



# Sunstone Metals Limited (ASX: STM)

29 November 2021

## Porphyry Cu-Au Discoveries, Well Funded (Initiation)

Recommendation: Spec Buy

### Our View

Sunstone Metals Limited (“Sunstone”) is a well-funded Ecuadorean focussed porphyry and epithermal Cu-Au-Ag explorer, with two properties in the highly prospective Cretaceous to Tertiary arc rocks of the Western Cordillera. Work on both properties, El Palmar and Bramaderos, has confirmed the prospectivity, with, at El Palmar, the Company recently making what could be a major discovery.

Initial drilling (assays from the first three holes to date) by the Company at the more recently acquired El Palmar property (in Northern Ecuador) are very positive, delivering three relatively shallow + 1.0 g/t AuEq intersections of up to 160 m. These are within broader intervals (including 480.85 m @ 0.66 g/t AuEq) and also include internal intervals of up to 1.59 g/t AuEq. Our view is that grades of +1 g/t AuEq are an important discriminant in the quality of, and market perception of porphyry copper deposits.

Also, the drilling to date at El Palmar has identified a mineralised footprint potentially on par with that of the nearby 2.6 Bt Alpala deposit within SolGold’s (LON: SOLG, market cap of ~A\$1.1 billion) Cascabel project (refer Figure 7). As for Cascabel there are several other porphyry targets within the El Palmar concession. In addition to the porphyry potential, there is epithermal Au-Ag prospectivity at both projects that has been confirmed by drilling at Bramaderos.

An initial MRE for the Brama porphyry prospect at the more advanced Bramaderos Project in Southern Ecuador is expected in H1, 2022, however a recently completed hole delivered an unforeseen intersection of 111 m @ 2.35 g/t Au in a possibly later stage of mineralisation at the adjoining Alba prospect, which will now be followed up by drilling in addition to the Resource work.

In summary Sunstone is a well credentialed company (and fully funded for the medium term) that looks to have made a major discovery at El Palmar, and with significant exploration and delineation upside at Bramaderos – both projects have the potential to deliver at multiple prospects.

### Key Points

- **Quality assets in a highly prospective region:** Both projects are highly prospective (as confirmed by work to date) and located within the highly prospective productive cordillera of Western South America, currently the world’s largest copper producing region.
- **Cashed up, insulated from the vagaries of the market:** By virtue of the sale of Viscaria and the other Northern European assets, the Company is well cashed up with ~A\$21 million in cash and liquid assets. This is an important consideration for porphyry explorers, given that they can, by virtue of the style of mineralisation, take significant drilling to “crack the code”, and even when that is done some drill holes may not be up to investors’ expectations. As such Sunstone is largely insulated from the short-term thinking on what are longer term projects.
- **Personnel with the right experience:** The key personnel in Sunstone have extensive applicable and successful experience, including being involved in the Tujuh Bukit (Indonesia) and Cascabel (Ecuador) porphyry discoveries – this experience is now being applied successfully to El Palmar and Bramaderos.
- **Well served by infrastructure:** Both projects are in areas of good transport and utility infrastructure, and are located at relatively low RLs (up to 1,500 m) and manageable topography in the Cordillera Occidental of Ecuador – the tenements cover a mixture of farming and wooded land, with the Company having good relationships with locals.
- **Ecuador has turned the corner:** A change to more mining friendly politics over recent years has made Ecuador a more attractive destination, with several majors now committed to exploration and mining.
- **Ongoing news flow:** The Company has significant exploration and evaluation programmes going forward which should result in steady newsflow. This includes ongoing drilling at both projects, and an initial Mineral Resource Estimate (“MRE”) at Bramaderos, due in H1, 2022.

### Summary (AUD)

#### Structure and Cash

Market capitalisation (undiluted)	\$221 m
Share price (November 26, 2021)	\$0.099
52 week low	\$0.012
52 week high	\$0.123
Cash (30/9/21)	\$13.16 m
Copperstone Holding	\$8.53 m
Cash on in-money option conversion	\$0.34 m
Ordinary shares (undiluted)	2,237 m
Unlisted options	20.0 m
Performance rights	53.8 m
In-money options	8.0 m
Diluted for in-money options	2,245 m
Fully diluted	2,311 m

### One year share price graph (AUD)



### Directors & Management

Mr Graham Ascough	Non-Executive Chairman
Mr Malcolm Norris	CEO & Managing Director
Mr Stephen Stroud	Non-Executive Director
Dr Bruce Rohrlach	General Manager - Geology
Mr Ray Robinson	GM – Studies and Technical Services
Mr Gavin Leicht	CFO & Company Secretary

### Significant Shareholders

Valbonne III	5.79%
Top 20	36.76%
Directors	4.8%

## Background & Strategy

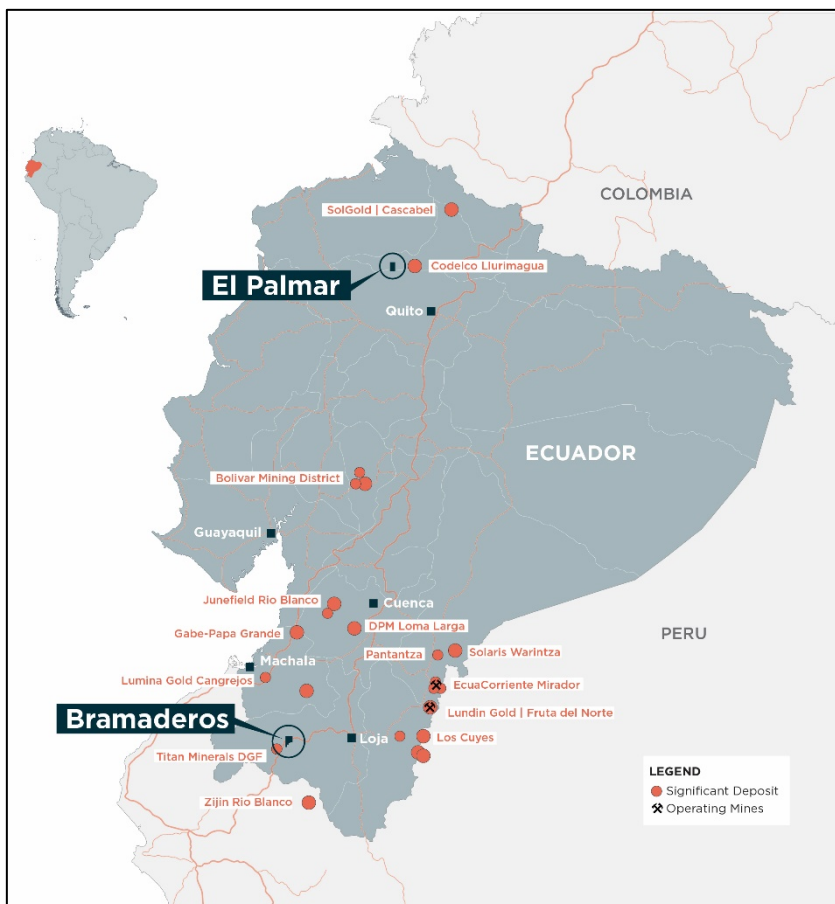
### Background and Strategy

Sunstone Metals is an Ecuadorean focussed porphyry and epithermal Cu-Au-Ag explorer (with a Head Office in Brisbane, Queensland), with two properties in the Cretaceous to Tertiary arc rocks of the Cordillera Occidental. Work on the properties, El Palmar and Bramaderos (Figure 1) has confirmed the potential and vindicates the Company's 2017 decision to change focus from Viscaria in Sweden to the opportunity that arose in Ecuador.

The subsequent sale of the European assets has now left Sunstone well-funded and in a position to give Ecuador the attention that porphyry targets require. One of the strategic outcomes of the change in focus was to secure a balance sheet such that the Company did not need to go back to the market and dilute shareholders at the then low share price.

The original Ecuadorian acquisition was Bramaderos in 2017, followed by El Palmar in 2020. The Company has undertaken significant work at Bramaderos and is now in a position to deliver an initial MRE on the Brama prospect in early 2022. However, rather than just being a one trick pony, Sunstone took hold of the El Palmar opportunity, which has delivered on the relatively limited work to date, and for which drilling is to continue for the foreseeable future, depending upon results.

Figure 1: Project locations (Source Sunstone)



### Ecuador in Brief

Although for a period being largely off the radar of resource companies due to somewhat volatile politics and a general anti mining feeling, the country is now viewed more favourably, largely due to the introduction of new mining legislation by then President Raphael Correa in 2013 and supported by subsequent President Moreno from 2017 (and who was previously Vice-President under Correa from 2007 to 2013). Correa's government was supportive of mining, but also cognisant of the requirement that mining must be responsible and co-exist with other stakeholders in the country and economy. As for Australia there are regions that are off limits to exploration and mining, and the industry needs to operate accordingly. This approach has continued into the recently elected (2021) centre right government of President Lasso who also publicly supports responsible mining.'

The country is well served by road infrastructure; however the Government is committing to public-private partnerships (“PPP”) in a US\$5 billion infrastructure development programme. Also seeing plans for significant investment in power (with significant expansions since 2002 from 7.9 GW to 20 GW installed, largely from hydro), with plans for the installation of a further 5 GW capacity, this time allowing for foreign investment in the sector, signalling a change in government policy.

On the exploration and mining side, several majors are now operating in Ecuador, including BHP, Fortescue, Hancock and Lundin Gold amongst several others. ASX listed Newcrest Mining (ASX: NCM, “Newcrest”) is a 13.5% holder in SolGold, and a 32% shareholder in Lundin Gold (source – MarketScreener.com, November 19, 2021).

There have been several discoveries over recent years (Figure 1), including Cascabel (SolGold), Fruta and Del Norte (Lundin Gold), and given that the highly prospective country is underexplored, and the growth in exploration activity, we would expect more discoveries over coming years.

### Capital Structure

Sunstone currently has 2,237 million fully paid ordinary shares, 20 million unlisted options (of which 8 million A\$0.042 are in the money) and 53.8 million performance rights on issue.

The largest shareholder is Valbonne III fund, with a holding of 5.73% (127.95 million shares), with Directors and Management currently holding 4.8%, and with the top 20 holding 36.8%.

### Financial Position

As of September 30, 2021, Sunstone had A\$13.195 million in cash and 42.8 million Copperstone Resources B Shares (“Copperstone”, XSTO: COPP B) – these have a current value of A\$8.54 million. The Company also holds ~78.51 million shares in NewPeak Metals Limited (ASX: NPM, “Newpeak”) with a current value of ~A\$0.117 million. There is nominal cash of A\$0.336 million on the exercise of in the money options.

Total operating and investing cashflow over the year to 30/9/21 was A\$10.576 million including staff and administration costs of A\$2.464 million and capitalised exploration expenditure of A\$7.945 million. The sale of Copperstone shares and the payment of the renegotiated Tranche 2 of the 2018/2019 sale of the Viscaria Project in Sweden realised A\$21.211 million during the period.

### Asset Sales

The sale of the Viscaria assets in Sweden to Copperstone was announced in August 2018 and closed in March 2019 and is one of three sales of non-Ecuadorean assets either completed or under way.

The initial terms of the Viscaria deal included:

- Tranche 1 – 160 million B-shares and SEK 40 million cash on closing – at the time this equated to ~A\$25 million in shares and A\$6 million in cash; and,
- Tranche 2 – 46 million B shares and SEK 20 million in cash, due on the receipt of the Environmental Permit for Viscaria – at the time this equated to ~A\$7 million worth of shares and A\$3 million in cash.

There was a time frame of 9 years for the awarding of the Environmental Permit under Tranche 2, after which time it would lapse, and not be payable.

On November 23, 2020, the Company announced that it had negotiated to bring forward the payment of Tranche 2, with this to become all cash. This included 4.8 MSEK (~A\$0.765 million) to be paid within 15 days, and 21.2 MSEK (~A\$3.337 million) to be paid following a planned rights issue by Copperstone – this was settled in the March 2021 quarter.

As of September 30, 2021, the Company still held 42,815,220 shares in Copperstone with a current value in the order of A\$8 million, with no impediments to the orderly disposal when required.

In February 2021, the Company closed the sale of gold assets in Southern Finland to NewPeak, with terms as follows:

- \$75,000 cash to Sunstone on completion (done),
- \$250,000 of NewPeak shares at a 30-day VWAP calculated at completion (done, with 78.51 million shares issued),
- A milestone payment of \$1,500,000 in cash upon NewPeak delivering a JORC Indicated category resource of a minimum of 450,000 ounces gold (initially 500,000 oz, and yet to be delivered); and,
- Replacement of the existing environmental bond of €13,000 associated with the approved permits (done).

Sunstone also has an agreement in place with Canadian listed United Lithium Corp (CSE: ULTH, “United”) to sell the 83.6% interest in the Finland Lithium Project, with consideration including C\$420,000 in cash and C\$420,000 worth of shares in United (which have a current value of C\$0.65/share). At current exchange rates this equates to a total consideration of ~A\$910,000, and also leaves the Company with exposure to the burgeoning lithium sector.

