FINAL SOIL GEOCHEMISTRY REPORT, LA INDIA, NICARAGUA

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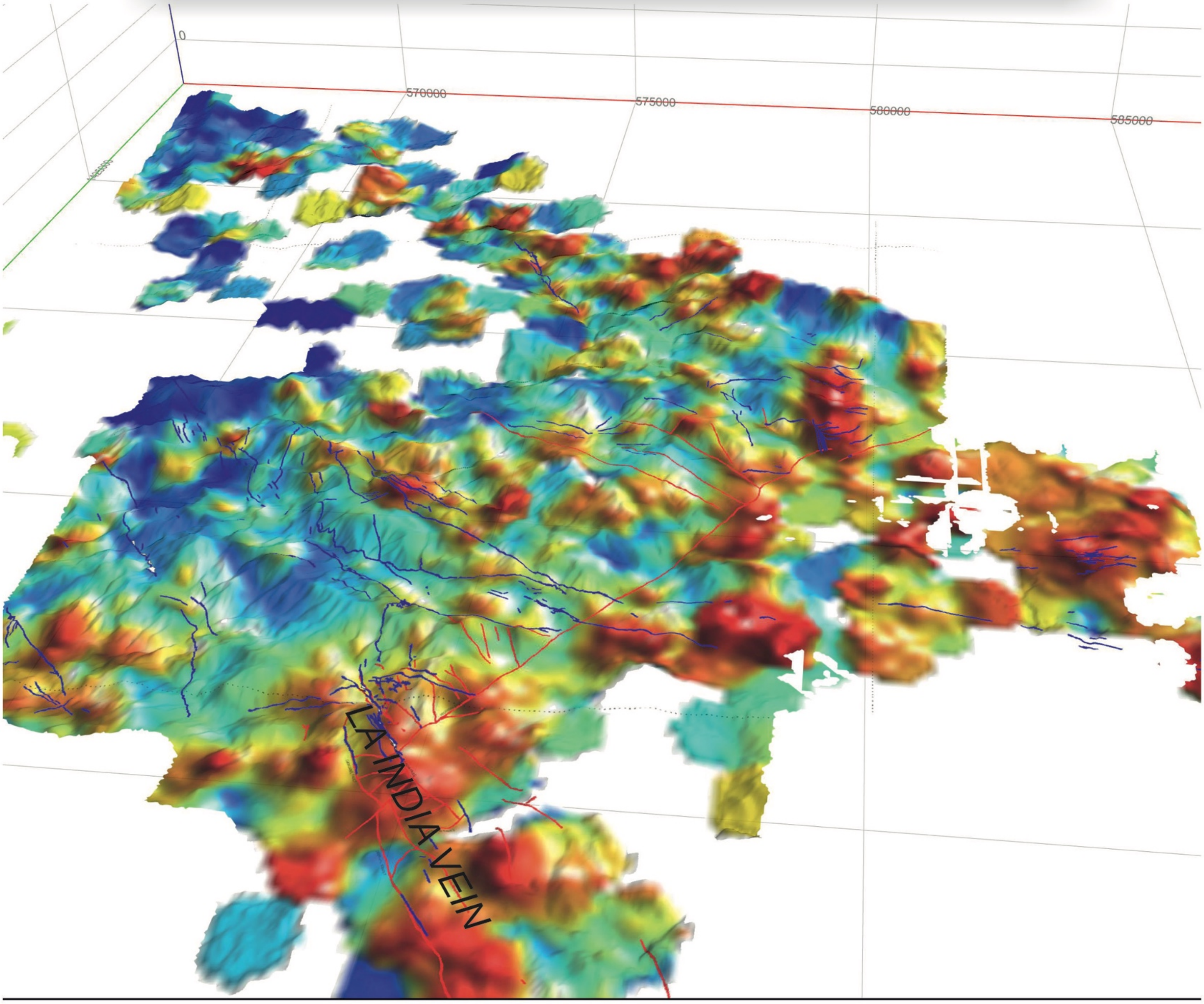


ABOVE. Mapinfo/Discover 3D screenshot showing gridded plot of A:Agu ratio in soil samples. Warm colours = high Au:Ag. Cold = low Au:Ag. Blue lines = veins, red lines = faults.

1. BACKGROUND

A regional soil geochemistry survey has been completed on Condor Gold's concessions in La India district. The objective was to generate new gold targets and understand the character of mineralisation in the district, including upflow zones of the fossil geothermal (epithermal) systems and vectors towards new targets.

A total of 13,194 samples, collected over the entire 313 km^2 land package, has been analysed. The Condor Gold database also includes inherited soil sample results from previous companies, but to ensure consistency, these are not interpreted or included in the discussion below.

Samples were collected along lines either 200 m or 400 m apart and at intervals that vary from 50 m to 400 m (Figure 1). There is also a store of unassayed samples from intermediate 200 m points along 400 x 400 m spaced grid lines. Assaying may be considered if more precision is required after field checking of the existing anomalies. The survey covers both 'virgin' territory in La Cuchilla and Tierra Blanca permits, with no mapped epithermal veins, and areas of known mineralisation, such as La India and America veins.

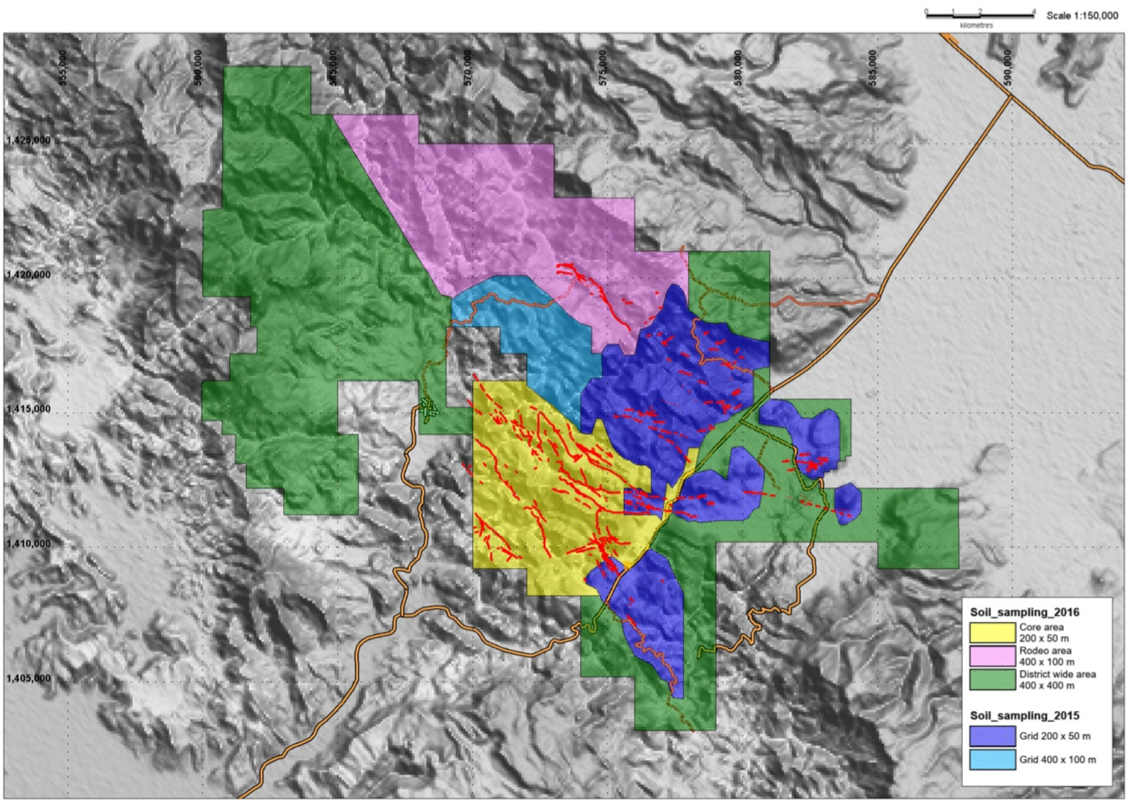


Figure 1: soil sampling density over La India District; veins shown in red

An orientation study identified the B horizon as the optimum for sampling. The B horizon is generally enriched in clay, which attracts the positive metal ions because it has a net negative ionic charge, meaning that clay-rich horizons soak up metal cations. Capillary action also tends to leach metals from the weathered bedrock below (the C horizon) and transports them upwards to the B horizon. This can result in orange FeOH concretions in the clay-rich B horizon, a good guide for samplers.

Soil samples, normally weighing 0.5-1 kg, were mostly oven dried at 60°C at the Veritas preparation lab in Managua and submitted for a traditional ICP-MS exploration package of 53 elements in the Veritas laboratory in Vancouver. In the final stages of the program, the drying took place at 40°C. The earlier heating is unfortunate and unplanned, because it will have volatilised mercury (Hg), normally one of the most useful epithermal exploration elements. Mercury is particularly good at finding concealed ore bodies through non-mineralised cover, because it is volatile and can move through rock and soil.

2. FACTORS WHICH INFLUENCE GEOCHEMICAL SOIL RESULTS

A typical, Buchanan-type, model for a low sulphidation epithermal deposit is shown in the two below figures (Figures 2 and 3). It shows an upward-flaring zone of clay alteration with smectite near the surface, passing down into narrower illite, and then sericite, halos.

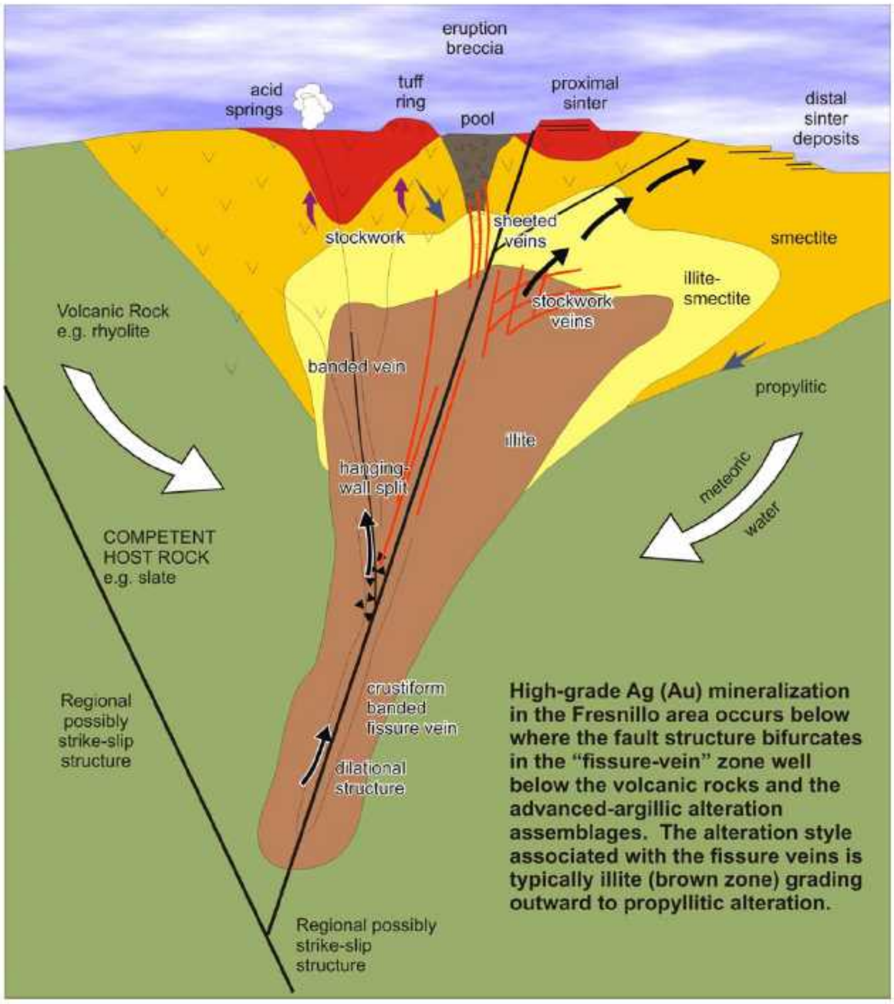


Figure 2: Buchanan low sulphidation epithermal model

There is commonly a narrow steam-heated ('acid sulphate') zone between the water table and ground surface. Condensation of H_2S, driven off by a boiling water table, generates sulphuric acid which leaches downwards, producing a sugary, friable mix of kaolinite + cristobalite + alunite (Figure 3). Volatile elements, such as mercury, arsenic and antimony tend to be extremely enriched in these zones and can become ore deposits in their own right (e.g., Manhattan mercury mine at McLaughlin, California).

Cerro El Pilón, a high hill to the southeast of La India and on the southern flank of the Highway Fault, is a possible example of steam heated alteration 'ledge' in La India District. There is also evidence of kaolinite penetrating down the vein at Cacao, which is interpreted to be high in the hydrothermal system.

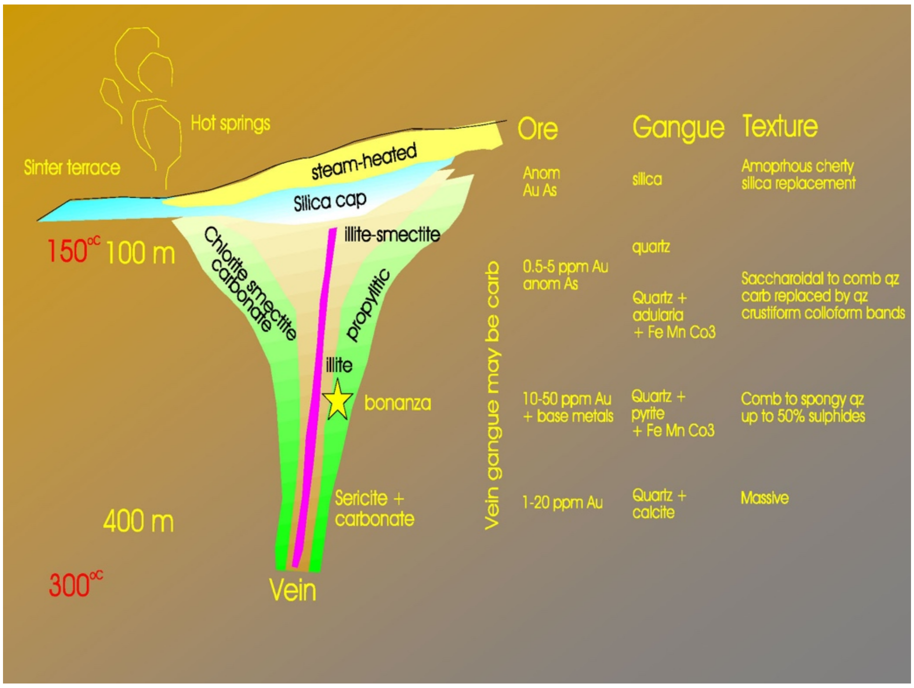


Figure 3: Alteration minerals in a low sulphidation epithermal model

Phreatic eruption breccias and possible sinter do occur within andesites at Cacao and Central Breccia, but in contrast to the classic Buchanan model, there is a remarkable lack of wall rock alteration around most veins in the district. Most of the satellite targets show only subtle hydrothermal alteration. Drill core from San Lucas and Mestiza, for example, shows virtually no disseminated sulphides in wall rocks. Even rock fragments within the vein preserve igneous magnetite (which normally converts to pyrite). This suggests that the hydrothermal fluids in La India District were probably relatively neutral, or weakly alkaline. The 'typical' weakly acidic alteration that occurs at many low sulphidation epithermal deposits around the world, resulting in illite + pyrite + sphene halos + magnetite destruction, is only weakly developed in La India district. This is confirmed by recent TerraSpec™ SWIR (short wave infra-red) work by Mit Tilkov, which found that clay alteration is only weakly developed at La India. Original mafic minerals tend to be weakly altered to chlorite.

One of the main alteration styles in the District is calcite-dominated (with magnetite preserved). This may be a distal halo around veins. Alternatively, it may be a more regional deuteric alteration. Calcite is not routinely logged in drill core, and there is a lack of information in non-drilled areas, so it is difficult to be sure. Calcite veining is seen in peripheral portions of some of the vein systems (e.g., the southern extension of La India), which may represent the late introduction of carbonate as the hydrothermal system collapsed. Some of the pervasive alteration assemblages, for example the propylitic assemblage of chlorite + epidote + calcite + trace illite + remnant magnetite at La India and Tatascame, are probably related to larger heat sources, such as microdiorite sills seen in Tatascame drill core, and may not be related to focused flow within narrow conduits (veins).

The mineralised quartz veins also rarely contain sulphides. Trace pyrite and black ginguro-like sulphosalts have been logged, but are not widespread. This suggests a low metal budget in the hydrothermal fluid, but may also reflect the alkaline to neutral fluid chemistry.

The veins in La India District are consequently low in base metals (Cu, Pb, Zn) and silver. Rare specks of chalcopyrite, but no galena or sphalerite, have been observed in drill holes. Most drill holes are assayed only for gold and silver, but those with multi-element assays confirm the low level of base metals. There is no apparent district-scale zonation outwards to silver and Pb/Zn deposits, which means that traditional methods of manipulating the geochemical data to give vectors towards upflow zones, including ratios of gold to base metals and gold to silver, require careful investigation.

All in all, because of the less intense alteration, narrow extent of alteration halos, and lack of sulphides, it is likely that the normal pathfinders for gold in soil will have lower levels and extend less distance into the wall rocks. This means that anomalies are likely narrow and will tie in closely to veins, except for where there is strong downslope dispersion (erosion and transport of rocks and soil down steep slopes). This argues for a closer-spaced sampling grid, but this would be at a level that is covered by follow-up prospect mapping.

The following general statements can be made about the soil geochemistry in La India District:

1) Anomalies in the traditional epithermal pathfinder elements (As, Sb, Hg, Te) are much lower than in most traditional epithermal deposits. This reflects the simple mineralogy, sulphide-poor veins and lack of wall rock alteration.

2) In the case of some elements, it is clear that 'anomalies' simply reflect the higher natural background values of some rock types. This lithochemical factor is most clearly seen in the correlation of elevated copper (Cu), nickel (Ni) and chromium (Cr) with basic rocks (basalts and andesites), despite overall values still being very low (only 7 samples > 200 ppm Cu). Figure 4 shows nickel for La India area. The wedge of basalt to the south of La India stands out very well, with relatively high nickel values. Normally there is an attempt to 'level' the data to remove this lithological effect, so that samples from different rock (soil) types can be usefully compared. However, mapping is at an early stage, polygons are not available, and it would require

considerable work to add a lithology attribute to every sample. This task should be considered once mapping has progressed to cover the tenements.

