REPORT ON AN
INDUCED POLARISATION SURVEY
PERFORMED ON THE
LOS VENADOS PROJECT
SONORA STATE, MEXICO

SUBMITTED TO
ALORO MINING CORPORATION
VANCOUVER, CANADA

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DIGITAL ELEVATION MODEL

INDUCED POLARISATION SURVEY
(Prospec MB 2016 & Geofisica TMC 2017)

***** **IP Pseudo Sections:** Interpreted Apparent Resistivity and Chargeability Pole-Dipole Sections (8) with 2-D Inversion Models of Resistivity and Chargeability (1/10,000 Scale).

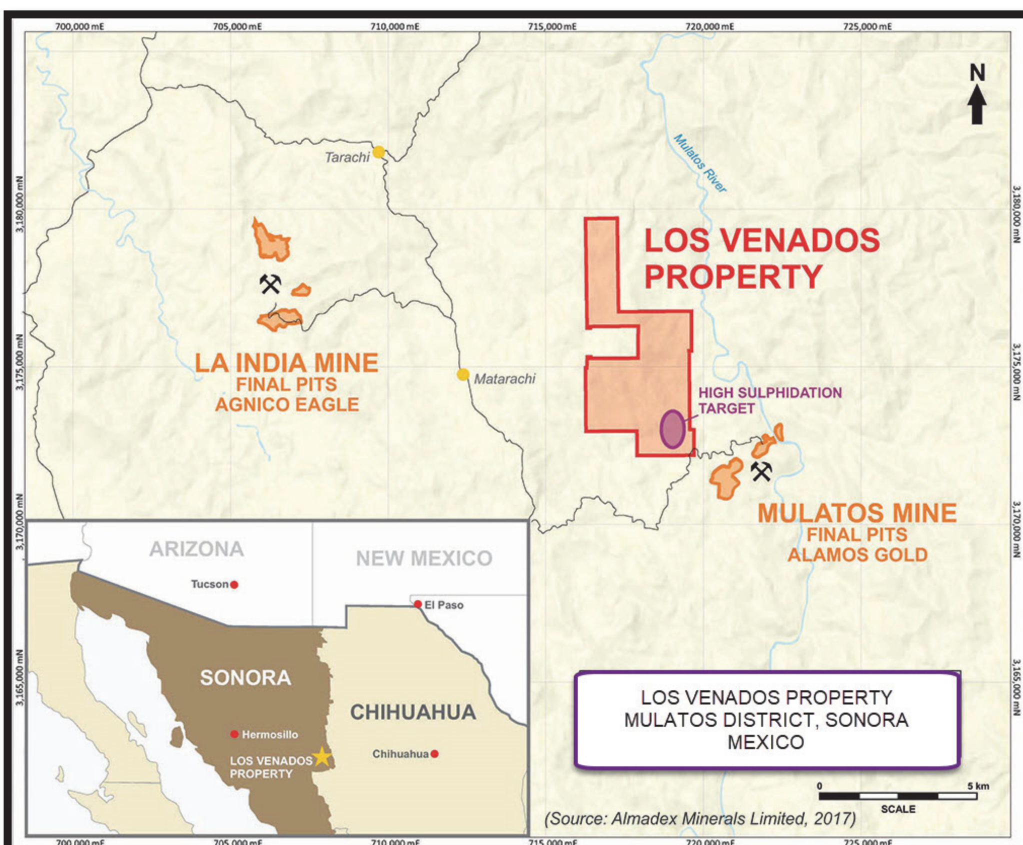
INTERPRETATION

1. INTRODUCTION

As part of the ongoing exploration program, Aloro Mining Corporation commissioned Geofisica TMC (Contract SON-163) to carry out an induced polarisation (IP) survey on their Los Venados Project, located 220 km east-southeast of the city of Hermosillo in the eastern part of the state of Sonora in México (Figure 1). The fieldwork took place between November 23rd and December 9th, 2017 and consisted of 5.3 line-km of IP (see section 3.1).

The Los Venados (LV) Property is in the central part of the Mulatos Gold District. The known mineralization is gold-dominant, with accessory silver and copper. Most economic gold mineralisations occur within silicic alteration, but they are also observed within advanced argillic assemblages of pyrophyllite-dickite proximal to silicic alteration. Numerous showings associated with high sulphidation style alteration have been identified within the property. The IP survey was designed to test one of these showings located in the south-east of the LV mining concession; where a first survey was done by Prospec MB in 2016.

Figure 1 General Location



The first part of this report is a technical summary of the survey that was carried out and the second part is a detailed interpretation of the data along with recommendations, if need be, of follow-up work to be done to ascertain the mineral potential of some of the most favourable IP anomalies. The new geophysical interpretation will take in consideration the results of the IP 2016 survey conducted by Prospec MB whose data were reprocessed and compiled with those of Geofisica TMC.

2. THE LOS VENADOS PROJECT

2.1 Location and Access

The Los Venados property is located approximately 220 kilometres east-southeast of the city of Hermosillo; capital city of the State of Sonora. The village of Mulatos is located near the southeastern corner of the property. Road access to the property is readily available via paved and gravel roads from either Hermosillo southeast to Mulatos via Sahuaripa, or via the Chihuahua-Hermosillo highway and then north to Mulatos.

2.2 Description

The Los Venados property consists of one mining concession, entitled “Los Venados 1”, covering an area of approximately 1,524 hectares. It is located in the Basin and Range physiographic province, within the Sierra Madre Occidental mountain range with local elevations ranging between 960 and 1,630 m (msl). The geophysical grid was implemented in the southeastern part of the property (Figure 2).

2.3 Survey Grid

Only two lines were read by IP by Geofisica TMC during this campaign (Figure 3). Line 72500N is oriented in an E/W direction, is 2.1 km long and located 300 m south of the last grid line set up in 2016 for the Prospec MB survey. Line 19400E is oriented in a N/S direction, is 3.2 km long and crosses the eastern part of the main grid. The most recent line cutting was carried out by TMC. Surveying of the station markers, set up every 25 m along the lines, was carried out by using a Garmin GPS non-differential receiver. The relevant information was used to geo-reference the IP database to the UTM12N_WGS84 coordinate system (see section 4.1).

