

Challenger Exploration CEL.AX

The path to a dollar forty-eight



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Executive summary

Challenger Exploration is exploring and has earn-in rights to the Hualilan high-grade gold project in Argentina, and the El Guayabo breccia and porphyry, gold and copper project in Ecuador. Both projects have seen substantial historical exploration work that targeted shallow, open pit-able gold. At Hualilan, this work culminated in a historical, non-JORC compliant resource of 627,000 oz gold at 13.7 g/t. The company also owns a 95% stake in the Karoo Basin gas project in South Africa.

Current valuation looks cheap: The market appears to be valuing Hualilan on its historical resource at an EV/oz of A\$120. This represents a ~30% discount to the valuations being paid for other very high-grade gold companies. Despite the tremendous exploration potential of the project, no exploration success is factored in. Management plans to publish a maiden JORC-compliant resource in 3Q20, at which point the valuation gap seems likely to close. El Guayabo is being valued at an estimated ~A\$17m, a small premium to historical drilling costs. **Both projects are highly prospective world-class assets; there is substantial upside potential to these valuations.**

Exploration success could drive “15-bags” performance: A number of scenarios are developed based on varying degrees of exploration success. A 2.0 moz resource at Hualilan could underpin a valuation of A\$0.32 (32 cents) per share, based on an EV/oz of A\$175, in line with the current valuations of ASX-listed high-grade gold peers. Adding a resource at El Guayabo of 450MT at 1.0 g/t gold-equivalent and demonstrating feasibility could underpin a valuation of A\$1.01 per share. Subsequently buying out the El Guayabo minorities could support a valuation of A\$1.48 a share. **This is ~15x the current share price. If this is achieved in say, 3 years, the shares would return ~246% pa.**

High-grade gold assets attract premium valuations: In February 2020, Ramelius Resources acquired Spectrum Metals for A\$585 per oz of resource, a reminder that very high-grade gold assets are rare, and highly sought after. Spectrum has a resource of 355,500 oz at 13.8 g/t. **The historical resource grade at Hualilan is 13.7 g/t, amongst the highest of any company on the ASX.** Ultimately Hualilan will be valued on the outlook for earnings once a feasibility study is completed. The outlook is for higher gold prices, something which seems likely to drive up valuations.

Substantial exploration upside at Hualilan...: Despite a large body of historical work, Hualilan remains significantly under-drilled. The historical resource was all defined within 125m of the surface. Challenger’s first ten drill holes, reported December 2019, consistently demonstrated that historical drilling likely understated the grade and the thickness of mineralisation and that mineralisation remains open at depth. One of Challenger’s drill holes, GNDD-008A, returned a grade ~6x greater than the historical hole it was twinning. Another drill hole, GNDD-010, returned grades almost double that of the historical resource and extended the high-grade mineralisation by 60m at depth. The historical resource was defined over 2 km of strike length; representing just ~20% of the total strike potential.

... and at El Guayabo: The project lies just 5 km south of, and in the same geology as, Lumina Gold’s Cangrejos project. Cangrejos hosts a 16.7 moz gold resource. Historical activity at El Guayabo includes 89 drill holes totalling ~29,000m that targeted open pit-able gold. A number of intercepts greater than 100m at gold equivalent grades of 0.5 g/t or better were not followed up on. Drill hole **GGY-002 intercepted 156m at 2.99 g/t Au-Eq from 9.7m depth.** Drill hole **GGY-008 intersected 255m at 0.62 g/t Au-Eq**, and drill hole

GGY-011 returned 215m at 0.89 g/t Au-Eq. These are compelling results; the discovery hole for Lumina's Cangrejos zone, C-99-14, returned 1.57 g/t over 192m. In 2019, Challenger's geophysics work identified three porphyry targets that were missed by historical drilling.

San Juan, Argentina and southern Ecuador are both top tier jurisdictions: San Juan province hosts a number of gold mines including Veladero, (Barrick Gold and Shandong Gold), Gualcamayo, (Mineros SA) and Casposo (Austral Gold, 70%). The region also hosts a number of world-class copper deposits including El Pachón (Glencore), Los Azules (McEwen Mining) and El Altar (Sibanye Stillwater). In a sign that Argentina is increasingly looking to capitalise on its vast minerals endowment, Alberto Hensel, the former Minister of Mining of San Juan province was appointed Secretary of Mining in President Alberto Fernandez's new government.

Southern Ecuador is fast becoming a 'go-to' jurisdiction for mining companies. **Ecuador hosts world-class copper-gold assets, and is one of the most highly prospective parts of the South American copper belt.** Ecuador's new mining ministry, created in 2015, is actively promoting the sector, and has attracted substantial investment. This has included Newcrest and BHP investing in SolGold, and as well as other investments by First Quantum (2017) and Anglo American (2018).

Good cash position, astutely managed: Challenger had A\$6.1m in cash at the end of March, and expects to complete the current exploration programs with A\$2.4m remaining. Having raised A\$6.5m before costs in January, the company is now in a position to complete the current Hualilan drill program, and announce a maiden JORC compliant resource, before coming back to the market. Directors, management and staff have agreed to take part of their remuneration in shares, further preserving cash.

A plethora of potential catalysts for the stock: Active exploration programs at both Hualilan and El Guayabo mean there are a number of potential share price catalysts over the next few months. **At Hualilan, the immediate priority is to upgrade the historical resource and bring it into JORC compliance. This is expected in 3Q20.** In the meantime, assays from the current drill program are expected in May and June. The results of a geophysical survey, designed to define extensions to the sulphide mineralisation and assist with drill targeting, are also expected over the next few weeks.

At El Guayabo, Challenger is logging and sampling drill core from 56 holes at Colorado V, drilled by Goldking, the earn-in partner. **The plan is to assay 10,000m of drill core. First results are expected 2-3 months after field operations resume.** Management is also conducting 2 km of underground rock saw sampling in adits at Colorado V, and some 3.1 km² of soil sampling (400 samples) to allow integration of the soil sample data. Consolidating all this data into 'one package' will give investors a much greater sense of the potential at El Guayabo.

Both projects look like potential 'company makers' and have plenty of imminent news flow. The current share price represents a great opportunity.

Simon Francis

April 2020

Key financial data

Figure 1: Key share information

ASX code		CEL	Shares outstanding	535,680,960
Share price, 21 April, 2019	A\$/share	0.10	Outstanding options at 4c	87,644,444
Shares on issue	Millions	536	Vendor performance shares	120,000,000
Market capitalisation	A\$ millions	54	Hualilan acquisition shares	65,000,000
Net cash, 31 March 2020	A\$ millions	6		808,325,404
Enterprise value	A\$ millions	48	Performance rights	16,000,000
Top 20 shareholders:		42%	Total fully diluted shares	824,325,404

Source: Challenger Exploration

Key Management:

Kris Knauer, CEO and Managing Director: Kris started his career as an exploration geologist before moving into investment banking, initially as a mining analyst. He is an experienced listed company CEO. He led the listing of a package of copper/gold assets in Saudi Arabia to create Citadel Resources (CGG.AX) becoming the Managing Director for the first 18 months. Citadel completed a DFS on the Jabal Sayid copper project in Saudi Arabia prior to being taken over for \$1 billion.

Fletcher Quinn, Non-Executive Chairman: Fletcher has over 35 years' experience in venture capital, corporate finance and investment banking including extensive experience with both listed and unlisted companies, including public company development, management and governance. Fletcher was the foundation chairman for ASX entities Citadel Resources and Sirocco Resources.

Scott Funston, CFO and Finance Director: Scott is a qualified Chartered Accountant and Company Secretary with nearly twenty years' experience in the mining industry and accounting profession. His expertise is financial management, regulatory compliance and corporate advice. Scott possesses a strong knowledge of the Australian Securities Exchange requirements and has previously assisted a number of ASX listed resources companies as CFO and Company Secretary operating in Australia, South America, Asia, Africa, USA. Most recently he was CFO and Company Secretary of Avanco Resources, a Brazilian focussed copper and gold producer, that was acquired by Oz Minerals Limited.

Figure 2: Challenger Exploration share price chart



Source: ASX

Project snapshot

Figure 3: The Hualilan and El Guayabo projects

Project	Hualilan	El Guayabo
Location	San Juan, Argentina	El Oro, Ecuador
Tenement area	26.6 km ²	35.5 km ²
Geology	Extensive skarn and manto gold-silver deposit associated with a porphyry intrusive	Breccia and porphyry, gold and copper project
Historical resource	NI43-101 resource 627,000 oz Au at 13.7 g/t	None
Historical drilling	188 drill holes for 15,023m. Challenger's drilling suggests previous results are understated	El Guayabo: 33 drill holes for 7,490m drilled by Newmont Mining and Odin Exploration Colorado V: 56 drill holes for 21,500m drilled by Goldking, a subsidiary of Shandong Zhaojin, now being logged and sampled by Challenger
Challenger work	10 drill holes, GNDD-001 to GNDD-010 were announced Dec 2019, returning a number of key intercepts 16 drill holes, GNDD-011 to GNDD-026, (total 2,115m) of 50-hole follow-up program (7,500m) completed, with assays pending. Geophysical survey at Cerro Norte completed Geophysical survey at Cerro Sur is planned	El Guayabo: Geophysical survey identified key targets, and is now being externally evaluated Colorado V: Logging and sampling of historical holes ongoing; 17 logged to date. Plan is to assay 10,000m of drill core. 2 km of UG rock saw sampling in adits planned 3.1 km ² of soil sampling (400 samples) planned to allow integration of soil sample data Colorado V and El Guayabo 2: completion of surface mapping and sampling and assaying of 200 samples
Key earn-in terms	Minimum expenditure of A\$1.0m, issue of 65m shares in CEL and completion of DFS for 75%. Cerro Norte and Cerro Sur terms separate and slightly different.	El Guayabo: Challenger owns a 19.9% stake in El Guayabo and can secure 51% by spending A\$5m by 1 June 2022, and 100% by issuing 180m shares in CEL on or 15 December 2022 Colorado V: 5-year farm-in where Challenger can earn a 50% stake by delineating a more than 600,000 oz gold-equivalent resource El Guayabo 2: Challenger can earn 50% by spending US\$2m, and 80% by funding a DFS, and has the right to buy the remaining 20%.
Potential catalysts	Assay results from current drilling program: Results from first 6 holes expected in May 2020 Results from geophysical surveys Results from the 77 Ha survey of Cerro Norte are expected in a number of weeks. Initial JORC compliant resource 3Q20 The immediate priority is to upgrade the historical resource and bring into JORC Economic assessment in 2H20 depending on the size of resource.	Assays from historical Colorado V core; expected 2-3 months after the resumption of field operations in Ecuador Results from underground rock saw channel sampling in the adits at Colorado V Results of soil sampling at Colorado V; 400 samples

Source: Challenger Exploration, Orior Capital

Valuations: the path to a dollar forty-eight

- The market is valuing Hualilan on historical resources and at a ~30% discount to peers, and El Guayabo at only a small premium to historical drilling costs
- There is huge potential upside from exploration at both projects; six scenarios discuss exploration outcomes underpinning valuations up to A\$1.48 per share
- Both Hualilan and El Guayabo could look attractive to a gold major looking to add resources in established jurisdictions

Challenger's current valuation of A\$0.10 (10 cents) per share looks overly cheap. Based on fully diluted shares, the market is currently valuing the Hualilan and El Guayabo projects at A\$73m (with no value being subscribed to the Karoo Basin gas project). If the market is valuing El Guayabo at ~A\$17m, that is 51% of the average EV of a sample of other early-stage porphyry gold and copper explorers, then Hualilan is being valued at A\$56m, or A\$120/oz based on the historical resource.

This valuation for Hualilan looks cheap compared to the valuations being paid for other very high-grade gold companies, especially given the tremendous exploration upside of the project, and management's plan to publish an inaugural JORC-compliant resource in 3Q20. El Guayabo also looks cheap. Historical drilling amounts to 89 drill holes totalling ~29,000m. Assuming drilling costs of US\$300 per metre, the drilling costs alone would be ~A\$14m. **El Guayabo is being valued at a little over historical drilling costs.**

Figure 4: What's embedded in the current share price?

Project	Methodology	Value A\$ m
Hualilan	Based on 627 koz historical resource, 75% stake, implies A\$120/oz	56
El Guayabo	Based on market cap of companies with broadly similar projects, 51%	17
Enterprise value		73
Net cash	Including exercise of 4c options	10
Market cap.		82
Shares o/s, millions	Fully diluted	824
Value per share, A\$/share		0.10

Source: Orior Capital

There is substantial potential upside to this valuation driven by exploration success. At Hualilan, the historical resource was all defined within 125m of the surface. Challenger's drilling has consistently demonstrated that **mineralisation remains open at depth.** It has also shown that **historical drilling likely understated the grade and the thickness of mineralisation.** One of Challenger's drill holes (GNDD-008A) returned a grade ~6x greater than the historical hole it was twinning. Some historical drilling suffered from poor recoveries. The **historical resource was defined over just 2 km of strike length from a total of 10 km of strike potential.**

At El Guayabo, historical work at both the El Guayabo and Colorado V tenements targeted open pit-able gold. **A number of compelling intercepts were not followed up on.** Challenger's geophysics work has identified **three substantial porphyry targets, all of which are mineralised, and which are just 200m to 400m sub-surface.** Historical drilling was too shallow to target these bodies.

Six scenarios plot a potential development map and gauge how exploration success might possibly impact valuations over the next few years. **These are not forecasts**; Challenger will probably not know how big Hualilan is for another 18 months.

Figure 5: Valuation scenarios based on various exploration outcomes

Scenario	Methodology	Value A\$ m
Scenario A	Hualilan has a 1.0 moz gold resource	
Hualilan	1.0 moz at A\$175/oz, 75%	131
El Guayabo	Based on current peers' valuation	17
Asset value		148
Shares o/s, millions	Fully diluted	824
Value per share, A\$/share		0.18
Scenario B	Hualilan has a 2.0 moz gold resource	
Hualilan	2.0 moz at EV/oz of A\$175/oz, 75%	263
El Guayabo	Based on current peers' valuation	17
Asset value		279
Shares o/s, millions	Add 60m shares to fund exploration	885
Value per share, A\$/share		0.32
Scenario C	Hualilan 2moz Au, El Guayabo 200MT at 1.0 g/t Au-Eq/1.1% Cu-Eq	
Hualilan	2.0 moz at EV/oz of A\$175/oz, 75%	263
El Guayabo	200MT at 1.1% Cu equiv. at US\$c3/lb, A\$:US\$1.58, 51% stake	117
Asset value		380
Shares o/s, millions	Add a further 98m shares	983
Value per share, A\$/share		0.39
Scenario D	Hualilan 2moz Au, El Guayabo 450MT at 1.0 g/t Au-Eq/1.1% Cu-Eq	
Hualilan	2.0 moz at EV/oz of A\$175/oz, 75%	263
El Guayabo	450MT at 1.1% Cu equiv. at US\$c3/lb, A\$:US\$1.58, 51% stake	264
Asset value		526
Shares o/s, millions	Add a further 61m shares	1,044
Value per share, A\$/share		0.50
Scenario E	As above, with a feasibility study completed at El Guayabo	
Hualilan	2.0 moz at EV/oz of A\$175/oz, 75%	263
El Guayabo	As Scenario D, with Feasibility Study; US\$0.09/lb	791
Asset value		1,504
Shares o/s, millions		1,044
Value per share, A\$/share		1.01
Scenario F	Challenger secures 100% of El Guayabo	
Hualilan	2.0 moz at EV/oz of A\$175/oz, 75%	263
El Guayabo	450MT at 1.1% Cu equiv. at US\$c9/lb, A\$:US\$1.58, 100% stake	1,552
Asset value		1,814
Shares o/s, millions	Issue of 180m shares to go 100% of El Guayabo	1,224
Value per share, A\$/share		1.48

Source: Orior Capital

Scenario A: Hualilan has a 1.0 moz gold resource

Challenger is currently drilling a 7,500m program at Hualilan. Assuming 500m is for metallurgical testing, and an average hole depth of 130m, the program will comprise 54 exploration holes. With the 10 drill holes (GNDD-001 to GNDD-010), announced in December 2019, the whole program could be 64 holes. The company is targeting wider, 5-10m, parts of the orebody. Assuming the company drills on a 40m spacing for an inferred resource, and a specific gravity of 2.7, each successful hole could add 11,667 oz in resources. (40m x 40m x 7m x 2.7 SG at 12 g/t gold). If half

the holes (32) are successful, the program could add 373,000 oz gold to the resource. Added to the historical resource of 627,000 oz at 13.7 g/t gold, this would mean a 1.0m oz resource.

