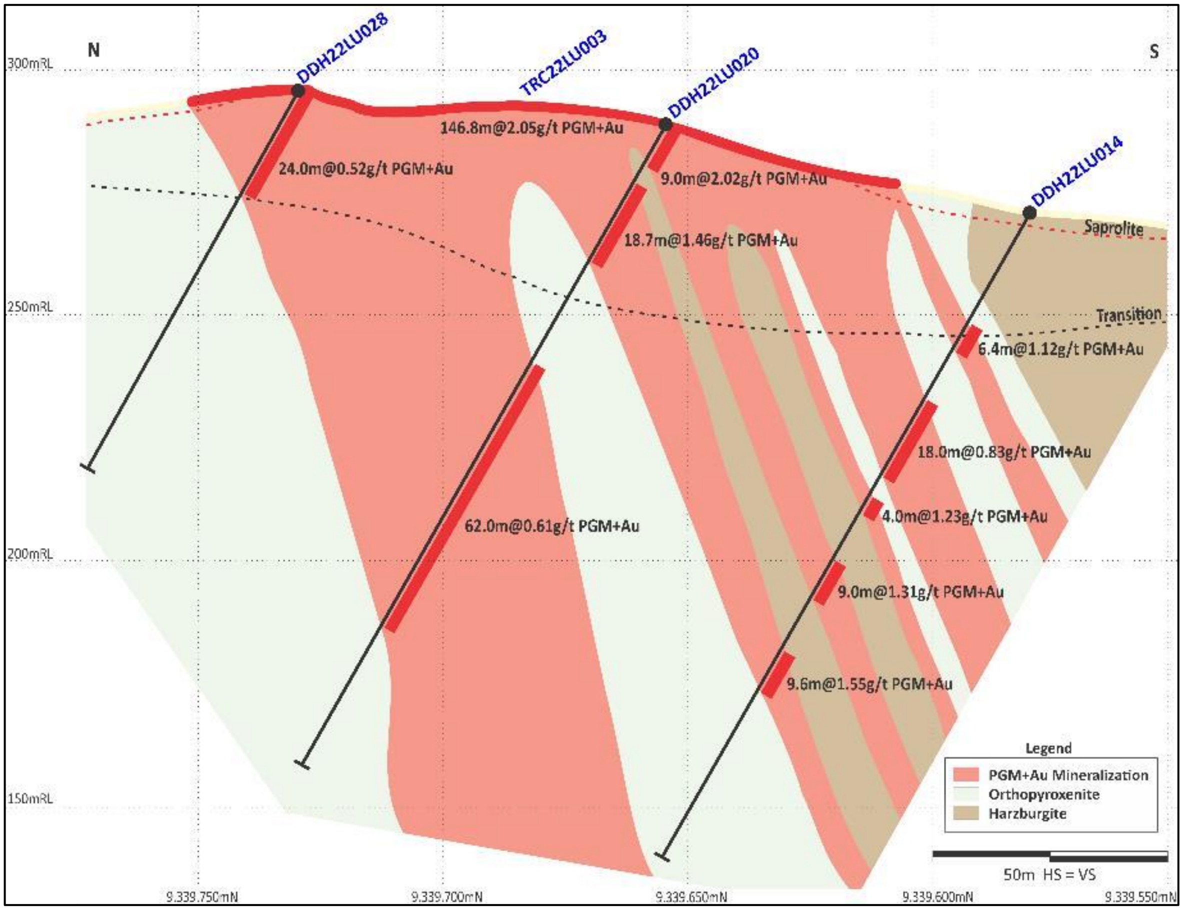


Figure 10-15: Cross Section 3(Southwest Sector) – Multiple mineralization zones (open at depth).
See map in Figure 10-12 for section location.

10.4 Twin Holes

A twin hole program has been designed to validate the historical drilling (**Table 10-5**). The objective was to support the insertion of historical drilling into Bravo's database with the same degree of quality and confidence in the geological, geochemical, and sample information. This program includes the drilling of 8 "twin holes" against historical drilling, following the coordinates surveyed in the field in SIRGAS 2000 format.

Table 10-5: Selection of Results from Bravo Twin Hole Drilling.

TWIN of Historical Hole PPT-LUAN-FD0136									
HOLE-ID	From (m)	To (m)	Thickness (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	Historic SGS PGM+Au (g/t)	Bravo ALS PGM + Au (g/t)
DDH22LU043	0.0	16.7	16.7	15.92	16.51	3.63	0.05		36.12
PPT-LUAN-FD0136	*0.0*	*17.00*	*17.0*	*17.36*	*18.36*	*2.94*	*0.17*	*38.73*	

DDH22LU043	34.9	86.5	51.6	0.84	0.56	0.08	0.12		1.60
PPT-LUAN-FD0136	*24.0*	*78.0*	*54.0*	*0.46*	*0.36*	*0.11*	*0.07*	*0.93*	
TWIN of Historical Hole PPT-LUAN-FD0083									
DDH22LU083	0.0	93.0	93.0	1.80	1.15	0.20	0.02		3.17
PPT-LUAN-FD0095	*0.0*	*93.0*	*93.0*	*1.60*	*1.01*	*0.10*	*0.01*	*2.71*	
TWIN of Historical Hole PPT-LUAN-FD0145									
DDH22LU006	0.00	37.22	37.22						3.08
PPT-LUAN-FD0145	*0.00*	*40.00*	*40.00*					*2.92*	

Notes: All ‘From’, ‘To’ depths, and ‘Thicknesses’ are downhole.

Intercepts are estimated to be 75% to 85% of true thickness.

NA: Not Applicable as intercept is oxide, or a mix of oxide and fresh rock mineralization.

11 SAMPLE PREPARATION, ANALYSIS AND SECURITY

Bravo is currently undertaking a diamond drilling campaign aiming to infill the zones of historically defined mineralization, to check the historical drilling campaign and test the mineralization extension in depth.

The sampling program carried out by Vale between 1993 and 2003 was reported and commented on in the report entitled “Independent Technical Report for the Luanga PGM+Au+Ni Project, Pará State, Brazil”, with an effective date of 28th March 2023, available on SEDAR and was prepared by GE21.

The procedures carried out by Bravo's sampling program since 2022 are summarized below.

11.1 Sampling

The standard sample size is typically a 1 meter length, with a tolerance of 0.70 m to 1.20 m length sample, respecting lithological contacts, weathering zones, and intervals with low recovery.

After drawing up the sampling plan, the samples are identified in the core boxes with the respective numbers. Then the core boxes are photographed, with drill core dry and wet (Figure 11-1).

Figure 11-1 - Example of photographic record of drill core box with marks and sampling ID.

Sampling takes place on the right side of the cut of the core and organized in plastic bags closed and sealed with identified seals. Each sample is weighed individually the information is registered at the sampling plan and the database.

The assay request is prepared by the geologist responsible for the sampling plan, which is accompanied by a letter of custody with volumes sent with the list of samples and their respective seals. Each analytical batch is transported by Bravo's technical team to ALS or SGS Geosol laboratory at Parauapebas-PA (Brazil) by truck from Bravo's site. The relogging and resampling and analysis executed as of December 2022 is described in Figure 11-2.

Drill core samples are prepared at Parauapebas-PA and analyzed at Lima (Peru) by ALS laboratories or at Vespasiano-MG (Brazil) by SGS Geosol Laboratórios Ltda ("SGS Geosol"). Until December of 2022 SGS Geossol was used as the secondary laboratory but, in January 2023, Bravo started using SGS as the primary laboratory and ALS as the secondary laboratory.

Drill core samples are dried, crushed (90% passing the 2mm), split (riffle splitter) and pulverized (200 mesh). Analytical methods applied are fire assay with ICP-AES finish (Pt, Pd, Au), nickel sulphide leach with ICP-AES finish (Ni) and fire assay with ICP-MS finish (Rh).

ALS's Fire Assays use the Pb Collection method, while SGS's Fire Assays use the NiS method for metal collection. ALS and SGS are ISO-accredited (ISO: 17025:2005) commercial laboratories, completely independent of Bravo.

Bravo's drilling and sampling campaign procedures flowchart is described in Figure 11-2.

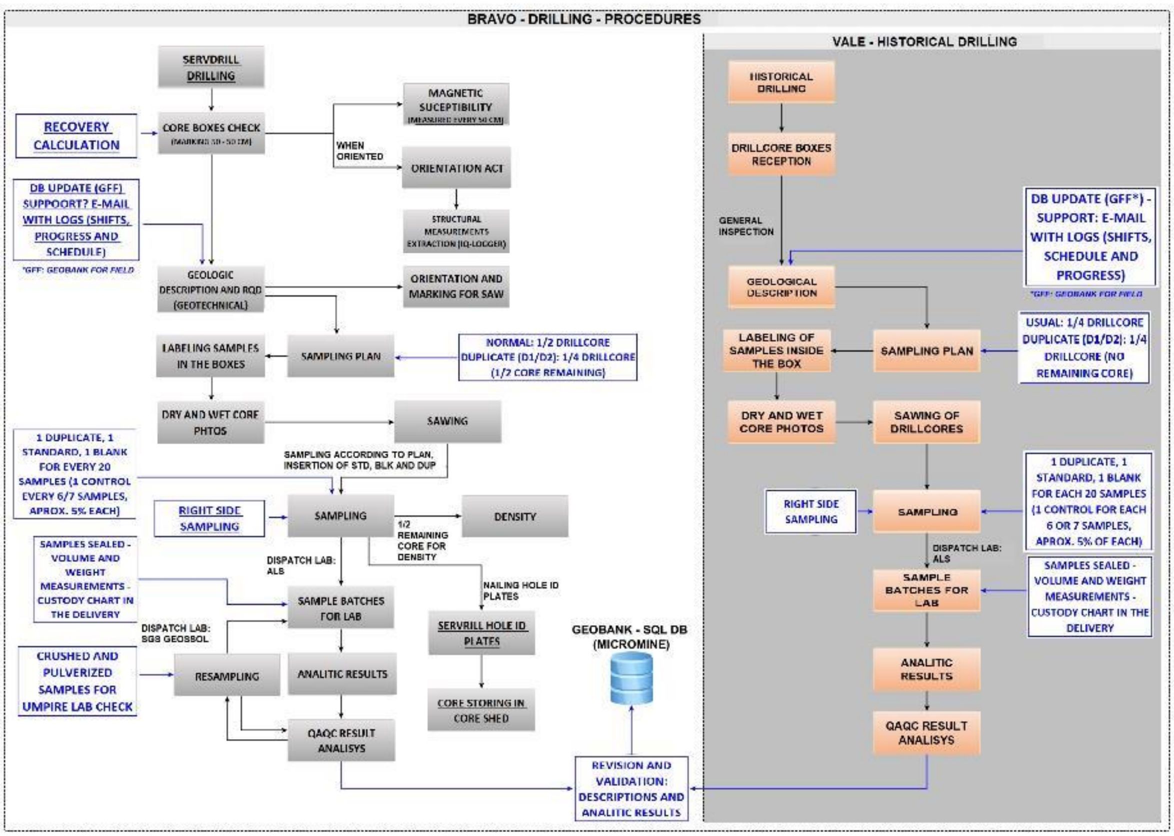


Figure 11-2: Bravo's drilling and sampling campaign procedures

The assay database used in the Project accounts for both Vale and Bravo samples. Vale samples which were reanalyzed by Bravo have their original grades replaced by the new reanalyzed grades in the database.

The Table 11-1 shows the proportion of assay results present in the database from Vale and Bravo programs.

Table 11-1: Assays Proportions by company.

Company:	# Samples:	% Samples:
Bravo	42 361	48%
Vale	41 104	52%
TOTAL	83 465	100%

11.2 Sample Density

Sample density sampling in the drill core executed by Bravo's technical team is conducted after sawing and sampling for chemical analysis. A half-drill core sample is collected every meter, corresponding to half of the remaining core in the box. The selected samples are 10 to 35cm in length and marked with the sample number and core orientation. Subsequently, the samples are submerged in water and weighed on a 0.001kg precision scale to obtain the wet weight.

The samples are then dried in an oven for 24 hours at 105°C and weighed for a second time to obtain the dry weight. After the dry weight measurement, the samples are wrapped in cling film and subjected to volume measurement using the water displacement method. Finally, the samples are returned to the core box (Figure 11-3). Bravo has performed a total of 26,160 density assays as of the Effective Date of this report.

Bravo has executed 47 *in situ* density analyses. These measurements are taken in field outcrops of saprolite and on soil, some assays were performed inside trenches. Measurements were taken considering a fixed volume for a material collection cylinder. The weathered materials' dry density ranges from 1.21 to 1.84 g/cm^3.

Figure 11-3: Sample density: Upper left - Scale; Bottom left – Drying oven; Right - Volume calculation.

Bravo’s sample density results for the main lithotypes of Luanga Project are presented in Table 11-2 and Table 11-3.

Table 11-2: Bravo’s sample density result by weathering domain

Weathering Domain	Count	Mean	Standard deviation	Variance	Minimum	Lower quartile	Median	Upper quartile	Maximum
SAP_OXID	49	1.58	0.270	0.073	1.21	1.43	1.53	1.66	2.68
SAPROCK	951	2.76	0.220	0.049	1.90	2.64	2.77	2.90	5.31
FRESH_ROCK	25 160	2.85	0.185	0.034	1.30	2.73	2.87	2.96	4.64

Table 11-3: Bravo’s sample density result by Fresh Rock Mineralized Zone

Mineralized Domain	Count	Mean	Standard Deviation	Variance	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
Central_FW	804	2.89	0.165	0.027	2.02	2.79	2.91	3.01	3.44
Central_HW	545	2.87	0.19	0.036	2.23	2.72	2.88	3.04	3.49
Central_Main	1 549	2.87	0.176	0.031	1.43	2.76	2.91	2.99	5.31
North_N	1 069	2.77	0.177	0.031	1.8	2.66	2.79	2.91	3.57
North_S	1 324	2.87	0.208	0.043	1.51	2.76	2.87	2.95	4.47

Southwest_FW	280	2.85	0.175	0.031	2.03	2.74	2.91	2.95	3.85
Southwest_HW	148	2.88	0.209	0.044	2.24	2.75	2.93	3.01	3.8
Southwest_Main	955	2.84	0.152	0.023	1.43	2.76	2.88	2.93	4.32
Southwest_SN	129	2.73	0.135	0.018	2.39	2.66	2.74	2.82	3.17
Total	6 803	2.85	0.183	0.034	1.43	2.74	2.88	2.95	5.31

11.3 Quality Assurance and Quality Control (QA/QC)

The Quality Assurance and Quality Control (“QA/QC”) procedures for assays adopted in Bravo’s diamond drilling campaign include Field Duplicates, insertion of Certified Reference Materials (“CRMs”), Blank samples and Umpire Assay samples. The adopted QA/QC procedures follow the guidelines of the Company Technical Assurance Statement (Appendix D).

Blank and CRM samples are commercial, acquired from OREAS, AMIS and Brasil Minas suppliers. Control samples (blank, CRM and duplicate) are inserted in the analytical batch at the site at a ratio of 1:20 regular samples.

Bravo’s QA/QC program accounts for 14,281 control samples, including Certified Reference Materials, Blank Samples, Field Duplicates and Umpire Check Assays, representing 15% of the total samples. Table 11-4 presents a summary of the QA/QC samples, including the Vale QA/QC program.

Table 11-4: Bravo’s QA/QC summary

Bravo	CRM	2 293
	Blank	2 328
	Field Duplicate	2 535
	Umpire Check	1 407
	Total Bravo QC Samples	8 563
	Total Bravo Samples	38 201
	Total Bravo Database	55 327
	Total QC Samples | Bravo Database (%)	**18.3%**
Vale	Duplicate	2 836
	Blank	720
	Total Vale QC Samples	**3 556**
	Total Vale Samples	40 641
	Total Vale Database	47 753
	Total QC Samples | Vale Database (%)	**8.7%**
Vale - Resampled	Resampled by Bravo	2 162
	Resampled by Bravo | Vale Database (%)	5.3%

	Vale QC + Resampled by Bravo | Vale Database (%)	**14.1%**
Total	Total Samples	78 842
	Total QA/QC	14 281
	Total	93 123
	Total QA/QC percentage	**15%**

Bravo's QA/QC program also accounted for a Resampling Campaign, aiming to validate the Vale database and establish a correlation between total (silicate, oxide and sulphide) Ni grades analyzed by Vale and recoverable sulphide Ni grades. A total of 2,056 core intervals were resampled and analyzed, representing 5% of the Vale samples. The analyzed resample results were entered into the drilling database, replacing the previous total Ni grades. Twin Holes were also drilled to evaluate the quality of Vale's previous drilling, sampling, and assaying.

Bravo's team produces regular QA/QC internal reports to constantly monitor the quality of the received assay results. GE21 has accessed the reports from May 2022 to May 2023. These reports are also used as a Quality Assurance measure, specifying batches or parts of batches to be reanalyzed.

It is important to note that the selected samples are only reanalyzed if the Laboratory is available, and priority is given to unanalyzed batches. The selection and priority for reanalysis is based on the following guidelines:

Full Batch Reassay:

- Number of failed field duplicate samples (Absolute Difference < 10% of the Pair Mean + 2x Detection Limit).

Partial Re-assay (5 previous and 5 next samples, relative to the failed control sample):

- Number of failed CRM Samples (> 3x SD)
- Number of failed Blank Samples (>20x DL)

Priority is given for the batches or sub-batches with (more) Pt and Pd failed assays. Fails in control samples do not necessarily generate a re-assay request.

11.3.1 Blank Samples

The Blank samples used in the Luanga Project are CRMs and internal blanks. A total of 5 types of blanks were used. Table 11-5 presents the number of blank samples used in. Blanks AMIS0793 and OREAS 22d are CRMs, while BLK, BLK1 and Q403 are Brasil Minas' blank materials.

Table 11-5: Bravo's Blank samples summary

Blank	Blank Sample Count:

Q403	943
BLK	9
BLK1	315
OREAS 22d	214
AMIS0793	847
Total Blank Samples	**2,328**

GE21 has generated control charts from the Blank samples' data, using 3x the Detection Limit as the acceptance level. The data was divided into SGS and ALS analysis for the control charts construction. Considering all the Blank samples analysis for PGEs, Au and Ni have presented more than 95% of the assay results below the "3x Detection Limit" acceptance level. The results indicate there was no contamination during the sample preparation stages.

11.3.2 Certified Reference material - CRM

Bravo's QA/QC includes a range of different Certified Reference Materials (CRM), 16 in total. Of these, 11 are from AMIS and 5 from OREAS. The variety of Standard Materials aims to cover low, medium, and high-grade ranges of the main analyzed elements: Pt, Pd, Rh, Au. Table 11-6 presents the quantitative of Reference Materials included in the QA/QC program.

Table 11-6: Bravo's CRM samples summary

CRM	# Samples
AMIS0486	397
AMIS0502	271
AMIS0504	140
AMIS0606	328
AMIS0723	43
AMIS0749	83
AMIS0759	344
AMIS0760	109
AMIS0771	277
AMIS0853	40
AMIS0854	21
OREAS 680	35
OREAS 681	45
OREAS 682	59

OREAS 683	65
OREAS 684	36
Total CRM Samples	**2,293**

GE21 has generated Control Charts for all the Certified Materials used, dividing assay results by laboratory and by assay method. The assay method separation is essential since the SGS laboratory uses the NiS Fire Assay method. In contrast, ALS uses the Pb Collection Method. Due to differences in the target metals collection, CRMs have different certified grades and Standard Deviations for Pb Collection Fire Assay and NiS Fire Assay.

Most Control Charts present a satisfactory result, with more than 70% of the samples constrained between the 2x Standard Deviation Limits.

Control charts of CRMs AMIS0486, AMIS0502, and AMIS0759 were generated for Cu and Co. The copper and cobalt control charts presented good results, with most of the data constrained between the 2x Standard Deviation Limit, attesting the quality of the sample preparation and digestion procedures. Nickel control charts could not be generated since no CRMs in use by Bravo have certified grades for sulphide Nickel analysis, which is the current Ni assay method. Bravo's CRMs are only certified for total Ni analysis, which includes Ni present in silicates and oxides. The comparison between these two different assay methods is not possible, making it impossible to objectively evaluate the accuracy of the Nickel analysis in the database.

In the QA/QC Internal Reports from December 2022 and January 2023, Bravo identified and reported to ALS a non-conformance related to an excessive number of failed AMIS0504 samples on 12 different batches. As results of this non-conformance, an internal investigation was conducted by ALS. Bravo also conducted its own investigation on the matter. Both investigations resulted in similar conclusions: the high content of refractory oxides (i.e., Al_2O_3, Fe_2O_3 and Cr_2O_3) in the material require higher fusion temperatures to the complete metal recovery. ALS has also reported three main possible causes for the low PGEs and gold recovery: differences in the collection methods using NiS and Pb, indicating higher recovery in the NiS method; mineralogical complexity and high refractory oxides content; the weight reduction procedure was considered below optimal, suggesting the need for further mass reduction of the sample and/or the addition of reagents to improve fusion.

The CRM AMIS0504 and the CRM AMIS0606 have shown consistent negative bias. GE21 has consulted the Certified Values for Al_2O_3, Fe_2O_3 and Cr_2O_3 in CRMs AMIS0504 and AMIS0606 and found that both have an Al_2O_3, Fe_2O_3 and Cr_2O_3 combined content of around 60%, thus justifying the encountered negative bias (as pointed out on the investigations carried out by Bravo and ALS).

None of the CRMs used by Bravo have Certified Grades for sulphide Nickel analysis. The Reference materials that encompass Ni grades only certify grades for total Ni, which is inappropriate for controlling the Ni assays since the method employed by Bravo analyses for sulphide Nickel only. GE21 recommends that Bravo acquire Certified or Standard Reference Materials certified for sulphide Ni assay methods.

11.3.3 Field Duplicates

Bravo uses Field Duplicates to evaluate the precision of the sampling procedures. As shown in Table 11-7, GE21 has selected the most significative elements and assay methods for the Project and generated control charts. Duplicate samples are generated using ¼ drill cores.

The Field Duplicates control charts were generated only for the duplicates with both original and duplicate grades above 3x the Detection Limit of the analytical method evaluated. This measure removes analytical artifacts that occur near the Detection Limit. Table 11-7 summarizes the Control Charts generated. GE21 carried out an additional Exploratory Data Analysis (EDA) of Field Duplicates.

Table 11-7: Bravo's Duplicates samples summary

Laboratory	Sample Count	Element:	Assay Method
ALS	1217	Au	PGM-ICP27
		Pd	PGM-ICP27
		Pt	PGM-ICP27
		Rh	Rh-MS25
		Co	ME-ICP61
		Ni	Ni-ICP05
		Ni	ME-ICP61
SGS	1318	Au	FAI515
		Pd	FAI515
		Pt	FAI515
		Rh	FAA35J
		Rh	FAI30V_RH
		Cu	AAS04B
		Co	AAS04B
		Ni	AAS04B

Duplicated samples show a good correlation with the original samples. The PGEs and gold duplicate results range between 60% and 80% below the 30% Half Average Real Difference (HARD) limit. All the copper, nickel and cobalt duplicate control charts show that more than 80% of the data is below the 30% HARD limit.

GE21 recommends to Bravo, the inclusion of coarse and fine duplicates as control samples of its QA/QC program. Coarse and fine duplicates might be collected as an aliquot from the material after the mass reduction processes employed after crushing and milling, respectively. This measure should help to evaluate the quality of the sample preparation processes.

11.3.4 Umpire Check

Umpire Check assays are used to evaluate the reproducibility of a Project's primary laboratory procedures and results. An umpire lab is used to analyze the samples and cross-check the results, similar to a duplicate quality control procedure. As mentioned, the Luanga Project's Primary Laboratory was ALS until, in January 2023, Bravo decided to use SGS as the primary laboratory.

GE21 has produced control charts (Appendix E) to evaluate the reproducibility of PGE and Au assays. The control charts were generated only for the check assays with original and duplicate grades above 3x the Detection Limit of the analytical methods evaluated. This measure is taken to remove analytical artifacts that occur near the Detection Limit. Palladium and platinum presented the best results, with practically 90% of the sample data below the 30% HARD limit.

Rhodium assays resulted in nearly 70% of samples below the 30% HARD limit. Gold check assays present the most dispersion when compared to the PGEs. This element has presented approximately 45% of the sample pairs below the 30% HARD limit.

11.4 Validation of Historical Diamond Drilling Data

Part of Bravo`s mineral exploration campaign is aimed to check the historical Vale DD campaign. Logging, sampling, sample preparation and analysis procedures were the same as the ones employed at Bravo's infill drilling campaign.

11.4.1 Twin holes

Historical drilling is checked through relogging and resampling historical drillholes, and with 8 twin drillholes executed by Bravo (Table 11-8).

Table 11-8: Historical drill holes and their respective twin drill holes executed by Bravo.

Historical					Bravo			
HOLE-ID	EASTING	NORTHING	RL		HOLE-ID	EASTING	NORTHING	RL
PPT-LUAN-FD0145	658,495.3	9,340,827.8	243.2	Vs.	DDH22LU006	658,495.8	9,340,828.1	243.0
PPT-LUAN-FD0069	659,092.5	9,341,001.7	241.3	Vs.	DDH22LU007	659,092.9	9,341,002.1	241.2
PPT-LUAN-FD0220	659,997.3	9,341,771.9	276.4	Vs.	DDH22LU026	659,998.8	9,341,772.0	254.7
PPT-LUAN-FD0136	659,950.6	9,341,976.3	290.3	Vs.	DDH22LU043	659,950.7	9,341,976.0	268.5
PPT-LUAN-FD0221	659,954.0	9,341,774.6	268.7	Vs.	DDH22LU081	659,954.1	9,341,775.1	247.5
PPT-LUAN-FD0095	659,603.1	9,342,861.4	288.4	Vs.	DDH22LU083	659,602.8	9,342,861.0	289.3
PPT-LUAN-FD0036	657149.3	9,339,723.8	272.1	Vs.	DDH22LU001	657,148.3	9,339,726.1	272.0
PPT-LUAN-FD0173	659,446.0	9,343,565.3	226.0	Vs.	DDH22LU113	659,446.0	9,343,564.9	225.9

The visual analysis of the twin pairs shows a good correlation of the PGEs, gold, and nickel grades between the holes. The spatial correlation observed indicates that the data acquired by Vale is of sufficient quality to characterize the deposit and its geochemical features.

11.4.2 Resampling - Vale Samples

Bravo is currently relogging and resampling the historical DD holes. After the geological/structural description, the photograph of core boxes and magnetic susceptibility measurements, the geologist prepares the sampling plan respecting lithological contacts, weathering profile, drill core diameter and drilling recovery. Relogging and resampling activities follow Bravo's diamond drilling campaign's same operational procedures and QA/QC protocols. The historical drill core sample data and Bravo's drill core resampling of the historical core show an expected positive correlation for the PGM assessed. Correlated assay data shows spreading due to the difference in preparation and analytical laboratory methods.

The resampling campaign undertaken by Bravo aims to validate the Vale database. Due to the big contribution of Vale samples in the database, testing the reproducibility and the precision from the Vale ownership period is of material importance. It is important to note that the resampled Vale samples have their grades updated to the reanalyzed grades in the database. Resampling is carried out on half of the stored Vale half-drill cores, resulting in a ¼ drill core new sample.

GE21 has evaluated the assay results of resampled drill cores by generating control charts for Pt, Pd, Rh, Au and Ni. The control charts were generated only for the samples with original and reanalyzed grades above 3x the Detection Limit of the analytical methods evaluated. Due to the difference in analytical methods used for Nickel readings, a strong bias is detected in the Ni charts.

The Resampling data of ALS and SGS were evaluated separately. ALS data shows a good correlation between original and reanalyzed grades. Pd and Pt resampled pairs present more than 70% of the data below the 40% HARD limit. Rhodium data is 60% below the same HARD limit, while Au data is 55% below. The SGS reanalysis data accounts only for Pt, Pd and Rh. More than 70% of the Palladium and Rhodium sample pairs are below the 40% HARD limit. In comparison, Platinum has over 55% of samples below the limit.

11.4.3 Correlation Between Vale and Bravo Grades

GE21, at the request of Bravo, has conducted a correlation study between the grades analyzed by Bravo and Vale. This procedure aims to correct some discrepancies between the Vale and Bravo databases by transforming the Vale-analyzed grades using a linear regression equation. Linear regressions were generated using the Resampling data for Au, Pd, Pt, Rh and Ni.

For the PGE's and Gold, the grade shell modelled by Bravo was used as a spatial constraint for the regression data. Only the resampled pairs with both grades above 0.03 ppm were used for the regression. This grade limit corresponds to 3x the Detection Limit of the applied assay methods and was used to reduce the impact of analytical noise near the Detection Limit. Figure *11-4* to Figure *11-7* presents the correlation for Au, Pd, Pt and Rh after the transformation of Vale data.

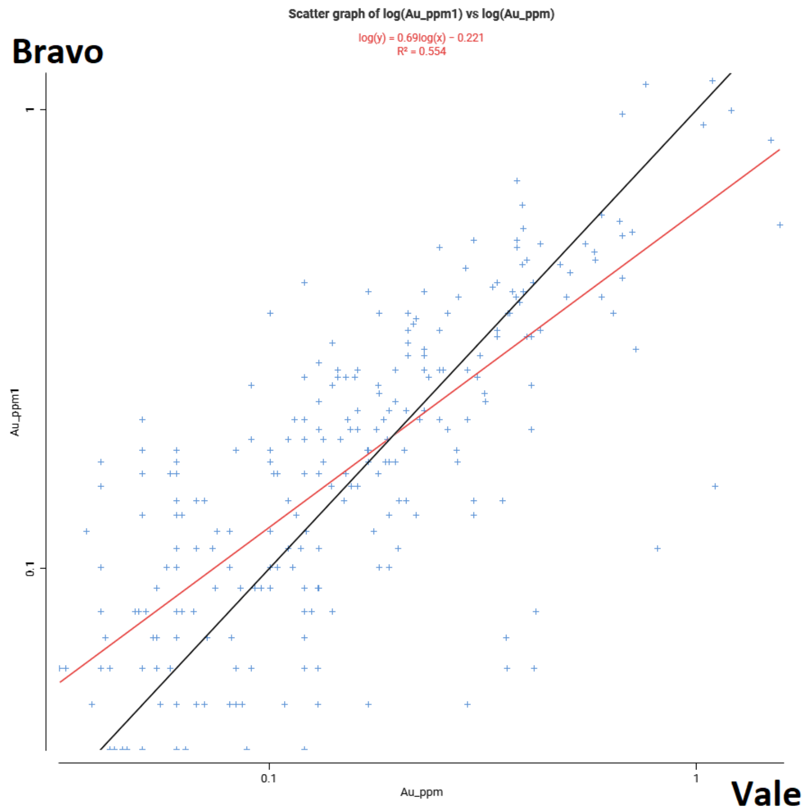


Figure 11-4: Chart *Correlation of Au assays from Bravo x Vale Samples*

Figure 11-5: Chart *Correlation of Pd assays from Bravo x Vale Samples*

Figure 11-6: Chart *Correlation Pt Samples Bravo x Vale*

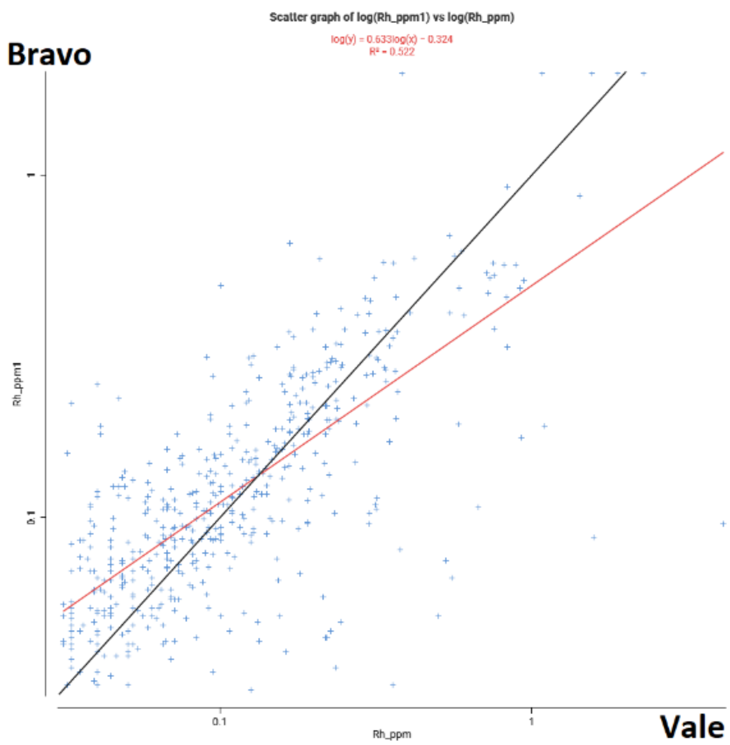


Figure 11-7: Chart *Correlation Rh Samples Bravo x Vale*

As mentioned, the Nickel grades analyzed by Vale account for total Nickel: silicate Ni, oxide Ni and sulphide Ni. In contrast, the Bravo grades correspond to the sulphide Ni only. For this reason, additional steps were taken to ensure a valid correlation between the Vale Ni and Bravo Ni grades. Those steps were:

- Data was split into two subsets, one above and one below the 1:1 line. The subset below the line was named Negative Bias, and the one above was called Positive Bias.
- Linear regressions were applied in both the subsets.
- The Negative Bias regression was adjusted to make the Angular Coefficient equal to 1. This adjustment was made to reflect a fixed (constant) proportion between the total Ni and the sulphide Ni.
- Data below 100 ppm Ni was removed from the datasets. This grade corresponds to the higher Detection Limit used in the resampled pairs.
- The data constrained between the Positive Bias and the adjusted Negative Bias lines was used for a third linear regression. This regression was used to correlate the Vale and Bravo grades.

Figure 11-8 present the final linear regression for Ni and the Ni grade distribution, after the transformation of Vale data.

The Table 11-9 presents a summary of the transformations applied to the Vale grades.

Table 11-9: summary of the transformations applied to the Vale grades.

Element	Correlation Equation	R^2
Au	[Au Bravo] = 10^(0.690*(Log10 [Au Vale]) - 0.2210)	0.554
Pd	[Pd Bravo] = 10^(0.928*(Log10 [Pd Vale]) - 0.0175)	0.786
Pt	[Pt Bravo] = 10^(0.898*(Log10 [Pt Vale]) - 0.0256)	0.694
Rh	[Rh Bravo] = 10^(0.633*(Log10 [Rh Vale]) - 0.3240)	0.522
Ni	[Ni Bravo] = 10^(1.050*(Log10 [Ni Vale]) - 0.2280)	0.941

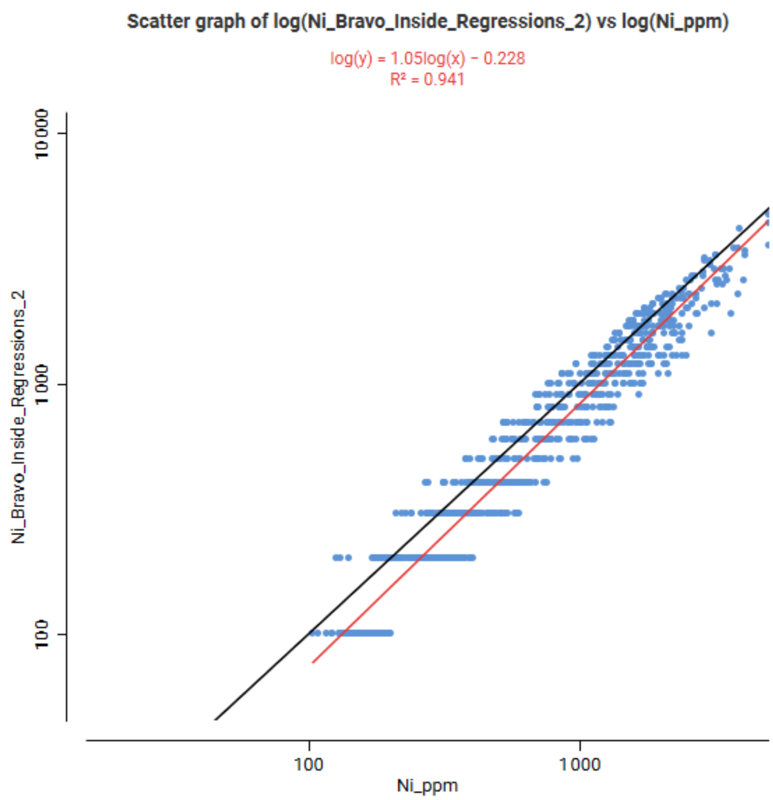


Figure 11-8: Chart *Correlation Ni Samples Bravo x Vale*

11.5 QP Opinion

Although the Vale database was historical in nature, the validation and correlation procedures applied and the results obtained, enable the QP of this report to consider this database to be valid for estimation works. It is important to notice that the Vale QA/QC program did not include any Reference Material (CRM or SRM) insertion. GE21 and Bravo have, unsuccessfully, tried to obtain the internal QA/QC results from the laboratory used by Vale (SGS Geosol).

Quality Assurance and Quality Control procedures, sampling methodology, and analytical methods applied by Bravo are within the industry's best practices standard. The QP responsible for this report, considering the data presented in this Chapter, is of the opinion that the Luanga Project's Database is suited for a Mineral Resource Estimation work.

Recommendations:

- Acquisition of Certified or Standard Reference Materials that are certified for sulfide Ni assay methods.
- Implementation of Coarse Duplicates and Fine Duplicates.

12 DATA VERIFICATION

GE21 team members have conducted several field visits, since 2022, at Luanga to verify the company's infrastructure, the procedures in course, and the results are obtained from the activities that are carried out by Bravo staff.

Engineer Porfirio Rodriguez is an independent consultant and has conducted field visits at the project in 2023. Mr. Rodriguez has accompanied Bravo personnel in the development of the resource estimate activities. two site visits were conducted in the period from July 4th, 2023, to July 7th, 2023 and 3rd October to 6th October 2023. In this las period GE21 Qualified Person Team was composed by Geologist Bernardo Viana beyond the Mr. Rodriguez

12.1 SITE VISIT

The site visits included the review of QA/QC program; field tours (Figure 12 1) exploration core shed, drilling in progress; review of density procedures, and discussions of the current geological interpretations with geologists of Bravo.

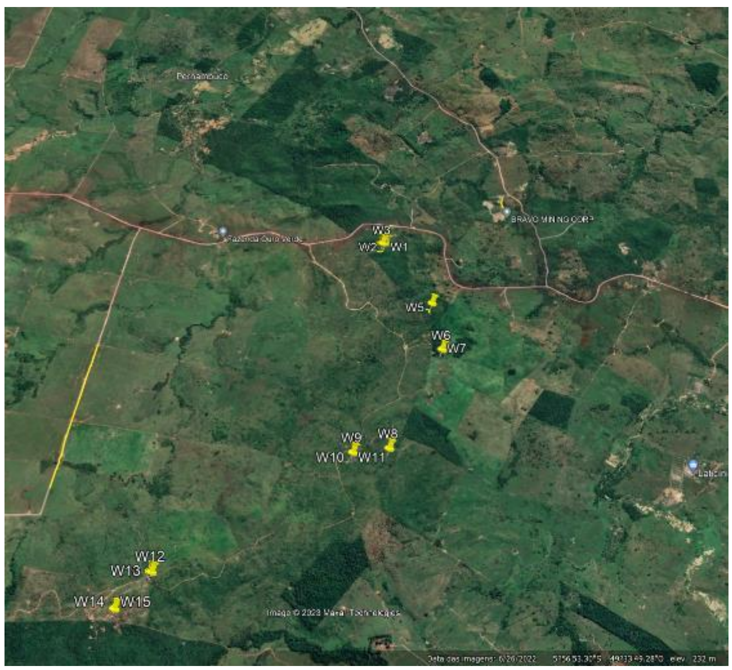


Figure 12 1 Points visited during Site visit

12.1.1 Density Test Laboratory

GE21 visited the Bravo internal density laboratory where they observed the installation and equipment used on density test measurement. (Figure 12.2).

Discussions held with on-site geologists allowed to confirm procedures were adequately applied. More details about Bravo procedures are available in Chapter 10 and 11 of this report.

Figure 12 2 Density test equipment

12.1.2 Drill hole Location

GE21 verified drillholes collars in the field and checked with handheld GPS units and compared them to the exploration database (Figure 12 3). GE21 visited the location and collar marks of:

- Metallurgic drillholes 901, 902, and 905
- Drill holes 001, 007, 044, 047 and 189.
- Trench 004.

 **Trench 004**	 **DDH 901**	 **DDH 902**
 **DDH 905**	 **DDH 001**	 **DDH 007**

 DDH 044	 DDH 047	

(Figure 12 3). – Drill hole location evidences

Drill hole collars have an identification physical marker. The markers are comprised of a concrete pad with metal plate designating the drilling contractor, drill hole number, drilling area, orientation, coordinate location, start and end date drilled, and total depth. A PVC pipe protruding from the marker provides a physical record of the drill hole orientation.

12.1.3 Core Shed

GE21 visited to the core shed of Luanga Project (Figure 12 4) and did a visual inspection of historical Vale core. The drill holes were previously selected by GE21 team, in order to review sections of mineralized core (Figure 12 5). The observations of the mineralization agree favorably in both the extent and type of mineralization logged in the exploration database.

All core boxes were labelled and properly stored either inside or outside. Sample tags were present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones (Figure 12 6).

During the core shed visit, the Bravo team explained in detail the entire path of the drill core, from the drill rig to the logging and sampling facility and finally to the laboratory.

Figure 12.4 Core Shed installation during 1st visit, and after complete construction on 2nd visit

Figure 12.5 Personal checking on core description

Figure 12 6 – Checking mineralization presence in half core.

12.1.1 Witness Sample

During the visit on the first period, GE21 QP collect a sample selected among the previous drill holes check, to configure as a witness sampling.

The sample on consideration was:

- Drill Hole: **DDH22LU007**
- Interval: from **128.58 m** to **128.96 m**
- Sample BPGM-101433)
    - Ni: 0.31%
    - PGE + Au: 6.60 ppm

GE21 independently submitted the sample to a chemical analysis in the certified laboratory SGS Geosol in Vespásiano, receiving the result present in Figure 12.7

SGS GEOSOL

SGS GEOSOL LABORATÓRIOS LTDA.

CERTIFICADO DE ANÁLISES
GQ2308925

INFORMAÇÕES DO CLIENTE

NOME: BRAVO MINERACAO LTDA
ATTN.: Paulo Brito
ENDEREÇO: EST ESTRADA DA VILA ALTO BONITO S/N ZONA RURAL 68523000 PA CURIONOPOLIS
CPF/CNPJ: 37.262.942/0002-39

REFERÊNCIA DO LOTE DE AMOSTRAS

REF. CLIENTE: ACES-BRAVO-0050-23
QTE. AMOSTRAS: 1
RECEBIDO: 11/07/2023
PRODUTO: TESTEMUNHO
COMPLETADO: 07/08/2023
PROJETO: Luanga
EMITIDO: 07/08/2023

REFERÊNCIA ANALITICA

AA
AAS04B: Lixiviação com Citrato De Amônio e Peróxido de Hidrogênio por 2 horas.

FA
FAI30V_RH: Determinação de Ródio por Fire Assay - ICPOES - Fusão 30 g
FAI515: Determinação de Au, Pt e Pd por Fire Assay - ICP - 50g

PREP
DRY105: Secagem de amostras à 105°C
PREPQC: Controle de Qualidade - Preparação Física
PRPCLI: Preparação Física conforme definição do cliente

LEGENDA: SIGLAS

L.D. = Limite de Detecção
L.N.R. = Listado e não Recebido
I.N.F. = Não reportado devido a interferentes
BLK = Branco
I.S. = Amostra Insuficiente
REP = Replicata
N.A. = Não Analisado
OVR = Não Analisado devido ao alto teor
DUP = Duplicata
STD = Padrão

SGS GEOSOL

SGS GEOSOL LABORATÓRIOS LTDA.

CERTIFICADO DE ANÁLISES
GQ2308925

ANÁLISES	Peso_bruto	Ni	Cu	Au	Rh	Pd	Pt
MÉTODO	PRPCLI	AAS04B	AAS04B	FAI515	FAI30V_RH	FAI515	FAI515
UNIDADE	G	%	%	PPB	PPM	PPB	PPB
LIMITE DETECÇÃO	0,00	0,01	0,01	5	0,002	5	5
BRANCO_PREP	N.A.	<0,01	<0,01	<5	<0,002	<5	<5
BPGM-101433	1011,00	0,26	0,02	90	0,572	5039	3387
* REP BPGM-101433		0,25	0,02				
* STD HO_AM_01		0,49	0,29				
* STD AMIS0323				145		647	1083
* STD AMIS0388				8		164	356

GE 21 concludes there is a good correlation between results on both analyses.

12.2 QP OPINION

GE21 is of the opinion that the exploration data is adequate for use in the Mineral Resource estimate. What follows below are some observations that were recorded by GE21 personnel during the course of visits as it relates to the generation, collection, control and storage of exploration data on site at Luanga:

- Drill Hole Logging: This task was considered as standard industry practice logging procedures, which has been standardized by Bravo. GE21 performed a review of logging procedures for randomly selected drill core and verified the completeness of the logs. Considering all the content that was evaluated Bravo has demonstrated that it understands the geology and some located omissions are not considered to be significant.