Figure 2 Fieldwork Location on the Los Venados Project

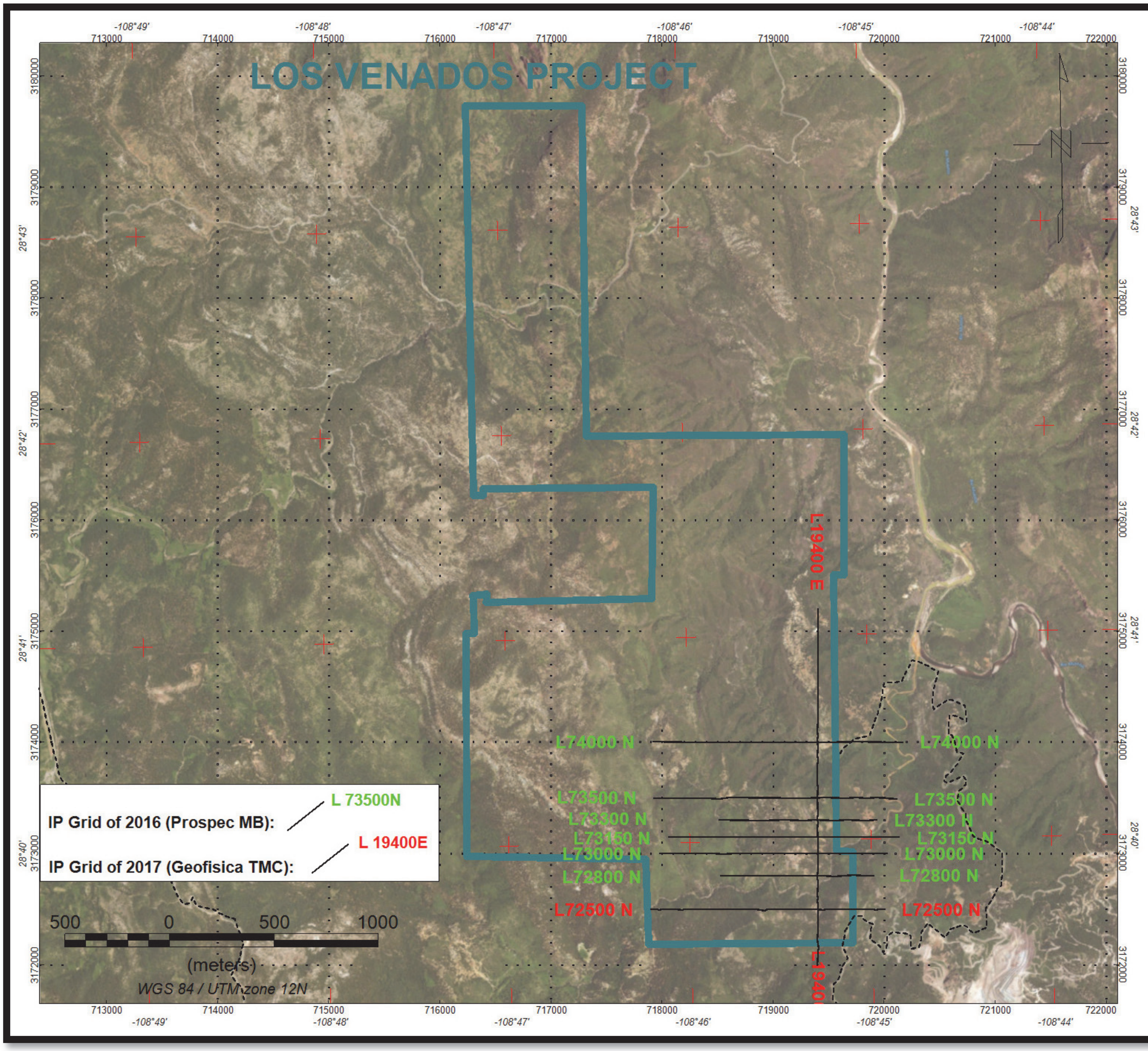
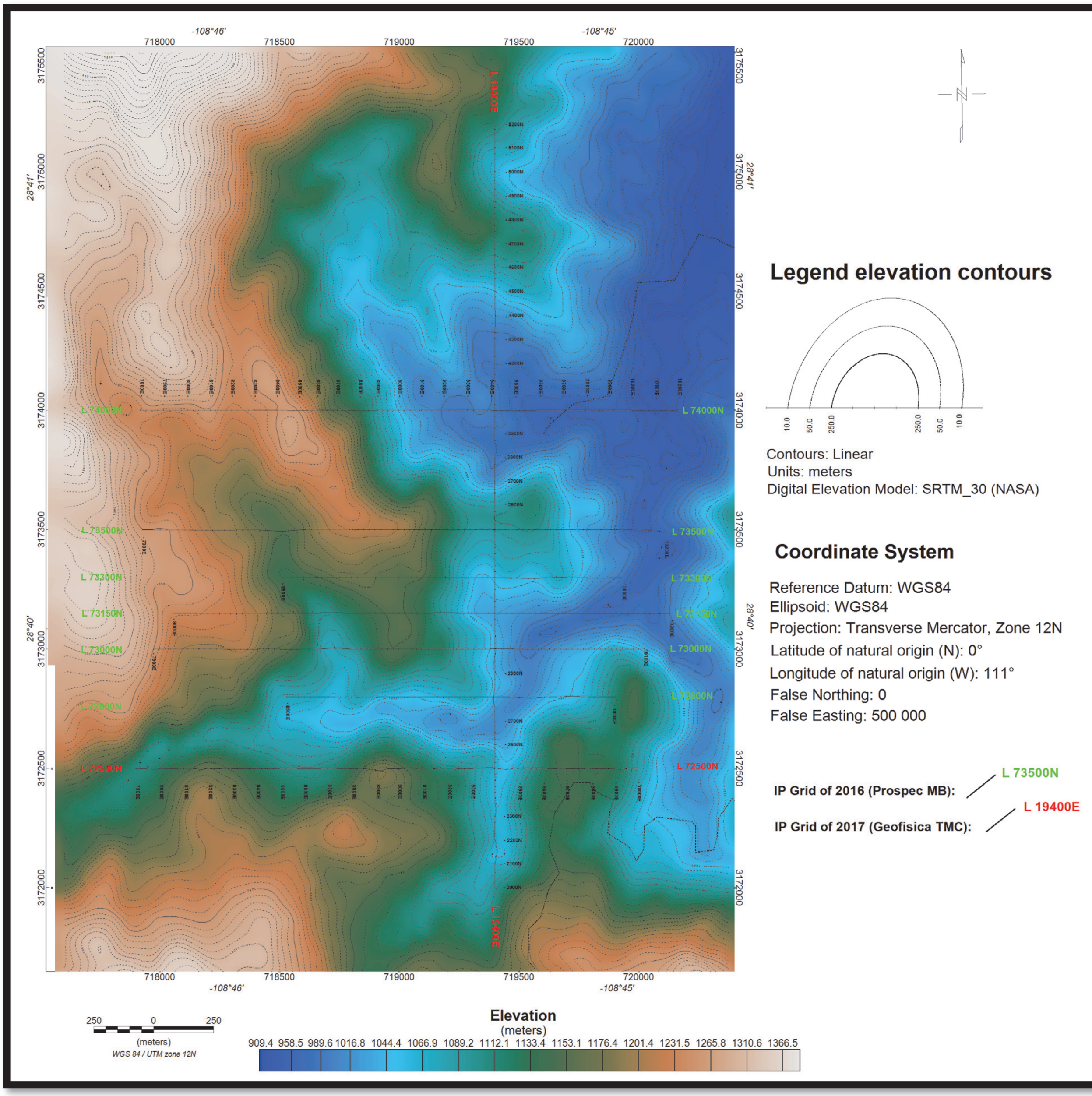