## El Palmar Porphyry Copper-Gold Project - Ecuador

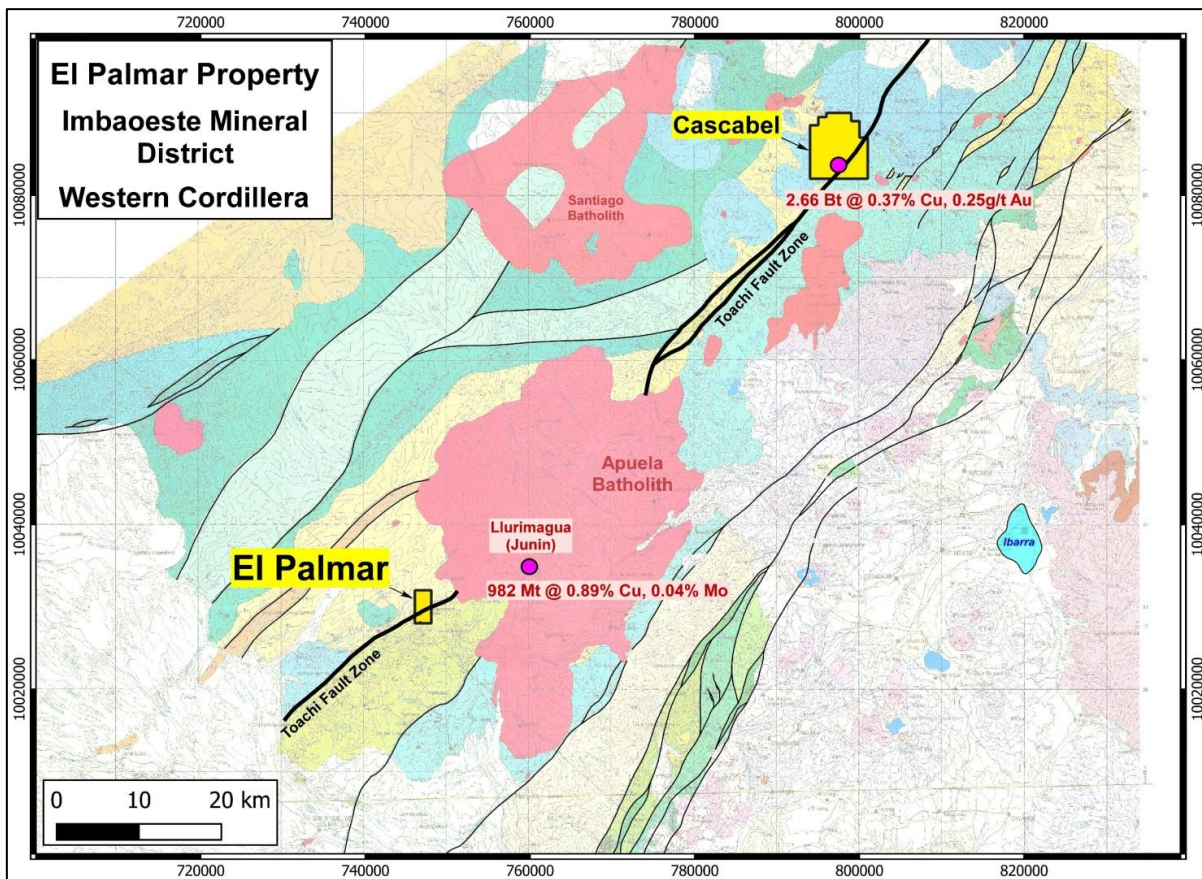
### Location, Infrastructure and Tenure

El Palmar comprises a single granted tenement with an area of 790 ha, located some 60 km by road from the national capital, Quito, in Imbabura Province in the Cordillera Occidental of Northern Ecuador (Figures 1 and 2). Access is via both paved and gravel roads with a travel time of some 3 hours from Quito, and with the nearest settlement being El Paraiso (~50 families), being served by power, piped water and with cell phone coverage.

The tenement covers both agricultural and forested areas, with local relief in the order of a few 100s of meters. The Company has stated that there are no conflicting environmental or native title interests overlying or adjoining the concession.

The tenement is held by 100% by an Ecuadorean company, Goex, with Sunstone currently owning 51% of Goex. The tenement was originally granted in 2003 for a period of 30 years. On implementation of the new mining law in January 2009, the concession was refreshed, with a revised 25-year term ending in 2033, which also allows for a 25-year renewal.

Figure 2: El Palmar location on geology map – highlights proximity to Cascabel and Llurimagua



In August 2020 Sunstone announced that it had signed an agreement to acquire a 100% interest in Goex through:

- An initial cash payment of US\$50,000 upon signing of the Staged Acquisition Agreement,
- Funding and managing all exploration activities on the project,
- Payments totaling US\$250,000 in stages linked to advancement through to the commencement of a phase 2 drilling program in the first two years,
- Payments totaling US\$600,000 over the 2 years from July 1st, 2022; and,
- Final cash payment of US\$2,000,000 by July 1st, 2024.

The current shareholders of the company that holds El Palmar will receive a 1% net smelter royalty. Sunstone will have the right to buy back 75 per cent of the royalty (taking it to 0.25%) for US\$1 million.

## Regional and Local Geology and Mineralisation

El Palmar is located over units of the Jurassic to Tertiary volcanic arc and metallogenic belt that follows the Cordillera Occidental of Ecuador (Figure 2 and 3), with the majority of the rocks (and mineralisation) being Miocene in age.

Units in the vicinity of El Palmar include intrusives, volcanics and epiclastics, with major structures playing a significant part in the localisation of mineralisation. Major structures include the NE-trending crustal scale, arc-parallel Taochi Fault Zone (Figures 2 and 3) on which El Palmar and SolGold's Cascabel projects are situated. In addition, cross structures have been identified which commonly localise the deposits (or causative intrusives) along the arc parallel structures – such NW-trending structures have been identified from analysis of detailed magnetics at El Palmar (Figure 4) – some are also identifiable as lineaments in Google Earth imaging. Both NW and NE trending cross structures are present at Cascabel.

The geology at El Palmar comprises a thin veneer of tuff overlying a dioritic intrusive complex (Figure 5) – several intrusive centres have been interpreted from the magnetics (Figure 4) – as mentioned earlier porphyry deposits commonly occur in clusters.

Mineralisation includes porphyry Cu-Au (Cascabel, El Palmar) and porphyry Cu-Mo (Codelco/Enami's Llurimagua/Juirin) as shown in Figures 1 to 3. Enami is the Government of Ecuador's mining agency. Epithermal gold deposits are also present, with one such system being located some 5 km to the SW of El Palmar, being operated by a local group and producing around 10,000 ozpa of gold.

There have been several overlapping episodes of volcanic activity and mineralisation – for example host intrusives at Cascabel have been dated as Eocene, with an age of 41.2 to 37.8 Ma (with mineralisation dated at 38.6 Ma), whereas the Alpujala Batholith, which hosts Llurimagua has been dated at between 19 – 12 Ma, with mineralisation having a late Miocene age of ~9.6 Ma.

Both are world-class deposits – the Alpala deposit at Cascabel has a Mineral Resource Estimate of 2.663 Bt @ 0.37% Cu and 0.25 g/t Au, with a high-grade core of 442 Mt @ 0.87% Cu and 0.86 g/t Au (Table 1). The high-grade core has a diameter of ~500 m and a vertical extent of ~900 m (Figure 7).

**Table 1: Cascabel MRE (Source: SolGold presentation)**

Cut-off Grade	Resource Category	Mt	Grade				Contained Metal			
			CuEq (%)	Cu (%)	Au (g/t)	Ag (ppm)	CuEq (Mt)	Cu (Mt)	Au (Moz)	Ag (Moz)
0.21	Measured	1,192	0.72	0.48	0.39	1.87	8.6	5.7	15	52.4
	Indicated	1,470	0.37	0.28	0.14	0.84	5.5	4.2	6.6	39.8
	<b>Measured + Indicated</b>	<b>2,663</b>	<b>0.53</b>	<b>0.37</b>	<b>0.25</b>	<b>1.08</b>	<b>14.0</b>	<b>9.9</b>	<b>21.7</b>	<b>92.2</b>
	Inferred	544	0.31	0.24	0.11	0.61	1.7	1.3	1.9	10.6
	Planned dilution	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

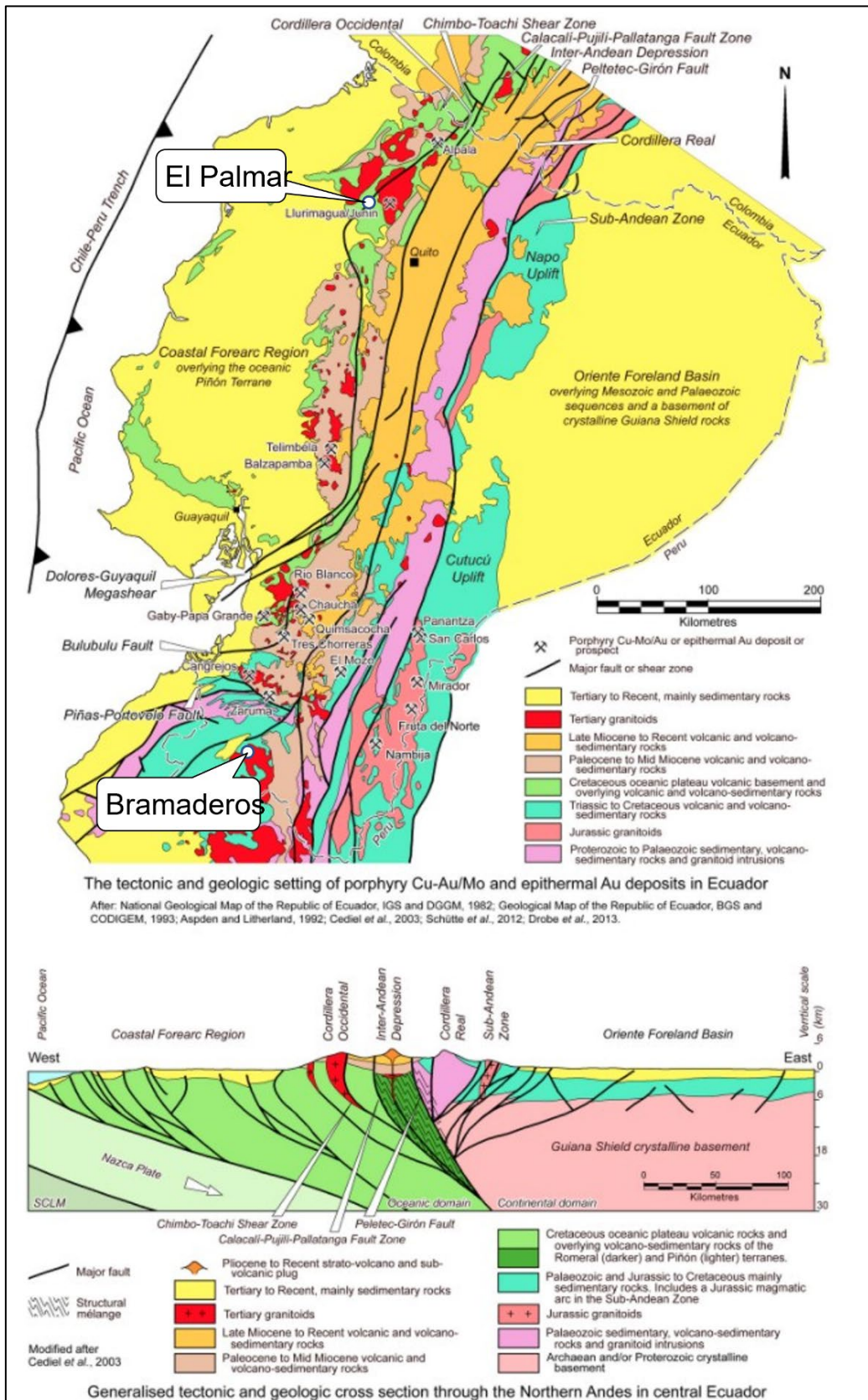
High Grade Core: Measured plus Indicated Categories									
Cut-off grade	Mt	Grade				Contained metal			
		CuEq (%)	Cu (%)	Au (g/t)	Ag (ppm)	CuEq (Mt)	Cu (Mt)	Au (Moz)	Ag (Moz)
<b>0.80%</b>	442	1.40	0.87	0.86	2.34	6.2	3.8	12.3	33.3

The main body of high-grade mineralisation at Alpala starts at a depth of ~500 mbs (with a smaller shallow zone, Figure 7), and the drilling has delivered some exceptional intersections, including: 1,560 m @ 0.59% Cu and 0.54 g/t Au (Hole 12) and 1,197.4 m @ 0.63% Cu and 0.83 g/t Au (Hole 9) – the system has been intersected to a depth of over 2,000 m.