- Database: recent data is stored in a standard commercial database. Historical Vale records are well managed and are currently being migrated to the Bravo database. Data storage procedures at Bravo are considered within standard industry practice. As part of the validation process, GE21 verified 8 holes. Database validation was conducted with the help of Bravo staff according to standard validation procedures including review of collar locations, drill hole deviations and database check-assay review. No inconsistencies were found in the database.

- Density: There is a large database of density information, having been collected during the exploration phase. The process whereby density data is obtained is considered within standard industry practice.

- Witness sample: A random sample was collected during the site visit, the results obtained from a certified laboratory were consistent with the original sample results recorded on the data base.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

This Chapter reports on the results of preliminary metallurgical test work on PGM mineralization from the Luanga Project and records recommendations on metallurgical input parameters considered for the Mineral Resource Estimate ("MRE"). The scope of test work completed to date includes:

1. To confirm the historic sulphide mineralization flotation results achieved by the previous Project owner through the replication of the original flotation test work results including exploratory optimization;
2. Evaluate flotation recoveries from the transition zone material.
3. To complete exploratory and condemnation test work on the oxide mineralization considering a host of potential process methodologies including desliming, gravity separation, leaching under various conditions, and flotation; and
4. To support the ongoing flow sheet development for Luanga and assist in establishing a robust, justifiable and demonstratable economic cut-off grade in support of the MRE.

13.2 Laboratories and Key Staff

The following staff and laboratories (Table 13-1) were responsible for the execution of the 2022/2023 development program:

Table 13-1: Staff and laboratories used by Bravo on metallurgical test work.

Person/Institute	Role	Description
Heinrich Müller – Bravo Mining	VP – Technical Services	Bravo Mining Program Lead
Paloma Casagrande – Bravo Mining	Junior Metallurgist	Test work execution and administration
Frank Rezende	Senior Metallurgical Consultant	Principal consultant - flotation
Wayne Phillips	Senior Metallurgical Consultant	Principal Consultant – hydrometallurgy
Centre Technologia Mineral (CETEM)	Minerals Processing Laboratory	Minerals processing test work including milling, flotation and physical separation
MINTEK	Minerals Processing Laboratory	Fines flotation and pre-conditioning flotation test program
TESTWORK Desenvolvimento de Processo	Minerals Processing Laboratory	Principal hydrometallurgy laboratory
Instituto de Processamento (CIT SENAI)	Minerals Processing Laboratory	Mini plant bulk sample test program
SGS Geosol	Analytical Laboratory	Assay and chemical analytics

Person/Institute	Role	Description
Quality Laboratory Services	Analytical Laboratory	Assay and chemical analytics
Intertek	Minerals Processing Laboratory	Sample preparation laboratory

For the bench-scale minerals processing components, including gravimetric separation and flotation, Bravo contracted the services of the Centre for Minerals Technology (CETEM) in Rio de Janeiro, Brazil. All flotation and other tests were supported by Bravo senior flotation consultant, Frank Rezende and Bravo metallurgist, Paloma Casagrande, assisting the CETEM technical team of metallurgists and technicians. In the early part of the program, Bravo utilized the CETEM analytical laboratory for flotation products analyses by ICP-OES. As development progressed, samples were sent to SGS Geosol in Belo Horizonte and Quality Laboratory Services in South Africa for independent analysis by fire assay.

The fines flotation and hydrodynamic cavitation studies were undertaken by Mintek in South Africa. Chemical analytics were performed by Mintek's internal assay laboratory by fire assay.

Testwork Process Development ("Testwork") in Nova Lima were contracted to perform all hydrometallurgical test work (cyanidation). All sample analytics from these test programs were conducted by SGS Geosol in Belo Horizonte. Leach testwork was supported by Wayne Phillips, Bravo senior metallurgical consultant and hydrometallurgical specialist.

13.3 Sample Selection

Detailed mineralogy was completed on the Luanga mineralization types from various locations by the previous project owner. Sample locations for the 2022/2023 test program were aligned with the location of the mineralogy study so that the sample preparation, test work configuration, and results interpretation can be directly supported by mineralogical data from the same sample locations. The mineralogy study was completed on drill core samples sourced from historical programs. The same drill hole locations used for the mineralogy study were selected for dedicated metallurgy sampling with new sample material being generated through twin-hole, HQ, diamond core drilling completed in 2022.

Sample locations extended along the strike length of the mineralization including the north, central and southwestern sections. A bulk oxide/saprolite sample was taken from the central zone. Sample localities are shown on **Figure 13-1**.

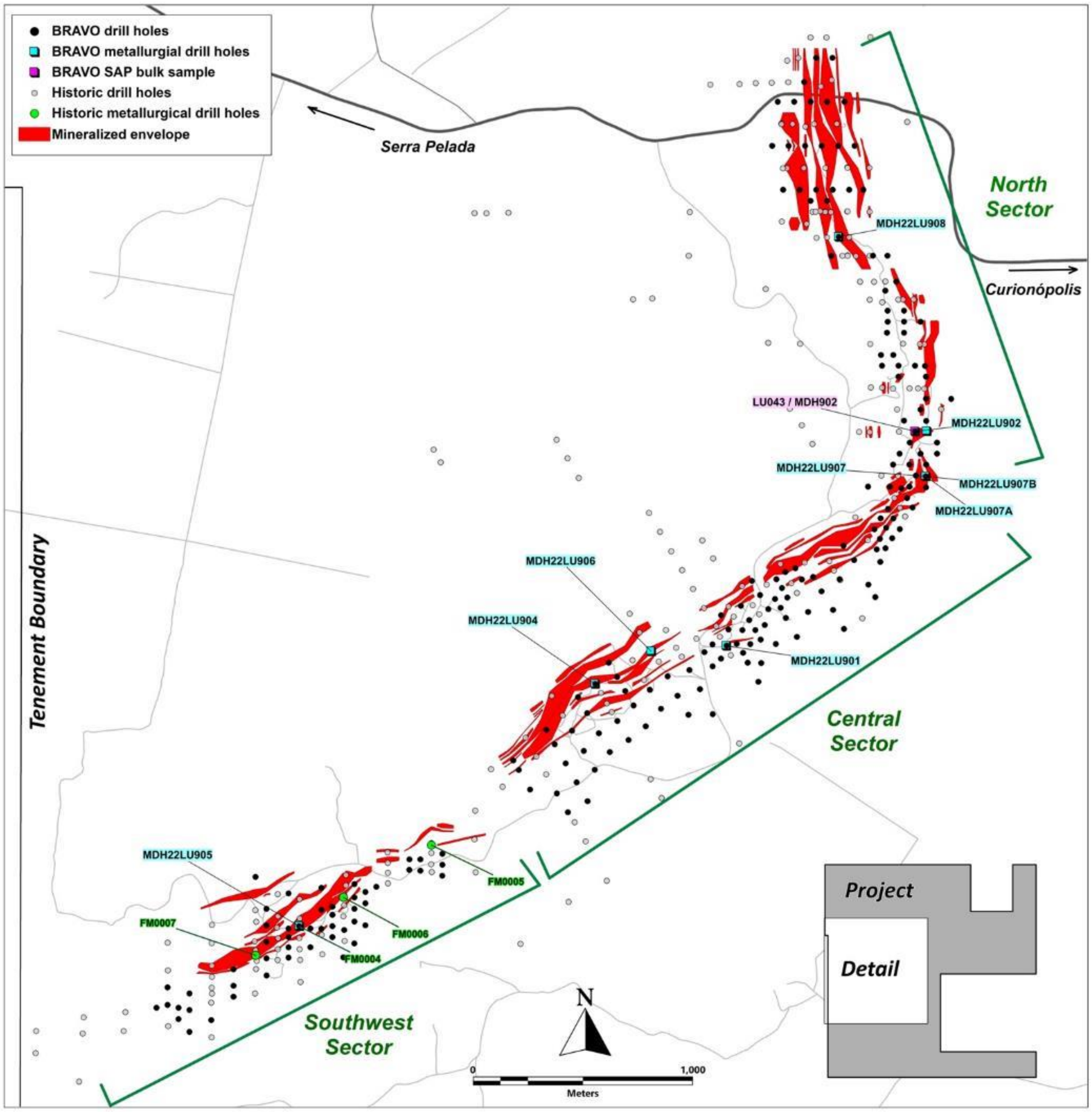


Figure 13-1: Location of metallurgical samples

Sample Variance Selection

Twin drill core samples for the bench flotation and leaching test program were selected from the representative mineralization types at Luanga, including fresh sulphide, transition and oxide mineralization. Grade variance has also been taken into consideration with sample grades ranging 0.5 -11 g/t.

The bulk sample for optimization leaching tests was collected at the northern edge of the Central Sector of the Luanga deposit. The Central Sector is considered to contain most oxide mineral resources by attributable tonnes.

Detailed sample data is captured in the Appendix F.

13.4 Review of Historical Metallurgy Work

Historical Metallurgical testing on the Luanga material had been initiated at various stages of its development with the bulk of the work having been completed between 2002 and 2004. Test work was completed at bench scale and pilot plant scale on core samples from diamond drilling. The studies completed include:

- 2001/2002 – CABRI: Mineralogical Characterisation Study
- 2002 – MINTEK: Flotation Studies and Mineralogical Characterisation Study
- 2003/2004 – LAKEFIELD: Flotation Studies and Mineralogical Characterisation Study
- 2003 – HDK ENGENHARIA: Preliminary Milling Circuit Sizing Study
- 2002/2004 – AVEC: Evaluation of the Global PGM Market

Historical metallurgical efforts at Luanga were summarized in from Vale's reports as follows: The studies of mineral processing carried out with samples of sulphide material indicate that the traditional route, which involves crushing/grinding and flotation, produces a concentrate with commercially accepted grades [80-154g/t] and PGE recoveries on the order of 74%. The closed-circuit study obtained a single concentrate containing PGE+Ni+Au, and not simply a PGE+Au concentrate.

13.4.1 MINTEK Studies

In 2002, a 100kg sulphide mineralized sample was sent to Mintek in South Africa for the first characterization and concentration studies of PGM. The initial sample reported a feed grade of 4.8g/t PGE+Au and the mineralogical analysis showed that the main PGE-bearing minerals were Sperrylite, PGE-Bithmotellurides, and Stibiopaladinite.

Mintek defined the standard mill-float-mill-float (MF2) flowsheet as appropriate for these preliminary tests. Primary milling was performed to p60 -75µm and was followed by rougher, cleaner and recleaner flotation stages in a course circuit. The rougher tailings together with the cleaner tailings passed to regrind of p80 -38µm followed by secondary rougher, cleaner and recleaner, as the fines circuit.

The reagents used in the flotation were NaSH (sulfidizing agent), Cu504 (activator), Depramin 267 (silicate depressant), SIBX (collector) and Dow 200 (frother). The Mintek flowchart is shown on **Figure 13-2**.

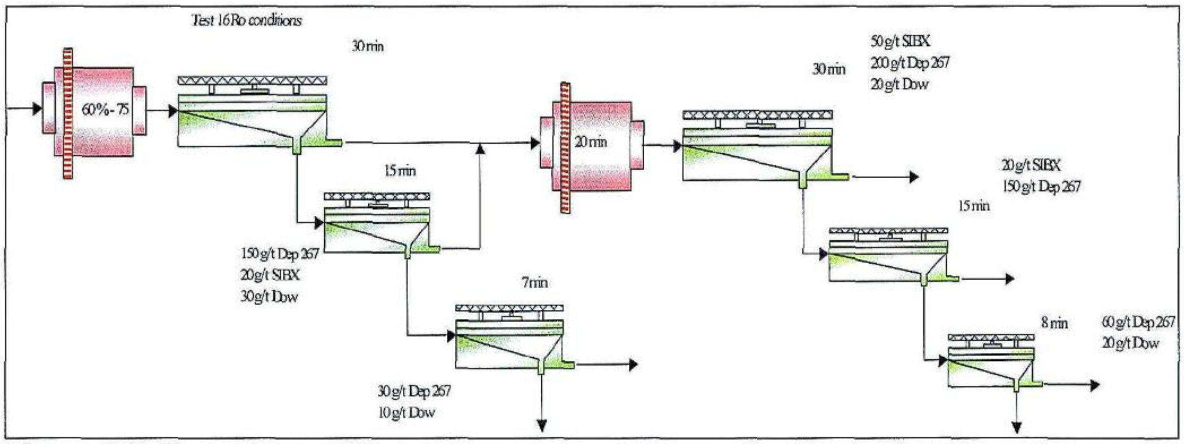


Figure 13-2: Mintek flowchart

The final concentrate from Mintek's open-circuit tests reported a mass pull of 3.8%, concentrate grade of 87.2 g/t PGE+Au and recovery of 70.6%. Two locked cycle tests were also carried out at Mintek and produced a concentrate content of ca. 150 g/t PGE+Au with 75% recovery.

Mintek's grinding investigation concluded that the recovery of PGM content from Luanga material into a flotation concentrate is dependent on grind size with results demonstrating an improvement from 52% to 72% in PGM recovery by grinding finer from 40 to 60% passing -75μm.

The mineralogical investigation concluded that the PGM occur in various modes, associated with base metal sulphides (inclusions and attached at boundaries), at silicate boundaries, and as inclusions within silicates.

13.4.2 CDM (Vale) Studies

CDM performed tests on 4 samples with lower PGE+Au grades, S1 with 1.07 g/t, S2 with 2,03 g/t, S3 with 2.67 g/t and S4 with 4.14 g/t head grade.

The testing in open circuit and using the MINTEK process with two stages and high reagent additions produced concentrates with grades varying between 20 and 50 g/t for samples S-1 to S-3, and recoveries between 70.4 % and 72.3 %. The S-4 composite delivered an 83 g/t concentrate with 75.4 % recovery **(Table 13-2)**.

Table 13-2: Feed sample analysis and concentrate qualitative analysis from CDM studies

hemical analysis samples S1 to S4 - PGM & Au (g/t)					
	Pd	**Pt**	**Rh**	**Au**	**PGE + Au**
AMOSTRA INICIAL S1	0.57	0.45	<0.05	0.05	1.70
AMOSTRA INICIAL S2	1.05	0.81	0.09	0.08	2.03
AMOSTRA INICIAL S3	1.50	0.97	0.10	0.10	2.67
AMOSTRA INICIAL S4	2.34	1.43	0.22	0.15	4.14

Chemical analysis samples S1 to S4 - Major elements (%)							
	SiO_2 (%)	**Mg (%)**	**Fe (%)**	**Al_2O_3 (%)**	**Ni (%)**	**Cr (%)**	**S (%)**
AMOSTRA INICIAL S1	47.10	14.80	7.73	4.29	0.17	0.28	0.40
AMOSTRA INICIAL S2	47.00	15.30	7.00	3.86	0.19	0.29	0.34
AMOSTRA INICIAL S3	47.40	15.10	7.87	4.08	0.26	0.28	0.50
AMOSTRA INICIAL S4	46.50	14.60	8.67	3.37	0.31	0.31	1.18

Chemical analysis samples S1 to S4 - other metals					
	Co (%)	**Cu (%)**	**Sb (ppm)**	**As (ppm)**	**Ag (ppm)**
AMOSTRA INICIAL S1	0.01	0.02	6	1	<1
AMOSTRA INICIAL S2	0.01	0.02	5	2	<1
AMOSTRA INICIAL S3	0.02	0.02	5	2	<1
AMOSTRA INICIAL S4	0.02	0.04	5	2	<1

Feed grades PGM, Au, Ni, Co &Cu							
Pd (g/t)	**Pt (g/t)**	**Rh (g/t)**	**Au (g/t)**	**PGE + Au (g/t)**	**Ni %**	**Co %**	**Cu %**
1.02	0.66	<0.1	0.09	1.77	0.19	0.01	0.02
Final concentrate grades PGM, Au Ni, Co & Cu							
Pd (g/t)	**Pt (g/t)**	**Rh (g/t)**	**Au (g/t)**	**PGE + Au (g/t)**	**Ni (%)**	**Co (%)**	**Cu (%)**
54.3	42.9	3.8	3.6	105	7.5	0.35	1.66

Chemical recovery (%)					
Pd	**Pt**	**Au**	**PGE + Au**	**Ni**	**Co**
71	79	47	73	44.6	30

CDM increased concentrate grades by introducing 3 cleaning stages. The tests with samples S-1 to S-3 showed concentrates with 50 to 97 g/t and recoveries between 56 and 64%.

CDM performed two locked cycle tests (LCT). LCT1 was performed on sample blend of S1 to S3 grading 1.77 g/t and consisted of a circuit with two stages of grinding and flotation, with a finer grind at p90 -38 µm. Rougher stages were followed by three cleaner stages, with a total of 8 flotation stages. The concentrate produced in LCT1 after 10 cycles graded 104 g/t PGE+Au with 73% recovery at a mass pull of 1.2% **(Table13-3)**.

LCT2 used a simpler flotation scheme, a rougher stage fed with ore milled to a p90 -38 µm, with concentrates cleaned in two stages. The cleaner tails fed a cleaner scavenger stage. Scavenger cleaner tails were recycled to rougher feed. Recleaner tails and cleaner scavenger concentrate returned to the cleaner feed, joining the rougher concentrate.

Table 13-3: Summary of results in LCT1 and LCT2.

Element	Unit	LCT 1 grade	LCT 2 grade	Feed grade
Pd	ppm	54.3	72.8	1.02
Pt	ppm	42.9	52.1	0.66
Rh	ppm	3.8	3.8	< 0.1
Au	ppm	3.6	5.34	0.09
PGE + Au	**ppm**	**104.6**	**135.03**	**1.77**
Ag	ppm	4	< 1	< 1
Al_2O_3	%	1.08	0.51	4.07
As	ppm	< 1	< 1	< 1
Ca	%	0.59	0.3	2.32
Co	%	0.35	0.45	0.01
Cr	%	0.35	0.39	0.29
Cu	%	1.66	2.59	0.02
F	ppm	< 100	< 100	122
Fe	%	33.3	39.7	7.86
Mg	%	5.3	2.13	15.4
Mn	%	0.06	0.05	0.14
Ni	%	7.5	9.8	0.19
S	%	21.3	29.4	0.47
Sb	ppm	62	119	7
SiO_2	%	18.7	7.85	51.8
Zn	%	0.03	0.09	0.01
Mass Recovery		**1.20%**	**0.89%**	
Metallurgical Recovery		**73%**	**69,36%**	

CDM did 12 cycles for circuit stabilization in LCT2, resulting in a mass pull of 0.9%, concentrate grade of 134 g/t PGE+Au and 69.4% recovery.

The nickel recoveries in these tests were 46-48%. That nickel is entrained in the crystalline structures of silicates was highlighted by a mineralogical characterization conducted at CDM.

CDM conducted mini-plant tests in February 2004 to generate 4 kg of concentrates for hydrometallurgical refinery tests. A total of 400 kg of ore grading about 1.64 g/t 4E was processed and produced a concentrate grade of 124 g/t for a mass pull of 0.8% at a recovery of 63 %.

A 200 kg composite sulphide ore sample was sent to SGS Lakefield in Canada for replication of CDM LCT using a MF1 circuit. The results obtained include a final concentrate mass pull of 0.78% grading 132 g/t PGM+Au and a recovery of 70%. The sample feed grade was 1.49 g/t PGM+Au.

Vale, through CDM also attempted to test flotation efficacy on oxidized and blended sulphide/oxide ore. These tests were generally unsuccessful, either achieving sufficient concentrate grade with low recoveries or gangue enriched concentrates.

13.5 Bravo Mining Corporation Program 2022/2023

At the initiation of the 2022/2023 program, Bravo submitted approximately 3 tonnes of sulphide metallurgical samples and 150kg of oxide samples to CETEM and TESTWORK respectively for metallurgical tests work.

13.5.1 Sulphide Material

Standard milling tests were conducted at the initiation of the program to establish milling curves and size distribution relative to milling times.

Bond Ball Mill Grindability Tests

Two individual BBWi tests were performed on samples of Luanga ore material to determine preliminary grinding power requirements. The methodology was consistent with the standard Bond method. The tests were performed on composite blends from two major ore zones at Luanga, namely the central and southwest, together accounting for approximately 75% of historical contained resources. One composite was produced consisting of fresh sulphide ore material and one of transitional ore material. The preliminary BBWi results indicate an ore hardness classification of medium hardness **(Table 13-4)**. The **Table 13-5** below show sample composite details used on the BBWi tests.

Table 13-4: BBWi results

Test	WI
	kWh/t
1 Fresh	13.94
2 Transition	10.29

Table 13-5: Sample composite – BBWi test

Sulphide Composite Samples	Drill hole ID	Zone	Sample Depth
600014	MDH22LU901	Central	106-112m
600015	MDH22LU901	Central	112-119m
600030	MDH22LU905	SW	49-55m
600031	MDH22LU905	SW	56-62m
Transition Composite Samples			
600006	MDH22LU904	Central	26-27m
600028	MDH22LU905	SW	29-34m

Flotation Tests

Flotation testing progressed through various series to establish material behaviour and characterization, equipment and reagent calibration, guided by historical metallurgical development data, with the objective of replicating and validating past metallurgical performance and identifying early stage, potential areas of optimization.

Flotation tests were carried out considering different types and dosages of reagents, granulometry of the milled ore and circuit configurations that include pre-flotation of talc, fast rougher, staged roughers, scavenger stage of the rougher, cleaner, scavenger of the cleaner and recleaner.

An exploratory flotation test was carried out with a sample of oxide ore. The test achieved low recovery of PGMs, with excessive mass pull and a resulting low-grade concentrate. The presence of clays inhibits the selective process of flotation. No other tests were performed with oxide samples.

Preliminary Exploratory and Characterization Flotation Tests (Series T, TD)

Initial tests used coarse grinding, short flotation times, and lower additions of collecting and frothing reagents relative to the historical work. Depressant use was dictated by the amount and tenacity of talc present.

Only the rougher stage was tested in the first three tests of the T series. A cleaner stage was added in the final three tests. The rougher circuit was, as a first pass, a fast flotation stage to produce concentrate with higher concentrations. This represented a preference to generate saleable concentrates as early in the circuit as possible. Moreover, historical data indicated fast flotation of coarse PGM and is supported by observations from historical Mintek tests.

Results and interpretation from tests T-01 and T-02 demonstrated that talc depression should occur pre-flotation and that a finer grind is required to improve liberation. The initial grind was coarse relative to historical work, at p48 -74µm.

Tests T-03 and T-04 were carried out with a higher dosage of PAX collector, increasing from 20 to 60 g/t. A cleaning stage was also introduced. The introduction of a cleaner stage in the T-04 decreased the final concentrate mass pull dropping to ca. 1%. A similar mass recovery was achieved on the T-01 in fast rougher flotation. Test T-05 saw the introduction of a blend of two collectors, Aero 208 and Aero 3894, known for high selectivity in sulphide, PGM and gold mineralization .

The TD series tests investigated the flotation response to CMC as a depressant, with a focus on consumption. Overall, depressant dosages where lowered relative to historic work and indicated an area for further follow-up and optimization, considering the advancement in depressant development over the last 20 years.

Furthermore, the test series demonstrated that the test regime was progressing with increasing selectivity, and replicating rougher results achieved by Mintek at lower reagent addition rates. In general, the metallurgical performance of the TD series varied between concentrate grades of 28.7 – 444.0 g/t and 17 – 83.2% recovery. Feed grades varied between 1.0 g/t and 8.7 g/t **(Table 13-6)**.

Table 13-6: Summary of the best results on flotation tests.

Test	Sample	Analytical Lab	Feed		Concentrate	
			Grade (g/t PGM+Au)	Mass Recovery	Grade (g/t PGM+Au)	Final Recovery
TD-12	600015	QLS	1.0	0.3	264.7	83.2
TD-08	600016	QLS	2.6	1.9	443.9	50.8
TD-19	600006/28	QLS	3.3	5.9	44.8	81.1
TD-20	600006/28	QLS	4.8	12.4	28.7	74.5

Comparative Flotation Tests (Series TC)

For the comparative tests, 3 bench scale flotation tests were carried out. The objective of this series was to compare the Bravo open circuit general arrangement with the historical closed-circuit arrangement. The comminution time for this series of tests was 80 min, targeting 80% passing -30 µm. The TC-Bravo circuit comprised a 6-stage rougher, followed by 5-stage cleaner. This configuration is believed to provide for the same outcome as the circuit design applied in the historical Mintek/Vale closed circuit (3 roughers followed by, cleaning, recleaning and cleaner scavenger). An Aero 65 frother was trialled but it did not perform as well as MIBC.

From the above tests, the best results include 82 g/t PGM+Au concentrate grade with 75% recovery (TC-01) and 189 g/t concentrate grade with 78% recovery (TC-02). The feed grades were 2.6g/t and 4.6 g/t PGM respectively.

Feed material was a blend of sample 600013, 600015, and 600031.

Preliminary Process Circuit Tests (Series TB, TH)

The TB test series represented a circuit configuration of 6-stage rougher with combined rougher concentrates reporting to 5-stage cleaner. The TH circuit evaluated the aforementioned configuration using reagent dosages as per the historical Vale test work (higher CMC, higher PAX, higher MIBC).

In the TH tests, two circuit options were used: a) suitable for ores with very little or no copper sulphide and b) where a first rougher flotation and a first cleaner adequate to generate a copper concentrate with commercial grade of the order of 25% Cu. This was due to sample 600031 demonstrating higher than anticipated Cu values.

TB and TH tests demonstrated increasing recovery values with the TB process, outperforming on recovery with lower reagent consumption.

Flotation tests using various reagent suits applied to samples assaying 4.4 g/t 3E+Au showed a weighted average concentrate grade of 138 g/t with recoveries averaging 74.5%. The performance compares well with, and constitutes a slight improvement, over results in the MINTEK and Vale historical work, where a concentrate of ~123 g/t PGE+Au with 73.8% recovery was reported.

The TB test series examined the impact of grind size on rougher recoveries applied a new flowsheet configuration. It was shown that although a finer grind might be expected to improve recoveries slightly, the improvement was marginal and probably does not justify a p80 finer than -38um.

Previous mineralogy studies by L. Cabri indicated that the equal bimodal PGM grain size distribution was around 15-20um and 45-50um, whereas Mintek's study indicated that the majority of PGMs are less than 15um. Mineralogy studies indicate that average grain size likely diminishes with decreasing grade.

The preliminary conclusions from these tests are that the different grade profiles within the Luanga mineralization may require differing milling parameters. It is expected that a coarser grind will be required for feed grades above 2g/t and a finer grind for lower grade feed. It's believed further testing is required to determine the economic trade off between the lower grade ore profiles, relative to recovery and the need for a grind finer than p80 -38µm.

Table 13-7: Preliminary results of Process Circuit Tests (Series TB, TH)

Test	Sample	Analytical Lab	Feed		Concentrate	
			Grade (g/t PGM+Au)	Mass Recovery	Grade (g/t PGM+Au)	Final Recovery
TH-07B	600026	SGS	0.7	1.5	39	61.3
TB-05	600015	SGS	1.85	1.9	78.2	74.0
TB-04	600030	SGS	3.7	0.67	475.2	75.3
TB-07* Rgh Only	600031	SGS	7.7	8.6	86	74.7
TB-08* Rgh Only	600032	SGS	7.4	11.1	74.1	81.8

Fines Flotation Tests

Historical mineralogy and flotation test work on Luanga ore established that a significant component of the PGM grain size distribution is concentrated in the range 3-15 µm. It is well-known that fine and ultrafine liberated valuable particles are often lost to flotation tailings due to inefficient flotation mechanisms and passivation of their surfaces by oxidation products and slimes. Fine particle recovery is recognised as an area where potential improvement and optimization is possible.

Extensive research and development covering a diverse range of technologies has been undertaken over the years to find feasible solutions with the most widely adopted, extra-cellular technology being hydrodynamic cavitation devices (HCDs), causing the nucleation of ultrafine nano bubbles (NBs) on the surfaces of fine valuable particles, thus aiding their agglomeration and subsequent recovery by micro-bubbles (MBs) and normal sized (macro) flotation bubbles. The Mach Reactor HCD has found wide adoption particularly in flotation plants recovering PGM from tailings dams through the demonstration of material improvement in flotation performance on feedstocks with low grades (0.3-1g/t PGM's) and ultrafine grain size distributions (-5 to -10µm).

HCDs have been demonstrated to increase recovery (+10%) and lower capital and operating costs. The Mach reactor is now a frequent addition to commercial PGM flotation plants in South Africa.

Bravo submitted to Mintek in South Africa a 30kg sample for hydrodynamic cavitation testing using the Mach reactor. The reactor consists of an array of venturi nozzles in series or a multitude of parallel, restricted apertures in which intimate contact is achieved between the fine particles and the distribution of very fine bubbles that are formed due to cavitation and the conditions of high shear. This results in a hydrodynamic environment in the pulp zone which contrasts markedly with that observed with conventional flotation equipment.

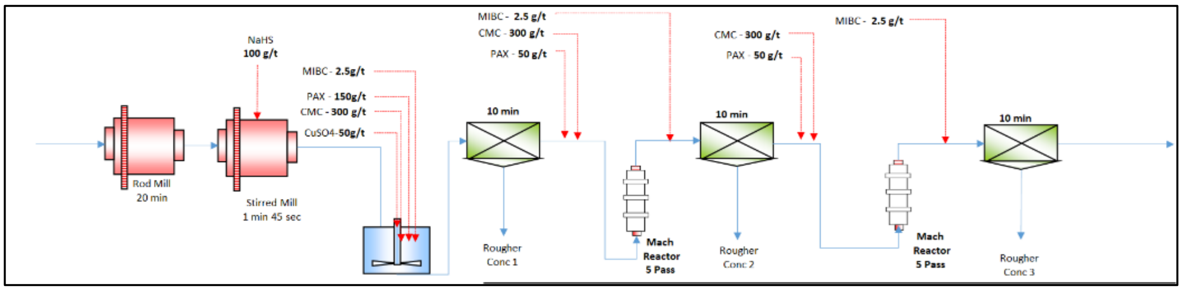


Figure 13-3: Test flowsheet and parameters used by Mintek.

Three control tests and 5 active Mach reactor tests were performed using a sample feed of 2.66 g/t. Test 4 demonstrated a 6.1% improvement in recovery with similar mass pull and concentrate grade metrics for the three stage rougher circuit.

Table 13-8: Results from fines flotation tests

cenario	Description	Mass Pull (%)	4E grade (g/t)	Recovery (%)	Average	Rec. Improve
1	0 Pass 1A	9.17	22.27	74.74	74.5	-
	0 Pass 1B	10.2	20.9	73.9		
	0 Pass 1C	10.2	20.8	74.8		
2	10 Pass 2A	18.5	10.6	76	75.9	1.4
	10 Pass 2B	19.3	9.9	75.9		
	10 Pass 2C	18.9	9.5	75.8		
3	5 Pass + CMC dosage	11.8	18.3	78.8	78.8	4.3
4	2 x 10 Pass + CMC dosage	11.5	19	80.5	80.5	6.1

Results above **(Table 13-8)** demonstrate the potential improvements achievable by incorporating the Mach Reactor for Luanga ores, particularly lower grade ores where fine PGM particles predominate. Further recovery improvements are anticipated at varying grind sizes and with revisiting floatation cleaner stage performance. In commercial plant Mach Reactors are typically installed in the rougher, cleaner and scavenger stages.

Associated Base Metals

Historical Luanga test work had almost exclusively focused on the recovery performance of the PGMs. Generally, this is attributed to the very low mass pull on bench scale tests which produce only enough sample to analyse for PGMs. However, two locked cycle tests performed by Vale did produce adequate concentrate to examine the performance of nickel-sulphide recovery in the flotation process **(Table 13-9)**.

Table 13-9: Nickel sulphide flotation results.

CDM Vale LCT Tests 2003	Feed Grade Ni (%)	Conc Grade Ni Sulphide (%)	Ni Sulphide Recovery (%)
LTC1	0.19	7.5	47.3
LTC2	0.19	9.8	45.9

Bravo encountered similar nickel analysis challenges due to low concentrate weights and so will only be able to confirm the validity of the above results during flotation pilot plant stage of testing.

13.5.2 Transition Material

Historically, a component of the mineralization below the oxide horizon was classified as “transition” material based on geological observations including surficial, oxidative staining on host rock samples. The process metallurgical relevance of this domain was evaluated by performing comparative rougher flotation tests at a coarse grind and benchmarked against the initial characterization flotation tests of the T series and additional fresh rock comparative float.

22 transition flotation tests were performed through a grade range of 0.38 – 7.95 g/t PGMs. Samples were milled to p60 -74µm. **Table 13-9** shows Test T1-2 as benchmark, fresh rock, control tests vs TBS 19, 11 and 16 as transition material flotation tests.

Table 13-9: Results of transition material on flotation tests

Rougher Comparative Test	Feed grade (g/t)	Mass Pull (%)	Recovery (%)	Concentrate Grade (g/t)
T1	2.18	10.9	38.0	7.2
T2	2.21	8.7	35.6	9.1

Rougher Comparative Test	Feed grade (g/t)	Mass Pull (%)	Recovery (%)	Concentrate Grade (g/t)
T3	2.23	12.6	47.2	8.4
TBS19	1.81	3.7	36.0	18.0
TBS11	1.36	4.4	51.0	16.0
TBS16	1.94	6.2	37.0	12.0

The comparative transition material results above (with reagent additions in line with those used on the fresh domain) demonstrate that the previously classified "transition" domain mineralization responds similarly to the rougher performance of fresh rock material at Luanga and thus it is concluded, from a process metallurgy perspective, that the "transition" domain be considered as fresh rock material.

13.5.3 Oxide Material

The Luanga PGM+Au+Ni deposit is characterized at surface by an extensively weathered ore zone constrained from surface down to depths of 5 to 30m. It is a *sensu stricto* oxide horizon with most, if not all, sulphide ore minerals (including nickel sulphides) altered to oxide phases with the host rock altered to limonitic/saprolitic phases. Historical mineralogy and test work had led the previous owner not to consider the possibility of recovering PGMs from the oxide zone. This was attributed to the oxidized state of the metallic minerals and the abundance of clay material, contributing to poor flotation recoveries, low selectivity and high concentrate mass pulls.

The oxide horizon at Luanga does however account for approximately 10% of historically stated mineral resources by tonnes. Three salient points have led Bravo to review and investigate the possibility of recovering PGMs from the oxide.

1. PGM grades in the oxide horizon appear to be on average, higher than those reported in the fresh rock horizon. Thus, the mineral resource ounce contribution of the oxide horizon to the total mineral resource is higher than observed from a mineral resource tonnes perspective. The oxide horizon demonstrates some ultra-high PGM grade intersections, not commonly seen elsewhere in the world.
2. Due to their refractory nature, platinum group minerals tend not to respond strongly to atmospheric induced weathering, even within deeply weathered profiles. This mineral character presents an opportunity to explore recovery methods that recognise the characteristics of the preserved platinum group minerals, considering either their physiochemical properties and/or gravimetric properties.
3. The previous owner considered the oxide horizon to be sterile and thus represented an additional waste stripping expenditure item. Should sufficient value be unlocked by

establishing an economic processing route that returns capital and operating costs, potential economic benefit can be realized for the global Luanga deposit/project by partial stripping cost offset.

Sighter flotation tests, including pre-desliming, were also performed on the oxide mineralization but were condemnatory in nature. The results re-affirmed low recoveries, high mass pulls and low concentrate grades. However, Bravo identified gravimetric separation and cyanide leaching as processing routes that may hold potential to treat oxide material at Luanga.

Gravimetric Tests

Three gravity concentration tests were performed using a Knelson concentrator with sample feed grades of 1.45g/t - 1.91g/t **(Figure 13-4)**.

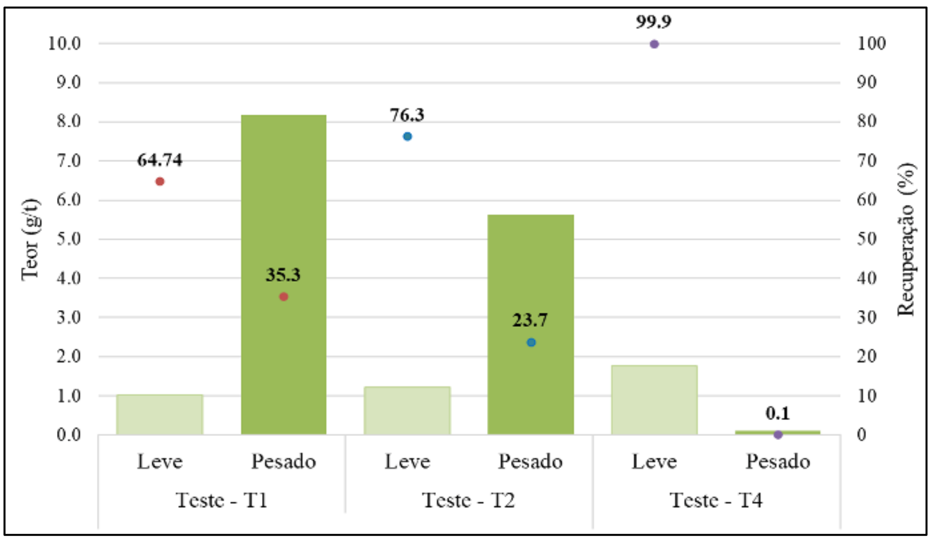


Figure 13-4: Results of gravimetric tests ("Leve"= light fraction; "Pesado"=heavy fraction)

The above results obtained demonstrate higher recoveries to the underflow but insufficient recoveries and concentrate upgrade factors to currently develop an economic recovery process and saleable product. Maximum underflow grade achieved 8.14 g/t PGM+Au concentrate grade with a recovery of 35.3%.

Hydro-cyclone Tests

The cyclone tests were carried out using a 40mm Weir hydro-cyclone. Two tests were performed using split material with similar grades from the gravimetric sample feedstock. The hydro-cyclone apex and vortex finder diameters were 4.0 and 10.0 mm, respectively. **Table 13-10** presents the operating conditions including mass and volumetric flows, percentage of solids in the streams, as well as mass partition results and desliming efficiency data.

Table 13-10: Operating conditions - Hydro-cyclone test

Test	P (KPa)	t (s)	Corrente	m_{polpa} (g)	$m_{sólio}$ (g)	$m_{água}$ (g)	V_{polpa} (mL)	Q_p (L/h)	W_p (kg/h)	W_s (Kg/h)	% W_s	% sol.	E_T (%)
1	250	5.8	*Overflow*	3550	127.8	3422.22	3470	2153.5	2203.4	79.3	32.7	3.6	67.3
			Underflow	984	263.2	721.11	819	508.1	611	163.4	67.3	26.7	
			Feed	4534	391	4143.33	4288	2661.6	2814.4	242.7	100	8.6	

After optimizing conditions, a mass recovery for the underflow stream in the first stage desliming of 67.3% was obtained using a feed pressure of 250 KPa. The percentages of solids obtained in the underflow and overflow in the first stage were 26.7% and 3.6%, respectively.

The overall recovery of PGM+Au was 86.7% in the underflow stream, after two desliming stages, the first with a hydro-cyclone and the second stage with siphoning using Stokes' Law of sedimentation. The overall mass recovery considering the two steps was 55.3% **(Table 13-11)**. It is interesting to note that the global metallurgical recovery of Pt was 96.4%, being 97.2% in the first stage and 99.2% in the second stage.

Similar to the Knelson tests, the concentrate grades produced were only marginally above the feed grade and are below minimum commercial requirements.

Table 13-11: Results of hydro-cyclone tests.

Products	Mass Balance		Grades (g/t)					
1º Stage – T1	m (g)	%	Rh	Pd	Pt	Au	PGM	PGM+Au
Over 1	127.8	32.7	0.005	0.41	0.08	0	0.5	0.5
Under 1	263.2	67.3	0.006	0.45	1.4	0.05	1.86	1.91
Totais	391	100	0.006	0.44	0.97	0.03	1.41	1.45
2º Stage – T1	m (g)	%	Rh	Pd	Pt	Au	PGM	PGM+Au
Over 2 (sifonado)	1708.1	17.87	0.003	0.14	0.06	0.04	0.21	0.25
Under 2	7850.9	82.13	0.007	0.516	1,696	0.052	2,219	2,270
Totais	9559	100	0.006	0.45	1.4	0.05	1.86	1.91
	Global Rec.	**55.3**						

	Met. Recovery (%)					
	Rh	Pd	Pt	Au	PGM	PGM+Au

	28.8	30.76	2.82	0	11.55	11.28
	71.2	69.24	97.18	100	88.45	88.72
	100	100	100	100	100	100
	Rh	**Pd**	**Pt**	**Au**	**PGM**	**PGM+Au**
	9.83	5.61	0.78	15.26	1.97	2.32
	90.17	94.39	99.22	84.74	98.03	97.68
	100	100	100	100	100	100
Global Rec.	**64.2**	**65.4**	**96.4**	**84.7**	**86.7**	**86.7**

Hydrometallurgical Cyanide Leaching – Phase 1 Exploratory Program

Exploratory leaching tests were performed on oxide samples 600004 and 600005. These samples were collected from Bravo twin metallurgical drill hole MDH22LU904 (Central Sector) from approximately 9-18m depth with the oxide horizon. Samples were homogenized and split samples from each volume were generated for head grade assay analysis at SGS Geosol. Average grades across the three samples for respective volumes and elements are presented on **Table 13-12**.

Table 13-12: Average grades obtained on hydrometallurgical cyanide leaching tests.

Sample	Au (g/t)	Pd (g/t)	Pt (g/t)	Rh (g/t)	4E Total (g/t)
Volume A (4)	0.22	1.11	0.49	0.06	1.88
Volume B (5)	0.25	0.95	1.95	0.09	3.24

Direct Leaching and Carbon-in Leach Tests

Direct leaching and Carbon-in-Leach (“CIL”) tests were performed to investigate the response of PGMs at differing grind sizes (p80 -1/8”and p80 -75µm). Sodium cyanide (“CN”) addition rates were also varied to establish intensity influence and effective consumption. These tests were done at cyanide addition rates of 1,000, 5,000, and 10,000 g/t to evaluate PGM solubility. The tests were undertaken using 35% solids in order to maintain amenable pulp viscosity.

The influence of desliming, cyanide addition and activated carbon were evaluated and compared.

Oxide Study Conclusions and Results

- Generally, metal recoveries improved with increases in CN concentration and as grind size was decreased from p80 -1/8”to p80 -75µm. This was credited to improved liberation, especially from remnant rock fragments within the oxide material.
- The addition of activated carbon substantially improved final recoveries of PGM in the reference test. The following recoveries and percentage improvements were observed:

DL vs CIL	Au	Pd	Pt	Rh
Recovery CIL (onto carbon)	93.7 %	51.1 %	6.7 %	30.0 %
Recovery Improvement (above direct leach)	+1.4 %	+5.5 %	+235%	+74.4%

- Desliming by gravity prior to either direct or CIL leaching showed further improvements in global recoveries due to purported removal of potential preg-robbing, ultra-fine clays. The following best element recoveries were achieved:

Deslimed CIL	Au	Pd	Pt	Rh
Recovery CIL (onto carbon)	93.3 %	62.7 %	23.8 %	60.8 %

- In general, it was observed that cyanide concentration does not impact gold and rhodium recoveries but increasing cyanide concentrations improved platinum and palladium recoveries.
- Effective consumption rate for cyanide varied between 900 and 4,000 g/t across tests. Lime consumption varied between 17 and 20 kg/t across tests. Cyanide reclamation is envisaged through a cyanide recovery circuit.
- Gold, palladium and rhodium leach kinetics were relatively high compared to the substantially lower kinetics seen for platinum.
- The conclusion of this exploratory test program demonstrates that PGMs from Luanga oxide mineralization are amenable to cyanide leaching and demonstrated potential to extract PGMs from the oxide mineralization. It was strongly recommended that a more detailed and comprehensive test program be undertaken further develop and optimise processing parameters.

13.5.4 Leaching – Phase 2 Parameter Definition and Optimization Program

TESTWORK Process Development were contracted to perform a Phase 2 metallurgical study on Luanga mineralization in order to support eventual basic engineering on a nominal oxide processing operation for the project. The scope of work includes:

1. Detailed size-by-size mineralization characterization,
2. Establishment of leaching curves under various conditions considering dissolved oxygen, cyanide concentration, pH, temperature, speciation - ferro-cyanide and thiocyanide formation, reagent consumptions,
3. Carbon adsorption kinetics, Freundlich curve establishment and carbon loading analytics,
4. Leach additives and catalyst investigation,

5. Cyanide recovery and neutralization tests.

The Phase 2 sample material was collected as a bulk excavated sample of approximately 2 tonnes, collected at sample location MDH902. The location coincides with the collar location of metallurgical twin diamond drill hole MDH22LU902, situated at the northern edge of the Central Zone of the Luanga mineralization (refer to sampling map).

The sample was delivered to Testwork, where it was homogenized and split into workable sample sizes. Representative split samples were sent to SGS Geosol in Belo Horizonte for head grade analysis **(Table 13-13)**.

Table 13-13: Head grade analysis results – Leaching Phase 2

Head Grade	Au (g/t)	Pd (g/t)	Pt (g/t)	Rh (g/t)	4E_PGM+Au (g/t)
Split Sample Average	0.03	1.32	1.58	0.28	3.20

This program is currently under execution but certain workstreams have been completed and results finalized and reported here.