Figure 3 Survey Grid and Topography



3. TECHNICAL SPECIFICATIONS OF THE IP SURVEY

3.1 Overview

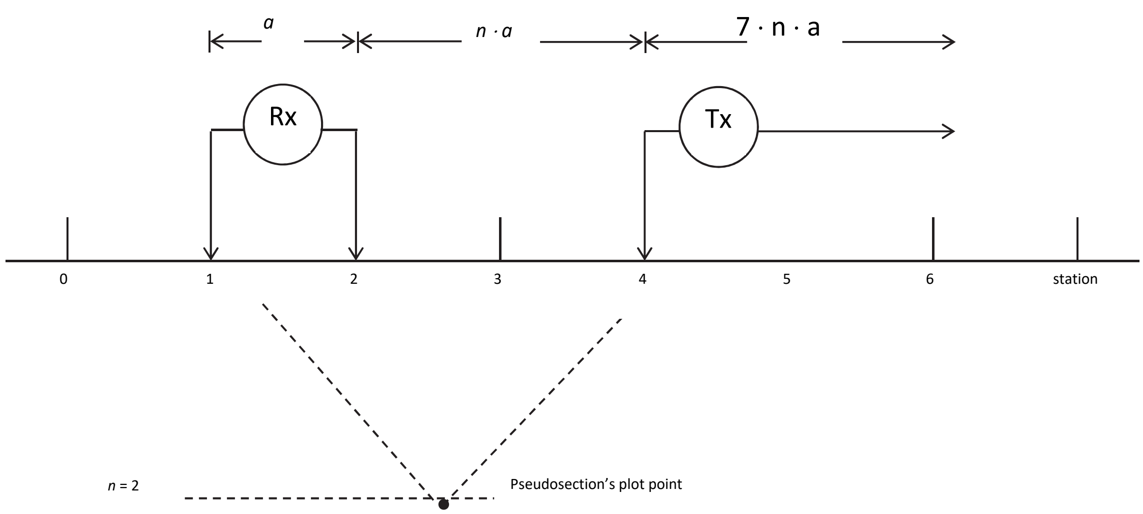
The induced polarisation (IP) survey was carried out by Mr. Gerardo Del Val under the technical supervision of Mr. Simon McCrory, fieldwork coordinator with Geofisica TMC. The survey took place between November 23rd and December 9th, 2017 and consisted of 5.3 line-km of IP (Pole-dipole, a= 100 m, n= 1 to 10).

3.2 Induced Polarization Survey

3.2.1 Electrode Array

The pole-dipole (dipole-pole) array was chosen for this survey (see Figure 4). The nominal *a* spacing between the electrodes was set to 100 meters and ten (10) dipoles were read.

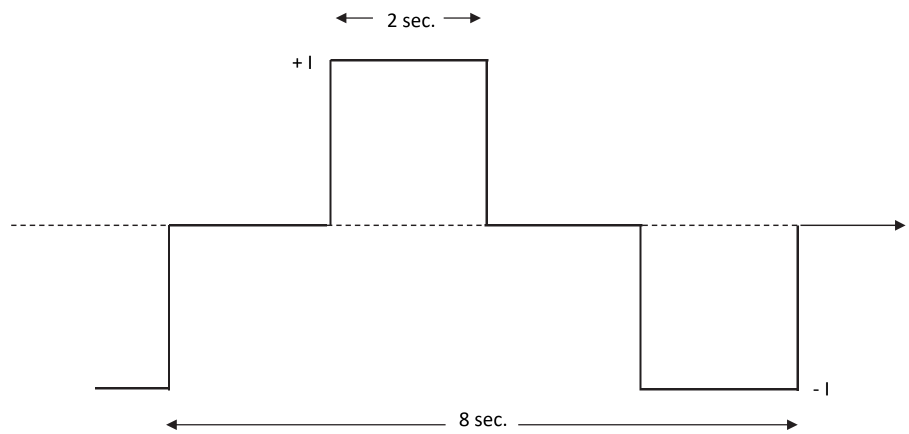
Figure 4 The Dipole-Pole Electrode Array



3.2.2 Equipment Used

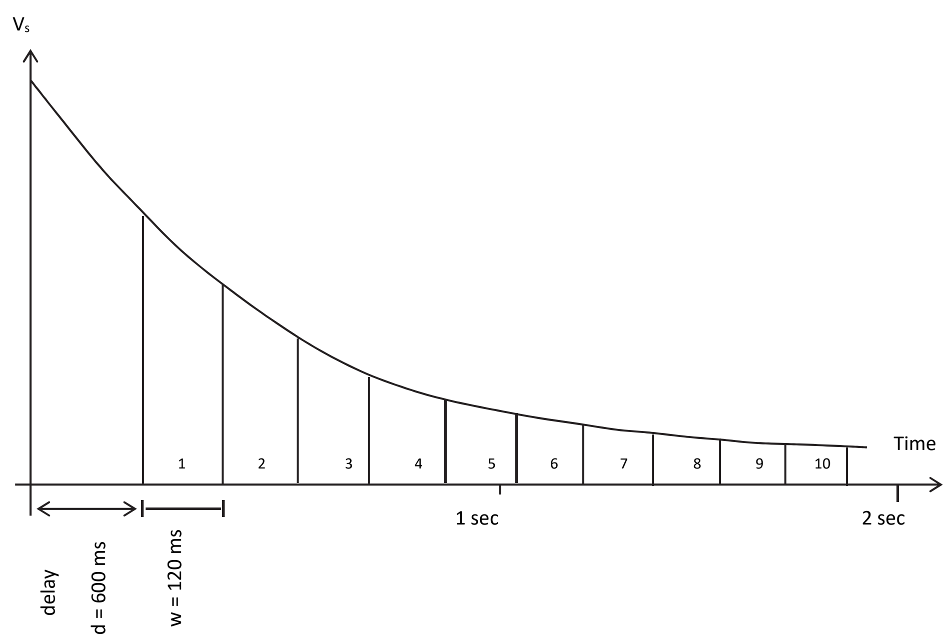
The induced polarization equipment consisted of a transmitting and receiving apparatus using a commuted signal. A motor generator drove the Walcer Geophysics TX-KW10 transmitter capable of supplying 10.0 kW of continuous power. Stainless steel electrodes were used to inject a stable current. The bipolar current waveform had an 8-second period with a 50% duty cycle (Figure 5).

Figure 5 Transmitted Signal at C1-C2



The primary voltage, denoted *Vp* and chargeability, denoted *M* were measured by using a GDD Instrumentation GRX8-32 Time Domain Receiver. The recorded decay curve was separated into 10 pre-programmed slices (Figure 6). The chargeability *M* corresponds to the integral of the decay curve as a function of time and is calculated by using a weighted average of the decay slices.

Figure 6 Decay Curve Integration Windows at P_1-P_2



3.2.3 Calculation of the Apparent Resistivity and Chargeability

Apparent resistivity was calculated according to the following formula:

Pole-dipole array: $\rho_a = 2\pi\, n\, (n+1)\, a\, V_P/I$ *(in ohm-m)* where:

a = dipole separation (a = 100 meters)
n = multiple of dipoles (n = 1 to 8 for Prospec MB or n= 1 to 10 for Geofisica TMC)
Vp = Primary Voltage (mV)
I = Transmitted Current (mA)

Chargeability *M* corresponds to the weighted average of ten (10) chargeability windows and is expressed in mV/V.

4. DATA PROCESSING AND REPRESENTATION

4.1 Coordinate System

The maps submitted with this report, as well as the original IP databases were geo-referenced to the UTM12N_WGS84 coordinate system (see Table 1).

Table 1 Local Projection Parameters

PROJECTION PARAMETERS	
Datum	WGS84-UTM Zone 12N
Ellipsoid	WGS84
Major Axis Radius	6,378,137.0 m
Inverse flattening	298.25722
Type	Transverse Mercator
Central Meridian	111° W
Latitude of origin	0° N
False easting	500,000 m
False northing	0 m
Scale factor	0.9996

4.2 Data Processing and Plotting

- **2D inversion models of resistivity and chargeability:** For each line surveyed in 2016 or 2017, the data quality was initially checked, and the information saved in separate Geosoft databases. Part of this information was then subsequently exported to RES2DINV compatible file formats to carry out the inversions with the software program developed by M.H. Loke. The 2D models used by the inversion process, consist of a series of blocks having their distribution and size automatically generated by the program using the distribution of the points in the pseudo sections, which is a function of the electrode array. The depth of the bottom row of blocks is set to be approximately equal to the equivalent depth of investigation (Edwards 1977). During the initial loading of the files there is a correction applied on the RES/IP data for the surface topography effects when the information is supplied. The inversion routine itself basically uses a non-linear least-square optimisation technique and most parameters are automatically fixed by the software program.