This current program will be funded from monies raised in January. Assuming drilling costs of US\$200 per metre and a A\$1.58:US\$ exchange rate, the 7,500m program will cost ~A\$2.4m.

In this scenario, valuing Hualilan at A\$175/oz implies a valuation of A\$0.18 (18 cents per share).

Scenario B: Hualilan has a 2.0 moz gold resource

Assuming that to add another 1.0 moz, the company has to target slightly narrower 5m wide parts of the orebody, then each successful hole could add 8,333 oz to resources. If two-thirds of the holes are successful, adding the second 1.0 moz would require 180 drill holes. If these holes have an average depth of 170m, the cost of this program will be roughly ~A\$10m. If this money can be raised at say, A\$0.16 (16 cents) per share, then ~60m new shares will need to be issued.

This bigger resource implies a valuation of A\$0.32 (32 cents) per share. By this stage, Challenger may have completed some kind of economic study for Hualilan, and valuations will be based more on the outlook for earnings than peer multiples. An increase in EV/oz of A\$25 would raise the share price by ~A\$0.043 (4.3 cents). An EV/oz of A\$250, would value Challenger at A\$0.44 (44 cents) per share. (This is still valuing El Guayabo at a small premium to estimated historical drilling costs).

Scenario C: Hualilan 2.0 moz gold, and El Guayabo 200MT at 1.0 g/t Au-Eq / 1.1% Cu-Eq

Scenario C starts to build in some exploration success at El Guayabo. What would it take to get to an initial say, 200MT deposit? Drilling on a 50m spacing, 6 lines of 11 drill holes would cover a 250m x 500m surface area. If the holes are 700m deep, and specific gravity is 2.6, the orebody would be 227.5MT. Assuming 20 drill holes are needed to target the program, and a cost of US\$300 per metre (greater depth), the 86 holes will cost ~A\$29m. Assuming all equity funding at say, A\$0.29 (29 cents a share), this would add ~98m shares.

Copper-gold porphyry assets have typically traded at valuations of ~US\$0.03/lb for exploration assets, and ~US\$0.09/lb for feasibility stage assets. At current metals prices, a grade of 1.0 g/t Au-Eq is equivalent to a Cu-Eq grade of 1.1%. A 200MT deposit grading 1.1% Cu-Eq, valued at US\$0.03/lb would be worth ~US\$146m. Challenger's 51% stake in El Guayabo could be worth A\$117m. **At this stage, Challenger could attract a valuation of A\$0.39 (39 cents) per share.**

Scenario D: 2.0 moz gold resource at Hualilan, 450MT at 1% Cu-Eq at El Guayabo

Assuming a further 6 lines are drilled, the strike surface area could be extended to 500m by 500m, and the orebody to 455MT. The additional 66 holes could cost ~A\$22m, or a further 61m shares at A\$0.36 (36 cents) a share. **Still valuing El Guayabo as an exploration asset suggests a valuation of A\$0.50 (50 cents) per share.**

Scenario E: As above, with a feasibility study completed at El Guayabo

Demonstrating feasibility could lift the valuation to A\$1.01/share (at US\$0.09/lb Cu-Eq).

Scenario F: Challenger secures 100% of El Guayabo

Scenario E assumes Challenger exercises its option to acquire the 49% minority interest in El Guayabo by issuing 180m shares, on or before 15 December 2022. **In this scenario, Challenger could be worth A\$1.48/share.**

Achieving this 15x upside potential could take 3 years. Bellevue Gold started drilling in late-2017, and achieved a 2.2 moz gold resource about two and half years later. Lumina has taken Cangrejos from no resource to it being the biggest primary gold project in Ecuador in about 3 years. **A valuation of A\$1.48 per share in three years represents a return of ~246% pa.**

Hualilan

High-grade explorers are a rarefied group

Challenger's Hualilan project is one of only a few with very high gold grades. Other ASX-listed exploration and development companies with resources grading >5.0 g/t gold include Bellevue Gold, Lion One Metals, Alliance Resources, Meteoric Resources, and New Talisman. Two recent deals, Ramelius' acquisition of Spectrum Metals and Silver Lake Resources' purchase of Egan Street Resources, also throw light on high-grade gold valuations.

Bellevue Gold is perhaps the most obvious comparable. Hualilan and Bellevue both host high-grade gold deposits in top tier jurisdictions. Both projects had been explored historically but lacked systematic modern exploration. Drilling results have also been similar in terms of reported intercepts and grades. In February 2020, Bellevue announced an increased resource of 2.2 moz at a grade of 11.3 g/t. The market is currently valuing Bellevue at an EV/oz of ~A\$145. Although gold prices are strong, recent market uncertainty has hit share prices. In September 2019, Bellevue traded at an EV/oz of ~A\$177/oz (based on a resource of 1.8 moz gold at the time).

Lion One Metals is exploring the Tuvatu gold project in Fiji. The South Pacific hosts a number of substantial alkaline gold system deposits. Lion One's premium valuation may reflect the market's perception of the prospects at Tuvatu.

Bellevue and Lion One are the only companies in this group that have resources greater than 500,000 oz at grades better than 8.0 g/t.

Some other companies have been excluded from comparison. Alliance Resources, Meteoric Resources, and New Talisman are all currently of smaller scale. Alliance is exploring the Wilcherry project in South Australia and has a resource of 181,000 oz gold at a grade of 5.1 g/t. Meteoric is exploring its Jurena and Novo Astro gold projects in Brazil; Jurena has a resource of 261,000 oz gold at 6.3 g/t. New Talisman's project in New Zealand has a resource of 469,000 oz at 15.1 g/t. In 2018, New Talisman published a revised PFS with a pre-tax NPV₉ of NZD35.9m, that envisaged production of 51,000 oz gold over a 6-year mine life. Titan Minerals announced, 13 February 2020, that it had successfully acquired a 91.1% stake in Core Gold. Core Gold's key asset is the Dynasty project in southern Ecuador, which has a 2.09 moz gold resource at a grade of 4.5 g/t gold.

Ramelius' acquisition of Spectrum

In February 2020, Ramelius Resources announced a recommended offer for Spectrum Metals, valuing Spectrum at A\$208m. Spectrum announced, October 2019, a resource of 355,500 oz at 13.8 g/t, including 306,800 oz at 16.8 g/t at Penny North. The deal valued Spectrum at an incredibly high headline valuation of A\$585/oz. (Based on current share prices this would be ~A\$485/oz). Partly, this high valuation reflects the potential upside to resources from further exploration, especially at Spectrum's key Penny West asset. **It also demonstrates the value that gold companies are willing to pay to secure very high-grade gold resources.**

Silver Lake Resources' acquisition of Egan Street Resources

In January 2020, Silver Lake Resources completed its acquisition of Egan Street Resources at a valuation of A\$154/oz. Egan Street had a resource of 454,000 oz gold at 9.2 g/t, and a reserve of 235,000 oz at 4.5 g/t at its Rothsay Gold project.

Figure 6: Hualilan peer valuations

Company	Code	Project	Country	EV A\$ m	Resource koz	Grade g/t	EV/oz A\$
Listed peers							
Bellevue Gold	BGL.AX	Bellevue Gold	W. Australia	320	2,200	11.3	145
Lion One Metals	LLO.AX	Tuvatu Alkaline Gold	Fiji	162	768	9.2	223
Recently acquired							
Egan Street Res	EGA.AX	Rothsay Gold	W. Australia	70	454	9.2	154
Spectrum Metals	SPX.AX	Penny West	W. Australia	208	356	13.8	585
Listed peers weighted average							175
Listed peers plus EGA weighted average							173

Source: Orior Capital

El Guayabo

Australian porphyry peers

A number of ASX-listed companies are developing copper-gold porphyry assets, some broadly at the same stage as Challenger. These companies have typically identified and drill tested porphyry mineralisation, but are yet to declare a mineral resource. A sample of five of these companies trades at an average market cap. of A\$33m (down about 40% over the past few weeks).

Figure 7: A number of ASX-listed companies are exploring porphyry style mineralisation

Company	ASX Code	EV A\$ m	Comments
Carawine Resources	CWX	12	Owns 4 projects in Australia including Jamieson, a porphyry related system. Extension drilling ongoing after intercepts of 93m @ 3.25 g/t Au (H8DD006) and 43m @ 4.24 g/t Au and 0.3% Cu (H8DD002). New targets identified.
Hot Chili Chile	HCH	36	Option to acquire 100% of Cortadera copper-gold project for US\$31.5m. Significant intercepts include 750m @ 0.6% Cu and 0.2 g/t Au from 204m, 848m @ 0.4% Cu and 0.2 g/t Au from 112m, 864m at 0.4% Cu and 0.1 g/t Au
Magmatic Resources Australia	MAG	43	Holds large part of the northern Molong Volcanic Belt, next to Alkane's Boda. Owns 4 projects, covering 1,049 km ² in East Lachlan. Intercepts include 78m @ 0.22 g/t, 71m @ 0.30 g/t and 0.43% Cu, 135m @ 0.17g/t Au and 0.29% Cu, 70m @ 0.15 g/t Au & 0.54% Cu, 107m @ 0.11 g/t and 0.43%
Stavely Minerals Australia	SVY	67	Owns several projects including Stavely, which hosts Thursday's Gossan prospect. Best intercept is SMD050: 32m @ 5.88% Cu, 1.0 g/t Au and 58 g/t Ag from 62m. SMD051 returned 59m @ 1.8% Cu, 0.43 g/t Au and 15 g/t Ag.
Sunstone Metals Ecuador	STM	10	Owns 87.5% of the Bramaderos gold-copper project, Ecuador. Recent results include BMDD007, 182m at 0.43 g/t Au and 0.1% Cu from 55.7m and BMDD005, 127m @0.57 g/t Au and 0.1% Cu from 295m.
Average EV		33	

Source: Company data

The attraction of porphyry deposits

Porphyry copper-gold deposits are among the largest reservoirs of gold in the upper crust. They are also important sources of gold in lower temperature epithermal deposits. As substantial ore bodies, they can have several decades of mine life, and can generate substantial revenues (sometimes tens of billions of dollars). The large scale means assets with lower grades can be economic. A number of mines with 'low' headline grades have recently been completed including First Quantum's Cobre Panama (measured and indicated resource grade of 0.43% Cu-Eq), Centerra Gold's Mount Mulligan (0.39% Cu-Eq) and Newcrest Mining's Red Chris (0.55% Cu-Eq).

A number of factors make porphyry deposits valuable. Major gold companies, motivated by shareholder demands for better capital management, have somewhat neglected exploration over the past decade. To offset the threat of depleting resources, M&A has become more prevalent. Buying, as opposed to discovering, resources has several advantages for the majors. The impact is (almost) immediate; long lead times of exploration programs are avoided. Exploration risk is avoided. Portfolios of assets can be acquired in single transactions. It is cheaper. Juniors spend more on exploration, make more discoveries, and add more ounces than the major gold companies.

In copper, major mines are aging, and have declining grades and output. Discovery rates are declining as well. Against this, the outlook for copper demand is excellent, with sustained growth expected to be driven by technological changes in transportation and other sectors. Some forecasts are for copper consumption to rise by 30% over the next decade.

Copper valuations in M&A

Over the past decade, producing copper assets have traded at an average of ~US\$14/lb, feasibility stage assets at ~US\$9/lb, and exploration assets at ~US\$3/lb. Challenger's geophysics has identified a number of targets. **The north-south IP line, across the area of the breccia pipes identified two 100MT envelopes with strong chargeability responses.** The east-west resistivity section shows three substantial, and shallow, porphyry targets.

Figure 8: Selected Copper M&A

Year	Project	Location	Tonnes millions	Grade % Cu, g/t Au, g/t Ag	Transaction Buyer, seller/target	Value US\$m
2007	Mirador	Ecuador	890	0.56 Cu, 0.15 Au, 1.05 Au	Tongguan Inv, Corriente	650
2010	Xietongmen	China	220	0.43 Cu, 0.61 Au, 3.87 Ag	Jinchuan, Continental	432
2010	Sentinel	Zambia	1,000	0.51 Cu	First Quantum, Kiwai	279
2010	Mina Justa	Peru	336	0.76 Cu plus Ag	China Sci-Tech, Chariot 70%	244
2011	Santo Domingo	Chile	513	0.3 Cu, 0.04 Au, 30% Fe	Capstone, Far West	725
2011	Altar	Argentina	802	0.42 Cu, 0.059 Au	Stillwater, Perigrine	487
2011	Constancia	Peru	393	0.42 Cu, 0.011 Mo, 0.05 Au, 3.72 Ag	Hudbay, Norsemont	363
2011	Sierra Gorda	Chile	1,274	0.353 Cu, 0.016 Mo, 0.048 Au	KGHM, Quandra FNX	3,500
2013	Cobre Panama	Panama	272	0.37 Cu, 0.006 Mo, 0.05 Au, 1.32 Ag	First Quantum, Inmet	5,100
2014	Rosemont	USA	1,264	0.36 Cu, 0.011 Mo, 0.098 Ag	Hudbay, Augusta	555
2014	Taca Taca	Argentina	2,170	0.44 Cu, 0.08 Au, 0.013 Mo	First Quantum, Lumina	470
2014	Las Bambas	Peru	1,700	0.613 Cu 0.16 Mo 0.044 Au, 3.03 Ag	MMG et al, Glencore	5,850
2017	Caspiche	Chile	1,400	0.19 Cu, 0.51 Au	Goldcorp, Exeter	247
2018	Peschanka	Russia	1,208	0.53 Cu, 0.014 Mo, 0.29 Au, 2.6 Ag	Kaz Minerals, private co	900
2018	Timok	Serbia	1,800	0.86 Cu and 0.18 g/t Au	Zijin, Nevsun	1,800
2019	Red Chris	Canada	1,700	0.33 Cu and 0.33 Au	Newcrest, Imperial Metals	806

Source: Company data

Hualilan: high-grade gold

- Hualilan hosts an extensive, high-grade gold-silver deposit, that is easily accessible, near-surface, has good metallurgy, and is under-explored
- The results of Challenger's first ten drill holes suggest the historical resource of 627 koz at 13.7 g/t is understated; mineralisation is open in multiple directions
- Pending results from the ongoing follow-up drill program, management is targeting a maiden JORC resource in 3Q20

The Hualilan project is an extensive skarn and manto gold-silver deposit associated with a porphyry intrusive. It is located in San Juan province, northwest Argentina, a top tier mining jurisdiction. The project is easily accessible, and fully permitted for exploration. Historical exploration work culminated in a **NI43-101 compliant resource of 627,000 oz gold at 13.7 g/t**. Challenger has the right to earn-in to 75% of the project by funding A\$1.0m of exploration, paying 65m shares, and completing a DFS.

Results from Challenger's initial drill program, announced December 2019, **confirmed the high-grade nature of the project, and demonstrated that historical drilling likely understated both the grade and extent of mineralisation**. The ongoing follow-up program, of ~50 drill holes over 7,500m, is designed to extend existing mineralisation, test previous intersections as required for a JORC resource, and collect samples for metallurgical testing. As reported in February 2020, the first three holes, GNDD-011 to GNDD-013, all intersected mineralisation. So far, Challenger has completed holes GNDD-011 to GNDD-026 with assay results expected in May-July.