Leaching at Lower pH

Preliminary tests have been concluded investigating the impact of lower pH on PGM recoveries, particularly on palladium. Using lower pH is well documented in published technical reports which highlight improved palladium recoveries at lower pH. For these tests, lime consumption varied between 3.4 – 11.0 kg/t, lowered from the Phase 1 lime consumption range of 17 – 20 kg/t. All tests demonstrated material improvement in palladium recovery, with the best achieved recovery totalling 81.4% at a lime consumption rate or 11.0 kg/t and effective cyanide consumption of 4350 g/t.

Gold, platinum and rhodium recoveries under these conditions were negligible, and demonstrate the potential for effective sequential PGM leaching under differing pH and cyanide conditions in series.

Carbon Loading and Ashing Tests

Following the encouraging leaching results, Bravo investigated the loading potential of PGMs onto carbon in a CIL circuit and the potential to produce a final “ashed” residue saleable product. Both loaded carbon and ashed carbon residue represent a potentially saleable product. To achieve sufficient product for analysis (particularly the ashing product), a large volume solution sample was prepared to generate sufficient loaded carbon mass.

The sample was prepared in the following manner:

1. A tailings oxide pulp sample was analysed and charged with dissolved gold, platinum, palladium and rhodium such that the final precious metals in-solution concentrations equalled the solution concentration of a direct leach according to observed recovery rates in tests from Phase 1. The average recoveries consider in this calculation were as follows:

Element	Au	Pd	Pt	Rh
Recovery	95 %	60 %	20 %	40 %

2. Activated carbon was introduced to the system and maintained for 24 hours.
3. Filtered carbon was homogenized and split with duplicate samples submitted to SGS for fire assay analysis and CETEM for ICP-OES analysis and muffle furnace ashing.
4. PGMs showed high levels of loading onto carbon with high carbon PGM grades and high adsorption recoveries. The analytical results from SGS and CETEM are summarized below. Rhodium could not be analysed due to equipment constraints and grades have been calculated based on mass balance.

Laboratory	Au (g/t)	Pd (g/t)	Pt (g/t)	Rh (g/t)	3 PGM
SGS Geosol	41.6	819.6	384.3	134.9	1380.4
CETEM	43.2	846.3	404.7	135.0	1429.2
Adsorption Recovery	99.7 %	99.7 %	92.5 %	n/d	

Ashing Tests

In order to investigate the production of a high grade ashed residue final product in place of a sequential elution or doré product, two ashing tests were conducted to support marketing studies.

Two 20g loaded carbon samples split from the CETEM carbon analysis samples were ashed in a bench-scale muffle furnace at CETEM in Rio de Janeiro.

For both tests, the residual fraction mass was 0.24 grams representing a 98.8 % reduction in mass. The resultant final product grade was calculated on mass balance and summarized below:

Ashed Residue	Au (g/t)	Pd (g/t)	Pt (g/t)	Rh (g/t)	3PGM+Au (g/t)
Grade	3,600	70,525	33,725	11,250	119,100

The final product was highly enriched in PGM demonstrating a total PGM+Au grade of 119.1 kg/t or 11.91% by weight.

Mini Plant Flotation Tests and Downstream Processing

In addition to the bench-scale flotation test work conducted by Bravo, a mini plant test program (assays pending) was also initiated in order to:

1. Further evaluate parameters determined from the bench scale program,
2. Evaluate detailed concentrate chemistry and mineralogy,
3. Produce larger quantities of concentrate to evaluate potential downstream processing opportunities.

The mini-plant tests have been completed but analytical results are still pending.

Downstream processing of Luanga concentrates is an important consideration given the size of the Luanga deposit, which may have the potential to support a large tonnage, long life operation. Sample concentrates will be used in a range of pyrometallurgical and hydrometallurgical smelting and refining tests to determine technical and strategic options. Pyrometallurgical technologies under consideration include conventional nickel sulphide flash smelting, electric arc smelting, and top submerge lance smelting (Ausmelt). These technologies are well established and have been implemented at nickel and PGM operations for over 60 years. Additionally, hydrometallurgical refining options are also under evaluation.

Bravo has initiated technical discussions with three global smelting, and one hydrometallurgical refining Original Equipment Manufacturers (“OEM”) to investigate technology, support test work design, and scope potential capital and operating cost considerations.

Preliminary discussions indicate that a pyrometallurgical smelting facility producing PGM-rich, high grade nickel matte at a 200 000 tonne concentrate feed rate will have a capital expenditure of USD 250 – 350 million with operating costs of USD 150 – 200 per tonne of concentrate operating expenditure.

Comparatively, a hydrometallurgical refinery to produce nickel anode and individual platinum group metals in sponge at a 200 000 tonne concentrate feed rate will have a capital expenditure of USD 220 – 300 million with an operating cost of USD 240 – 270 per tonne of concentrate operating expense.

Downstream processing could provide further benefit to the Luanga Project through retained payabilities through the value chain, optimization of logistics cost and potential additional tax benefits for in-country beneficiation. Furthermore, certain processing technologies might allow greater flexibility on concentrate quality, which may allow for higher concentrate mass pull, higher PGM and Ni recovery and/or the potential reduction of cut-off grades. In the case of the pyrometallurgical option where sulphuric acid would be a valuable bi-product from the smelting process any additional revenues arising from acid sales has not been researched. These potential benefits have not been considered in the current MRE metallurgical input parameters.

13.6 MRE Metallurgical Recommendations

The basis of recommendations for metallurgical inputs into the determination of Mineral Resources are from validated, and reproduced historical metallurgical test results, newly generated tests results and external comparable results, where deemed “reasonable”.

Fresh Material Flotation

Vale, through external independent laboratories (SGS Lakefield, Mintek) and internal development work, reported their conclusion, that 74% of the PGMs could reasonably and economically be recovered at a LOM average feed grade of 1.24 g/t PGM+Au, with demonstrated concentrate grades of 80 – 150 g/t.

Bravo, through its 2022/2023 metallurgical program has reproduced and validated the nature of the historical results achieved by Vale and elucidated further areas of improvement, either achieved in test results or demonstrated to have a high probability of achievement based on preliminary test results and comparable test work.

For the purposes of mineral resource estimation, the recovery numbers were simplistically modelled for tests across the grade profile and achieved concentrates that are at potential saleable grades (80 - 90 g/t PGMs+Au). Concentrate quality considerations were based on concentrates from one operating and one development project and their qualities and terms for delivery to two separate Southern African smelters.

Recovery numbers were adjusted to accommodate for improvement demonstrated on Luanga recoveries through exploratory ultra-fine hydrodynamic cavitation tests. An improvement of 6.1% was achieved at rougher stage flotation. This result replicates improved recoveries reported from the Rustenburg tailings retreatment facilities at materially lower grades (0.69 g/t PGMs) of 5% at rougher stage. Global recovery improvement stabilized at 10% under these reported results. The Luanga metallurgical model currently adjusts global recovery improvement at a potential of 7%, assuming only a further 1% rougher stage recovery improvement relative to a further 4% improvement observed in comparable test work on other projects (Ross, Victor, et al. "Improved flotation of fine PGM tailings in a high-shear cavitation device." *Proceedings of the Flotation 17 conference, Cape Town, South Africa, November*. 2017.)

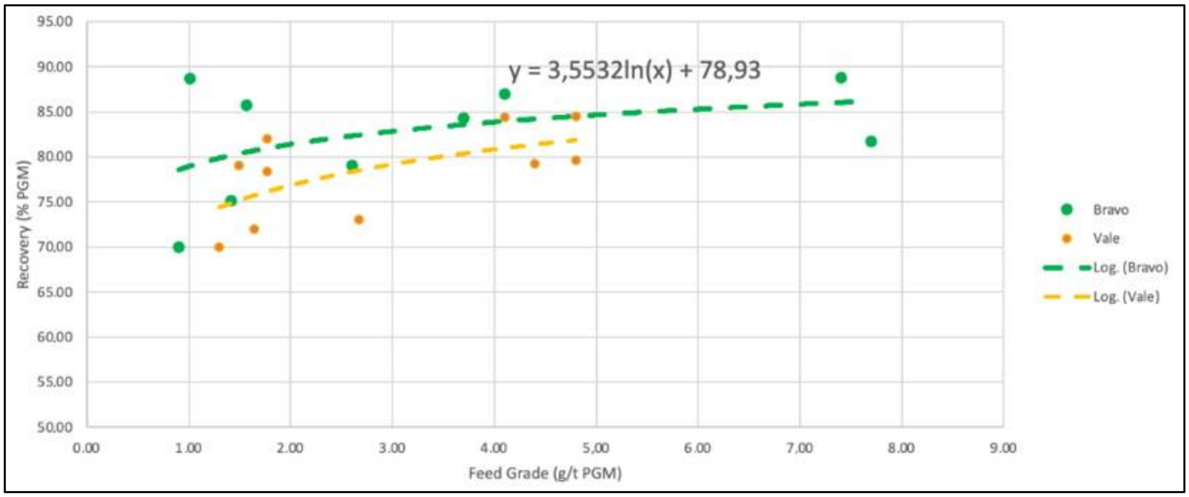
The average concentrate grade of the (historical and Bravo) tests under consideration for this exercise equaled 134 g/t. However Bravo is targeting saleable concentrates of 80-90 g/t PGM+Au, Therefore opportunity exists to simulate/model an improved recovery by allowing the concentrate grade to decrease from 134gpt. This can likely be realised by blending cleaner tails into final concentrate and/or adjusting flotation times hence increase recovery at the expense of concentrate grade. Considering that flotation cleaners achieved an average of 80% recovery throughout Bravo's 2023 tests while maintaining a saleable concentrate grade , modelling has indicated that there is a strong case for global recovery to be expected to improve by 3.99%. However, being more conservative for the purposes of this MRE, Bravo has elected to use only a 2% improvement, i.e. 50% risk adjustment.

The current metallurgical model shows PGM recoveries of ca. 76 – 85% across a feed grade of 0.9 – 7.0 g/t PGM+Au for concentrates above 80 g/t PGM+Au.

The graph below demonstrates the modelled metallurgical input parameters for the purposes of the 2023 Luanga Mineral Resource Estimate. The logarithmic model trend line has a formula of:

$$y = 3{,}5532\ln(x) + 78.93$$

where, y = (recovery) and x = (material grade)



Nickel recoveries have been demonstrated through Vale locked cycle tests to be achievable with 45 and 47% recoveries at a feed grade of 0.19 %. A fixed recovery of 50% is recommended for the MRE exercise.

Ashed Residue	Au (g/t)	Pd (g/t)	Pt (g/t)	Rh (g/t)	4E_PGM+Au (g/t)
Grade	3 600	70 525	33 725	11 250	119 100

Oxide Material Leaching

The hydrometallurgical recoveries achieved to date, although robust, are exploratory in nature and have few external comparable data sets. The recoveries have been verified through multiple leaching tests and the conceptual processing flowsheet has been validated with tests including PGM+Au solubility in the presence of cyanide at ambient temperature and pressure with reasonable reagent consumptions. Indications are that PGM+Au adsorption onto carbon is feasible and a very saleable, high grade, PGM+Au residue can be produced. The aforementioned therefore supports a high probability for economic recovery of PGMs+Au from oxide material at Luanga through conventional sodium cyanide leaching and carbon-in-leach extraction.

The recommendations for oxide metallurgical input into the MRE are based solely on laboratory generated data from the Luanga 2022/2023 program. And, whilst a number of potential future improvements have been identified, parameters used for the MRE will not include any upside. Bravo believes this conservative approach to be adequately risk adjusted in the absence of external comparable results.

Recommended leach recoveries for gold, platinum and rhodium were generated from feed material averaging 1.8 g/t PGM+Au. With the initiation of Phase 2 test work, palladium has demonstrated recoveries up to 81% for a feed grade of 3.2 g/t PGM+Au. The recommended palladium recovery has been adjusted to reflect the grade weighted average recovery for recoveries observed at the two grade data points.

MRE Recommendation Oxide Material	Au	Pd	Pt	Rh
Global Recovery (1-3 g/t)	94 %	73 %	24 %	61 %

14 MINERAL RESOURCE ESTIMATES

GE21 carried out the 3D geological modelling, statistical and geostatistical studies, and grade estimate for the Luanga Project, assessing a set of factors, including the amount, and spacing of available data, interpreted mineralization controls, mineralization style, and quality of used data.

Geological modelling and estimation were performed using Leapfrog 2023.1 and Isatis.Neo respectively. The UTM Projection – Zone 22 South, Datum: SIRGAS 2000 was adopted as a reference for the database of this work.

14.1 Drilling Database

The drilling database supplied by Bravo was visually validated, considering the relationship between tables, gaps, overlaps, and the absence of essential information. Using Leapfrog Geo software, GE21 also validated the Collar, Survey, Assay, and Lithology tables. No relevant inconsistencies were identified in this stage of the work since this was verified in the Data Verification stage.

GE21 used all data information from the Bravo database, including the trench channel samples and the Diamond Drill hole core from Vale and Bravo campaigns available on 5th October 2023. Table 14-1 summarizes the drilling database used in this project stage. The map shown in Figure *14-1* shows the spatial distribution of the holes used.

Table 14-1: Luanga Project Drill Holes summary.

Rótulos de Linha	Number drill holes	Length (m)
Diamond Drill holes	407	82 082
Trench's Channels	12	1 580
Total	419	83 662

The database has geochemical results of the variables: Pd (ppm), Pt (ppm), Rh (ppm), Au (ppm) and Ni (ppm).

The database has analysis from Vale and Bravo campaigns, including Vale assays resampled by Bravo. The database used for the MRE has Vale data with the correlation correction applied as further explained in Chapter 11 - Sample Preparation, Analysis and Security. The results ratio for all variables according to their drilling type is quantified in Table 14-2.

Table 14-2: Luanga Project assays summary.

		Diamond Dril Hole		Trench's Channels	
Company	**Variable (ppm)**	**Number**	**Length (m)**	**Number**	**Length (m)**
Bravo	Ni	41757	41445	169	168
	Au	41756	41444	1349	1339
	Pt	41756	41444	1349	1339
	Pd	41756	41444	1349	1339
	Rh	41756	41444	1349	1339
Vale	Ni	35345	35316	-	-
	Au	35736	35702	-	-
	Pt	35736	35702	-	-
	Pd	35736	35702	-	-
	Rh	35293	35263	-	-
Total		**77492**	**77146**	**1349**	**1339**

Total	**Number**	**78841**	**Length (m)**	**78485**

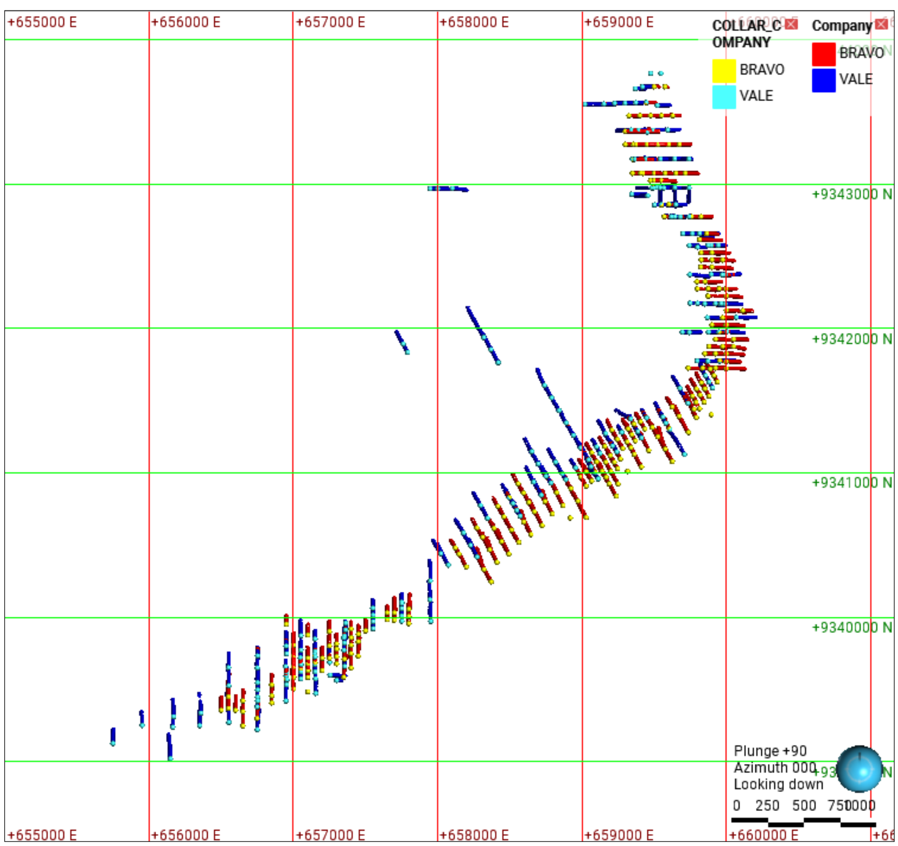


Figure 14-1: Luanga Project Assays Plan view.

14.2 Geological Modeling

The 3D geological modelling was carried out using information from surface geological mapping and the drill hole database.

Bravo's geologists interpreted the mineralized grade shell and lithology model along the 92 drill sections. After this, the mineralized zone interpretation was modelled by continuity of the 3PGMs (Pd, Pt and Rh) + Au, economic composites with 0.3 ppm cut-off grade and minimum width of the 3 meters.

The weathering zone was modelled using drill hole logs information, RQD and weathering types. The mineralized model was then individualized into 9 grade shell domains, besides the weathering zone, totalling into 10 domains following a hierarchical arrangement. Figure 14-2 to Figure 14-7 show the results of this models.

The Qualified Person considers the geological interpretations and modelling are adequate for a Mineral Resource Estimation study. QA/QC procedures follow the industry's practices, and the models honour the mineralized composites intervals and has adequate continuity of the modelled bodies.

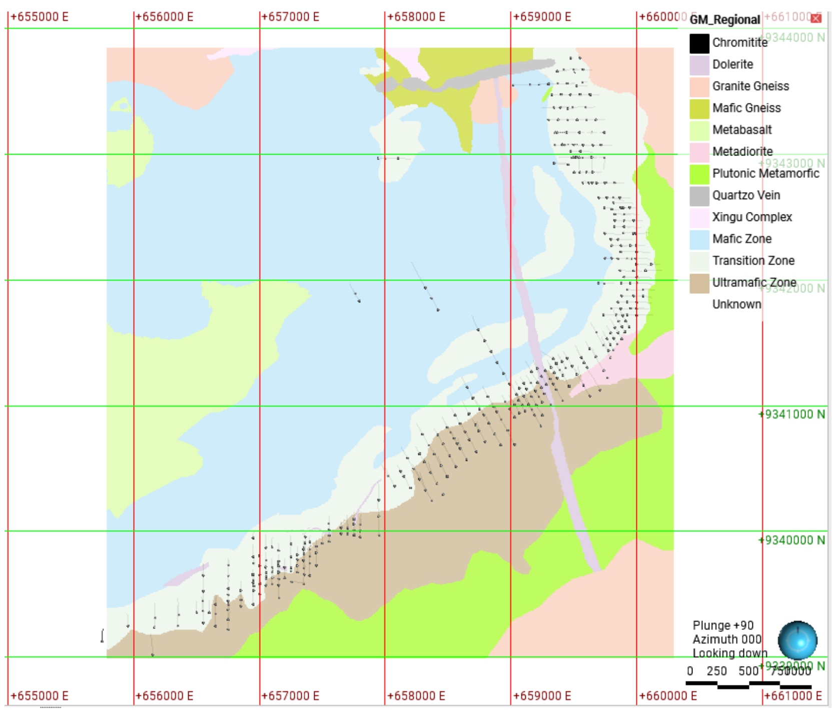


Figure 14-2: Lithological Model Plane view.

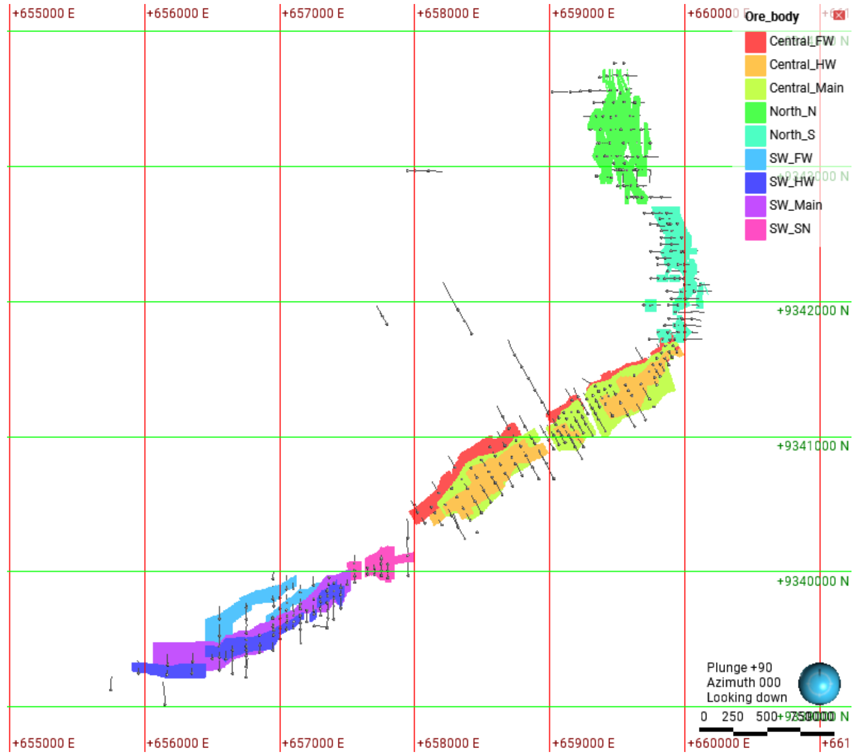


Figure 14-3: Mineralization zones Plan view.

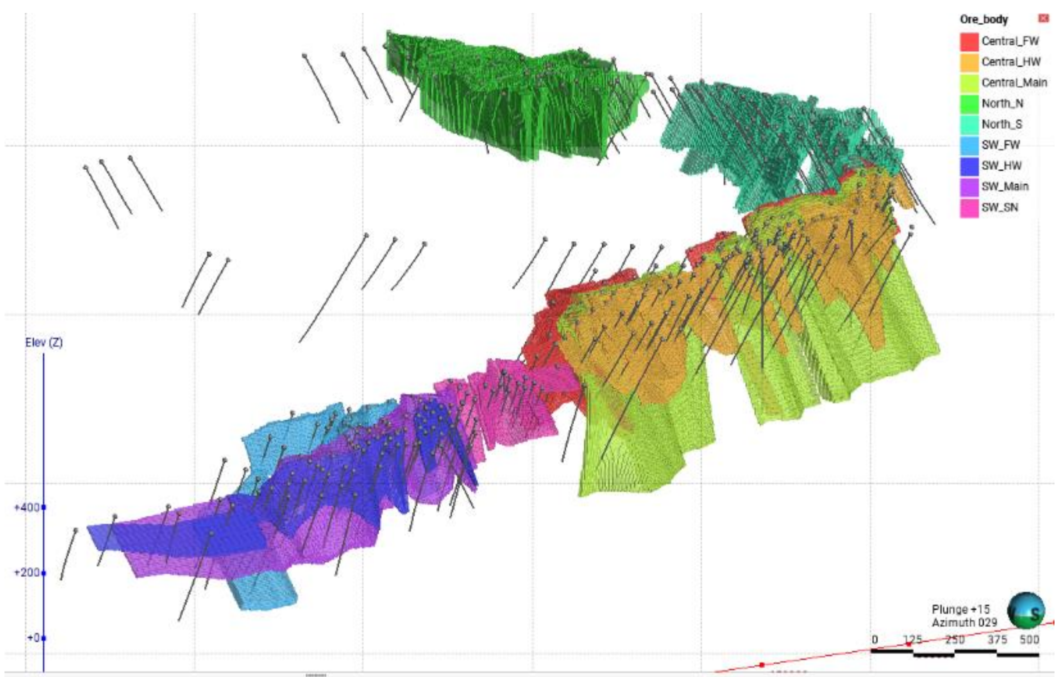


Figure 14-4: Mineralization Zones oblique view.

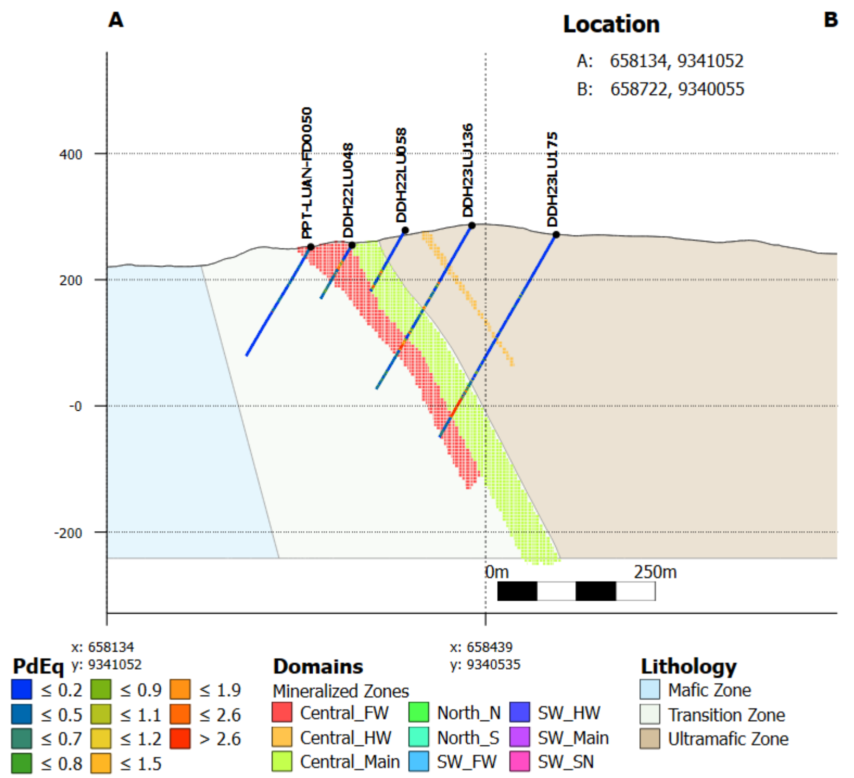


Figure 14-5: Central Domain Lithological Model and Mineralization zone Cross Section.

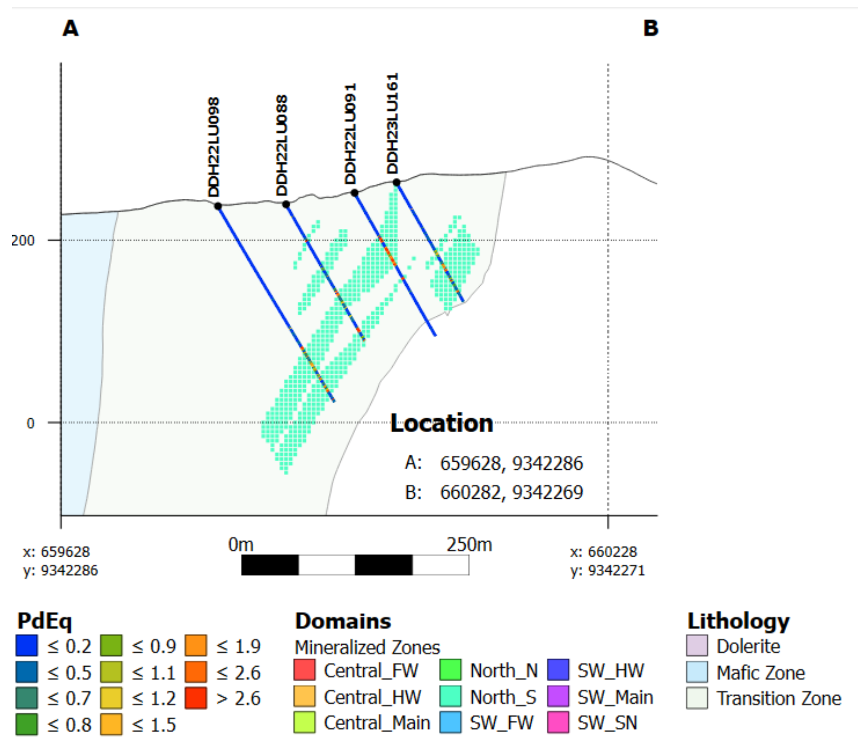


Figure 14-6: North Domain Lithological Model and Mineralization zone Cross Section.

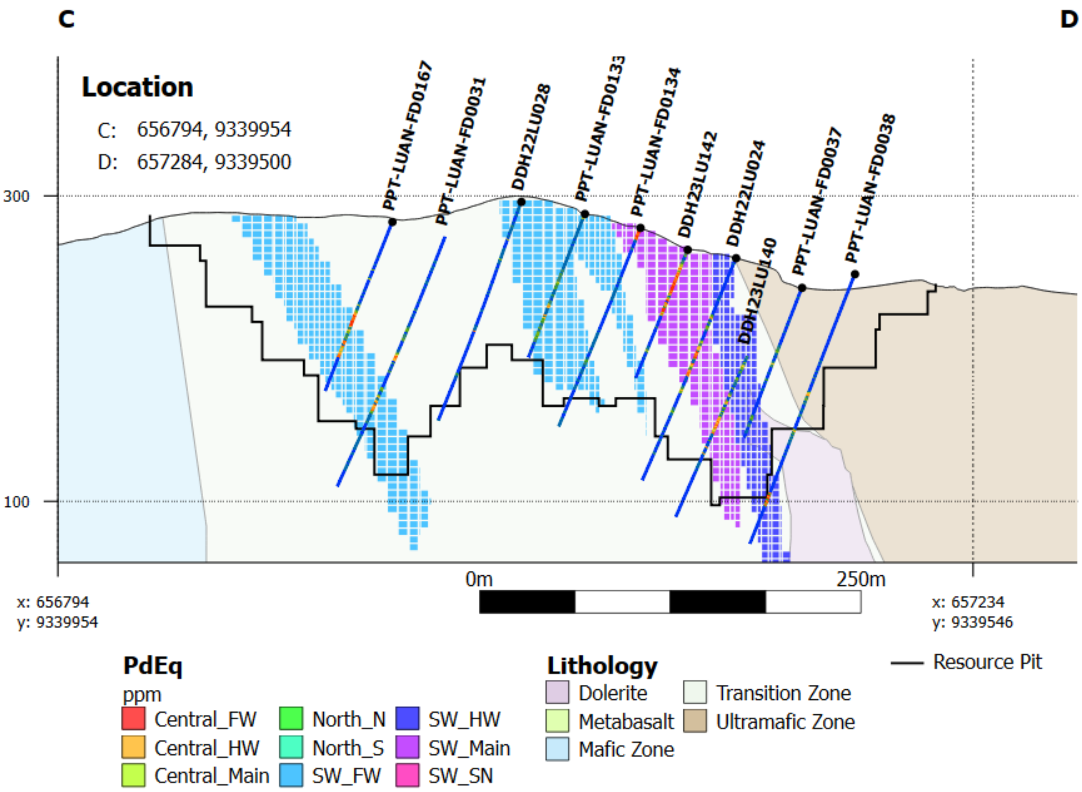
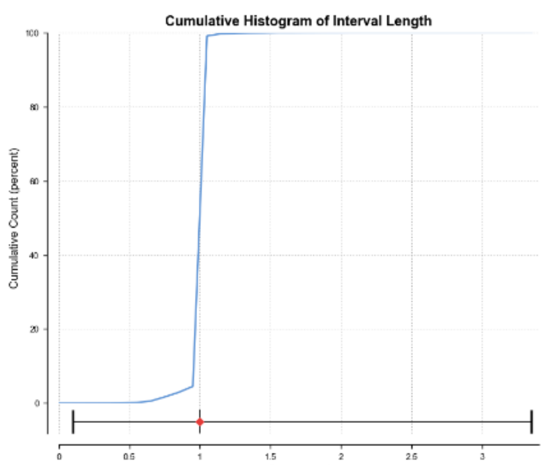


Figure 14-7: Southwest Domain Lithological Model and Mineralization zone Cross Section.

14.3 Regularization of samples

The analysis of the sample database showed that more than 98% of the drilling samples have a length less than or equal to 1 meter. GE21 performed the regularization of samples to 1 meter for the complementary studies of statistics and geostatistics (Figure *14-8*).



	Value
Count	78,842
Mean	0.995486
SD	0.0535601
CV	0.053803
Variance	0.00286868
Minimum	0.1
Q1	1
Q2	1
Q3	1
Maximum	3.35

Figure 14-8: Bravo assays interval lengths statistics.

14.4 Exploratory Data Analysis (EDA)

Drilling samples composite statistical analysis was performed for Pd (ppm), Pt (ppm), Rh (ppm), Au (ppm) and Ni (ppm) variables, according to the typology modelled. Table 14-3 shows the basic statistics for these variables.

Figure 14-9 to Figure 14-13 show the Boxplots for the Pd (ppm), Pt(ppm), Rh (ppm), Au (ppm) and Ni (ppm) variables.

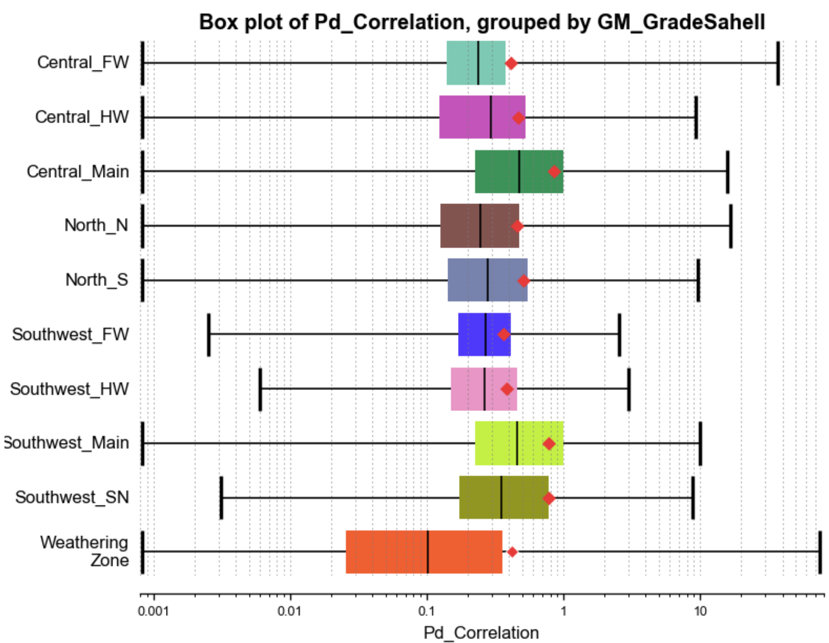


Figure 14-9: Pd ppm Box Plot chart by Domains.

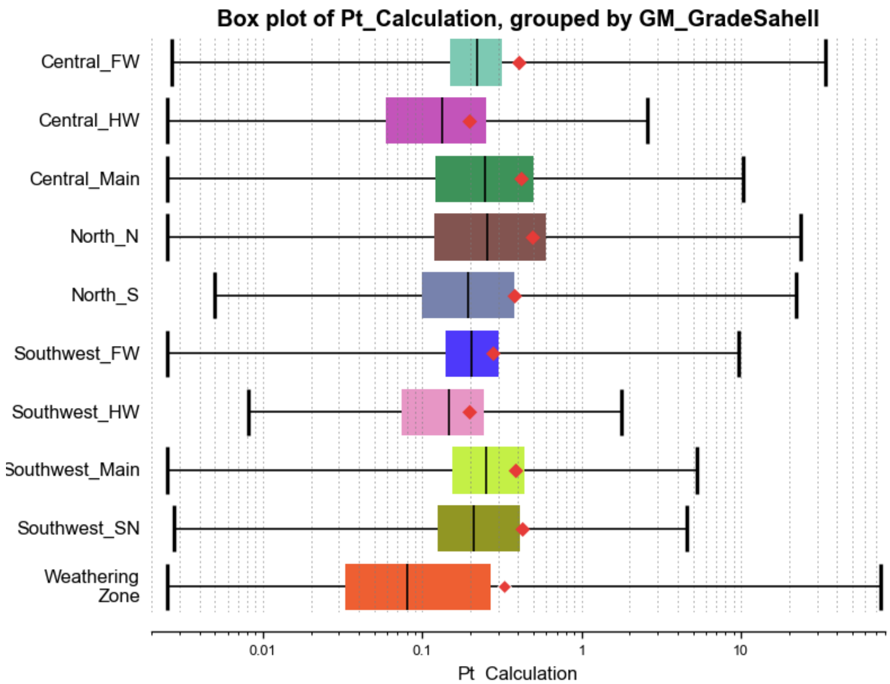


Figure 14-10: Pt ppm Box Plot chart by Domains.

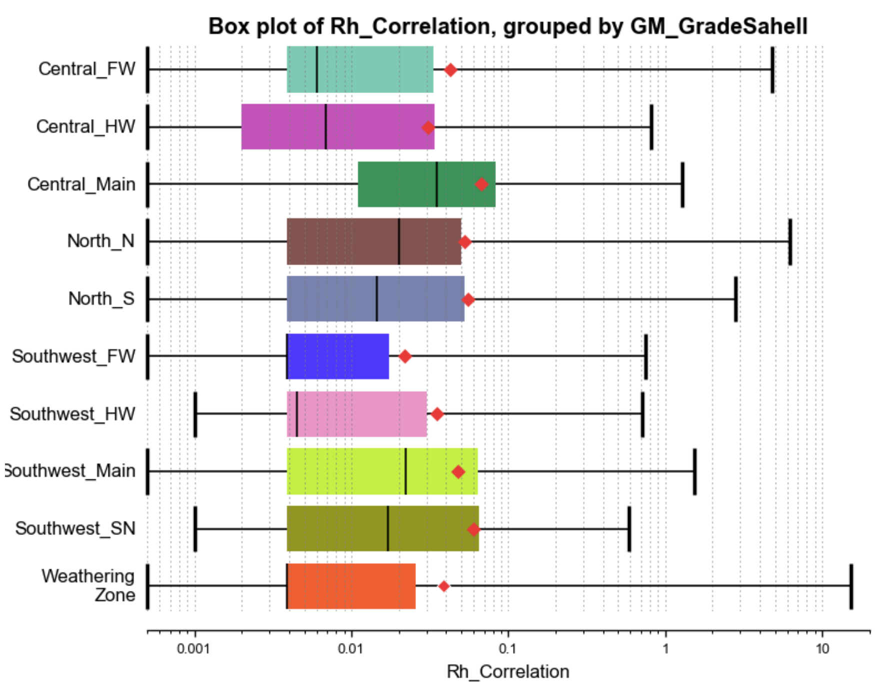


Figure 14-11: Rh ppm Box Plot chart by Domains.

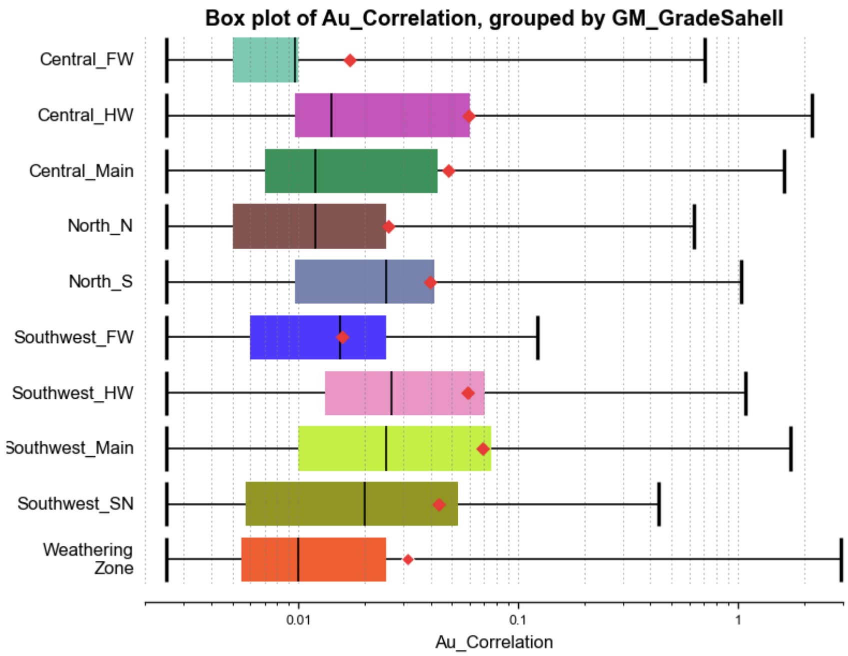


Figure 14-12: Au ppm Box Plot chart by Domains.

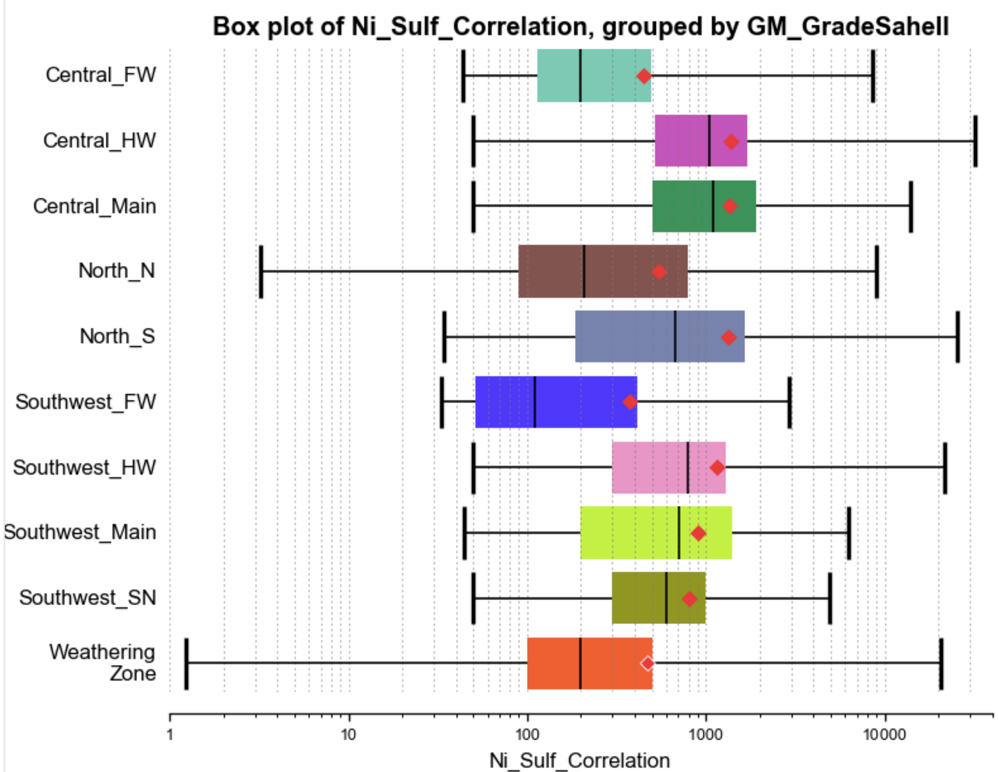


Figure 14-13: Ni ppm Box Plot chart by Domains.

Table 14-3: Bravo Domains Statistical summary.

Name	Domains	Count	Length (m)	Mean (m)	Standard deviation	Coefficient of variation	Variance	Minimum	Lower quartile	Median	Upper quartile	Maximum
Pd	Total	78 293	78 278									
	Central_FW	1 700	1 699	0.4129	1.1040	2.6740	1.2188	0.0008	0.1400	0.2369	0.3790	36.8849
	Central_HW	904	904	0.4677	0.7426	1.5878	0.5515	0.0008	0.1233	0.2919	0.5300	9.3396
	Central_Main	2 929	2 929	0.8453	1.0897	1.2891	1.1874	0.0008	0.2259	0.4751	1.0050	15.8952
	North_N	2 886	2 886	0.4573	0.8822	1.9293	0.7782	0.0008	0.1260	0.2485	0.4736	16.6637
	North_S	2 508	2 509	0.5057	0.7792	1.5409	0.6071	0.0008	0.1434	0.2802	0.5467	9.5503
	Southwest_FW	727	725	0.3618	0.3356	0.9276	0.1126	0.0025	0.1702	0.2684	0.4104	2.5634
	Southwest_HW	328	329	0.3814	0.3862	1.0127	0.1492	0.0060	0.1512	0.2645	0.4564	2.9916
	Southwest_Main	2 162	2 161	0.7827	0.9473	1.2104	0.8974	0.0008	0.2276	0.4571	0.9903	9.8944
	Southwest_SN	289	289	0.7834	1.2664	1.6166	1.6038	0.0031	0.1732	0.3497	0.7807	8.7762
	Unknown (Waste zone)	53 653	53 646	0.0526	0.0948	1.8032	0.0090	0.0008	0.0100	0.0260	0.0662	6.2750
	Weathering Zone	10 207	10 200	0.4182	1.6320	3.9022	2.6635	0.0008	0.0255	0.1017	0.3600	74.3432
Pt	Total	78 293	78 278									
	Central_FW	1 700	1 699	0.4011	1.4857	3.7043	2.2074	0.0027	0.1502	0.2200	0.3140	33.7309
	Central_HW	904	904	0.1977	0.2308	1.1676	0.0533	0.0025	0.0593	0.1328	0.2518	2.5768
	Central_Main	2 929	2 929	0.4203	0.5845	1.3904	0.3416	0.0025	0.1206	0.2490	0.5000	10.3582
	North_N	2 886	2 886	0.4946	0.9683	1.9580	0.9377	0.0025	0.1199	0.2575	0.5953	23.5638
	North_S	2 508	2 509	0.3769	0.8827	2.3417	0.7791	0.0050	0.0993	0.1938	0.3812	22.0388
	Southwest_FW	727	725	0.2761	0.4538	1.6434	0.2059	0.0025	0.1400	0.2031	0.3016	9.6103
	Southwest_HW	328	329	0.1975	0.2056	1.0407	0.0423	0.0081	0.0738	0.1460	0.2420	1.7844
	Southwest_Main	2 162	2 161	0.3839	0.4481	1.1672	0.2008	0.0025	0.1544	0.2520	0.4388	5.3335
	Southwest_SN	289	289	0.4268	0.6525	1.5289	0.4257	0.0027	0.1249	0.2103	0.4076	4.5763
	Unknown (Waste zone)	53 653	53 646	0.0522	0.0933	1.7883	0.0087	0.0025	0.0083	0.0360	0.0600	11.7351
	Weathering Zone	10 207	10 200	0.3269	1.7542	5.3668	3.0772	0.0025	0.0331	0.0800	0.2666	75.8600
Rh	Total	77 853	77 839									

Table 14-3: Bravo Domains Statistical summary.