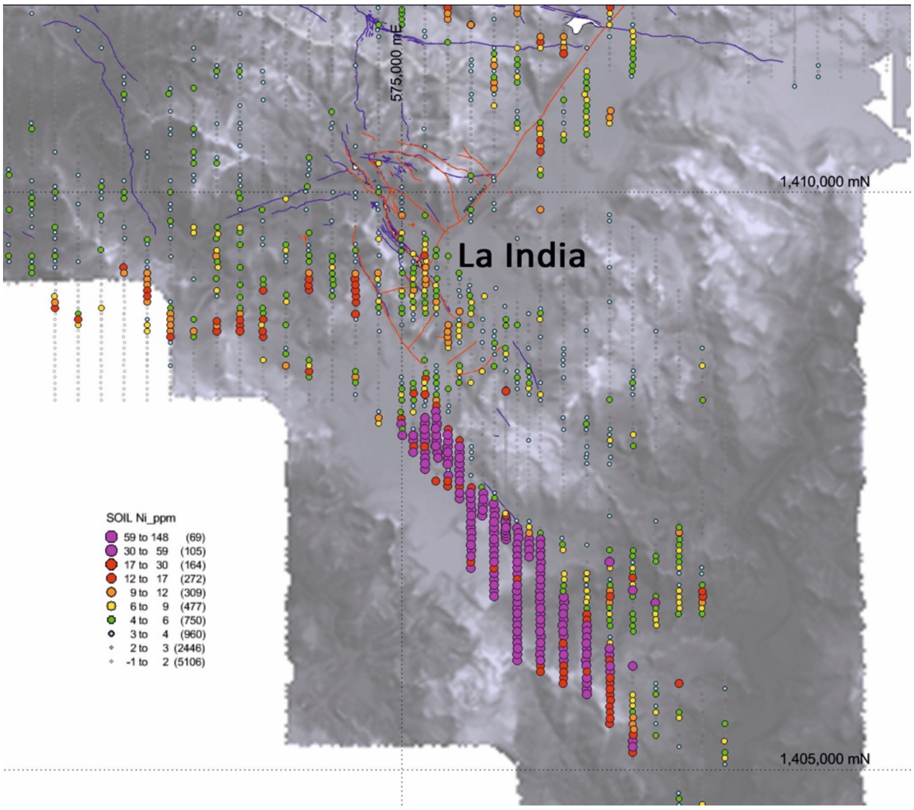


Figure 4: Nickel distribution in soil samples

3) Copper (Cu) and manganese (Mn) are relatively soluble elements. Manganese tends to form halos in weathered rocks around copper porphyry deposits, for example, because it has higher solubility and moves farther in soils. Like copper, it also tends to be dumped out in local reducing environments, particularly around rocks with common mafic minerals. This solubility of manganese is clear in the soil plot, which shows broad halos on steep slopes and low values on flat plateaus. Unfortunately, the 'slope_dip' column in the soil database has not been completed, so it is impossible to interrogate and prove a statistical correlation. Figure 5 shows manganese for the Mestiza area. Note the low values for the plateau-like area (where trenches are visible), when compared with the steeper slopes to the north and west. This is almost certainly the result of downslope transport of manganese from point sources (manganese carbonates have been observed in veins in this area).

4) Molybdenum (Mo) and tungsten (W) generally reflect a deeper, intrusion association, typically with continental signatures. Low level molybdenum (rarely > 2 ppm) occurs to the northwest of the Highway Fault where deeper levels of the system are preserved. Tungsten, on the other hand, is generally below detection limit across the district. The exception is a large, 3 x 5 km, northwest-oriented W + Mo anomaly with associated As, Sb, Tl and Pb, occurring between the southeast rim

of the caldera and the northwest end of the America - Guapinól vein system (Figure 6). The level of anomalism is low (max: 44 ppm Mo, 6.8 ppm W), but the discrete nature of this anomaly bears following up, as it may reflect a deep heat source with different styles of veining.

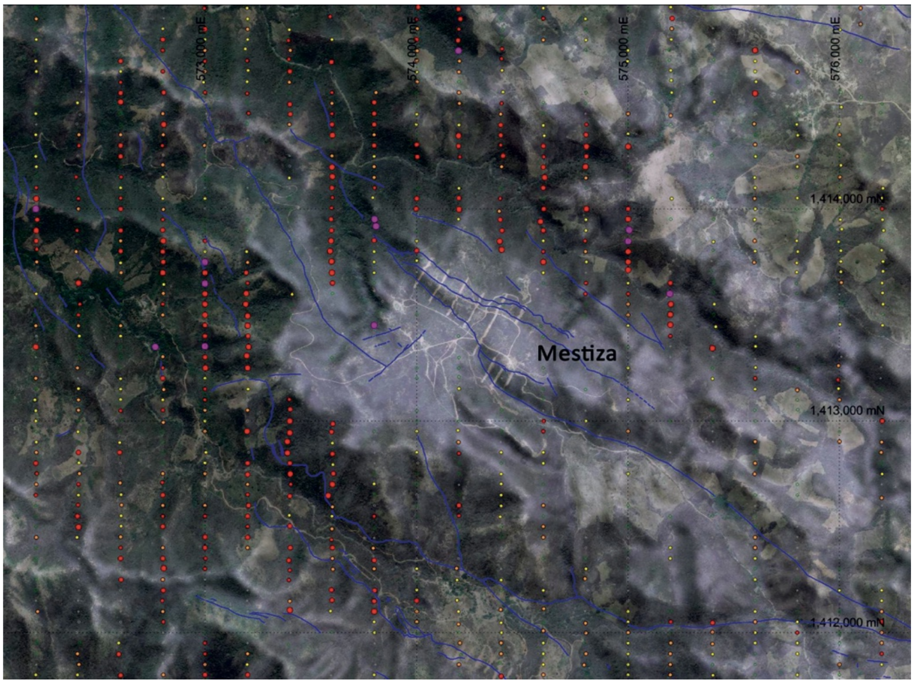


Figure 5: Mn values around Mestiza; veins are shown in blue

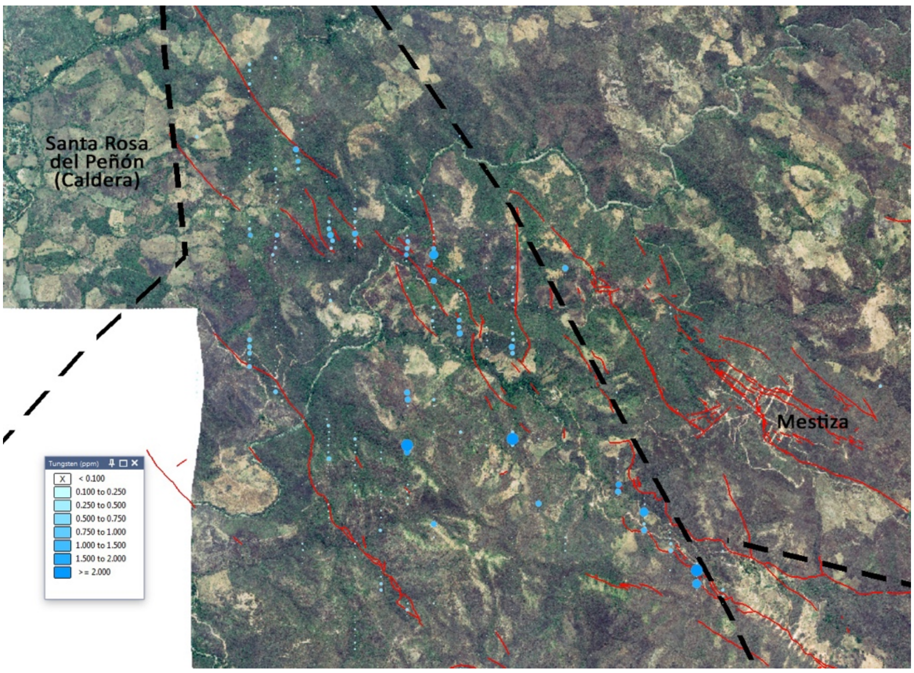


Figure 6: Anomalous W associated with Mo-As-Sb-Tl-Pb anomaly; veins are shown in red

5) Younger alluvium and colluvium conceal geochemical anomalies. It is therefore always a good idea to superimpose a map of superficial deposits on geochemical plots. Currently we have only limited map polygons for superficial deposits, but significant alluvium (> 10 m thick) only occurs east of Cacao.

6) Post-mineral fault offsets have juxtaposed different stratigraphic and epithermal levels. This effect is very obvious along the Highway Fault, which drops down andesites to the east. These andesites, although hosting mineralised veins (e.g. Cacao and La India), seem to have originally been closer to the surface during mineralisation. The textures at Cacao, which include near-surface phreatic breccias and sinter, certainly imply that the entire epithermal system is preserved. The hydrothermal and soil geochemistry footprint is small in this area, as the upward flaring of the clay alteration halos predicted by the Buchanan model appears to be restricted.

The relative influence of the factors outlined above makes interpretation of subtle soil and rock results tricky. It means that judicious use of ranges when making symbol plots is required. Experimentation with ranges works better than a purely statistical approach (based on standard deviations or a histogram distribution of the data). Using Mapinfo/Discover, symbol size, colour and element ranges are manipulated until an association with known veins appears. This experimentation frequently gives superior results and emphasizes new targets.

3. INTERPRETATION OF SOIL GEOCHEMISTRY RESULTS – BY AREA

Soil sampling results have helped map general targets in La India district. These are discussed in detail for each main element in Section 5.

The geochemical data suggests four main controlling features or domains (Figure 7). These are:

1) Two NW to NNW-striking corridors running through La India and Andrea vein sets, which are anomalous in several elements, particularly As, Ag, Au, Sb and Tl. The corridors may reflect fundamental basement structures that focused fluid flow. This is supported by the airborne magnetics data, which in the upward continued dataset, shows two clear lineaments that coincide with the anomalous corridors (note: the corridors suggested by soil geochemistry are seen as lineaments in the magnetics data, but are not the main structures that the magnetics data suggests are at depth. This may suggest a dip to the structures such that they form a major graben). La India Corridor also shows a tendency for veins to swing into a more northerly strike. Again, this suggests the influence of some NNW-striking basement structure (feeder zone). Conceptually, the convergence of the two corridors close to Los Limones, which is also a broad arsenic anomaly, may be a good place to explore.

2) The NE-striking Highway Fault drops down the stratigraphy and epithermal system to the east, as evidenced by the presence of sinter at Cacao. Deeper level elements,

such as molybdenum, are higher to the west and absent in the east; while higher level elements, such as antimony, are broadly anomalous in the east and only locally anomalous to the west. The down-dropped block is mostly covered by alluvium and colluvium, which masks large portions of the geology and has either not been sampled or is geochemically dead.

3) The Link – a sinuous E-W striking structure – links the Cacao and Santa Barbara prospects. This would have been dilational in a NW-striking sinistral strike-slip structural setting, but other structural data suggests mostly dextral offsets elsewhere on La India and Andrea corridors (e.g. Big Bend at Mestiza). More work is required to understand the structural model.

4) A caldera, partly covered by Condor's tenements in the west, shows a distinctly different geochemical association. There is a large As + Sb + Tl + Mo + W + Pb anomaly between the southeast margin of the caldera and La India corridor. There is also a discrete As + Mo + Sb + Te + Tl anomaly in the core. Both warrant follow-up. The area to the north of the caldera, sampled at 400 x 400 m intervals, shows broad anomalies that with infill sampling may resolve as discrete targets.

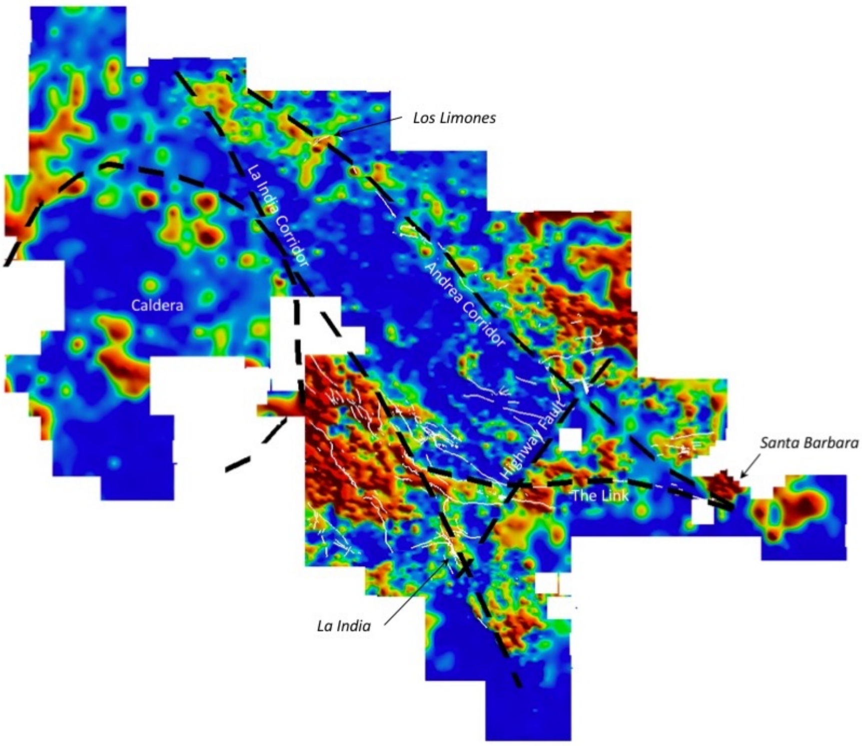


Figure 7: Sb distribution in La India District showing interpreted corridors and caldera; veins in white

4. PRESENTATION OF SOIL GEOCHEMISTRY RESULTS

This report uses both Mapinfo symbol plots, normally with 10 ranges, and complementary gridded images, which have been processed using a minimum curvature algorithm and low pass filters to reduce the influence of outliers. The images better illustrate trends and 'fabric' within the data, while the symbol plots show more clearly the absolute levels of anomalism and geographical distribution of data. All pertinent plots are shown, in alphabetical order, in Appendix 1.

Table 1 shows correlation coefficients, after the exclusion of below detection assays (negative values). This correlation uses the entire dataset, as noted above, without any domaining for assay batch (as these are area specific) or lithology. As discussed above, mapping has not progressed to the point where the soil geochemistry can be analysed within lithological domains, which may show stronger elemental associations.

	Au	Ag	As	Bi	Cu	Hg	K	Mo	Pb	Sb	Te	Tl	W	Zn	In
Au	1.00	0.66	0.03	0.05	0.02	0.14	0.01	0.01	0.12	0.03	0.01	0.12	0.01	0.05	0.04
Ag	0.66	1.00	0.09	0.07	0.06	0.21	0.03	0.09	0.19	0.11	0.05	0.20	0.12	0.10	0.10
As	0.03	0.09	1.00	0.08	-0.01	0.03	0.07	0.23	0.15	0.28	0.20	0.29	0.23	0.04	0.05
Bi	0.05	0.07	0.08	1.00	0.07	0.03	0.07	0.09	0.26	-0.02	0.17	0.13	0.06	0.09	0.14
Cu	0.02	0.06	-0.01	0.07	1.00	-0.01	0.06	-0.04	-0.09	-0.08	0.00	-0.04	0.05	0.34	0.18
Hg	0.14	0.21	0.03	0.03	-0.01	1.00	0.01	0.01	0.06	0.01	0.01	0.03	0.03	0.02	0.00
K	0.01	0.03	0.07	0.07	0.06	0.01	1.00	0.03	0.14	-0.04	0.02	0.20	0.01	0.36	-0.06
Mo	0.01	0.09	0.23	0.09	-0.04	0.01	0.03	1.00	0.09	0.09	0.11	0.24	0.18	0.00	0.05
Pb	0.12	0.19	0.15	0.26	-0.09	0.06	0.14	0.09	1.00	0.19	0.09	0.26	0.19	0.31	0.32
Sb	0.03	0.11	0.28	-0.02	-0.08	0.01	-0.04	0.09	0.19	1.00	-0.01	0.20	0.22	0.07	0.12
Te	0.01	0.05	0.20	0.17	0.00	0.01	0.02	0.11	0.09	-0.01	1.00	0.00	0.14	0.00	0.06
Tl	0.12	0.20	0.29	0.13	-0.04	0.03	0.20	0.24	0.26	0.20	0.00	1.00	0.33	0.10	0.25
W	0.01	0.12	0.23	0.06	0.05	0.03	0.01	0.18	0.19	0.22	0.14	0.33	1.00	0.07	0.10
Zn	0.05	0.10	0.04	0.09	0.34	0.02	0.36	0.00	0.31	0.07	0.00	0.10	0.07	1.00	0.33
In	0.04	0.10	0.05	0.14	0.18	0.00	-0.06	0.05	0.32	0.12	0.06	0.25	0.10	0.33	1.00

Table 1: correlation coefficient matrix (n=13,194); yellow > 0.1, orange 0.3-0.5, red > 0.5

Silver shows by far the strongest positive correlation with gold, which is not surprising because silver occurs in the gold veins, but is also relatively insoluble and will not mobilise strongly during weathering. Thallium and mercury also show weak positive correlations. Base metals (Cu, Pb, Zn) and bismuth show good positive correlations, which is a common pattern. The remainder of elements in the table mostly hover around '0' correlation, suggesting no clear relationship.

	Au	Ag	As	Bi	Cu	Hg	K	Mo	Pb	Sb	Te	Tl	W	Zn	In
Au	1.00	0.66	0.03	0.05	0.02	0.14	0.01	0.01	0.12	0.03	0.01	0.12	0.01	0.09	0.04
Ag	0.66	1.00	0.09	0.07	0.06	0.21	0.03	0.09	0.19	0.11	0.05	0.20	0.12	0.10	0.10
As	0.03	0.09	1.00	0.08	-0.01	0.03	0.07	0.23	0.15	0.28	0.20	0.29	0.23	0.01	0.05
Bi	0.05	0.07	0.08	1.00	0.07	0.03	0.07	0.09	0.26	-0.02	0.17	0.13	0.06	0.30	0.14
Cu	0.02	0.06	-0.01	0.07	1.00	-0.01	0.06	-0.04	-0.09	-0.08	0.00	-0.04	0.05	0.38	0.18
Hg	0.14	0.21	0.03	0.03	-0.01	1.00	0.01	0.01	0.06	0.01	0.01	0.03	0.03	0.03	0.00
K	0.01	0.03	0.07	0.07	0.06	0.01	1.00	0.03	0.14	-0.04	0.02	0.20	0.01	0.38	-0.06
Mo	0.01	0.09	0.23	0.09	-0.04	0.01	0.03	1.00	0.09	0.09	0.11	0.24	0.18	-0.01	0.05
Pb	0.12	0.19	0.15	0.26	-0.09	0.06	0.14	0.09	1.00	0.19	0.09	0.26	0.19	0.55	0.32
Sb	0.03	0.11	0.28	-0.02	-0.08	0.01	-0.04	0.09	0.19	1.00	-0.01	0.20	0.22	0.06	0.12
Te	0.01	0.05	0.20	0.17	0.00	0.01	0.02	0.11	0.09	-0.01	1.00	0.00	0.14	0.03	0.06
Tl	0.12	0.20	0.29	0.13	-0.04	0.03	0.20	0.24	0.26	0.20	0.00	1.00	0.33	0.06	0.25
W	0.01	0.12	0.23	0.06	0.05	0.03	0.01	0.18	0.19	0.22	0.14	0.33	1.00	-0.03	0.10
Zn	0.09	0.10	0.01	0.30	0.38	0.03	0.38	-0.01	0.55	0.06	0.03	0.06	-0.03	1.00	0.44
In	0.04	0.10	0.05	0.14	0.18	0.00	-0.06	0.05	0.32	0.12	0.06	0.25	0.10	0.44	1.00

Table 2: correlation coefficient matrix (n=1,866); yellow > 0.1, orange 0.3-0.5, red > 0.5

Table 2 shows a similar correlation matrix for a subset of the database (1,866 samples) that includes only samples assaying above 10 ppb gold (i.e., a mineralised sample subset.) This improves some of the positive correlations (for example Pb/Zn and Zn/Bi), but has little effect on the traditional gold pathfinders. As explained above, the level of the traditional pathfinders is so low that most of the data is only marginally above detection limit, with the result that statistical correlations are not particularly meaningful.