Figure 9: Hualilan has significant scale, and is ripe for systematic exploration



Source: Challenger Exploration

High-grade historical resource likely understated

There has been a substantial amount of historical activity at Hualilan. Some 188 drill holes totalling 15,023m were drilled between 1970 and 2006, and underground mapping and channel sampling was carried out. Two 100m production drives and a 4x4 metre decline were installed in 1996, but never used. Metallurgical testing completed in 1999 demonstrated recoveries of 80% gold and silver using floatation, and production of a ~50% zinc concentrate. The ongoing drill program will collect samples for testing, with management looking to improve on the historical recoveries. Despite this work, the deposit remains significantly 'under-drilled'. The historical resource, defined over a strike length of just 2 km, **remains open in multiple directions along strike, and at depth.**

Figure 10: Historical NI43-101 resource

Category	Tonnes kt	Gold grade g/t	Contained gold koz
Measured	218	14.2	100
Indicated	226	14.6	106
Measured and Indicated	445	14.4	206
Inferred	977	13.4	421
Total	1,421	13.7	627

Source: La Mancha Resources Toronto Stock Exchange Release, 14 May 2003

Compelling initial drill results

Challenger announced convincing results from its first ten drill holes in December 2019. The first 4 holes GNDD-001 to GNDD-004 were drilled into Cerro Norte. The following 6 holes GNDD-005 to GNDD-010 were drilled into Cerro Sur, with all holes except GNDD-009 drilled into the northern end of Cerro Sur at Magnata and Pizarro. GNDD-009 was located 500m south, and along strike, from drill holes GNDD-005 to GNDD-008. Only two of the 188 historical holes at Hualilan were drilled further south.

A number of holes extended the known mineralisation at depth and along strike. Historical holes were relatively shallow; Challenger consistently returned intercepts down-dip from historical results. The results support the potential for grade to increase at depth. The program demonstrated that previous explorers sometimes missed or understated mineralisation. Key results include:

- **GNDD-007** extended the deepest known mineralisation by 50m and recorded one of the projects top-five gram-metre hits
- **GNDD-008A** was a near twin of a historical hole. It intercepted a gold equivalent grade ~6x better than the historical hole, and extended mineralisation 60m up-dip from GNDD-007
- **GNDD-009** materially upgraded the southern end of the project, which is being further tested with drill holes GNDD-011 to GNDD-014, and GNDD-016
- **GNDD-005**, drilled beneath two historical holes, extended mineralisation by 25m, demonstrated that mineralisation remains open at depth, and suggested that grade improves with depth
- Drill holes, **GNDD-003** (Cerro Norte) and **GNDD-006** (Cerro Sur), confirm the first 19 holes drilled by La Mancha in 2003-2004 likely materially understated both the grade and thickness of mineralisation. The majority of La Mancha's first 19 holes (03-HD-01 to 04-HD-19) appear to have

suffered from poor recovery, typically 80% or lower. Challenger's drill holes GNDD-003 and GNDD-006 suggest that this resulted in La Mancha either missing, or understating, mineralisation.

This has positive implications for the development of a JORC compliant resource.

- **GNDD-010** stepped ~50m below a fence of historical holes that returned thin intercepts and low grades. **GNDD-010 returned grades almost double that of the historical resource and extended the high-grade mineralisation by 60m at depth, and by 25m along strike.** It further supports the potential for grades to increase at depth.

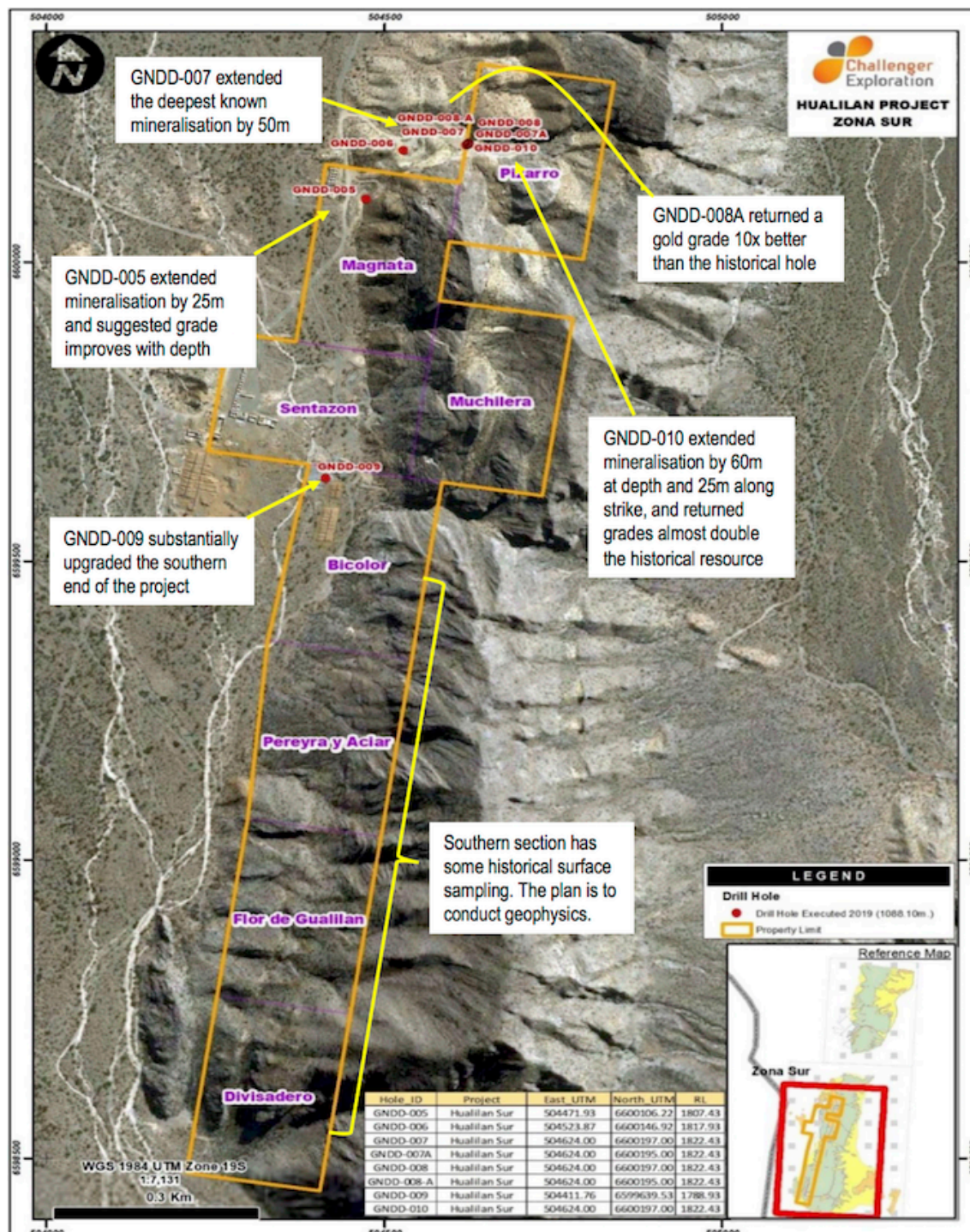
Figure 11: Sampling results from 2019 Hualilan drill program

Drill hole	From m	To m	Interval m	Gold g/t	Silver g/t	Zinc %	Gold equiv g/t
GNDD-001	32.0	35.0	3.0	2.3	5.8	0.5	2.6
GNDD-002A	31.0	32.0	1.0	1.0	2.4	0.9	1.4
			1.0	1.4	2.8	0.8	1.8
and	81.5	82.1	0.6	2.0	27.3	8.1	16.4
GNDD-003	55.0	61.1	6.1	34.6	21.9	2.9	36.2
including	56.0	59.0	3.0	52.0	30.6	4.9	55.3
GNDD-004	6.0	14.5	8.5	2.0	7.8	0.7	2.4
and	18.7	22.1	3.4	1.2	3.2	0.3	1.3
GNDD-005	29.0	32.0	3.0	0.7	14.0	2.5	2.0
and	43.0	44.0	1.0	0.4	10.0	1.4	1.1
and	59.0	64.0	5.0	10.9	101.0	1.5	12.7
including	61.0	64.0	3.0	16.5	135.2	1.6	18.8
and	77.0	80.0	3.0	1.7	38.8	0.4	2.3
and	83.0	84.0	1.0	1.2	156.0	0.7	3.2
GNDD-006	78.5	85.0	6.5	4.2	21.0	0.3	4.6
including	78.5	82.3	3.8	6.8	34.0	0.4	7.4
and	90.0	1.5	1.5	2.1	40.8	0.9	3.0
GNDD-007A	46.0	47.8	1.8	2.4	3.1	0.2	2.5
and	60.3	64.0	0.7	0.8	25.0	0.2	1.1
and	149.0	155.7	6.7	14.3	140.0	7.3	19.3
including	150.6	153.7	3.1	27.5	260.0	12.9	36.5
and	176.4	180.0	0.6	1.9	6.7	1.0	2.4
GNDD-008A	96.6	99.3	2.6	22.8	218.0	0.7	25.5
and	105.0	115.0	10.0	0.6	28.2	0.7	1.2
GNDD-009	100.0	103.0	3.0	0.9	50.0	0.9	1.4
and	109.1	119.4	10.3	10.4	28.0	4.6	12.9
including	115.2	119.4	4.2	21.0	58.0	8.7	26.4
GNDD-010	30.0	32.0	2.0	0.9	37.0	0.7	1.4
and	34.0	35.0	1.0	0.9	7.6	0.1	1.0
and	55.0	56.3	1.3	1.1	30.0	0.8	1.8
and	139.0	142.0	3.0	17.7	143.0	2.5	20.5

Notes: Based on prices of US\$1,450/oz gold, US\$16/oz silver and US\$2,200/t zinc

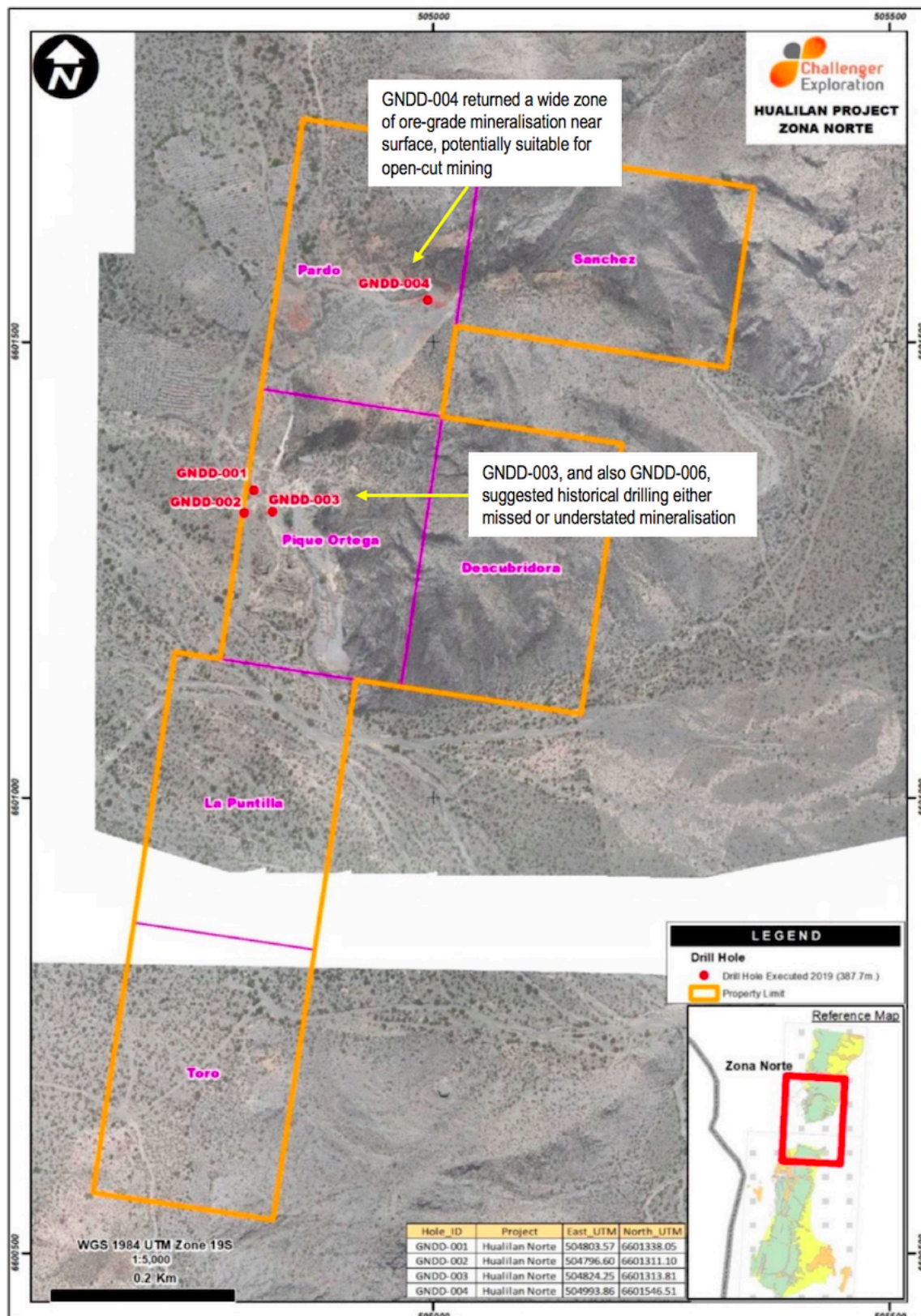
Source: Challenger Exploration

Figure 12: Cerro Sur snapshot of drill results



Source: Challenger Exploration, Orior Capital

Figure 13: Cerro Norte snapshot of drill results

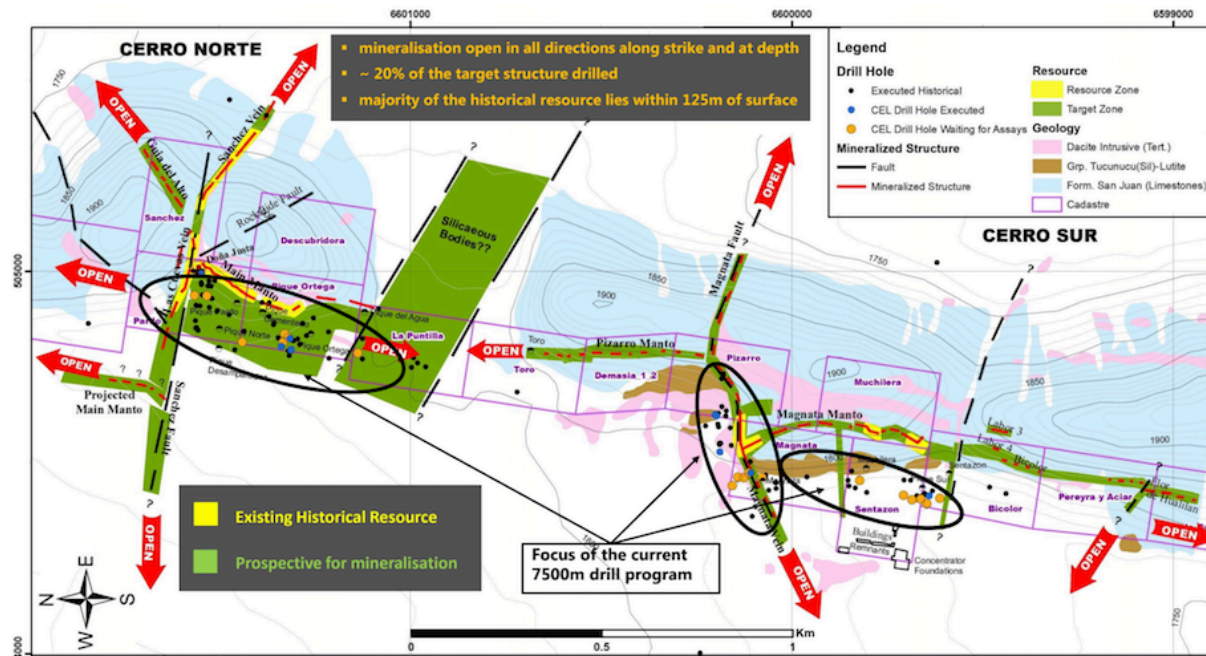


Source: Challenger Exploration, Orior Capital

Open in all directions

Plan views illustrate the large potential areas of prospective mineralisation (green), and the relatively limited area of the historical resource (yellow).

