MEMO

Attention:	Rio Silver Inc.	Memo: 18501-2020-01
Project:	Niñobamba Project, Peru	
Prepared By:	Noah Van Camp, G.I.T.	
Reviewed By:	Brad Ulry, P.Geo	
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RE: **2020 Niñobamba Main Zone Conceptual Exploration Model Memo**

INTRODUCTION

A Conceptual Exploration Model for the Niñobamba Project Main Zone was constructed using historical work completed by AngloGold Ashanti Ltd. ("AngloGold"), Mine Gate Exploration S.A. ("Mine Gate"), Bear Creek Mining Corp. ("Bear Creek") and Newmont Corp. ("Newmont"). The Niñobamba Project Main Zone is located approximately 300 km Southeast of Lima in Central Peru within the Dorita Primera and Chanca 908 concessions (Figure 1). Data was compiled from work completed between 2001 and 2013 that included historical drilling, trenching, geological mapping and cross-sections. The model was constructed in Seequent's Leapfrog™ Geo Software. Below discusses the historical data compilation and evaluation, and the modelling approach and parameters used for the Niñobamba Main Zone Conceptual Evaluation model.

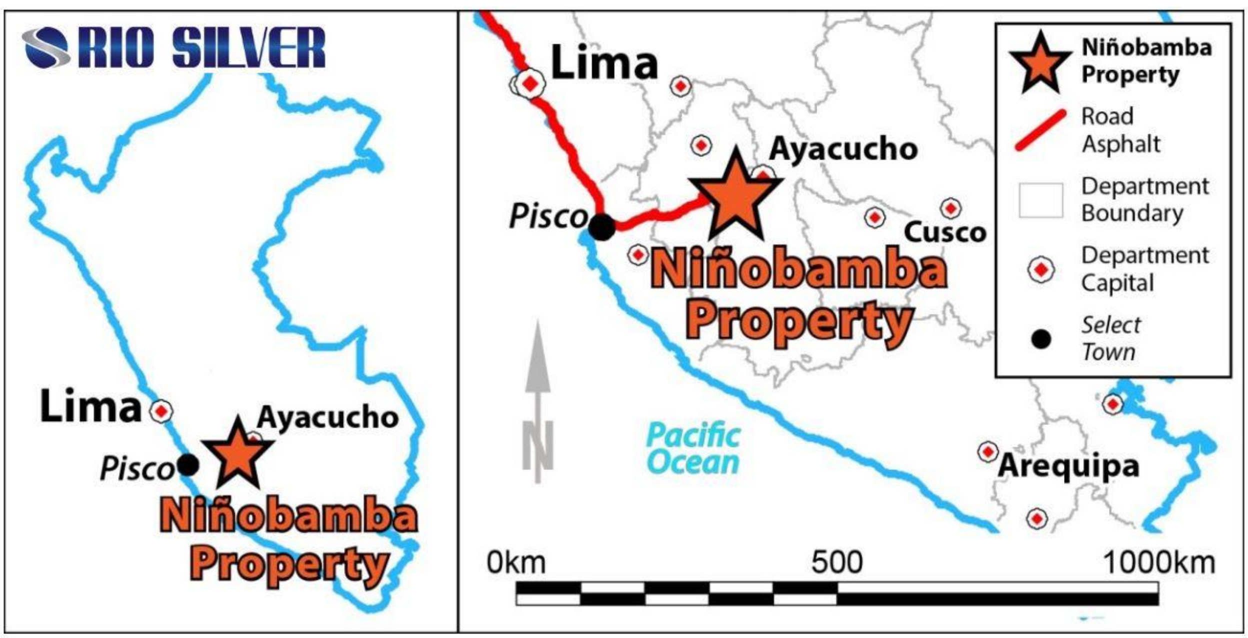

Figure 1. **Niñobamba Property Location Map**

HISTORICAL DATA

Historical data for the entire Niñobamba Project was extracted from provided files, including technical reports, drill logs, geological maps and cross-sections. Technical reports, geological maps, trench maps and cross-sections were provided in PDF and Word format; analytical data and drilling data were provided in excel format. Regional geology data was sourced from GEOCATMIN and downloaded in shapefile format.

Topography

A contour shapefile with 10 m contour spacing was provided as part of Newmont's database. This shapefile was used to create the topography surface in Leapfrog™. Drillholes, trenches and shapefile data were pressed to this surface in Leapfrog™. The low topographic resolution of the available topographic surface has limited the data confidence. Follow up evaluation will benefit from higher resolution topography.

Drillhole and Trench Data

All relevant drillhole and trench data (header, survey, rock types, structure and analytical) was extracted from the historical works and compiled into an excel database. Data for a total of 44 drillholes and 20 trenches were compiled for the entire Niñobamba Project; only 18 of the drillholes occur in the Niñobamba Main Zone and were used to build the model (Table 1 and Figure 2). The remaining holes located away from the Main Zone either show minor mineralization or lack assay data. Available downhole structure data from the drillholes is minimal, limiting structural control at depth. Assay data was available in excel format for most drillholes and trenches, the exception being those completed by Bear Creek. Assay results for the trenches were derived from cross-sections, assay results for 4 of the drillholes were derived from a news release and assay data for the remaining 3 holes was not available. None of the assay data provided had original certificates of analysis.