Figure 8 shows probability plots for some of the more important elements. The probability plot of mercury is interesting because it is much flatter and its inflexions seem to suggest a weakly bimodal, rather than normal, distribution (c.f., gold probability plot). This may be explained by oven-drying of the samples in the earlier samples, which has liberated the more volatile mercury species, and air drying of later samples. The probability plot for antimony suggests a similar phenomenon may be at play.

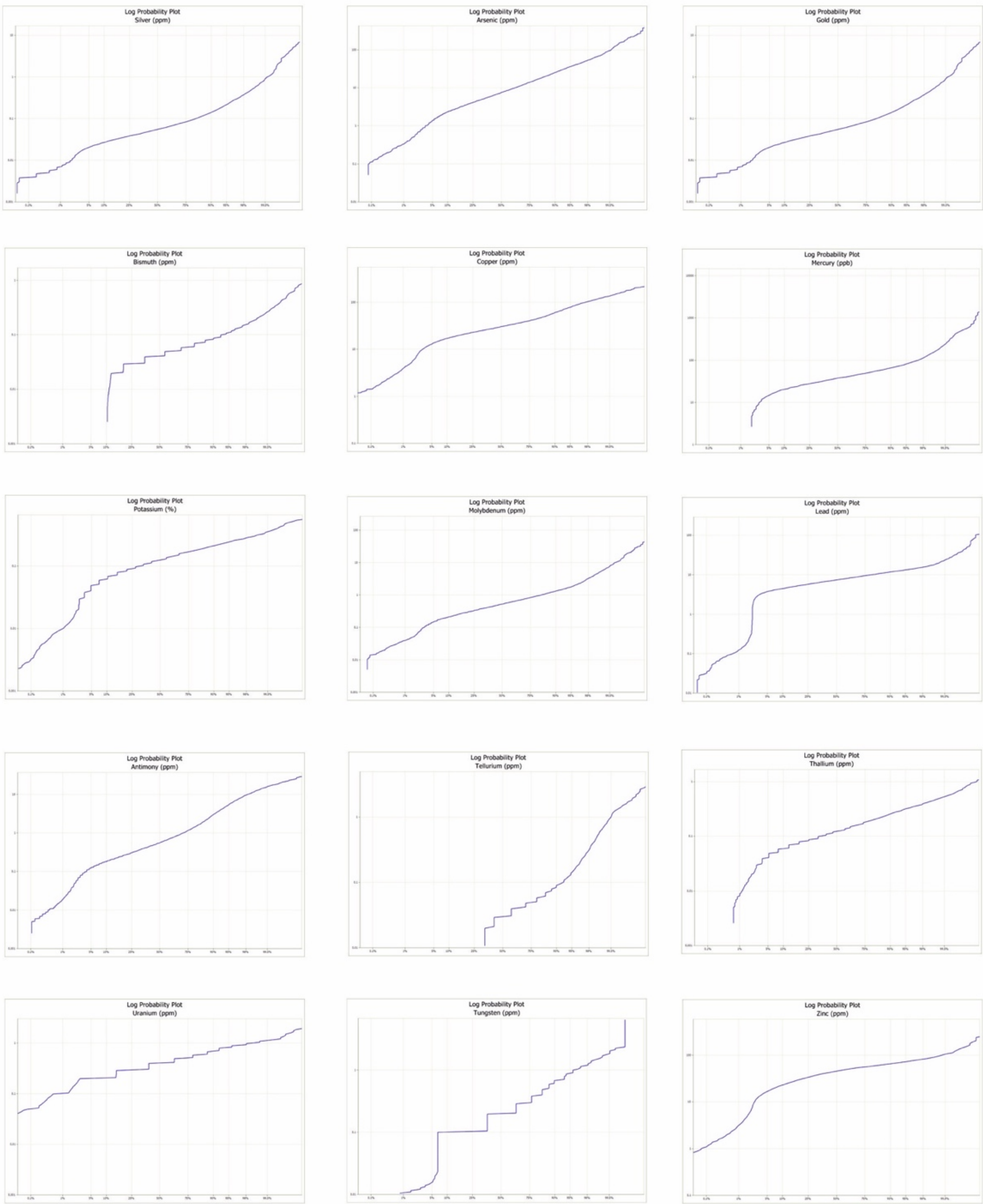


Figure 8: log probability plots for main elements

5. INTERPRETATION OF SOIL GEOCHEMISTRY RESULTS – BY ELEMENT

Silver (Ag). Many low sulphidation epithermal deposits, particularly those in back-arc settings, are silver-rich. Silver occurs as sulphides (argentite, acanthite) or in sulphosalts, in which sulphur combines with non-precious metals, such as arsenic, bismuth and antimony (pyrargyrite, proustite). In soils, silver is less soluble and tends therefore to suffer less dispersion, causing anomalies to have a narrow footprint.

In common with drill core samples from the epithermal veins, the soils of La India district have a low silver content, with only 8 samples above 5 ppm and only 55 above 1 ppm Ag. Anomalies are narrow and mostly show a close relationship with known veins (Appendix 1).

The distribution of silver around La India – America is interesting. It shows anomalies along La India, Escondida and America Veins, but very little along the Constancia Vein (Figure 9). A similar relationship is seen with gold. Values appear higher where veins swing into a more northerly strike.

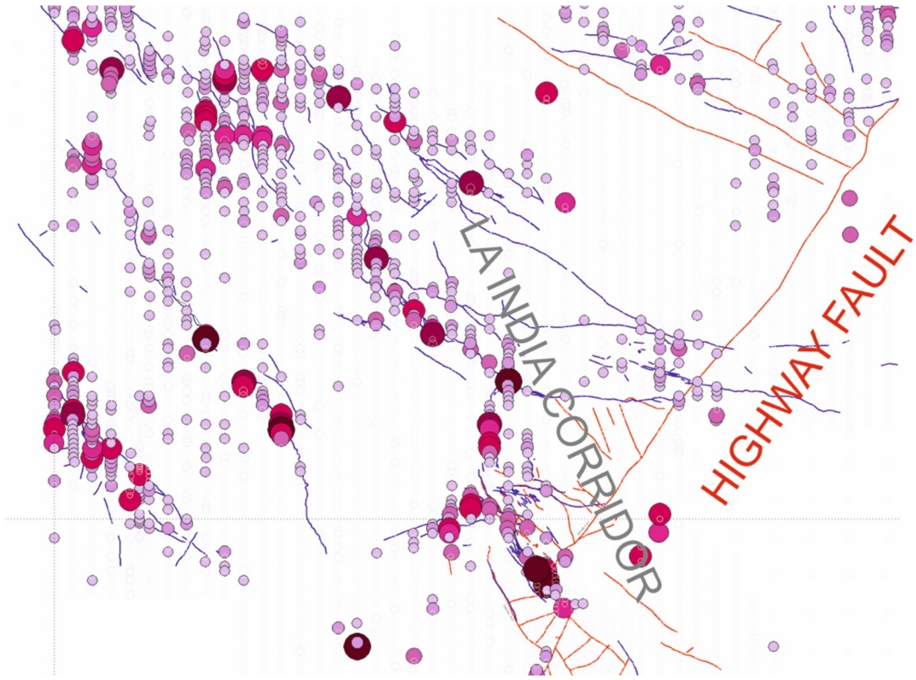


Figure 9: Silver distribution

There is a distinct change along the Highway Fault, with lower values on the east side. This almost certainly reflects the down-dropping of the entire epithermal system to the east along the Highway Fault.

There is a cluster of broader anomalies closer to the Highway Fault, northwest of Tatascame and at Central Breccia. These need to be followed up with ground checking. There are also encouraging anomalies at Andrea and along the Andrea Corridor.

There are some sporadic anomalies along the Mestiza veins, which is interesting since these veins, except for gold, are not anomalous in other elements. In part, this is due to the lack of dispersion on the plateau-like topography (see below under Manganese.)

Finally, there is a region of broad silver anomalies north of the caldera coincident with, and to the west of, the convergence zone of La India and Andrea Corridors. This area has been broadly sampled and may resolve into more discrete anomalies if sampled at a closer spacing. Follow-up work is recommended.

Arsenic (As). This is a traditional pathfinder for gold deposits. It tends to occur as arsenian pyrite, arsenopyrite or in sulphosalts (e.g., proustite, tennantite). Arsenopyrite is important in many epithermal systems (especially low-sulphidation), but has not been seen in drill core from La India. Likewise, sulphosalts, common in intermediate sulphidation epithermal systems, are uncommon. Hugo Galván reports minor proustite and pyrargyrite, which is possibly his interpretation of the rare black dusting (ginguro?) seen in some quartz veins.

Only 600 samples in the drill hole assay database have been assayed for arsenic. These have a mean of 17 ppm As. 1900 district-wide rock samples (excluding trenches) have a mean of 19 ppm, while the soil database has a mean of 12 ppm As.

The arsenic plot (Appendix 1) shows weak and narrow anomalies at most of the veins. Again, the bias introduced by the Highway Fault needs to be considered. It gives the impression of a northeast string of anomalies, but this reflects the down-throw of the andesite, and epithermal system, to the east.

The gridded arsenic image supports the interpretation of two broad mineralised corridors (Andrea and La India) with an area of broad anomalism north of the caldera and at the convergence of the Corridors.

The strongest arsenic anomaly occurs to the southeast of La India, which after inspection, appears to be a real anomaly and not contamination from informal gold mills. One interpretation is that the down-throw on the Highway Fault, where it meets La India vein, has preserved a higher part of the epithermal system, with expected higher arsenic and tellurium values. The anomaly is much larger than along the exposed portion of La India vein. This may be because the felsic rocks (rhyolites, mostly autobrecciated flows) form a stratigraphic ‘cap’ with more ‘stratiform’ disseminated hydrothermal alteration, as seen at Cerro El Pilón in this area. An example from Ecuador (Rio Blanco, 1 Moz Au) is shown below. It shows a shallowly dipping felsic tuff which acted as a sponge to fluids and shows extensive stratiform alteration, rich in As, Sb and Hg. The figure also shows rock geochemistry in the stratiform cap.

There is a surprising lack of an arsenic anomaly at Mestiza/Tatiana, but a broad, 3 x 5 km, NNW-oriented anomaly occurs to the west, where it is coincident with anomalous W + Mo + Sb + Tl + Pb. This coincides with some sinuous bends in otherwise NW-striking veins and is possibly enhanced by dispersion from point sources (veins) on relatively steep slopes.

There is another strong anomaly in the core of the caldera, which is coincident with Hg + Mo + Sb + Te + Tl.

There is cluster of anomalies in a broad ESE-trending strip to the north of Tatascame, below a major scarp. This swings towards the Andrea Vein. This area needs to be followed up with geological mapping.

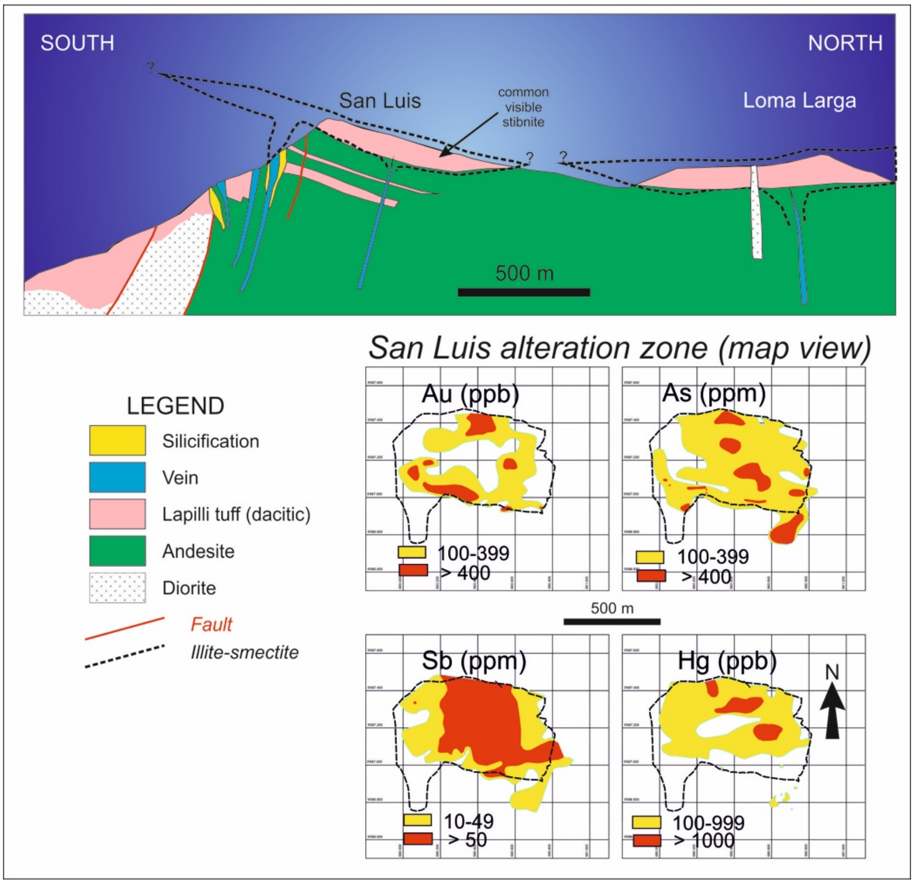


Figure 9: Rio Blanco

Gold (Au). Gold is the best pathfinder for gold. The plot (Appendix 1) shows a close correlation with known veins. The area is hilly and gold, a resistant mineral, is transported in soils by hill creep. This tendency tends to smear out anomalies downslope from relatively narrow veins. A good example is at San Lucas, where the trenches on steep slopes show much wider anomalies when compared with drilling.

Again, the gridded image suggests the same two broad mineralised corridors as shown by arsenic. In slightly more detail, it is interesting to see how gold values are distinctly higher on the west part of the Guapinól, America and Mestiza veins (Figure 10). They show much smaller anomalies as these veins (or their continuations at Constancia and Guapinól) swing eastwards towards the Highway Fault. At face value, this would imply that there is better potential for improved grades and ore shoots in the central corridor ('La India Corridor') and that the area east of this corridor is less attractive.

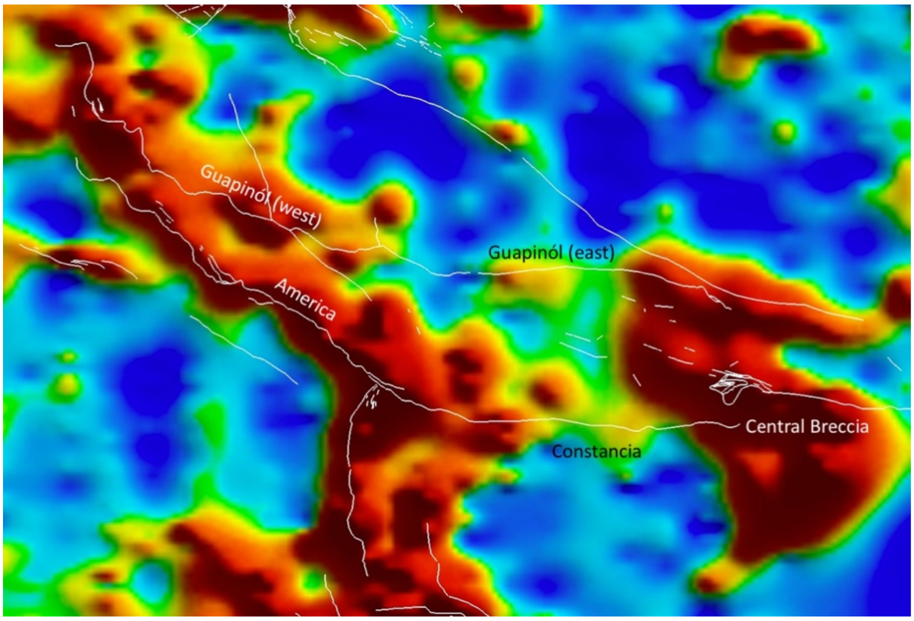


Figure 10: Gold in soil along America-Constancia and Guapinól

There is a distinct 'knowledge gap' in the geology of the Andrea Corridor, particularly between Tatascame and Andrea. This partly reflects difficulty of access, but the area is anomalous in gold and it should be followed up. Some of the veins responsible for the anomalies seem to be oblique to the corridor, as they strike NE or ENE (e.g., Tatascame). It is possible that they are *en echelon* or linking structures, much like Los Limones, in the cover rocks above a major NW-striking feeder (the Andrea Corridor). Mapping has identified some very narrow (c. 10 mm), E-striking veins with abundant visible gold on the north side of the Andrea Vein where there is an influx of informal miners. This highlights the potential of oblique directions to carry significant high-grade mineralisation.

The broadly sampled area north of the caldera and the convergence zone of La India and Andrea Corridors has some spotty, weak gold anomalies that may, on follow up, resolve into more discrete targets.

Gold/silver (Au/Ag) ratio. Plots of Au/Ag ratio (Appendix 1) are commonly used as a tool to determine upflow zones in epithermal systems. There is normally increased gold relative to silver in proximal (upflow) sites and the opposite in distal sites. This is a function of the relative mobilities of gold and silver in hydrothermal systems; and is reflected in the tendency for polymetallic, silver-bearing veins, to lie distal to auriferous veins at the district scale.