- **3D inversion models of resistivity and chargeability:** The data obtained along the different lines that were surveyed in 2016 or 2017 were initially merged into a single database. For each theoretical electrode location (line/station), the true UTM (X, Y, Z) coordinates were also tied to it. Part of the information contained in this database was then exported to a RES3DINV compatible file to carry out the inversion. Insofar that the inversion program considers doubled-up values as distinct, each was then kept for repeated readings.

During the RES3DINV inversion of the data, the readings are initially corrected to compensate for topographic effects and then processed per parameters that were optimised based on the local geological setting. For each grid, the inversion process was stopped after five iterations and the results were then exported to a Geosoft *.XYZ ASCII file format. Because of the electrode array that was used and associated survey specifications, the model was extended to approximately 350 m below the surface for the main survey of 2016 (e.g. vertical depth).

The inverted resistivity and chargeability values were subsequently inserted into a database matrix where each value is associated with its X, Y and Z coordinate. The three-dimensional gridding was done by using an algorithm called ‘krigging’. This algorithm determines the weight of each cell, and ultimately the preferential interpolation direction, based on a geostatistical analysis of all data. The 3D voxel images that are obtained following these inversions contain the information associated with each cell along with its coordinates. The resolution of the images is a function of the grid cell size used to process the data (see Table 2).

- ***Comments/Remarks:***

\- The inversion algorithm will not create information that is not in the raw data (2D pseudo-sections). In other words, the software solution is limited by the method and electrode configuration used during the survey.

\- The inversion results will provide an estimate of the dips of the anomalous targets under certain conditions, likely when they are ''isolated''. Thus, if there are two proximal targets, the two images may merge at depth, potentially giving a wrong estimate of their specific or general dip.

Table 2 IP-RES Voxel Properties

Element type:	DOUBLE
Number of cells X:	80
Number of cells Y:	62
Number of cells Z:	29
X voxel cell sizes:	25
Y voxel cell sizes:	25
Z voxel cell sizes:	25
Origin X:	718025
Origin Y:	3172500
Origin Z:	550
Rotation about Z (Yaw):	0
Z Orientation:	Up (Standard)
Coordinate system:	WGS 84 / UTM zone 12N
Coordinate system units:	metre

- **Representation of the IP survey data**

Pseudo sections: The resistivity/chargeability inverted models are illustrated at true depths @ 1/10,000 Scale. On each of these sections, the 2D inversion models of resistivity and chargeability have been displayed with the vertical depth in metres as the vertical axis. All in all, (8) pseudo sections were generated to illustrate all the lines read by IP on the SE of the property in 2016 (Prospec MB) or 2017 (Geofisica TMC).

Maps: Resistivity (R)/chargeability (C) slices at 1000 and 900 metres of elevation (msl) were extracted from the 3D inversion to generate the contour maps (Map C275-2A, C275-2B, C275-2C & C275-2D, see Figures 7 and 8).

4.3 Digital Elevation Model

The digital elevation model (DEM) used to estimate the local surface topography is the SRTM-30M released by the NASA following a worldwide radar survey completed aboard the space shuttle Endeavour in 2000. The vertical datum is the EGM96 and associated elevations are above mean sea level (Table 3). The topographic information is used in the 3D inversion process of the IP data.

Comments/Remarks: *The WGS84 approximates Earth by an ellipsoid, which is basically a deformed sphere. EGM96 is a more complex model based on the gravitational force of the Earth (which is not constant) that defines what "sea level" or "up/down" mean, a smooth but irregular shape called "geoid". WGS84 is the ellipsoid that best fits that geoid, and this fit has been updated as more accurate measurements of the geoid have been carried out over the years. WGS84 is not outdated; it's just a simplified mathematical model used by positioning systems like GPS, even if a geoid is technically more accurate when it comes to define the height over the sea level (since this is different from GPS altitude).*

Table 3 Digital Elevation Model Specifications

Original Projection	Geographic
Horizontal Datum	WGS84
Vertical Datum	EGM96 (Earth Gravitational Model 1996)
Vertical Units	metres
Spatial Resolution	1 arc-second for global coverage (30 m)
Raster Size	1-degree tiles
C-Band Wavelength	5-6 cm

4.4 Deliverable Maps, Grids and Voxel Files

The Geosoft Oasis Montaj software package was used to process the geophysical data as well as to generate the maps. The different documents that are included with this report were also submitted in the JPEG and PDF formats, as well as geo-referenced *.tiff. Table 4 gives the details of the different maps submitted with this report, as well as the digital files in * grd or voxel format generated by processing the IP data.

Table 4 ***List of Deliverable Maps, Grids and Voxels***

Map	Description	Grid and Voxel Files (UTM_12N WGS84)	Units
C275-1	Survey Grid & Topography	DEM_SRTM30M_LV.grd	meters
C275-2A	IP, Ground Model of Resistivity @ 1000 m of Elevation (msl)	D_Slice RES_LV_1000.grd	ohm-m
C275-2B	IP, Ground Model of Chargeability @ 1000 m of Elevation (msl)	D_Slice CHA_LV_1000.grd	mV/V
C275-2C	IP, Ground Model of Resistivity @ 900 m of Elevation (msl)	D_Slice RES_LV_900.grd	ohm-m
C275-2D	IP, Ground Model of Chargeability @ 900 m of Elevation (msl)	D_Slice CHA_LV_900.grd	mV/V
C275-3	Geophysical Interpretation	-	
-	3D-IP Resistivity Inversion	IP Inv 3D_LV Res.voxel	ohm-m
-	3D-IP Chargeability Inversion	IP Inv 3D_LV_Cha.voxel	mV/V

Figure 7 3D IP Inversion, Model of Resistivity @ 900 m of Elevation (msl)