Table 1. Drillhole and Trench Campaign Summary

Year	Company	Type	Total # Holes	# Holes Used in Model	Total Depth (m)
2001	AngloGold	DDH	2	2	410.00
2002	AngloGold	DDH	3	3	450.90
2002	Bear Creek	DDH	8	8	1,000.90
2002	Bear Creek	TRENCH	4	4	115.00
2009	Newmont	DDH	5	5	1,068.55
2009	Newmont	DDH	6	0	1,253.60
2010	Newmont	DDH	7	0	1,181.80
2011	Newmont	DDH	13	0	4,377.30
2012	Mine Gate	TRENCH	16	16	1,395.28
		TOTAL:	**64**	**38**	**11,253**

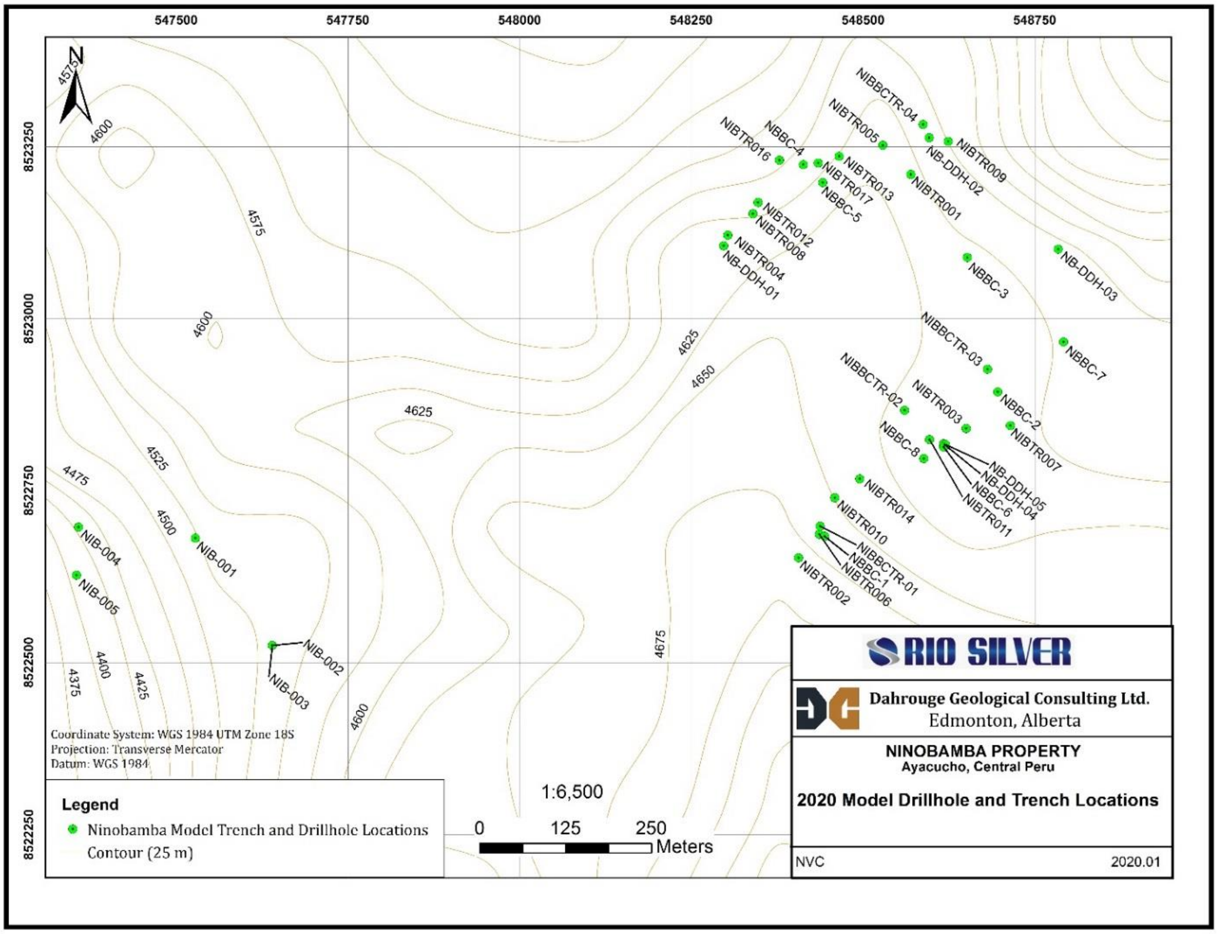

Figure 2. **Niñobamba Model Drillhole and Trench Locations**

The reliability of the drilling and trenching data was highly variable due to lacking data and multiple data sources resulting in data inconsistencies, as such, a 'reliability' factor of 1 to 4 was assigned to each drillhole and trench to provide an evaluation of the available data (Table 2).

- A significant discrepancy was noted in a collar location file provided for the Bear Creek drilling. Collar locations of the drillholes in the file were significantly offset from collar locations of a georeferenced Bear Creek drillhole location map.