Figure 11 shows Au/Ag ratio calculated after removing all samples assaying < 5 ppb Au and below detection limit Ag (total 3,457 samples). The mean Au/Ag ratio is 0.23.

La India vein is marked by a high Au/Ag ratio, supporting the thesis that it is an upflow zone, at the heart of the mineralising system. A corridor of high values runs to Mestiza and demarcates La India Corridor. Again, this suggests that the central parts of the Mestiza, America and Guapinól veins are upflow zones. There is a marked decline in the Au/Ag ratio towards the west of this corridor, in particular west of the Espinito vein. This is not necessarily negative for exploration, as it may simply indicate that the veins become more silver-rich.

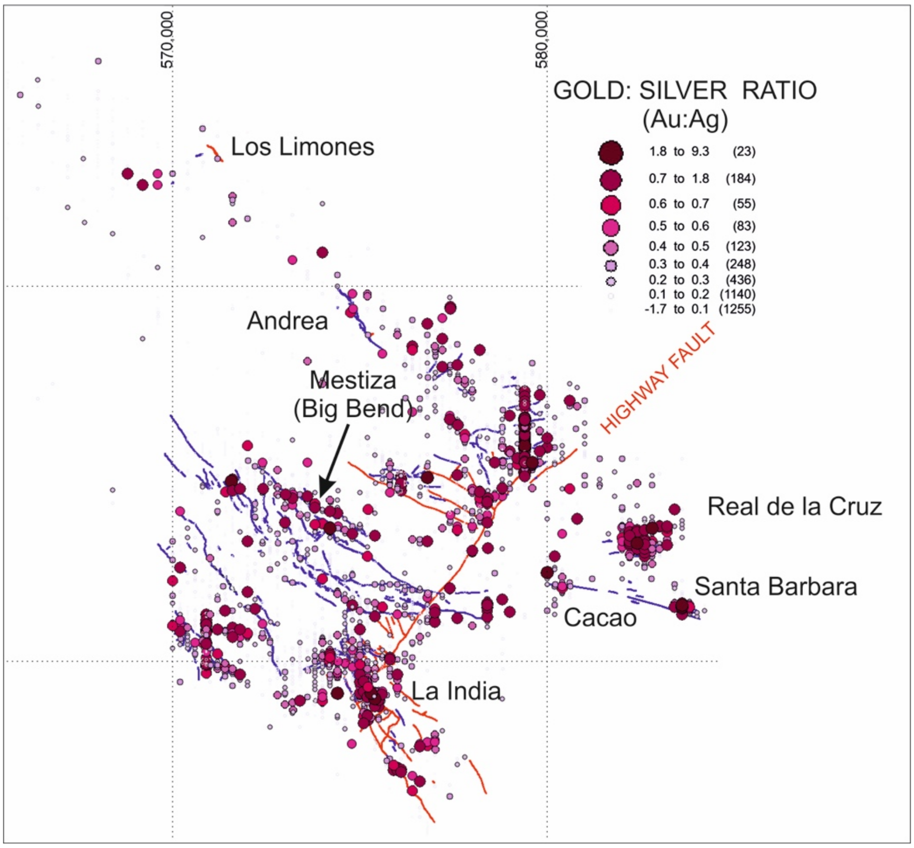


Figure 11: Au/Ag ratio in soil samples

There are elevated Au/Ag ratios at Real de la Cruz and Santa Barbara, suggesting they may be upflow centres. Also at Mojarra, to the southeast of the highway at La India, which is encouraging for exploration of the concealed extension of La India vein. However, traced along strike to the southeast (towards Carrizal) the Au/Ag ratio declines, which suggests more distal conditions. This fits with the observation of zeolites and calcite-dominated veining in drill holes at Carrizal (LIDC 326 and 327).

There are hot spots of higher Au/Ag ratio west of Los Limones, in the area where the Corridors converge and to the north of the caldera, which need to be investigated in the field.

Copper (Cu). This plot (Appendix 1) highlights the distribution of intermediate and basic volcanic rocks (andesite, basalt). Copper can be useful in many epithermal deposits, as it tends to concentrate in the higher temperature, deeper portions of the system, often as chalcopyrite. However, the values are so low in La India District that it is not useful. The mean grade in drill samples is 25 ppm (approx. 600 samples). The mean in rock chip samples is about 12 ppm (c. 2000 samples). The mean in the soil sample database is 35 ppm Cu.

The gridded image shows several arcuate trends which are independent of the main vein directions. These are almost certainly showing the outcrop pattern of certain basic and intermediate lavas. Consequently, copper is largely mapping lithology at this point in time, but may be more useful once mapping has progressed enough to domain the soil data according to lithology.

Mercury (Hg). This is a stalwart element for epithermal exploration. It is one of the most volatile elements and can pass through cover rocks (alluvium) to locate buried epithermal deposits. As has been noted, the quality and usefulness of some mercury assays is diminished by oven drying during sample preparation. This clearly impacts the data, which does not pick out the Andrea and La India corridors, but has a flatter, more dispersed distribution (Appendix 1).

The dataset should be flagged by the drying technique during sample preparation to enable levelling, which should enhance the view of mercury anomalism.

Mestiza/Tatiana has no real anomaly, which is surprising. Neither does Cacao, which is more surprising considering the shallow level features of the vein. Again, this is possibly a result of sample preparation and oven drying. Other veins do have a positive correlation with mercury, but the reduced quality of this data means that other elements are more informative.

La India shows the strongest cluster of anomalies, which broadens at Mojarra, again supporting the concept of a possible stratiform ‘cap’ (see comments under Arsenic.) This is the area where the main La India vein/fault dies out (at least at surface) and the displacement appears to jump across to the Cascabel/Carrizal Fault via a complex structural configuration that is not fully understood. This ‘jump’ coincides with a broad zone of anomalous mercury and other volatile elements and abundant float of opaline and chalcedonic silica at surface and in trenching.

Mercury is anomalous within the caldera, which may also be a function of air drying, as these samples are among the last to be collected and analysed.

Potassium (K). The potassium plot (Appendix 1) is included to see if there is a relationship with known veins. Adularia alteration of the wall rocks has been suggested in the past, though there has been no confirmed observation of adularia flooding in drill core. Adularia occurs in small amounts in some veins. Potassium is mostly locked in potassic feldspars, which do not completely digest in aqua regia (the acid type used in the assay procedure).

The symbol and gridded images are ambiguous, with some evidence to suggest that the main veins are negative potassium anomalies, which is strange. The distribution almost certainly reflects rock type (felsic rocks have higher potassium), for example in the caldera, so the element is not useful at this stage. Levelling based on geology may prove useful once the mapping has progressed.

Manganese (Mn). This relatively mobile element can reflect manganiferous carbonate or rhodochrosite in epithermal vein deposits and, when weathered, produces distinctive black manganese ‘wad’ which can be highly gold-enriched. Only rare pink (possibly manganiferous) calcite is seen in drill core; however, a quartz vein phase at La India is dominated by yellowish botryoidal growths of radiating blades, which may be a manganiferous carbonate. Similarly-textured leached veins are seen in drill core at Tatiana. Manganese staining or wad is not common in the field, though it has been seen close to the main La India vein. It is common in the fault breccias at Tatiana (Mestiza), where it often contains high grade gold mineralisation.

There is a clear association with more mafic rocks, particularly the andesite or basalt to the southeast of La India and the andesite-filled graben between America and Guapinól.

There are relatively strong anomalies west of Mestiza, but comparing the anomalies with the topographic map shows that these anomalies tend to be on steep slopes. The flat areas have very low manganese (Figure 5). This implies strong downslope dispersal, probably from narrow point sources (veins).

Molybdenum (Mo). This element is generally associated with intrusions, especially with a continental affinity, including mineralised porphyries and granitic rocks. It can be useful in epithermal systems, suggesting higher temperatures and proximity to an intrusion that may be a source porphyry or heat engine for the hydrothermal cell. It occurs in some high-sulphidation epithermal systems at very high concentrations (> 500 ppm), implying that very hot vapour-rich fluid arrived close to the surface very quickly from the source porphyry.

Molybdenum, a 'granitic' element, like tungsten (W) and tin (Sn), is much less soluble than copper and tends not to be mobilized. At La India, there is a distinct lithological effect with clearly lower values in the andesites of the America-Guapinól graben when compared with the more felsic rocks, such as rhyolites and ignimbrites, on the neighbouring horsts.

The plot of molybdenum (Appendix 1) shows low values, with only 16 samples > 20 ppm. However, it does show some interesting 'anomalies'. The first occurs southwest of Tatascame, which may indicate an upflow zone, or igneous intrusion, in this area. It is interesting that one of the most 'plutonic' rocks in La India District, a porphyritic microdiorite with associated chlorite + epidote (propylitic) alteration, occurs in drilling at Tatascame. This intrusion has potential to cause the anomalous molybdenum.

There is also a cluster of elevated molybdenum values about 2.5 km northwest of Mestiza, which is associated with a large elliptical W + As + Sb + Tl + Pb anomaly. The anomaly is probably broadened by dispersal on steep slopes, exaggerating its size, but the elemental association suggests a buried intrusion. Au/Ag ratios are low, in part a function of subanomalous precious metals, which argues against this being an upflow centre.

There is another discrete anomaly in the centre of the caldera associated with As + Hg + Sb + Te + Tl.

Andrea shows some sporadic 'high' molybdenum values. There are also some anomalies around Los Limones and in the far northwest of the district.

Lead (Pb). Lead can be important in epithermal systems. The distal portions of epithermal veins can show Pb + Zn + Ag assemblages.

Lead values at La India are extremely low. Clearly this is a base metal-poor epithermal system. The plot (Appendix 1) shows a weak, but broad cluster west of Mestiza where it is associated with As + Sb + Tl + Mo + W. There are sporadic high values at La India and a weak anomaly at Central Breccia.

There is a pronounced lithological effect with negative lead anomalies associated with the mafic rocks (contrasting with positive copper anomalies). As a consequence, lead may be more useful once mapping has progressed to the point where the dataset can be levelled by lithology.

Antimony (Sb). This is part of the triumvirate of volatile epithermal elements along with arsenic and mercury. It can occur as sulphide (stibnite) or as sulfosalts. It tends to occur at the top levels of epithermal deposits.

The antimony plot (Appendix 1) is very interesting and useful. Firstly, it seems to show anomalies (though weak, only 23 samples above 20 ppm) east of the Highway Fault in the andesite cover. Relatively high antimony occurs elsewhere in the district, including:

- A through-going anomaly that runs from America, through Central Breccia, to Cacao and possibly Real de la Cruz. This may be a basement structure, referred to as 'The Link.'
- An encouraging anomaly southeast of La India (Mojarra), again supporting the concept of a buried (concealed) extension to La India Vein, possibly with a stratiform 'cap' as seen at the nearby Cerro El Pilón (see comments under Arsenic.)
- Relatively high values along America and a broad anomaly in the hilly country to the west, which is coincident with anomalous Mo + W + As + Tl + Pb. Again, this partly reflects dispersion from point sources (veins) on slopes.
- A discrete anomaly in the core of the caldera associated with As + Hg + Mo + Te + Tl.
- Relatively high Sb values (> 15 ppm) on the edge of a major scarp slope about 2.5 km northeast of Tatascame. There is no obvious vein source and this needs to be followed up.

Selenium (Se). (Not included in Appendix 1) Selenium commonly occurs within silver and mercury sulphide minerals, substituting for sulphur. The distribution more or less mirrors tellurium, with a 'strong' anomaly southeast of La India (Mojarra) (see Tellurium below). La India Corridor also stands out again.

Tellerium (Te). Gold occurs alloyed with tellurium in many epithermal deposits.

Tellurium, like other elements, seems to define La India and Andrea Corridors (Appendix 1). Where the two corridors converge in the northwest, around Los Limones, and around the northern rim of the caldera, there is a broad tellurium anomaly that is stronger than elsewhere in the district. This should be an area for future exploration.

There are also broad, low levels of tellurium in the caldera.

There is a cluster at La India (Figure 14), which seems to be real, rather than an artefact due to contamination by processing plants. Overall, the data suggests a southeast continuation to La India structure (Mojarra). Tellurium corresponds well with the felsic rocks to the southeast of the road.

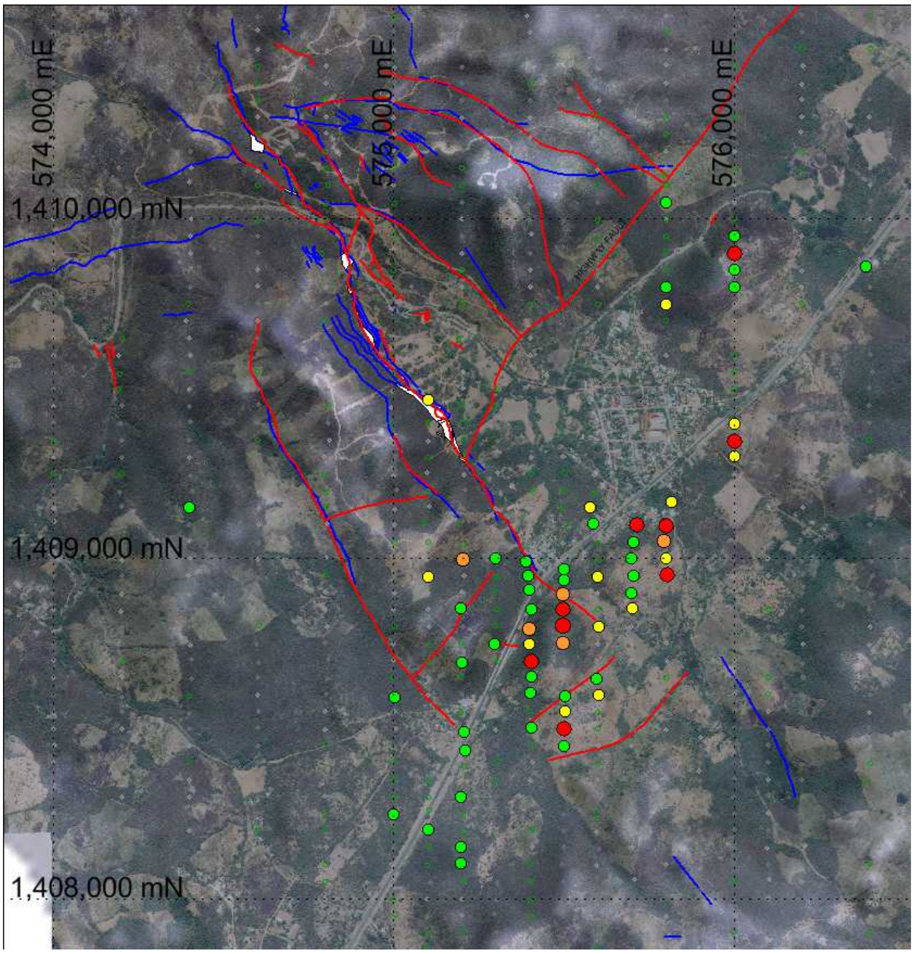


Figure 12: Anomalous tellurium to the southeast of the road; veins in blue

Thallium (Tl). This element gives an excellent response in soils, clearly defining the Andrea Corridor (Appendix 1). Again, the highest values occur in La India Corridor, with values dying off eastwards, along the Constancia and Guapinól veins, towards Central Breccia. Thallium strongly supports a 'concealed' connection between Andrea and Tatascame, suggesting potential for a deeper feeder and concealed vein.

Thallium is broadly anomalous in the area between La India corridor and the southeast rim of the caldera, where there is a pronounced Mo + W + As + Sb + Pb anomaly. There is a stronger and more coherent thallium anomaly in the core of the caldera where it is associated with As + Hg + Mo + Sb + Te.

Tungsten (W). This is another 'granitic' element, associated with granitic and felsic rocks. It can occur with molybdenum (Mo) and tin (Sn) in some districts. It has an interesting distribution in the district (appendix 1).

It occurs immediately west of La India Corridor, apparently increasing towards the caldera rim in the NW, where it forms an elliptical, 3 x 5 km anomaly associated with Mo + As + Sb + Tl + Pb. There seems to be an abrupt decline in values towards the west into the caldera in the Santa Rosa area. This unusual distribution is probably broadened by dispersal on steep slopes, exaggerating its size, but the elemental association suggests a buried intrusion. Au/Ag ratios are low, in part a function of subanomalous precious metals, which argues against this being an upflow centre. There is a suggestion of an almost N-S trending structure that cuts off the principal vein swarms. This area needs to be mapped.

Weak tungsten anomalies also occur along the Andrea Corridor.

Zinc (Zn). (Not included in Appendix 1) Zinc tends to mirror lead (and silver) in many epithermal (and porphyry) systems. It tends to be more distal to porphyry centres than copper, for example. It is also relatively soluble/mobile. Anomalies at La India tend to be much broader on steep slopes than on flat ground. In this respect, it resembles manganese. Point sources (veins) provide wide downslope anomalies.

The distribution of zinc is quite similar to manganese, with a ‘flat’ distribution and no obvious linear anomalies.

6. CONCLUSIONS AND RECOMMENDATIONS

Several elements, particularly Au, Te, Tl, As, Ag and Sb, define two significant trends: La India and Andrea Corridors (see below). These coincide with major lineaments in the upward continued airborne magnetics dataset, which lends weight to their interpretation as major basement feeder structures.

There is a suggestion that some gold-rich EW- to ENE-striking veins (Tatascame, Los Limones, the veins at Andrea with visible gold) are *en echelon* structures, at high angle to the Andrea Corridor, that may have provided localised dilations for fluids to rise.

The two corridors seem to converge west of Los Limones in an area of broad anomalies (particularly tellurium and arsenic), suggesting this area is a target for future exploration. However, the target area, and Los Limones itself, may be a concealed vein system since gold and silver anomalies are poorly developed, despite up to 140 g/t Au in rock chips. The surface rocks here include lapilli tuffs and mudstones, which are poor hosts for brittle fracturing. Deeper andesites and felsic rocks, exposed at lower elevations on the flanks of the hill, may be better hosts for veining, but this will require drill testing.

Antimony, along with selenium and tellurium, also defines a sinuous, E-W oriented, linking structure between the two corridors (‘The Link’). This has lower gold values along its strike length, from the Guapinól and Constancia Veins in the west near La India Corridor, through a significant E-striking La India-type vein at Cacao, to the Santa Barbara prospect in the east (where it links with the Andrea Corridor). It may not have been as important an upflow zone as the two corridors, but it is nonetheless an important and prospective trend. This makes targets like Santa Barbara, which has never been drilled, very interesting.

Several elements show a distinct drop off on the east side of the Highway Fault, implying that the district-scale epithermal system was dropped down by a post-mineral offset. This down-throw preserves the top of the system at Cacao, which includes possible sinter, indicating a paleosurface.