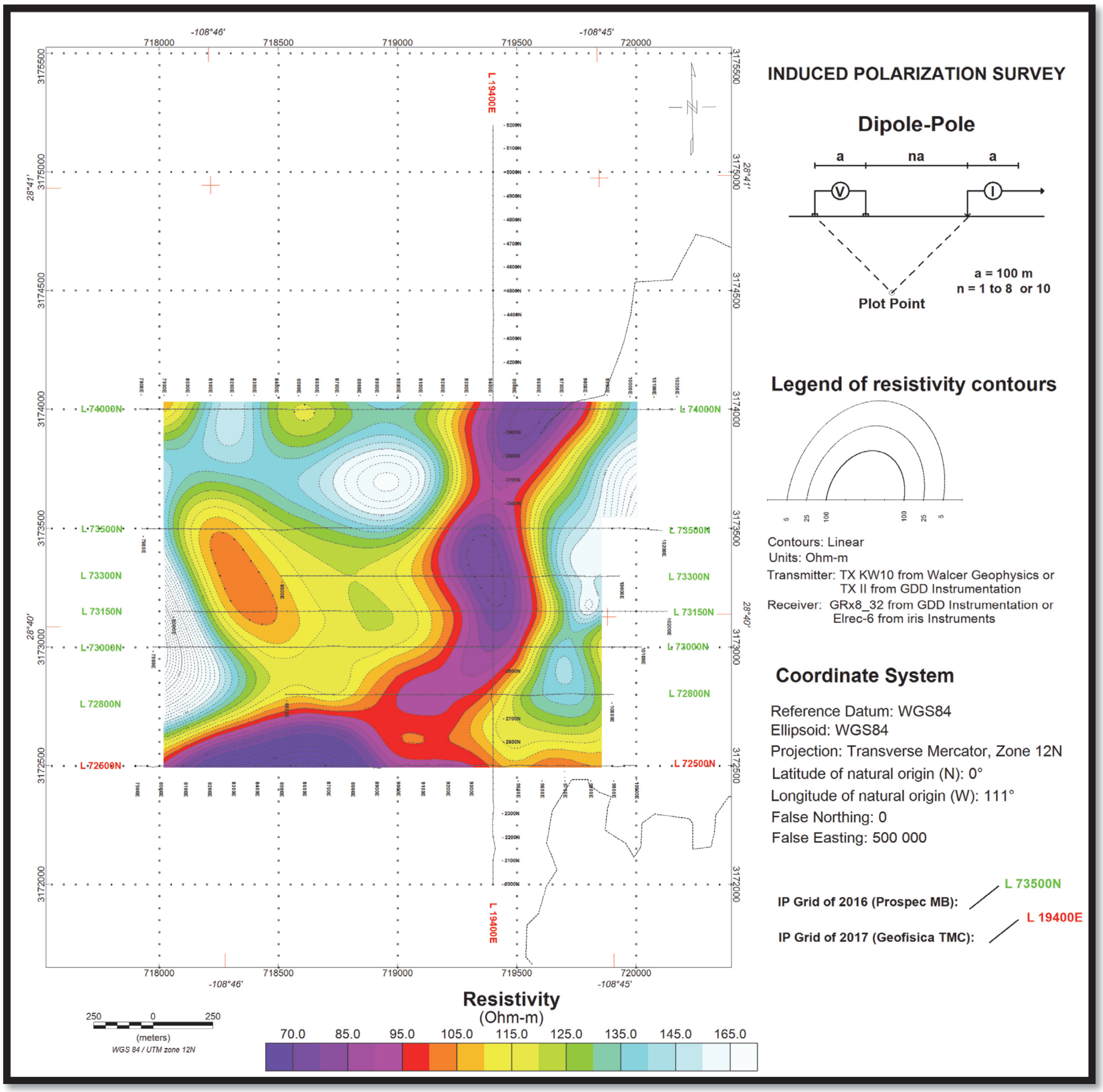
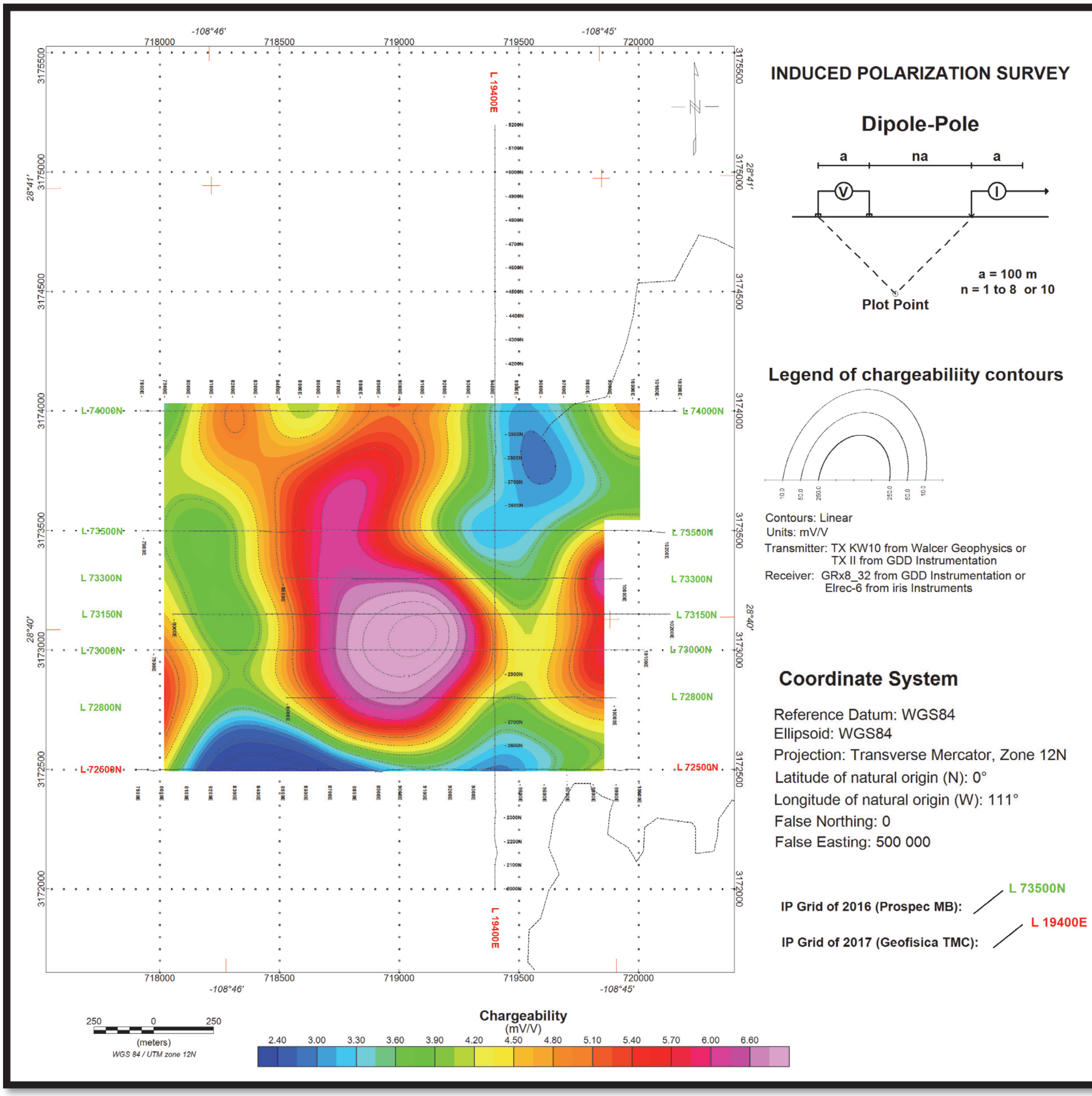


Figure 8 *3D IP Inversion, Model of Chargeability @ 900 m of Elevation (msl)*



5. INTERPRETATION

5.1 Project Overview and Survey Objectives

The Mulatos gold mining district and surrounding area is currently receiving intense exploration activity by many companies including Alamos Gold, Agnico Eagle and Fresnillo PLC. Alamos Gold is currently carrying out extensive pre-development work on the La Yaqui and Cerro Pelon gold deposits located approximately 7 kilometres southwest of their Mulatos mining operation. In addition to its mining operation at La India, Agnico Eagle is actively exploring a gold showing southwest of the village of Tarachi, located approximately 7 kilometres northwest of the Los Venados property, and Fresnillo is exploring another gold showing northeast of Tarachi.

The Los Venados concession is centrally located within the Mulatos gold mining district, an approximately 25km x 25km area of mid-Tertiary volcanic rocks hosting numerous occurrences of high sulphidation style alteration. Three generalized rock packages are present in the district, andesitic rocks correlative with the Lower Volcanic Series of the Sierra Madre, bimodal felsic pyroclastic and mafic basaltic rocks of the Upper Volcanic Series, and dacitic dome complex rocks that are localized at the unconformity between Upper and Lower Series units. Dacitic dome complex rocks are of primary interest as they host most of the economic mineralization in the district and almost all gold reserves. District mineralization is gold-dominant, with accessory silver and copper. Most economic gold mineralization occurs within silicic alteration but is also observed within advanced argillic assemblages of pyrophyllite-dickite proximal to silicic alteration. Numerous showings associated with high sulphidation style alteration have been identified within the property. The IP survey was designed to test one of them located in the southeast of the LV mining concession, where a first survey was completed by Prospec MB in 2016 (see Figure 1).