More recently SolGold has announced an initial MRE of 430 Mt @ 0.25% Cu and 0.18 g/t Au for the Tandamaya-America deposit within the Cascabel concession. This is just one of several porphyry targets within the concession – clustering of deposits is a typical feature of this style of mineralisation. A similar situation is postulated at El Palmar, with this highlighted by the ground magnetics – this is also the case at the Company's Bramaderos project, with numerous porphyry targets identified.

The latest readily available Inferred Resource for Llurimagua is 982 Mt @ 0.89% Cu, 1.9 g/t Ag, 0.04% Mo and 0.01 g/t Au. Alternatively, using a 0.2% Cu instead of 0.4% Cu cutoff the Resource is 1.3 Bt @ 0.73% Cu, 1.6 g/t Ag, 0.03% Mo and 0.01 g/t Au.

Figure 3: Geology map and section of Ecuador (adapted from portergeo.com/database)

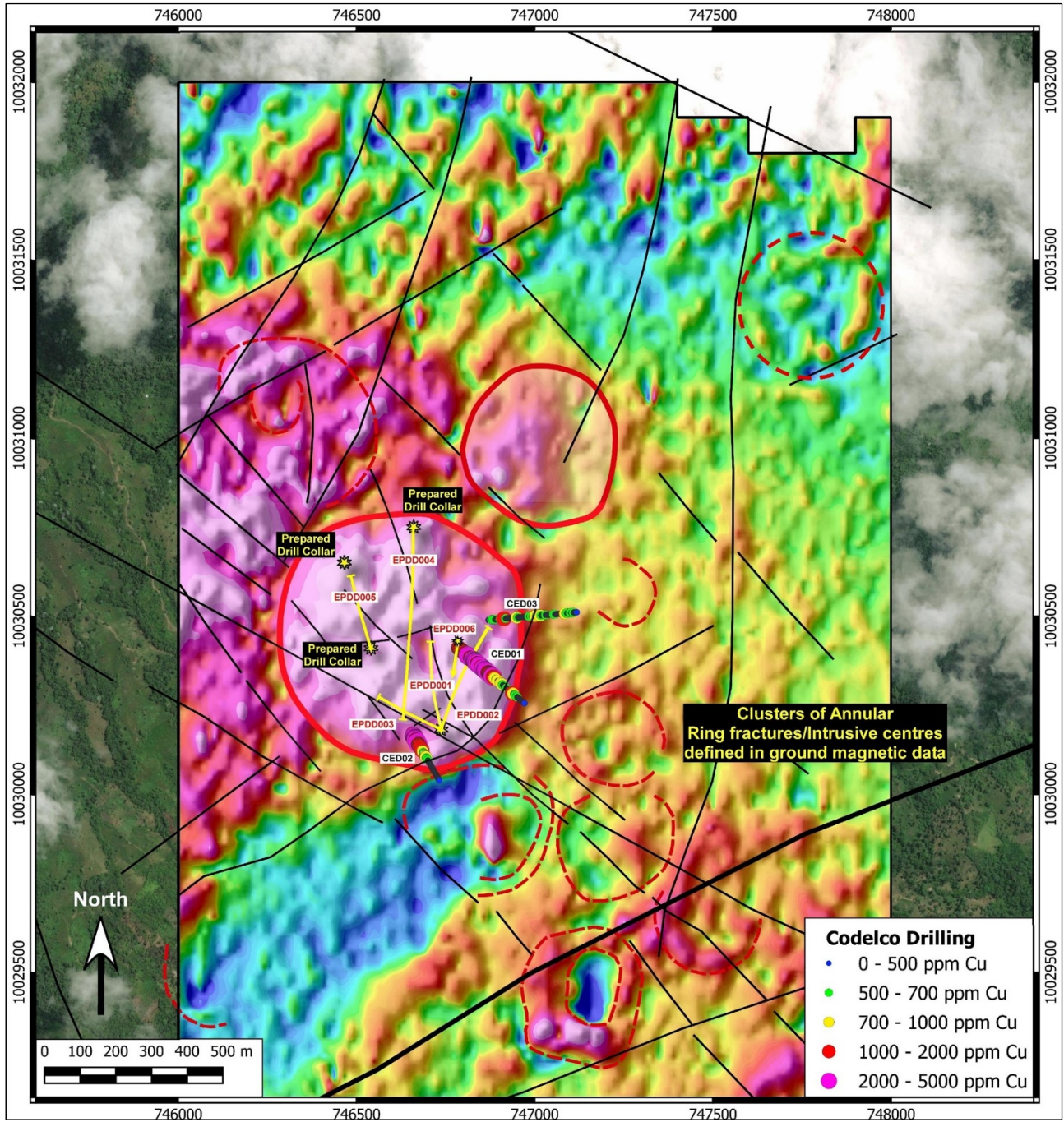


### Historic and Current Activities

There has only been limited work carried out at El Palmar, with this including regional geochemical sampling, geological mapping, trenching and the drilling of three drillholes by Codelco in 2012 (CED001 to CED003, Figure 4). The trenches and drilling intersected mineralisation (Table 2) demonstrating the potential of the system, however Codelco withdrew from the JV due to corporate reasons.

Table 2 also includes sampling of previously unsampled intervals by Sunstone.

Figure 4: El Palmar drilling and structure on ground magnetics image (Source: Sunstone)



**Table 2: El Palmar historic drillhole and trench intercepts (Source Sunstone)**

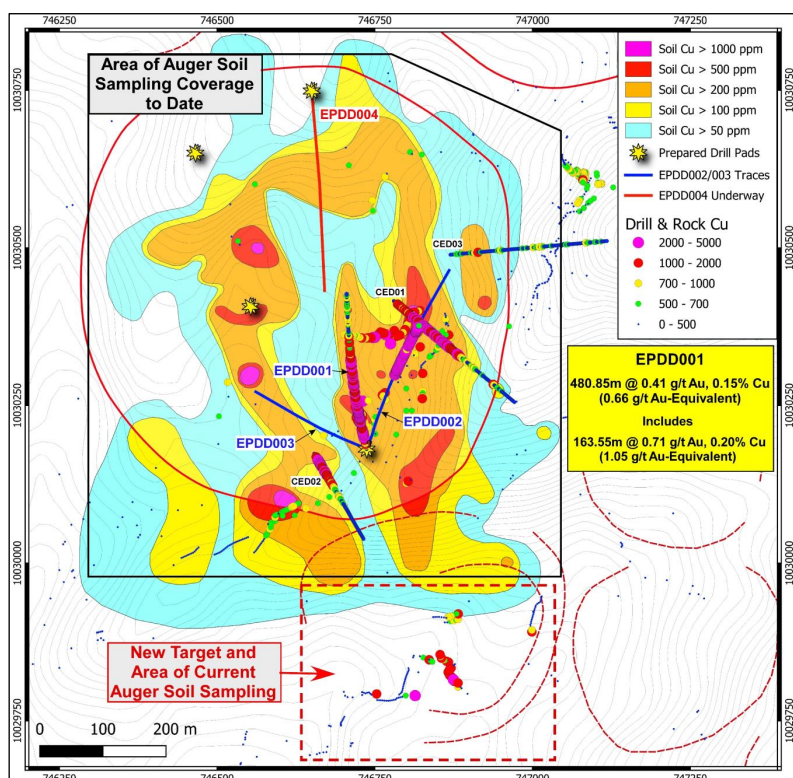
Drill Hole/ Trench	From (m)	To (m)	Interval (m)	Copper (%)	Gold (gt)	
Trench 1	-	-	174	0.11	0.41	
<i>Including</i>	-	-	42	0.05	0.72	
Trench 2	-	-	126	0.05	0.39	
<i>Including</i>	-	-	57	0.13	0.61	
Hole CED-1	12.89	29.79	16.9	0.13	0.20	STM sampling
Hole CED -1	33.0	500.2	467.2	0.10	0.18	
<i>Including</i>	33.0	219.0	186.0	0.16	0.33	
Hole CED -2	8.12	43.52	35.4	0.18	0.34	STM sampling
Hole CED -2	51.0	124.4	73.5	0.12	0.16	
<i>Including</i>	51.0	85.5	34.5	0.16	0.31	
Hole CED -3	400.5	500.2	99.7	0.05	0.09	

Initial work by Sunstone included a detailed ground magnetics survey, which identified several circular features as shown in Figure 4. These circular features are interpreted as individual intrusive centres, and what was noticeable, is that the historic drilling was oriented to drill away from the core of the mineralisation, and thus sampled the lower grade peripheries of the magnetic feature.

Inversion modelling of the main feature confirmed a broadly annular feature, with this coalescing at some 800 m depth (Figures 6 and 7).

The next phase of work included auger bedrock geochemical sampling, to sample beneath the thin veneer of younger tuff which masks the underlying prospective geology – the area sampled is shown in Figure 5, along with the copper geochemistry.

**Figure 5: El Palmar copper-in-soil geochemistry and drilling – note that this pre-dates EPDD003 results (Source: Sunstone)**





This sampling (which is ongoing to cover other magnetic/structural features), identified a 750 m diameter roughly annular coincident copper, gold, silver anomaly associated with elevated ground magnetics – this is a common correlation in the higher-grade cores of porphyry copper systems, as mineralisation is commonly associated with magnetite-bearing veins.

This has resulted in the definition of several priority drilling targets, with the Company commencing drilling in Q2, 2021.

The Company initially planned an eight-hole drilling programme (which is underway) – as of the time of writing six holes for ~3,793 m had been completed with the seventh hole being drilled. Given the results this however is being expanded, with a second rig due on site in the first week of December, which will test the deep magnetic targets. The current rig will continue to test the upper 600 m of the system, including the lateral extents largely as defined by the magnetics and geochemistry (Figures 5 to 7).

Results of drilling released to date indicate a significant discovery, with these presented in Table 3, and Figures 5 and 6.

**Table 3: El Palmar Sunstone drilling results to date (Source Sunstone)**

Drill Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Cu (%)	Mo (ppm)	Ag (g/t)	AuEq (g/t)
EPDD001	11.30	492.15	480.85	0.41	0.15	3.40	0.74	0.66
<i>incl</i>	52.35	215.90	163.55	0.71	0.20	1.39	1.14	1.05
<i>incl</i>	66.90	96.80	29.90	0.73	0.20	0.70	1.06	1.07
<i>incl</i>	147.25	163.30	16.05	0.80	0.20	1.36	2.69	1.14
EPDD002	4.70	34.00	29.30	0.18	0.06	1.3	0.57	0.28
<i>and</i>	52.65	58.70	6.05	0.22	0.07	0.66	1.48	0.33
<i>and</i>	250.00	463.75	213.75	0.48	0.22	3.84	1.58	0.83
<i>incl</i>	250.00	417.50	167.50	0.58	0.26	3.54	1.81	1.00
<i>incl</i>	252.00	274.00	22.00	1.06	0.33	3.87	1.49	1.59
<i>and</i>	388.75	398.00	9.25	1.22	0.19	4.38	6.92	1.54
EPDD003	10.44	270.00	259.56	0.41	0.14	1.77	0.80	0.63
<i>incl</i>	10.44	207.00	196.56	0.51	0.17	1.42	0.92	0.78
<i>Incl</i>	27.30	203.00	175.70	0.55	0.18	1.48	0.80	0.84
<i>Incl</i>	31.91	137.00	105.09	0.75	0.20	1.14	0.89	1.07
<i>incl</i>	46.10	106.10	60.00	0.89	0.21	0.97	0.91	1.23

Some key points include:

- A footprint potentially on par with that at Cascabel (Figure 7),
- Long, +1% AuEq intersections in the three holes sampled to date – note that results are still awaited for holes EPDD004 to EPDD006,
- This includes higher grade intersections close to surface,
- Multiple phases of veining, including quartz, quartz sulphide and magnetite-bearing,
- Drilling has intersected mineralisation from surface to a depth of ~400 mbs, with mineralisation still open below this
- Statistical analysis has shown a strong correlation between Cu, Au and Ag grades, and magnetic susceptibility,
- Alteration intersected includes the major types associated with porphyry copper deposits, including potassic, sodic, phyllic and propylitic,
- Geology intersected to date includes multi-phase intrusives; and,
- Copper minerals include bornite, chalcopyrite, chalcocite and covellite.

These observations suggest a proximity to the hotter and higher-grade core to the system. Also, the multiple and overprinting phases of veining, mineralisation and intrusives indicate the potential for a large, high-grade system.

Some areas of epithermal overprint have also been noted – this also confirms the epithermal potential of the tenement, as also demonstrated by the nearby operation as mentioned earlier.