Anomalous arsenic defines a possible stratiform, shallow level hydrothermal alteration cap at Mojarra. The analogy is drawn with the Rio Blanco low sulphidation epithermal in Ecuador (1 Moz Au). Alternatively, there may be a broad stockwork zone where La India Vein does a jog, swinging into a N-S orientation, and then swinging back into the Cascabel Fault. Clearly this area has potential to host the southeast extension of La India vein.

Other anomalies that need to be field-checked include:

- the antimony anomaly north of Tatascame
- a broad, 3 x 5 km, low-level W + Mo + As + Sb + Tl + Pb anomaly situated between the western ends of the America-Guapinól and Mestiza vein sets, and the southeast rim of the caldera
- a well-defined As + Hg + Mo + Sb + Te + Tl anomaly in the heart of the caldera near Santa Rosa del Peñón

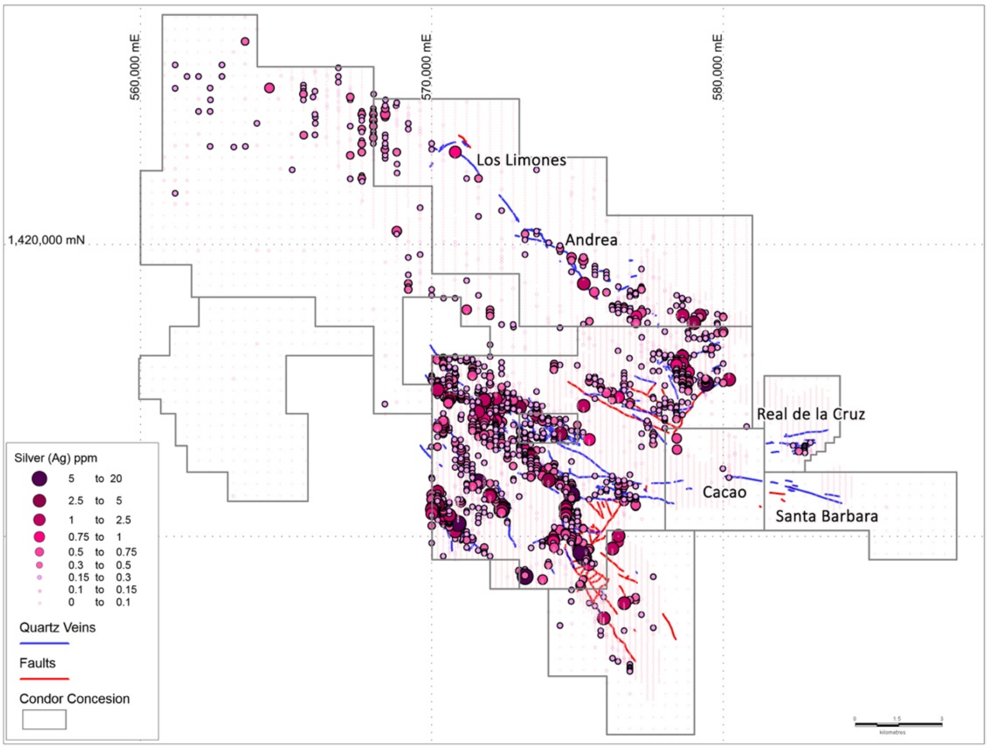
Additional sampling and sample preparation data should be added to the database to enable more effective use of the dataset. For example, flagging samples that have been oven- or air-dried will enable levelling of the mercury data, which may enable the better definition of anomalies.

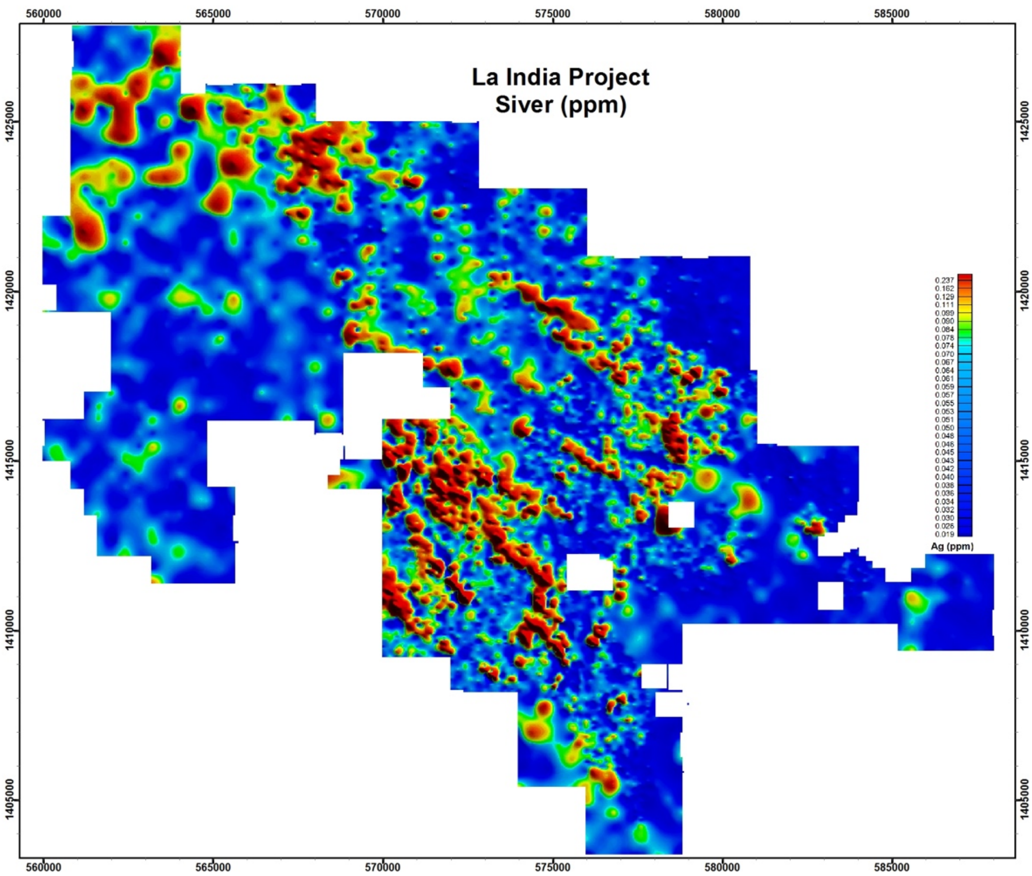
The interpretation of the soil geochemistry dataset can be further enhanced by integration with the airborne magnetics and radiometrics data.

In the longer term, once geological mapping has progressed to cover a large part of the tenements, the soil data can be levelled using lithology domains.

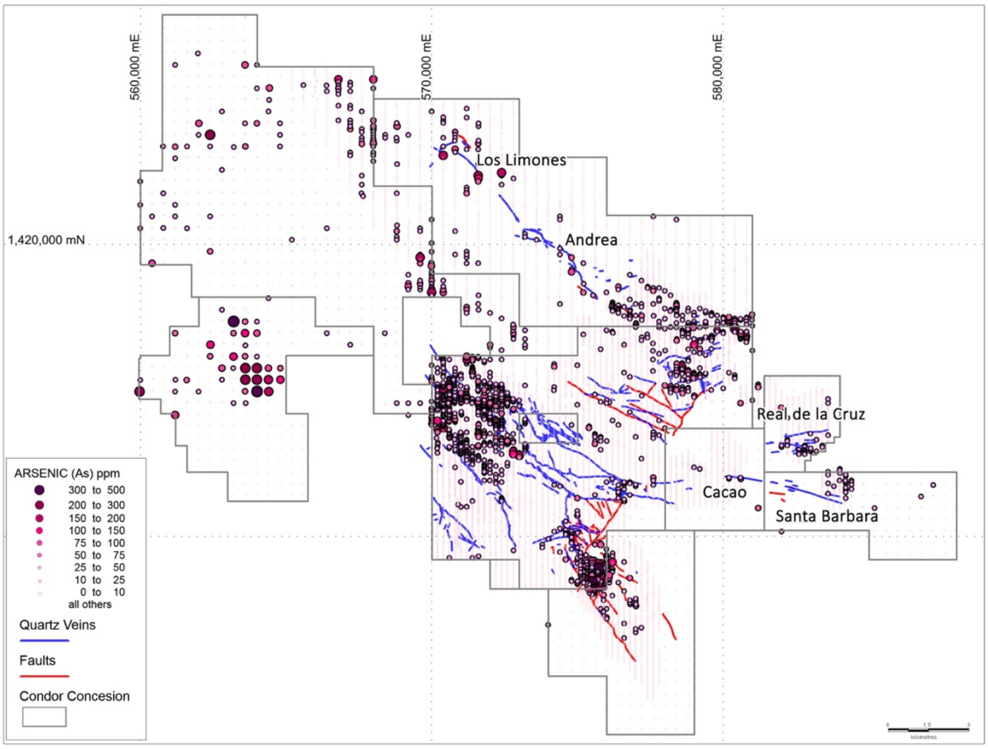
Appendix 1
Soil geochemistry plots

Silver (Ag)

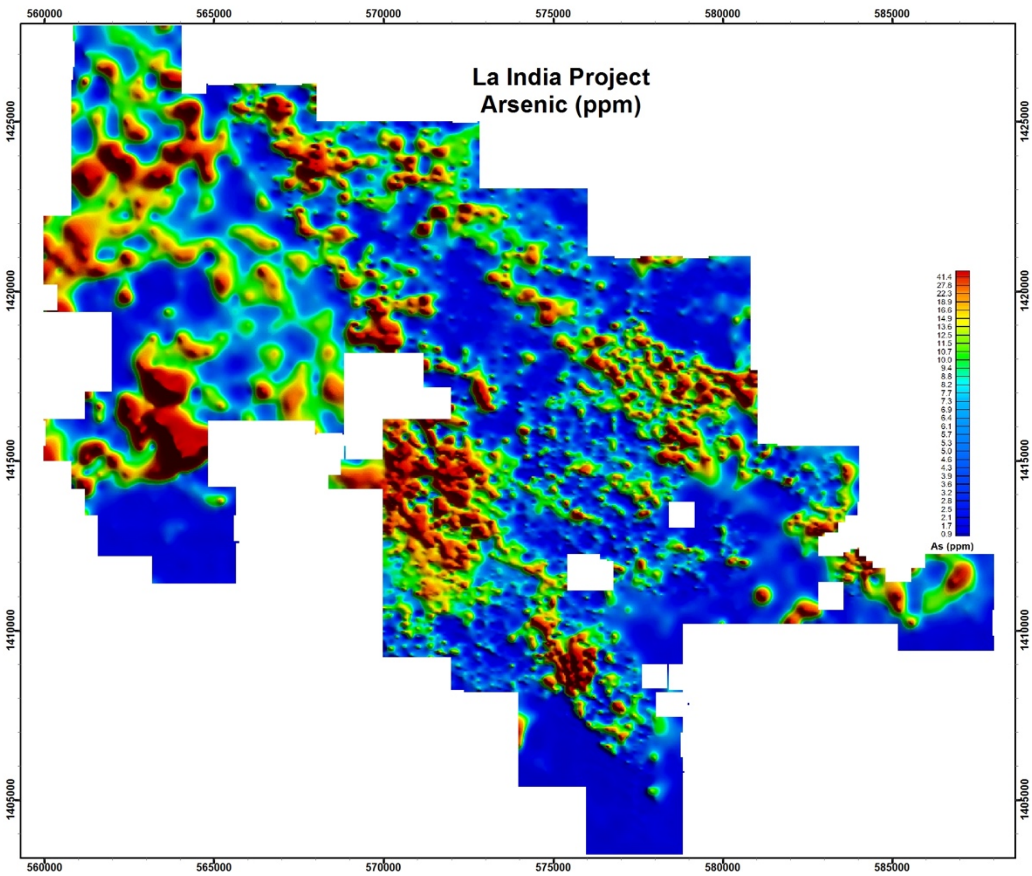

560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
Silver (Ag) ppm
5 to 20
2.5 to 5
1 to 2.5
0.75 to 1
0.5 to 0.75
0.3 to 0.5
0.15 to 0.3
0.1 to 0.15
0 to 0.1
Quartz Veins
Faults
Condor Concesion


La India Project
Siver (ppm)
560000
565000
570000
575000
580000
585000
1425000
1420000
1415000
1410000
1405000
0.237
0.162
0.129
0.111
0.099
0.090
0.084
0.078
0.074
0.070
0.067
0.064
0.061
0.059
0.057
0.055
0.053
0.051
0.050
0.048
0.046
0.045
0.043
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.026
0.019
Ag (ppm)

Arsenic (As)

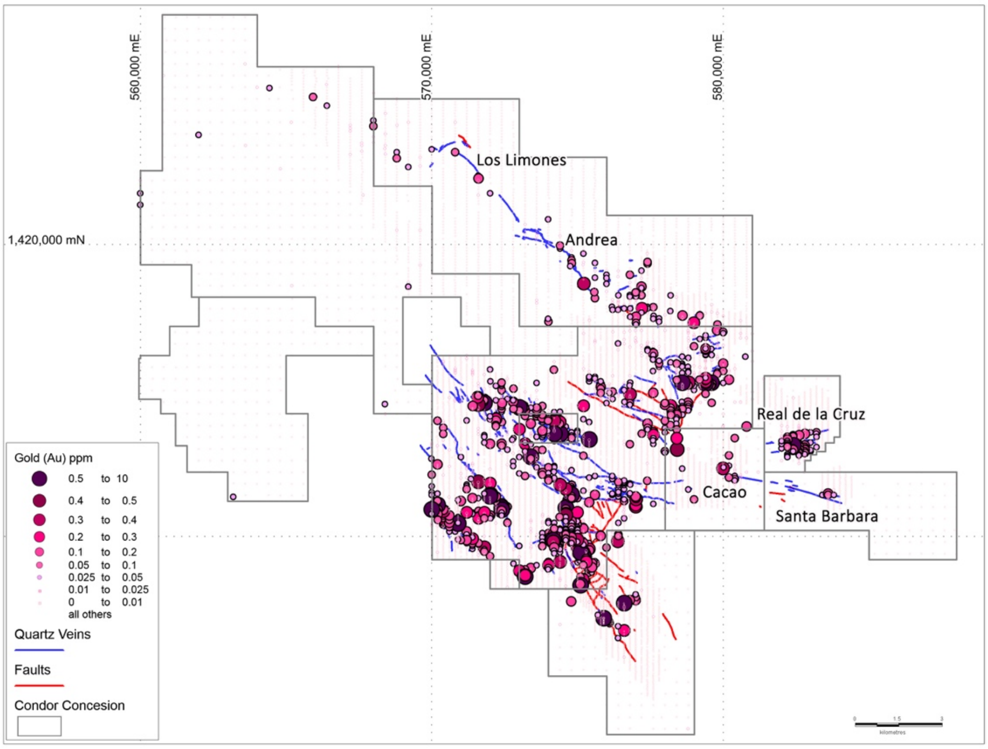


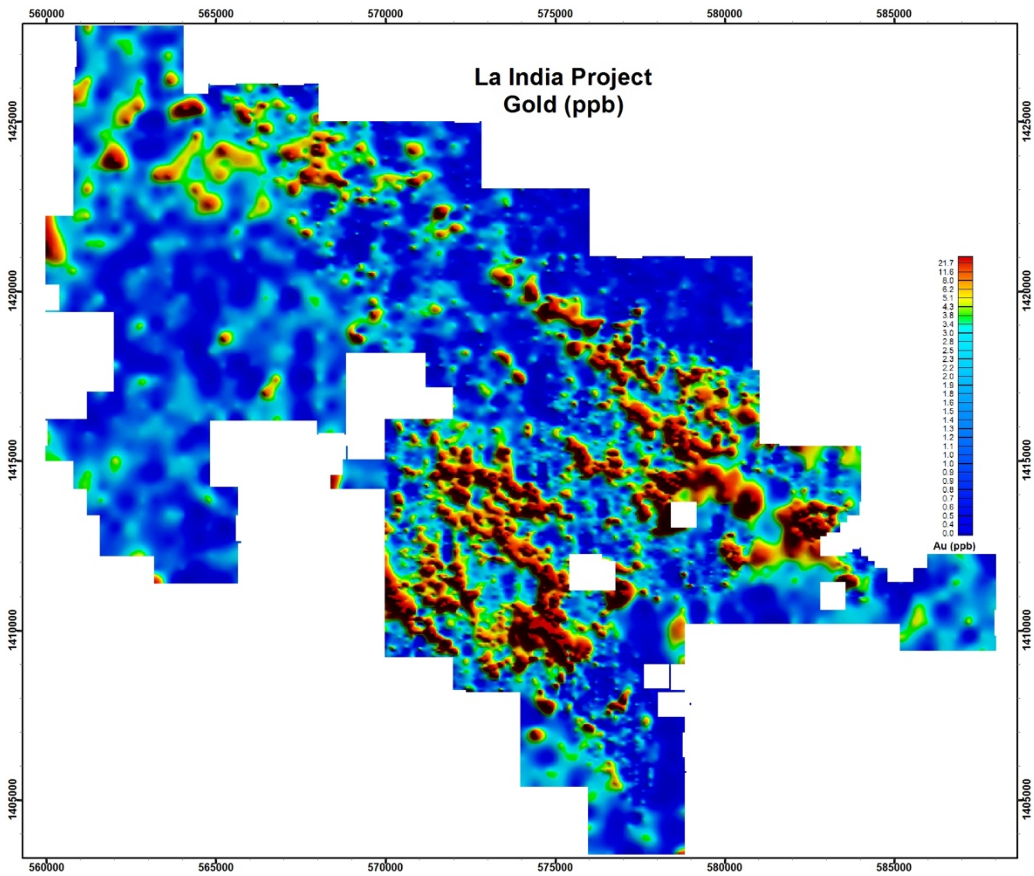
560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
ARSENIC (As) ppm
300 to 500
200 to 300
150 to 200
100 to 150
75 to 100
50 to 75
25 to 50
10 to 25
0 to 10
all others
Quartz Veins
Faults
Condor Concesion