5.2 Survey Data

Two IP lines were surveyed during this campaign which extend the coverage done by Prospec MB in the southeastern part of the property. The reprocessing of the older data and compiling with the most recent data allowed us to make the best use of all the available information in this area following the 2016 and 2017 IP surveys. The newest IP coverage totals 5.3 line-km, in addition to the 12.0 line-km done in 2016.

A review of all the data acquired so far indicates that the apparent resistivity values vary between 25 and 678 ohm-m, which is a relatively narrow spread. The chargeability values vary between -5.6 and 42.0 mV / V with a mean value of 5.0 mV/V and a standard deviation of 2.2.

The initial exam of the 2D inversion models indicates that most of the IP anomalies are of deep origin (> 150 to 200 m) and partially correlated with slight resistivity lows. As for the maps, we can observe the presence of a broad chargeability anomaly (Ma > 5.0 mV/V) located in the center of the grid that is 600 to 800 m wide in the E/W axis. This likely highlights a polarisable band of rocks that strike in a NNW/SSE direction, extend over more than 1.35 km and that is continuous (open) towards the northwest. Based on the 3D inversion results, this wide polarisable sequence of rocks is clearly better defined at depth and probably caused by several closely spaced *bodies (altered horizons)* that are quite difficult to differentiate (see Figure 10 and Table 7).

Considering the available information, the IP signature of the mineralised structures or beds could be related to the presence of silver or copper rich minerals such as chalcopyrite. Pyrite and clays minerals could also be indirect markers of the mineralised zones if they are found in association with gold (see also Table 5). The concentration of polarisable minerals, the thickness of the structures as well as their vertical and lateral extent will ultimately determine the amplitude of the anomaly.

Table 5 ***Comparative Chargeability Values of some Minerals***

Mineral	Chargeability (mV/V)*
Pyrite	13.4
Chalcocite	13.2
Copper	12.3
Chalcopyrite	9.4
Bornite	6.3
Magnetite	2.2

*- The duration of the square wave was 3 s and the decay was integrated over 1s (1% vol. concentration).

The inversion models, as illustrated on the IP pseudo sections, allow us to estimate the location and, to a certain extent, the shape of the anomalous targets. However, these models are always more extensive than the targets that created them in the first place. The chargeability and resistivity anomalies have been indicated on the IP sections and then graded according to their relative strength. Those chargeability anomalies that are deemed to be caused by the same anomalous target are grouped together in what is called a polarisable axis. All in all, six (6) of them were interpreted following the review of the IP data. Using a single and continuous numbering system, they were successively labelled IPLV-1 to IPLV-6 and then transposed onto the interpretation map (Map C275-3 & Figure 11). The reader will find a detailed description of the interpreted IP axes in Table 6 at the end of this section.