Name	Domains	Count	Length (m)	Mean (m)	Standard deviation	Coefficient of variation	Variance	Minimum	Lower quartile	Median	Upper quartile	Maximum
	Central_FW	1 700	1 699	0.0428	0.1897	4.4307	0.0360	0.0005	0.0039	0.0060	0.0332	4.8248
	Central_HW	904	904	0.0308	0.0657	2.1343	0.0043	0.0005	0.0020	0.0068	0.0339	0.8072
	Central_Main	2 929	2 929	0.0675	0.0985	1.4593	0.0097	0.0005	0.0110	0.0350	0.0833	1.2769
	North_N	2 697	2 698	0.0529	0.1725	3.2599	0.0298	0.0005	0.0039	0.0202	0.0500	6.1934
	North_S	2 508	2 509	0.0549	0.1337	2.4341	0.0179	0.0005	0.0039	0.0146	0.0524	2.8200
	Southwest_FW	727	725	0.0218	0.0466	2.1368	0.0022	0.0005	0.0039	0.0039	0.0174	0.7523
	Southwest_HW	328	329	0.0353	0.0812	2.3017	0.0066	0.0010	0.0039	0.0045	0.0302	0.7090
	Southwest_Main	2 162	2 161	0.0475	0.0779	1.6389	0.0061	0.0005	0.0039	0.0223	0.0636	1.5349
	Southwest_SN	289	289	0.0599	0.1030	1.7182	0.0106	0.0010	0.0039	0.0170	0.0654	0.5839
	Unknown (Waste zone)	53 491	53 485	0.0054	0.0144	2.6689	0.0002	0.0005	0.0010	0.0039	0.0039	1.0802
	Weathering Zone	10 118	10 110	0.0385	0.2495	6.4892	0.0623	0.0005	0.0039	0.0039	0.0257	15.2510
Au	Total	78 293	78 278									
	Central_FW	1 700	1 699	0.0172	0.0371	2.1591	0.0014	0.0025	0.0050	0.0096	0.0100	0.7053
	Central_HW	904	904	0.0596	0.1240	2.0795	0.0154	0.0025	0.0096	0.0142	0.0599	2.1765
	Central_Main	2 929	2 929	0.0481	0.0951	1.9764	0.0090	0.0025	0.0070	0.0120	0.0432	1.6186
	North_N	2 886	2 886	0.0256	0.0474	1.8513	0.0022	0.0025	0.0050	0.0119	0.0250	0.6300
	North_S	2 508	2 509	0.0396	0.0635	1.6044	0.0040	0.0025	0.0096	0.0251	0.0415	1.0380
	Southwest_FW	727	725	0.0158	0.0127	0.8020	0.0002	0.0025	0.0060	0.0155	0.0251	0.1223
	Southwest_HW	328	329	0.0586	0.0962	1.6405	0.0092	0.0025	0.0132	0.0264	0.0704	1.0830
	Southwest_Main	2 162	2 161	0.0687	0.1130	1.6445	0.0128	0.0025	0.0099	0.0251	0.0756	1.7290
	Southwest_SN	289	289	0.0434	0.0657	1.5151	0.0043	0.0025	0.0058	0.0200	0.0535	0.4356
	Unknown (Waste zone)	53 653	53 646	0.0154	0.0346	2.2439	0.0012	0.0025	0.0050	0.0096	0.0251	5.2191
	Weathering Zone	10 207	10 200	0.0314	0.0818	2.6047	0.0067	0.0025	0.0055	0.0100	0.0251	2.9444
Ni	Total	67 772	67 766									
	Central_FW	1 700	1 699	445.5778	596.3746	1.3384	355 662.7038	43.5571	114.7957	200.0000	496.6732	8 503.0000

Table 14-3: Bravo Domains Statistical summary.

Name	Domains	Count	Length (m)	Mean (m)	Standard deviation	Coefficient of variation	Variance	Minimum	Lower quartile	Median	Upper quartile	Maximum
	Central_HW	904	904	1 375.5057	1 741.7329	1.2662	3 033 633.5143	50.0000	519.6962	1 047.2919	1 700.4000	32 118.8000
	Central_Main	2 929	2 929	1 364.0171	1 142.1601	0.8374	1 304 529.7198	50.0000	501.2000	1 100.0000	1 899.2000	13 919.4000
	North_N	2 705	2 706	546.3148	741.7377	1.3577	550 174.7681	3.2057	89.4162	207.0830	798.6290	8 959.3688
	North_S	2 508	2 509	1 328.1794	2 089.1493	1.5729	4 364 544.7208	34.4590	186.7333	674.0863	1 649.6000	25 361.6000
	Southwest_FW	727	725	375.7963	545.4298	1.4514	297 493.6215	33.0879	51.0500	110.8078	410.3816	2 894.3000
	Southwest_HW	328	329	1 158.3905	1 881.0665	1.6239	3 538 411.0725	50.0000	300.0000	791.3257	1 296.7000	21 640.0000
	Southwest_Main	2 162	2 161	906.1721	804.9584	0.8883	647 957.9922	44.5618	200.0000	708.0000	1 400.0000	6 265.0000
	Southwest_SN	289	289	812.1229	764.5436	0.9414	584 526.9676	50.0000	298.2000	600.0000	1 001.4000	4 898.0000
	Unknown (Waste zone)	53 520	53 514	327.3739	446.5970	1.3642	199 448.8777	1.0804	81.5053	174.9000	405.2000	18 998.0000
	Weathering Zone	-	-	-	-	-	-	-	-	-	-	-

14.5 Geostatistical Structural Analysis

GE21 applied the Multiple Indicator Kriging (MIK) to prepare the Luanga mineral resource grade estimation. The key objective of multiple indicator kriging is:

- Manage highly variable natural phenomena without cutting high values or nonlinear transformation.
- Estimate the local distribution at each unsampled location to provide risk-qualified estimates.

The aim is to model complex mineralization with non-Gaussian structure, including asymmetric spatial continuity of high and low values.

Indicator processing does not take assumptions of local distributions and the indicator processing can compute more erratic patterns than Gaussian methodologies. The MIK has the follows flowchart (Figure 14-14):

A. Select cut-off of global distribution;

B. Create indicators;

C. Estimate probability of class by indicator kriging;

D. For each block define probabilities for all cut-offs; and

E. Pos-processing and Support Change.

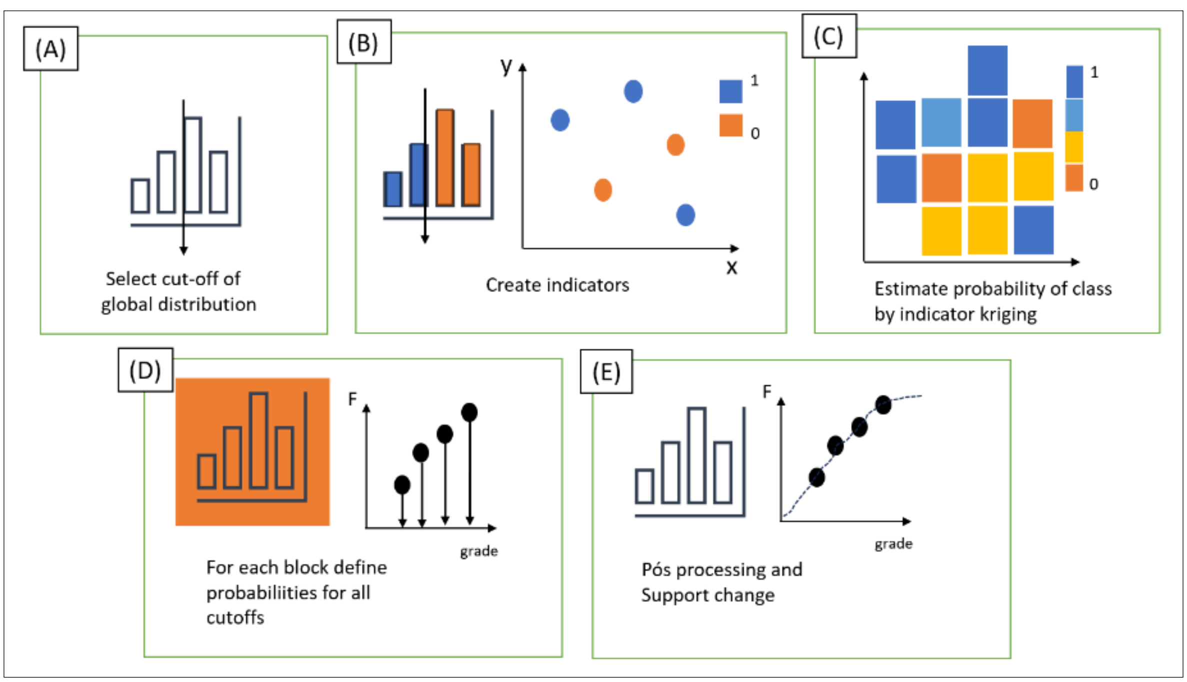


Figure 14-14: Flow chart of the MIK.

14.5.1 Indicator to MIK

GE21 procedure to define the indicators by cut-off analysis was made selecting ranges with same near difference of metal content between cutoffs (Figure *14-15*).

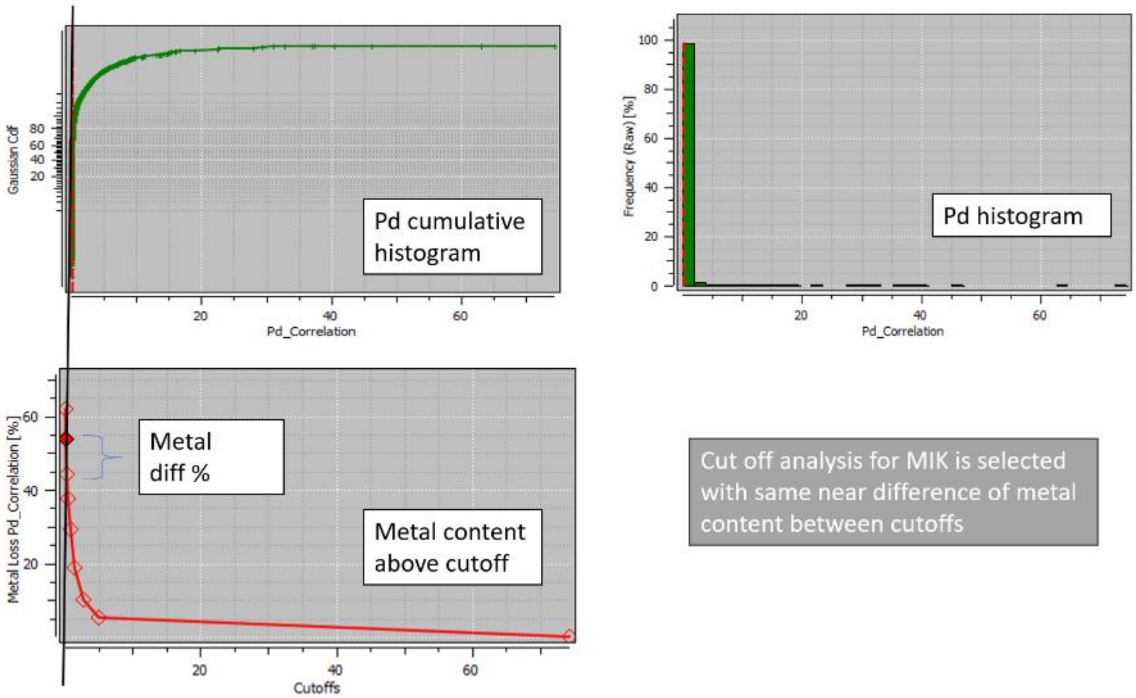


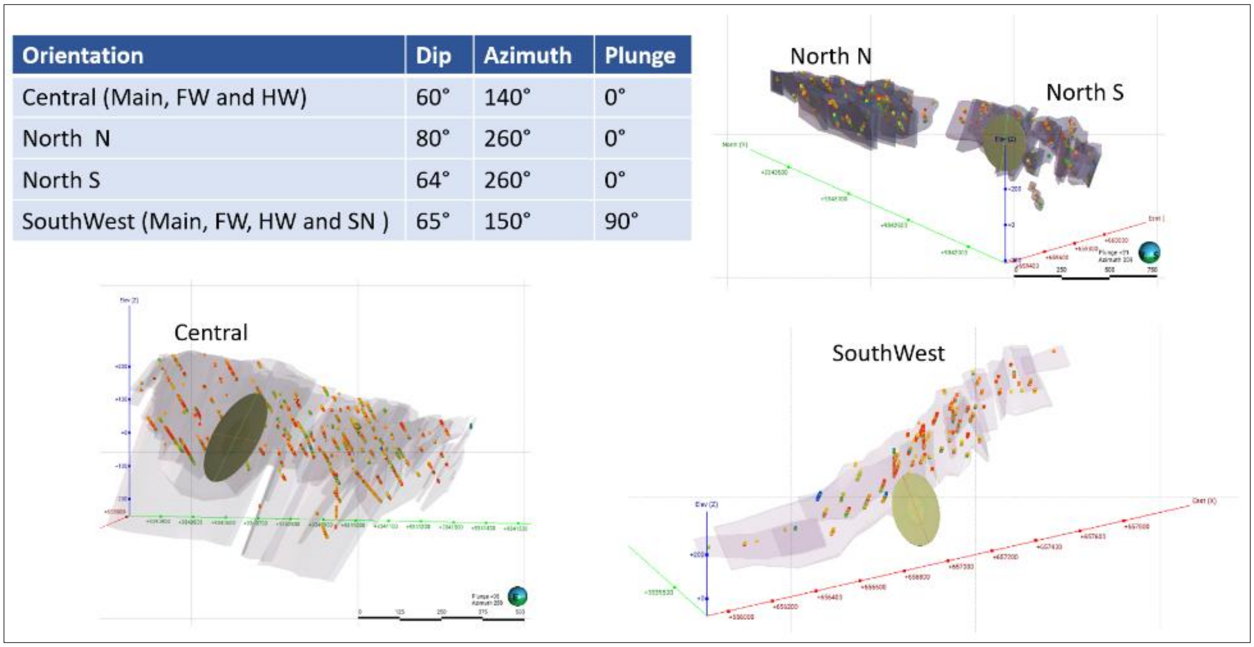
Figure 14-15: Selection of MIK Indicators.

14.5.2 Variographic Analysis

The domain structural analysis was carried out to ascertain the variographic parameters to be used in estimating levels and understanding the spatial continuity of the variables. Figure 14-16 shows the Luanga domains variogram ellipsoid orientation used in the structural analysis.

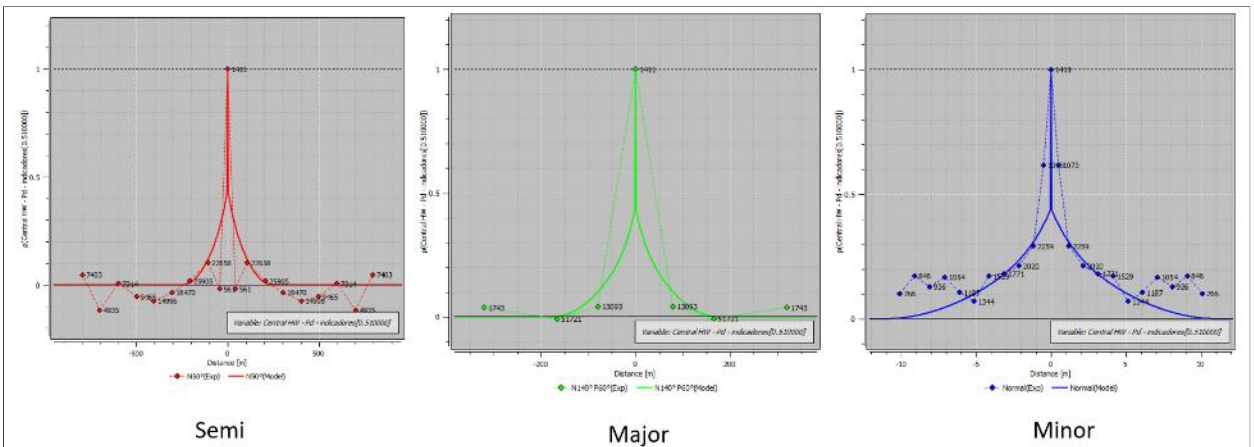
GE21 did the correlograms for all variables and domains. The best fit correlogram by variable and domain was applied for all cut-offs indicates respectively.

The tables with the correlogram parameters are in the Appendix H. Figure 14-17 shows the correlogram chart that was uses in Central domain for Pd variable as example.



Orientation	Dip	Azimuth	Plunge
Central (Main, FW and HW)	60°	140°	0°
North N	80°	260°	0°
North S	64°	260°	0°
SouthWest (Main, FW, HW and SN)	65°	150°	90°

Figure 14-16: Luanga domains variogram ellipsoid orientation.



Geostatistical Set	Nugget	Structure 1	Sill 1	Range - Major 1 (m)	Range - Semi 1 (m)	Range - Minor 1 (m)	Structure 2	Sill 2	Range - Major 2 (m)	Range - Semi 2 (m)	Range - Minor 2 (m)
Central HW - Pd	0.11211	Exponential	0.03691	154.27	76.20	5.00	Spherical	0.05181	238.56	172.73	11.00

Figure 14-17: Central HW – Correlogram indicador 0.51 ppm Pd.

14.5.3 Block Model

GE21 generated two block models to perform the estimation.

- The parental block model was generated for processing the estimation. The model's dimensions (25 m x 25 m x 5 m) were defined based on the minimum spacing of the drilling grid.
- The second block model was built with smaller blocks (5 m x 5 m x 5 m) to ensure the geometric adherence of the modelled bodies.

At the end of the estimation process, data from the parental block model were rescaled to the smaller model to preserve the best fit of volumes. The dimensions of the block models are shown in Table 14-4 and Table 14-5.

The description of attributes contained in the final block model is presented in Table 14-6.

Table 14-4: Parental Block Model Summary – 25x25x5.

	X	Y	Z
Minimum Coordinates (m)	655562.5	9338987.5	- 402.5
Maximum Coordinates (m)	661062.5	9344487.5	597.5
Number of nodes	220	220	200
Origin (Center) (m)	655575.0	9339000.0	- 400.0
Origin (Corner) (m)	655562.5	9338987.5	- 402.5
Block size (m)	25	25	5
Rotation (degree)	0°	0°	0°

Table 14-5: Sub-blocked Block Model Summary – 5x5x5.

	X	Y	Z
Minimum Coordinates (m)	655562.5	9338987.5	- 402.5
Maximum Coordinates (m)	661062.5	9344487.5	597.5
Number of nodes	1.100	1.000	200
Origin (Center) (m)	655565.0	9338990.0	- 400.0
Origin (Corner) (m)	655562.5	9338987.5	- 402.5
Block size (m)	5	5	5
Rotation (degree)	0°	0°	0°

Table 14-6: Block Model Attributes.

Attribute Name	Type	Decimals	Background	Description
au	Float	2	-99	Au ppm MIK estimated grade
pd	Float	2	-99	Pd ppm MIK estimated grade
pt	Float	2	-99	Pt ppm MIK estimated grade
ni	Float	2	-99	Ni ppm MIK estimated grade
rh	Float	2	-99	Rh ppm MIK estimated grade
Pd_eq	Float	2	-99	Pd equivalent – grade calculation
density	Float	2	-99	Density g/cm3
anm	Character	-	-	Mineral Right (ANM Process)
Ore_body	Character	-	0	Mineralization Grade Shell
rec_class	Integer	-	0	1 = measured, 2 = indicated, 3 = inferred, 4 = exploratory potential, 0 = not classified
Weathering	Float	2	-99	Weathered zones

14.5.4 Density

GE21 classified the existing densities tests in the Luanga Project by domains and adopted the averages of types for the block model attribution (Table 14-7 and Table 14-8).

Table 14-7: Bravo's assay density result by weathering domain

Weathering Domain	Count	Mean	Standard deviation	Variance	Minimum	Lower quartile	Median	Upper quartile	Maximum
SAP_OXID	49	1.58	0.270	0.073	1.21	1.43	1.53	1.66	2.68
SAPROCK	951	2.76	0.220	0.049	1.90	2.64	2.77	2.90	5.31
FRESH_ROCK	25 160	2.85	0.185	0.034	1.30	2.73	2.87	2.96	4.64

Table 14-8: Bravo's assay density result by Fresh Rock Mineralized Zone

Mineralized Domain	Count	Mean	Standard Deviation	Variance	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
Central_FW	804	2.89	0.165	0.027	2.02	2.79	2.91	3.01	3.44
Central_HW	545	2.87	0.19	0.036	2.23	2.72	2.88	3.04	3.49
Central_Main	1 549	2.87	0.176	0.031	1.43	2.76	2.91	2.99	5.31
North_N	1 069	2.77	0.177	0.031	1.8	2.66	2.79	2.91	3.57
North_S	1 324	2.87	0.208	0.043	1.51	2.76	2.87	2.95	4.47
Southwest_FW	280	2.85	0.175	0.031	2.03	2.74	2.91	2.95	3.85
Southwest_HW	148	2.88	0.209	0.044	2.24	2.75	2.93	3.01	3.8
Southwest_Main	955	2.84	0.152	0.023	1.43	2.76	2.88	2.93	4.32
Southwest_SN	129	2.73	0.135	0.018	2.39	2.66	2.74	2.82	3.17
Total	**6 803**	**2.85**	**0.183**	**0.034**	**1.43**	**2.74**	**2.88**	**2.95**	**5.31**

14.5.5 Grade Estimation

To process the MIK, the Ordinary Kriging (OK) estimation method was performed to all indicators of the Pd (ppm), Pt(ppm), Rh (ppm), Au (ppm) and Ni (ppm) variables based on the results of the structural analysis conducted in this work. The Isatis. Neo software was used to process the MIK estimation.

The strategy of estimation by MIK used distinct steps with a progressive increase of the neighborhood sample search radius. Table 14-9 and Table 14-10 shows the main parameters of the Kriging strategy applied in the estimation steps.

Table 14-9: kriging strategy for Fresh Rock Domains

Type	Steps	Ellipsoid Ranges			Number of Samples	
		Maximum	Intermediate	Minimum	Minimum	Maximum
All Fresh Rock Domains	Step 1	75	75	5	16	40
	Step 2	100	100	10	16	40
	Step 3	150	150	30	16	40
	Steps 1 to 3: Was applied: 8 angular sectors, Maximum 5 samples by sector, **Maximum number of empty sectors is 1**,					
	Step 4	75	75	5	16	40
	Step 5	100	100	10	16	40
	Step 6	150	150	30	16	40
	Step 7	> 150	> 150	>30	16	40
	Steps 4 to 7: Was applied: 8 angular sectors, Maximum 5 samples by sector, **No Maximum number of empty sectors wasn't applied**,					
Moving neighbourhood from ellipsoid:						
	Orientation	Dip	Azimuth	Plunge		
	Central (Main, FW and HW)	60°	140°	0°		
	North N	80°	260°	0°		
	North S	64°	260°	0°		
	Southwest (Main, FW, HW and SN)	65°	150°	90°		
No Maximum number of samples wasn't applied						

Table 14-10: kriging strategy for Oxidized Domains

Type	Steps	Ellipsoid Ranges			Number of Samples	
		Maximum	Intermediate	Minimum	Minimum	Maximum
Oxidize d Domains	Step 1	70	70	5	5	12
	Step 2	100	100	10	5	12
	Step 3	150	150	30	5	12
	Steps 1 to 3: Was applied: 8 angular sectors, Maximum 5 samples by sector, **Maximum number of empty sectors is 1**,					
	Step 4	70	70	5	5	12
	Step 5	100	100	10	5	12
	Step 6	150	150	30	5	12
	Step 7	> 150	> 150	>30	5	12
	Steps 4 to 7: Was applied: 8 angular sectors, Maximum 5 samples by sector, **No Maximum number of empty sectors wasn't applied**,					
Moving neighbourhood from ellipsoid: Azimuth 90, dip 0 and plunge 90						
Maximum number of 2 samples by drill hole						

14.5.6 MIK Pos Processing

After kriging indicators, it is necessary to interpolate between the estimated CDF values and to extrapolate beyond the first and last thresholds to obtain a complete distribution.

Linear, power, and hyperbolic models are sometimes used for this step, but in practice it is better to scale the global decluttered distribution to fit between the gaps and in the tails. The MIK estimates provide local CDF values at the chosen thresholds for each unsampled location (Figure *14-18*).

The complete local distribution for values is inferred from these MIK estimates and the global distribution. The shape of the global distribution for each interval is preserved, but scaled to the correct MIK probability estimates and the specified minimum and maximum.

The Istatis.Neo give as output the mean of the distribution for each block, that is used how result to the MRE.

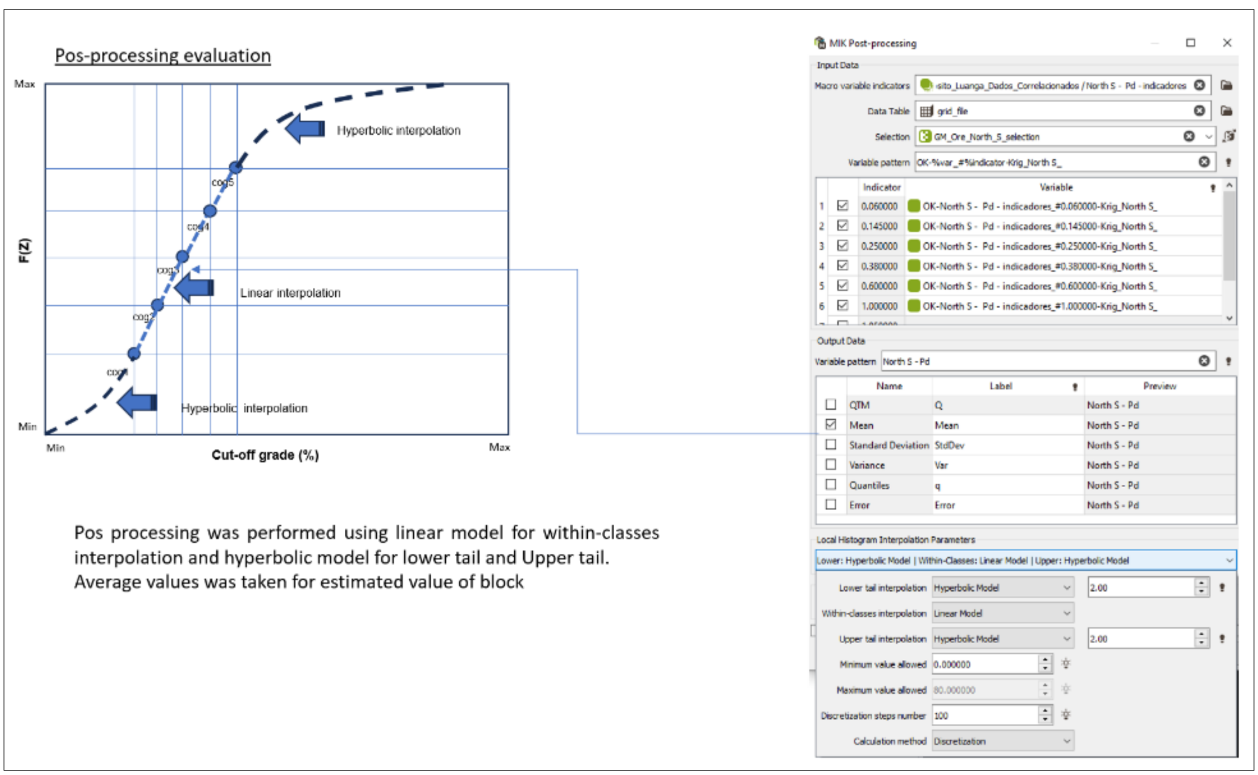


Figure 14-18: MIK Pos Processing flow chart

14.6 Validation

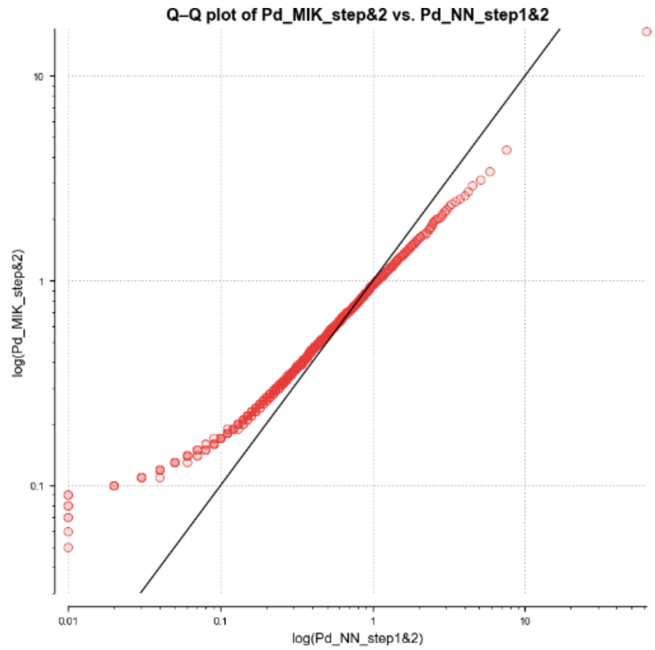
The QP carried out the validation of the estimate through visual verification and by the Global and Local bias verification.

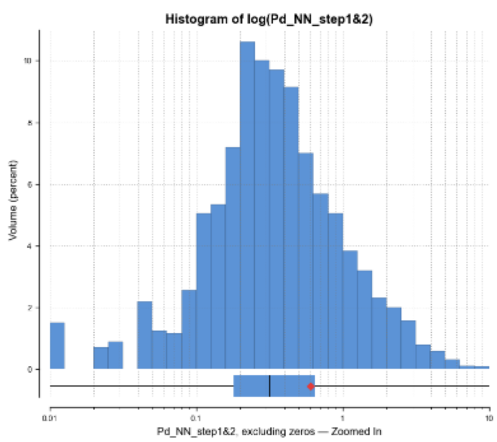
Both Global and Local bias checks used the Nearest Neighbour ("NN") as the comparison estimate.

NN-Checks plots, Figure *14-19* show the results for global bias analysis of the estimated Pd ppm, it allowed verifying the occurrence of expected smoothing of the estimation by MIK within the acceptance limits. The comparison showed that MIK globally respected the average grades, and the global bias in the estimated grades is within the limits of acceptance.

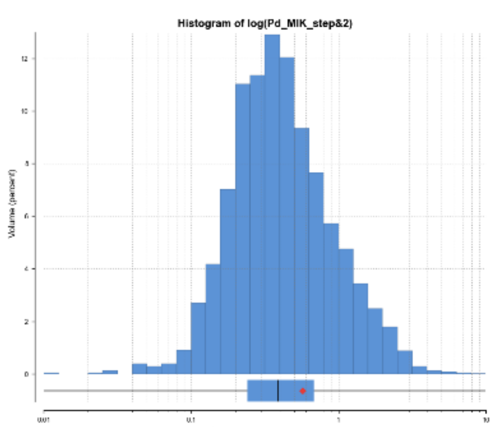
The local bias assessment by the Swath-Plot method aims to analyze the occurrence of local bias by comparing the average grades for the model through MIK and the Nearest Neighbour method in swath coordinates intervals graphs along the X, Y, and Z axes. Figure *14-20* shows the validation results of the estimated Pd ppm.

The QP considered the result obtained from the estimation by MIK acceptable, noting that there was no local or global bias outside the acceptance limits.





	Value
Block Count	489,937
Volume	61,242,125.0
Mean	0.603893
SD	1.01672
CV	1.68362
Variance	1.03373
Minimum	0
Q1	0.18
Q2	0.32
Q3	0.65
Maximum	62.99



	Value
Block Count	490,751
Volume	61,343,875.0
Mean	0.570798
SD	0.579619
CV	1.01545
Variance	0.335958
Minimum	0
Q1	0.24
Q2	0.39
Q3	0.68
Maximum	16.43

Figure 14-19: NN Check for Indicated Resources for Pd ppm.

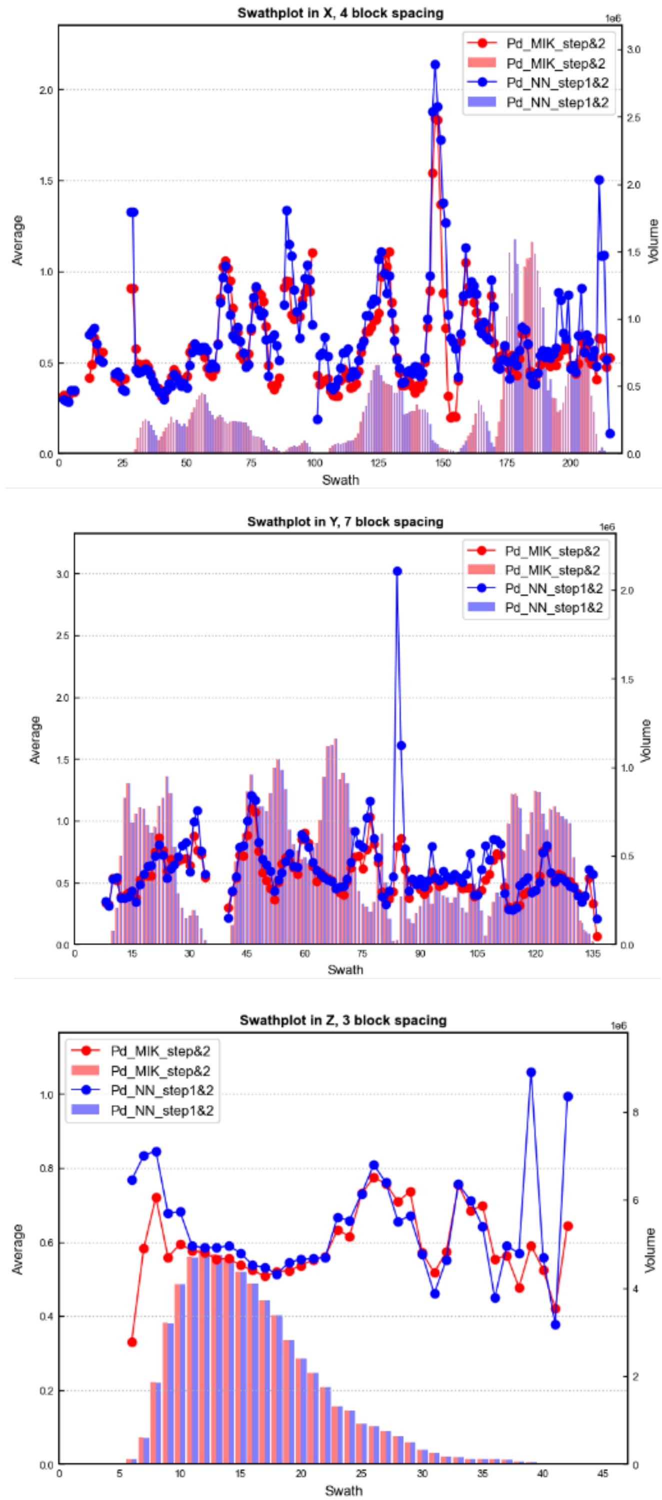


Figure 14-20: Swath Plot of Indicated Mineral Resource for Pd ppm for the x, y, and z.

14.7 Classification of Mineral Resources

The mineral resource was classified per CIM Standards (2014) and CIM Best Practices Guidelines (2019), utilizing geostatistical and classical methods, along with economically and mining-appropriate parameters relevant to the deposit type.

The mineral resource definitions by CIM are transcribed below:

- *A Mineral Resource is a concentration or occurrence of diamonds, a natural solid inorganic material or natural fossilized solid organic material, including base and precious metals, coal and industrial minerals in the earth's crust or in the earth's crust in such form and quantity and of such grade or quality that allows reasonable prospects of economic extraction. The location, quantity, level, geological characteristics, and continuity of a Mineral Resource are known, estimated, or interpreted from specific geological evidence and knowledge.*
- *An "Inferred Mineral Resource" is that part of a Mineral Resource for which the quantity and level or quality can be estimated on the basis of geological evidence and limited sampling and reasonably presumed but not verified geological and grade continuity. The estimation is based on limited information and sampling collected using appropriate techniques from locations such as outcrops, trenches, wells, and drill holes.*
- *An "Indicated Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and assessment of the deposit's economic viability. The estimation is based on thorough and reliable exploration and testing information gathered using appropriate techniques from locations such as outcrops, trenches, wells, works, and drill holes spaced far enough apart for geological and level continuity to be reasonably assumed.*
- *A "Measured Mineral Resource" is that part of a Mineral Resource for which quantity, level or quality, densities, shape, and physical characteristics are so well established that they can be estimated with sufficient confidence to allow the appropriate application of technical and economic parameters, to support production planning and assessment of the deposit's economic viability. The estimation is based on thorough and reliable exploration, sampling, and analysis information gathered using appropriate techniques from locations such as outcrops, trenches, wells, works, and drill holes spaced far enough apart to confirm geological and level continuity.*

The classification boundaries made by GE21 for the Indicated, and Inferred categories were established through an approach that considered a comprehensive set of factors. These factors included the sampling procedure analysis, the sample grid spacing, the survey methodology, and the quality of assay data. Additionally, drilling spacing and the progressive expansion of the search radius during grade estimation stages were also considered, as well as the average anisotropic distance of the samples and the continuity of pegmatite mineralization. This multi-faceted approach ensured the robustness and accuracy of the classification process.

To classify mineral resources, a study of spatial continuity for Pd Equivalent was conducted using variography followed by ordinary kriging interpolation. This study established a continuity zone suitable for considering:

- The Measured Mineral Resource was not classified, the sampling support of the Luanga Project does not meet the criteria for this classification.
- The Indicated Mineral Resource classification had as a reference a drilling grid of approximately 75m x 75m, extending both along the strike and dip directions, and requiring a minimum of two drill holes. Subsequently, manual post-processing was undertaken to construct wireframes representing the volumes categorized as Indicated, while considering the blocks within the resource pit shell.
- The Inferred Mineral Resource classification is all remaining estimated blocks within the resource pit shell.

The total Mineral Resources were limited to the Mining Rights boundaries.

According to CIM Guidelines, the mineral resource classification should be supported by Reasonable Prospect for Eventual Economic Extraction (“RPEEE”), which GE21 usually performs through a mathematical model pit shell which limits the blocks classified as a resource generated from an economic and geometric function.

GE21 performed a pit optimization study to classify the mine’s mineral resources to ensure the RPEEE was met. Parameters in the benefit function are presented in Table 14-11.

Bravo’s maiden and pit constrained MRE has an effective date of October 22, 2023, and it is comprised of 73 Mt grading 1.75 g/t PdEq for a total of 4.1 Moz of PdEq in the Indicated category and 118Mt grading 1.50 g/t PdEq for 5.7 Moz PdEq in the Inferred category (Table 14-12).

Figure *14-21* and Figure *14-22* show the plan view and oblique view of the Bravo’s MRE classification.

Table 14-11: Pit Parameters Generated by RPEEE

Optimisation Parameters - RPEEE				
Item				Unit
Lithotype	Fresh & Weathered			
Slope Angle	Weathered		40	°
	Fresh		50	°
Mining	Density	Block Model		
	Mining Recovery	95		%
	Mining Dilution	5		%
	MCAF	DNPM		
	Cut-off grade (Whittle)	Fresh	-	g/t Au
		Weathered	-	g/t Au
Processing	Weathered	Pd Rec	73.0%	Mill
		Pt Rec	24.0%	Mill
		Au Rec	94.0%	Mill
		Rh	61.0%	Mill
		Ni	0.0%	Mill
	Fresh	Pd Rec	80.0%	Mill
		Pt Rec	88.0%	Mill
		Au Rec	56.0%	Mill
		Rh	59.0%	Mill
		Ni	50.0%	Mill
Cost	Weathered	Mining Cost	2	USD/t mined
		Processing Cost	7.5	USD/t ROM
		Grade Control	1	
		Logistics	0.5	
		Rehabilitation	1	
		G&A	1.5	
	Fresh	Mining Cost	3	USD/t mined
		Processing Cost	9	USD/t ROM
		Grade Control	1	
		Logistics	0.5	
		Rehabilitation	1	
		G&A	1.5	
Selling	Price	Au	1500	USD/t.oz
		Pt	1100	USD/t.oz
		Pd	1380	USD/t.oz
		Rh	6200	USD/t.oz
		Ni	7.1	USD/lb
	Royalties	All	2	%

Table 14-12: MRE Statement at a Cut-off of 0.5g/t PdEq*

Mineral Resource Classification	Weathering	Average Grades and Contained Metal Estimates												
		Tonnes	Pd Eq		Pd		Pt		Rh		Au		Ni	
		Mt	g/t	Oz	g/t	Oz	g/t	Oz	g/t	Oz	g/t	Oz	%	Tonnes
Indicated	Oxide	4.6	1.43	212,990	0.91	135,949	0.54	79,901	0.07	10,031	0.08	11,944	n/a	n/a
	Fresh rock	68.5	1.77	3,892,313	0.78	1,705,709	0.53	1,159,078	0.06	131,248	0.07	146,263	0.13	89,539
	Total	**73.1**	**1.75**	**4,105,303**	**0.78**	**1,841,658**	**0.53**	**1,238,979**	**0.06**	**141,279**	**0.07**	**158,207**	**0.13**	**89,539**
Inferred	Oxide	10.0	1.30	418,810	0.75	241,117	0.72	230,367	0.08	25,738	0.04	12,444	n/a	n/a
	Fresh rock	108.1	1.52	5,286,970	0.60	2,082,479	0.57	1,997,054	0.05	190,746	0.04	122,076	0.10	104,640
	Total	**118.1**	**1.50**	**5,705,800**	**0.61**	**2,323,596**	**0.59**	**2,227,421**	**0.06**	**216,484**	**0.04**	**134,520**	**0.10**	**104,640**

*** *Notes:***

- *The MRE has been prepared by Porfírio Cabaleiro Rodriguez, Mining Engineer, BSc (Mine Eng), MAIG, director of GE21 Consultoria Mineral Ltda., an independent Qualified Persons ("QP") under NI43-101. The effective date of the MRE is 22 October 2023.*
- *Mineral resources are reported using the 2014 CIM Definition Standards and were estimated in accordance with the CIM 2019 Best Practices Guidelines, as required by National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").*
- *Mineral resources that are not mineral reserves do not have demonstrated economic viability. There is no certainty that all mineral resources will be converted into mineral reserves.*
- *This MRE includes inferred mineral resources which have had insufficient work to classify them as Indicated mineral resources. It is uncertain but reasonably expected that inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.*
- *The Mineral Resource Estimate is reported/confined within an economic pit shell generated by Whittle software, using the following assumptions:*

  Generated from work completed by Bravo and historical test work:
  - *Phase 1 and 2 Metallurgy testwork – Metallurgical recovery in sulphide material of 80% Pd, 88% Pt, 59% Rh, 56% Au, 50% Ni to a saleable Ni-PGM concentrate.*
  - *Phase 1 and 2 Metallurgy testwork– Metallurgical recovery in oxide material of 73% Pd, 24% Pt, 61% Rh, 95% Au to a saleable PGM ash residue (Ni not applicable).*
  - *Independent Geotechnical Testwork – Overall pit slopes of 40 degrees in oxide and 50 degrees in Fresh Rock.*
  - *Densities are based on 26,898 relative density sample measurements. Averages are 1.58 t/m^3 oxide, 2.71 t/m^3 Saprock and 2.85 t/m^3 fresh rock.*
  - *External downstream payability has not been included, as the base case MRE assumption considers internal downstream processing.*
  - *Payable royalties of 2%.*

  Metal Pricing
  - *Metal price assumptions are based on 10-year trailing averages: Pd price of US$1,380/oz, Pt price of US$1,100/oz, Rh price of US$6,200/oz, Au price of US$1,500/oz, Ni price of US$15,648/t.*

    Palladium Equivalent ("PdEq") Calculation
  - *The PdEq equation is: PdEq = Pd g/t + F1 + F2 + F3 + F4*

  Where: $F1 = \frac{(Pt_p * Pt_R)}{(Pd_p * Pd_R)} Pt_t$ $F2 = \frac{(Rh_p * Rh_R)}{(Pd_p * Pd_R)} Rh_t$ $F3 = \frac{(Au_p * Au_R)}{(Pd_p * Pd_R)} Au_t$ $F4 = \frac{(Ni_p * Ni_R)}{(Pd_p * Pd_R)} Ni_t$ *$_P$ = Metal Price $_R$ = Recovery*

  - *Costs are taken from comparable projects in GE21's extensive database of mining operations in Brazil, which includes not only operating mines, but recent actual costs from what could potentially be similarly sized operating mines in the Carajás. Costs considered a throughput rate of ca. 10mtpa:*
    - *Mining costs: US$2.50/t oxide, US$3.50/t Fresh Rock. Processing costs: US$8.50/t fresh rock, US$7.50/t oxide. US$2.50/t processed, for General & Administration. US$1.00/t processed for grade control. US$0.50/t processed for rehabilitation.*
- *Several of these considerations (metallurgical recovery, metal price projections for example) should be regarded as preliminary in nature, and therefore PdEq calculations should be regarded as preliminary in nature.*
- *The current MRE supersedes and replaces the Historical Estimate, which should be no longer relied upon.*
- *The QP is not aware of political, environmental, or other risks that could materially affect the potential development of the Mineral Resources.*
- *Totals may not sum due to rounding.*

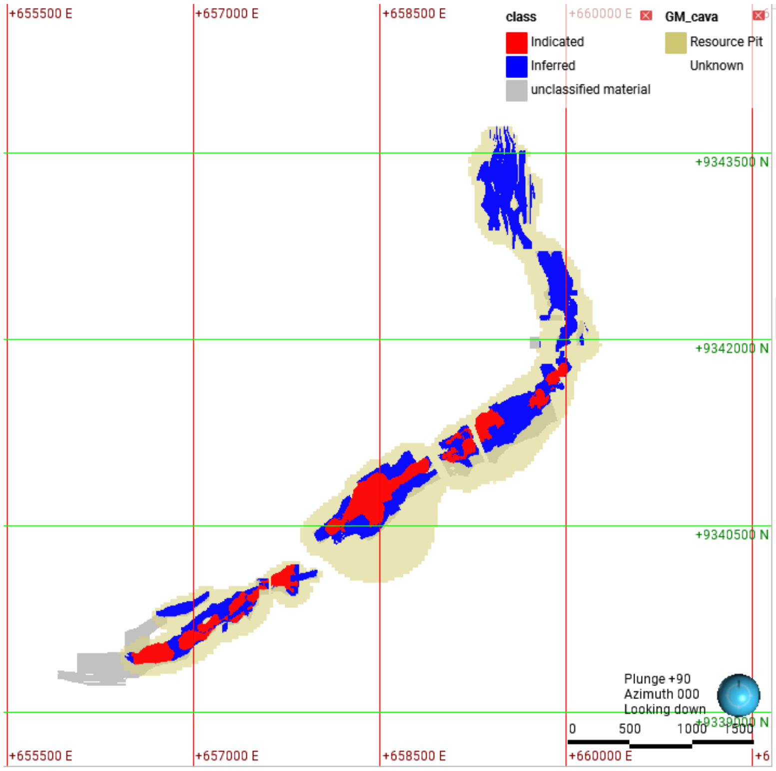


Figure 14-21: Mineral Resource Classification Plan View.