Table 2. Summary reliability classification for drillhole and trenches used in the model

Reliability	Criteria	Total Drillholes	Total Trenches
1	Was not assigned to any historical drillholes or trenches. It would be used for drillholes and trenches that have collar surveys, geological logs, downhole deviation surveys and analytical certificates.	0	0
2	Was assigned to drillholes and trenches that had collar locations and geological logs, but lacked downhole deviation surveys and analytical certificates.	10	0
3	Was assigned to drillholes and trenches that had collar locations, but lacked geological logs, downhole deviation surveys and analytical certificates.	8	16
4	Was assigned to drillholes and trenches that lacked all original data (collar locations, geological logs, downhole survey data and analytical certificates) and data had to be georeferenced from maps and cross-sections.	0	4
	Total:	**18**	**20**

Surface Data

Geological drillhole and trench maps were georeferenced in ArcGIS to obtain location data in the coordinate system being used for the model (WGS84 UTM Zone 18S), use for drillhole and trench location validation and allow for the digitization of local geology and structures.

- Surface mapped geological units were digitized into polyline files.
- Data from two historical maps ("Niñobamba Gold Project Geologic Map", AngloGold 2002 and "Plano Geologico Program Trench 2012", Mine Gate 2012) was merged into one file. The two maps were similar but showed variations in mapped units which can be attributed to differences in the level of detail and scale at which mapping was conducted, and how some rock types were grouped.
- Polylines were generated from contacts between rock units on the surface maps and then were imported into Leapfrog Geo and pressed to topography. Tangent data (internal and external surfaces) was applied to the polylines and they were subsequently used to control the lithological surfaces.
- Faults were digitized into polyline files from the maps to assist with building the model and to use as geologic control in the model.
- Georeferenced maps with structure measurements were imported into Leapfrog Geo; surface bedding and fault measurements were then digitized using Leapfrog Geo. The surface structural measurements were incorporated as structural control points tied to lithological units and faults in the model.
- Bedding measurements were rare and were only recorded within the volcaniclastics and andesite flow units, which limited the ability to use for geological control in the model.

- Fault measurements were also limited. They were assigned to digitized fault polylines and used to constrain mineralization.
- Only mapped faults with surface structural measurements that were intersecting or bounding mineralization in the Niñobamba Main Zone were used in the model; a total of 5 discrete fault blocks were created. Faults in the Niñobamba Main Zone are either subvertical strike-slip or normal faults.

Cross-sections

Cross-sections were imported into and georeferenced in Leapfrog™ to help constrain rock unit boundaries and subsurface faulting. Trench locations and analytical composite values were digitized from the cross-sections (Figure 3)

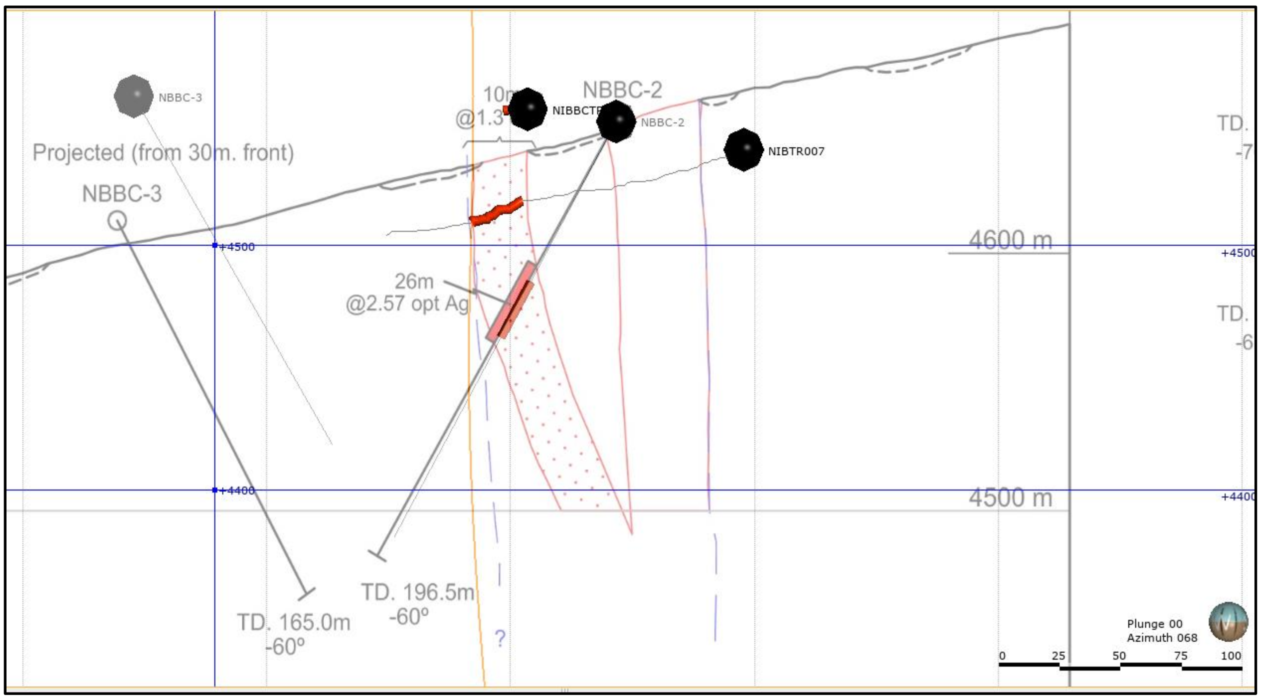

Figure 3. Historical Cross-Section imported into Leapfrog™

Historical and Modelled Rock Types

The rock units used in the model were developed from a compilation of both surfaces mapping data and drilling and trenching data. There were variations in the nomenclature used by the different companies for drilling, trenching and surface mapping. Table 3 summarizes the variations in nomenclature from the various campaigns and those used for the model.