Figure 14: Plan view showing areas of historical resource, prospective mineralisation, and current drilling



Source: Challenger Exploration

Channel sampling returned high grades

Challenger's initial channel sampling, in 2019, comprised 71 underground channel and bulk samples. It returned robust results including:

- 201 g/t gold, 1,560 g/t silver and 3.3% zinc in a broader 5m zone that graded 52.2 g/t gold, 410 g/t silver and 6.1% zinc
- 132 g/t gold, 65.0 g/t silver and 0.7% zinc from a 0.6m channel sample
- 110 g/t gold, 41.0 g/t silver and 0.8% zinc from a 1.0m channel sample

The average grade of the bulk samples was 15.0 g/t gold, 75.5 g/t silver, and 6.8% zinc. The program was designed to provide a representative grade of mineralisation and returned **results consistently 20% better than historical resource grades.**

Challenger collected eight channel samples from the top of the main decline, an area not historically sampled, and outside the current resource. All these samples returned mineralisation. **Sample 485149 returned 110 g/t gold and 41 g/t silver** from a section of the main manto that has a true width of 1.5m. **Sample 485146 returned 21.4 g/t gold, 106 g/t silver, and 18.2% zinc** from a section of the main manto that has a true width of 4m.

Figure 15: Channel sampling results from the main manto, Cerro Norte

Sample	Length m	True width m	Gold g/t	Silver g/t	Zinc %	Lead %	Copper %	Gold equiv. g/t
485140	1.2	1.2	77.7	125.0	2.13	1.64	0.12	80.6
485141	1.0	1.2	0.0	66.0	42.53	0.71	4.00	31.9
485142	1.0	2.0	2.0	89.0	7.18	0.35	3.26	12.0
485145	1.0	1.5	0.2	48.0	9.45	0.68	0.78	7.5
485146	1.0	4.0	21.4	106.0	18.20	5.87	1.75	36.0
485147	1.0	2.0	13.4	17.0	7.33	0.06	0.2	18.3
485148	1.0	1.5	4.4	22.0	34.15	2.15	0.87	26.4
485149	1.0	1.5	110.0	41.0	0.77	1.07	0.05	110.0

Source: Challenger Exploration

Detailed discussion of results

Drill hole **GNDD-007**, drilled in the northern end of Cerro Sur, was designed to step below historical hole DDH-71. It **extended the deepest known mineralisation by 50m and recorded one of the projects top-five intercepts in terms of gram metres**. It suggests continuity, and that grade improves at depth. This hole also intersected mineralisation **above the main zone** returning 1.8m at 2.5 g/t gold-equivalent from 46m, and 0.7m at 1.1 g/t gold-equivalent from 60.3m. Historical holes targeting deeper extensions of mineralisation seem to have been either incorrectly positioned or ended before hitting mineralisation, probably because the mineralisation steepens at depth. GNDD-007 also intersected blebs of sulphide to the end of the hole which are interpreted as stringers associated with possible splay faults off the main fault. **This opens the possibility of a significant target at depth** where these potential splay faults come together.

Figure 16: GNDD-007**Source: Challenger Exploration**

Drill hole **GNDD-008A** had two purposes. The hole was a near twin of a historical hole (03-HD-1A) drilled by La Mancha which returned 1.7m at 2.1 g/t gold, 37.4 g/t silver and 2.4% zinc. GNDD-008A was designed to test the assumption that the La Mancha hole had significantly understated grade

because of poor recoveries. It was also designed to test mineralisation up-dip from hole GNDD-007. GNDD-008A extended the high-grade Magnata mineralisation 60m up-dip from hole GNDD-007, and intersected 2.64m at 22.8 g/t gold, 218 g/t silver and 0.68% zinc. **This gold grade is 10x that of the historical hole.** In terms of gold-equivalent grade it is ~6x better. It is also almost double the grade of the historical resource. **GNDD-008A confirmed some historical drilling likely materially understated the grade of mineralisation.**

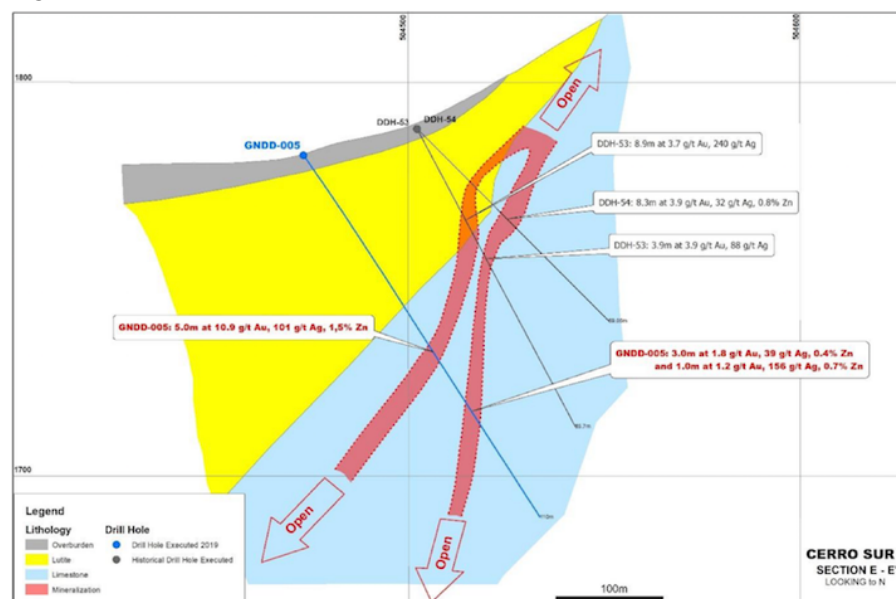
Figure 17: Challenger hole GNDD-008A and La Mancha hole 03-HD-1A

Drill hole	From m	To m	Interval m	Gold g/t	Silver g/t	Zinc %	Gold equiv g/t
GNDD-008A	96.6	99.3	2.6	22.8	218.0	0.7	25.5
and	105.0	115.0	10.0	0.6	28.2	0.7	1.2
03-HD-1A	90.1	91.8	1.7	2.1	37.4	2.4	4.0

Source: Challenger Exploration, La Mancha

Drill hole **GNDD-005** was drilled beneath two historical holes, DDH-53 and DDH-54, at the western edge of the Magnata vein. **GNDD-005 extended the known mineralisation by 25m, demonstrated that mineralisation remains open at depth, and suggests that grade improves with depth.** Notably, the 5m intercept at 12.7 g/t gold-equivalent from 59m is more than twice the grade of the historical holes, drilled up-dip. Hole GNDD-005 also intercepted a new zone of mineralisation from 77m downhole.

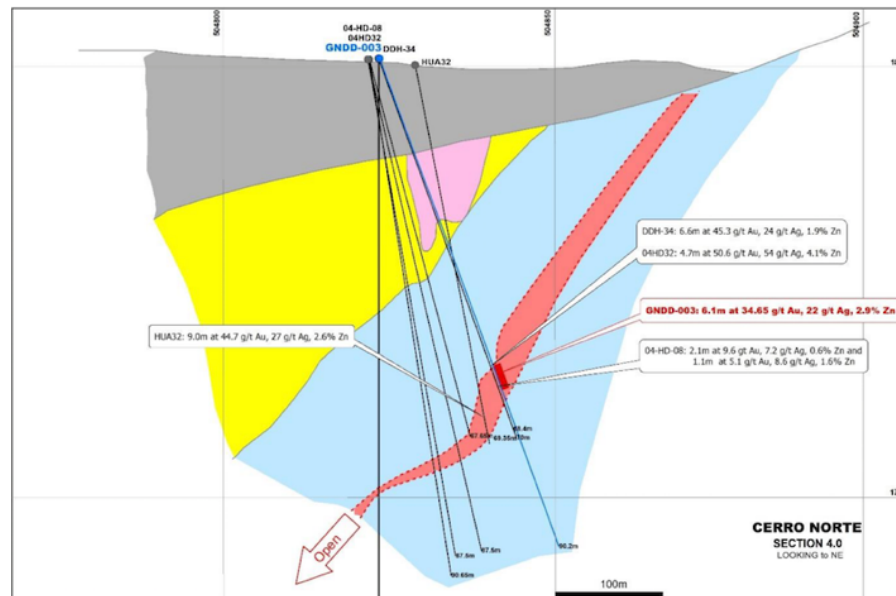
Figure 18: GNDD-005



Source: Challenger Exploration

Drill hole **GNDD-003** was designed to twin historical hole DDH-40, drilled by EPROM in the late-1990s, and which returned 6.6m at 45.3 g/t gold, 23.7 g/t silver and 1.9% zinc. La Mancha twinned DDH-40 with drill hole 04-HD-08 in 2004, returning much lower grades of 2.1m at 9.6 g/t gold and 1.1m at 5.1 g/t gold, the hole suffering from poor core recoveries. After the first 19 drill holes, La Mancha changed drill contractors, and re-twinned hole 04-HD-08 with drill hole 04-HD-32 which returned 4.7m at 50.6 g/ gold, 53.7 g/t silver and 4.1% zinc. **GNDD-003** returned 6.1m at 34.6 g/t gold, 21.9 g/t silver and 2.9% zinc from 55m.

Figure 19: GNDD-003



Source: Challenger Exploration

Figure 20: Challenger GNDD-003, EPROM DDH-40, and La Mancha 04-HD-08 and 04-HD-32

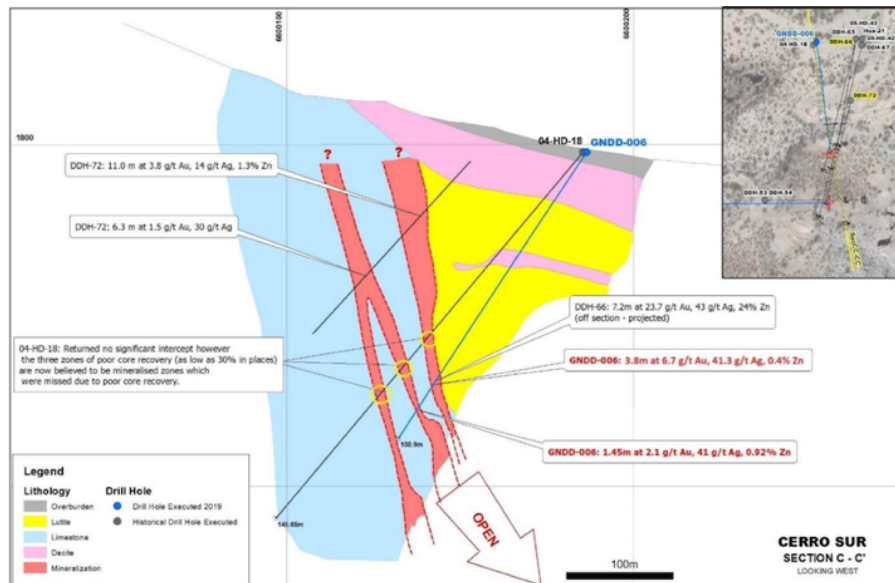
Drill hole	From m	To m	Interval m	Gold g/t	Silver g/t	Zinc %	Gold equiv g/t
GNDD-003	55.0	61.1	6.1	34.6	21.9	2.9	36.2
including	56.0	59.0	3.0	52.0	30.6	4.9	55.3
DDH-40	41.7	44.6	2.9	0.4	5.4	1.1	1.1
and	50.4	54.0	3.6	21.1	19.3	1.7	22.3
including	51.1	54.0	2.9	25.5	22.5	2.0	27.0
and	62.1	66.6	4.6	0.1	2.3	2.6	1.7
04-HD-08	52.6	54.6	2.1	9.6	7.2	0.6	10.0
including	52.6	53.8	1.3	15.1	10.2	0.8	15.7
and	56.6	57.7	1.1	5.1	8.6	1.6	6.2
04-HD-32	40.2	41.0	0.9	0.8	3.3	0.6	1.2
and	54.1	58.7	4.7	50.6	53.7	4.1	53.7

Source: Challenger Exploration

The aim of drill hole **GNDD-006** was to test the assumption that La Mancha's hole 04-HD-18, which returned no mineralisation, and had thus seemed to have closed off the Magnata zone to the west, had simply missed mineralisation because of poor recoveries. **GNDD-006 confirmed this, intersecting two zones of mineralisation.** It stopped short of a second interpreted structure that management plans to test in the current drill program.

These two drill holes, **GNDD-003** (Cerro Norte) and **GNDD-006** (Cerro Sur), confirm the first **19 holes drilled by La Mancha in 2003-2004, likely materially understated both the grade and thickness of mineralisation.** The majority of La Mancha's first 19 holes (03-HD-01 to 04-HD-19) appear to have suffered from poor recovery, typically 80% or lower. La Mancha did not re-twin other holes drilled in 2003-2004. Challenger's drill holes GNDD-003 and GNDD-006 suggest that this resulted in La Mancha either missing, or understating, the mineralisation. **This has positive implications for the development of a JORC compliant resource.**

Figure 21: GNDD-006

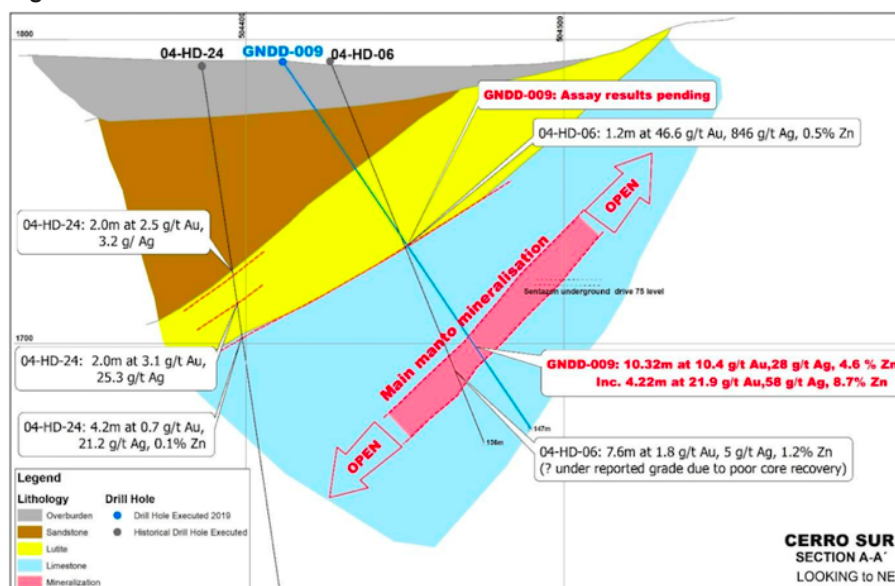


Source: Challenger Exploration

Drill hole **GNDD-009** was designed to test the southern limit of the mineralisation, and since it was drilled 500m south of holes GNDD-005 and GNDD-008, was something of a “wildcat” hole. **GNDD-009 returned 10.3m at 12.9 g/t gold-equivalent, and has substantially upgraded the southern end of the project.** La Mancha’s drilling of Sentazon returned reasonable results, but no wide intercepts with high-grades. Again, it seems likely that historical drilling in this area under-reported both the grade and width of mineralisation.

Management is actively testing this area in the current drill program; holes GNDD-011 to GNDD-014 and GNDD-016 are all being drilled at Sentazon.