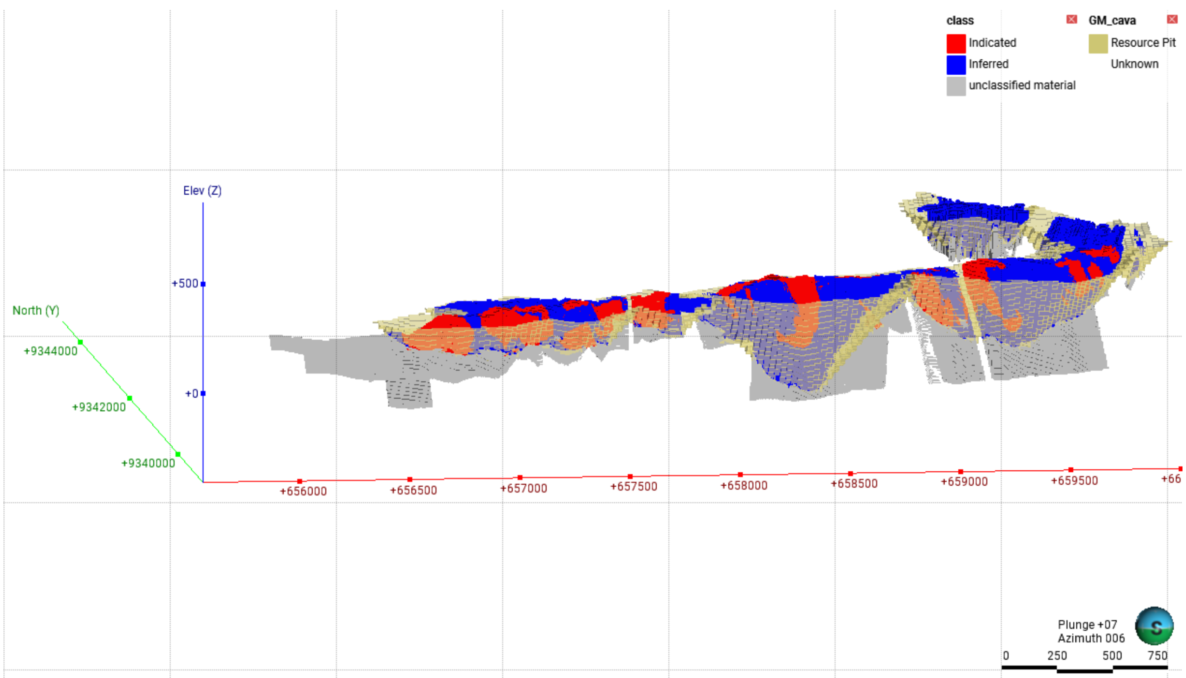


Figure 14-22: Mineral Resource Classification Oblique View.

15 MINERAL RESERVE ESTIMATES

These sections are not applicable to Luanga given it is an exploration stage project.

16 MINING METHODS

These sections are not applicable to Luanga given it is an exploration stage project.

17 RECOVERY METHODS

These sections are not applicable to Luanga given it is an exploration stage project.

18 PROJECT INFRASTRUCTURE

These sections are not applicable to Luanga given it is an exploration stage project.

19 MARKET STUDIES AND CONTRACTS

These sections are not applicable to Luanga given it is an exploration stage project.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

These sections are not applicable to Luanga given it is an exploration stage project.

21 CAPITAL AND OPERATING COSTS

These sections are not applicable to Luanga given it is an exploration stage project.

22 ECONOMIC ANALYSIS

These sections are not applicable to Luanga given it is an exploration stage project.

23 ADJACENT PROPERTIES

Within 10km of the Project, there are two main mineral deposits: the Serra Pelada Au+PGE deposit and the Serra Leste iron ore deposit (Figure 23-1). In addition, there are several minor gold occurrences, mostly operated by artisanal miners, in the area. These projects are located to the west of the Luanga Project.

The Serra Pelada Au+PGE deposit occurs 8km west of Luanga in a tenement with a Mining License held by Serra Pelada Companhia de Desenvolvimento Mineral. During the 1980s, there were tens of thousands of illegal miners active in the Serra Pelada open pit, the largest gold mine in Brazil in its day. The pit reached 400m in length by 300m wide, to a depth over 120m below surface, all dug by hand. History records that 1.04Moz was extracted (Source: Meireles & Silva, 1988).

The Serra Leste high-grade hematite open pit iron ore mine occurs approximately 8.5km southwest of the Luanga Project, in a tenement held by Vale. Serra Leste includes active open pit mining and a beneficiation process comprising screening, hydrocycloning, crushing and filtration (Source: Vale public records)

There is no open ground for new exploration claims surrounding the Luanga License, and Vale is the major holder of exploration claims in the region.

The QP has not been able to verify the information on the adjacent properties and observes that the information in Chapter 23 is not indicative of the mineralization on the property that is the subject of this technical report.

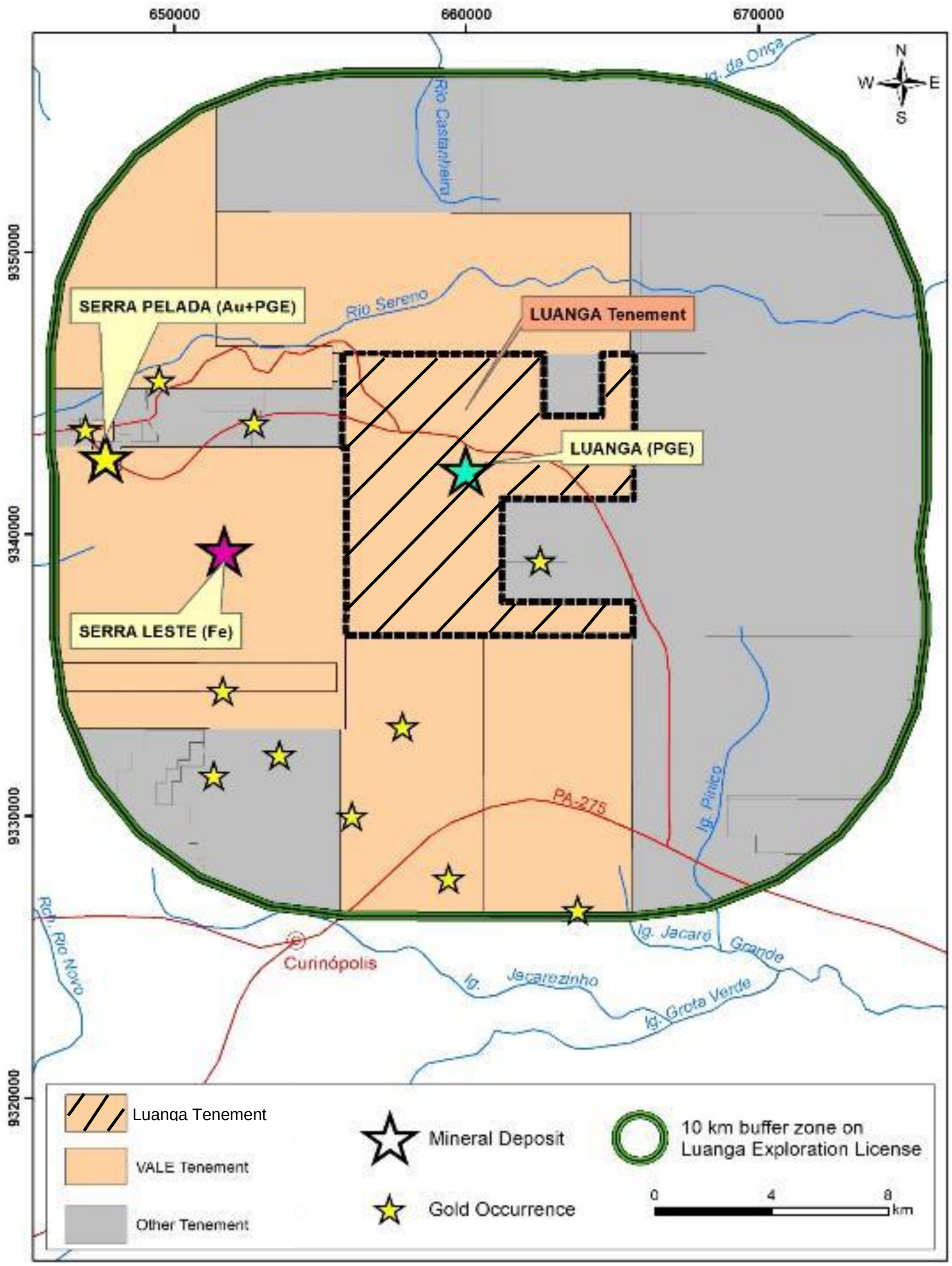


Figure 23-1: Mineral deposits adjacent to Luanga Project.

24 OTHER RELEVANT DATA AND INFORMATION

To the best of the Authors' knowledge, there is no other relevant information or data that would add material benefit to the interpretation and conclusions outlined in this Report.

25 INTERPRETATION AND CONCLUSIONS

25.1 MINERAL EXPLORATION AND GEOLOGY

In general terms, the geological descriptions, sampling procedures and density tests that were evaluated were found to be of acceptable quality and in accordance with industry best practices.

It was noted that the data collection process was executed with the aim of maintaining data security. Data was stored in a standardized database, which was found to be secure and auditable.

GE21 supervised the process through which density was determined and concluded that it was in conformity with industry best practices.

25.2 QA/QC

GE21 performed the evaluation of the data generated and concludes that the QA/QC procedures are being followed using the same standards. GE21 considered the standard QA/QC procedures to be in accordance with mining industry best practice and appropriate for use in the current mineral resource estimate.

While GE21 believes that the current QA/QC program can guarantee the quality of the exploration data used in the resource estimates, GE21 suggests that a chain of custody program be implemented for good measure.

25.3 GEOLOGICAL MODEL

The procedure that was adopted to produce the 3D geological model (wireframes), consisting of generating triangulations between interpreted geological cross sections, was executed properly and in accordance with the opinions of GE21 staff.

25.4 GRADE ESTIMATION

The heterogeneity of the geological model lead GE21 to select the MIK to estimate the grades for Luanga Project.

The cut-offs used for variographic structural analysis used a rational distribution of metal content and are according to industry best practices.

The variograms that were used in the estimation method are satisfactory and consistent with respect to the grade estimation that was calculated via Multiple Indicator Kriging, making use of search anisotropy determined in the variographic study.

The PdEq Kriging estimation strategy that was chosen made it possible to classify the resource in accordance with an empirically calculated search radius and the requisite data density for mineral resource classification.

GE21 considers the mineral resource classification model and the analysis of criteria for the classification of those Mineral Resources, to be satisfactory although some items could be improved.

25.5 MINERAL RESOURCE ESTIMATE

GE21 has not identified any mining, metallurgical, infrastructure, permitting, legal, political, environmental, technical, or other relevant factors that could materially affect the potential development of the Mineral Resources.

26 RECOMMENDATIONS

MRE Potential and Potential Preliminary Economic Assessment ("PEA") or Preliminary Feasibility Study ("PFS")

To commence upgrading and expanding the initial Luanga Mineral Resource Estimate ("MRE") in anticipation of future studies:

- Complete the Phase 2 and Phase 3 extensional drilling programs to expand the MRE at depth. Drilling should target areas where the constraining pit that encapsulates the reported Luanga MRE is limited due to the absence of drill data at depth.
- A newly defined Phase 4 drilling program consisting of infill drilling to upgrade existing Inferred mineral resources to Indicated mineral resources.
- Trenching has proved to be highly successful in both the North and Southwest Sectors in defining the oxide potential at Luanga. This work has also revealed significant upside potential in the form of supergene enrichment in the saprolite horizon. This work should continue and cover the entire 8.1km strike length of Luanga, in particular the entire Central Sector, which is the largest portion (by area and tonnes) of the Luanga MRE.

Collectively the above work is designed to deliver an upgrade to the Luanga initial MRE, both in outright size and the quality of the MRE classification, in the second half of 2024.

Luanga Exploration Potential

- The results of Bravo's HeliTEM electromagnetic ("EM") survey covering the entire Luanga property generated 17 priority drill targets, primarily located in the stratigraphic ultramafic footwall of the main mineralized horizon at Luanga. These targets may represent massive or semi-massive sulphides. These massive to semi-massive sulphide targets have the potential to be enriched in Ni (+/- Cu) mineralization compared to the Main Sulphide Zone that hosts the vast majority of the Luanga PGM mineralization. This potential for discovery of new zones and/or additional styles (compared to the styles of mineralization defined in the current MRE) which could also add tonnage to future MRE updates or discover additional mineral resources in the immediate vicinity of the current initial MRE or within the Luanga property.
- There is evidence of additional layered mafic-ultramafic intrusions within the Luanga property, such as Luanga South, where historic drilling has already identified PGM mineralization. Bravo's exploration efforts are yet to reach beyond the immediate Luanga deposit. This could also have the potential to discover new resources within the Luanga property.

Luanga Carbon Capture Potential

- The Luanga deposit is hosted almost entirely in ultramafic rocks which may be amenable to permanent carbon sequestration in tailings and/or waste rock. This is an opportunity that will be investigated and, subject to test results and economic assessment, could be incorporated into future study phases with the potential to create a carbon negative operation in combination with other mitigation efforts such as use of hydroelectric power, mine electrification and reforestation.

The recommended work program comprises:

PHASE 1 – Completed

PHASE 2 (Remaining)

A. **Mineral Resource definition**
   - Updated estimation of mineral resources in accordance with NI 43-101:
     - Estimate US$0.15M

B. **Exploration of mineral resource expansion potential and new targets**
   - Geological, geophysical and drilling programs to evaluate the potential for the discovery of extensions to known, or additional zones, of mineralization:
     - Geology & geophysical studies US$0.2M
     - Drilling 10 holes @ ~200m for 2,000m @ US$400/m = US$0.8M

C. **Updated Technical Report**
   - Preparation of an updated technical report
     - Estimate US$0.1M

Sub-total – Phase 2	***US$1.25M***

PHASE 3 (Remaining)

A. **Mineral Resource Expansion**
   - Additional extensional drilling at depth across the Luanga deposit.
     - 30 holes @ ~400m = 12,000m @ US$500/m[1] = US$6.0M

Sub-total – Phase 3	***US$7.00M***

PHASE 4

D. **Mineral Resource Classification**
   - Additional infill drilling across the Luanga deposit to upgrade Inferred resources to Indicated resources in an updated MRE.
     - 100 holes @ 100m to 200m = 15,000m @ US$400/m = US$6.0M

E. **Metallurgical Studies**
   - Advance Metallurgical Studies for PFS and alternative processing route Studies.
     - Estimate US$1.0M

F. **Carbon Capture Potential**
   - Carbon Capture/Sequestration Studies.
     - Estimate US$0.2M

Sub-total – Phase 3	***US$7.20M***

These work programs and cost estimates are preliminary in nature and will be refined, adjusted and modified as additional information is compiled, contracts for the various aspects of the work program entered into, and results from new work are received. This could result in some movement in funds between different categories.

[1] *Includes additional US$100/m for deeper portions of holes.*

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Appendix A

Technical Report QP Signature Page & Certificates

I, Porfirio Cabaleiro Rodriguez, FAIG, (#3708), as an author of the technical report titled "Independent Technical Report on Resources Estimate for the Luanga PGM+Au+Ni Project, Pará State, Brazil", dated December 1, 2023, with an effective date of October 22, 2023 (the "Technical Report"), prepared for Bravo Mining Corp. (the "Issuer"), do hereby certify that:

1. I am a Mining Engineer and Director for GE21 Consultoria Mineral Ltda., which is located on Avenida Afonso Pena, 3130, 12th and 13th floor, Savassi, Belo Horizonte, MG, Brazil - CEP 30130-910.
2. I am a graduate of the Federal University of Minas Gerais, located in Belo Horizonte, Brazil, and hold a Bachelor of Science Degree in Mining Engineering (1978). I have practised my profession continuously since 1979.
3. I am a Professional enrolled with the Australian Institute of Geoscientists ("AIG") Fellow - ("FAIG") #3708.
4. I am a professional Mining Engineer, with more than 40 years' relevant experience in Mineral Resource and Mineral Reserves estimation, which includes numerous mineral properties in Brazil, including iron ore and manganese properties.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association as defined in NI 43-101, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for the preparation of all Chapters of the Technical Report and co-responsible for Chapters 11 and 12.
7. I have maintained a close technical relationship with the property that is the subject of this Technical Report since 2008, while still working under the name of Geoexplore Consultoria e Serviços, and subsequently Coffey Mining and then GE21 Consultoria e Serviços. The relationship with the Issuer was solely for professional works in exchange for fees based on rates set by commercial agreement. Payment of these fees is in no way dependent on the results of the Technical Report.
8. I personally inspected the property that is the subject of this Technical Report from July 4th, 2023, to July 7th, 2023 and 3rd October to 6th October 2023
9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report that I have authored and am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
10. I have no personal knowledge, as of the date of this certificate, of any material fact or material change which is not reflected in this Technical Report.
11. I am independent of the Issuer, applying all the tests in section 1.5 of NI 43-101.

12. I have read NI 43-101 and Form 43-101F1 – Technical Report and, in my opinion, the Technical Report has been prepared in compliance with such instrument and form.

Belo Horizonte, Brazil, December 1st., 2023

<signed & sealed in the original>

____

Porfirio Cabaleiro Rodriguez, FAIG

I, Bernardo Horta de Cerqueira Viana, FAIG, (#3709), as an author of the technical report titled "Independent Technical Report on Resources Estimate for the Luanga PGM+Au+Ni Project, Pará State, Brazil", dated December 1, 2023, with an effective date of October 22, 2023 (the "Technical Report"), prepared for Bravo Mining Corp. (the "Issuer"), do hereby certify that:

1. I am a Geologist and Director for GE21 Consultoria Mineral Ltda., which is located on Avenida Afonso Pena, 3130, 12th and 13th floor, Savassi, Belo Horizonte, MG, Brazil - CEP 30130-910.
2. I am a graduate of the Federal University of Minas Gerais, located in Belo Horizonte, Brazil, and hold a Bachelor of Science Degree in Geology (2002). I have practiced my profession continuously since 2002.
3. I am a Professional enrolled with the Australian Institute of Geoscientists ("AIG") Fellow - ("FAIG") #3709.
4. I am a professional Geologist, with more than 20 years' relevant experience in Mineral Resources estimation, QAQC, geology exploration and economic geology, which includes numerous mineral properties in Brazil, including iron ore and manganese properties.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association as defined in NI 43-101, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I am jointly responsible for Chapters 11 and 12. I am also responsible for the corresponding sections within Chapters 1, 25 and 26 that are related to the foregoing Chapters of this Technical Report.
8. I have maintained a close technical relationship with the property that is the subject of this Technical Report since 2008, while still working under the name of Geoexplore Consultoria e Serviços, and subsequently Coffey Mining and then GE21 Consultoria e Serviços. The relationship with the Issuer was solely for professional works in exchange for fees based on rates set by commercial agreement. Payment of these fees is in no way dependent on the results of the Technical Report.
9. I personally inspected the property that is the subject of this Technical Report from July 4th, 2023, to July 7th, 2023 and 3rd October to 6th October 2023
9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report that I have authored and am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
10. I have no personal knowledge, as of the date of this certificate, of any material fact or material change which is not reflected in this Technical Report.

11. I am independent of the Issuer, applying all the tests in section 1.5 of NI 43-101.
12. I have read NI 43-101 and Form 43-101F1 – Technical Report and, in my opinion, the Technical Report has been prepared in compliance with such instrument and form.

Belo Horizonte, Brazil, December 1st., 2023

<signed & sealed in the original>

Bernardo Horta de Cerqueira Viana, FAIG

Appendix B

Luanga Drill Hole Collars

ID	EASTING	NORTHING	HEIGHT (m)	LENGTH (m)	AZIMUTH	DIP	YEAR
DDH22LU001	657,148.27	9,339,726.11	271.99	100.35	360	-60	2022
DDH22LU002	657,099.99	9,339,714.97	277.36	152.35	360	-60	2022
DDH22LU003	657,199.98	9,339,715.45	254.52	150.50	360	-60	2022
DDH22LU004	657,300.03	9,339,777.59	252.05	203.40	360	-60	2022
DDH22LU005	657,399.97	9,339,804.76	259.36	200.50	360	-60	2022
DDH22LU006	658,495.77	9,340,828.05	243.05	76.55	330	-60	2022
DDH22LU007	659,092.89	9,341,002.10	241.23	230.40	330	-60	2022
DDH22LU008	659,827.13	9,341,623.78	242.57	150.60	330	-60	2022
DDH22LU009	659,101.84	9,341,075.30	232.45	160.25	330	-60	2022
DDH22LU010	659,852.14	9,341,580.93	221.61	100.20	330	-60	2022
DDH22LU011	659,028.75	9,341,007.34	241.87	200.10	330	-60	2022
DDH22LU012	659,850.54	9,341,825.16	255.78	151.10	90	-60	2022
DDH22LU013	659,938.89	9,341,630.21	219.39	100.15	330	-60	2022
DDH22LU014	656,999.90	9,339,580.01	270.50	151.35	360	-60	2022
DDH22LU015	659,925.01	9,341,825.05	265.24	199.05	90	-60	2022
DDH22LU016	659,067.99	9,341,140.05	231.20	150.25	330	-60	2022
DDH22LU017	659,913.93	9,341,673.10	231.91	150.30	330	-60	2022
DDH22LU018	659,164.67	9,341,072.65	235.07	150.25	330	-60	2022
DDH22LU019	659,924.98	9,341,725.04	239.05	150.00	330	-60	2022
DDH22LU020	657,000.03	9,339,654.43	288.60	150.80	90	-60	2022
DDH22LU021	660,000.70	9,341,825.04	256.77	250.00	90	-60	2022
DDH22LU022	659,195.85	9,341,118.15	227.84	150.30	330	-60	2022
DDH22LU023	660,000.02	9,341,721.99	241.36	250.05	90	-60	2022
DDH22LU024	657,100.06	9,339,629.97	259.19	170.00	360	-60	2022
DDH22LU025	659,158.01	9,341,182.98	225.69	150.35	330	-60	2022
DDH22LU026	659,998.83	9,341,772.02	254.66	200.80	90	-60	2022
DDH22LU027	659,245.18	9,341,231.67	229.00	150.35	330	-60	2022
DDH22LU028	657,000.01	9,339,729.10	296.06	170.40	360	-60	2022
DDH22LU029	659,836.03	9,341,725.05	243.28	183.75	90	-60	2022
DDH22LU030	659,282.85	9,341,168.22	226.02	150.25	330	-60	2022

ID	EASTING	NORTHING	HEIGHT (m)	LENGTH (m)	AZIMUTH	DIP	YEAR
DDH22LU031	659,926.52	9,341,925.06	265.39	253.40	90	-60	2022
DDH22LU032	659,312.96	9,341,214.04	225.71	150.10	330	-60	2022
DDH22LU033	656,999.95	9,339,804.99	289.53	170.35	360	-60	2022
DDH22LU034	659,139.00	9,341,009.99	243.33	175.15	330	-60	2022
DDH22LU035	660,050.30	9,341,925.04	279.61	201.95	90	-60	2022
DDH22LU036	657,100.00	9,339,875.01	291.06	151.95	360	-60	2022
DDH22LU037	659,818.60	9,341,537.87	214.15	150.80	330	-60	2022
DDH22LU038	659,975.28	9,341,875.03	268.01	149.00	90	-60	2022
DDH22LU039	658,670.00	9,340,730.00	271.00	280.35	330	-60	2022
DDH22LU040	658,310.99	9,340,552.88	280.11	150.15	330	-60	2022
DDH22LU041	657,200.00	9,339,630.32	232.45	165.00	360	-60	2022
DDH22LU042	658,632.00	9,340,794.97	253.04	150.35	330	-60	2022
DDH22LU043	659,950.68	9,341,976.01	268.53	86.45	90	-60	2022
DDH22LU044	656,950.01	9,339,949.95	282.64	116.45	360	-60	2022
DDH22LU045	658,594.91	9,340,859.19	246.20	154.40	330	-60	2022
DDH22LU046	658,272.83	9,340,618.34	269.55	150.25	330	-60	2022
DDH22LU047	659,899.99	9,342,475.05	275.18	170.05	90	-60	2022
DDH22LU048	658,416.99	9,340,768.02	254.80	130.30	330	-60	2022
DDH22LU049	659,975.11	9,342,475.00	270.59	159.30	90	-60	2022
DDH22LU050	657,400.01	9,339,857.06	263.99	130.15	360	-60	2022
DDH22LU051	659,500.87	9,343,075.02	268.15	151.45	90	-60	2022
DDH22LU052	659,825.80	9,342,475.01	274.16	233.20	90	-60	2022
DDH22LU053	658,389.87	9,340,615.20	276.84	155.05	330	-60	2022
DDH22LU054	658,556.96	9,340,924.02	241.98	150.10	330	-60	2022
DDH22LU055	657,300.00	9,339,814.66	259.24	134.55	360	-60	2022
DDH22LU056	659,575.40	9,343,075.06	272.52	155.45	90	-60	2022
DDH22LU057	659,864.86	9,342,657.02	282.51	162.15	90	-60	2022
DDH22LU058	658,458.99	9,340,694.91	278.43	170.15	330	-60	2022
DDH22LU059	658,743.97	9,340,801.03	250.61	175.05	330	-60	2022
DDH22LU060	659,824.67	9,342,775.00	270.08	150.10	90	-60	2022
DDH22LU061	658,596.00	9,340,659.00	280.00	350.15	330	-60	2022

ID	EASTING	NORTHING	HEIGHT (m)	LENGTH (m)	AZIMUTH	DIP	YEAR
DDH22LU062	657,700.03	9,340,029.70	253.25	200.35	360	-60	2022
DDH22LU063	659,759.00	9,342,775.03	289.14	152.90	90	-60	2022
DDH22LU064	658,824.90	9,340,862.14	245.91	168.30	330	-60	2022
DDH22LU065	658,991.81	9,340,972.35	245.10	150.25	330	-60	2022
DDH22LU066	657,800.00	9,340,055.06	253.65	200.00	360	-60	2022
DDH22LU067	659,650.31	9,343,074.99	256.86	174.85	90	-60	2022
DDH22LU068	659,900.11	9,342,525.01	280.91	251.00	90	-60	2022
DDH22LU069	658,923.82	9,340,890.84	255.60	220.45	330	-60	2022
DDH22LU070	659,875.10	9,342,224.96	241.74	250.30	90	-60	2022
DDH22LU071	659,999.92	9,342,125.03	278.85	269.70	90	-60	2022
DDH22LU072	659,715.07	9,343,075.01	275.50	190.90	90	-60	2022
DDH22LU073	659,900.09	9,342,425.00	273.40	270.85	90	-60	2022
DDH22LU074	659,425.31	9,343,075.00	254.98	150.30	90	-60	2022
DDH22LU075	659,975.17	9,342,074.98	271.79	150.90	90	-60	2022
DDH22LU076	659,524.94	9,341,249.04	211.80	188.60	330	-60	2022
DDH22LU077	659,824.96	9,342,524.96	279.74	264.20	90	-60	2022
DDH22LU078	659,300.37	9,343,275.01	232.07	150.70	90	-60	2022
DDH22LU079	659,822.30	9,342,425.01	270.84	250.50	90	-60	2022
DDH22LU080	659,900.26	9,342,025.03	254.09	265.05	90	-60	2022
DDH22LU081	659,954.14	9,341,775.10	247.46	190.30	90	-60	2022
DDH22LU082	659,375.02	9,343,275.01	245.71	150.35	90	-60	2022
DDH22LU083	659,602.83	9,342,861.00	289.27	120.05	90	-60	2022
DDH22LU084	659,486.88	9,341,314.15	221.74	150.95	330	-60	2022
DDH22LU085	659,880.03	9,341,875.04	256.24	238.25	90	-60	2022
DDH22LU086	659,450.53	9,343,274.96	264.97	150.60	90	-60	2022
DDH22LU087	659,999.97	9,342,225.03	274.29	220.20	90	-60	2022
DDH22LU088	659,874.86	9,342,274.98	239.38	172.50	90	-60	2022
DDH22LU089	659,625.02	9,341,455.91	221.91	150.15	330	-60	2022
DDH22LU090	659,525.56	9,343,275.01	262.20	151.20	90	-60	2022
DDH22LU091	659,950.01	9,342,274.98	251.98	180.65	90	-60	2022
DDH22LU092	659,600.63	9,343,275.04	244.46	161.50	90	-60	2022

ID	EASTING	NORTHING	HEIGHT (m)	LENGTH (m)	AZIMUTH	DIP	YEAR
DDH22LU093	659,675.02	9,343,275.02	234.53	159.40	90	-60	2022
DDH22LU094	659,672.99	9,341,390.97	203.98	162.10	330	-60	2022
DDH22LU095	660,050.27	9,341,874.99	268.33	157.40	90	-60	2022
DDH22LU096	659,325.30	9,343,475.04	234.73	150.55	90	-60	2022
DDH22LU097	659,474.65	9,343,475.00	237.45	160.15	90	-60	2022
DDH22LU098	659,800.16	9,342,275.03	237.42	250.35	90	-60	2022
DDH22LU099	659,569.86	9,342,774.89	269.78	199.55	90	-60	2022
DDH22LU100	659,400.47	9,343,475.04	232.35	165.35	90	-60	2022
DDH22LU101	659,628.98	9,343,475.06	222.62	150.05	90	-60	2022
DDH22LU102	659,791.97	9,341,382.61	198.89	260.20	330	-60	2022
DDH22LU103	659,887.89	9,341,717.90	241.77	120.75	330	-60	2022
DDH22LU104	659,500.06	9,343,675.04	222.03	150.05	90	-60	2022
DDH22LU105	659,550.07	9,343,475.02	227.28	150.30	90	-60	2022
DDH22LU106	659,207.54	9,341,296.47	221.81	150.05	330	-60	2022
DDH22LU107	659,200.47	9,341,009.00	245.39	220.65	330	-60	2022
DDH22LU108	659,736.06	9,341,724.96	246.71	200.40	90	-60	2022
DDH22LU109	659,574.76	9,343,674.97	205.14	150.00	90	-60	2022
DDH22LU110	659,607.32	9,341,303.84	200.95	250.55	330	-70	2022
DDH22LU111	657,250.01	9,339,900.35	290.45	150.00	360	-60	2022
DDH22LU112	659,266.72	9,341,095.83	229.07	230.75	330	-70	2022
DDH22LU113	659,446.03	9,343,564.94	225.89	129.60	90	-60	2022
DDH22LU114	656,849.99	9,339,530.06	260.80	150.20	360	-60	2022
DDH22LU115	659,319.35	9,341,303.75	233.68	150.40	330	-60	2022
DDH22LU116	657,250.02	9,339,800.48	268.65	190.00	360	-60	2022
DDH22LU117	659,880.80	9,341,531.75	206.16	180.25	330	-60	2022
DDH22LU118	659,349.88	9,343,074.98	244.92	150.20	90	-60	2022
DDH22LU119	656,850.00	9,339,455.08	245.38	150.15	360	-60	2022
DDH22LU120	659,846.14	9,341,490.49	210.63	150.35	330	-60	2022
DDH22LU121	659,793.43	9,341,581.13	227.64	150.35	330	-60	2022
DDH22LU122	659,550.06	9,343,024.97	275.12	200.00	90	-60	2022
DDH22LU123	658,361.10	9,340,466.59	281.30	250.55	330	-60	2022

ID	EASTING	NORTHING	HEIGHT (m)	LENGTH (m)	AZIMUTH	DIP	YEAR
DDH22LU124	659,790.31	9,341,487.81	210.87	150.50	330	-60	2022
DDH22LU125	659,765.26	9,341,530.97	217.77	149.85	330	-60	2022
DDH22LU126	659,474.70	9,343,025.05	271.02	150.70	90	-60	2022
DDH22LU127	659,815.31	9,341,444.81	205.62	150.15	330	-60	2022
DDH22LU128	659,067.09	9,340,943.14	245.67	230.00	330	-60	2022
DDH22LU129	659,029.33	9,340,907.84	250.01	150.10	330	-60	2022
DDH23LU130	656,550.00	9,339,367.75	240.32	150.00	360	-60	2023
DDH23LU131	656,649.97	9,339,344.85	255.74	270.05	360	-60	2023
DDH23LU132	656,649.99	9,339,419.92	260.18	150.15	360	-60	2023
DDH23LU133	657,353.76	9,339,708.35	244.74	250.40	360	-60	2023
DDH23LU134	657,399.92	9,339,747.06	254.66	180.70	360	-60	2023
DDH23LU135	658,443.19	9,340,523.33	286.85	300.20	330	-60	2023
DDH23LU136	658,512.05	9,340,603.56	286.00	300.30	330	-60	2023
DDH23LU137	657,400.00	9,339,917.61	268.98	100.45	360	-60	2023
DDH23LU138	657,300.05	9,339,676.24	235.50	200.20	360	-60	2023
DDH23LU139	658,725.03	9,340,635.25	266.36	400.70	330	-60	2023
DDH23LU140	657,100.09	9,339,583.01	251.13	190.10	360	-60	2023
DDH23LU141	658,199.40	9,340,347.34	252.43	220.15	330	-60	2023
DDH23LU142	657,100.04	9,339,676.62	264.68	170.20	360	-60	2023
DDH23LU143	658,147.78	9,340,436.49	242.30	120.50	330	-60	2023
DDH23LU144	657,449.97	9,339,829.93	257.35	150.20	360	-60	2023
DDH23LU145	657,649.95	9,339,982.09	251.76	127.75	360	-60	2023
DDH23LU146	659,188.92	9,340,924.01	231.61	300.45	330	-60	2023
DDH23LU147	657,450.01	9,339,881.44	257.35	120.25	360	-60	2023
DDH23LU148	659,168.24	9,340,969.09	240.54	220.15	330	-60	2023
DDH23LU149	657,800.03	9,340,005.07	251.06	190.55	360	-60	2023
DDH23LU150	657,499.98	9,339,905.24	250.80	150.30	360	-60	2023
DDH23LU151	657,650.02	9,340,029.96	256.35	90.10	360	-60	2023
DDH23LU152	659,223.88	9,341,072.66	235.70	190.15	330	-60	2023
DDH23LU153	657,699.98	9,339,978.32	247.17	150.55	360	-60	2023
DDH23LU154	659,344.58	9,341,263.65	226.07	180.05	330	-60	2023

ID	EASTING	NORTHING	HEIGHT (m)	LENGTH (m)	AZIMUTH	DIP	YEAR
DDH23LU155	659,795.44	9,342,323.98	246.89	270.35	90	-60	2023
DDH23LU156	659,338.78	9,341,173.62	223.24	200.60	330	-60	2023
DDH23LU157	659,360.14	9,341,336.69	237.19	100.70	330	-60	2023
DDH23LU158	659,851.48	9,342,323.99	244.87	222.20	90	-60	2023
DDH23LU159	660,000.82	9,342,023.91	280.40	240.35	90	-60	2023
DDH23LU160	660,114.48	9,342,123.96	291.56	140.70	90	-60	2023
DDH23LU161	659,996.02	9,342,274.04	263.50	150.10	90	-60	2023
DDH23LU162	658,410.92	9,340,380.15	266.34	340.00	330	-60	2023
DDH23LU163	658,794.90	9,340,715.14	265.95	340.15	330	-60	2023
DDH23LU164	658,646.88	9,340,573.15	271.15	380.55	330	-60	2023
DDH23LU165	658,971.95	9,340,803.93	264.48	320.10	330	-60	2023
DDH23LU166	659,250.55	9,340,922.83	232.28	340.50	330	-60	2023
DDH23LU167	658,320.98	9,340,329.91	255.98	320.45	330	-60	2023
DDH23LU168	658,869.53	9,340,773.56	259.49	300.50	330	-60	2023
DDH23LU169	659,362.42	9,341,127.69	222.50	241.05	330	-60	2023
DDH23LU170	659,577.06	9,341,164.24	201.18	300.25	330	-60	2023
DDH23LU171	659,737.69	9,341,279.63	189.77	320.40	330	-50	2023
DDH23LU172	657,000.35	9,339,501.56	255.70	270.35	360	-60	2023
DDH23LU173	659,463.46	9,341,155.36	213.08	280.15	330	-60	2023
DDH23LU174	659,317.03	9,341,009.31	219.81	285.75	330	-70	2023
DDH23LU175	658,493.20	9,340,437.39	271.50	370.80	330	-60	2023
DDH23LU176	658,561.73	9,340,518.00	273.44	370.20	330	-60	2023
DDH23LU177	659,776.19	9,341,439.57	200.33	250.70	330	-60	2023
DDH23LU178	657,399.85	9,339,647.45	232.88	300.20	360	-60	2023
DDH23LU179	657,450.05	9,339,730.15	248.82	260.35	360	-60	2023
DDH23LU180	657,799.92	9,339,955.55	245.32	200.50	360	-60	2023
DDH23LU181	658,122.62	9,340,479.69	243.19	121.00	330	-60	2023
DDH23LU182	657,350.00	9,339,584.41	216.03	300.40	360	-60	2023
DDH23LU183	659,247.69	9,341,029.09	236.51	250.55	330	-60	2023
DDH23LU184	657,300.01	9,339,726.05	242.89	200.45	360	-60	2023
DDH23LU185	659,029.82	9,340,690.39	275.44	450.10	330	-60	2023

ID	EASTING	NORTHING	HEIGHT (m)	LENGTH (m)	AZIMUTH	DIP	YEAR
DDH23LU186	659,369.63	9,341,220.53	221.79	230.15	330	-60	2023
DDH23LU187	656,849.97	9,339,405.56	246.12	200.80	360	-60	2023
DDH23LU188	656,550.03	9,339,447.67	250.65	300.25	360	-60	2023
DDH23LU189	659,412.55	9,341,041.46	212.91	330.15	330	-60	2023
DDH23LU190	659,405.74	9,341,353.99	232.47	131.05	330	-60	2023
DDH23LU191	656,649.96	9,339,245.33	233.14	262.80	360	-60	2023
DDH23LU192	656,748.82	9,339,298.89	237.68	260.10	360	-60	2023
DDH23LU193	659,435.52	9,341,302.71	226.14	200.25	330	-60	2023
DDH23LU194	656,599.95	9,339,354.83	249.83	187.20	360	-60	2023
DDH23LU195	659,237.71	9,340,837.57	232.62	480.10	330	-60	2023
DDH23LU196	656,500.01	9,339,355.28	239.86	182.15	360	-60	2023
DDH23LU197	659,627.09	9,341,078.14	192.64	450.15	330	-60	2023
DDH23LU198	657,249.99	9,339,713.95	252.49	180.25	360	-60	2023
DDH23LU199	656,599.99	9,339,303.69	241.28	200.90	360	-60	2023
DDH23LU200	658,370.94	9,340,243.96	252.33	585.00	330	-60	2023
DDH23LU201	658,919.43	9,340,687.65	275.17	470.40	330	-60	2023
DDH23LU202	659,815.13	9,342,616.05	279.23	300.15	90	-60	2023
DDH23LU203	659,769.37	9,341,222.67	184.54	420.10	330	-60	2023
DDH23LU204	658,460.79	9,340,294.29	260.01	470.30	330	-60	2023
DDH23LU205	659,300.50	9,340,836.81	224.20	500.20	330	-60	2023
DDH23LU206	659,753.92	9,341,351.38	192.77	350.25	330	-60	2023
DDH23LU207	657,850.00	9,339,954.98	232.66	200.05	360	-60	2023
DDH23LU208	659,896.21	9,341,404.34	203.99	375.90	330	-60	2023
DDH23LU209	659,247.39	9,343,074.99	219.99	250.60	90	-60	2023
DDH23LU210	657,101.05	9,339,483.50	247.12	306.10	360	-60	2023

Appendix C

Most Significant Drilling Intersections (PGM+Au and Nickel Sulphide)

Bravo Drilling – Most Significant PGM+Au Infill Drilling Intersections.