Table 3. Geological Rock Units

Stratigraphy	Modelled Rock Units	Historical Rock Units	Average Density (g/cm^3)
Late Stage Magmatic Intrusions (Similar to age of mineralization: 1.96±0.08 Ma)	Dacite Dike	Plagioclase-Biotite-Hornblende Phyric Dacitic Dikes	2.5
		Quartz Alunite Altered Porphyrtic Dike	
		Plagioclase-Biotite-Porphyritic Dacitic Dike	
		Biotite Dacitic Dike	
		Dacitic Dike	
	Andesite Dike	Hornblende-Plagioclase Phyric Dikes	2.6
		Hornblende Andesitic Dike	
		Andesitic Porphyritic Dike	
		Andesitic Dike (Violaceo?)	
Huachocolpa Group (10 -2 Ma)	Upper Andesite (**Upper And**)	PG-Phyric Block Lava	2.5
		Px-Hbl-PG Basaltic Andesites	
		PG-phyric Andesitic Flows, Sub-volcanic Stocks and Pyroclastics	
		Andesitic Tuff	
		Basaltic Andesite lava	
		Tuffaceous Andesite	
	Volcaniclastics (**Volc**)	Volcaniclastic-Epiclastic rocks	2.4 - 2.5
		Volcaniclastics	
	Lower Andesite (**Lower And**)	Stratified PG-Phyric Lava and Pyroclastics	2.6
Basement	Latite	Latite	N/A

**Ages and stratigraphy based on 'Revision of Geological Mapping and Volcanic Stratigraphy Report' by AngloGold in 2002.*

GEOLOGICAL MODEL

The geological model was constructed using an implicit 3-D modelling software, Leapfrog Geo™. A vetted database was imported into Leapfrog™, where it was validated, and any erroneous or conflicting data was amended.

The geological model incorporated the following data into its control points and interpretation:

- Historical surface maps and cross-sections
- Surface mapping datapoints
- Drilling and trenching datapoints

The historical surface map and cross-sections were used to evaluate the geological structures and stratigraphic orientations, using 3-D modelling software. These sections in combination with the historical drillhole database were used to design a working model.

The geological model was completed for the Niñobamba Main Zone, encompassing an area approximately 2 km^2. The geological model was constructed using 18 drillholes, 20 trenches and a surface geology compilation. A geological model resolution of 20 was used for all geological surfaces except for the later stage intrusive dikes, andesite and dacite, where a resolution of 5 was used (Table 4). The andesite and dacite dikes were modelled as intrusions while the remaining rock units were modelled as "Stratigraphic" layers.

Table 4. Modelled geological units, surface type and resolution

Model Unit	Surface Resolution	Surface Type
Dacite Dike	5m	Intrusion
Andesite Dike	5m	Intrusion
Upper Tuff/Andesite (**Upper And**)	20m	Stratigraphic
Volcaniclastics (**Volc**)	20m	Stratigraphic
Lower Tuff/Andesite (**Lower And**)	20m	Stratigraphic
Latite	20m	Stratigraphic

Global Trends

A global trend was applied to dacite and andesite dikes based on historical surface mapping and prevailing structural trends which govern dike emplacement. A global structural trend of 225° dip azimuth and a dip of 80° was applied. A global trend was not applied to the remaining rock units as most of the bedding orientation measurements were focused outside the modelling area and they were modelled as "Deposits", and as such, a global trend was not applicable.

Statistical and Numeric Model Evaluations

Numeric models were created from the assay data each for silver and gold mineralization in the Niñobamba Main Zone to evaluate potential grade ranges.

Statistical box plot analysis was conducted based on the data to assess the distribution of silver and gold mineralization within each modelled rock type. The box plot is based on assayed samples from drillhole data across modelled rock units. The red diamond illustrates the median which is enclosed around the colored box representing the interquartile range. The whiskers represent the minimum and maximum silver values for each rock unit. Median and mean values concluded that the volcaniclastic unit dominantly hosts the silver mineralization (Figure 3). The median and mean values are similar, suggesting a more pervasive mineralization. Other units containing notable mineralization are the upper tuff/andesite and andesitic dikes, showing above average median and mean values. A statistical box plot for gold reveals localized gold mineralization within the Niñobamba Main Zone. The gold mineralization is appearing localized around the late-stage faulting and intrusive dikes. Preliminary analysis of gold mineralization was completed, and isolated pods were defined. Additional work is required on identifying the host mineralization, trend and host rock unit.