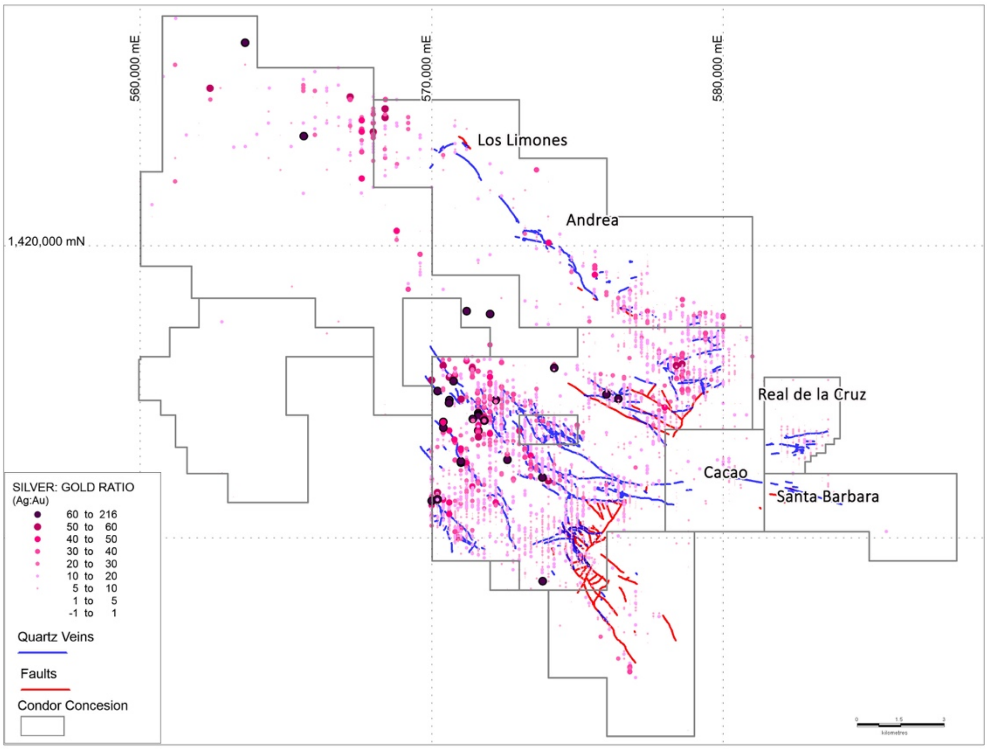
La India Project
Arsenic (ppm)
560000
565000
570000
575000
580000
585000
1425000
1420000
1415000
1410000
1405000
41.4
27.8
22.3
18.9
16.6
14.9
13.6
12.5
11.5
10.7
10.0
9.4
8.8
8.2
7.7
7.3
6.9
6.4
6.1
5.7
5.3
5.0
4.6
4.3
3.9
3.6
3.2
2.8
2.5
2.1
1.7
0.9
As (ppm)

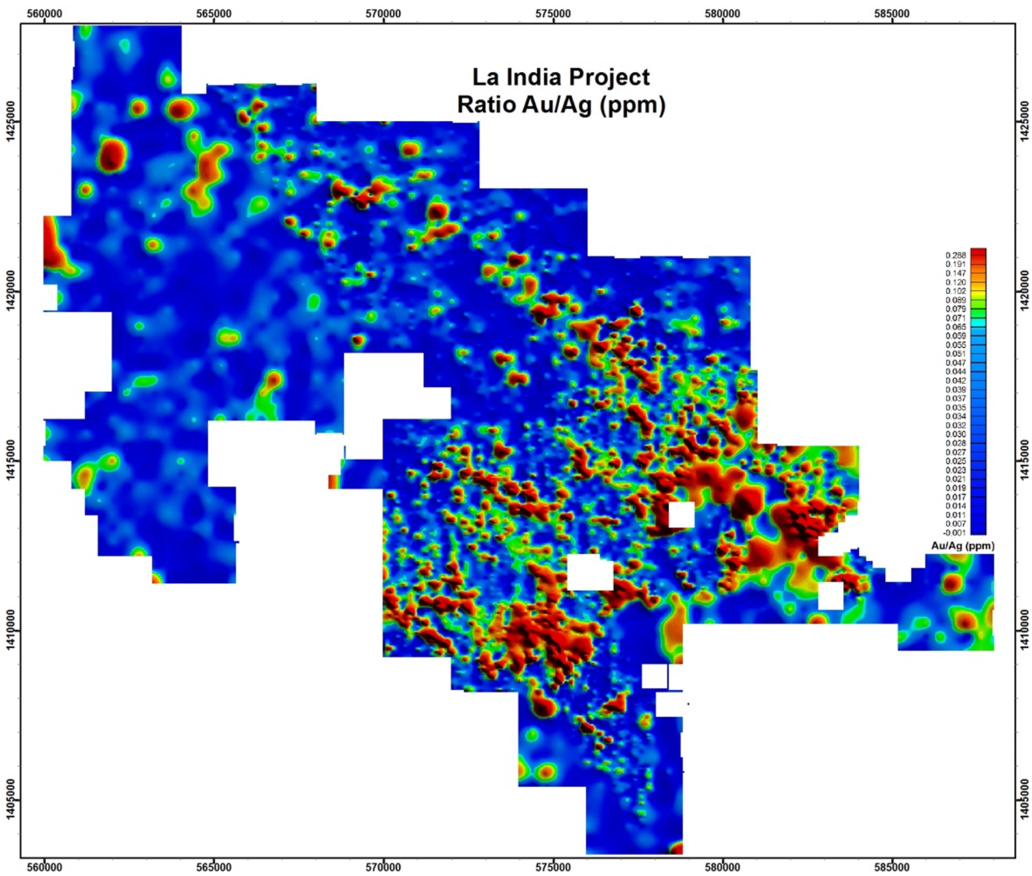
Gold (Au)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
Gold (Au) ppm
0.5 to 10
0.4 to 0.5
0.3 to 0.4
0.2 to 0.3
0.1 to 0.2
0.05 to 0.1
0.025 to 0.05
0.01 to 0.025
0 to 0.01
all others
Quartz Veins
Faults
Condor Concesion

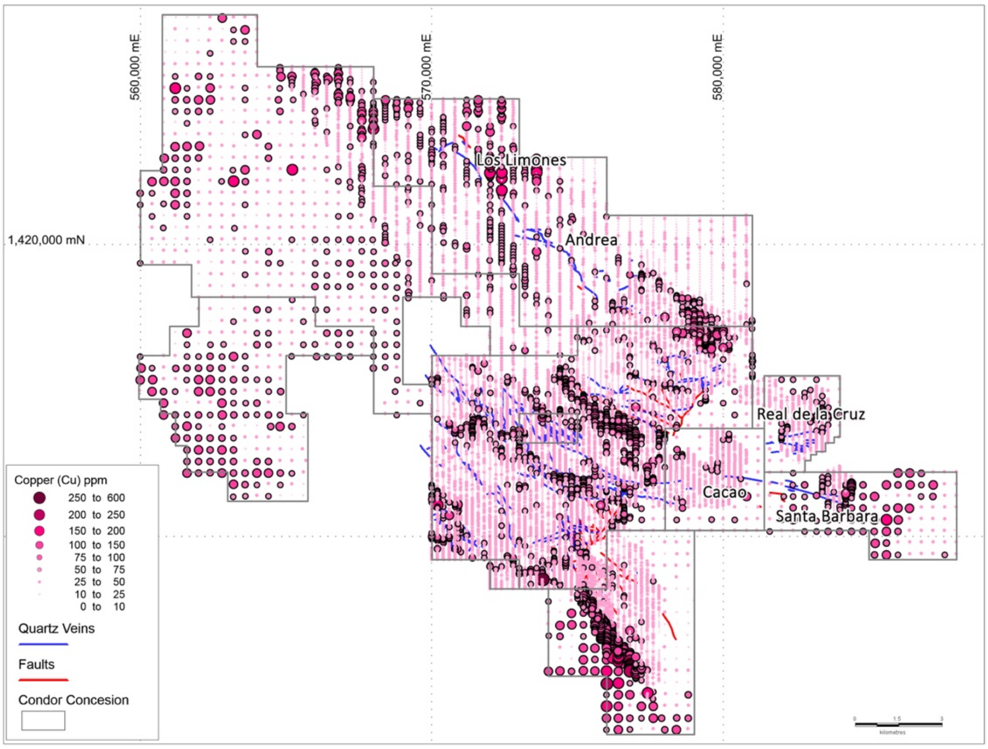

La India Project
Gold (ppb)
560000
565000
570000
575000
580000
585000
1425000
1420000
1415000
1410000
1405000
Au (ppb)

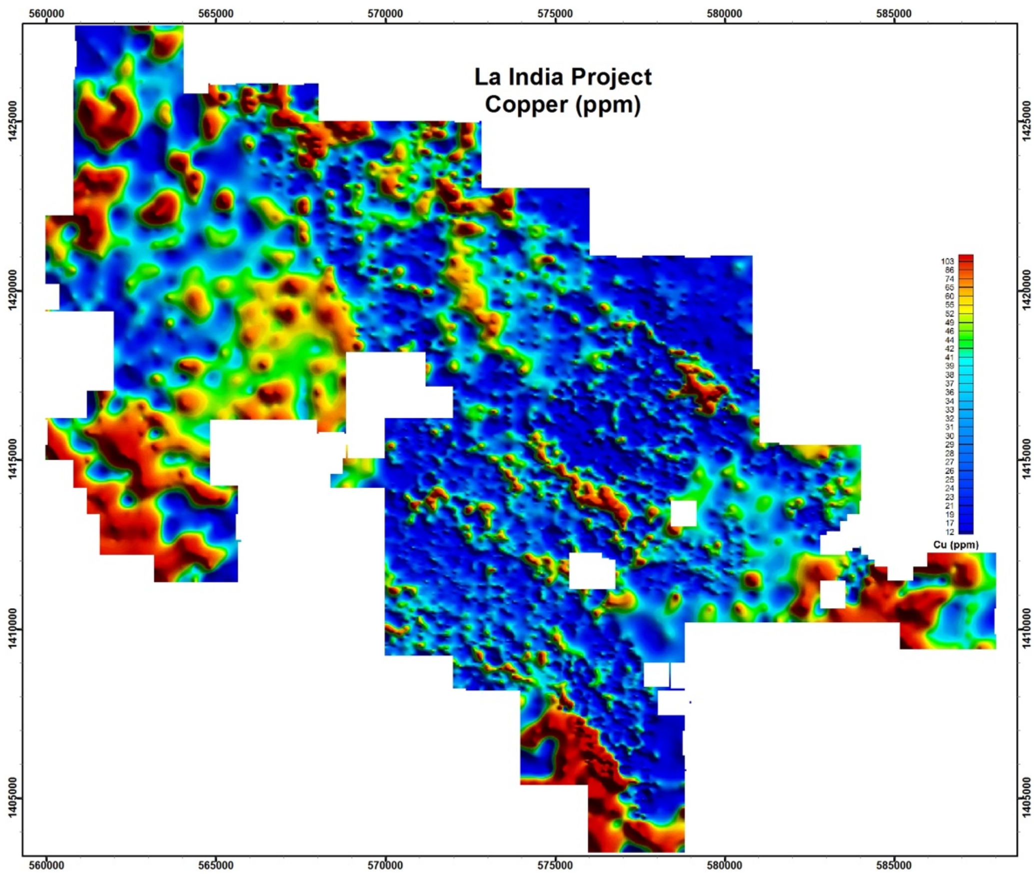
Gold/Silver Ratio (Au/As)



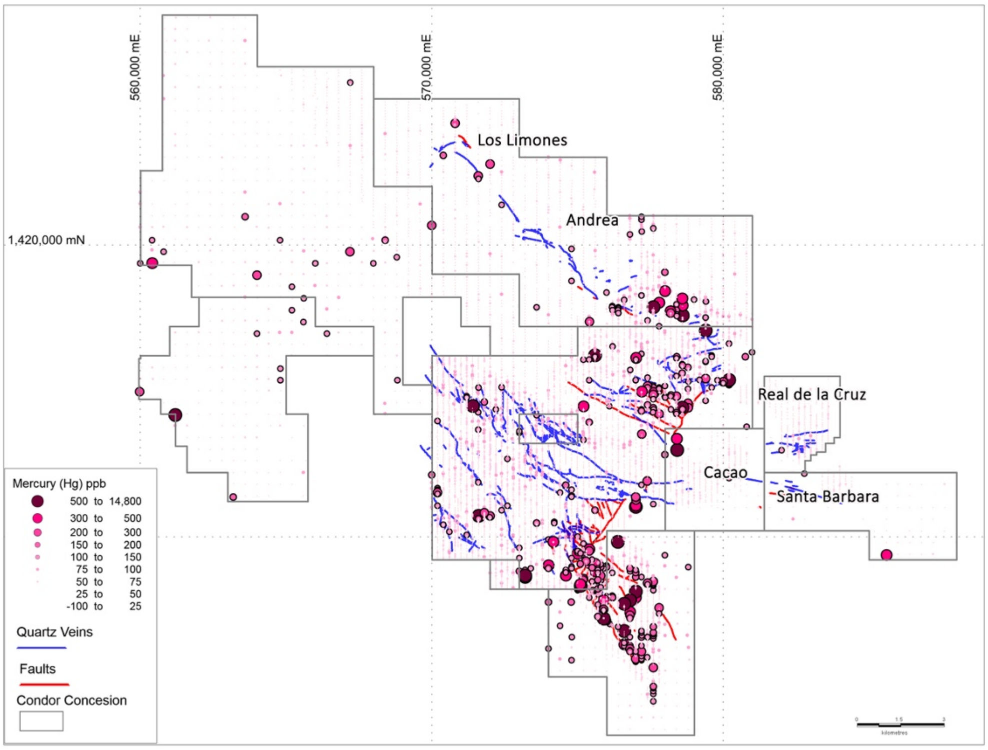


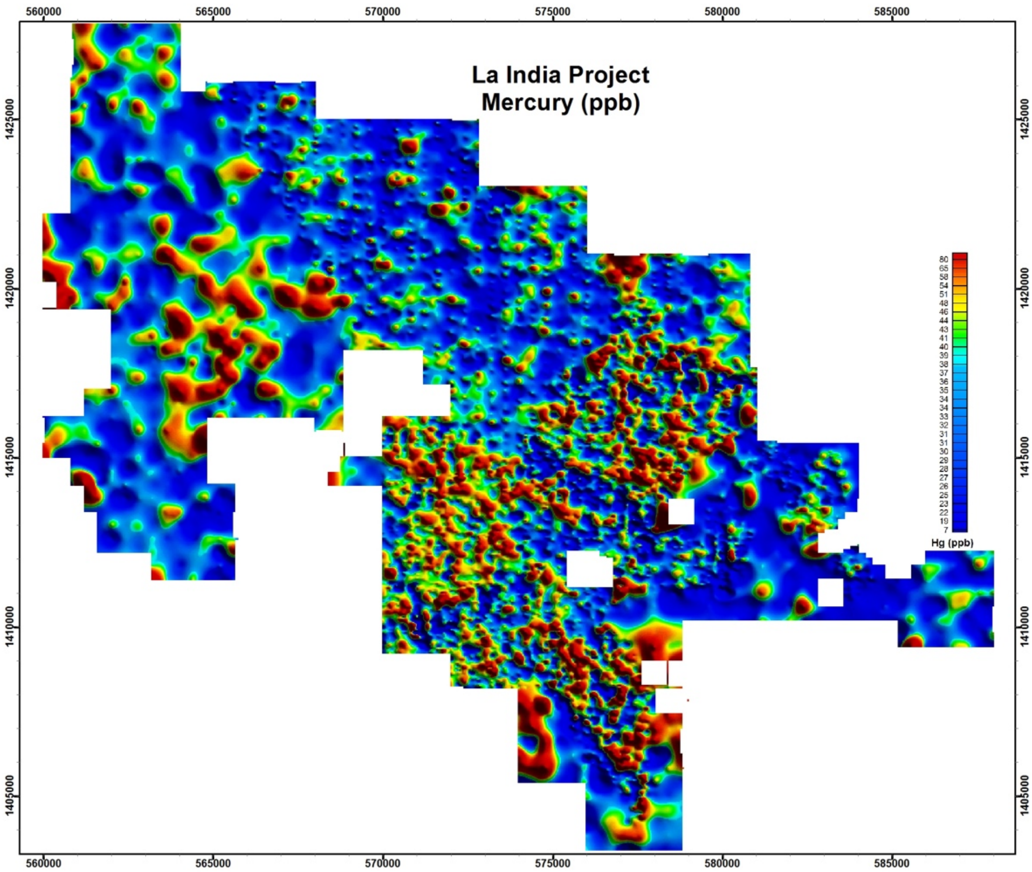
Copper (Cu)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
Copper (Cu) ppm
250 to 600
200 to 250
150 to 200
100 to 150
75 to 100
50 to 75
25 to 50
10 to 25
0 to 10
Quartz Veins
Faults
Condor Concesion

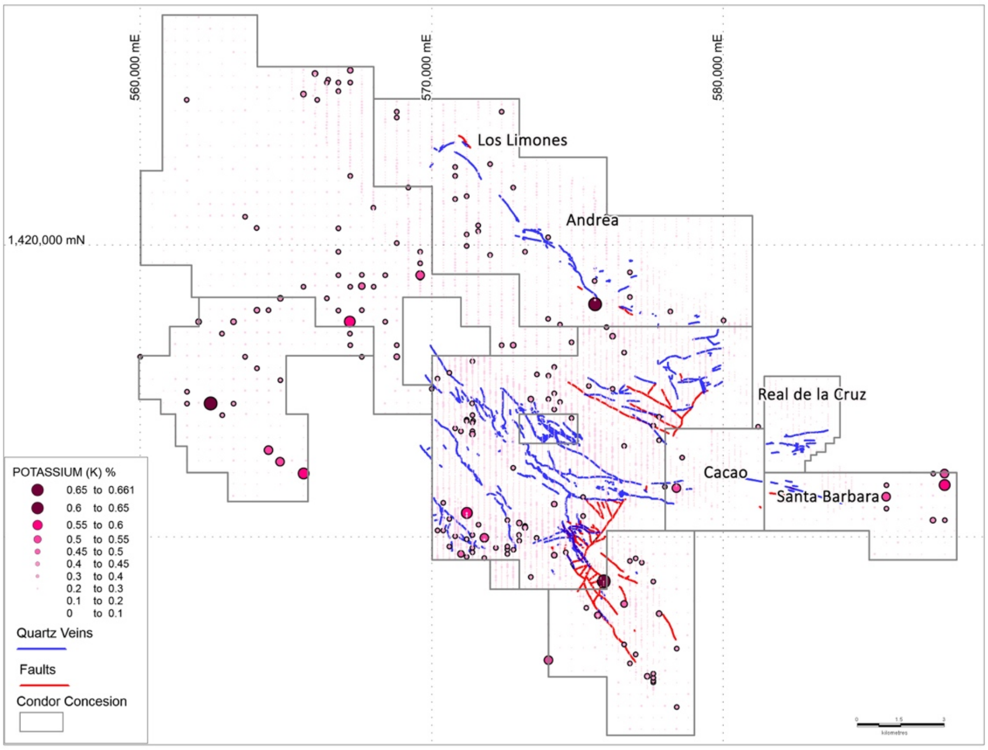

La India Project
Copper (ppm)
560000
565000
570000
575000
580000
585000
1425000
1420000
1415000
1410000
1405000
Cu (ppm)