Figure 9 **3D IP Inversion, Voxel Model of Resistivity**

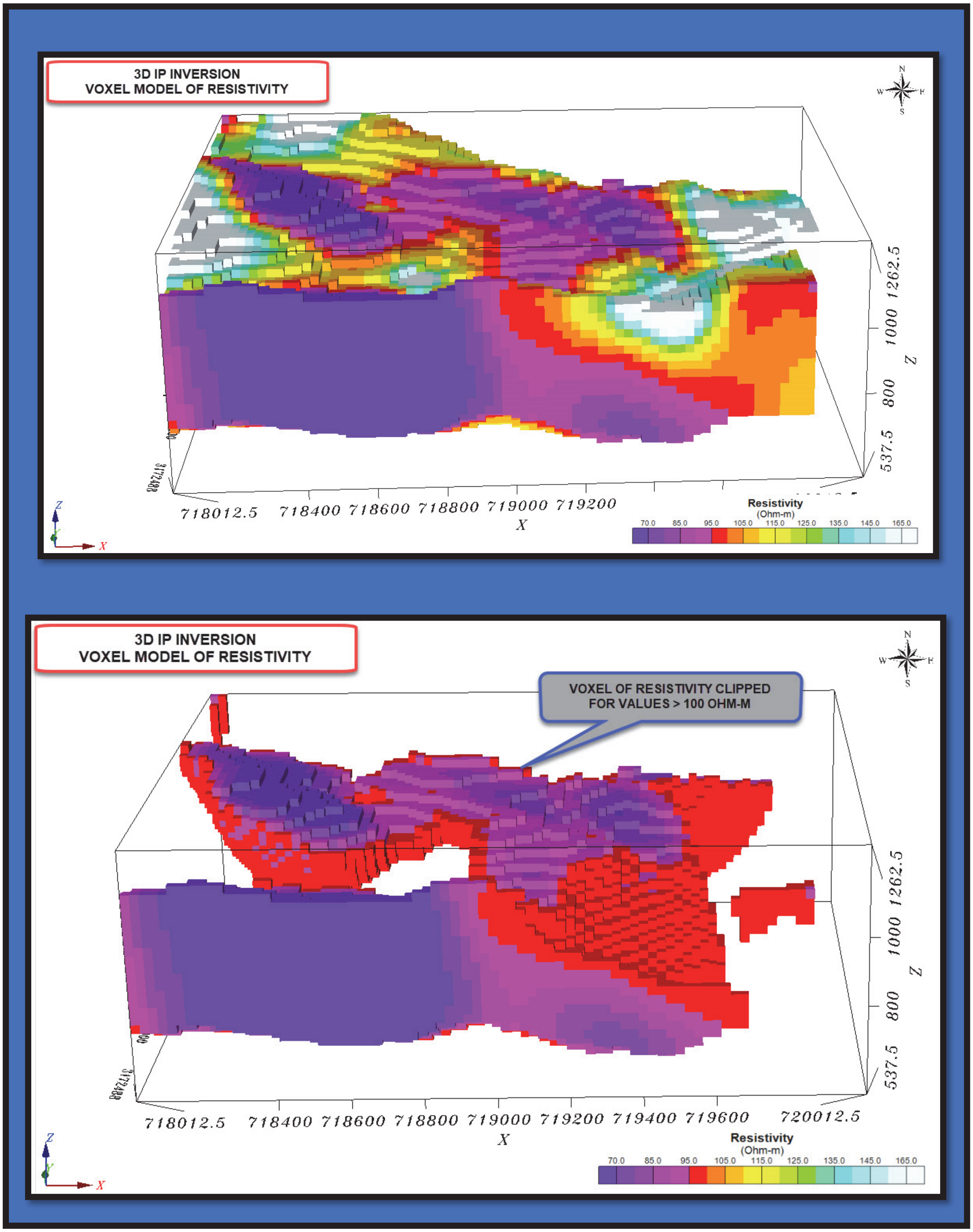


Figure 10 3D IP Inversion, Voxel Model of Chargeability

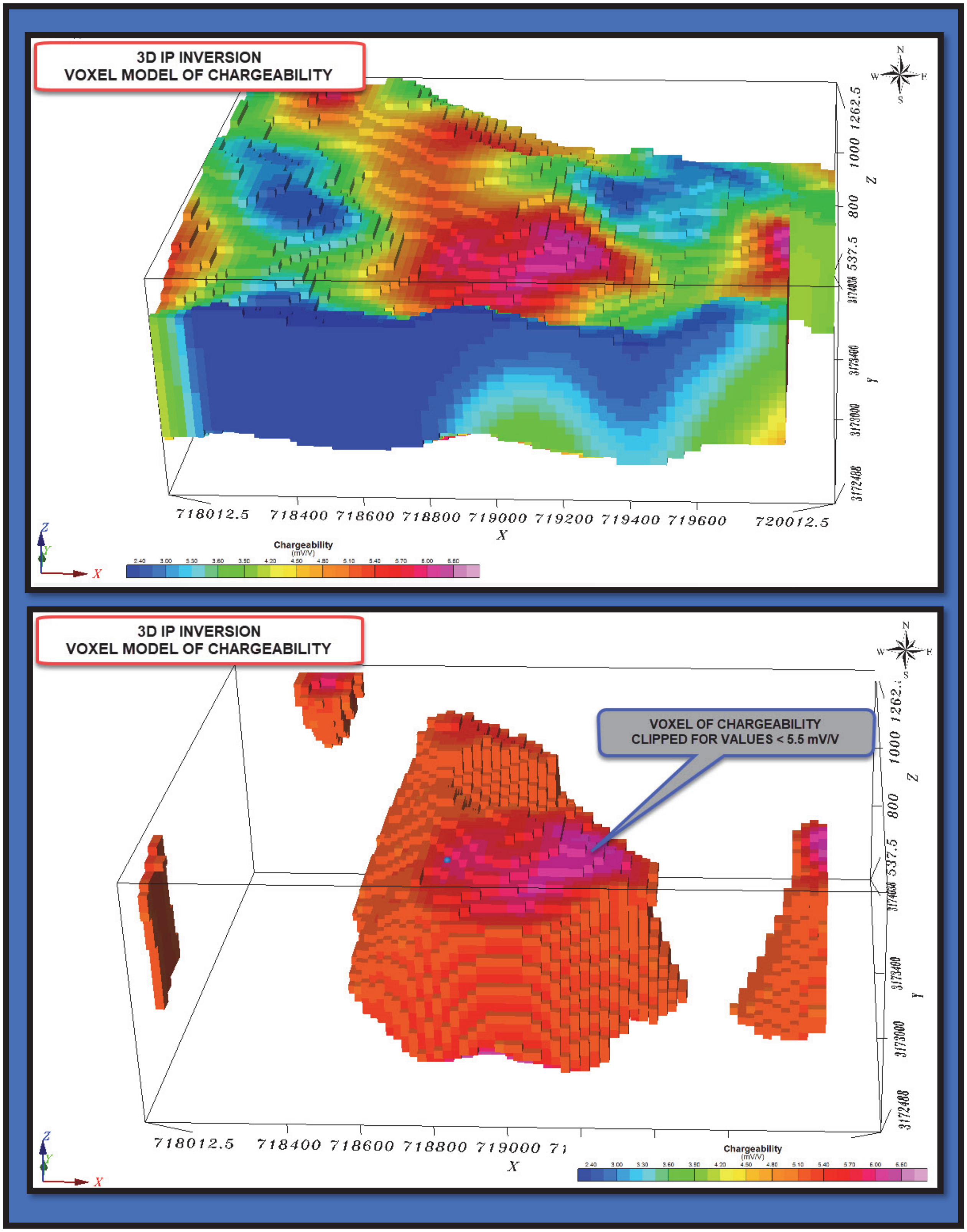


Figure 11 Geophysical Interpretation

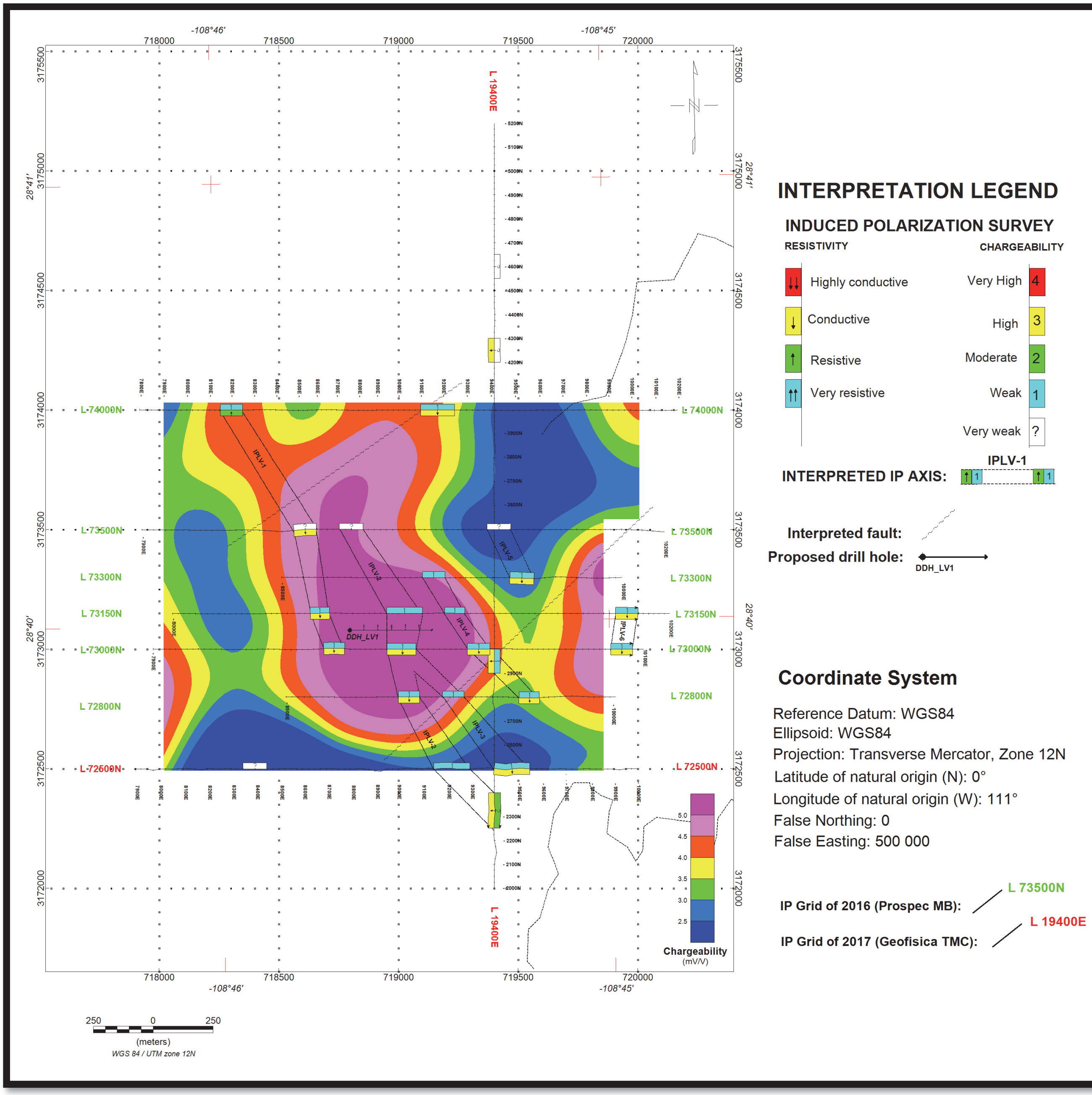


Table 6 Description of the IP Anomalies

Anomaly	Location		Contrast		Description	Priority (1 to 5)
	Line	Station	Charg.	Res.		
IPLV-1	730+00N	87+00E	1	↓	• **IP-RES Signature:** Uncertain to weak and likely correlated with a slight resistivity low • **Location/Strike length/Direction:** 1000 m NNW/SSE / Open northward • **Remarks/Recommendations:** Deeply seated target (> 150 to 200 m) highlighting the western portion of the wide and extensive polarisable anomaly that passes through the center of the grid / Could be indicative of a sequence of altered rocks enriched with disseminated sulphides and clay minerals	1-2
	731+50N	86+50E	1	↓		
	735+00N	86+00E	?	↓		
	740+00N	82+00E	1	↑		
IPLV-2	194+00E	23+25N?	2	↓	• **IP-RES Signature:** Weak to moderate and locally correlated with a slight resistivity low • **Location/Strike length/Direction:** 1200 m NNW/SSE / Open southward • **Remarks/Recommendations:** Deeply seated target (> 150 to 200 m) highlighting the middle portion of the wide and extensive polarisable anomaly that passes through the center of the grid / Could be indicative of a sequence of altered rocks enriched with disseminated sulphides and clay minerals / To be drill tested between L 73000N & L 73150N (see section 6.0 & Table 7)	1
	725+00N	192+25N	1	-		
	728+00N	90+50E	1	↓		
	730+00N	90+13E	1	↓		
	731+50N	90+25E	1	-		
	735+00N	88+00E	?	-		
IPLV-3	725+00N	194+75N	1	↓	• **IP-RES Signature:** Weak and correlated with a slight resistivity low on L 72500N • **Location/Strike length/Direction:** 300 m NNW/SSE / Open southward and may join up towards the NNW with axis IPLV-2 • **Remarks/Recommendations:** Deeply seated target located immediately east of the one indicated by axis IPLV-2 / Anomaly partially defined eastward on L72500N	4
	728+00N	92+50E	1	-		
IPLV-4	194+00N	29+50E	1	↓	• **IP-RES Signature:** Weak and correlated with a slight resistivity low southward • **Location/Strike length/Direction:** 500 m NNW/SSE • **Remarks/Recommendations:** Delineated within the southeastern portion of the wide and extensive polarisable anomaly that passes through the center of the grid / See IPLV-2	3
	728+00N	96+00E	1	↓		
	730+00N	93+50E	1	↓		
	731+50N	92+50E	1	-		
	733+00N	91+50E	1	-		

Anomaly	Location		Contrast		Description	Priority (1 to 5)
	Line	Station	Charg.	Res.		
IPLV-5	733+00N	95+50E	1	↓	• **IP-RES Signature:** Uncertain to weak and correlated with a slight resistivity low on L 73300N • **Location/Strike length/Direction:** 200 m NNW/SSE • **Remarks/Recommendations:** Very weak anomaly with uncertain lateral extent, interest difficult to assess based on the available information	5