The silver mineralization is dominantly hosted in the volcaniclastics unit adjacent to later stage faulting. The steeply dipping faults-oriented NE and NW provide a feeder system for mineralization. This is supported by reports completed by Mine Gate and AngloGold.

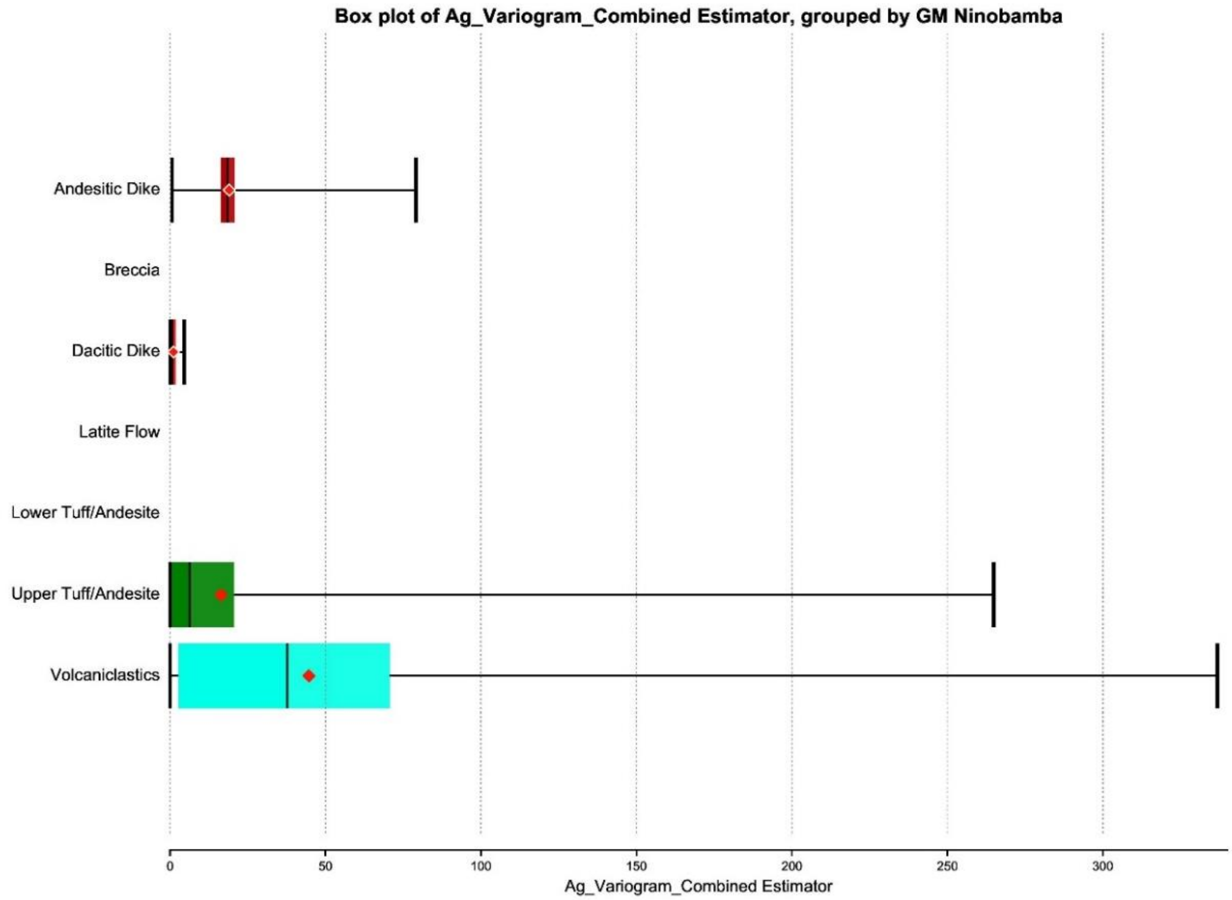

Figure 3. A box plot of silver mineralization (ppm)

BLOCK MODEL

A block model was created for the Niñobamba Main Zone with a size of 6 x 6 x 4 m. The block model was populated with the geological model, numeric interpolants and fault restricted estimators. Figure 4 shows the block model which contains the model lithology and faulting. Statistics from the model were compared to the assay statistics to evaluate if the block model was representative of the assay population.

- Based on average density values for volcaniclastics, tuff and andesite, a global density of 2.5 g/cm3 was assumed for all units. This was determined from global research into the rock types, accounting for proportions of rock types within each modelled unit.
- A cut-off grade of 50 g/t was assigned based on a developed grade tonnage curve where the tonnes above cut-off intersects with the average grade above cut-off (Figure 5).