Figure 22: GNDD-009



Source: Challenger Exploration

Drill holes **GNDD-003** and **GNDD-009** demonstrate the same mineralisation and alteration mineral assemblage. The holes are located 1.7 km along strike from each other, demonstrating continuity,

and that the project remains open in all directions.

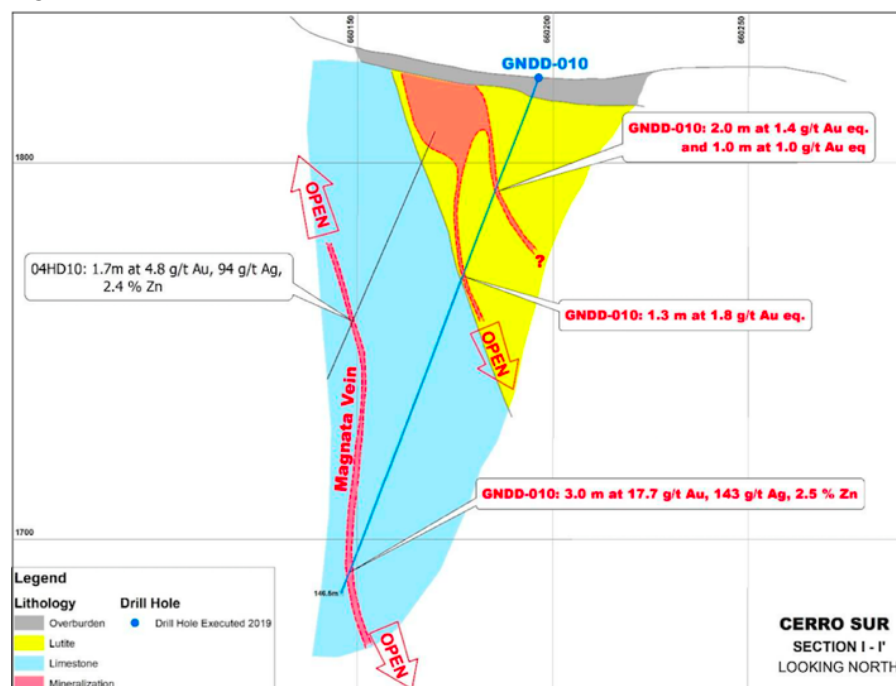
Drill hole **GNDD-010** was designed to step ~50m below a fence of holes La Mancha had drilled that had returned thin intercepts with low-grades, and which seemed to have closed off potential to the east of hole GNDD-007. **GNDD-010 returned grades that are significantly higher than the historical holes, and almost double that of the historical resource, extending the high-grade mineralisation by 60m at depth, and by 25m along strike.** It further supports the potential for grades to increase at depth. It also supports the supposition that La Mancha understated mineralisation.

Figure 23: Challenger GNDD-010 and La Mancha 04-HD-10

Drill hole	From m	To m	Interval m	Gold g/t	Silver g/t	Zinc %	Gold equiv g/t
GNDD-010	30.0	32.0	2.0	0.9	37.0	0.7	1.4
and	34.0	35.0	1.0	0.9	7.6	0.1	1.0
and	55.0	56.3	1.3	1.1	30.0	0.8	1.8
and	139.0	142.0	3.0	17.7	143.0	2.5	20.5
04-HD-10	44.3	44.5	0.3	3.	81.	5.	8.2
and	55.5	56.0	0.5	1.3	11.5	0.5	1.7
and	78.6	80.3	1.7	4.8	93.7	2.4	7.3
including	78.6	79.1	0.5	14.2	276.0	6.0	21.0

Source: Challenger Exploration

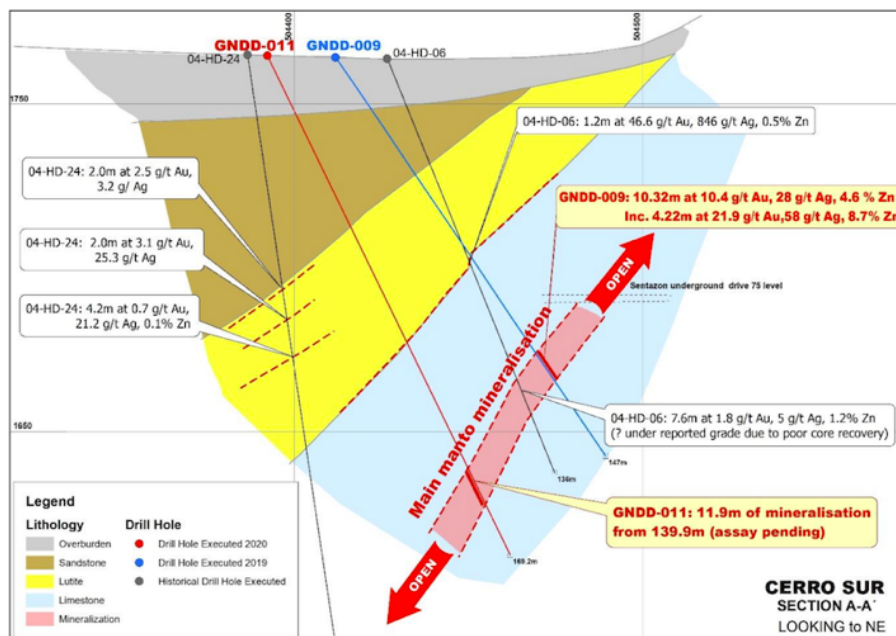
Figure 24: GNDD-010



Source: Challenger Exploration

One of the aims of the current drill program is to follow-up on the strong results from GND-009. Drill hole **GNDD-011** was designed to test for extensions to mineralisation 40m below GNDD-009. Logging of GNDD-011 demonstrates it intersected 11.95m of mineralisation from 139.5m in a zone that appears similar to that in GNDD-009. Drill hole **GNDD-013** was designed to extend mineralisation 20m south along strike from GNDD-009, and intersected 6.7m of mineralisation from 116.8m. Results from these holes are expected in May to June 2020.

Figure 25: GNDD-011

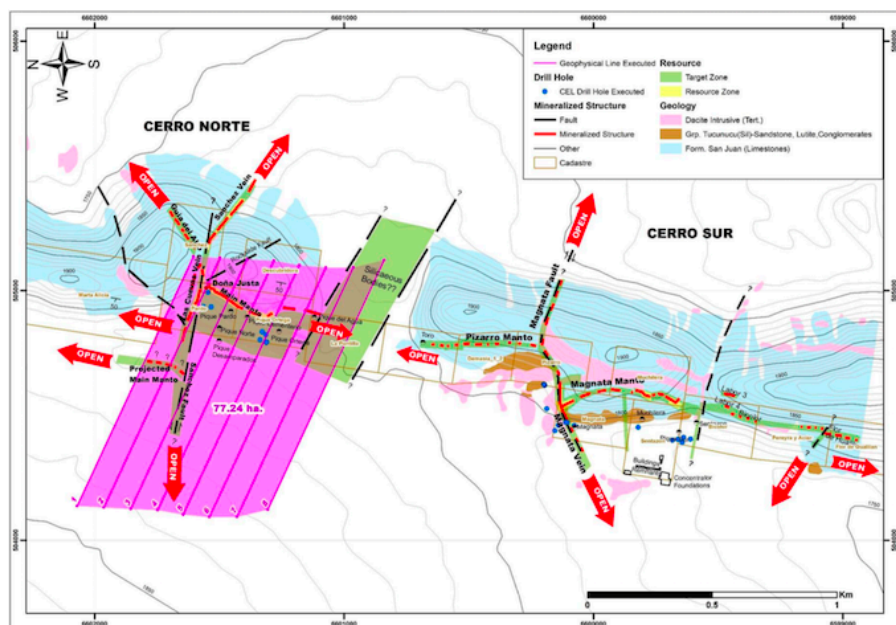


Source: Challenger Exploration

Hualilan IP surveys

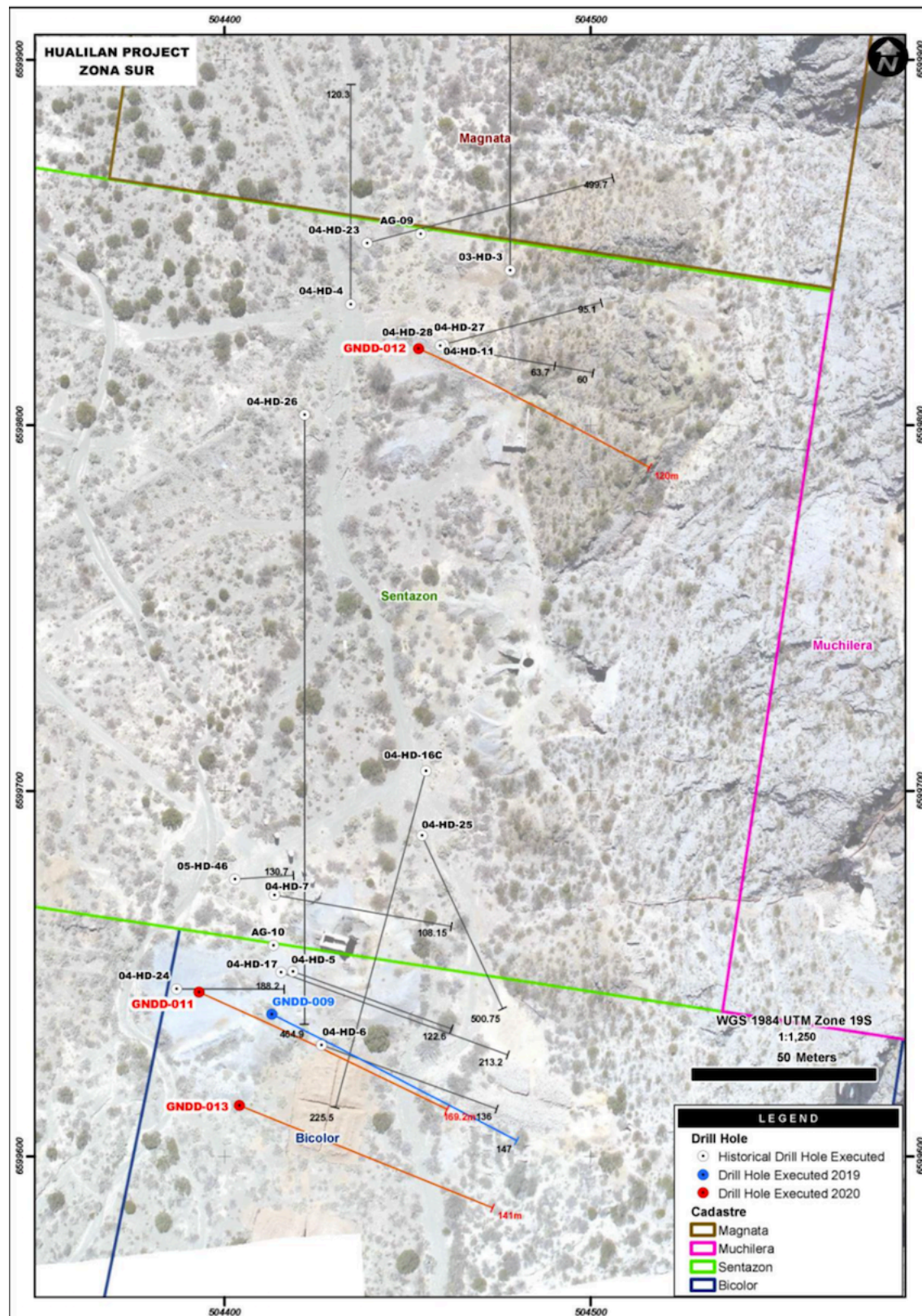
Challenger is also conducting IP surveys at Hualilan. A 77 Ha survey at Cerro Norte is already completed and now awaiting results. The survey has been designed to define extensions to the sulphide mineralisation and assist with drill targeting. The survey is expected to provide high resolution coverage to a vertical depth of 300m. The historical resource is all contained within about 125m of the surface.

Figure 26: Location of the ground induced polarisation survey, Cerro Norte, Hualilan



Source: Challenger Exploration

Figure 27: GNDD-011, GNDD-012 and GNDD-013 at Sentazon, Cerro Sur



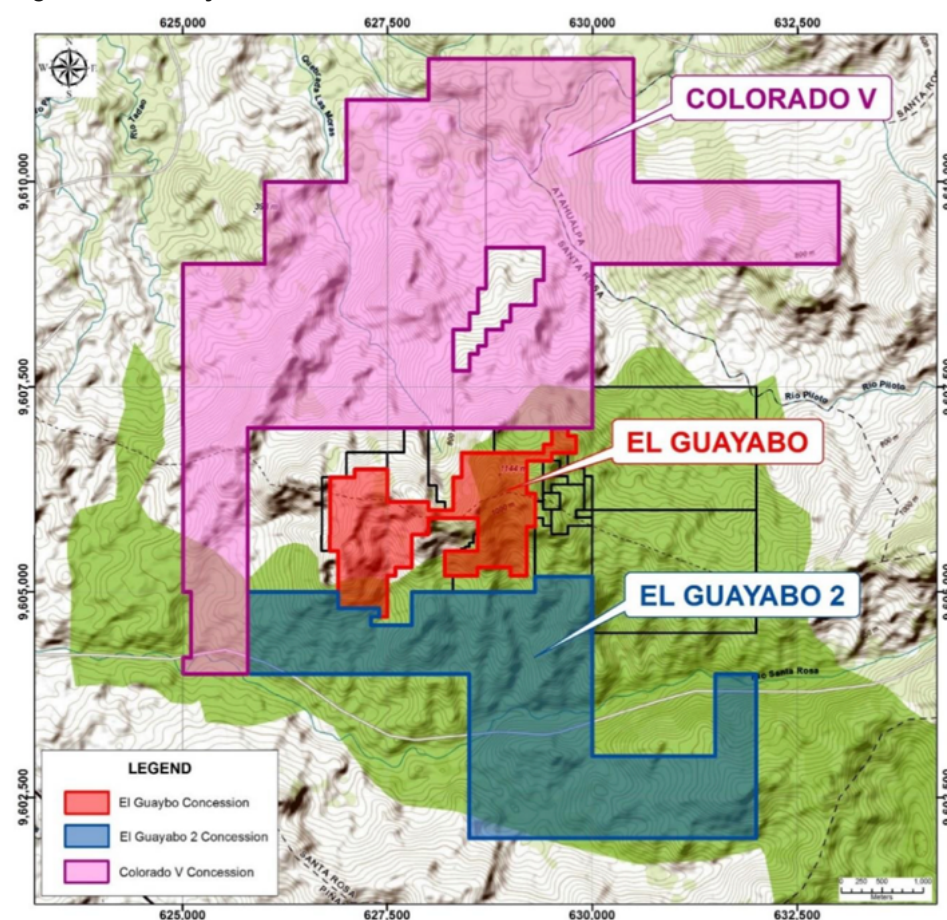
Source: Challenger Exploration

El Guayabo: under-explored Andean porphyry

- El Guayabo hosts a porphyry and breccia pipe system with a number of compelling shallow intercepts, and significant porphyry targets
- The project lies 5 km along strike, and in the same geology as Lumina's Cangrejos project which hosts a 16.7 moz gold resource
- Southern Ecuador is the most under-explored section of the Andean Copper Belt, the world's biggest area for copper production

The El Guayabo project, comprising the El Guayabo, Colorado V and El Guayabo 2 concession areas, is a breccia and porphyry, gold and copper project located in El Oro Province in south-west Ecuador. The project lies at the foothills of the Andes Mountains at a point where the Andean fault line kinks, making it a naturally enticing location to explore. The project is fully permitted for exploration and exploitation. The earn-in terms are different for each land parcel; Challenger can essentially earn-in to 51% of the project by meeting minimum expenditure clauses and, at Colorado V, by delineating resources. Challenger has the right to buy out the minorities in El Guayabo, and El Guayabo 2. The region hosts a number of large porphyry deposits. Lumina Gold's Cangrejos project lies 5 km along strike, and has the same age and mineralisation as at El Guayabo.