HOLE-ID	From (m)	To (m)	Thickness (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	PGM+Au (g/t)	TYPE
DDH22LU003	33.20	70.00	36.80	1.53	0.70	0.100	0.30	2.64	FR
And	89.00	94.20	5.20	1.51	0.72	0.110	0.17	2.52	FR
DDH22LU004	78.60	91.60	13.00	1.63	0.77	0.140	0.06	2.60	FR
DDH22LU005	93.00	124.00	31.00	1.19	0.59	0.090	0.11	1.98	FR
DDH22LU008	0.00	8.60	8.60	3.39	2.66	0.360	0.03	6.45	Ox
And	27.60	42.60	15.00	0.82	0.34	0.070	0.03	1.25	Ox
DDH22LU016	55.50	75.30	19.80	0.48	1.94	0.260	0.01	2.68	FR/LS
DDH22LU018	90.80	107.70	16.90	1.60	0.89	0.220	0.10	2.82	FR
DDH22LU019	0.00	64.20	64.20	0.58	0.29	0.040	0.07	0.99	Ox/FR
DDH22LU022	81.20	101.00	19.80	1.27	0.77	0.120	0.05	2.21	FR
DDH22LU029	9.70	68.50	58.80	1.33	0.64	0.090	0.06	2.11	Ox/FR
Including	*29.10*	*68.50*	*39.40*	*1.12*	*0.48*	*0.070*	*0.07*	*1.74*	*FR*
DDH22LU029	108.40	117.10	8.70	2.12	1.70	0.24*	0.03	4.09*	FR
DDH22LU031	16.60	26.50	9.90	3.27	2.42	0.350	0.04	6.07	Ox
DDH22LU032	115.20	119.80	4.60	5.52	1.27	0.26*	0.02	7.07*	FR/LS
DDH22LU034	109.40	144.40	35.00	0.87	0.51	0.100	0.03	1.50	FR
DDH22LU037	51.00	65.00	12.00	2.14	1.47	0.240	0.03	3.87	FR
And	100.00	118.50	18.50	1.48	0.97	0.230	0.01	2.69	FR
DDH22LU039	128.20	155.90	27.70	0.40	0.10	0.110	0.01	0.62	FR
DDH22LU040	36.60	89.50	52.90	1.44	0.52	0.100	0.08	2.14	FR
DDH22LU042	47.00	114.30	67.30	0.89	0.33	0.060	0.07	1.35	FR
DDH22LU045	0.00	12.00	12.00	1.10	0.37	0.050	0.02	1.54	Ox
DDH22LU046	0.00	35.50	35.50	1.14	0.45	0.050	0.01	1.66	Ox
DDH22LU047	131.11	142.15	11.04	3.56	0.57	0.070	0.04	4.24	FR
DDH22LU049	49.60	74.90	25.30	0.68	0.22	0.130	0.12	1.14	FR
DDH22LU050	58.40	79.80	21.40	0.79	0.41	0.070	0.11	1.38	FR
DDH22LU051	17.20	37.00	19.80	3.15	3.56	0.320	0.06	7.10	Ox/FR
DDH22LU052	151.00	158.10	7.10	0.69	0.04	0.300	0.11	1.13	FR
DDH22LU053	90.50	141.40	50.90	1.82	0.61	0.090	0.12	2.64	FR
DDH22LU055	49.10	68.10	19.00	1.34	0.80	0.100	0.40	2.64	FR
DDH22LU058	115.40	145.90	30.50	2.04	0.71	0.130	0.20	3.09	FR
DDH22LU059	144.00	161.10	17.10	2.77	1.01	0.160	0.03	3.97	FR
DDH22LU062	54.50	61.70	7.20	4.39	1.91	0.320	0.11	6.73	FR
DDH22LU064	136.60	154.30	17.70	3.81	1.69	0.25*	0.22	5.98*	FR
DDH22LU066	77.50	93.00	15.50	0.91	0.86	0.110	0.05	1.93	FR
DDH22LU073	136.90	155.80	18.90	0.96	0.29	0.020	0.02	1.30	FR
DDH22LU074	0.00	52.90	52.90	0.48	0.76	0.050	0.01	1.29	Ox/FR
DDH22LU075	105.00	116.00	11.00	0.80	1.35	0.190	0.02	2.35	FR/LS
DDH22LU076	134.80	168.00	33.20	1.22	0.63	0.110	0.07	2.02	FR
DDH22LU078	122.30	150.70	28.40	0.55	0.95	0.010	0.01	1.53	FR/LS
DDH22LU082	115.60	131.60	16.00	2.05	1.73	0.260	0.06	4.11	FR
DDH22LU084	80.80	96.80	16.00	1.38	0.70	0.130	0.01	2.23	FR
DDH22LU086	0.00	9.20	9.20	3.22	1.36	0.180	0.04	4.79	Ox
And	86.40	130.90	44.50	1.19	0.70	0.150	0.03	2.07	FR

HOLE-ID	From (m)	To (m)	Thickness (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	PGM+Au (g/t)	TYPE
DDH22LU090	0.00	39.90	39.90	1.11	0.64	0.110	0.02	1.88	FR
DDH22LU091	54.60	62.60	8.00	1.37	0.99	0.140	0.01	2.51	FR
And	68.20	92.60	24.00	1.33	1.36	0.24*	0.04	2.98*	FR
And	106.60	109.60	3.00	2.12	4.42	0.73*	0.03	7.30*	FR/LS
DDH22LU097	51.60	107.60	56.00	0.47	0.64	0.080	0.03	1.22	FR/LS
DDH22LU103	0.00	45.10	45.10	0.86	0.50	0.080	0.05	1.49	Ox
DDH22LU104	0.00	12.20	12.20	1.17	0.66	0.110	0.02	1.96	Ox
DDH22LU106	17.40	26.50	9.10	6.96	19.65	0.39*	0.04	27.04*	Ox/LS
DDH22LU107	163.10	200.10	37.00	1.05	0.69	0.120	0.17	2.04	FR
DDH22LU110	190.4	194.4	4.00	1.88	0.95	0.20	0.06	3.09	FR
And	237.4	245.4	8.00	1.54	0.69	0.11	0.02	2.35	FR
DDH22LU113	0.0	34.0	34.0	0.21	1.18	0.02	0.01	1.42	Ox
And	46.0	82.4	36.4	0.28	1.38	0.05	0.01	1.72	FR/LS
DDH22LU114	0.0	65.4	65.4	0.30	0.21	0.01	0.01	0.54	Ox/FR
DDH23LU139	253.9	257.5	3.6	0.84	0.28	0.03	0.12	1.28	FR
DDH23LU151	58.6	60.6	2.0	6.52	3.45	0.48	0.09	10.54	Ox
Including	58.6	59.6	1.0	8.62	4.59	0.57	0.14	13.93	FR
DDH23LU152	131.0	138.0	7.0	0.56	0.34	0.03	0.21	1.13	FR
And	140.0	152.0	12.0	0.81	0.54	0.07	0.05	1.46	FR
Including	145.0	146.0	1.0	2.37	1.62	0.35	0.09	4.43	FR
DDH23LU154	65.9	76.9	11.0	0.75	0.52	0.06	0.01	1.34	FR
DDH23LU155	256.9	263.6	6.7	1.06	0.28	0.02	0.01	1.37	FR
Including	258.7	259.5	0.9	3.28	0.46	0.01	0.01	3.76	FR
DDH23LU156	119.0	138.0	19.0	0.77	0.49	0.07	0.02	1.35	FR
DDH23LU157	5.6	18.4	12.8	0.79	0.38	0.03	0.21	1.42	Ox
And	42.0	53.0	11.0	0.66	0.34	0.04	0.01	1.06	FR
DDH23LU158	110.2	113.2	3.00	1.54	1.35	0.11	0.01	3.01	FR
And	165.2	174.2	9.00	1.76	1.68	0.03	0.03	3.49	FR
Including	167.2	169.2	2.00	4.42	5.23	0.03	0.06	9.75	FR
And	201.6	204.4	2.90	0.86	0.35	0.01	0.02	1.24	FR
DDH23LU160	15.8	17.8	2.00	0.92	0.26	0.26	0.08	1.53	Ox
And	60.3	65.4	5.10	0.76	0.33	0.01	0.09	1.18	FR
DDH23LU161	103.1	112.1	9.00	0.65	0.69	0.12	0.01	1.46	FR
And	121.1	125.1	4.00	0.58	0.45	0.06	0.03	1.12	FR
And	137.0	138.0	1.10	1.15	3.00	0.07	0.02	4.24	FR
DDH23LU162	111.1	115.0	3.90	0.84	0.36	0.05	0.21	1.45	FR
And	246.8	289.8	43.00	1.70	0.52	0.08	0.05	2.34	FR
Including	270.8	274.8	4.00	2.41	0.71	0.13	0.14	3.40	FR
DDH23LU165	99.4	100.4	1.00	5.87	2.50	0.08	0.14	8.59	FR
And	196.3	206.3	10.00	1.17	0.44	0.02	0.22	1.84	FR
Including	200.4	204.6	4.20	1.77	0.70	0.02	0.39	2.87	FR
DDH23LU166	160.5	165.5	5.00	2.53	0.70	0.14	0.09	3.45	FR
Including	160.5	161.5	1.00	7.75	1.90	0.67	0.14	10.46	FR
And	271.4	282.4	11.00	2.92	1.47	0.22	0.42	5.02	FR
Including	277.4	281.4	4.00	4.31	2.17	0.31	0.42	7.21	FR
DDH23LU167	209.7	251.7	42.00	0.77	0.24	0.04	0.01	1.05	FR

HOLE-ID	From (m)	To (m)	Thickness (m)	Pd (g/t)	Pt (g/t)	Rh (g/t)	Au (g/t)	PGM+Au (g/t)	TYPE
Including	249.7	251.7	2.00	2.27	0.64	0.13	0.02	3.06	FR
DDH23LU168	155.3	158.3	3.00	0.78	0.39	0.00	0.15	1.33	FR
And	260.7	275.0	14.30	2.12	0.96	0.15	0.05	3.28	FR
Including	270.9	274.0	3.10	4.89	2.15	0.33	0.05	7.43	FR
DDH23LU169	162.7	181.7	19.00	1.07	0.54	0.06	0.03	1.70	FR
And	189.7	198.7	9.00	0.92	0.37	0.07	0.02	1.37	FR
DDH23LU170	190.6	192.6	2.00	0.69	0.36	0.04	0.15	1.24	FR
And	249.0	288.0	39.00	0.60	0.34	0.05	0.02	1.01	FR
Including	254.0	255.0	1.00	3.25	1.84	0.31	0.08	5.48	FR
DDH23LU175	280.5	334.7	54.20	2.33	0.73	0.14	0.13	3.33	FR
Including	300.3	332.7	32.50	3.51	1.09	0.21	0.19	4.99	FR
DDH23LU184	59.1	62.3	3.20	1.54	0.55	0.59	0.19	2.86	FR

Notes:

All 'From', 'To' depths, and 'Thicknesses' are downhole.

PGM+Au = Pd+Pt+Rh+Au in g/t

'NA' Not applicable for Oxide material. 'EOH' End Of Hole.

Type: Ox = Oxide. LS = Low Sulphur. FR = Fresh Rock. Recovery methods and results will differ based on the type of mineralization.

** Includes result/s Rh >1.00g/t requiring reassay with a higher detection limit, results pending.*

Bravo Drilling – Most Significant Nickel Sulphide Intersections.

HOLE-ID	From (m)	To (m)	Thickness (m)	PGM+Au (g/t)	Ni (%) - sulphide	Cu (%)	TYPE
DDH22LU029	158.50	165.00	6.50	0.50	0.43		FR
DDH22LU039	128.20	155.90	27.70	0.62	0.42		FR
Including	*128.20*	*132.80*	*4.60*	*1.12*	*1.12*		*FR*
Also Including	*130.20*	*131.20*	*1.00*	*1.85*	*2.08*		*FR*
DDH22LU042	47.00	55.00	8.00	0.62	0.81		FR
DDH22LU047	131.11	142.15	11.04	4.24	2.04	1.23	FR
Including	*132.26*	*136.80*	*4.54*	*4.23*	*2.77*	*0.54*	*FR*
Also Including	*136.80*	*137.60*	*0.80*	*5.23*	*0.98*	*10.82*	*FR*
DDH22LU049	49.60	74.90	25.30	1.14	0.40	0.23	FR
Including	*66.90*	*70.30*	*3.40*	*2.12*	*0.84*	*0.34*	*FR*
DDH22LU052	151.00	158.10	7.10	1.13	0.82	0.45	FR
Including	*151.00*	*153.80*	*2.80*	*1.18*	*1.09*	*0.22*	*FR*
Also Including	*154.30*	*158.10*	*3.80*	*1.24*	*0.73*	*0.68*	*FR*
DDH22LU052	161.90	164.50	2.60	0.94	0.72	0.26	FR
DDH22LU061	102.40	103.60	1.20	1.05	1.18		FR
DDH22LU073	136.90	155.80	18.90	1.30	0.41		FR
Including	*150.80*	*153.80*	*3.00*	*3.14*	*1.15*		*FR*
DDH22LU077	169.40	175.50	6.10	0.96	0.63		FR
Including	*169.40*	*171.30*	*1.90*	*2.27**	*1.47*		*FR*
Also Including	*170.60*	*171.30*	*0.70*	*2.59**	*2.27*		*FR*
DDH22LU080	186.6	195.3	*8.7*	*1.46*	*0.46*		FR

HOLE-ID	From (m)	To (m)	Thickness (m)	PGM+Au (g/t)	Ni (%) - sulphide	Cu (%)	TYPE
Including	186.5	188.5	*2.0*	*4.11*	*1.68*		*FR*
And	203.3	208.2	*4.9*	*1.13*	*0.56*		FR
Including	205.4	206.3	*0.9*	*3.06*	*2.05*		*FR*
DDH22LU088	156.8	161.5	*4.7*	*1.99*	*0.83*		FR
DDH22LU094	78.80	82.80	4.00	1.45	0.53		FR
DDH23LU152	94.8	96.2	1.4	0.28	1.20		FR
Including	95.5	96.2	0.7	0.39	1.92		FR
DDH23LU184	59.1	62.3	3.2	2.86	1.81	0.18	FR

Notes: *All 'From', 'To' depths, and 'Thicknesses' are downhole.*
PGM+Au = Pd+Pt+Rh+Au in g/t
FR = Fresh Rock.

Appendix D

Technical Assurance Statement

Exploration Information, Mineral Resources [and Mineral Reserves] Governance and Assurance

Bravo Mining Corp. Technical Assurance Statement

The Company publicly reports its Exploration Information, Mineral Resources [and Mineral Reserves] estimates in accordance with the requirements of the CIM (Canadian Institute of Mining, Metallurgy and Petroleum) Definition Standards on Mineral Resources and Mineral Reserves and the National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101)).

The Company's reporting governance over the reliable generation and public reporting of its Exploration Information, Mineral Resources [and Mineral Reserves] is supported by several assurance activities and controls, including:

1) Provision of standards and guidelines to ensure reporting process for Exploration Information, Mineral Resources and [Mineral Reserves] based on well-founded assumptions and compliant with external standards (such as National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101)).
2) The Qualified Persons (QPs) responsible for the estimate meets the requirements for a Qualified Person (QP) as per the NI 43-101, namely: are current members in good standing with a recognised professional association and have sufficient experience relevant to the subject matter reported.
3) The Company receives written consent from the QPs stating that the reported form and context agrees with supporting documentation regarding the results or estimates prepared by each QP.
4) The QPs have prepared and provided the Company with supporting documentation for results and estimates to a level consistent with industry practices and disclosure guidelines for any results and/or estimates reported.
5) Three levels of quality assurance over these processes, quality controls, data and information used in the generation and public reporting of results and estimates to ensure precision and correctness. Level 1 and level 2 are in place in all cases prior to presentation to the Company's Board for approval and subsequent reporting and level 3 is an additional assurance control for the overall reporting processes:
   a) Level 1: Quality control processes, data and documentation to validate data collection, input data, modelling and estimation results completed by internal staff, external laboratories or consultants.
   b) Level 2: Internal peer review by Company senior technical staff, independent of the process being reviewed.
   c) Level 3: External independent peer review and oversight of processes, consistency, and compliance for both Company generated results and estimates, and where consultants are used for generating these inputs, results and estimates.

Assurance Processes Supporting the Luanga Project Maiden Mineral Resource Estimate and Reporting for the 22 October 2023 Public Release

Responsible Persons

The responsible persons for the assurance control levels supporting the 22 October 2023 Mineral Resource disclosure are as follows:

a) Level 1: Quality control processes, data and documentation to validate input data and generated results completed by internal staff, external laboratories or consultants.
   i) Internal to Bravo: Database; QA/QC Alexandre Carnier, Database Manager), Wireframing Edson Vicente, Resource Manager
   ii) External and independent consultancy and QP for the Mineral Resource estimate: GE21 Group (GE21), Belo Horizonte, Brazil; Porforio Cabaleiro, Fellow of the Australian Institute of Geosciences (FAIG), Director GE21
b) Level 2: Internal peer review by Company senior technical staff, independent of the process being reviewed.
   i) Paulo Ilidio Brito, VP Exploration, Member of the Australasian Institute of Mining and Metallurgy (MAusIMM), Simon Mottram, President (QP) Fellow of the AusIMM (FAusIMM)
c) Level 3: External peer review and oversight of processes, consistency, and compliance for both Company generated results and estimates, and where consultants are used for generating these inputs, results and estimates.
   i) Peer review of the Mineral Resource estimate: Anderson Goncalves Candido, FAusIMM, Principal Geologist from RPM Global Inc (RPM);
   ii) Overall review of the technical assurance processes: Prof Mark Noppé, FAusIMM(Chartered Professional, CP), Director, WH Bryan Mining Geology Centre, Sustainable Minerals Institute, The University of Queensland

Level 1 Internal Quality Control

The Company's QA/QC Policy describes the policy and key procedures implemented by Company personnel and designed to ensure exploration information and laboratory analytical results are reliable and to maintain an accurate and reliable database and records for the Company's exploration and development projects. The controls and key activities are outlined below.

1. Diamond drilling, logging & sample preparation

a) The core shack and office area containing the database and records for the Company's exploration and development projects will be restricted to Company authorized personnel only and other people specifically authorized by the Company's designated QP (see Schedule A). The core shack and office area containing the database and records for the Company's exploration and projects will be kept locked when not in use.

b) All staff with hand jewelry will be required to either remove jewelry or tape it off during handling of core. Approved visitors to the core shack are prohibited from handling core except under supervision of Company staff.

c) Lids shall be placed on core boxes and RC sample bags will be closed and sealed at the drill site by the driller. Core boxes and RC sample bags containing samples for analysis will be transported from the drill site to the Company core shed in a manner approved by the QP. Delivery to the core shed will be accompanied by a "Chain of Custody Form" which will include, as a minimum, the names and signatures of the parties to the transfer of control, date and time of transfer, hole number, interval, box sequence delivered, and total number of boxes and bags transferred.

d) At the core shack core boxes will be laid out in sequential order and opened. Core will be “quick logged” and labeling of box number, hole number, and footage intervals will be verified. Footage labeled on “run blocks” will also be checked for accuracy. Problems or discrepancies will be addressed immediately, and the QP will be notified in the daily report.

e) Core boxes and RC samples will be stored securely on the drill sites until moved to the core logging facility.

f) When received at the core logging facility, received core or cuttings will be verified against the Chain of Custody Form and discrepancies reported to the QP.

g) When ready for logging core will be laid out in sequential order and cleaned. Geologic logging and sample selection will be done by authorized project geologists. Once samples have been selected for sawing/splitting, the geologist will draw a line on the core to guide core sawing/splitting, with the goal to split mineralization equally between two halves. If so directed, one half of the core may be marked for further splitting into quarters.

h) Sample descriptions will be recorded by the geologist on appropriate electronic log forms. The forms will include drill hole number & location, drill hole bearing & dip, sample numbers and sample intervals. Sample tags will be stapled to core boxes at the beginning of each sample interval.

i) Once the core has been logged, samples selected & sample number stapled to the boxes, and core marked for sawing/splitting the core will be photographed. Photographs will be taken to ensure that core blocks showing footages and sample numbers are visible in the photos. Photographs will contain a written or electronic label showing Hole Number, Box Number, Interval (in meters), and Core Logging Geologist initials.

j) Technicians, under the supervision of the Core Logging Supervisor, will saw/split the core according to the line(s) drawn on the core by the logging geologists, all portions of the split/sawn core will be returned to the core box in the place from which it came, in the same order and orientation as originally found.

k) Geologists will insert the portion of the core selected for analysis (typically ½ and always the right-side pieces) into pre-labeled and tagged bags according to the procedures given by the QP. Sample bags will be zip-tied and put inside a larger bag, which will be sealed with tamperproof safety seals (labeled and zip-ties) and sent to the assay laboratory with assaying instructions. Lab submittal and Chain of Custody Forms will contain language instructing the recipient to notify the sender if the tamperproof seals have been broken or otherwise compromised.

l) The remaining core sample shall be retained in the original core box. Core will be stored in a secure location and a record kept of its location. No core samples shall be removed from the core boxes for any purpose, including re-assaying, metallurgical testing, or any other purpose that would cause the destruction of the core sample, without prior approval of the QP. If a core sample is removed following receipt of approval from the QP, a suitable card shall be inserted in the location of the sample taken indicating the sample length and interval removed the purpose of the removal, the person responsible for the removal, and the date of removal. A spreadsheet containing similar data shall be maintained as part of the database.

m) A small representative sample of RC cuttings will be collected by the RC sampler at the drill rig. This sample will be placed in a chip tray and properly and legibly labeled. Once logged, the RC chip trays will be stored in a secure location and its location recorded in the database.

2. Assay Laboratory

a) The Company will use only certified assay laboratories.

b) Upon arrival at the lab prep facility, the sealed bags will be opened and cross checked against the list provided by lab personnel. Any bags found to be “unsealed” or breached at the time or receipt or any discrepancy in contents will be reported to the Company employee listed as “shipper” on the submittal who will then notify the QP.

c) The assay lab will prepare and process the samples according to submittal instructions and agreed upon laboratory protocols.

d) Assay results will be sent electronically by the assay lab via e-mail (as an excel spreadsheet) simultaneously to the people listed in Schedule B. A written direction, signed by the President of the Company, will be provided to the assay lab providing the names and e-mail address of these designees. These designees will only change with written approval of the President of the Company. See Schedule B for current designees.

e) Original assay certificates will be signed by the Chief Assayer and sent to the Company’s corporate office, care of the President. A duplicate original will be sent to the Resource Geologist. Any original assay certificate re-issued by the laboratory with revised results will have a note in each clearly indicating that the re-issued results supersede original results reported in the certificates specified. A written direction, signed by the President, will be provided to the assay lab providing the names and email address of these designees. These designees will only change with the written approval of the President.

3. Database Control

a) The drill hole database will be maintained by the Resource Geologists or a designated staff member under the direct supervision of the Resource Geologist. Assays will be entered directly into the geologic database in the digital format provided by the assay lab and verified against the sample interval data logged by the logging geologist. Missing intervals will be researched to be sure all samples taken and submitted to the laboratory have a corresponding location logged by the geologist during sampling.

b) As detailed in 2(d) above, assay results will be distributed to a minimum of six people simultaneously, directly by the assay lab, including the President, to avoid any single party or department having control of the data.

c) Prior to disclosure and, on a random basis, data in the drill hole database will be spot checked by the QP to ensure digital compilation matches (1) preliminary assay results and (2) once available, signed, hard copy assay certificates.

d) The drill hole database will also be cross checked against the original assay certificates upon reception.

e) Mineralized intervals will be composited by the Resource Geologist or by a designated staff geologist under direct supervision of the Resource Geologist and the compositing verified by the QP.

f) All composites utilize a 0.4 g/t (ppm) PGE cut-off and may include up to 2 meters of internal waste. Internal waste will be assigned a nominal grade of 0.0 g/t (ppm), if it does not have an assayed grade. For narrow, higher-grade targets, compositing intervals will be selected by the QP on an appropriate basis.

4. QA/QC Procedures

a) Certified Reference Materials (Blanks & Standards) will be inserted through the sample sequence by the logging geologists at intervals determined by the QP. Typically, a blank will be inserted for one in every twenty samples. A standard will also be inserted for one in every twenty samples. The result is a quality control sample after every ten primary samples. The standard will be selected to match the type of mineralization identified.

b) Core saws used for cutting core will not utilize recycled water to eliminate the possibility of cross contamination, or if a recycled water system is utilized, the recycled water must be filtered and free of particulate matter to a level that eliminates the possibility of cross contamination.

c) Quartered core (½ of ½) will be submitted periodically as a cross check for intra-sample variance based on written direction of the qualified person, with copies sent to the Resource Geologist and the President.

d) Representative sample splits from RC cuttings will be submitted periodically as a cross check for intra-sample variance based on written directions of the QP, with copies sent to the Resource Geologist and the President.

e) Location and sample numbers of inserted blanks and standards will be recorded on the electronic assay sheet.

f) Upon reception of results, results for blanks and standards will be compared to the expected value. Blanks exceeding 0.025 ppm platinum group elements ("PGE", i.e., platinum + palladium + rhodium) after accounting for 1% sample carryover or standards exceeding three standard deviations from expected value will cause re-assaying of the offending samples and five (5) samples before and after the offending sample. Standards exceeding two standard deviations from the expected value may trigger re-assay, at the discretion of the QP.

g) Statistical study of the assay results from a laboratory and between laboratories will be analyzed quarterly or by the discretion of the QP to identify possible trends indicative of procedural issues. This analysis will be included in a report prepared by the Company as needed.

h) All values higher than:

   i. 10 ppm or 10 g/t PGE will be re-assayed.

   ii. 10,000 ppm or 1% nickel will be re-assayed from the same pulp using.

i) A minimum of 3% of original sample pulps coming from the mineralized zones as determined by the QP, will be sent to a different certified assay laboratory (umpire laboratory). A minimum of 3% of rejects coming from mineralized zones (as determined by the QP) will be re-bagged, assigned a new sample number, and submitted to the primary assay laboratory.

j) If an abnormal discrepancy occurs between the two assay laboratories, a verification program using pulps will be prepared by the Resource Geologist and approved by the QP before sending the samples to a third independent and certified assay laboratory.

k) A separate QA/QC database will be maintained by the Resource Geologist, or their designee and results monitored pro-actively and included in the monthly report sent to those persons listed in 2(d) above. Any discrepancy will be noted, as well as the action taken to resolve the issue. QA/QC results will be reconciled prior to any public disclosure of assay results that may be affected. The QP and President will verify and validate the QA/QC results prior to any disclosure of assay results in the public domain.

l) A sample spike (high grade standard) followed by a blank will be inserted at least every 40 samples or, alternatively, a blank will be inserted behind well mineralized rock as a check for cross contamination during the sample preparation phase.

5. Maintenance of Records

a) Electronic copies of drill logs and assay certificates will be kept on the company server accessible to site and field offices.

b) The electronic database containing sample information and assay data will be kept secure and password protected to prevent tampering.

c) Original hard copies of drill logs and assay certificates will be kept in secure files in the field offices.

d) Copies of all drill logs and assay certificates will be kept as long as the Company is the owner and the operator of the project.

Level 1 External Independent Mineral Resource Estimate

The maiden (first time reporting) of the Mineral Resource estimate for the Luanga Project has been performed by an external and independent consultancy, GE21 Group (GE21), from Belo Horizonte, Brazil, under the guidance of and with reporting signed off by QP Engineer Porfilio Cabaleiro, Fellow of the Australian Institute of Geoscientists (FAIG), Director of GE21 Group. GE21 has quality control activities in place to provide assurance over the Mineral Resource estimate and reporting, as outlined below.

1. Data validation

a) The technical data and geological database, including QA/QC data, lithological model wireframe, and grade model wireframe supplied by the Company have been archived in a specific folder on GE21's servers without modifying the original content.

b) Each copy of the files was opened to ensure that there was no corruption of its information during the digital transfer process from its source of origin to GE21's servers.

c) Wireframe data, representing the interpretation of surfaces or volumes of modelled zones and domains, were imported by GE21 into specific software, such as Leapfrog, Surpac, and Datamine. The data were validated using automatic tools to ensure they were appropriate and compatible for use.

d) The received data were confirmed to be geographically contained within the boundaries of the mineral exploration rights.

e) The drilling activity database was audited, and the following scenarios were validated:

   i. The accuracy of the hole collar coordinates;

   ii. The consistency of values defining the survey vectors, including azimuth, dip, and depth;

   iii. The improper occurrence of overlaps in geochemical sample information and various technical descriptions derived from drilling core samples (assays, lithologies, RQD, weathering, etc.);

   iv. The correlation between collar information and descriptive fields, such as assays and lithologies; and

   v. The assay data was audited, with checked for:

      i. Completeness of variables for estimation;

      ii. Occurrence of invalid, negative, and alphanumeric values;

      iii. Correct identification of the metric unit of analysis;

      iv. Laboratory analysis type and references;

      v. The number of decimal places used, etc.; and

      vi. Up to 2% of assay data in mineralized zones were selected and confirmed that the grade values matched those in their respective analytical certificates.

f) The comparison between drill hole collar coordinates and their relative position to the project's adopted topographic surface elevation was assessed. In cases of misalignment, the project's exploration team was notified to verify collar data or conduct a more precise topographic survey.

g) The procedures employed in the project's QA/QC processes were verified. Control charts for blank, duplicate, standard, and inter-laboratory check samples were generated for critical elements, and any anomalies were identified.

   i. The results of the QA/QC samples were assessed, categorizing the data into groups based on the following attributes: analysis type, sample preparation method, laboratory used, and geochemical variable analyzed; and

   ii. An evaluation of the QA/QC campaign was conducted for historical geochemical data from the historic Vale campaign, primarily focusing on assessing the correlation between historical geochemical results and their respective re-analysis outcomes.

h) The method and consistency for determining specific gravity (sample density) and its application for bulk density was validated for the sampling method and testing approach considering the rock-type competence and compactness.

i) The GE21 QP's data verification was supported with two site visits, namely:

   i. First visit during the period from 4-7 July 2023:

      i. Visit to the sample density testing facility;

      ii. Visit to one trench and eight drill hole locations;

      iii. Visit to the core shed and verification of the logging of five drill holes; and

      iv. Collection of one check sample and confirmation of assay results for consistency.

   ii. Second visit, 3-6 October 2023:

      i. Meetings and discussions with the Company personnel and Technical Assurance team; and

      ii. Visit to the new core shed.

j) On the basis of these investigations, the GE21 QP confirmed the data to be of sufficient quality to support the Mineral Resource estimation for the Luanga Project.

2. Definition of Estimation Domains

a) The mineralization domains interpreted by the Company's geological team were received and validated.
b) Statistical analysis of data within and outside these domains were performed to verify the grades matched the model's proposed domains/zones.
c) Cross-sectional plots of the mineralization model were created and confirmed that modelled mineralization's continuity was aligned with GE21's view of industry best practices.

3. Mineral Resource estimation

The Mineral Resource estimation was prepared by GE21 Geologist Carlos Silva, with all phases of estimation supervised by GE21's QP (Engineer Porfirio Cabaleiro Rodriguez), as described below.

Internal review meetings were held at key phases to discuss strategies, results and options to proceed with the planned tasks. In particular, these included the following tasks:

a) Definition of composite support;

b) Definition of estimating method;

c) Definition of cut-offs (thresholds) for variography and Multiple Indicator Kriging (MIK);

d) Definition of block model parameters;

e) Kriging results validation (including GE21 Principal Geologist Bernardo Viana);

f) Mineral Resource pit optimisation parameters; and

g) Mineral Resource classification criteria (including GE21 Principal Geologist Bernardo Viana).

In summary the process of Mineral Resource estimation was conducted as follows:

a) The samples were composited considering appropriate support for the continuity of statistical and geostatistical analyses.

b) Exploratory Data Analysis (EDA) was conducted, considering the various domains defined by geology.

c) The MIK method was selected for the estimation of individual grades, based on the mineralization model, with interpolation of waste material in mineralized zones.

d) Indicator cut-off (threshold) values were determined for each variable based on their grade distribution.

e) Indicator variography was conducted for each variable.

f) A structural continuity study (variography) was conducted for each domain based on the estimation of equivalent Pd (PdEq), following the CIM guidelines for metal equivalent calculations considering reference prices and recoveries for the metals.

g) A block model was established, with the parent block size determined based on the average drilling spacing dimensions.

h) The definition of sub-blocks in the block model was carried out to achieve a volume match greater than 97% between the wireframes of each estimation domain and their respective volumes in the block model.

i) The indicator kriging strategy was defined in steps based on the continuity of each indicator and each variable.

j) The grade estimates were validated using criteria for local bias, global bias and visual validation of the estimation, including:

   i. Swathplots - comparing the smoothing effect and local biases along the X, Y, and Z coordinate axes;

   ii. Nearest Neighbor (NN) check - comparing statistical summaries, histograms, and correlation plots to assess the smoothing effect of estimation and global biases; and

   iii. Visual inspection of results - the projection of grades in a 3D environment and geological cross-sections was used to assess the coherence of the results with the proposed project model.

k) The recommendation of Reasonable Prospects for Eventual Economic Extraction (RPEEE) was based on an optimal pit exercise using Geovia Whittle software and parameters discussed and agreed with the Company and the reviewer (RPM).

l) The Classification of Mineral Resource estimates into Measured, Indicated, and Inferred Resources was determined through an approach considering a set of factors, namely:

   i. Setting an economic cut-off grade;

   ii. Sampling procedure and sample recovery;

   iii. The sampling grid spacing;

iv. The assay methodology and assay data quality;

v. The drilling spacing and the progressive expansion of the search radius during the grade estimation phases;

vi. Adherence to RPEEE limits; and

vii. Additionally, to classify Mineral Resources a study of spatial continuity for Palladium Equivalent (PdEq) was conducted using variography followed by ordinary kriging interpolation. This study established a continuity zone with the following considerations:

    i. PdEq was not declared for the Mineral Resource, rather it was used as a unique variable to assess the confidence and continuity of the geological and grade estimation;

    ii. A Measured Mineral Resource was not classified, since the QP considers the sampling support of the Luanga Project does not meet the criteria for this classification;

    iii. The Indicated Mineral Resource classification is supported with reference to a drilling grid of approximately 75 m by 75m, extending both along the strike and dip directions, and requiring a minimum of two drill holes to inform an estimated model block; and

    iv. Subsequently, manual post-processing was undertaken to construct wireframes representing the volumes categorized as Indicated, while considering the model blocks within the resource pit shell.

    v. The Inferred Mineral Resource classification is applied all remaining estimated blocks within the resource pit shell.

Level 2 (Internal Company senior management role)

1. **Public Disclosure of Assay Results**

a) Technical content of any Press Releases or other public disclosure will be verified by the VP Exploration and the President (QP) for accuracy.

b) Public disclosure of assay results that require the President to perform checks of assay data include the following:

i. Non-independent Mineral Resource estimates;

ii. Release of assay results to the public; and

iii. Periodically, at the discretion of the President, with a minimum of two random visits per year to the database location to verify procedures.

c) When the verification trigger occurs, or at any other time, the President will randomly spot check the digital-assay certificates acquired directly from the assay laboratory against the contents of the exploration assay database. High values and a random spot check of 5% of the database must be verified against the signed paper assay certificates. If the error rate of the check is greater than 1% of the checked subset, 10% of the database must be verified against the signed paper assay certificates. In addition to these internal checks, when a Mineral Resource estimate is being announced based on an estimate prepared by a non-independent person, a similar spot check must be performed by the President.

d) Prior to the release of analytical results to the public, the President will also check the digital certificates received directly from the assay laboratory against the values in the composite calculation file prepared by the Company. The composite calculations and the results as tabulated in the text of the press release must also be verified for correctness.

2. **Public Disclosure of Resource Estimates**

Public disclosure of an independent NI 43-101 compliant Mineral Resource estimate is not a verification trigger, provided that:

a) An independent qualified person that qualifies as an expert in Mineral Resource estimation under NI 43-101 (the Independent Expert) and has been approved by the President, is signing off as the responsible party for the Mineral Resource estimate; and

b) The Independent Expert has conducted his/her own QA/QC database verification process and reports on the process; and

c) The Independent Expert approves the news release containing the Mineral Resource estimate; and

d) The Independent Expert acknowledges that he/she will be signing off on the NI 43-101 Technical Report that details the Mineral Resource estimate.

Level 3 (Independent and/or External Assurance)

Detailed Peer Review of the Mineral Resources estimate.

Peer review of the Mineral Resource estimation by RPMGlobal Inc (RPM) included the activities described below to confirm the robustness of the estimate and its reporting.

The review was conducted by Mr. Anderson Cândido who has over 20 years of industry experience in geology, Mineral Resource estimation process and reporting, mine geology, and data management. He is a fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM) and a QP for Mineral Resource estimation according to CIM and NI 43-101 guidelines. Mr. Cândido is an experienced professional with a technical background in mine geology, projects, and operations with 10 years of experience in open pit operations, 7 years' experience in underground mining environment and 3 years' experience in consulting and independent studies.

RPM is of the opinion that the Mineral Resource estimation process and procedures adopted by GE21 QP is adequate and robust to mineralization style and deposit characteristics. RPM did not identify any material risk that could impact the Mineral Resources statement published into this technical report.

1. Site visits and discussions

a) Site visits were undertaken by RPM as part of the peer review.

   i) RPM visited site on two different occasions, 3-5 May 2023 and 3-6 October 2023, to discuss the technical approach used by GE21 and the results obtained by GE21 over the Mineral Resource estimation process.

   ii) During the site visits it was possible to verify the Company team engagement and GE21 deposit knowledge which fits the expectations and geological knowledge for the purpose of the Mineral Resource estimate and the NI 43-101 Technical Report.

b) RPM participated in several technical meetings and discussion forums with GE21 and the Company team related to:

   i) Database quality;

   ii) Geological Modelling;

   iii) Estimation methodology;

   iv) RPEEE assumptions; and

   v) Mineral Resource classification, and reporting.

c) When appropriate RPM provided comments and/or suggestions to GE21 and the Company to review specific items in their approaches to the mineralization domaining and Mineral Resource estimation and RPM notes that the GE21 and the Company teams were open to consider the RPM comments and suggestions during each review phase.

2. Database

RPM considers the provided database is composed by drill holes, core samples and surface trenches that were subject to appropriate handling following industry standards and expectations and a reasonable QA/QC program that resulted in robust data for geological modelling and grade estimation. RPM applied the following activities to form this opinion and provide assurance over the data quality:

a) Drill hole Z coordinate collar verification against the current topography.

b) Verification of Geology Operational Procedures to check if the best practices were put in place and if it was reflected in the database quality.

c) Reviewing the QA/QC protocol and confirming the control sample insertion ratio is 22% which is aligned with industry best practices and that the mitigation protocol is well stablished.

d) A comparison of drill holes samples and trenches by GE21 and RPM has verified the procedure and did not identify any major issues with this.

e) Several technical discussions were held at the time of database validation between the Company, GE21 and RPM to verify quality and transparency of data. Also, a database repository was established by GE21 to secure data quality and avoid unnecessary manipulation by the users.

f) RPM validated the data and the procedures that generate the final database to support the Geological Model and Mineral Resource estimate: RPM is of the opinion that the Company approach and GE21 procedures on Database validation is well stablished and did not produce any material issue for the Mineral Resource estimation.

3. Mineralization model

The Mineralization model was developed based on assumptions over the minimum interval length, Pd+Pt+Rh+Au cut-off/threshold grade and lateral continuity as well as the sectorization of the deposit into southwest, central and north regions. The Mineralization model was built by the Company's Geologist and verified by GE21.

The validation procedures used by GE21 on this phase were reviewed by RPM and considered suitable for the mineralization style and main techniques applied. RPM also verified the 3D mineralized model and performed visual comparisons and sector validation.

RPM is of the opinion that the 3D mineralized model is well founded and suitable for Mineral Resource estimation. During the RPM 3D mineralized verification, the follow activities were conducted by RPM:

a) Visual inspection to ensure any mineralized interval be inside the mineralized zones.

b) Mineralization and geology continuity and lateral comparisons of the modelled mineralized zones considering the Southwest, Central and North sectors and the main, footwall and hanging wall zones.

c) Palladium and Platinum grade distribution in each sector and domain to ensure the proper domaining division has avoided misinterpretation.

d) RPM identified minor issues with samples outside the mineralized area that were shared with the GE21 and the Company team. These identified samples were then reviewed by the Company and GE21 and in some cases the zone boundaries were modified to avoid including unnecessary waste into mineralized zones. RPM reviewed the updated 3D model and agreed with the final modelling approach.

4. Mineral Resource estimation

The Mineral Resource estimation phase utilized the 3D mineralized domain/zone model and the valid database. RPM completed the following review activities to confirm the robustness of the estimate:

a) Mineralized domain verification:

   i) All domains were compared based on the Pd+Pt grade and 3D geometry and the domaining division as proposed by GE21 was considered appropriate and necessary to provide a robust estimation process and to provide confidence in the results.

   ii) RPM and GE21 held several discussions on these aspects to a better understand the grade distribution and deposit geometry over the domains. In some cases, feedback was provided by RPM to the Company and resulted in an updated 3D model which was provided to GE21 for final review.

b) Upon review, considering the current drill grid spacing the block model parameters adopted for grade estimation and reporting were considered reasonable and appropriate to support the modelled deposit volumes.

c) Upon review, the sample composite parameters, interpolation method (MIK), variography models and sample search distances were considered appropriate for the deposit geology and mineralization zones and geostatistical (spatial) characteristics.

d) The MIK interpolation results were compared to other methods (Inverse Distance and Nearest Neighbour) and any major difference were reviewed for entirely model. RPM concluded the estimation parameters used for the MIK interpolation method (minimum and maximum number of samples, number of drill holes, variogram model, sample search ranges) to be well established and supportable for the Mineral Resource block model.

e) The specific gravity (density) was populated into the block model as average values by lithology, domain, and weathering zone. RPM is of the opinion that the bulk density approach used by GE21 is reasonable and supports the Mineral Resource tonnage estimate.

f) The grade validation was completed by GE21 using visual validation (samples and block model dispersion), swath plots in X, Y and Z direction, histogram grade distributions and mean average grade checks. The validation results provided by GE21 are considered reasonable and RPM is of the opinion that the entire grade estimation process is well established and the results support the current Technical Report and Mineral Resource statement.

5. Mineral Resource Classification

The Mineral Resources classification criteria adopted by GE21 for the Luanga model are based on the following main criteria: PdEq variogram model, sample search ranges and minimum number of samples and drill holes.

Several discussions on classification were held between the Company, GE21 and RPM to evaluate the scenarios and confidence criteria for Mineral Resource classification. RPM and GE21 tested different approaches to evaluate the impacts and benefits on the final model.

RPM reviewed the final classification approach and considered this to be well developed and to cover the main sample distribution and deposit geometry aspects. RPM is of the opinion that the adopted classification criteria cover the main mineralization aspects and estimation risks associated with the Luanga deposit style and meet the principles of materiality and transparency for the data, estimation and classification process.

The main activities executed by RPM in this phase were as follow:

a) PdEq formula verification;

b) Variogram models and ranges;

c) Sample search ranges during estimation;

d) Minimum and maximum number of samples to estimate a block;

e) Classification continuity and GE21 post processing approach; and

f) Classification visual validation with drill hole data comparison.

6. Reasonable Prospects for Eventual Economic Extraction (RPEEE)

RPEEE considerations were established for the purpose of constraining the Mineral Resource model and to support an appropriate Mineral Resource statement.

a) The parameters used in the pit optimization approach (metal prices, bench slope angle, metallurgical recovery, operational costs, etc), were extensively discussed between the Company and GE21 consultants.
b) RPM and GE21 held technical discussions to verify the consensus market prices and RPM provided an independent view on the price analysis.
c) The PdEq formulae was discussed and the QP adopted a supportable approach in line with CIM guidelines and recent examples of public reporting of metal equivalents.
d) The whole RPEEE definition process was considered transparent and the parameters presented into a proper way. RPM followed the whole process from metal price definition to the completion of the open pit maximum pit shell and dxf file. RPM is of the opinion that the RPEEE process follow industry standards and expectations and takes the Luanga Project characteristics into account for RPEEE definition.

7. Mineral Resource Statement

The Mineral Resource statement values were calculated within the maximum pit shell (RPEEE pit) and current topography.

a) RPM confirmed that the GE21 team and the QP had several validation steps in place before running a final maximum pit shell for constraining the Mineral Resource estimate.
b) The main steps in the pit shell process are as follow: slope angle according to latest geotechnical studies, historical metal price consensus and operating costs.
c) In RPM opinion the GE21 procedures for RPEEE and maximum resource pit shell follows industry common practices and is robust for the purpose of the Mineral Resource estimation process and reporting.

8. Technical Report

A Technical Mineral Resource Report was prepared by GE21 in accordance with CIM and NI 43-101 guidelines.

a) The report content was validated by the Company teams and independently by RPM. In this stage RPM verified the quality of information, the technical process applied to the Mineral Resource estimation and the statement of Mineral Resources.
b) RPM confirmed the Mineral Resource values presented in the report were independently prepared by GE21 and validated by its QP.

9. Final Opinion

RPM completed its peer review independently from the Company and GE21 and has no relation or interest to the Luanga Project. After the peer review RPM is of the opinion that the whole Mineral Resource estimation process is robust and consistent, followed industry best practices and is in accordance with CIM and NI 43-101 guidelines.

Level 3 Overall Independent Technical Assurance

Overall Technical Assurance was provided by Prof Mark Noppé of The University of Queensland.

Prof Noppé has over 35 years of industry experience relevant to the preparation and reporting of Mineral Resources as well as over 12 years specifically focussed on providing technical assurance over the processes, procedures and controls supporting assurance over the adequacy and robustness of geoscience data, Mineral Resource estimation and subsequent reporting.

The Company engaged Prof Noppé early in the exploration program for the Luanga Project (May 2022) with a view to ensuring that a robust Technical Assurance process was in place for the Company and carried out over data collection and data interpretation and that the Mineral Resource estimation stages were set up with such assurance principles and practices in mind and carried out accordingly.

In particular, the Technical Assurance activities were established to provide a framework reliant on three stages or 'lines of defence'. The three lines of defence established for the Company and Luanga Project broadly includes:

a) Level 1: Quality control processes, data and documentation to validate data collection, input data, modelling and estimation results completed by internal staff, external laboratories or consultants.
b) Level 2: Internal peer review by Company senior technical staff, independent of the process being reviewed.
c) Level 3: External independent peer review and oversight of processes, consistency, and compliance for both Company generated results and estimates, and where consultants are used for generating these inputs, results and estimates.

Detailed independent and external peer review of the Mineral Resource estimation and reporting under Level 3 was carried out by RPM (as described elsewhere in this document), while Prof Noppé provided overall Level 3 Technical Assurance review.

Prof Noppé conducted three site visits as part of the Technical Assurance, and reviewed data QA/QC procedures and reporting and provided other review and advice remotely between these visits.

1. Site visit 1: 23-26 May 2022 and related activities

a) Introductions and discussions with Company management and key technical staff
b) Exploration tenement, drill rig and site office/core facility visit
c) Project discussions, meetings with consultants preparing preliminary geological models and statistical drill spacing assessment the company Vice President, Technical Services
d) Laboratory sample preparation visit, close out discussions and feedback meeting with the Company management and Director.
e) Specific areas of review:
    i) People: Roles, responsibilities and accountability
    ii) Historical drilling confirmation – sampling and assaying
    iii) Procedures: Logging, sampling, etc
    iv) Policies and procedures
    v) Data capture and database
    vi) Core sampling
    vii) Sample density testing and reporting
    viii) Laboratory sample preparation
    ix) Company sample QA/QC and QA/QC reporting

x) Assay methods

xi) Geological model and drill spacing assessment

xii) Other activities: information security, management oversight, experience and qualifications of key staff, QP assessment and appointment, risk reporting, documentation, evidence, version control, information systems, communication plans, and review and sign-off processes.