	735+00N	94+50E	?	-		
IPLV-6	730+00N	100+00E?	1	↓	• **IP-RES Signature:** Weak and correlated with a slight resistivity low / End of line anomaly to be closed eastward • **Location/Strike length/Direction:** 100 m NNW/SSE / Open at both ends • **Remarks/Recommendations:** Depending upon interest, IP lines to be extended 300 to 500 m eastward to confirm the location of the polarisable target	4-5
	731+00N	100+00E?	1	↓		

Legend		
Chargeability	Amplitude:	? = Marginal (< 2 mV/V) 1 = Weak (2 to 5 mV/V) 2 = Moderate (5 to 10 mV/V) 3 = Strong (10 to 20 mV/V) 4 = Very strong (> 20 mV/V)
Resistivity	Increase:	↑ = Resistive ↑↑ = Very resistive
	Decrease:	↓ = Conductive ↓↓ = Very conductive

6. CONCLUSION

The main IP axes delineated following the two surveys completed in the southeastern part of the property up now are regrouped (delineated) within a broad polarisable sequence of rocks that intersects the central part of the grid. Based on the available geoscientific information, this wide polarisable anomaly is likely indicative of bands of sulphide enriched altered rocks that have already been mapped in this area. For the time being, axes IPLV-1 and IPLV-2 are the most promising and a drillhole is proposed to investigate axis IPLV-2 between lines L73000N and L73150N (see section 6 and Table 7). In addition, we recommend extending the IP survey towards the north to confirm the continuity of this anomaly. The complementary lines should be every 200 m whilst keeping the same electrode array (e.g. Dipole-Pole, a= 100m, n= 1 to 10).

The interpretation of the IP data embodied in this report is essentially a geophysical appraisal of the Los Venados Project. As such, it incorporates only as much geoscientific information as the author has on hand now. Aloro Mining geologists thoroughly familiar with the area are in a better position to evaluate the geological significance of the various geophysical signatures. Moreover, as time passes by and information provided by follow-up exploration programs is compiled, exploration targets recognized in this study might be down-graded or up-graded.

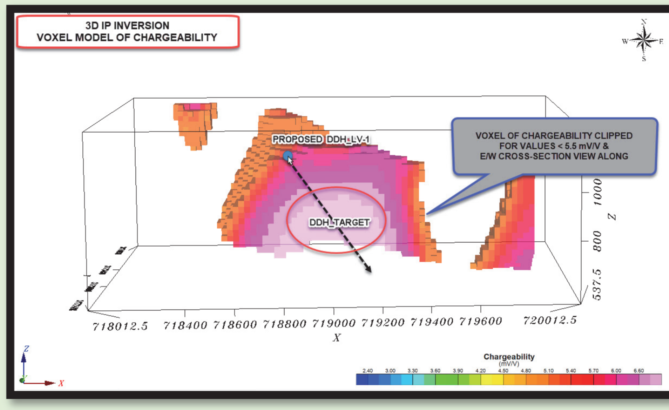
Respectfully submitted
Joël Simard

Joel Simard

P.Geol./Geoph.

O.G.Q. #1350

Table 7 Proposed Drillhole Target & Specifications, Anomaly IPLV-2

<table>
<tr><th>Drillhole parameters</th><th>Predictive Drillhole Section
(Views generated from the 3D Voxel of Chargeability)</th></tr>
<tr><td rowspan="2">IP Anomaly: IPLV-2
Drillhole: LV-1
X-UTM: 718 800 & Y-UTM: 3 173 080
Direction: N90º & Dip: -54.5º
Length: 600 m</td><td>
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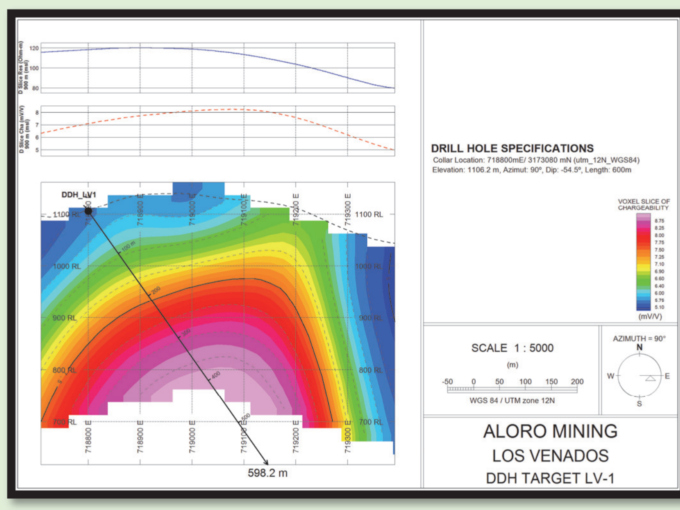
<tr><td>
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