Figure 28: El Guayabo tenements



Source: Challenger Exploration

There has been substantial exploration work at the El Guayabo tenement by Newmont and Odin Exploration in the 1990s, and at Colorado V by Goldking over the past few years. Altogether, **89 drill holes totalling ~29,000m have been drilled**. This work targeted open pit-able gold. As a result, a number of significant results have not been followed up on. At El Guayabo, this includes numerous intercepts of >100m (and two of >200m) at gold-equivalent grades of 0.5 g/t or better.

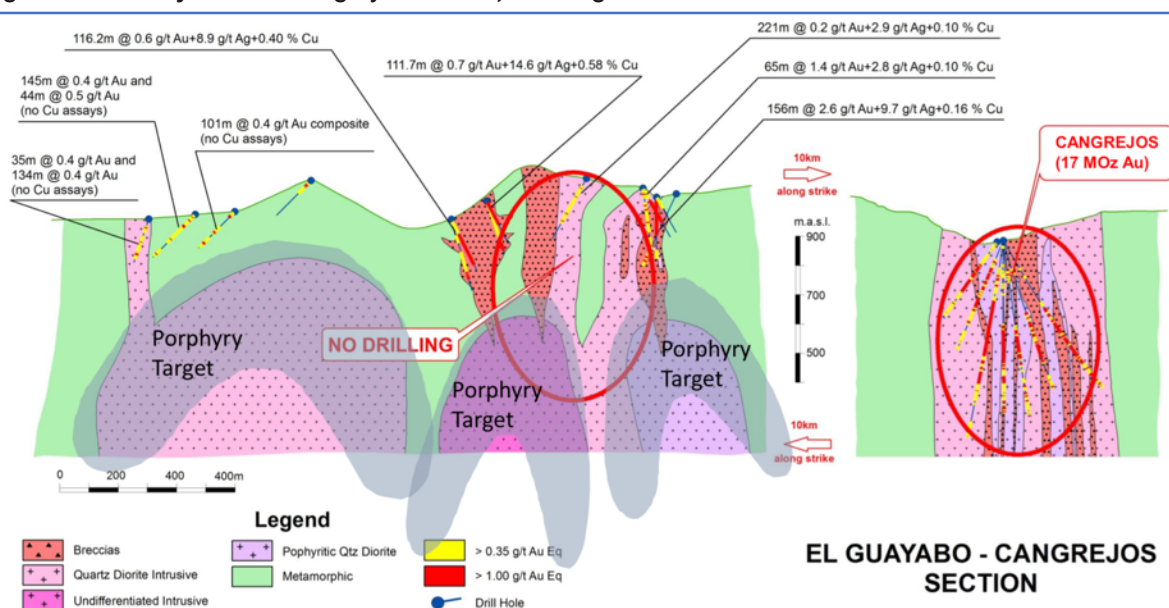
El Guayabo; significant targets

Newmont Mining and Odin Mining and Exploration (now Lumina Gold) explored El Guayabo in the 1990s, drilling 33 diamond holes (JDH-001 to JDH-104 and GGY-001 to GGY-019) totalling 7,490m. The program defined multiple targets that were not followed up on. This includes high-grade breccia hosted mineralisation at depth, an extensive flat-lying late-stage vein system with veins 1-3m wide and grading 10-20 g/t gold that has never been drilled, and a near-surface porphyry system that has not been tested at depth.

Numerous holes returned intercepts of greater than 100m at grades of 0.5 g/t or better. Drill hole GGY-002 intercepted 156m at 2.99 g/t gold-equivalent from 9.7m depth. This included 75m at 5.21 g/t Au-eq from 27.0m. Drill hole JDH returned 112m at 1.85 g/t Au-eq from a depth of 10.3m. Drill hole GGY-008 intersected 255m at 0.62 g/t Au-eq, and drill hole GGY-011 returned 215m at 0.89 g/t Au-eq. These are compelling results; the discovery hole for Lumina's Cangrejos zone (C-99-14) returned 1.57 g/t over 192m.

Of the first five holes drilled by Newmont, two of them, JDH-002 and JDH-003, intersected 100+m of greater than 0.4 g/t gold and had visible chalcopyrite in the core, but were not assayed for copper. The remaining nine holes were tested for Au, Ag, Cu, Zn, Pb and As. A number of holes were terminated prior to target depth despite ending in mineralisation; two holes ended in greater than 5 g/t gold. **Only two of the 12 identified breccia bodies in the concession area have been systematically drilled and sampled.**

Figure 29: El Guayabo and Cangrejos section, showing selected historical drill holes



Source: Challenger Exploration

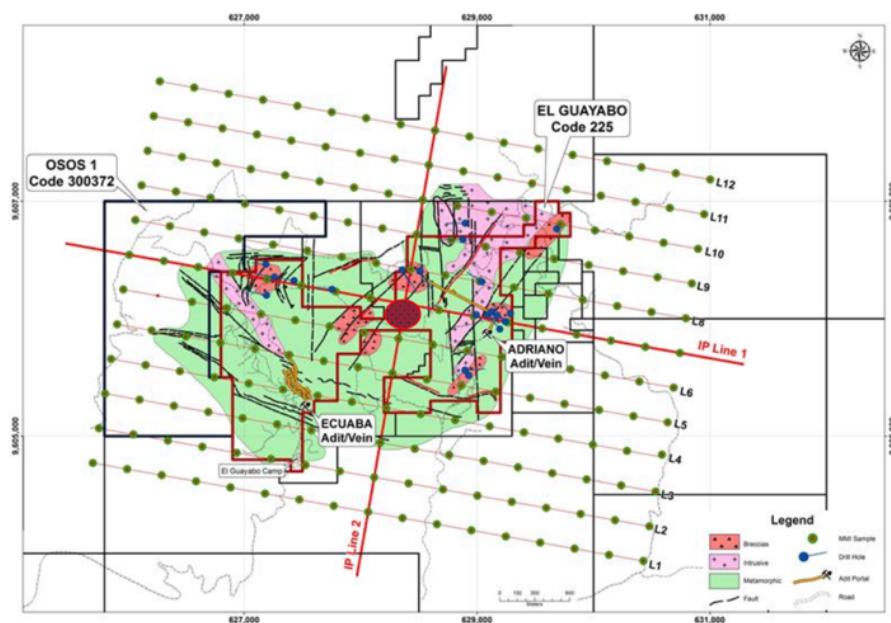
Figure 30: El Guayabo selected historical drill intercepts, from 33 holes drilled by Newmont and Odin

Drill hole	From m	To m	Interval m	Gold g/t	Silver g/t	Copper %	Gold equiv. g/t
JDH-002	7.6	152.9	145.3	0.4	Not	Assayed	n.a.
and	199	243	44.0	0.4	Not	Assayed	n.a.
JDH-003	36.0	71.6	35.7	0.5	Not	Assayed	n.a.
and	120.4	254.6	134.2	0.4	Not	Assayed	n.a.
including	146.8	224.1	77.3	0.5	Not	Assayed	n.a.
JDH-004	4.0	22.0	18.0	0.4	Not	Assayed	n.a.
and	79.7	120.4	40.7	0.4	Not	Assayed	n.a.
and	150.9	203.7	52.8	0.7	Not	Assayed	n.a.
JDH-006	18.0	89.6	71.6	0.2	2.0	0.10	0.42
and	164.8	281.1	116.2	0.6	8.9	0.40	1.37
including	227.8	281.1	53.3	1.2	13.2	0.62	2.39
JDH-009	10.3	122.0	111.7	0.7	14.6	0.58	1.85
including	34.6	91.5	56.9	0.2	19.1	0.82	1.80
and	201.4	205.4	4.0	11.4	9.7	0.01	11.54
and	255.1	EoH	1.5	0.7	1.5	0.02	0.75
JDH-011	100.7	218	117.3	0.4	4.5	0.10	0.62
GGY-001	10.0	69.0	59.0	0.2	2.8	0.07	0.35
and	139	249.2	110.2	0.4	1.1	0.06	0.51
including	141	174	33.0	0.6	2.0	0.08	0.76
GGY-002	9.7	166.0	156.3	2.6	9.7	0.16	2.99
including	27.0	102.0	75.0	4.6	19.1	0.22	5.21
and	114.0	166.0	52.0	1.3	3.3	0.18	1.64
and	244.0	272.9	28.9	0.3	2.4	0.04	0.32
GGY-005	12.0	162.0	150.0	0.4	11.0	0.30	0.99
including	14.0	54.0	40.0	0.6	25.5	0.60	1.95
and	180.0	194.0	4.0	0.2	6.1	0.22	0.64
GGY-008	16.0	271.0	255.0	0.1	6.5	0.24	0.62
including	235.0	271.0	36.0	0.4	11.5	0.50	1.32
GGY-011	14.0	229.0	215.0	0.2	9.6	0.36	0.89
including	14.0	97.0	83.0	0.2	14.9	0.50	1.24
including	202	229	27.0	0.4	15.2	0.80	1.90
GGY-017	0.0	24.0	24.0	0.5	1.3	0.01	0.49
and	69.0	184.0	115.0	0.5	2.1	0.03	0.53
including	125.0	147.0	22.0	0.2	2.0	0.05	0.29
and	206.0	241.0	35.0	0.3	1.7	0.0	0.41
and	254.0	277.0	23.0	0.6	1.2	0.04	0.63

Source: Challenger Exploration**Geophysics confirms targets**

So far, Challenger has focused on a significant geophysics program that included a 3D MT (magnetotelluric) survey with IP test lines over 16 km² completed in April 2019, and a MMI (mobile metal ion) sampling program also over 16 km², completed in June 2019. This program confirmed a number of porphyry targets beneath the historical drilling. Two of these targets are 100 million tonne mineralised bodies that are yet to be drill tested. Historical drilling was into vertical high-grade breccia pipes, and looks to have been too shallow to effectively target the porphyry.

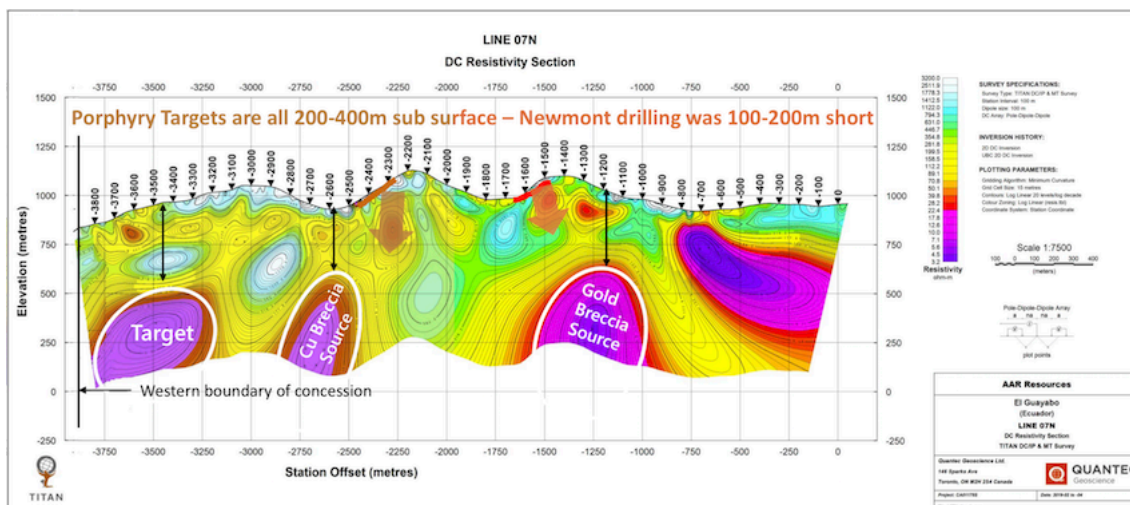
Figure 31: El Guayabo geophysical surveys



Source: Challenger Exploration

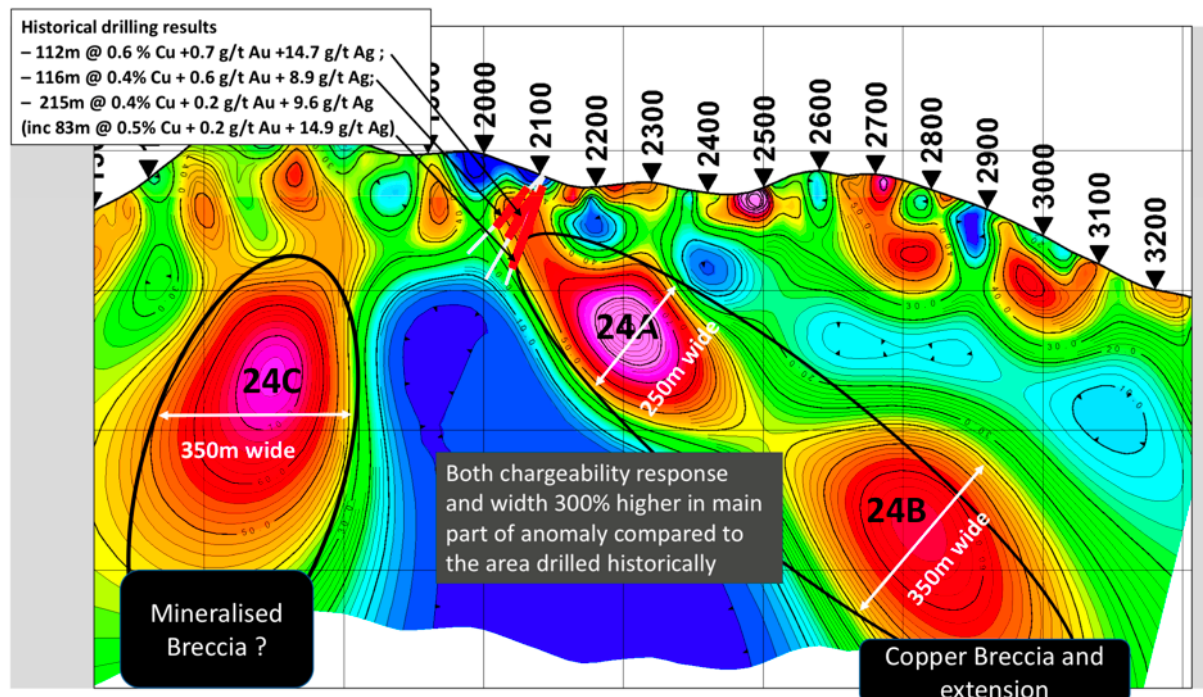
The East-West resistivity section shows **three substantial porphyry targets, all of which are mineralised, and which are just 200m to 400m sub-surface.**

Figure 32: Preliminary East-West MT inversion – DC resistivity section



Source: Challenger Exploration

The North-South line was across the area of the breccia pipes, in the area where drill holes JDH-006, JDH-009, and GGY-011 were drilled. These holes appear to have only reached the top of the anomaly. The chargeability response is 300% higher in the main part of the anomaly. Management believes there is a direct, close to linear, relationship between chargeability response and sulphides content and grade. **These targets are 100 million tonne envelopes that are yet to be drill tested.** El Guayabo is expected to be drilled in 2021.