2. Site visit 1: 2-5 May 2024 and related activities

a) Mineral Resource estimation kick-off meetings, roles and responsibilities
b) Scope for the Mineral Resource estimation, experience of external consultant, QP, quality control
c) Scope for the level 3 detailed peer review and reviewer(s)
d) Drill progress, core logging, density sampling and testing, geometallurgical testwork, data and data QAQC reporting
e) Geological interpretation and mineralization progress.

3. Site visit 2: 3-6 October 2024 and related activities

a) Mineral Resource estimation – review of preliminary estimation process and output
b) Peer review processes and observations
c) Geological interpretation and mineralization progress
d) Data acceptance, estimation approach
e) RPEEE criteria and approach
f) Classification approach
g) QA/QC and assurance stages and Mineral Resource statement and reporting.

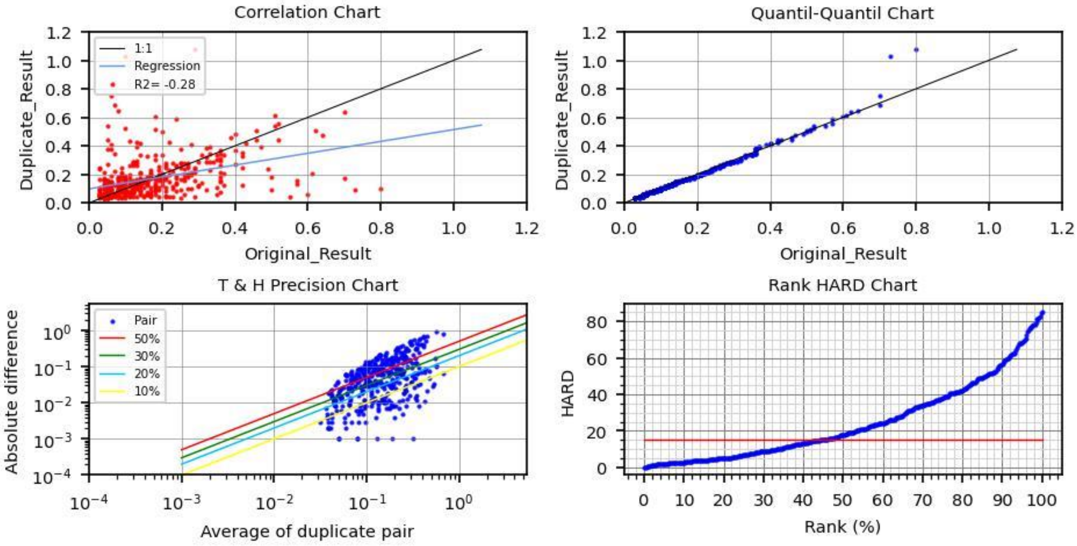
Appendix E

Umpire Check Control Charts

Umpire Check

Target	Luanga
Reference	Umpire Check
Variable	Au_ppm
Accuracy limit	15%
Number of pairs	417

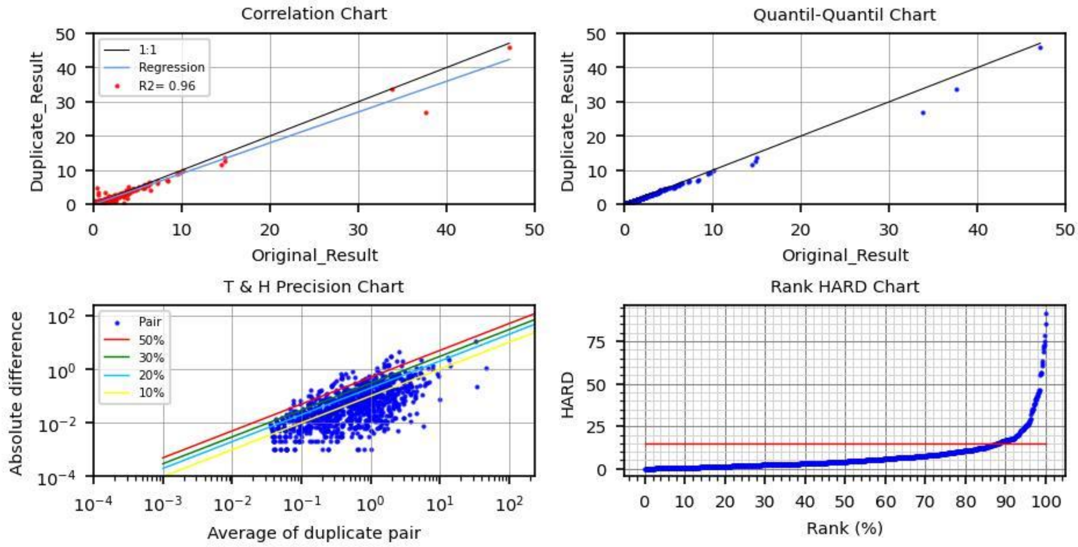
	Sample	Duplicate
Minimum	0.03	0.033
Maximum	0.8	1.076
Average	0.168	0.169
Median	0.13	0.126
HARD median		24.5
Mean Bias (%)		0.0%



Au Umpire Check – SGS x ALS

Target	Luanga
Reference	Umpire Check
Variable	Pd_ppm
Accuracy limit	15%
Number of pairs	1003

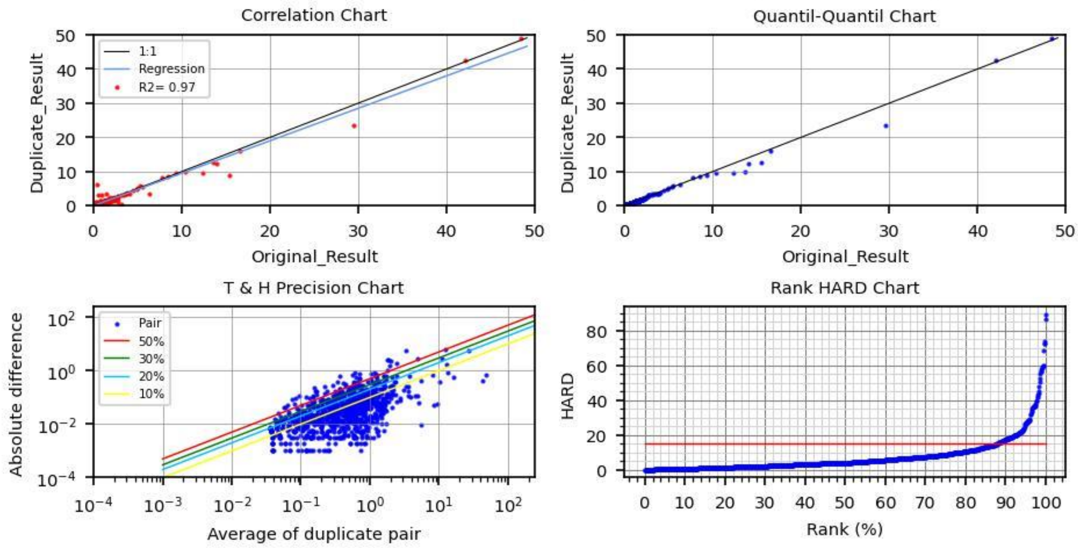
	Sample	Duplicate
Minimum	0.04	0.031
Maximum	47.1	45.967
Average	1.15	1.071
Median	0.58	0.546
HARD median		7.6
Mean Bias (%)		-2.8%



Pd Umpire Check – SGS x ALS

Target	Luanga
Reference	Umpire Check
Variable	Pt_ppm
Accuracy limit	15%
Number of pairs	972

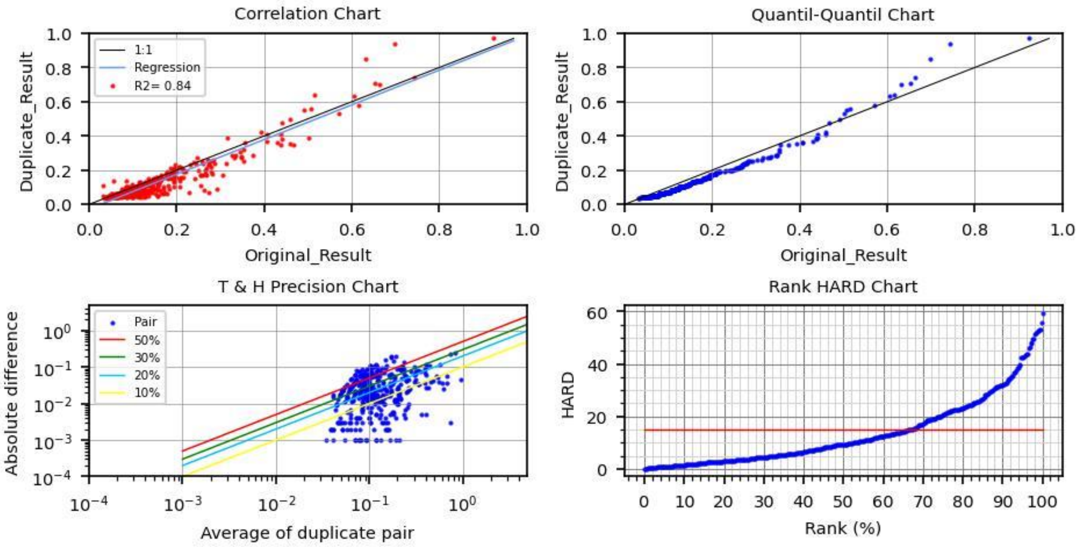
	Sample	Duplicate
Minimum	0.04	0.032
Maximum	48.4	49.097
Average	0.857	0.818
Median	0.47	0.461
HARD median		7.5
Mean Bias (%)		-2.5%



Pt Umpire Check – SGS x ALS

Target	Luanga
Reference	Umpire Check
Variable	Rh_ppm
Accuracy limit	15%
Number of pairs	378

	Sample	Duplicate
Minimum	0.032	0.033
Maximum	0.923	0.97
Average	0.161	0.136
Median	0.12	0.09
HARD median		13.5
Mean Bias (%)		-11.4%



Rh Umpire Check – SGS x ALS

Appendix F

Bravo 2022/2023 Metallurgical Sampling Data

SAMPLE_ID	DD_VALE_ID	DD_BRAVO_ID	TWIN_ID	ASSAY_SOURCE	FROM	TO	PLANNED GRADE	WEIGHT	TOTAL WEIGHT	ORE_ZONE	GRADE_ZONE_TOTAL	GRADE_ZONE_IND	LAB
600001	FD136	MDH22LU902	DDH22LU043	Bravo	0.00	4.00	4.43	15	30	SAP	HG	HG	CETEM
600002	FD136	MDH22LU902	DDH22LU043	Bravo	4.00	8.00	8.11	15		SAP		HG	CETEM
600003	FD145	MDH22LU904	Resampled	Bravo	4.12	9.12	3.93	21	21	SAP	HG	HG	CETEM
600004	FD145	MDH22LU904	Resampled	Bravo	9.12	18.3	3.21	27	27	SAP	MG	MG	TESTWORK
600005	FD145	MDH22LU904	Resampled	Bravo	10.12	13.18	3.43	12	12	SAP	HG	HG	TESTWORK
600006	FD145	MDH22LU904	Resampled	Bravo	26.3	27.3	2.74	26	26	SAR	MG	MG	CETEM
600007	FD145	MDH22LU904	Resampled	Bravo	29.3	32.3	3.21	25	25	SAR	HG	HG	CETEM
600008	FD145	MDH22LU904	Resampled	Bravo	32.3	36.1	2.68	29	29	SAR	MG	MG	NOMOS
600009	FD14	MDH22LU906	Resampled	Bravo	5	11	0.28	41	81	SAR	MG	LG	CETEM
600010	FD14	MDH22LU906	Resampled	Bravo	11.00	16.00	5.28	40		SAR		HG	CETEM
600011	FD14	MDH22LU906	Resampled	Bravo	18.00	23.00	5.03	30	30	SAR	HG	HG	CETEM
600012	FD0069	MDH22LU901	DDH22LU007	Bravo (Done)	94.65	100.65	0.03	22	105	FR	MG	LG	CETEM
600013	FD0069	MDH22LU901	DDH22LU007	Bravo	100.65	106.65	0.89	21		FR		LG	CETEM
600014	FD0069	MDH22LU901	DDH22LU007	Bravo	106.65	112.80	0.33	24		FR		LG	CETEM
600015	FD0069	MDH22LU901	DDH22LU007	Bravo	112.80	119.00	2.54	23		FR		MG	CETEM
600016	FD0069	MDH22LU901	DDH22LU007	Bravo	119.00	123.00	5.36	15		FR		HG	CETEM
600017	FD0069	MDH22LU901	DDH22LU007	Bravo	94.65	100.65	0.03	30	105	FR	MG	LG	CETEM
600018	FD0069	MDH22LU901	DDH22LU007	Bravo	100.65	106.65	0.89	30		FR		LG	CETEM
600019	FD0069	MDH22LU901	DDH22LU007	Bravo	106.65	112.80	0.33	30		FR		LG	CETEM
600020	FD0069	MDH22LU901	DDH22LU007	Bravo	112.80	119.00	2.54	29		FR		MG	CETEM
600021	FD0069	MDH22LU901	DDH22LU007	Bravo	119.00	123.00	5.36	18		FR		HG	CETEM
600022	FD0036	MDH22LU905	DDH22LU001	Bravo	0.00	7.50	3.07	23	74	SAP	MG	HG	CETEM
600023	FD0036	MDH22LU905	DDH22LU001	Bravo	7.50	13.50	1.72	30		SAP		MG	CETEM
600024	FD0036	MDH22LU905	DDH22LU001	Bravo	13.50	18.00	0.69	23		SAP		LG	CETEM
600025	FD0036	MDH22LU905	DDH22LU001	Bravo	18.00	24.00	1.91	42	115	SAR	MG	MG	CETEM
600027	FD0036	MDH22LU905	DDH22LU001	Bravo	24.00	29.00	1.86	42		SAR		MG	CETEM
600028	FD0036	MDH22LU905	DDH22LU001	Bravo	29.00	34.00	2.56	31		SAR		MG	CETEM
600029	FD0036	MDH22LU905	DDH22LU001	Bravo	34.00	39.00	3.97	43	43	SAR	HG	HG	CETEM
600026	FD0036	MDH22LU905	DDH22LU001	Bravo	45.00	49.00	0.79	34	34	FR	LG	LG	CETEM
600030	FD0036	MDH22LU905	DDH22LU001	Bravo	49.00	54.50	1.89	53	53	FR	MG	MG	CETEM
600031	FD0036	MDH22LU905	DDH22LU001	Bravo	56.50	62.00	2.97	50	95	FR	HG	MG	CETEM
600032	FD0036	MDH22LU905	DDH22LU001	Bravo	62.00	67.00	5.95	45		FR		HG	CETEM
600033	FD0036	MDH22LU905	DDH22LU001	Bravo	76.00	80.30	1.50	37	37	FR	MG	MG	CETEM
600034	FD147	MDH22LU903		Vale	227.00	234.00	1.24	18	18	FR	MG	MG	CETEM
600035	FD147	MDH22LU903		Vale	227.00	234.00	1.24	20	20	FR	MG	MG	NOMOS
600036	FD145	MDH22LU904		Vale	0.00	4.12	1.54	13	13	SAP	MG	MG	NOMOS
600037	FD0036	MDH22LU905			5.54	6.50	4.39	assay		SAP		HG	CETEM
600038	FD0036	MDH22LU905			11.50	12.50	1.00	assay		SAP		MG	CETEM
600039	FD0036	MDH22LU905			76.00	77.00	4.99	assay		FR		HG	CETEM
600040	FD0036	MDH22LU905			77.00	78.00	1.05	assay		FR		MG	CETEM
600041	FD147	MDH22LU903			223.00	224.00	10.09	assay		FR		HG	CETEM
600042	FD147	MDH22LU903			225.00	226.00	1.14	assay		FR		MG	CETEM
600049	FD147	MDH22LU903			239.00	240.00	0.58	assay		FR		LG	CETEM
600044	FD147	MDH22LU903			240.00	241.00	1.20	assay		FR		MG	CETEM
600045	FD147	MDH22LU903			223.00	224.00	10.09	assay		FR		HG	INTERTEK
600046	FD147	MDH22LU903			225.00	226.00	1.14	assay		FR		MG	INTERTEK
600047	FD147	MDH22LU903			239.00	240.00	0.58	assay		FR		LG	INTERTEK
600048	FD147	MDH22LU903			240.00	241.00	1.20	assay		FR		MG	INTERTEK

Appendix G

Metallurgical Test Results

Year	Lab	Test	Ore Feed Grade (g/t)	Circuit Configuration	Cycle	Concentrate Grade (g/t)	Optimization Metallurgy Model Recovery (%)
2002	MINTEK	10.2 OCCT	4.80	MF2	Open	87	79.60
2002	MINTEK	LCT1/2 Ave	4.80	MF2	Closed	131	84.50
2003	CVRD	E67/68/69	4.40	MF1	Open	105	79.20
2003	CVRD	S4	4.10	MF2	Open	83	84.40
2003	CVRD	S3	2.67	MF2	Open	97	73.00
2003	CVRD	S2	1.30	MF2	Open	89	70.00
2003	CVRD	LCT1	1.77	MF2	Closed	105	82.00
2003	CVRD	LCT2	1.77	MF1	Closed	134	78.40
2004	CVRD	Mini Plant	1.64	MF1	Closed	124	72.00
2003	SGS Lakefield	S1A3	1.49	MF1	Closed	132	79.00
2023	CETEM	TB-05	1.57	MF1	Open	89.8	85.70
2023	CETEM	TB-04	3.70	MF1	Open	475	84.30
2023	CETEM	TB-07	7.70	MF1	Open	86	81.70
2023	CETEM	TB-08	7.40	MF1	Open	74	88.80
2023	CETEM	TD-08	2.60	MF1	Open	73	79.00
2023	CETEM	TD-12	1.01	MF1	Open	209	88.70
2023	CETEM	TB-06	4.10	MF1	Open	189	87.00
2023	CETEM	TH-04B	1.42	MF1	Open	280	75.10
2023	CETEM	TH-07B	0.9	MF1	Open	39	70.00

Appendix H

Correlogram parameters tables

Variograms – Central FW domain

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Central FW domain																	
Au - indicadores[0.004500] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	50.00	50.00	11.49	60.00	140.00	0.00	Spherical	0.02	159.55	209.06	20.40
Au - indicadores[0.006000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	50.00	50.00	11.49	60.00	140.00	0.00	Spherical	0.02	159.55	209.06	20.40
Au - indicadores[0.007500] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	50.00	50.00	11.49	60.00	140.00	0.00	Spherical	0.02	159.55	209.06	20.40
Au - indicadores[0.010000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	50.00	50.00	11.49	60.00	140.00	0.00	Spherical	0.02	159.55	209.06	20.40
Au - indicadores[0.019000] (raw)	0.05	80.00	140.00	0.00	Spherical	0.01	50.00	50.00	11.49	80.00	140.00	0.00	Spherical	0.02	159.55	209.06	20.40
Au - indicadores[0.032500] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	50.00	50.00	11.49	60.00	140.00	0.00	Spherical	0.02	159.55	209.06	20.40
Au - indicadores[0.055000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	50.00	50.00	11.49	60.00	140.00	0.00	Spherical	0.02	159.55	209.06	20.40
Ni sulfetado - indicadores[40.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[85.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[145.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[200.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[300.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[450.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[650.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.15	370.29	482.62	60.00
Ni sulfetado - indicadores[900.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[1300.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Ni sulfetado - indicadores[2000.000000] (raw)	0.02	60.00	155.00	0.00	Spherical	0.02	20.00	205.15	3.00	60.00	155.00	0.00	Spherical	0.16	370.29	482.62	60.00
Pd - indicadores[0.035000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[0.075000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[0.135000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[0.190000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[0.264000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[0.450000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pd - indicadores[0.550000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[0.690000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[1.000000] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pd - indicadores[1.795500] (raw)	0.01	60.00	140.00	0.00	Exponential	0.09	222.61	100.00	6.00	60.00	140.00	0.00	Spherical	0.02	536.36	600.00	10.00
Pt - indicadores[0.090000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[0.150000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[0.220000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[0.400000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[0.550000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[1.000000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[1.300000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[4.500000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Pt - indicadores[12.00000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.04	60.00	60.00	2.00	60.00	140.00	0.00	Spherical	0.03	160.00	150.00	7.00
Rh - indicadores[0.005000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.014500] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.025000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.040000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.050000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.065000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.075000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.105000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.200000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00
Rh - indicadores[0.500000] (raw)	0.01	60.00	140.00	0.00	Spherical	0.09	134.83	50.00	3.00	60.00	140.00	0.00	Spherical	0.03	400.00	90.00	8.00

Variograms – Central HW domain

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Central HW domain																	
Au - indicadores[0.003000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.006500] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.017000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.030000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	14.00
Au - indicadores[0.054000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.075000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.100000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.118000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.130000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.173400] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Au - indicadores[0.220000] (raw)	0.03	60.00	140.00	0.00	Exponential	0.07	50.00	50.00	6.00	60.00	140.00	0.00	Spherical	0.02	80.00	80.00	50.00
Ni sulfetado - indicadores[135.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[275.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[450.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[650.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[750.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[828.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[1000.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[1135.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Ni sulfetado - indicadores[1500.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Ni sulfetado - indicadores[2000.000000] (raw)	0.02	60.00	140.00	0.00	Spherical	0.06	203.28	128.95	5.09	60.00	140.00	0.00	Spherical	0.11	356.55	279.23	12.30
Pd - indicadores[0.035000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.070000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.100000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.150000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.200000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.330000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.450000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.510000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.900000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[0.930000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pd - indicadores[1.500000] (raw)	0.11	60.00	140.00	0.00	Exponential	0.04	154.27	76.20	5.00	60.00	140.00	0.00	Spherical	0.05	238.56	172.73	11.00
Pt - indicadores[0.030000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.060000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.090000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.120000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.180000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.240000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.310000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.430000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Pt - indicadores[0.778000] (raw)	0.02	60.00	140.00	0.00	Exponential	0.11	49.27	90.00	4.00	60.00	140.00	0.00	Spherical	0.01	317.28	302.58	15.00
Rh - indicadores[0.005000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.010000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.018000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.025000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.042000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Rh - indicadores[0.067000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.095000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.152400] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.203000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00
Rh - indicadores[0.307000] (raw)	0.00	60.00	140.00	0.00	Exponential	0.05	50.00	300.00	2.00	60.00	140.00	0.00	Spherical	0.05	80.00	150.00	5.00

Variograms - Central Main

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Central main																	
Rh - indicadores[0.017000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.027000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.042000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.055000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.070000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.100000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.140000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.210000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
Rh - indicadores[0.500000] (raw)	0.04	60.00	140.00	0.00	Exponential	0.02	99.31	59.87	6.00	60.00	140.00	0.00	Exponential	0.04	161.31	164.20	27.00
u - indicadores[0.005500] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[0.014000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[0.025000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[0.052000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[0.068000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Au - indicadores[0.100000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[0.140000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[0.190000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[0.280000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Au - indicadores[2.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.01	20.00	56.33	6.00	60.00	140.00	0.00	Spherical	0.08	150.00	100.00	18.00
Ni sulfetado - indicadores[200.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[350.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[499.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[760.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[1060.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[1386.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[1800.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[2000.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Ni sulfetado - indicadores[3000.000000] (raw)	0.05	60.00	140.00	0.00	Spherical	0.02	75.00	25.00	5.00	60.00	140.00	0.00	Spherical	0.17	200.00	130.00	20.00
Pd - indicadores[0.190000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pd - indicadores[0.280000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pd - indicadores[0.440000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pd - indicadores[0.600000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pd - indicadores[0.890000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pd - indicadores[1.540000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pd - indicadores[2.750000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pd - indicadores[5.000000] (raw)	0.08	60.00	140.00	0.00	Spherical	0.00	39.04	30.00	6.00	60.00	140.00	0.00	Spherical	0.12	281.66	234.92	20.00
Pt - indicadores[0.100000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00
Pt - indicadores[0.160000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00
Pt - indicadores[0.220000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00
Pt - indicadores[0.320000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00
Pt - indicadores[0.410000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pt - indicadores[0.580000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00
Pt - indicadores[1.090000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00
Pt - indicadores[1.500000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00
Pt - indicadores[2.100000] (raw)	0.07	60.00	140.00	0.00	Spherical	0.02	346.78	37.10	2.00	60.00	140.00	0.00	Spherical	0.14	107.19	83.81	6.00

Variograms – North S

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
North S																	
Au - indicadores[0.004000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.009000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.015000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.022000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.033000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.047000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.070000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.100000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.160000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Au - indicadores[0.300000] (raw)	0.04	64.00	260.00	0.00	Spherical	0.09	60.00	40.00	10.00	64.00	260.00	0.00	Spherical	0.02	110.01	100.00	20.00
Ni sulfetado - indicadores[100.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Ni sulfetado - indicadores[250.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Ni sulfetado - indicadores[470.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Ni sulfetado - indicadores[680.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Ni sulfetado - indicadores[1000.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Ni sulfetado - indicadores[1400.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Ni sulfetado - indicadores[2000.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Ni sulfetado - indicadores[4900.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Ni sulfetado - indicadores[30000.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.24	21.05	21.86	2.00	64.00	260.00	0.00	Spherical	0.09	228.89	241.44	5.00
Pd - indicadores[0.060000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[0.145000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[0.250000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[0.380000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[0.600000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[1.000000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[1.850000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[2.000000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.19	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[3.800000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[4.000000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.19	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pd - indicadores[80.000000] (raw)	0.03	64.00	260.00	0.00	Spherical	0.22	112.47	54.75	10.00	64.00	260.00	0.00	Spherical	0.03	31.92	31.92	20.00
Pt - indicadores[0.050000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[0.120000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[0.200000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[0.350000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[0.600000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[1.200000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[2.750000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[7.500000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Pt - indicadores[20.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pt - indicadores[70.000000] (raw)	0.01	64.00	260.00	0.00	Spherical	0.04	50.00	50.00	15.00	64.00	260.00	0.00	Spherical	0.01	200.43	100.00	50.00
Rh - indicadores[0.010000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[0.025000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[0.045000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[0.075000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[0.135000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[0.230000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[0.400000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[1.100000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[3.800000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00
Rh - indicadores[20.000000] (raw)	0.01	64.00	90.00	90.00	Spherical	0.03	16.30	121.87	5.00	64.00	90.00	90.00	Spherical	0.02	87.58	162.52	20.00

Variograms – North N

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
North N																	
Au - indicadores[0.002000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.004500] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.008000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.012000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.017500] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.027500] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.045000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.072000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Au - indicadores[0.135000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.140000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Au - indicadores[0.700000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.06	17.63	3.57	6.00	80.00	260.00	0.00	Spherical	0.03	125.00	62.76	9.62
Ni sulfetado - indicadores[45.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[90.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[120.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[210.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[350.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[465.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[680.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[900.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[1200.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Ni sulfetado - indicadores[1900.000000] (raw)	0.02	80.00	260.00	0.00	Spherical	0.08	23.00	25.26	4.00	80.00	260.00	0.00	Spherical	0.04	260.00	97.07	8.00
Pd - indicadores[0.050000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[0.100000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[0.180000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[0.250000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[0.370000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[0.550000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[0.770000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[1.250000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[1.300000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pd - indicadores[2.250000] (raw)	0.03	80.00	260.00	0.00	Spherical	0.26	80.00	120.00	10.00	80.00	260.00	0.00	Spherical	0.02	250.00	200.00	20.00
Pt - indicadores[0.050000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[0.120000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[0.185000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[0.300000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pt - indicadores[0.410000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[0.570000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[0.800000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[1.250000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[2.500000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Pt - indicadores[5.000000] (raw)	0.05	80.00	260.00	0.00	Spherical	0.32	76.70	62.84	10.15	80.00	260.00	0.00	Spherical	0.04	368.43	93.17	2.47
Rh - indicadores[0.007000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.017000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.028000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.045000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.070000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.110000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.170000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.280000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.400000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00
Rh - indicadores[0.650000] (raw)	0.03	80.00	260.00	90.00	Spherical	0.05	16.30	121.87	5.00	80.00	260.00	90.00	Spherical	0.08	87.58	162.52	30.00

Variograms – Saprolite Zone

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Variograms Saprolite																	
SAP_Au_Correlation (raw)	0.00	0.00	90.00	90.00	Spherical	0.00	50.44	50.00	30.00	0.00	90.00	90.00	Spherical	0.00	274.46	150.00	45.00
SAP_Ni_Sulfetado_Correlation (raw)	115260.65	0.00	90.00	90.00	Spherical	381433.10	48.32	25.00	20.00	0.00	90.00	90.00	Spherical	99404.93	138.59	112.31	50.00
SAP_Pd_Correlation (raw)	2.01	0.00	90.00	90.00	Spherical	0.73	99.13	114.59	5.10								
SAP_Pt_Correlation (raw)	0.55	0.00	90.00	90.00	Spherical	2.23	10.00	22.00	12.00	0.00	90.00	90.00	Spherical	0.41	50.00	50.00	30.00
SAP_Rh_Correlation (raw)	0.00	0.00	90.00	90.00	Spherical	0.05	12.57	10.00	10.00	0.00	90.00	90.00	Spherical	0.01	47.99	61.69	25.00

Variograms SouthWest FW

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
SouthWest FW																	
Au - indicadores[0.003000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.004500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.006500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.008500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.011500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.014500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.018500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.024000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Au - indicadores[0.200000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.06	141.37	200.00	20.00
Ni sulfetado - indicadores[30.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[65.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[120.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[200.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[300.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[450.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[630.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[900.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[1300.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[3000.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.06	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Pd - indicadores[0.035000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pd - indicadores[0.085000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pd - indicadores[0.095000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pd - indicadores[0.140000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pd - indicadores[0.200000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pd - indicadores[0.300000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pd - indicadores[0.0350000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[0.470000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pd - indicadores[0.0850000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[0.850000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pd - indicadores[1.000000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.06	80.00	80.00	10.00
Pt - indicadores[0.025000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.055000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.078000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.112000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.150000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.190000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.250000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.335000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[0.550000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Pt - indicadores[10.000000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.00	50.00	50.00	5.00	65.00	150.00	90.00	Exponential	0.00	120.00	150.00	10.00
Rh - indicadores[0.001800] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.003800] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.009000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.017500] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.026000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.039000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.052000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.075000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.120000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00
Rh - indicadores[0.800000] (raw)	0.00	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.01	150.00	150.00	10.00

Variograms SouthWest HW

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
SouthWestHW																	
Au - indicadores[0.005000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.012000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.020000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.030000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.044000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.060000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.085000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.120000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.240000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[2.000000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Ni sulfetado - indicadores[110.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[245.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[370.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[550.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[740.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[1000.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[1350.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[2000.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[4700.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Ni sulfetado - indicadores[30000.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.07	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.11	90.00	182.01	9.00
Pd - indicadores[0.035000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[0.085000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[0.127000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[0.180000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[0.250000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pd - indicadores[0.330000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[0.450000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[0.590000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[0.900000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pd - indicadores[3.000000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.13	80.00	80.00	10.00
Pt - indicadores[0.020000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.040000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.065000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.090000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.125000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.170000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.230000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.330000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.520000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[2.000000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Rh - indicadores[0.005000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.007000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.010000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.018000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.028000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.040000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.058000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.085000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.125000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00
Rh - indicadores[0.250000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.03	50.00	50.00	1.00	65.00	150.00	90.00	Spherical	0.10	200.00	150.00	5.00

Variograms SouthWest main

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
SouthWestmain																	
Au - indicadores[0.006500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.018000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.030000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.048000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.070000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.100000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.140000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.200000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[0.300000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Au - indicadores[2.000000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	14.72	65.00	150.00	90.00	Spherical	0.05	141.37	200.00	2.61
Ni sulfetado - indicadores[85.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[180.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[300.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[450.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[600.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[785.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[1000.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[1300.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[1700.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Ni sulfetado - indicadores[6000.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.08	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.15	90.00	182.01	9.00
Pd - indicadores[0.080000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[0.190000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[0.320000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[0.450000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pd - indicadores[0.650000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[0.850000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[1.200000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[1.650000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[2.500000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pd - indicadores[5.000000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.03	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.17	80.00	80.00	10.00
Pt - indicadores[0.035000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.085000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.140000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.200000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.270000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.370000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.490000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[0.720000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[1.100000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Pt - indicadores[7.000000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	120.00	150.00	10.00
Rh - indicadores[0.005000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.015000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.024000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.034000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.048000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.065000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.088000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.120000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[0.190000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00
Rh - indicadores[2.000000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.14	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.04	150.00	150.00	10.00

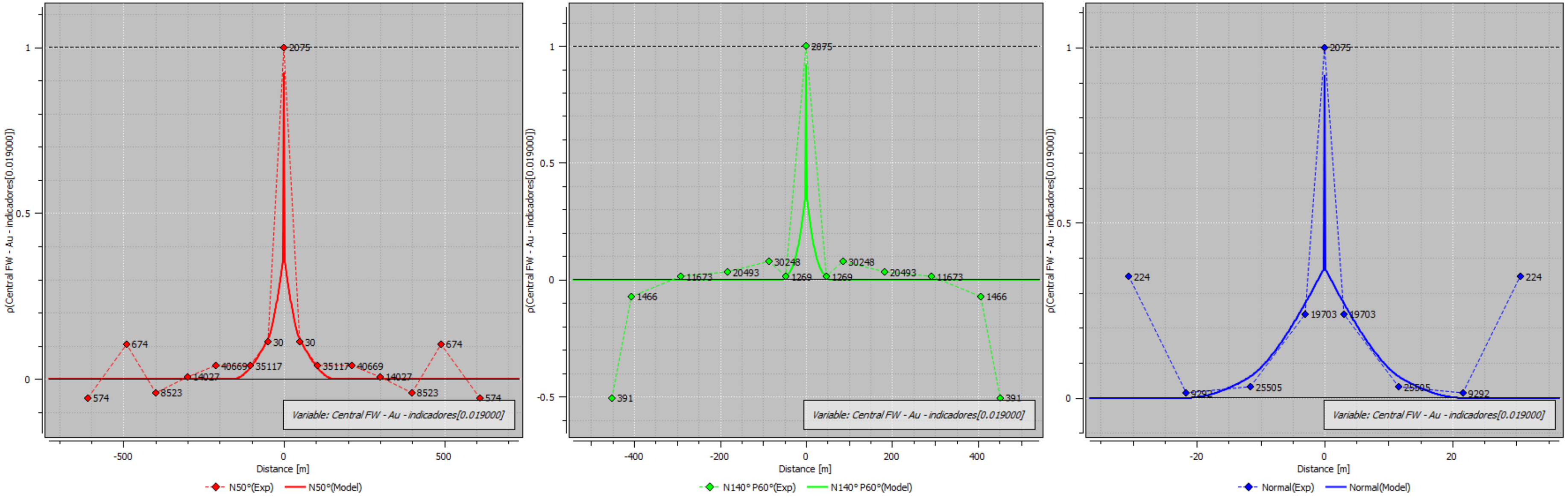
Variograms SouthWest SN

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
SouthWestSN																	
Au - indicadores[0.004500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.011000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.020000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.030000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.042000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.50000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.060000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.085000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.120000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.175000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.07	141.37	200.00	20.00
Au - indicadores[0.500000] (raw)	0.04	65.00	150.00	90.00	Spherical	0.01	29.65	60.00	5.00	65.00	150.00	90.00	Spherical	0.11	141.37	200.00	20.00
Ni sulfetado - indicadores[80.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[160.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[275.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[393.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[525.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[695.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[895.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[1250.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[1850.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Ni sulfetado - indicadores[5000.000000] (raw)	0.01	65.00	150.00	90.00	Spherical	0.05	35.08	37.15	5.00	65.00	150.00	90.00	Spherical	0.09	90.00	182.01	9.00
Pd - indicadores[0.060000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00

Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Pd - indicadores[0.160000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[0.260000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[0.400000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[0.580000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[0.920000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[1.350000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[2.250000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[3.560000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pd - indicadores[9.000000] (raw)	0.03	65.00	150.00	90.00	Spherical	0.02	25.17	34.78	3.00	65.00	150.00	90.00	Spherical	0.09	139.71	174.88	10.00
Pt - indicadores[0.035000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[0.080000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[0.135000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[0.200000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[0.280000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[0.450000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[0.650000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[1.150000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[1.850000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Pt - indicadores[5.000000] (raw)	0.05	65.00	150.00	90.00	Spherical	0.04	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.03	120.00	150.00	10.00
Rh - indicadores[0.005000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.017500] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.030000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.050000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.070000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.102000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.140000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.200000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00
Rh - indicadores[0.300000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00

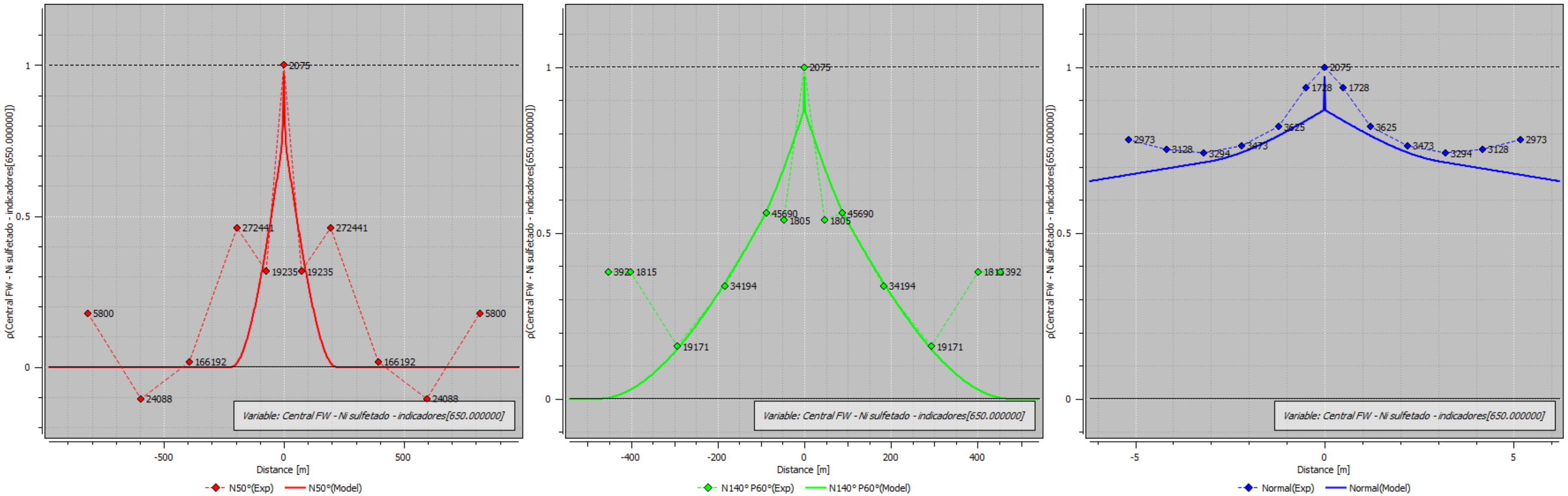
Geostatistical Set	C0	Dip 1 (°)	Azimuth 1 (°)	Pitch 1 (°)	Model 1	Sill 1	Major (m)	Semi 1 (m)	Minor 1 (m)	Dip 2 (°)	Azimuth 2 (°)	Pitch 2 (°)	Model 2	Sill 2	Major 2 (m)	Semi 2 (m)	Minor 2 (m)
Rh - indicadores[0.600000] (raw)	0.02	65.00	150.00	90.00	Spherical	0.16	50.00	50.00	5.00	65.00	150.00	90.00	Spherical	0.05	150.00	150.00	10.00

Indicator covariograms – Central FW Au (indicator < 0.019 ppm)



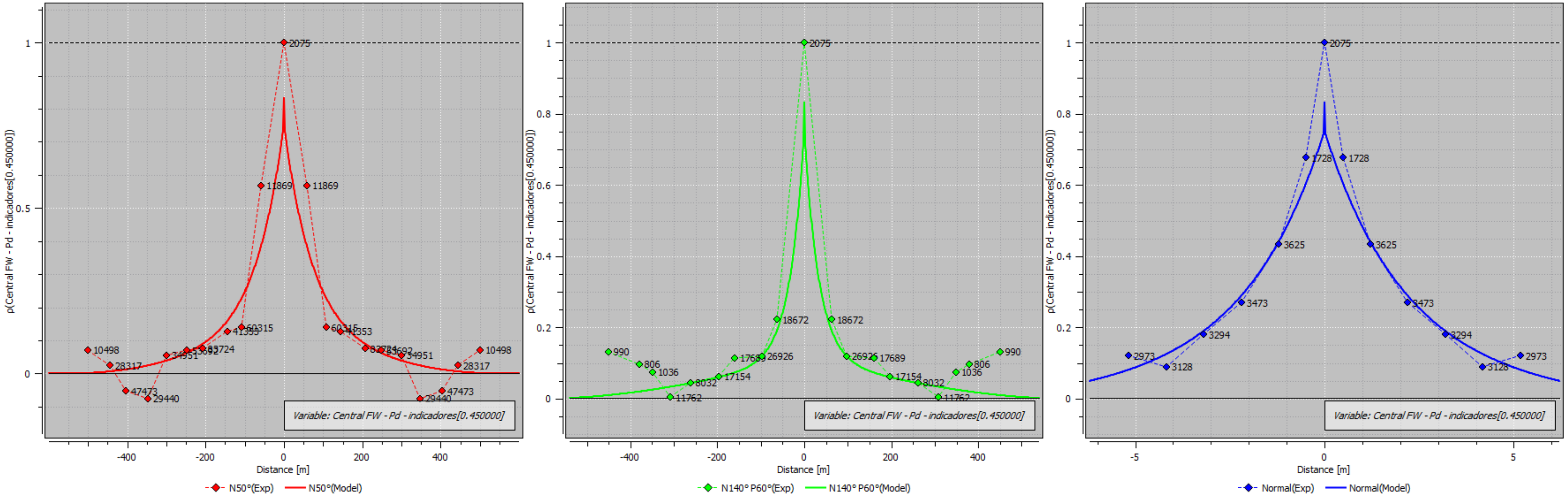
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central FW Ni (indicator < 650 ppm)



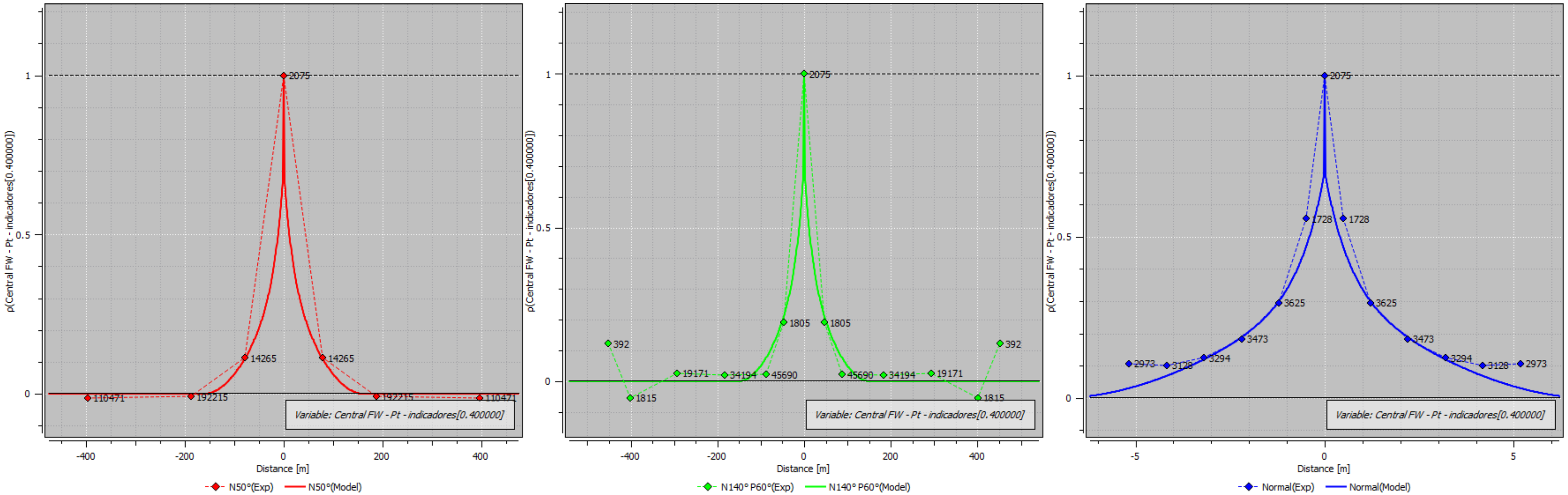
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central FW Pd (indicator< 0.45 ppm)