Figure 6: El Palmar drill section looking ENE as of October 7, 2021  
(Source: Sunstone, hole EPDD004 subsequently completed)

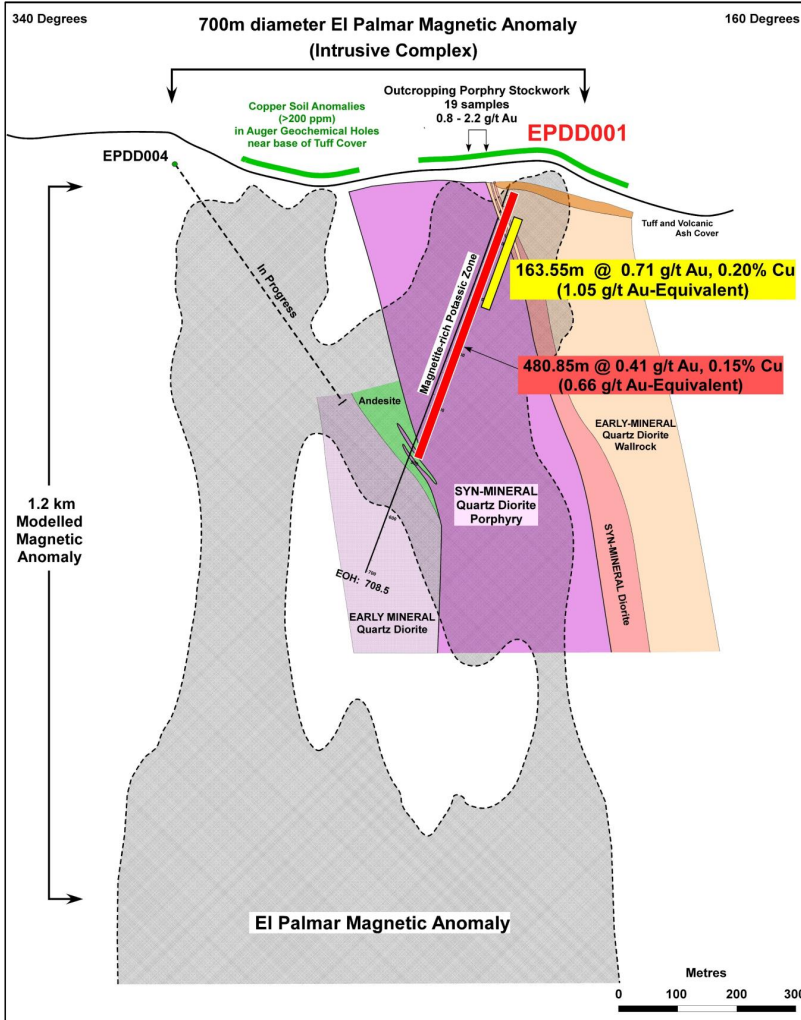
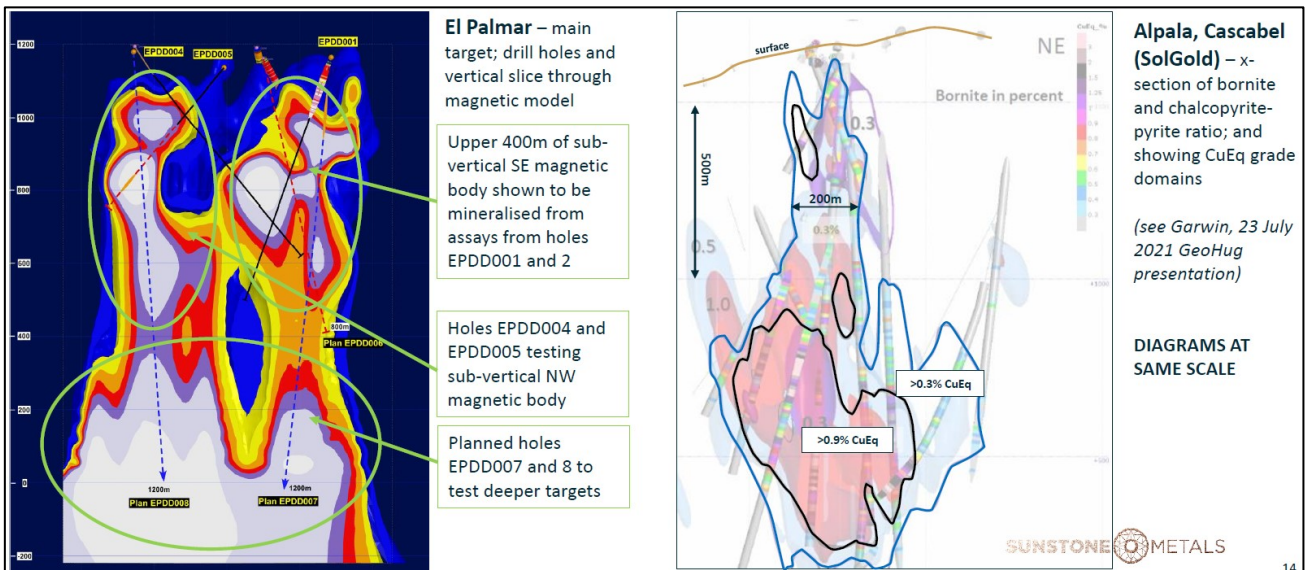


Figure 7: Comparison of El Palmar and the Alpala deposit at Cascabel (Source: Sunstone)

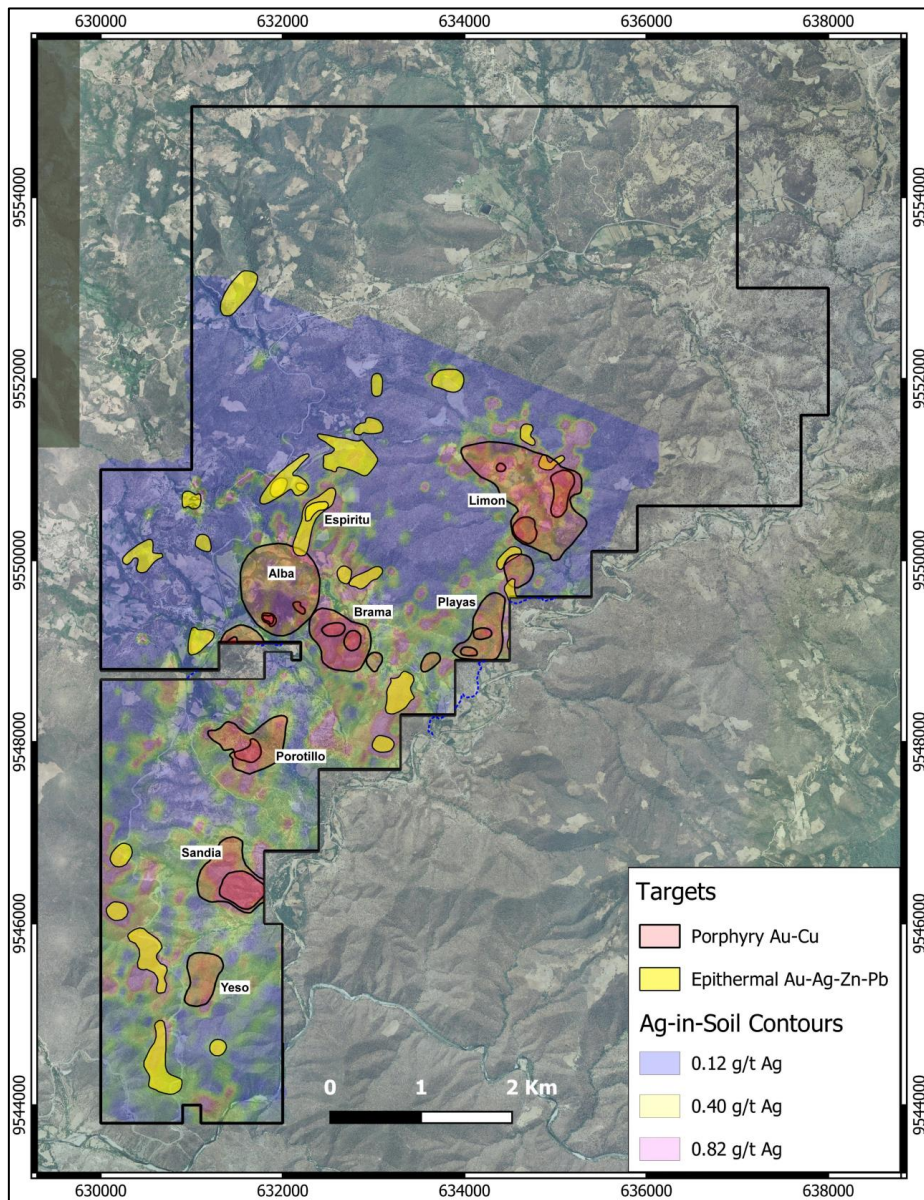


## Bramaderos Porphyry Gold-Copper Project, Ecuador

### Location, Infrastructure and Tenure

Bramaderos comprises a single tenement of 4,949 ha, granted in 2017, located approximately 130 km by road west of Loja (E-35, which is part of the Pan-American Highway, which runs through the west of the tenement – Figures 1, 2 and 8), the provincial capital of the province of the same name. Loja has a population of around 200,000; and, as an aside, is considered the music and cultural capital of Ecuador. As for El Palmar, the project is located within the Western Cordillera.

**Figure 8: Bramaderos tenement, infrastructure, soils, and prospects (Source: Sunstone)**



In 2017 the Company entered into an agreement with Cornerstone Capital Resources (TSXV-CGP, “Cornerstone”) through its subsidiary La Plata Minerales S.A. (“PLAMIN”, and the registered holder of the tenement) to earn a majority interest in the Bramaderos tenement.

The agreement presented a staged earn-in structure, with Sunstone project equity levels at 51%, 70% and 80% earned through meeting various expenditure and technical hurdles (refer to the Company release of April 10, 2017, for details).

After earning a 51% interest in August 2019 through the expenditure of US\$3.4 million, the parties renegotiated the terms in early 2020 such that Sunstone was provided with an immediate 87.5% equity interest, and with Cornerstone retaining a 12.5%

loan carried interest (carried by Sunstone) through to the start of commercial production. Repayments are to be made at LIBOR +2% from 90% of Cornerstone's share of earnings or dividends.

### Local and Regional Geology and Mineralisation

Although the geology of the Bramaderos region is generally poorly understood compared to other parts of the country, the tenement is underlain by Cretaceous volcanics and volcanoclastic sediments of the extensional Celica-Lancones Basin (related to a Cretaceous volcanic arc), that have been intruded by the Cretaceous composite Tangua Batholith. Within the project area, the dioritic intrusives are porphyritic and sub-volcanic, and occur along NNE to NE trending structures, and possibly localised by WNW trending cross structures. At Brama a 3 km x 1 km WNW elongate hornblende diorite intrusion has been mapped.

The Cretaceous volcanic and intrusive sequence is overlain regionally by younger shallow to deeper marine sediments, which in turn are overlain by continental red bed sediments and volcanics.

Significant areas of argillic alteration have been identified, particularly at the Brama and Limon prospects (Figure 8, with Limon being offset from the NE-trend), and with several centres of potassic alteration, associated with the main areas of quartz stockwork mineralisation, being identified – zones of argillic and phyllic alteration are commonly regressively weathered.

The porphyry mineralisation at Bramaderos is largely associated with quartz stockwork veining and potassic alteration centred within and above the centres of the hornblende diorite intrusive stocks and associated intrusive breccias. These are aligned along a north to NE trend, and with the associated phyllic and argillic alteration forming a merged corridor some 5 km long and up to 1.5 km wide.

Most recent interpretations suggest that the porphyry mineralisation at Bramaderos comprises of several, relatively thin, but long (up to 1 km vertical extent), sub-vertical higher grade "pencil" porphyries within a broader lower grade halo (Figure 9).

In addition to the porphyry Cu-Au mineralisation, the tenement hosts related epithermal Au-Ag, with several prospects being defined (Figure 8) – these include Espiritu and the West Zone, and have been interpreted as being associated with a NE-trending corridor that extends to Titan Minerals (ASX: TTM, "Titan") Dynasty Gold Project, an epithermal system with an foreign MRE of 14.45 Mt @ 4.5 g/t Au for 2.1 Moz contained gold, located some 10 km SW of Bramaderos (Figure 10).

Some of the porphyry prospects (e.g. Limon) also have zones of epithermal overprint.