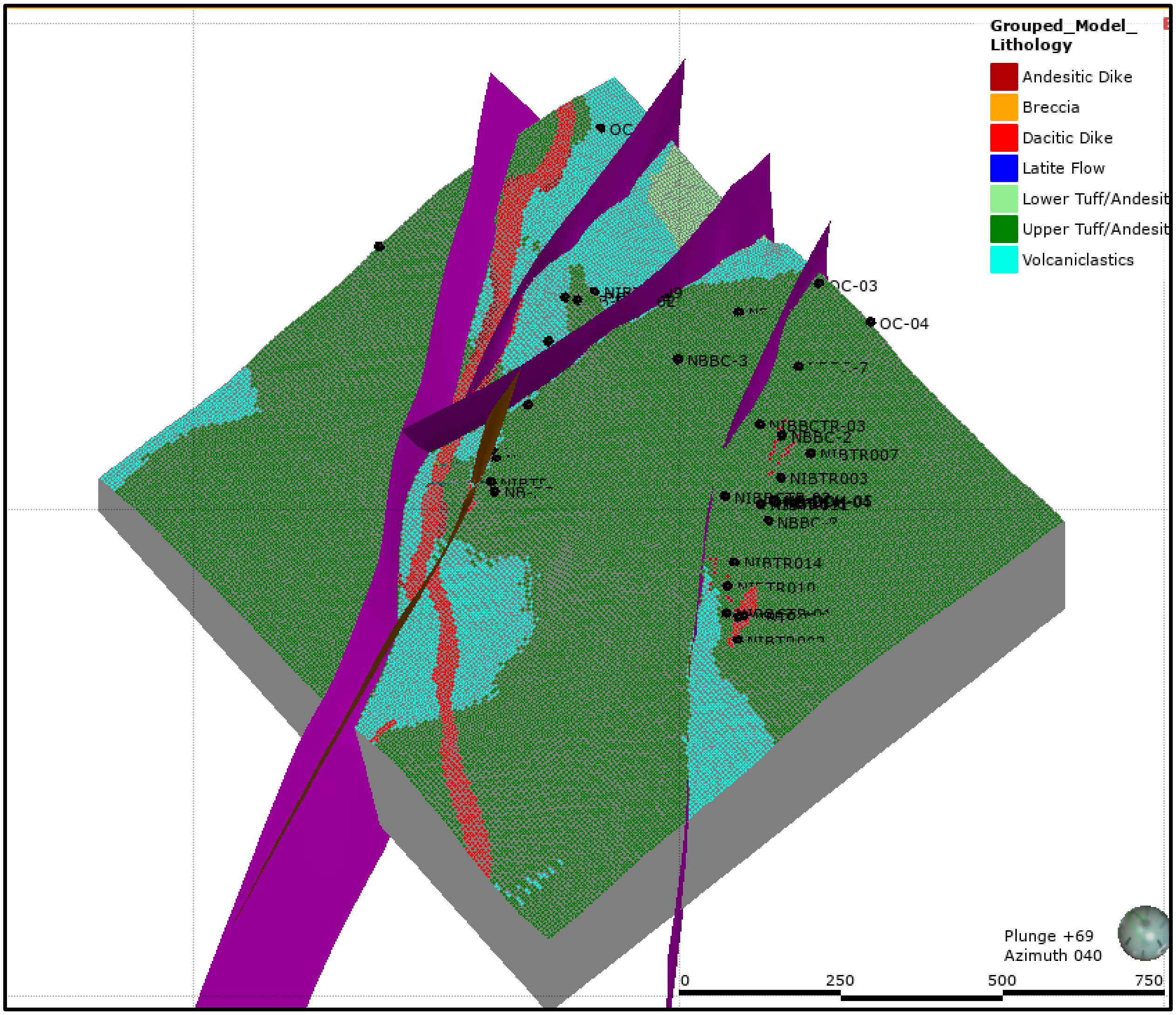

Figure 4. **Niñobamba Block Model**

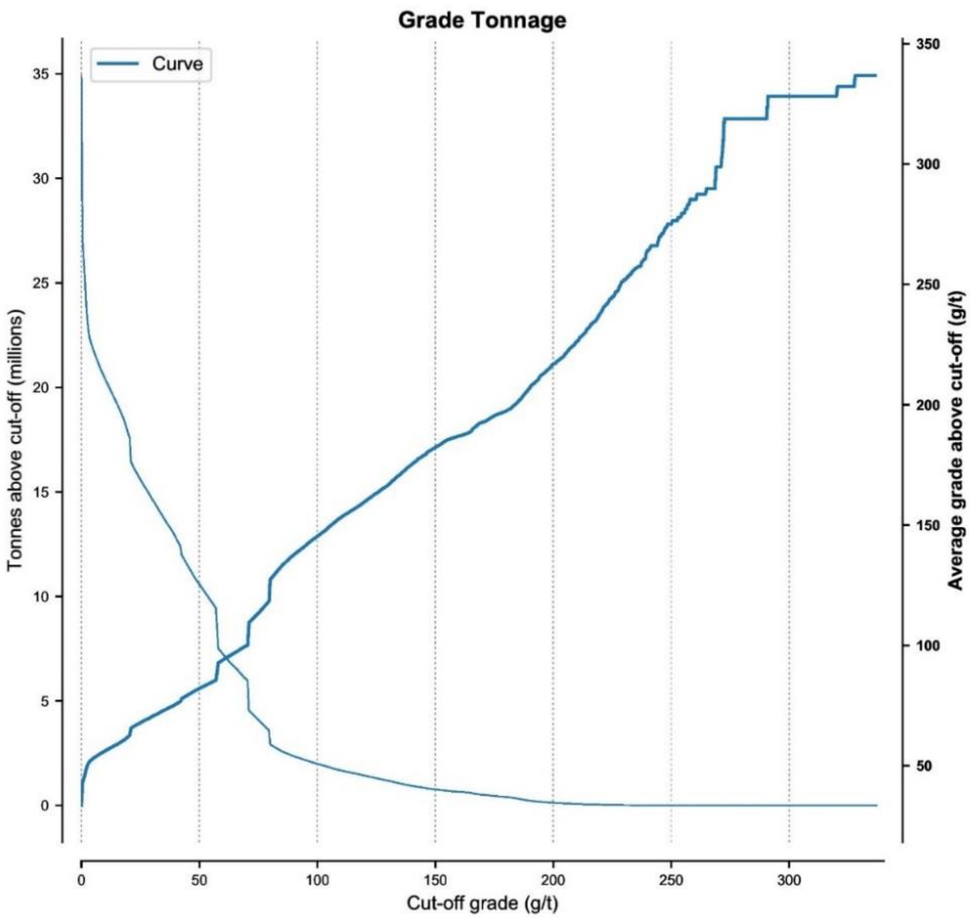

Figure 5. Silver Grade Tonnage Curve

Conceptual Exploration Target

Exploration Targets have been defined for the Niñobamba Property in areas where historic data and surface mapping provided enough control to model and create a validated conceptual estimate (Figure 6). No resources have been defined for the Property since drillhole locations, analytical results and surface controls held a degree of uncertainty or lacked original supporting documents. It is important to note that the potential quantity and grade of the exploration target is conceptual in nature and that it is uncertain if further exploration will result in the estimation of a Mineral Resource. Exploration targets, presented for this Property are controlled by and projected from drillholes, trenches and surface geology, giving it high confidence as a conceptual target. Summarized results are presented in Table 5.

Table 5. Conceptual Exploration Target

Conceptual Exploration Target Range	Cut-off Grade g/t	Tonnes MT	*Silver Grade* g/t	*Silver Grade* opt	*Silver Ounces* Million t. oz
Exploration Target - Lower	50	7.9	90	2.88	22.9
Exploration Target - Higher	50	11.1	86	2.78	30.9

The ranges in the exploration target were determined by changing parameters within the estimator block model. Lower ranges were defined using a variogram defined search ellipsoids set at the cut-off grade of 50 g/t, with a search ellipsoid ratio of 66m x 88m x 28m. To define the higher ranges of exploration, target variogram orientations were maintained, but the search ellipsoid radius was increased to 150m x 150m x 30 m. All search parameters are based on analytical results presented in drillholes and trenches and extended along trend. No classification parameters have been assigned to the estimated parameters, because additional data validation is required.