Figure 33: North-South IP line – images mineralised breccia bodies

Source: Challenger Exploration

Colorado V

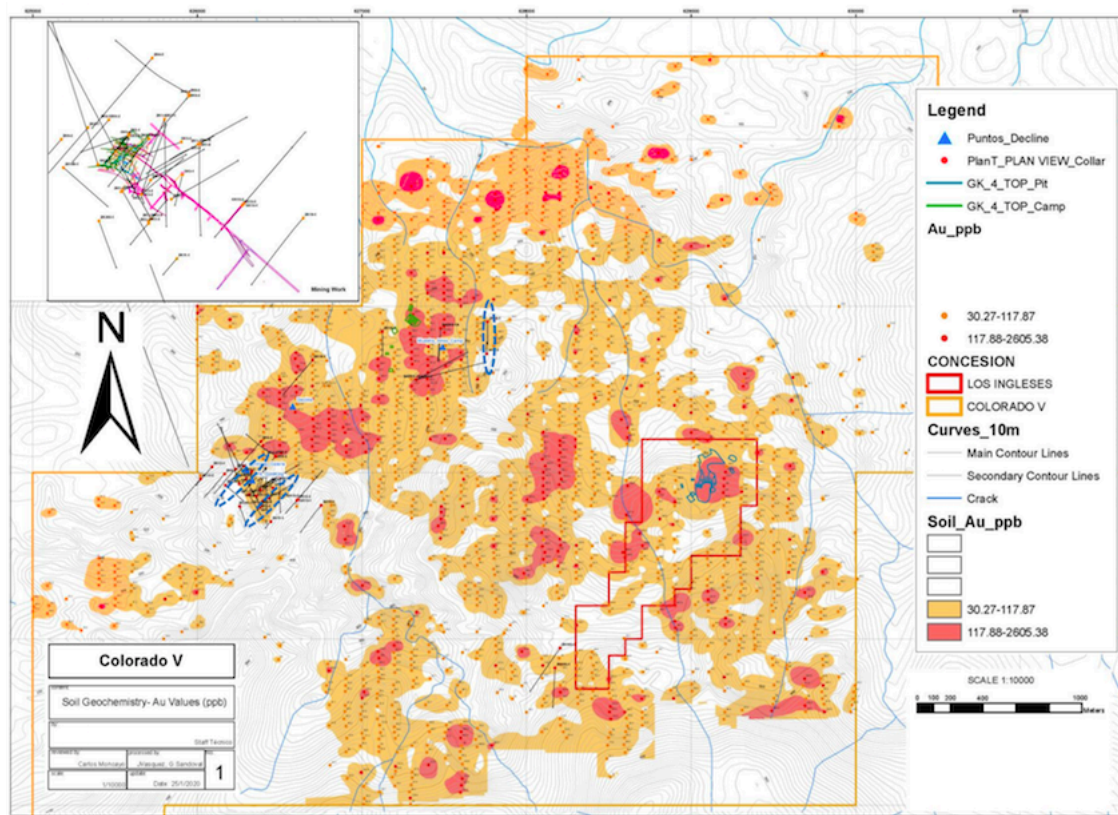
Colorado V is located immediately north of El Guayabo and has the same and continuous geology. Over the past few years, Goldking has completed 56 drill holes totalling of 21,472m, a multi-element soil and geochemistry survey covering some 20 km², and the development of underground drives and workings. Goldking was focused on identifying high-grade vein and breccia hosted gold mineralisation. Goldking did encounter porphyry mineralisation in a number of drill holes but this was not systematically logged or sampled, and only assayed for gold.

Challenger is currently logging and sampling the core from this work. Some 9,000m of core (22 holes) has been moved to its core shed at El Guayabo. The core of 17 drill holes has now been logged in full. Core is being intermittently sampled to identify high-grade mineralisation. According to management, **hole ZK1-3 demonstrated 300m of intrusive breccia hosted mineralisation containing pyrite, pyrrhotite and lesser chalcopyrite. Hole ZK1-5 contained 150m of similar mineralisation with more abundant sulphides.** According to management, these intrusive breccias look similar to the mineralised intrusive breccias encountered at El Guayabo in drill holes GGY-002 (156m at 2.6 g/y gold, 9.7 g/t silver and 0.2% copper), and JDH-013 (64m at 1.4 g/t gold, 2.8 g/t silver and 0.1% copper). These holes are now being assayed for gold and copper mineralisation. The plan is to assay 10,000m of drill core; assay results are expected back 2-3 months after field operations resume in Ecuador.

Figure 34: Challenger Senior Exploration Geologist Jorge Yunga inspecting drill core at Colorado V

Source: Challenger Exploration

So far, Challenger has identified porphyry and bulk gold and copper mineralisation in both outcrop and underground adits. The initial assessment is that there are a number of large (500-600m) gold and copper in soil anomalies surrounded by a zinc halo. Historical drilling was at the margins of the anomalies; the high-grade cores are yet to be drill tested.

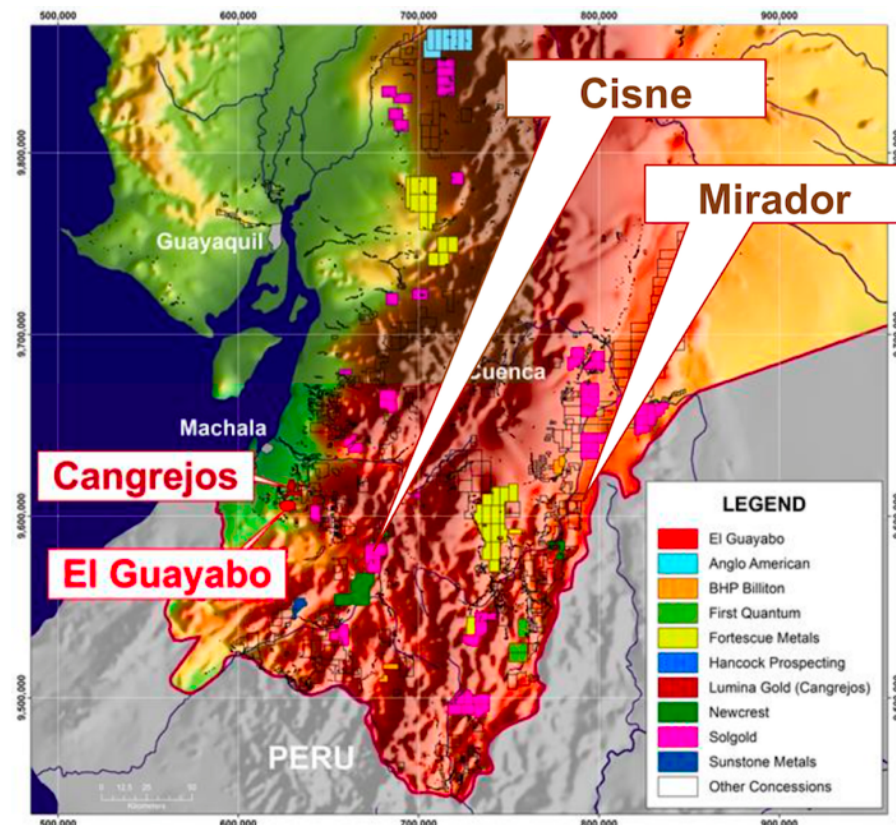
Figure 35: Colorado V, soil geochemistry, gold values

Source: Challenger Exploration

Southern Ecuador fast becoming a 'go-to' jurisdiction

Whilst discoveries in northern Ecuador, such as SolGold's Cascabel project have attracted huge attention, discoveries in southern Ecuador have flown somewhat under the radar. Yet, there are a number of significant porphyry discoveries in the vicinity of El Guayabo that suggest southern Ecuador is a hugely prospective region.

Figure 36: Mineral discoveries in southern Ecuador



Source: Challenger Exploration

Lumina Gold, Cangrejos project

The Cangrejos project lies just 5 km north of, and along strike from, Challenger's Colorado V tenement. It covers an area of 6,373 Ha. Lumina first identified the Cangrejos area as the source of an alluvial gold deposit in 1994. A joint venture with Newmont was formed, and from 1994 to 2001, geophysical and geochemical surveys were completed, and anomalies drill tested. The Cangrejos zone discovery hole, C-99-14, returned 1.57 g/t over 192m.

Today, the Cangrejos project boasts a resource of 16.7 moz gold and 2.2 bn lbs copper. The resource comprises an indicated mineral resource of 568MT at 0.73 g/t Au-eq, with 10.4 moz gold and 1.4 bn lbs copper, and an inferred mineral resource of 476MT at 0.52 g/t Au-eq, with 6.3 moz gold and 0.8 bn lbs copper. According to Lumina Gold, it is the largest primary gold deposit in Ecuador. The project is forecast to produce 373,000 oz gold and 20,000 tonnes copper annually over a minimum 16-year mine life. Lumina stated in its February 2020 presentation, the company plans to update the mine plan in 1Q20, and release an updated Preliminary Economic Assessment (PEA) in 2Q20. Lumina Gold has a current market cap. of C\$202m.

SolGold, Cisne-Loja Porphyry

In October 2019, SolGold announced the discovery of a large, new copper-gold-silver-molybdenum porphyry system at its Cisne-Loja Project, in southern Ecuador. The project is located less than 50 km east-southeast of Challenger's El Guayabo project. SolGold noted that "consistently rich copper, gold, silver and molybdenum mineralisation is present in outcrop over a large area 2km by 1km" and further that "the recent discovery of this large copper-gold target which... exhibits all of the geochemical and geophysical hallmarks of a large porphyry system, underscores the prospectivity and unexplored nature of the area".

Ecuacorriente, Mirador copper project

The Mirador porphyry copper-gold deposit is located in the province of Zamora-Chinchipe, in southeast Ecuador. The project is ~340 km south of Ecuador's capital city of Quito, and 70 km east-southeast of the city of Cuenca. According to the Corriente Resources' 2008 Technical Report, the tenements cover an aggregate area of 9,230 Ha.

The project is now owned by Ecuacorriente, a subsidiary of the Chinese consortium CRCC-Tongguan, which has a 30-year concession to mine the project. Production commenced in July 2019. Ecuacorriente has said that at full production it expects to produce 94,000 tpa copper.

In a Feasibility Study, published in April 2008, the Mirador project had NI43-101 compliant measured resources of 53MT at 0.65% Cu, 0.21 g/t Au and 1.6 g/t Ag, indicated resources of 385MT at 0.6% Cu, 0.19 g/t Au and 1.5 g/t Ag, and inferred resources of 235MT at 0.52% Cu, 0.17 g/t Au and 1.3 g/t Ag, all at a 0.4% copper cut-off. This amounts to measured and indicated resources of 5.9 bn lbs of copper, 2.74 moz gold and 21.5 moz silver, and **total resources including inferred resources of 8.6 bn lbs copper, 4.0 moz gold and 31.4 moz silver.**

The CRCC-Tongguan consortium acquired the project concession under former President Rafael Correa, who strengthened Ecuador's economic ties with China. During Correa's 10-year rule, China invested in major power projects and lent monies in loan-for-oil type deals with Ecuador's state-owned Petroecuador. President Lenin Moreno was elected (with former President Correa's endorsement) in 2017. President Moreno has aimed to boost the mining sector, and to wean Ecuador off its oil dependence. President Moreno has also focused on improving Ecuador's investment environment, in order to attract Western companies.

Lumina Gold Cangrejos technical report and February 2020 presentation:

https://luminagold.com/assets/docs/presentations/LumGLD_Feb-2020.pdf

https://luminagold.com/assets/docs/Cangrejos-43-101-Technical-Report_12Dec2019_Final.pdf

SolGold announcement, 23 October 2019:

https://www.rns-pdf.londonstockexchange.com/rns/8268Q_1-2019-10-23.pdf

Corriente Resources, Mirador Copper-Gold Project, Feasibility Study:

http://www.corriente.com/media/PDFs/news/technical_reports/MIRADOR_30K_Report_FINAL_SED_AR.pdf

Appendix 1: Challenger's project portfolio

Challenger has earn-in rights for two gold projects; the Hualilan high-grade gold project in Argentina, and the El Guayabo gold-copper breccia and porphyry project in Ecuador. In addition, a subsidiary company has lodged an application for explore for shale gas in South Africa. Management's immediate focus is on exploring the two gold projects.

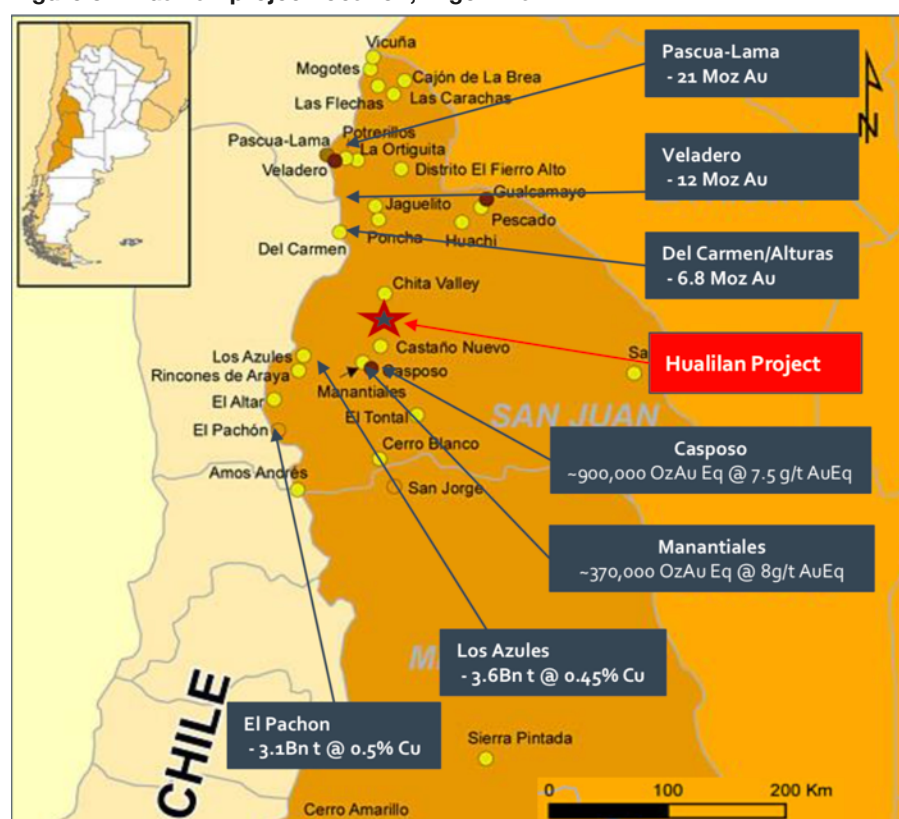
Hualilan, Argentina

The Hualilan project is a skarn and manto gold-silver deposit associated with a porphyry intrusive. The project has seen extensive historical exploration including 188 drill holes dating back to the 1970s. The project has more than 6 km of developed underground workings, though little historical production has been reported. The property was last explored by La Mancha Resources in 2006. There is a historical (non-JORC compliant) NI43-101 resource estimate of 627,000 oz gold at 13.7 g/t. La Mancha attempted to assess the continuity of mineralization across the property, but this has not been systematically drill tested. As a result, mineralisation remains open in most directions.

Location

The project is located ~120 km north-northwest of the city of San Juan (2010 census population of 562,000), the capital of San Juan Province in north-western Argentina. It lies within the foothills of the Andes, and comprises a basin and range topography with a series of north-trending hills within extensive valley floors.

Figure 37: Hualilan project location, Argentina



Source: Challenger Exploration

The project lies at an elevation of about 1,700m. The project is accessible via sealed roads to within 500m of the license area. The closest town on the national power grid, Iglesias, is about 40 km north of the project area.

The area is classified as desert. Annual rainfall is typically 100mm to 200mm, falling torrentially in the months of December and January. Average annual temperatures are typically 16°C to 18°C, with a range of -10°C to 40°C. The area is only sparsely populated. A detailed geological appraisal of the project compiled by La Mancha in 2003 suggests there was possibly only one dozen people living along the entire 120 km stretch of highway from San Juan to the property. Vegetation is also sparse. Soils are generally infertile, desiccated and alkaline, and support grasses, cacti, thorn bush, and some other hardy species. **As a result, there are unlikely to be any environmental concerns in further developing the property.** Geology is well-exposed at surface. Fieldwork can be maintained year-round.

Licensing and tenancy

The project is divided into northern and southern sections, known as Cerro Norte and Cerro Sur. These areas are separated by an east to north-easterly trending fault zone marked by a 400m wide zone of flat ground. Cerro Norte comprises 7 mining licenses (Minas) and two additional areas called “demencia”. Cerro Sur comprises 8 mining licenses and one “demencia”. Demencia refers to a parcel of land that lies between two or more mining licence areas, but where another mining licence area of 300m x 200m cannot be formed. Owners of the adjacent mining licenses have exclusive rights to acquire these areas. In addition, the project has an exploration licence application that covers the 26 km² that surrounds the mining licences.