**Figure 9: Bramaderos interpretation incorporating magnetics and drilling (Source: Sunstone)**

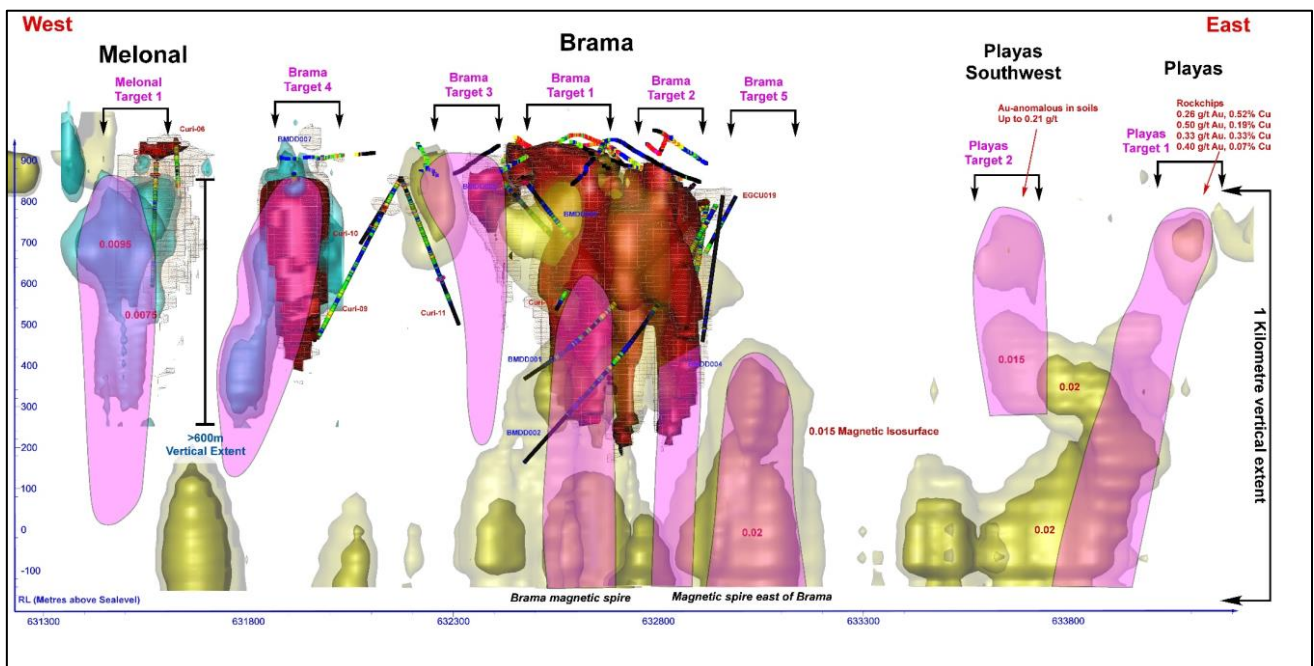
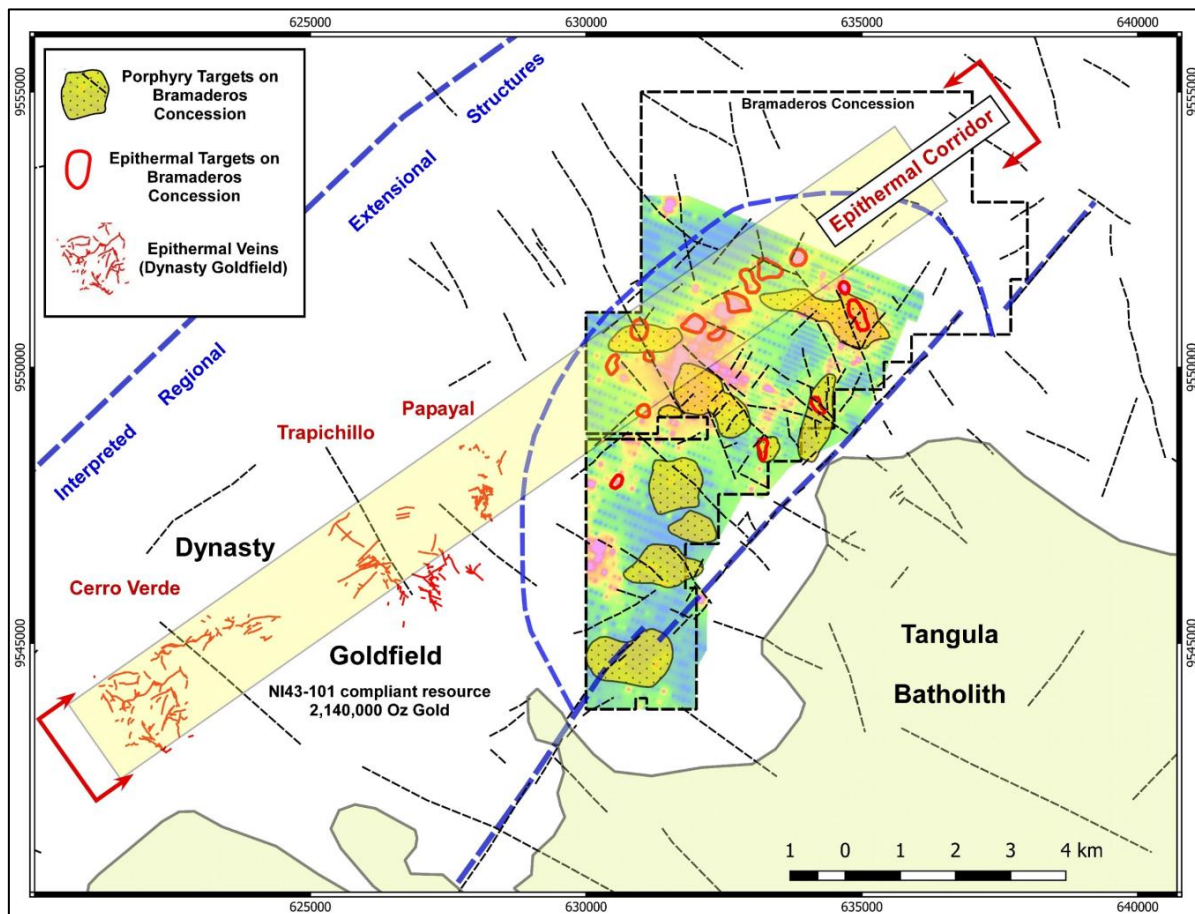


Figure 10: Relationship between porphyry and epithermal mineralisation (Source: Sunstone)



### Historic Work

The area has seen substantial historic work, however with this being undertaken in intermittent periods, including from 1970 to 1984, 2001 to 2002, and 2004 to 2007. Exploration in the 2000s led to diamond drilling (in total 10,426 m) being undertaken at the Bramaderos, Melonal and Porotillo porphyry prospects and surrounding areas (Figure 8). This drilling resulted in intersections of up to 260 m @ 0.6 g/t Au and 0.14% Cu (Brama).

Earlier stage work includes geochemical sampling (soils and rocks), 31-line km of magnetics and induced polarization (“IP”) geophysical surveys and 36 costeans that were channel sampled, with these returning up to 42 m @ 3.7 g/t Au (at the West Zone epithermal breccia).

### Work by Sunstone

Initial work by Sunstone included data collation, with this followed up by field activities including geological mapping, rock chip sampling and some infill/confirmatory soil sampling. In addition, the Company flew a high resolution heli-borne magnetics and radiometrics survey – this covered the whole concession with east-west lines spaced at 100m. The data was subsequently 3-D modelled and highlighted the potential depth extent of the porphyry systems (Figure 9). This was followed up by prospect scale ground magnetics surveying.

After some delays, the EIA required for drilling was approved in early 2019, with drilling commencing in April, and with the first hole, at the Limon prospect, being completed on April 25, 2019. Sunstone has undertaken drilling at four prospects, including:

- Brama – As of September 16, 2021 14 holes for 7605.54 m had been completed, one was underway (subsequently completed) with an additional six planned.
- Limon – Six holes for 4080.71 m (including two that were abandoned)
- Espiritu – Eleven holes for 3357.19 m; and,
- West Zone – Eight holes for 1208.89 m.

### Brama Porphyry Prospect

Current activities at Bramaderos are concentrated at Brama (formerly Bramaderos Main), with this including ongoing drilling, which will be used in the initial MRE, due in H1, 2022 – the drilling is due to be completed by the end of 2021. The Company also plans to undertake deep penetrating electrical geophysics to further test some of the deeper magnetic targets

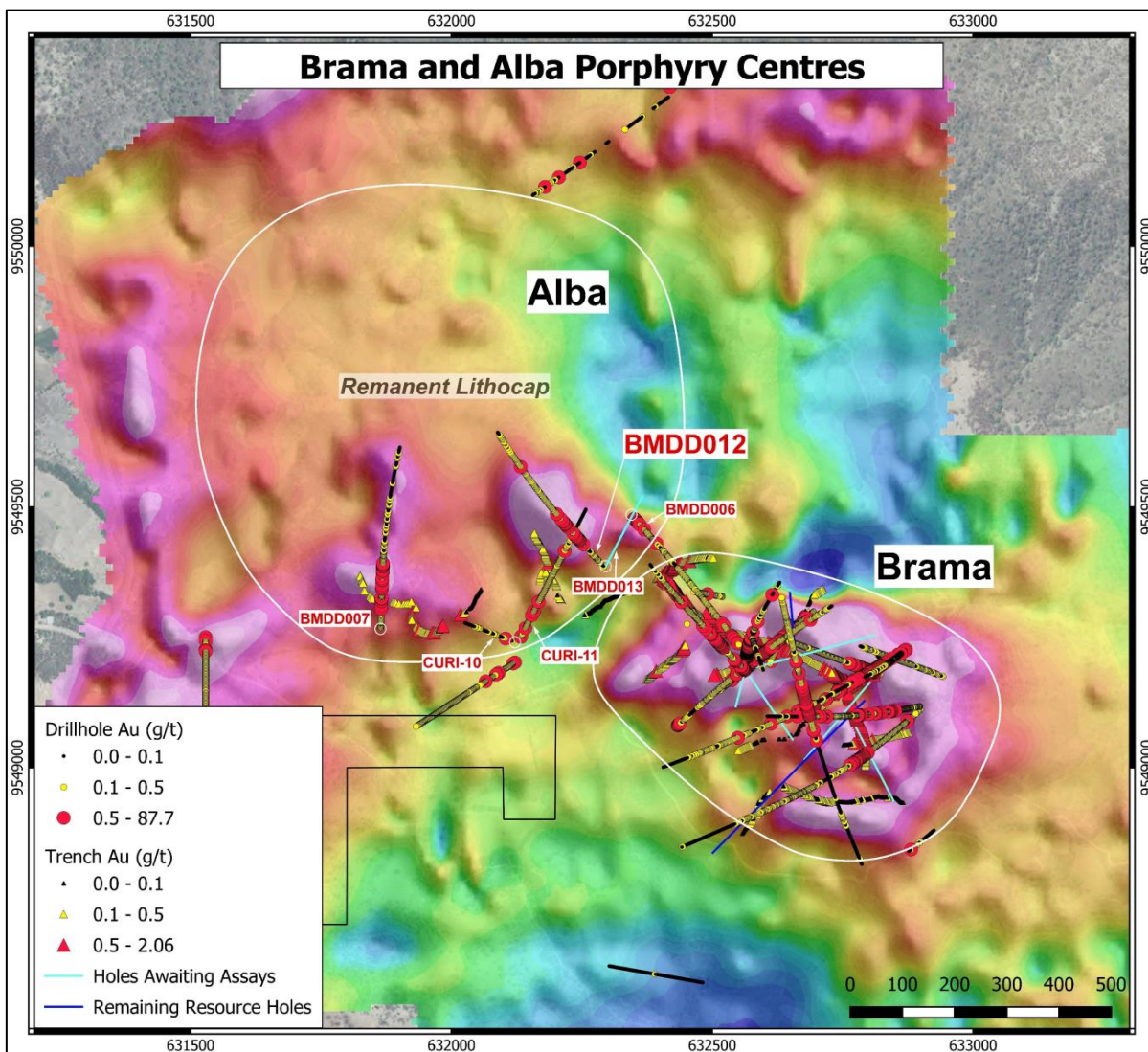
A plan of the drilling completed as of September is shown in Figure 11 on the detailed magnetics image. Note the arcuate magnetic feature that is interpreted as being related to an intrusive breccia on the margins of a porphyry apophyse, as well as magnetic highs associated with mineralisation. The prospect is characterized by a complex of mineralised zones, multi-phase porphyries and breccias (Figure 12), with mineralisation hosted in the breccias and in quartz-sulphide stockwork zones in and around the tops of the porphyry apophyses – the diorites intrude into andesitic volcanics, with these also including post-mineral intrusives that in some places stope out mineralisation (Figure 13).

Copper sulphides include bornite and chalcopyrite, with alteration styles including potassic, phyllic, argillic and, around the margins, propylitic. Veining includes quartz, quartz-sulphide and sulphide.

Drilling has intersected mineralisation down to a depth of 500 m, with mineralisation remaining open below this depth. As shown in Figure 12 there are also several deeper magnetic targets that require follow-up.

The results of drilling to date indicate sub-vertical higher-grade cores with grades of between 0.6 g/t AuEq and 0.8 g/t AuEq within haloes with grades generally between 0.2 g/t AuEq and 0.3 g/t AuEq.