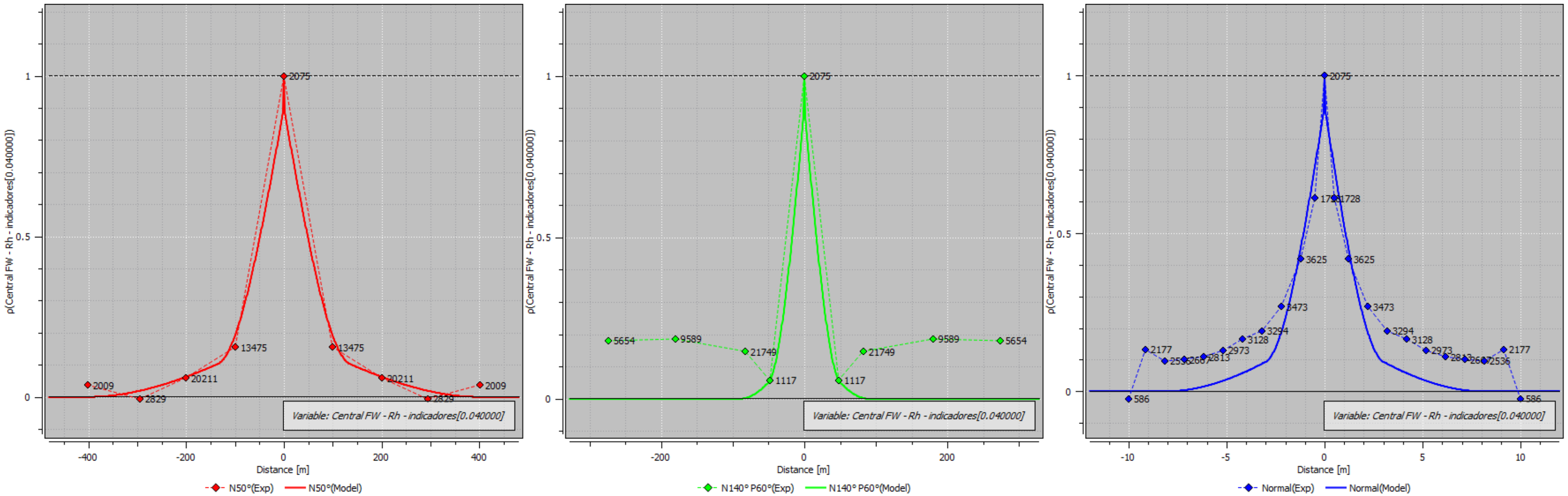
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central FW Pt (indicator < 0.40 ppm)



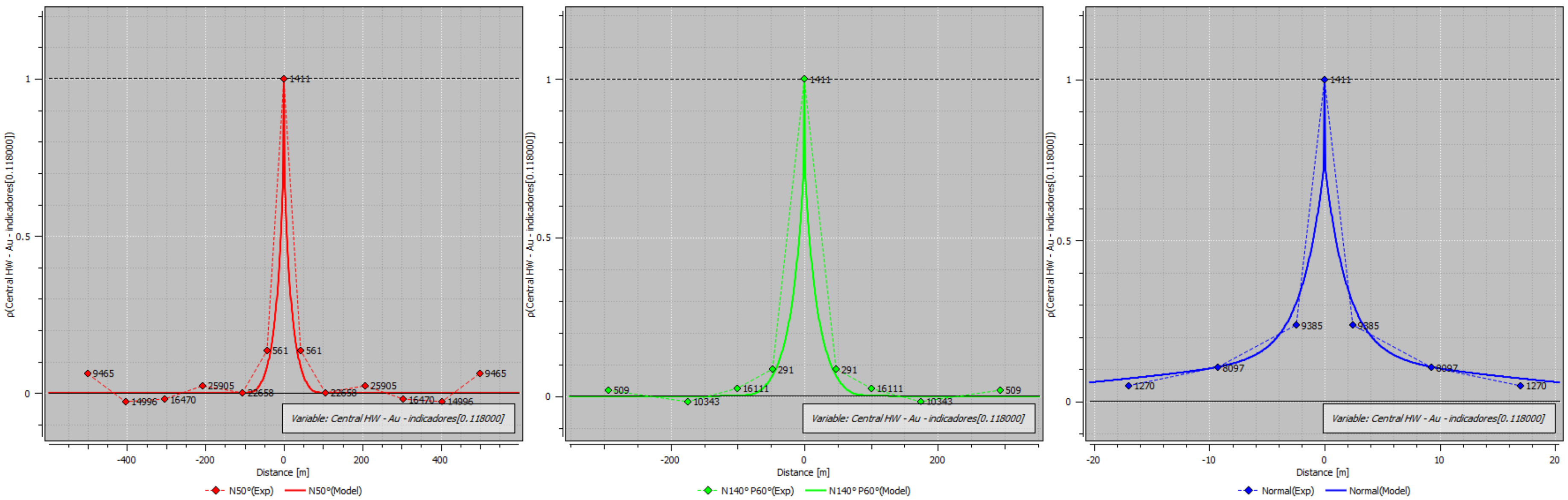
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central FW – Rh (indicator < 0.040 ppm)



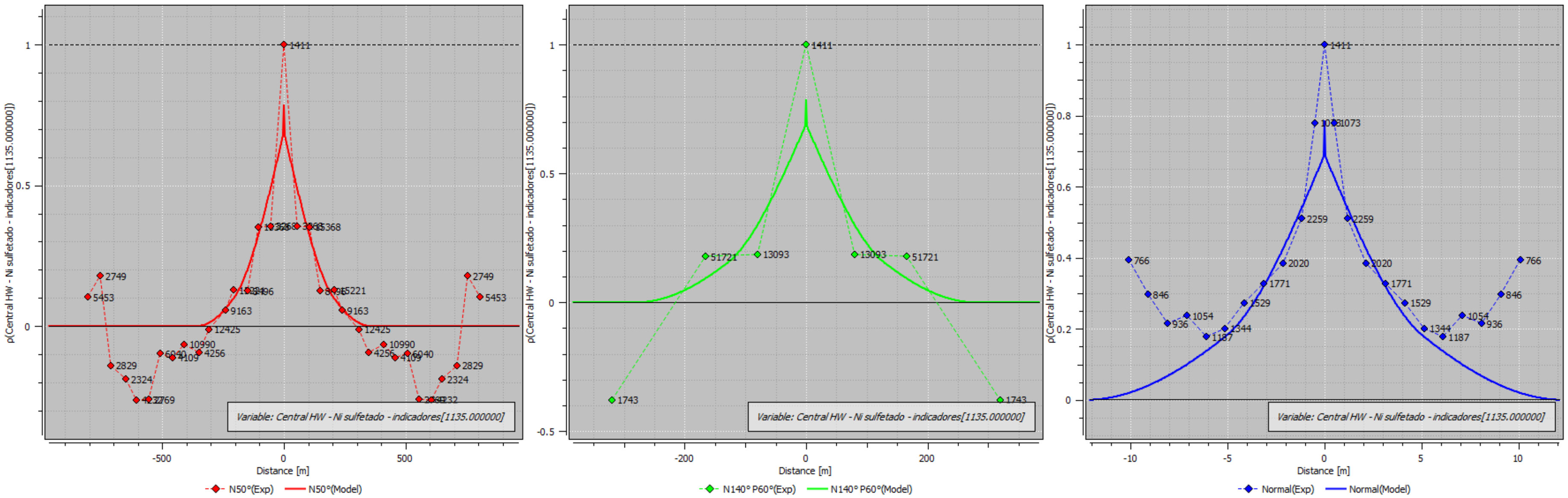
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central HW – Au (Indicator < 0.118 ppm)



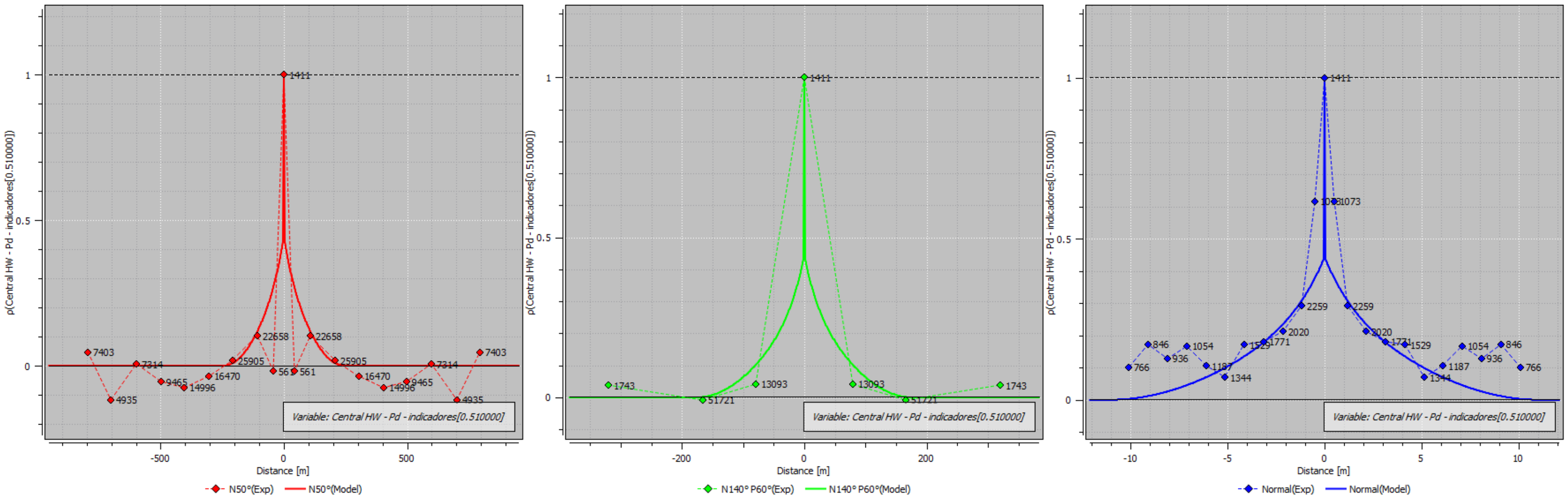
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central HW Ni (Indicator < 1135 ppm)



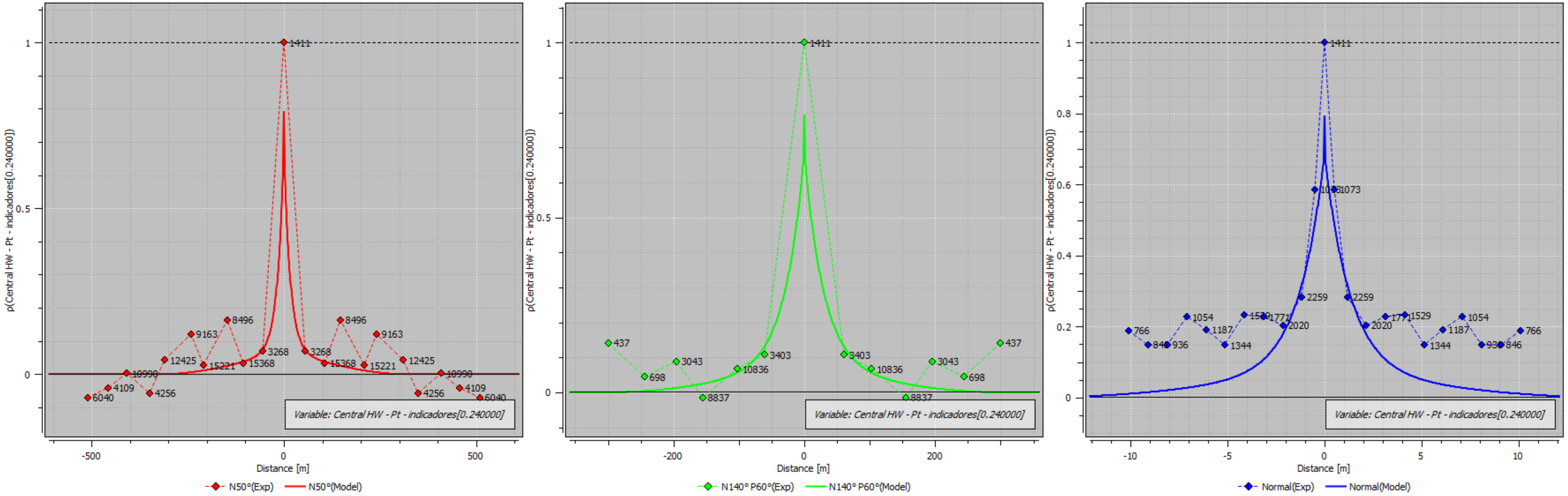
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central HW Pd (indicator < 0.51)



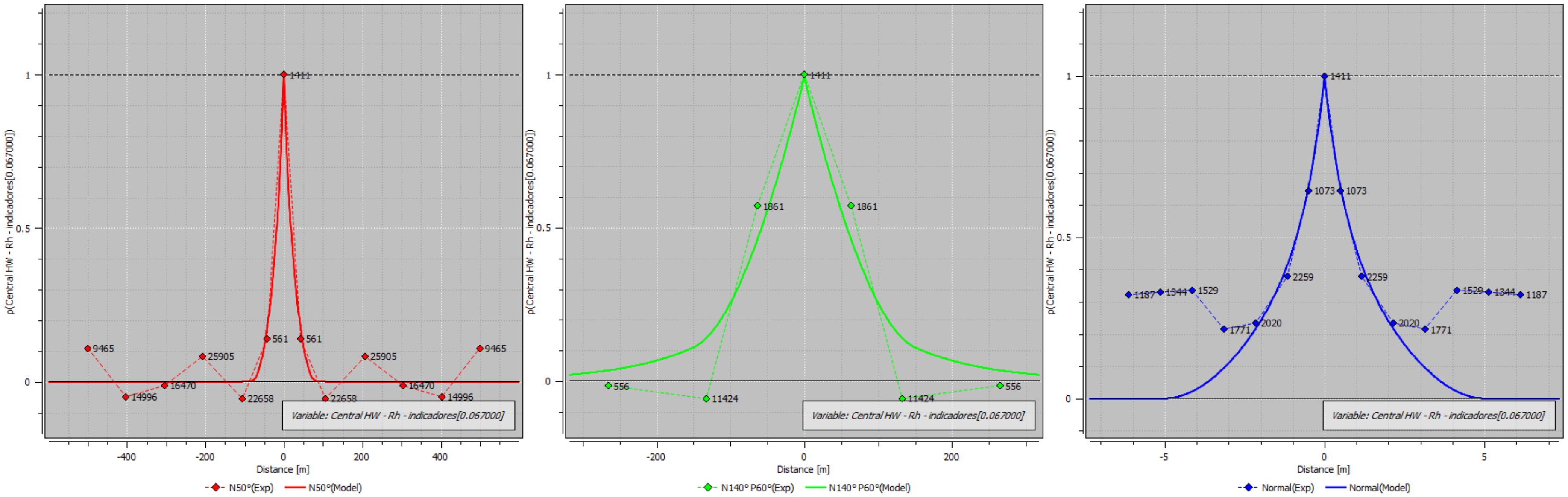
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central HW Pt (Indicator < 0.24ppm)



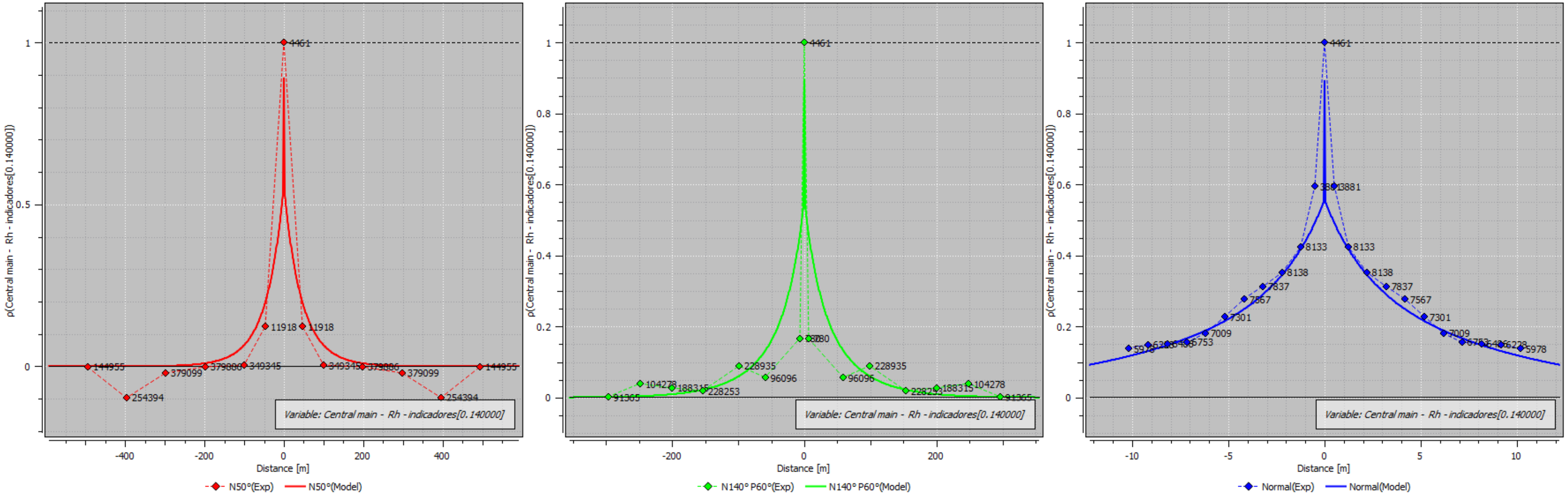
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central HW Rh (Indicator <0.067ppm)



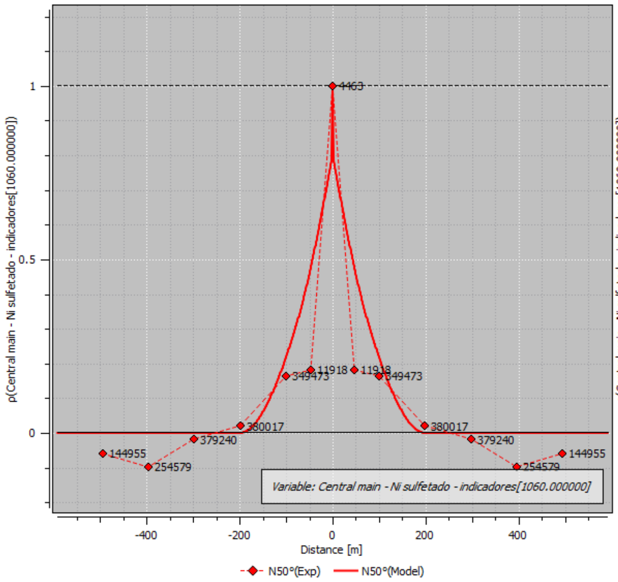
Semi -axis	Major axis	Minor axis

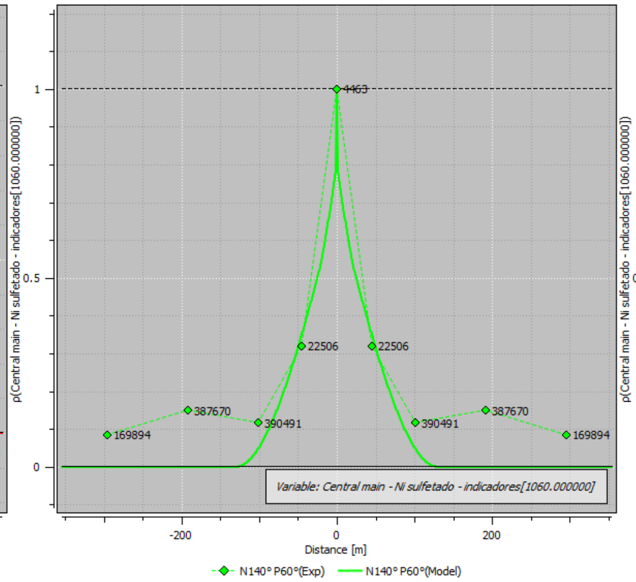
Indicator covariograms – Central main Au (Indicator < 0.14ppm)

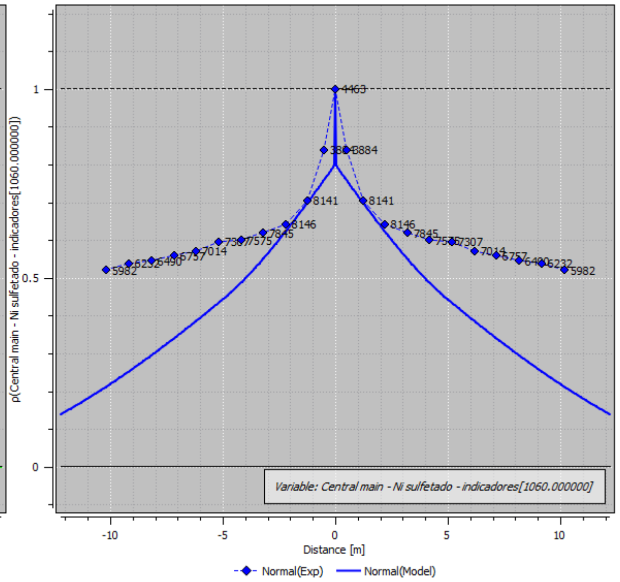


Semi -axis	Major axis	Minor axis

Indicator covariograms – Central main Ni (Indicator <1060ppm)

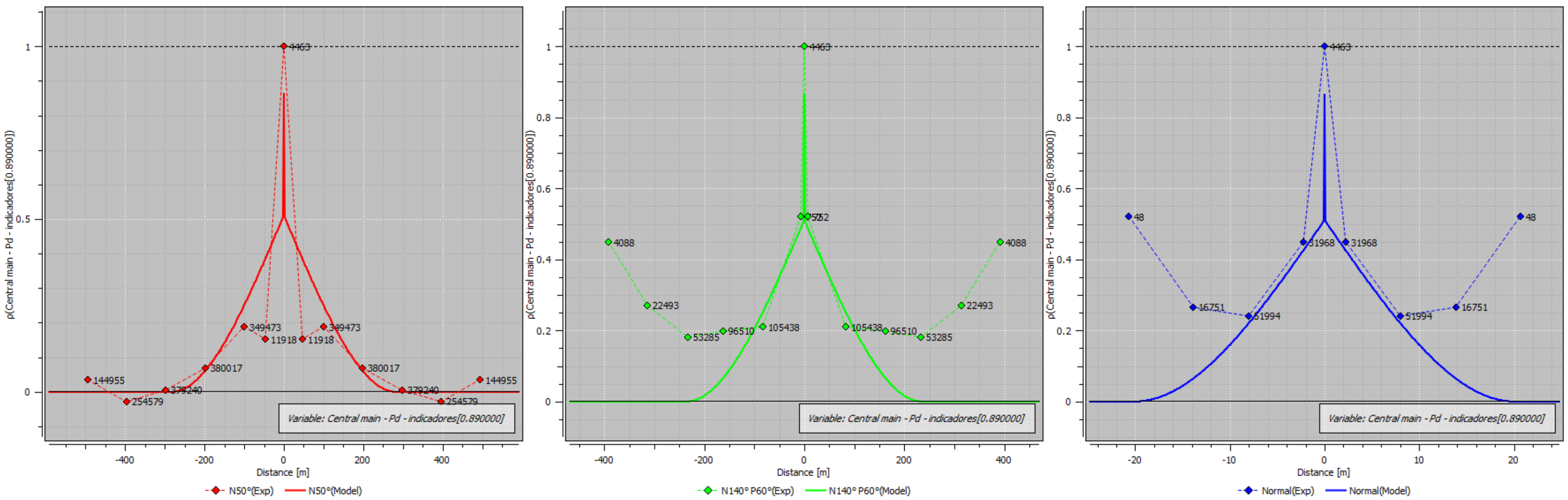






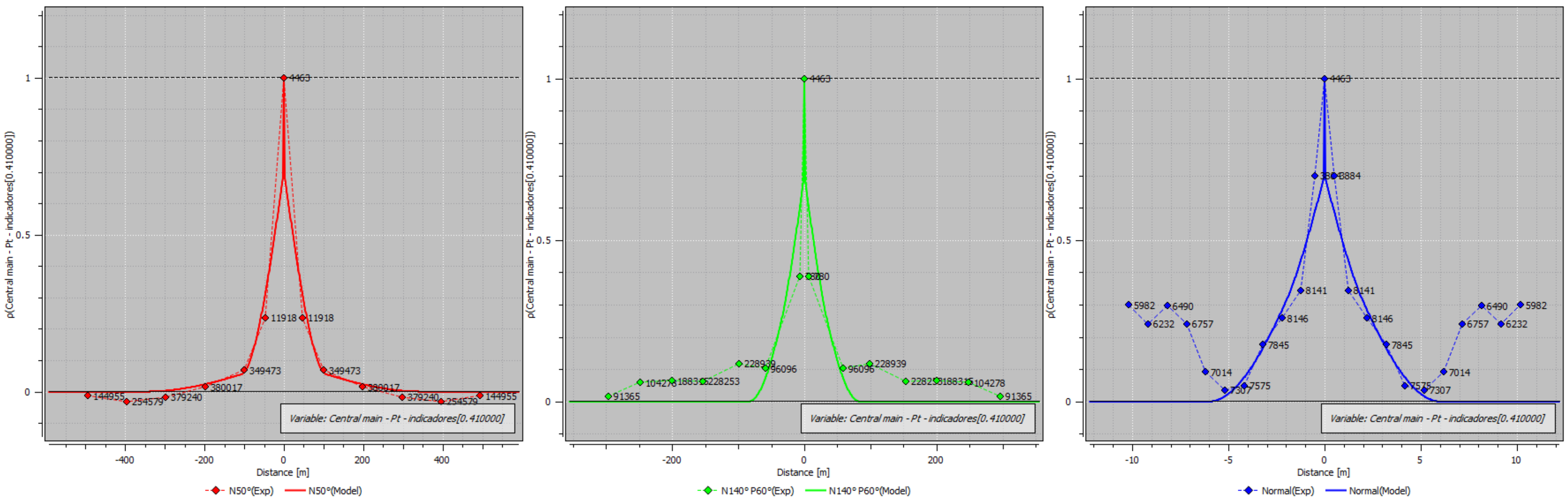
Semi -axis	**Major axis**	**Minor axis**

Indicator covariograms – Central main Pd (Indicator < 0.89ppm)



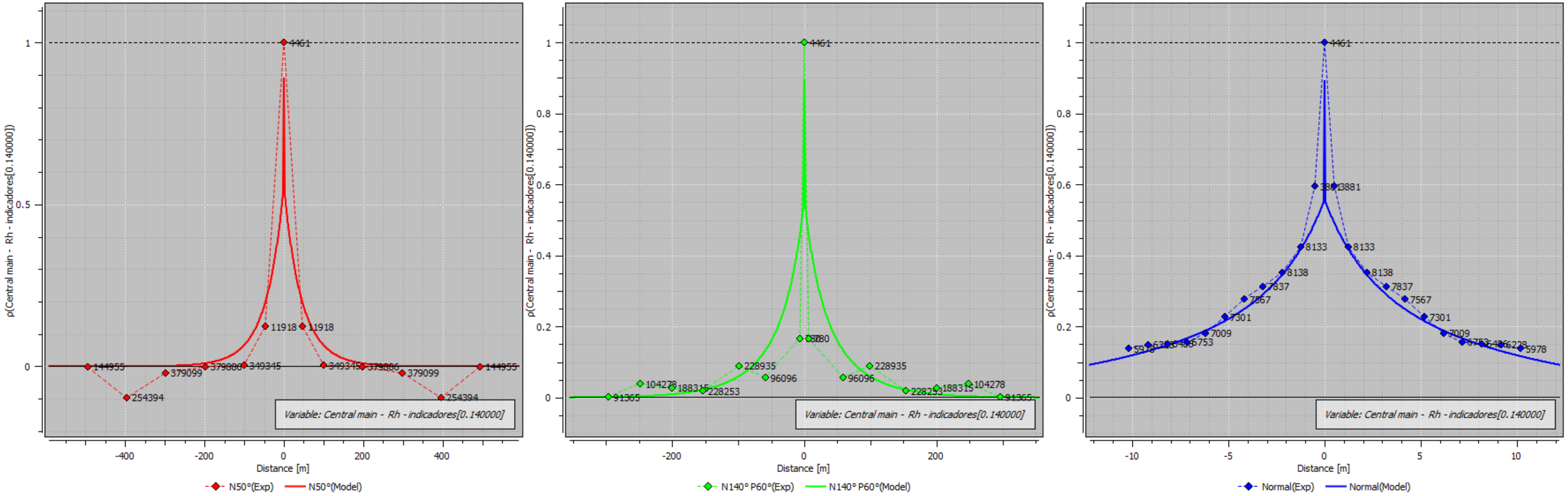
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central Main Pt (Indicator < 0.41ppm)



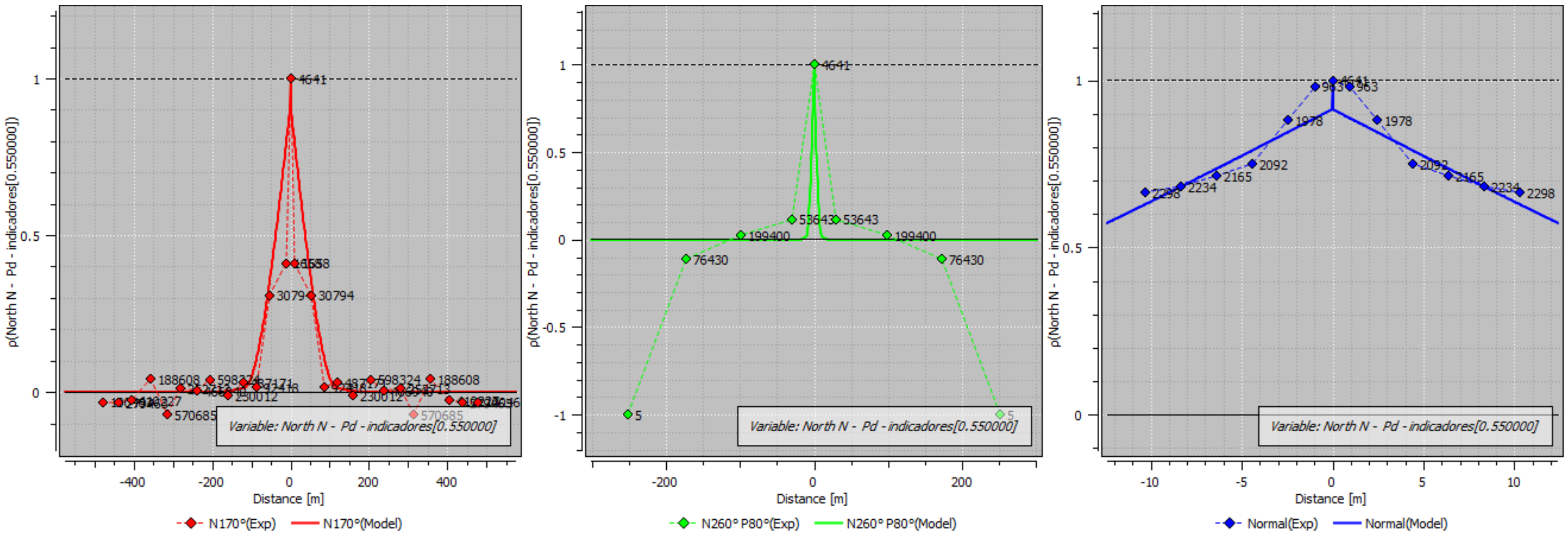
Semi -axis	Major axis	Minor axis

Indicator covariograms – Central main Rh – indicators < (0.140 ppm)



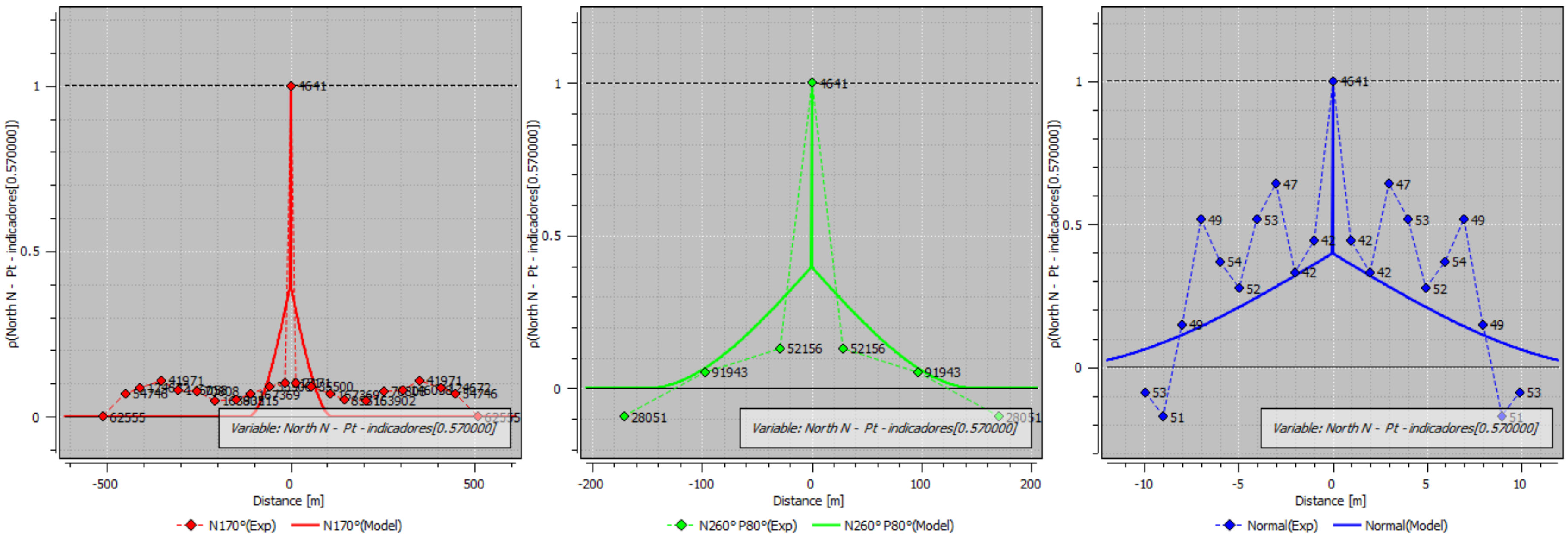
Semi -axis	Major axis	Minor axis

Indicator covariograms – North N – Pd (Indicator < 0.55ppm)



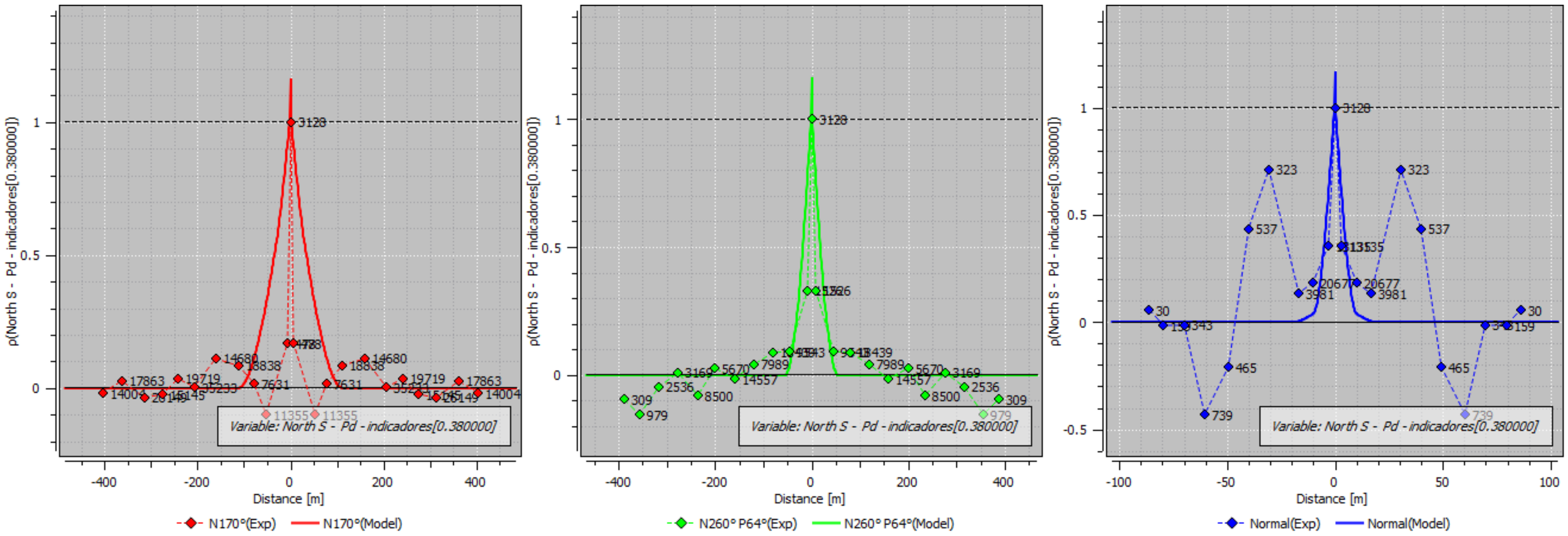
Semi -axis	Major axis	Minor axis

Indicator covariograms – North N – Pt (Indicator <0.57ppm)



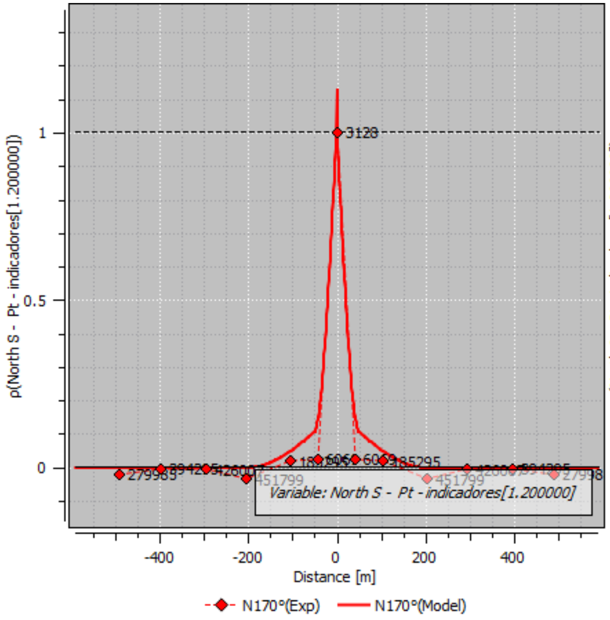
Semi -axis	Major axis	Minor axis

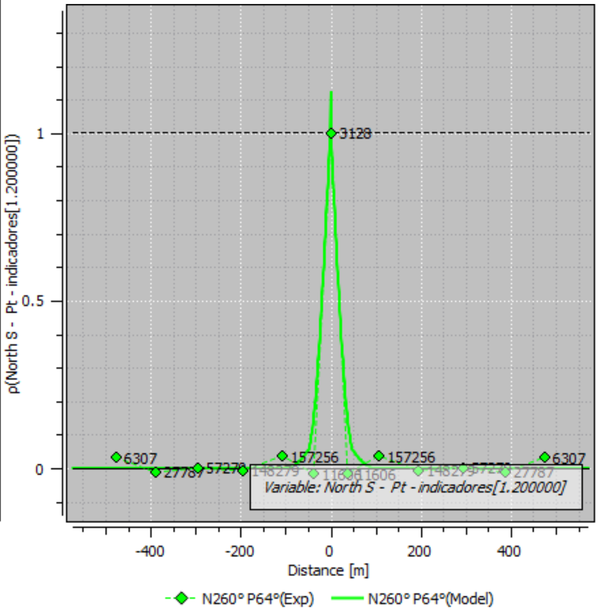
Indicator covariograms – North S – Pd (Indicator < 0.38ppm)



Semi -axis	Major axis	Minor axis

Indicator covariograms – North S – Pt (Indicator < 1.20ppm)

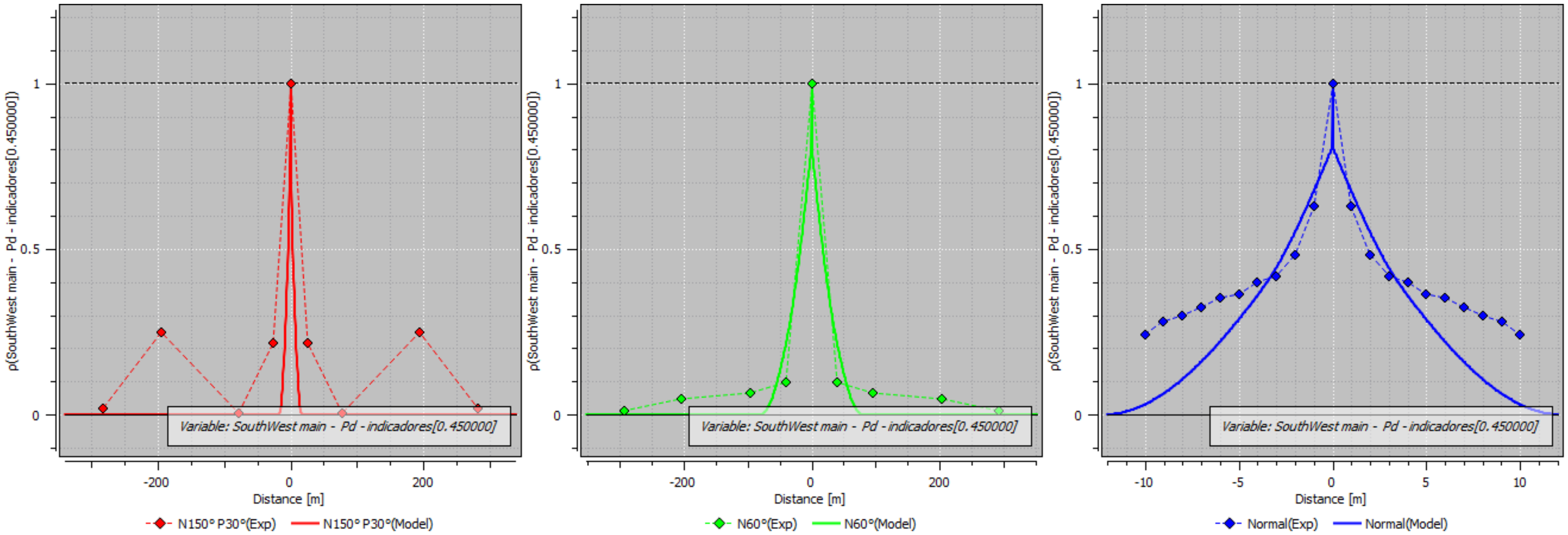




Minor Axis do not present significant pairs

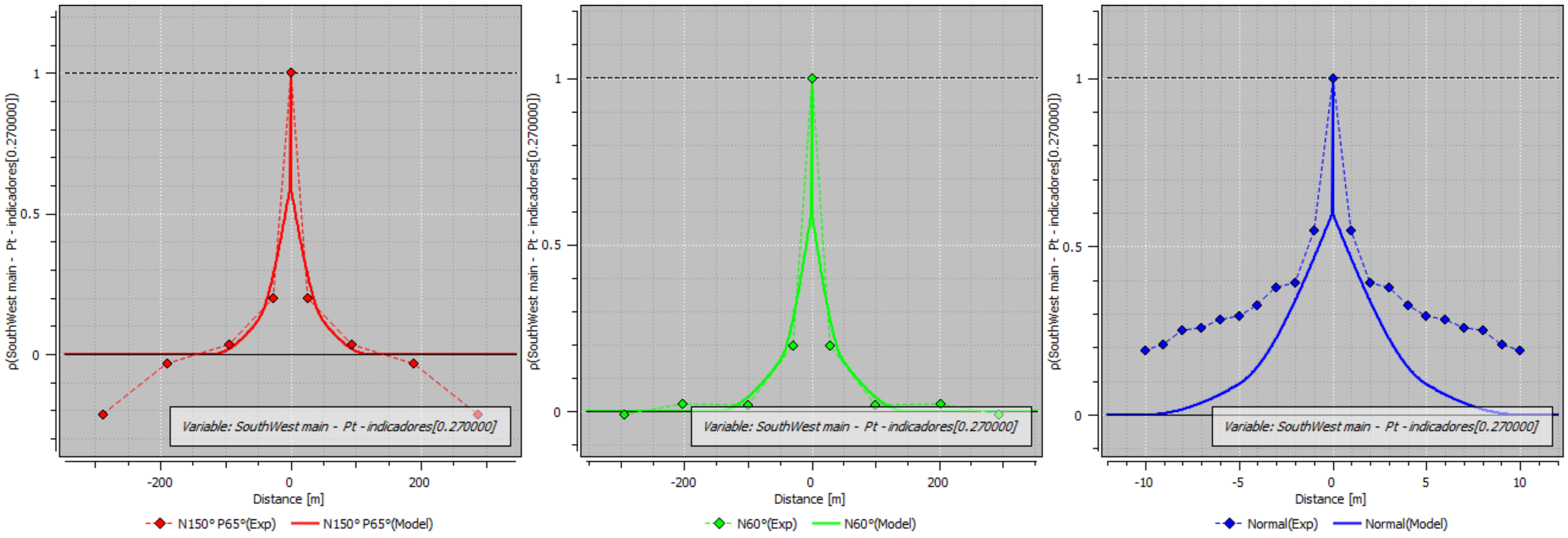
Semi -axis	Major axis	Minor axis

Indicator covariograms – SouthWest Main Pd (Indicators < 0.45ppm)



Semi -axis	**Major axis**	**Minor axis**

Indicator covariograms – SouthWest Main Pt (Indicators < 0.27ppm)



Semi -axis	**Major axis**	**Minor axis**