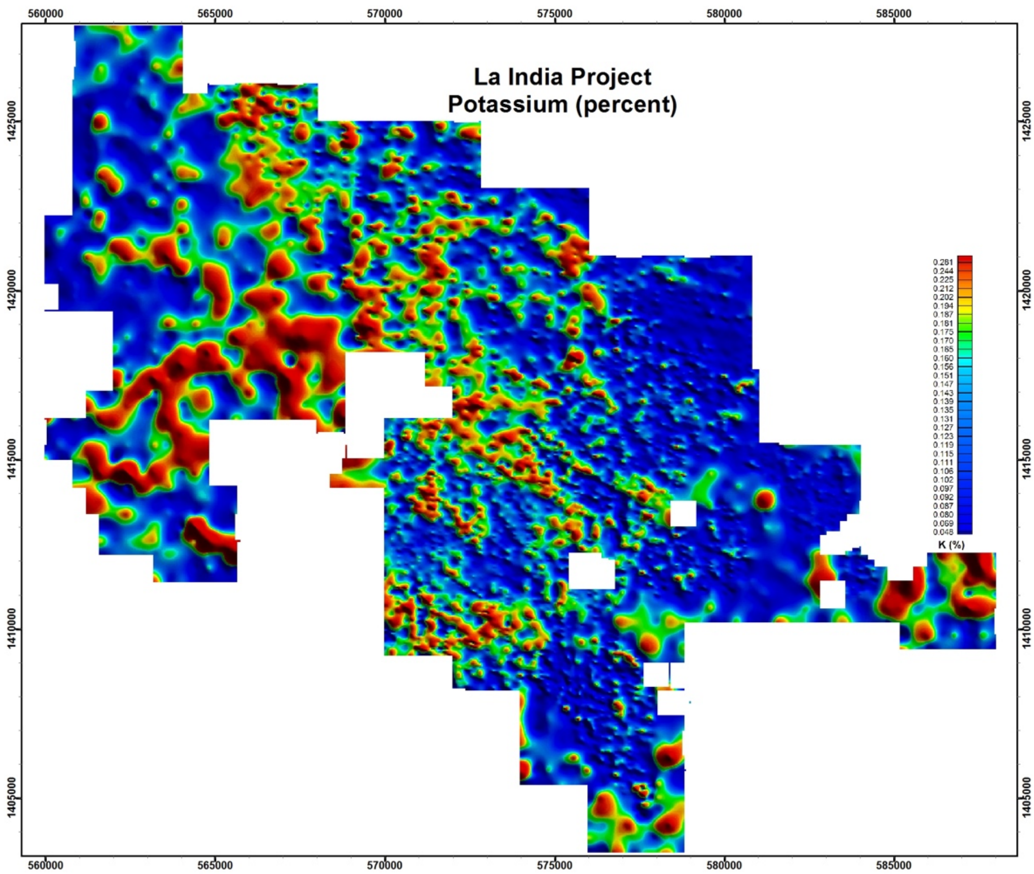
Mercury (Hg)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
Mercury (Hg) ppb
500 to 14,800
300 to 500
200 to 300
150 to 200
100 to 150
75 to 100
50 to 75
25 to 50
-100 to 25
Quartz Veins
Faults
Condor Concesion

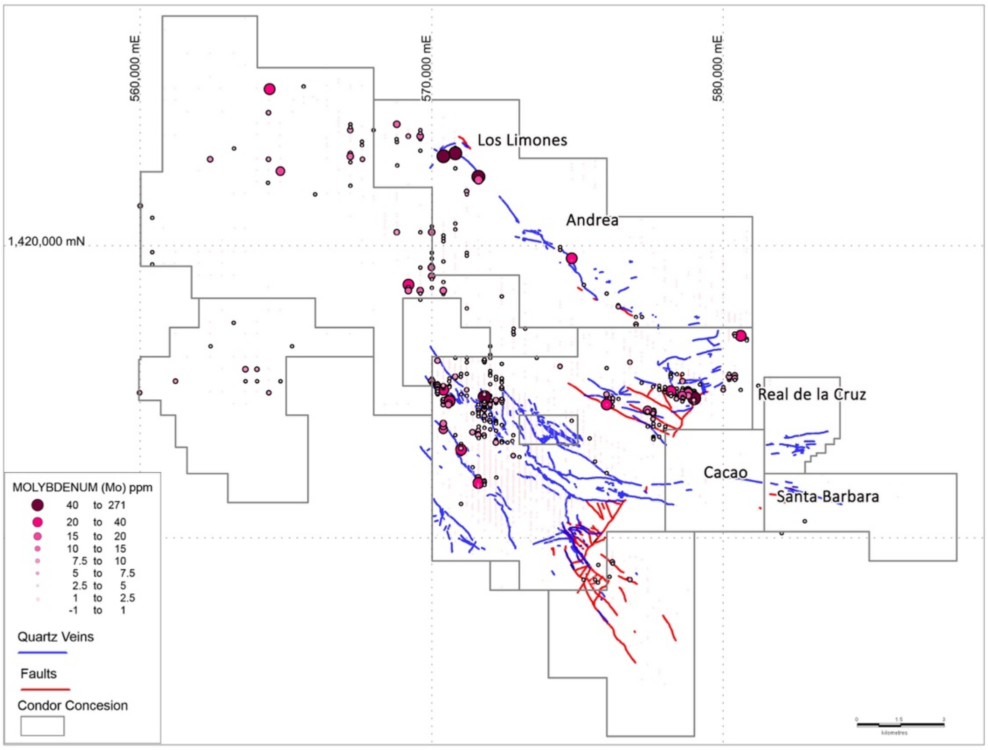

La India Project
Mercury (ppb)
560000
565000
570000
575000
580000
585000
1425000
1420000
1415000
1410000
1405000
Hg (ppb)

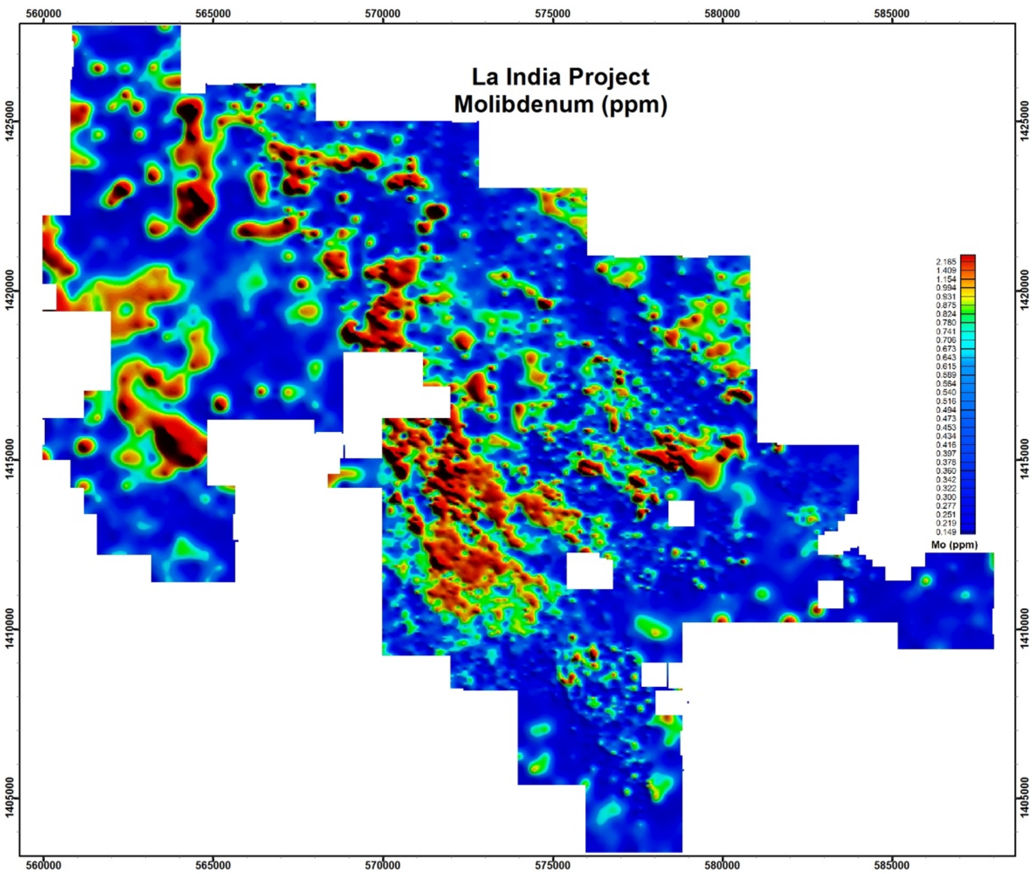
Potassium (K)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
POTASSIUM (K) %
0.65 to 0.661
0.6 to 0.65
0.55 to 0.6
0.5 to 0.55
0.45 to 0.5
0.4 to 0.45
0.3 to 0.4
0.2 to 0.3
0.1 to 0.2
0 to 0.1
Quartz Veins
Faults
Condor Concesion

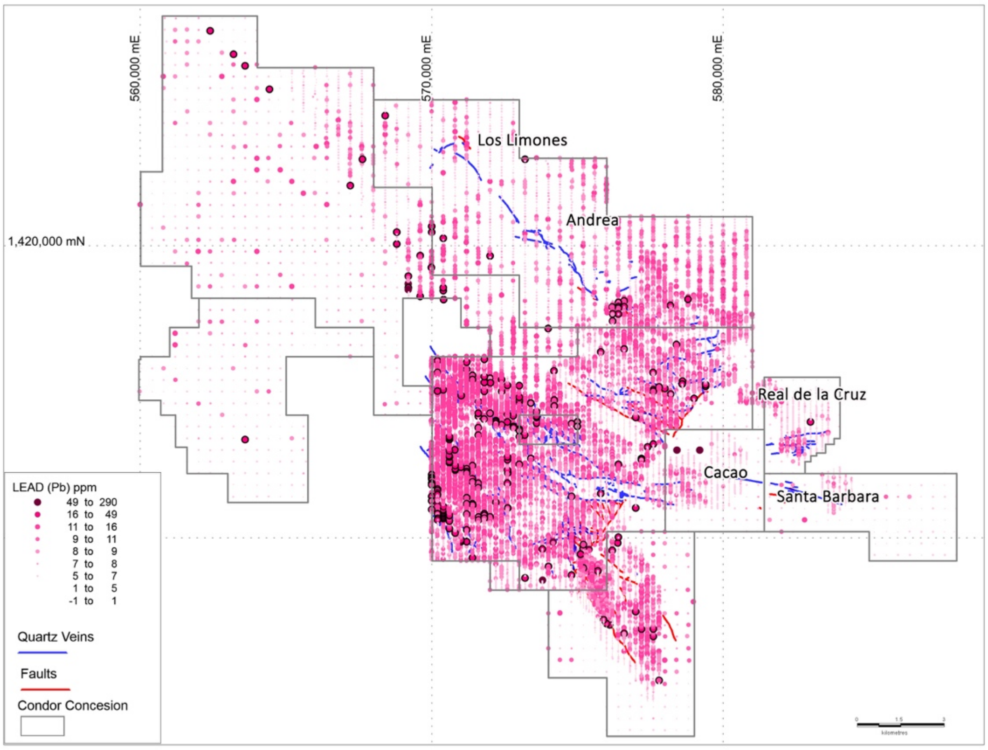

La India Project
Potassium (percent)
560000
565000
570000
575000
580000
585000
1425000
1420000
1415000
1410000
1405000
K (%)

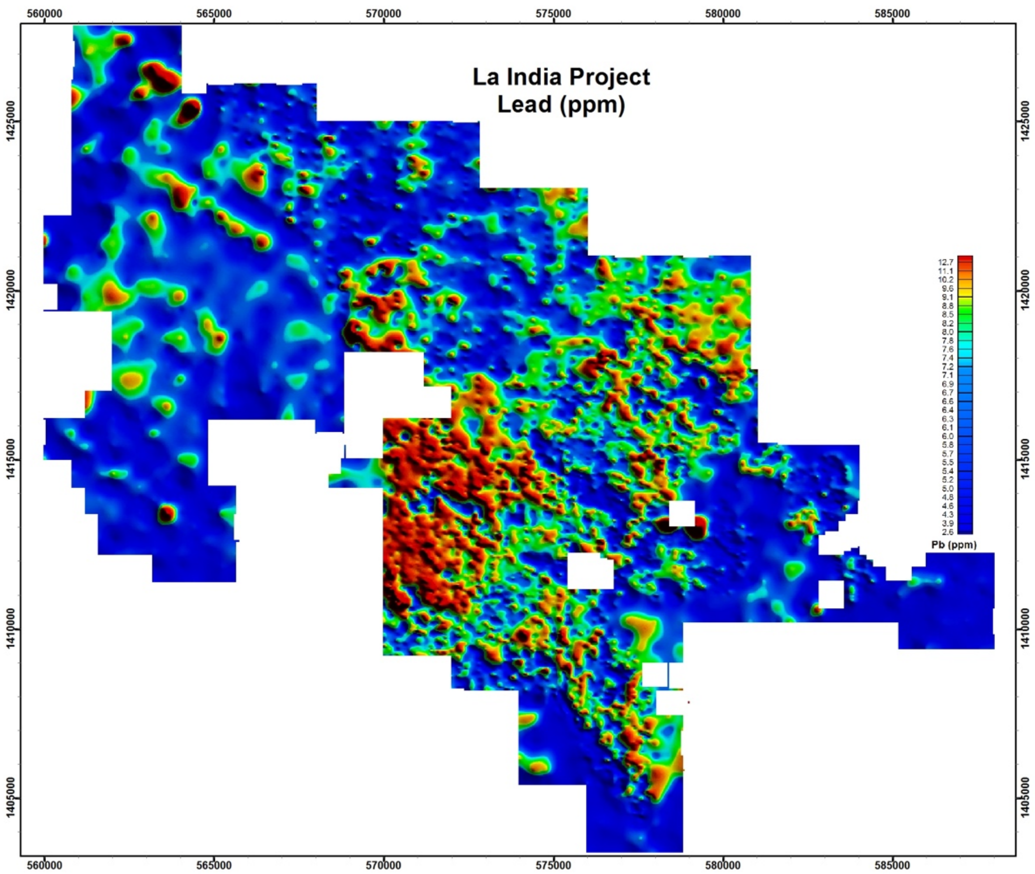
Molybdenum (Mo)



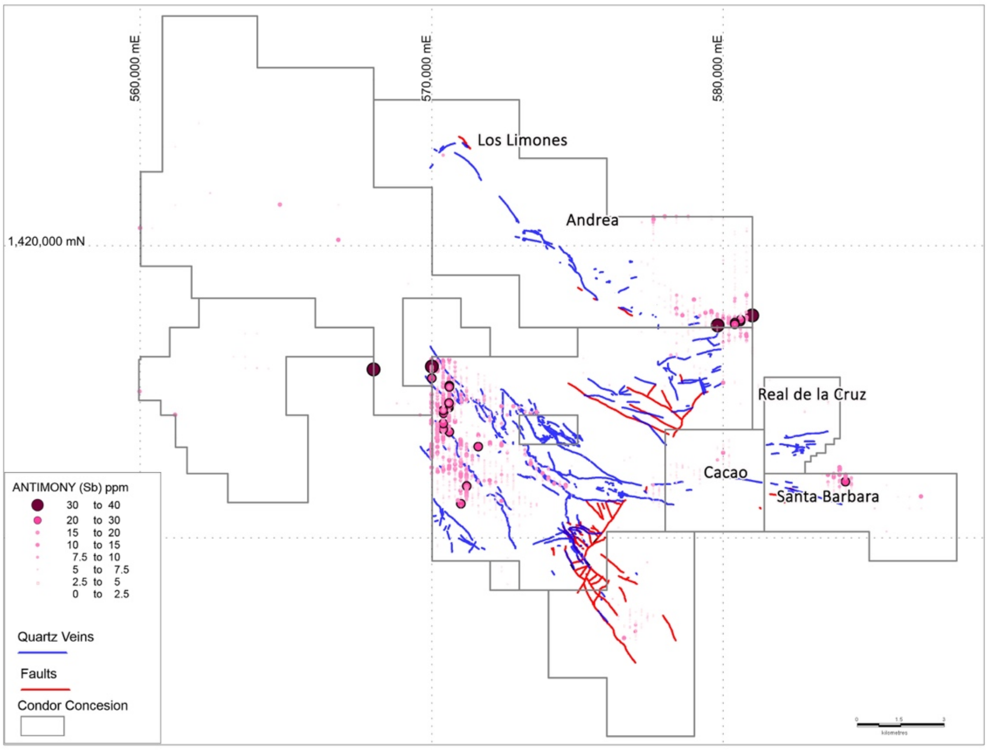


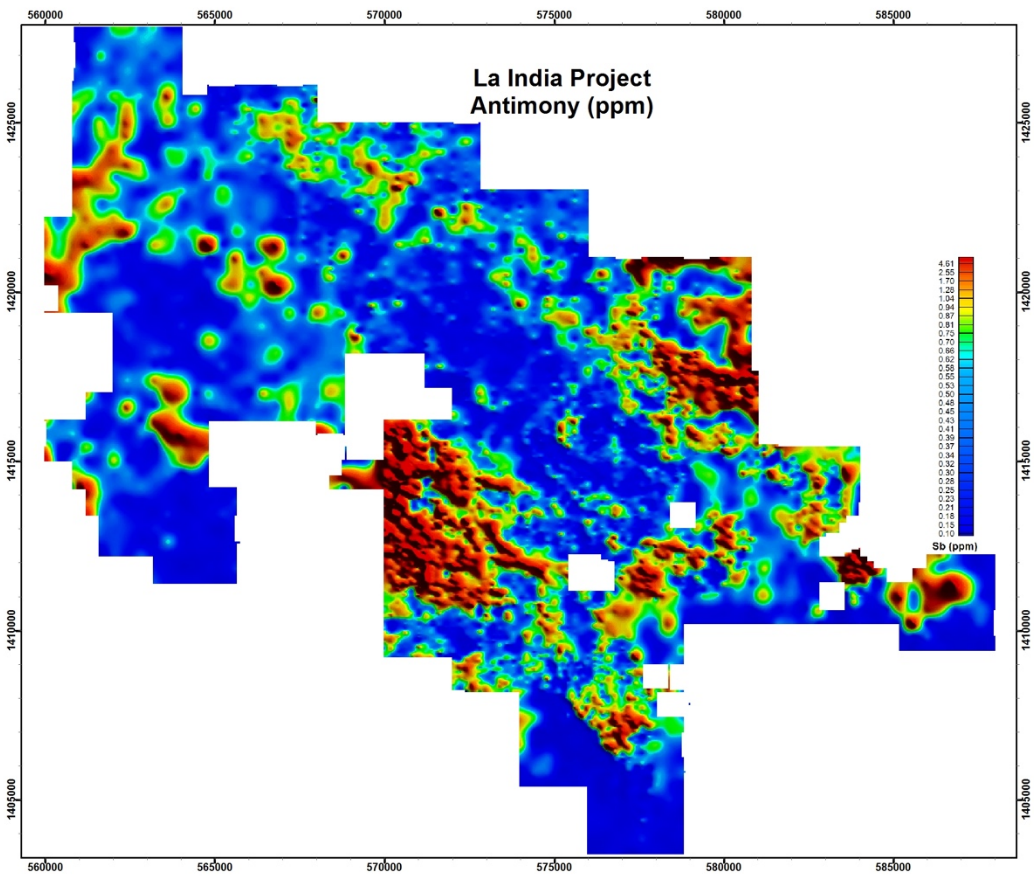
Lead (Pb)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
LEAD (Pb) ppm
49 to 290
16 to 49
11 to 16
9 to 11
8 to 9
7 to 8
5 to 7
1 to 5
-1 to 1
Quartz Veins
Faults
Condor Concesion