Figure 11: Brama drilling on ground magnetics (Source: Sunstone)



Selected intersections include, amongst others (assays from holes BMDD012 to 016 are awaited, with four more holes to be drilled):

**Table 4: Selected Bramaderos Sunstone trenching and drilling results to date (Source Sunstone)**

Drill Hole/ Trench	From (m)	To (m)	Interval (m)	Au (g/t)	Cu (%)	AuEq (g/t)
Longitudinal Trench BM14	-	-	615.14	0.52	0.11	0.7
<i>incl</i>	-	-	122.6	0.55	0.17	0.84
<i>incl</i>	-	-	97	0.61	0.16	0.82
BMDD001	0	172	172	0.52	0.16	0.79
<i>Incl</i>	39.3	135.9	96.6	0.61	0.18	0.91
BMDD008	0	450	450	0.47	0.1	0.64
BMDD011	0	404.8	404.8	0.32	0.09	0.46
<i>Incl</i>	0	51.3	51.3	0.54	0.07	0.65

**Figure 12: Isometric view of Brama, showing magnetic iso-surfaces and gold grade shells (Source: Sunstone)**

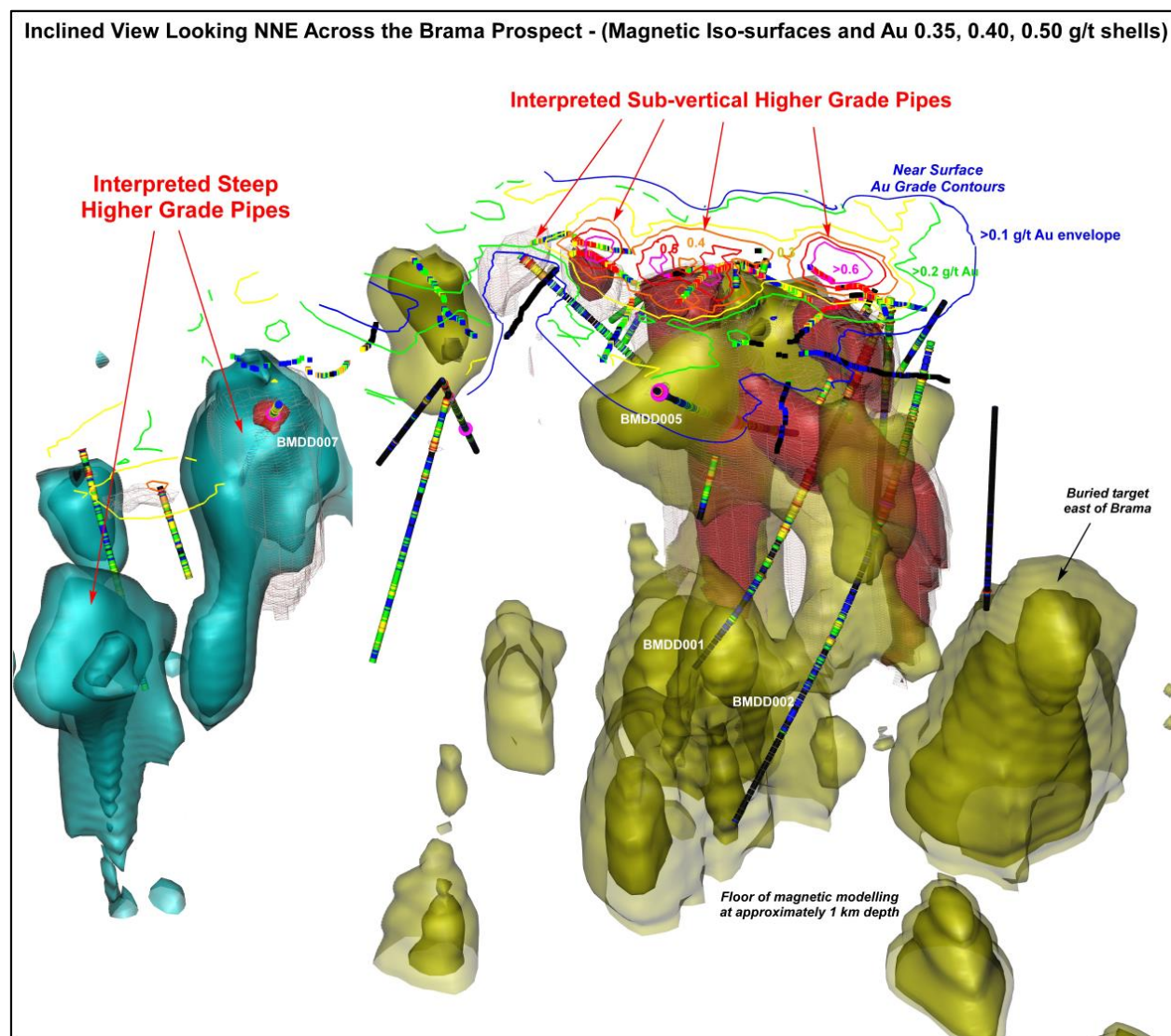
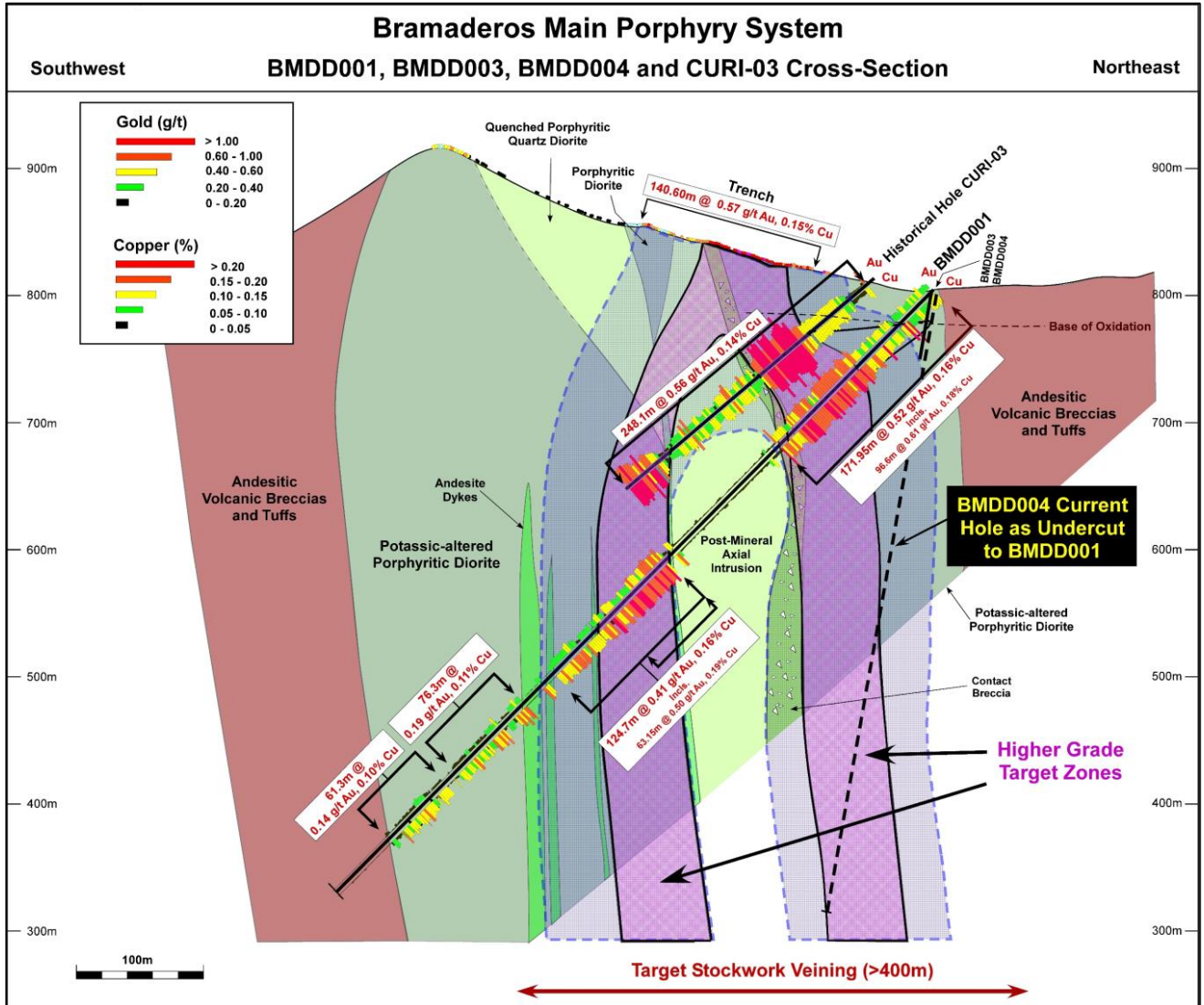


Figure 13: Brama cross section from an earlier release – hole BMDD004 intersected 257.75 m @ 0.25 g/t Au and 0.10% Cu from 4.80 m (Source: Sunstone)



### Alba Gold Prospect

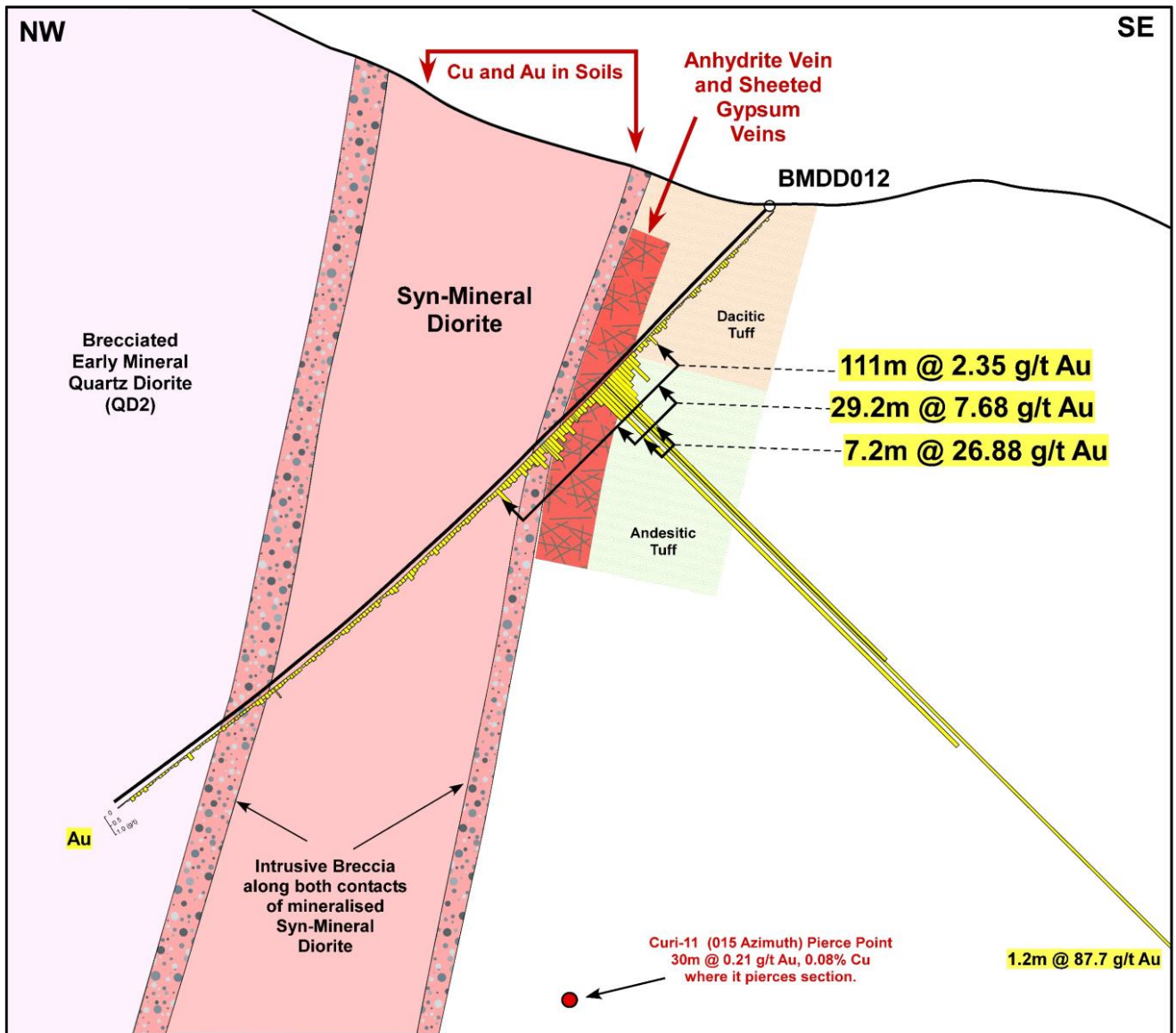
On November 18, 2021, the Company threw a (very positive) curveball into the market, announcing an intersection of 111 m @ 2.3 g/t Au from 93 m in hole BMDD0012, testing a magnetic target on the NW end of Brama (Figures 8, 11 and 14), in what is now called the Alba prospect. This is open along strike and up and down dip.