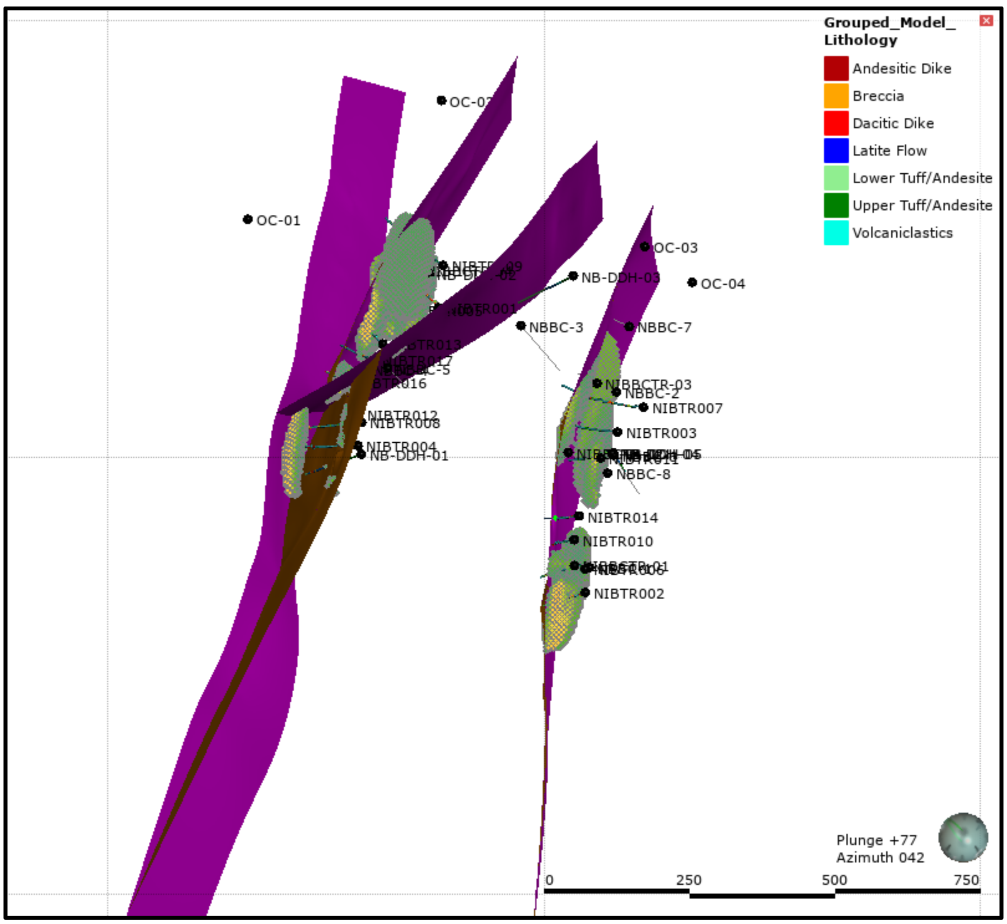

Figure 6. Ag-Mineralized Conceptual Exploration Target zones, restricted Fault Blocks, 50 g/t Ag cut-off and variogram Defined Search Ellipsoid (66m x 88m x 28m).

A preliminary sensitivity analysis was completed on the Conceptual Exploration Target to evaluate and plan for future programs. This work included incrementally increasing the ellipsoid search distances using the structurally controlled orientations (Table 6). An additional evaluation was completed by increasing the cut-off grade from 50 g/t to 100 g/t for silver (Table 7).

Table 6. Conceptual Exploration Target Sensitivity Evaluation defined using a 50 g/t Ag cut-off and Increasing Search Distance Ellipsoids.

Variogram Ellipsoid Search – 66m x 88m x 28m

GM Niñobamba	Volume	Density	Tonnes	*Average Grade*	*Average Grade*	*Metal Content*
	m^3	g/cm^3	t	g/t	opt	t. oz
Andesitic Dike	288	2.5	720	65.96	2.12	1,527
Upper Tuff/Andesite	206,208	2.5	515,520	97.84	3.15	1,621,621
Volcaniclastics	2,968,848	2.5	7,422,120	89.13	2.87	21,269,266
Total	**3,175,344**		**7,938,360**			**22,892,414**

Variogram Ellipsoid Search – 100m x 100m x 30m

GM Niñobamba	Volume	Density	Tonnes	*Average Grade*	*Average Grade*	*Metal Content*
	m^3	g/cm^3	t	g/t	opt	t. oz
Andesitic Dike	27,936	2.5	69,840	92.8	2.98	208,374
Upper Tuff/Andesite	215,856	2.5	539,640	81.6	2.62	1,415,764
Volcaniclastics	3,154,464	2.5	7,886,160	91.61	2.95	23,228,572
Total	**3,398,256**		**8,495,640**			**24,852,710**

Variogram Ellipsoid Search – 150m x 150m x 30m

GM Niñobamba	Volume	Density	Tonnes	*Average Grade*	*Average Grade*	*Metal Content*
	m^3	g/cm^3	t	g/t	opt	t. oz
Andesitic Dike	432	2.5	1,080	68.84	2.21	2,390
Upper Tuff/Andesite	211248	2.5	528,120	97.73	3.14	1,659,341
Volcaniclastics	4231728	2.5	10,579,320	85.91	2.76	29,219,838
Total	**4443408**		**11,108,520**			**30,881,570**

Table 7. Conceptual Exploration Target Sensitivity Evaluation Defined using a 100 g/t Ag cut-off, Showing Grade Sensitivity.

Variogram Ellipsoid Search – 66m x 88m x 28m

GM Niñobamba	Volume m^3	Density g/cm^3	Tonnes t	*Average Grade* g/t	*Average Grade* opt	*Metal Content* t. oz
Upper Tuff/Andesite	40,464	2.5	101,160	125	4.02	406,532
Volcaniclastics	679,536	2.5	1,698,840	148.6	4.78	8,116,624
Total	**720,000**	**2.5**	**1,800,000**	**147.27**	**4.74**	**8,523,156**

CONCLUSIONS AND RECOMMENDATIONS

Historical data, including trenching, drilling, geological mapping and cross-sections, was compiled and used to build a Conceptual Exploration Evaluation Model for the Niñobamba Project Main Zone. Results indicate significant silver mineralization in the range of 22.9 million t. oz to 30.9 million t. oz. These values hold a high confidence as a conceptual target but are purely conceptual in nature and are not an accurate resource estimate.

Statistical analysis of the drilling and trenching data suggests that the silver mineralization of significance is dominantly hosted in the volcaniclastic unit. There are some zones of significant silver mineralization in the andesite dikes, tuffs and andesite units, however, these zones are small and seem to be localized. Mineralization trends north-east across lithologies, suggesting an association between the mineralization and the deep-seated north-east trending, subvertical strike-slip and normal faults.

To advance the Conceptual Exploration Evaluation Model to a Resource Model, additional work is required on the Property and is outlined below:

- Acquisition of:
  - high-resolution topographic data for more accurate modeling
  - original analytical certificates from historical drilling and trenching
- Confirmation of drillhole and trench locations, if possible.
- Infill drilling and extensional drilling along the north-east mineralization-structural trend to better understand the geological and structural relationships.
- Further geological mapping to:
  - collect structural measurements from all lithologies to better control units in the model.
  - confirm historical mapping data and build a consistent list of lithological units (with descriptions).
- Relogging of historical drill core (if available) and trenches in order to standardize lithological units.

Respectfully Submitted,