Under Argentinian law, mining licences are for an unlimited period, provided the licence holder pays the (small) annual holding fees, invests minimal capital, and undertakes a reasonable amount of exploration.

Geology and mineralisation

Mineralisation is hosted in Ordovician (485.4 Ma to 443.8 Ma) limestone which is overlain by Silurian (443.8 Ma to 419.2 Ma) conglomerate, sandstone and siltstone. The upper part of the Ordovician limestone contains a chert unit which has attracted bedding parallel fault movement. The sequence is folded and thrust-repeated, generally north-striking, and moderately west dipping. The sedimentary rocks are intruded by mid-Miocene stocks, dykes and sills.

Mineralisation occurs in all rock types, but it preferentially replaces within the limestone and faults. Mineralisation occurs parallel to bedding, in bedding-parallel faults or in east-west striking, steeply dipping quartz-dominated veins that cross the bedding at high angles. The veins have thicknesses of 1m to 4 m and contain sulphides.

Historical resource

The project has had a long, and sporadic history of both exploration and production that dates back as far as the pre-Spanish era. Mining activity reached its peak in the 1870s when a British company, (named ‘Argentina’) was roasting sulphide ores. There are some 6 km of underground mine workings that date from this period. Since then, operations have tended to be opportunistic, and focused on high-grade zones, and the treatment of tailings.

In 1994, Monarch Resources did some work using airborne geophysics. In 1999, Compania Mineral

El Colorado SA ("CMEC") drilled 60 core holes (DDH-20 to DDH-79) and a 1,700m RC program. In 2003-2005 La Mancha undertook 7,447m of core drilling (HD-01 to HD-48).

CMEC undertook some metallurgical testing in 2000, submitting 4 bulk samples of oxidized sulphide, and mixed material to a laboratory in Santiago, Chile. The results indicated that flotation, used in conjunction with a Knelsen concentrator, resulted in 80% recoveries for gold and silver, and 50% for zinc, into a gold-silver-zinc concentrate.

Whilst this historical activity has been intermittent, and not very methodical, it has generated a substantial body of data that can be used by Challenger. All in all, Hualilan has been subjected to limited exploration by modern standards.

Earn-in

Challenger has the right to earn-in to 75% of the Hualilan project by essentially completing a DFS, and with the payment of 65m Challenger shares. Of this amount 3.334m have already been paid, and a further 61.666m will fall due on acquisition. Key terms of the earn-in are:

Cerro Sur, and exploration licenses covering 26 km²:

- A milestone payment of 1.667m shares on 22 June 2019 (completed)
- Minimum expenditure of A\$1.0m on Cerro Sur and Cerro Norte combined, and the issue of 6.667m shares no later than 1 July, 2020 for a 25% stake
- Completion of a DFS within 5 years to move from 25% to 75%

Cerro Norte

- A payment of 1.667m shares to the Cerro Sur owners for assignment of Cerro Norte farm-in, which was due one month after relisting on the ASX (completed)
- Minimum expenditure of A\$1.0m on Cerro Sur and Cerro Norte combined, and the issue of 5.0m shares no later than 1 February 2021 for a 25% stake
- Completion of a DFS within 5 years and the issue of 50m shares to move from 25% to 75%

Figure 38: Hualilan hills viewed from the Southeast



Source: La Mancha, 2003

Figure 39: Mine buildings and foundation dating from the 1870s



Source: La Mancha, 2003

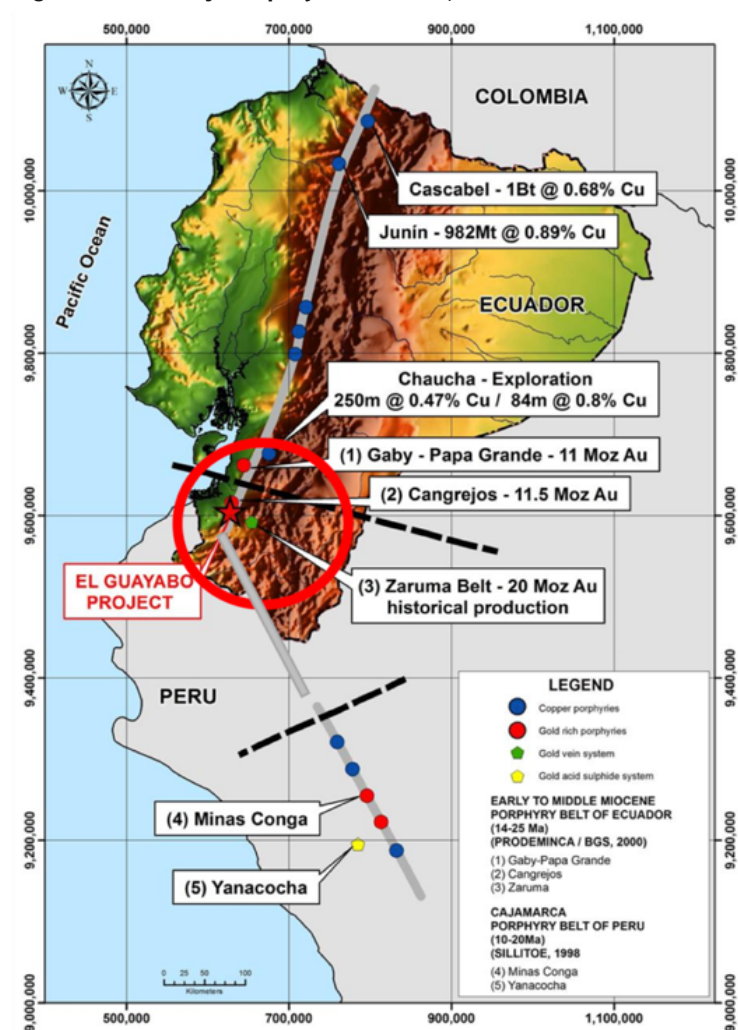
El Guayabo, Ecuador

The El Guayabo project is a breccia and porphyry, gold and copper project located in El Oro Province in south-west Ecuador. The project comprises three concession areas; El Guayabo, Colorado V and El Guayabo 2. The El Guayabo concession was last drilled by Newmont Mining Corporation and Odin Mining and Exploration Ltd in 1995 and 1997. The Colorado V concession was drilled by Goldking over the past 4-5 years. Goldking remains active on part of the concession where they have a small 10,000 oz gold per annum operation, and are still seeking high-grade gold resources.

Location

The project is located ~55 km south of the port city of Machala (population ~250,000), the capital of El Oro Province. Machala is the fourth largest city in Ecuador, with the second largest port. El Oro Province is named after its gold production, historically a major contributor to the local economy. The project lies in the foothills of the Andes Mountains, in generally steep ground. Elevation varies from 580m to 1,160m above sea level. There is a field camp, core logging and core preparation facilities, core and sample storage facilities and basic living quarters located on the property.

Figure 40: El Guayabo project location, Ecuador



Source: Challenger Exploration

While El Guayabo lies in the tropics, being situated on the western, sea-facing side of the Andes, and at moderate altitude, means the climate is tropical-temperate. Vegetation is tropical rainforest, except where cleared for crops. Annual rainfall is typically around 1,400mm, with heavier rainfall in December to April. It is expected that exploration and mining activities can be maintained year-round.

Licensing and tenancy

In Ecuador, mining concessions are typically granted for 25 years. They can be extended for a further 20 years. The concession holder has the right to explore and exploit minerals on the concession area. Concessions may be transferred if approved by the state mining authorities. Concession holders have various obligations such as submitting annual exploration reports, paying mining royalties to the state, employing Ecuadorians, and complying with environmental rules. For large-scale projects, defined as more than 2,000 tpd mined material for open pit operations (and more than 1,000 tpd for underground operations) an exploitation contract with the Ecuadorian government is required before mining activity commences.

Geology and mineralisation

El Guayabo is situated at the western end of the late-Oligocene (33.9 Ma to 23.0 Ma) to early-Miocene (23.0 Ma to 16.0 Ma) Cangrejos Zaruma intermediate alkaline intrusive belt, controlled by a NW-striking fault zone. Intrusions vary in age from 40 Ma to 10 Ma, suggesting a long intrusive complex, as is the case for much of Chile, Peru and Bolivia.

Mineralisation is hosted in metamorphic basement and Oligocene to mid-Miocene volcanic rocks, which suggests the intrusions are of a similar age to host volcanic sequence. Mineralisation has been recognised in steeply plunging breccia bodies and the metamorphic host rock adjacent to the breccia, in quartz veins, and in disseminated pyrite and pyrrhotite in the intrusions and the metamorphic host rock near the intrusions.

Historical resource / work

Both the El Guayabo and Colorado V concession areas have seen extensive historical exploration targeting high-grade gold. Only limited exploration work has been undertaken at El Guayabo 2.

The El Guayabo concession area was explored in 1992 and 1994 by a joint venture between Newmont Mining Corp and Odin Mining and Exploration Ltd. The JV undertook geological mapping, as well as soil and rock chip sampling, and encountered widespread copper and gold enrichment across the El Guayabo concession area. Many of the gold and copper geochemical anomalies identified at surface are yet to be drill tested. Management's review of the historical drilling indicated that many of the holes stopped short of target, and a number ended in mineralisation.

Colorado V has also seen substantial historical exploration undertaken by Goldking, an Ecuadorian company that is 90% owned by Shandong Zhaojin, and Lee Mining. Goldking completed a multi-element soil and geochemistry survey covering some 20 km², as well 21,500m of core drilling, and the development of underground drives and workings over the past 4-5 years. Goldking was focused on identifying high-grade vein and breccia hosted gold mineralisation. The core has only been intermittently sampled, and only assayed for gold.

Challenger's limited field work to date, undertaken as part of due diligence, identified porphyry and bulk gold and copper mineralisation in both outcrop and underground adits. Goldking encountered

porphyry mineralisation in a number of drill holes but this was not systematically logged or sampled, given the aim was to identify higher-grade material capable of feeding Goldking's existing operations.

In January 2020, Challenger announced it planned to commence exploration at Colorado V immediately. The priorities are to systematically sample and assay porphyry mineralisation identified in the underground exploration adits, and to identify holes in which Goldking encountered porphyry mineralisation and to log and assay intersects. So far, management have logged 17 of the 56 historical holes, and plans to assay some 10,000m of drill core.

El Guayabo 2 has the same and continuous geology as the El Guayabo and Colorado V concessions. According to management only limited exploration has been conducted at El Guayabo 2, and this work targeted high-grade gold. Historical exploration did identify gold mineralisation in intrusive rocks.

Earn-in arrangements

El Guayabo

Challenger has already acquired a 19.9% stake in the El Guayabo concession, and has the right to farm-in up to 100% on the following terms:

- Stage 1: Expenditure of A\$2m by 15 June 2020 (already met) to move from a 19.9% stake to a 35% stake.
- Stage 2: Expenditure of an additional A\$3m by 1 June 2022 to move to a 51% stake.
- Stage 3: At any time on or before 15 December 2022, issue 180m ordinary shares to Torata SA to acquire the remaining 49% of the Project, subject to regulatory and shareholder approvals.

Colorado V

The farm-in agreement covers a period of five years comprising an initial three-year exploration stage, followed by a two-year resource definition stage. Challenger can earn up to a 50% stake in any discovery it makes.

- Exploration stage: Challenger will fund 100% of exploration and essentially has three years to declare a discovery.
- Resource definition stage: Challengers stake in the concession is dependent upon the size of the defined resource; 30% for a 200,001 to 600,000 oz gold-equivalent resource, and a 50% stake for a greater than 600,000 oz gold-equivalent resource. If the deposit is less than 200,000 oz, ownership (100%) will remain with Goldking.

There are further stipulations as regards the grade of the deposit. The agreement envisages Challenger spending a minimum of US\$8m over the total five-year period.

El Guayabo 2

- Stage 1: Challenger can earn a 25% stake in the concession by spending US\$1.0m on exploration in the first five years.
- Stage 2: By spending a further US\$1.0m Challenger can move to a 50% stake.
- Stage 3: After securing a 50% stake in the project, Challenger can move to an 80% stake by

funding a definitive feasibility study. For every US\$2m spent on funding a DFS, up to US\$6m, Challenger will earn 10% in the concession. There is no time limit on the completion of a DFS.

- Stage 4: Challenger can elect to purchase the remaining 20% stake in El Guayabo 2. A valuation must be independently determined with a minimum price of US\$4m. Consideration can be paid either all in cash, or half in cash and half in shares.

Challenger must inform Goldking, the farm-in partner at Colorado V, because Goldking and Challenger have equal rights to earn-in to adjoining tenements.

Figure 41: Typical landscape of the area around and in the El Guayabo property



Source: Challenger Exploration

Karoo Basin Gas project, South Africa

In addition to the two gold projects, Challenger also owns a 95% stake in its South African subsidiary, Bundu Gas and Oil Exploration (Pty) Ltd. Bundu has lodged an application for the Cranemere project, a significant shale gas prospect located in the Eastern Cape Province. Bundu was acquired by Challenger in 2010.

The Karoo Basin covers some 600,000 km² in central and southern South Africa. The region contains organic rich shales of Permian age, with combined thickness up to 5,000 feet. In 2015, the U.S. Energy and Information Administration (EIA) estimated the Karoo Basin's 'technically recoverable' shale gas resource at 390 trillion cubic feet (tcf). This would make it the 8th largest resource in the world, and the second largest in Africa, after Algeria.

Shale gas exploration is focused in the southern part of the basin where the shales are at sufficient depth, and where five wells, all dating from before 1970, intersected the shales with significant gas shows. One well, Cranemere CR 1/68, flowed more than 8 million cubic feet per day (mmcf), of natural gas from the Fort Brown shale during testing over a 158 feet interval in 1968. Production was judged to be from fractures and secondary porosity in the shales. Bundu's application covers 3,500 km² centred on this 1968 discovery well.

The area has become one of increasing focus over recent years. Given South Africa's economic challenges, in particular its shortage of power, exploiting the Karoo Basin for shale gas is potentially attractive. Shell and Falcon Oil and Gas are also pursuing exploration rights in the region.

Appendix 2: Companies mentioned

Figure 42: Companies mentioned in this report

Company	Stock code
Challenger Exploration	CEL.AX
Alliance Resources	AGS.AX
Anglo American	AAL.L
Austral Gold	AGD.AX
Barrick Gold	GOLD
BHP	BHP.AX
Centerra Gold	CG.TO
Core Gold	CGLD.V
Egan Street Resources	EGA.AX, now delisted
Falcon Oil and Gas	FO.V
First Quantum Minerals	FM.TO
Glencore	GLEN.L
Lion One Metals	LLO.AX
Lumina Gold	LUM.V
Meteoric Resources	MEI.AX
McEwen Mining	MUX
Mineros SA	MAS.CN
New Talisman	NTL.AX
Newcrest Mining	NCM.AX
Newmont Corp	NEM
Ramelius Resources	RMS.AX
Shandong Gold	600547.SS
Sibanye Stillwater	SBSW
Silver Lake Resources	SLR.AX
Spectrum Metals	SPX.AX
SolGold	SOLG.L
Titan Minerals	TTM.AX

Source: Orior Capital

The author

Simon Francis is a UK qualified chartered accountant with significant experience in the natural resources and minerals sector. Simon led research in the sector in various roles at major financial institutions including Macquarie, Samsung and HSBC, in a career spanning more than 20 years. He has been involved in approximately US\$4bn of capital raising, for a number of natural resources companies. Simon has been engaged in the financing of early stage companies using production agreements, and has privately funded exploration companies in various metals and jurisdictions. Simon seeks to deploy capital in undervalued mining and resources opportunities that have been missed by the market.