Although the significance is yet to be determined, the mineralisation is associated with anhydrite and sheeted gypsum veins and contains some visible gold in the higher-grade core. Initial thoughts are that this may represent NE-SW striking later stage mineralisation related to the edge of and above a deeper porphyry Cu-Au system. A further four or so diamond drill holes are now planned to follow this up.

It needs to be noted that there has only been limited historic drilling at Alba, which is one of a number of prospective targets at Bramaderos.



Figure 14: Alba section, looking NE (Source: Sunstone)



### Limón Porphyry Prospect

Limón (Figure 8) is located in the NE of the tenements and is offset to the east from the interpreted NE-NNE mineralised trend – Limón was the first target drilled by Sunstone, and as mentioned above six holes for 4080 m were drilled, however with two being abandoned before the target depths due to caving.

Limón includes a well-developed argillic lithocap and phyllic alteration shell (Figures 15 and 16); the interpreted core potassic zone was not intersected in hole LMDD006, which reached a depth of 1212.16 m. However, the hole intersected high-sulphidation style Au-Cu mineralisation from 0 m to 131.27 m, with an average grade of 0.17 g/t gold and 185 ppm copper.

It may be that the phyllic alteration in hole LMD006 may represent the flanks of a potassic core, with the Company suggesting that such a core may be located to the south, or has the phyllic zone telescoped down over the potassic material?

Figure 15: Limon drill plan on magnetics and geochemistry (Source: Sunstone)

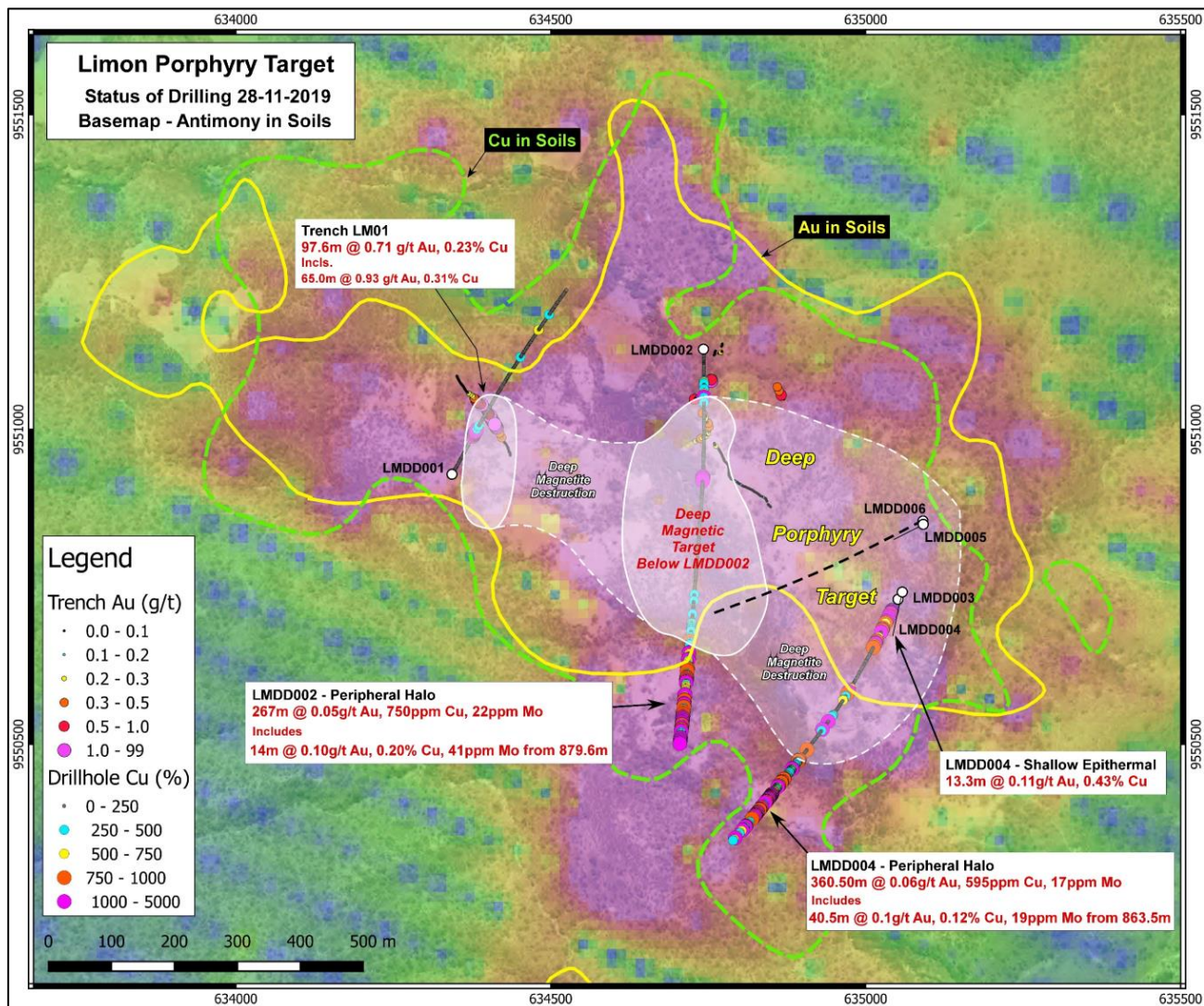
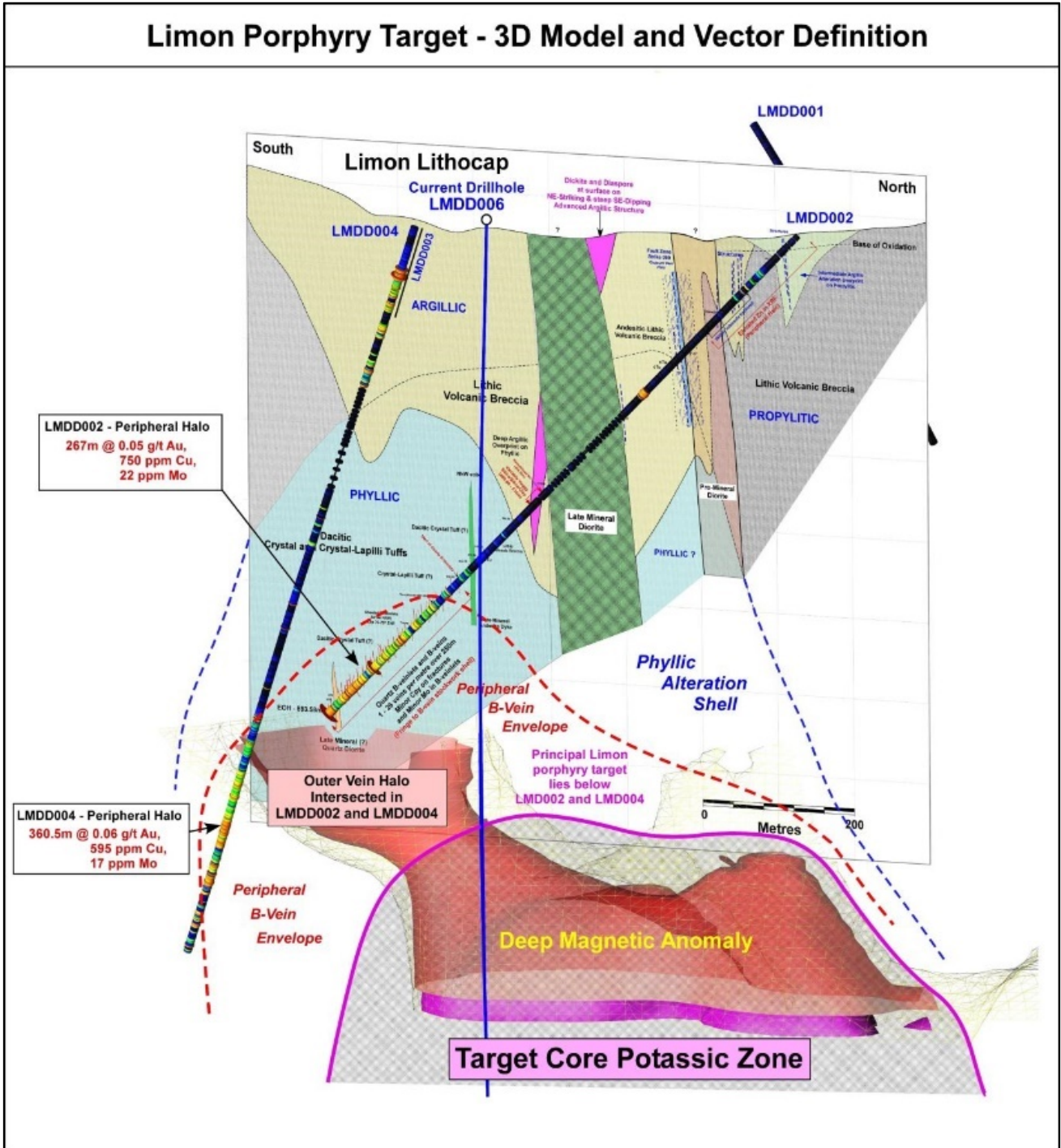


Figure 16: Limon interpreted section – hole LMDD006 actually intersected phyllic alteration to the EOH at 1212 m (Source: Sunstone)



#### Espiritu Epithermal Prospect

The eleven holes drilled at Espiritu to date have intersected moderate to high grade, albeit generally narrow, silver/gold epithermal mineralisation (Figures 17 and 18), with further interpretation and follow up drilling now required.

Mineralisation is generally hosted in a complex array of quartz/sulphide veins, with mineralisation commonly being strongest at vein intersections. Sulphides include base metals, including sphalerite, galena and chalcopyrite, with Espiritu possibly representing an intermediate sulphidation style silver-gold-base metals system.

Figure 17: Espiritu drill plan on magnetics and geochemistry (Source: Sunstone)

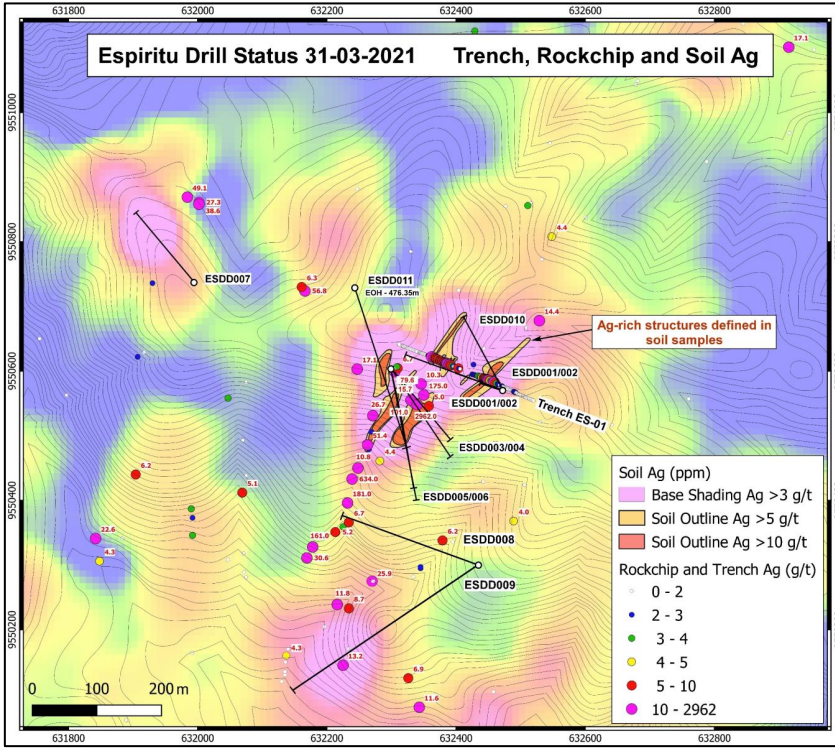
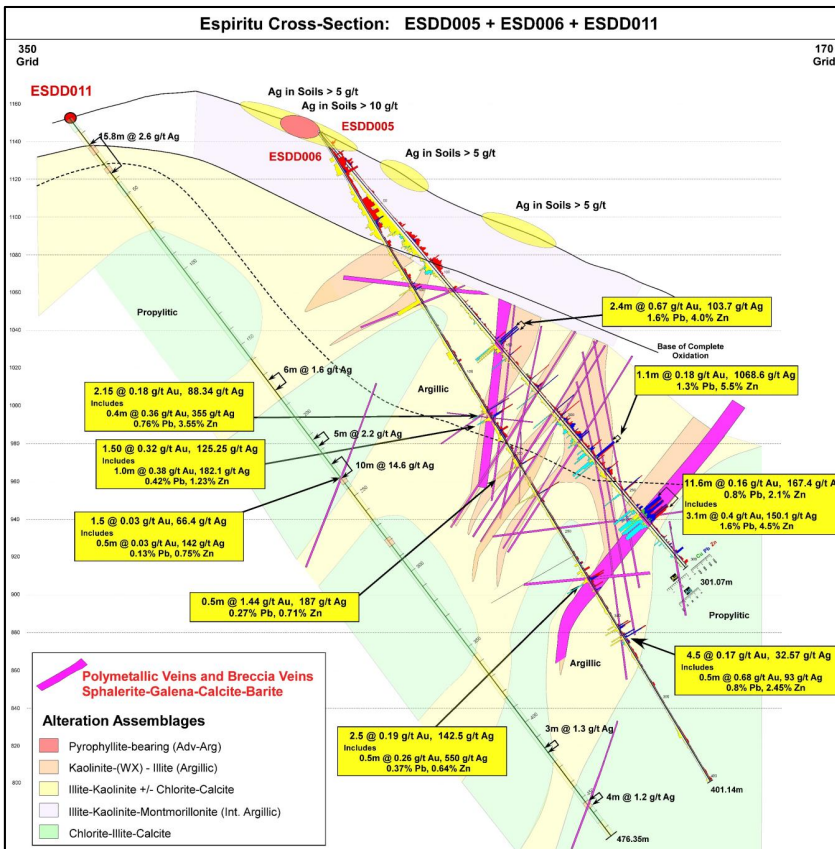