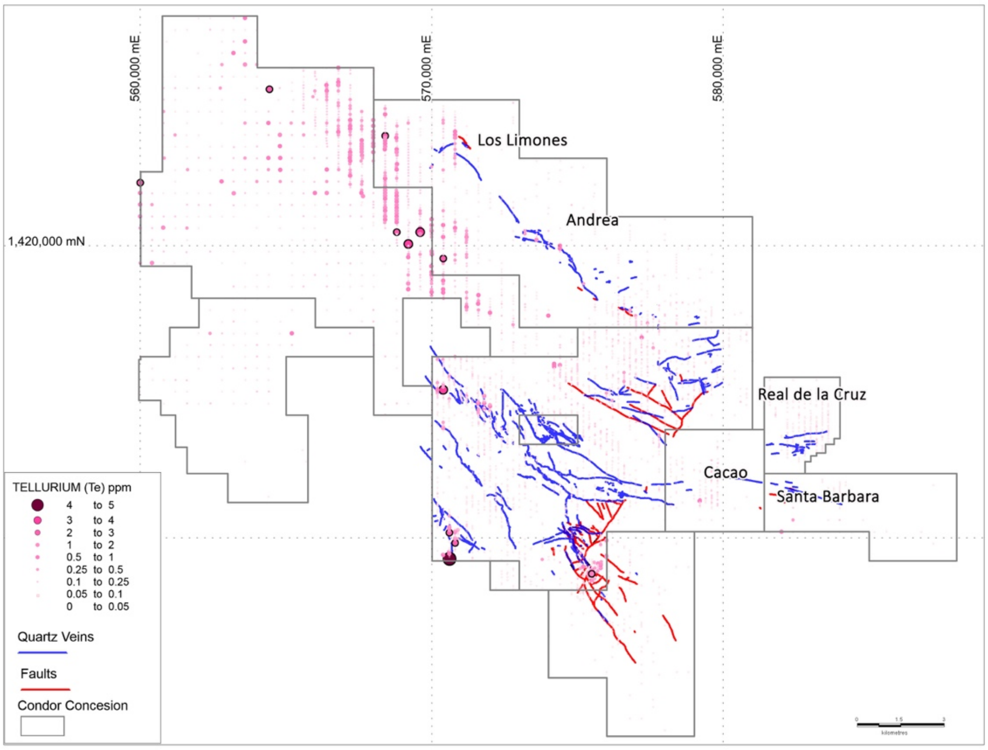

La India Project
Lead (ppm)
560000
565000
570000
575000
580000
585000
1405000
1410000
1415000
1420000
1425000
Pb (ppm)

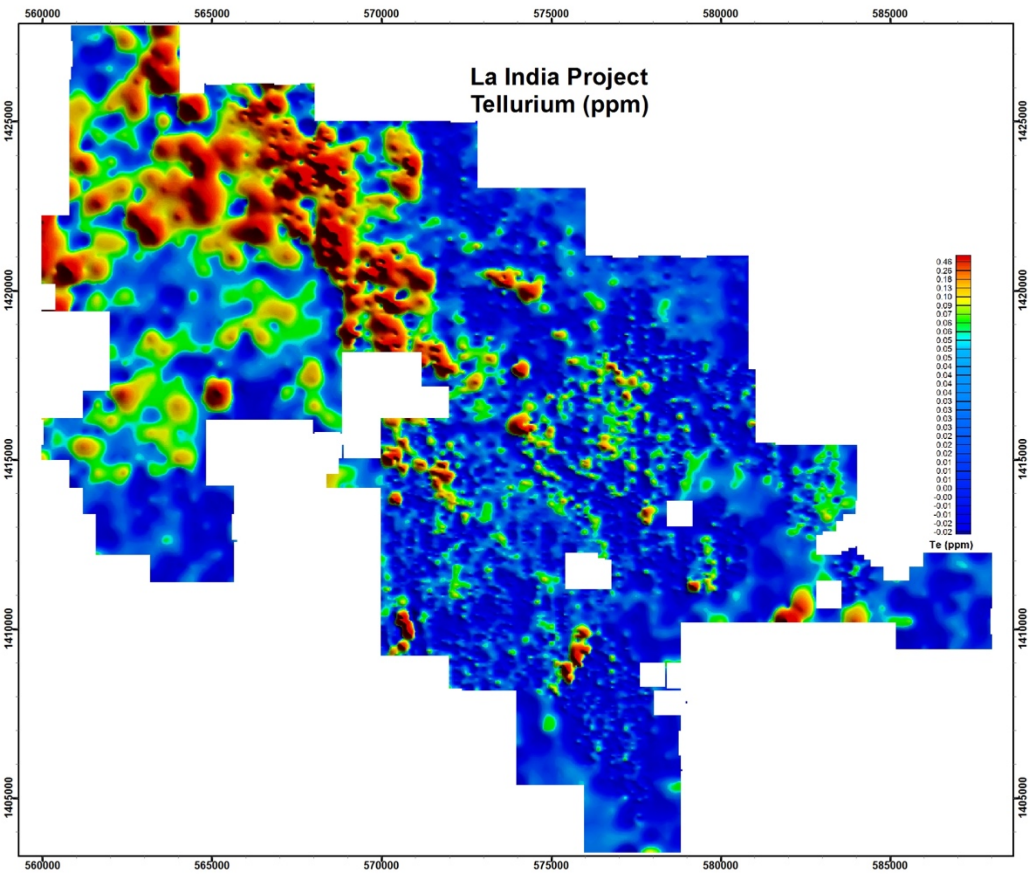
Antimony (Sb)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
ANTIMONY (Sb) ppm
30 to 40
20 to 30
15 to 20
10 to 15
7.5 to 10
5 to 7.5
2.5 to 5
0 to 2.5
Quartz Veins
Faults
Condor Concesion

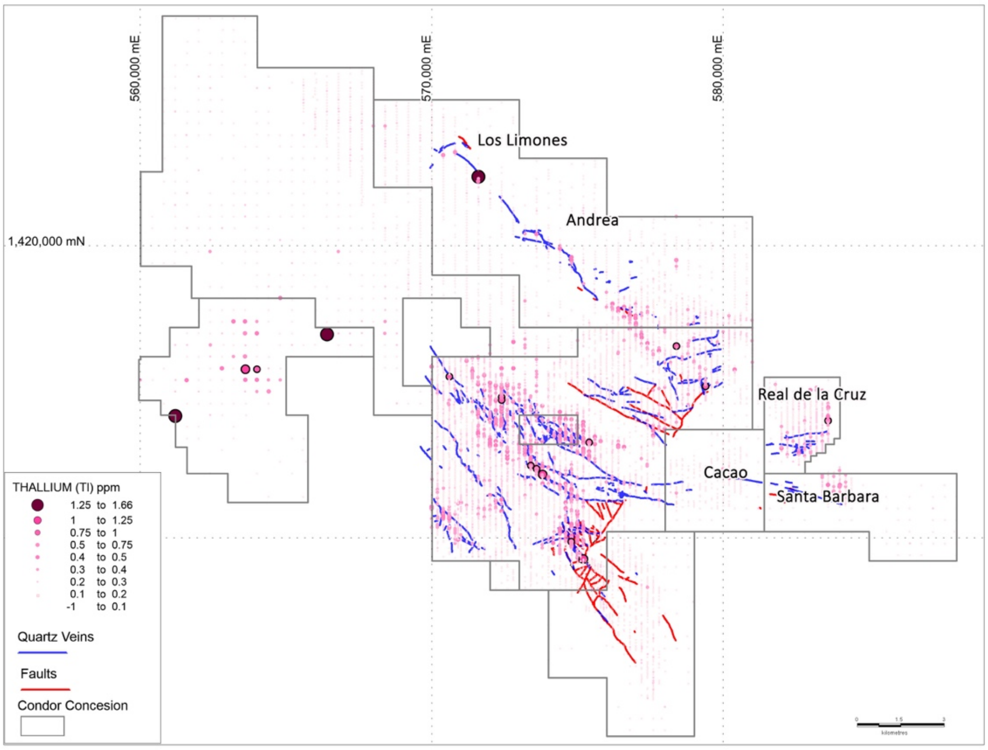

La India Project
Antimony (ppm)
Sb (ppm)

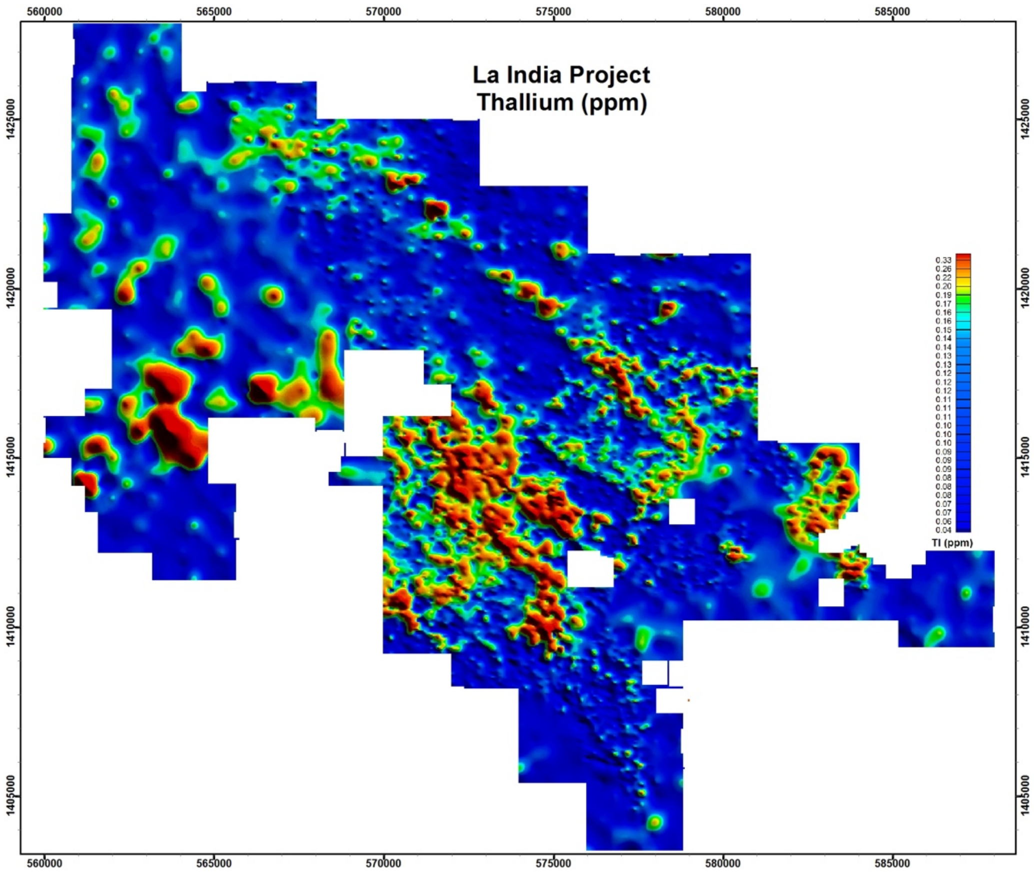
Tellurium (Te)



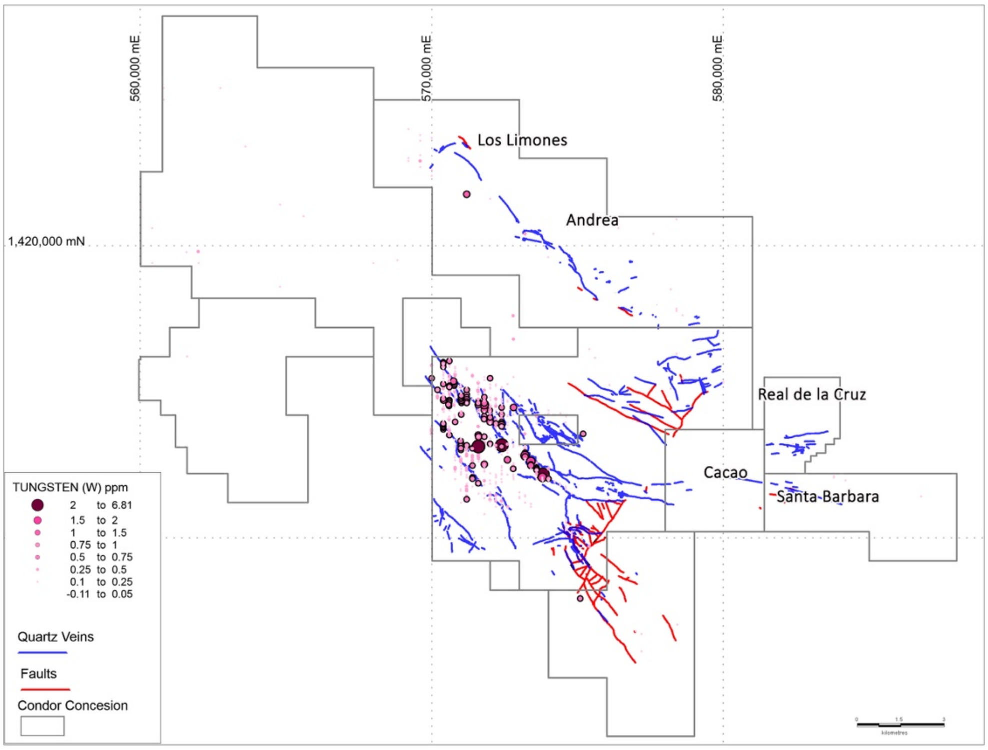


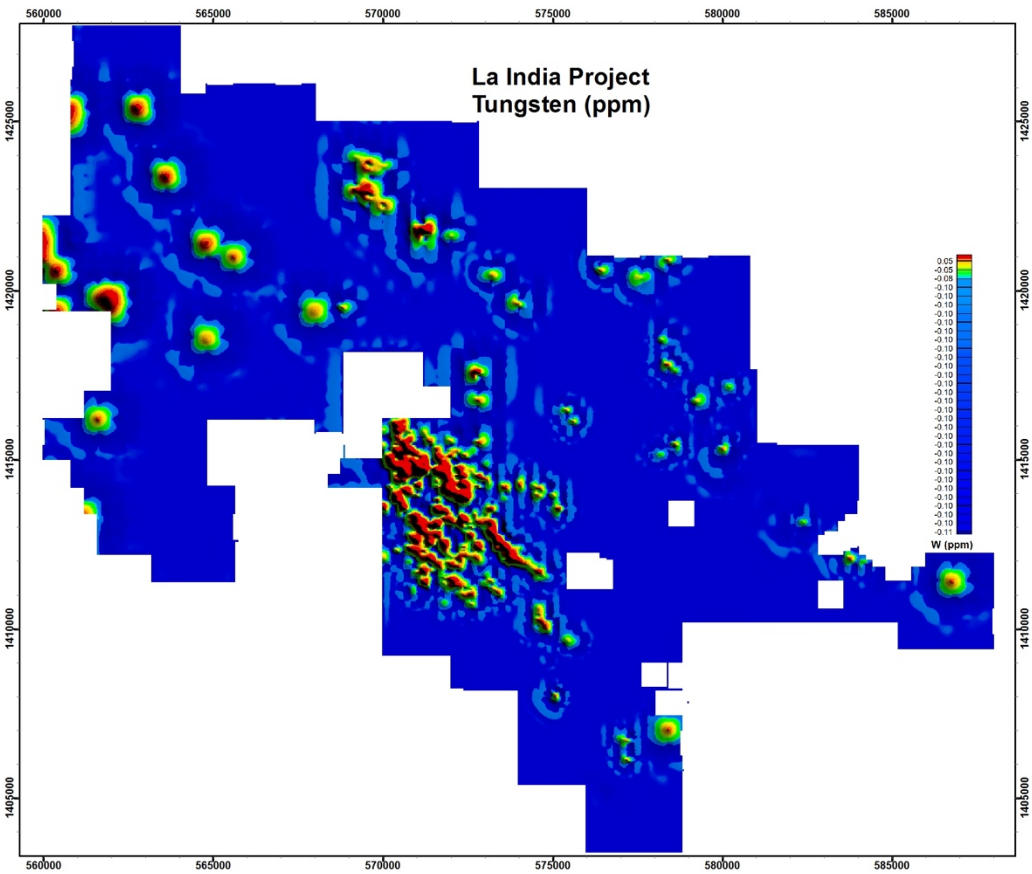
Thallium (Tl)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
THALLIUM (Tl) ppm
1.25 to 1.66
1 to 1.25
0.75 to 1
0.5 to 0.75
0.4 to 0.5
0.3 to 0.4
0.2 to 0.3
0.1 to 0.2
-1 to 0.1
Quartz Veins
Faults
Condor Concesion


La India Project
Thallium (ppm)
560000
565000
570000
575000
580000
585000
1425000
1420000
1415000
1410000
1405000
Tl (ppm)

Tungsten (W)


560,000 mE
570,000 mE
580,000 mE
1,420,000 mN
Los Limones
Andrea
Real de la Cruz
Cacao
Santa Barbara
TUNGSTEN (W) ppm
2 to 6.81
1.5 to 2
1 to 1.5
0.75 to 1
0.5 to 0.75
0.25 to 0.5
0.1 to 0.25
-0.11 to 0.05
Quartz Veins
Faults
Condor Concesion


La India Project
Tungsten (ppm)
560000
565000
570000
575000
580000
585000
1405000
1410000
1415000
1420000
1425000
0.05
-0.05
-0.08
-0.10
-0.11
W (ppm)