Figure 18: Espiritu drill section looking east (Source: Sunstone)

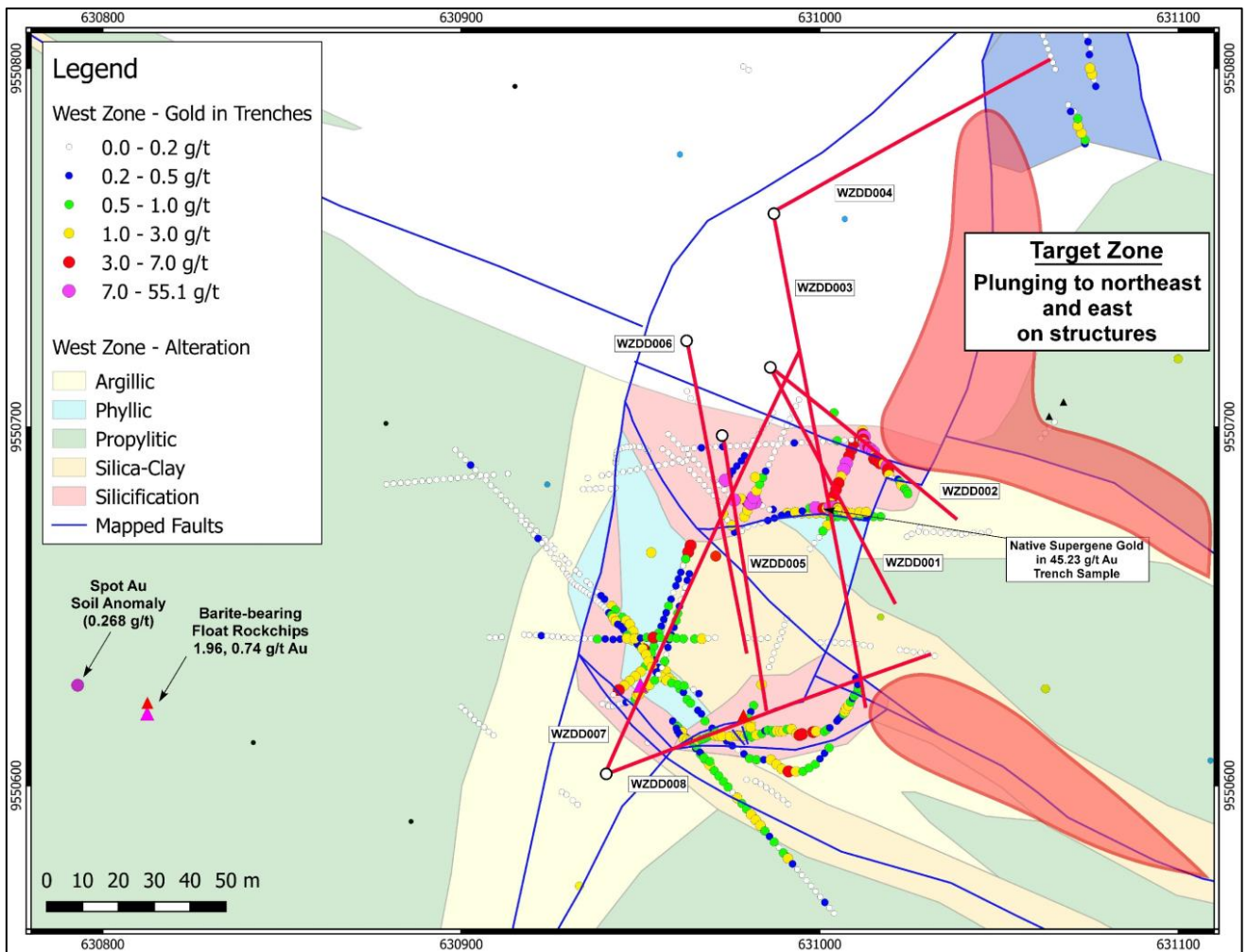


### West Zone Epithermal Prospect

Eight shallow diamond holes were drilled at the West Epithermal prospect, testing anomalous surface geochemical and trenching samples (Figure 19).

The results of the drilling intersected generally narrow (averaging around 2 m) zones of anomalous epithermal gold and silver mineralisation – peak grades were 0.31 g/t Au and 3.48 g/t Ag along with anomalous lead and zinc. A review and reinterpretation of the prospect following the drilling indicated that the target zones are smaller and more constrained than originally thought. In addition, petrographic work indicated that some of the high grade gold in the trenches was due to supergene enrichment.

**Figure 19: West Zone drill plan, surface geochemistry and alteration (Source: Sunstone)**



### Ongoing Activities

There are significant ongoing activities at both properties, which should result in significant and positive newsflow over coming months.

#### El Palmar

Work at El Palmar is concentrated on drilling, with plans to complete the first eight holes by the end of the year. Reiterating our earlier comments, the Company had initially planned an eight-hole programme, with six holes to test the lateral extent and two to test the deeper magnetic targets. Due to the strong results thus far, this programme has been expanded – the current rig will continue testing the upper 600 m, including lateral extents, with a second rig (due on site in the first week of December) to test the deeper targets.

There is also ongoing soil sampling, which has defined additional targets that now require follow up.

## **Bramaderos**

Originally, planned activities at Bramaderos were targeted at completing the resource drilling by the end of the year, followed by an initial MRE in H1, 2022. Planned work at Limon would include a deep IP electrical geophysical survey in early 2022.

Given the recent Alba intersection, the Company will now drill an additional four or so holes to follow this up and undertake IP geophysical surveying over the Alba prospect in addition to that at Limon. Resource work at Brama will continue with the timing of completion of the MRE as planned, although the timing of a few of the Resource holes will be delayed due to the rig now being utilised to drill the additional Alba holes.

## **Board and Management**

### **Mr Graham Ascough – BSc, PGeo, MAusIMM - Chairman**

Graham Ascough was appointed Chairman on 29 November 2013. Graham Ascough is a senior resources executive with more than 30 years of industry experience evaluating mineral projects and resources in Australia and overseas. He is also currently non-executive Chairman of three ASX listed companies: PNX Metals Limited, Black Canyon Limited and Musgrave Minerals Limited.

Mr Ascough, a geophysicist by training, has had broad industry involvement playing a leading role in setting the strategic direction for companies, completing financing and in implementing successful exploration programmes. He was also a Councillor of the South Australian Chamber of Mines and Energy and Chair of its Exploration Committee from 2006 ~ 2012 and has strong ties to the SA Resources industry. He is a member of the Australian Institute of Mining and Metallurgy and is a Professional Geoscientist of Ontario, Canada.

Mr Ascough was the Managing Director of Mithril Resources Ltd from October 2006 until June 2012. Prior to joining Mithril in 2006, he was the Australian Manager of Nickel and PGM Exploration at the major Canadian resources house, Falconbridge Limited, which was acquired by Xstrata Plc in 2006.

### **Mr Malcolm Norris – MSc, M App Fin, FAusIMM – CEO & Managing Director**

Mr Norris is a senior mining industry professional with extensive experience in business management, mineral exploration, development of new business opportunities and asset transactions. His roles have covered a wide range of commodities, geographic locations and management of global portfolios of projects in both large and small organisations.

Mr Norris holds an MSc in Geology and a Masters in Applied Finance. He has more than 40 years of industry experience and in the last 20 years has focused primarily on corporate roles. Previous experience has included 23 years with WMC Resources, followed by roles with ASX listed Intrepid Mines and London listed SolGold

### **Mr Stephen Stroud – Bbus.ACC, GDip.AccFin, CPA – Non-Executive Director**

Mr Stroud is an experienced CPA qualified corporate finance executive with over 20 years' experience advising across all aspects of corporate finance both as an advisor and client. Mr Stroud is an experienced CPA qualified corporate finance executive with over 20 years' experience advising across all aspects of corporate finance. He advises boards and management teams across a broad range of transactions including public and private equity raisings, debt/hybrid debt, Initial Public Offerings, mergers & acquisitions, sell-downs and restructures both in Australia and overseas.

Based in Melbourne, Mr Stroud is Director - Corporate Finance at Morgans Financial Limited, with a key focus on the small-mid cap market listed space on the ASX working across a broad range of sectors including IT, retail, FMCG, healthcare, metals and mining, energy, property and general industrials. Mr Stroud possesses strong relationships across buy and sell side clients across Australia, Asia, UK and North America. Mr Stroud was previously Director – Corporate Finance at CCZ Securities and previously a Non-Executive Director of ASX Listed Explaurum Limited.

### **Dr Bruce Rohrlach – PhD, MAusIMM – General Manager - Geology**

Dr Rohrlach completed a PhD at the Research School of Earth Sciences, Australian National University, Canberra (1997-2002), and studied the Tectonic Evolution, Petrochemistry, Geochronology and Palaeohydrology of the Tampakan Porphyry - High Sulphidation Epithermal Cu-Au Deposit, Mindanao, Philippines.

Dr Rohrlach has had a long career in the mineral industry in Australia, Philippines, PNG, Indonesia, Scandinavia, and South America. This has included extensive experience in all stages of the exploration to development cycle, from establishment of exploration and ore genesis models to management of reconnaissance and advanced exploration programs in regional and mine environments. As well as his considerable experience in multiple scoping, feasibility studies and orebody definition of several globally significant copper-gold porphyry projects, he has been instrumental in managing the discovery holes in two world class copper-gold deposits – at Tujuh Bukit (Indonesia) with ASX listed Intrepid Mines and Cascabel (Ecuador) with London listed SolGold.

### **Mr Ray Robinson – B.Eng (Mining) (Hons), LLB – General Manager – Studies and Technical Services**

Mr Robinson is a mining engineer with over 20 years of industry experience in operating and developing mines in Australia, Papua New Guinea, Argentina and Laos. He has expertise in delivering feasibility studies from scoping study to detailed engineering level in both open-pit and underground projects across multiple commodities. Most recently he was employed by PanAust where he successfully delivered two prefeasibility studies for their Laos operations. Previous engagements have ranged from majors including Placer Dome at the Porgera mine, as well as juniors and mid-tiers including ASX listed Intrepid Mines. Mr Robinson holds a mining engineering degree from the West Australian School of Mines and a Bachelor of Laws.

### **Mr Gavin Leicht – BComm, CPA – CFO & Company Secretary**

Mr Leicht has over 25 years' experience in various financial roles, including more than 20 years in senior financial positions in the resources sector in Australia and overseas with Rio Tinto Limited and PanAust Limited. Mr Leicht holds a Bachelor of Commerce degree from the University of Newcastle.

He has also been a Member of the Australian Society of Certified Practising Accountants, Governance Institute of Australia and the Finance & Treasury Association.

### **Threats/Risks**

- **Exploration, Evaluation and Resource Results:** This is the key risk, and one that faces any junior. At El Palmar this will, at least initially, relate to the results of follow up drilling to determine the potential size and grade at the recent El Palmar discovery. At Bramaderos, there will be risks associated with the quantum of the initial MRE, and the potential technical and economic viability. There is also risk associated with the exploration of other targets at Bramaderos.
- **Equity Markets:** Equity markets can be fickle and can turn on a dime. This will affect investor (both debt and equity) sentiment, and hence the potential for successful exploration and evaluation funding and, possibly down the track, project financing. This has a potential extra impact on Sunstone, given that the Company has ~A8 million in shares in Copperstone – a significant fall in the market could have a significant effect on the value of these, and hence the ability to fund activities in the medium term (+ 1 year).
- **Metals Prices:** These feed into the equity market sentiment – falling metals prices will negatively affect investor sentiment and vice versa. This will have less effect on robust projects.

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**Taylor Collison Interests:** At the time of writing of this report, Taylor Collison, Principals and Staff have no other holdings in Sunstone.

**Analyst Certification:** The Analyst certifies that the views expressed in this document accurately reflect their personal, professional opinion about the financial product(s) to which this document refers.

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