

Key Facts:

Ticker-Exchange	WCU-TSXV
Closing Price	\$0.79
Company Website	www.worldcopperltd.com
Analyst	Stefan Ioannou

Company Statistics:

52-week High	\$1.05
52-week Low	\$0.29
Market Cap	\$71 MM
Shares OS	
- Basic	90.5 MM
- Diluted	134.6 MM
Cash	\$3 MM
Long-term Debt	nil
CEO	Nolan Peterson

Major Shareholders (%)

Board & Management	+25%
Wealth Minerals	24%

Our **Emerging Ideas** publication seeks to highlight firms that we come across during our travels where, while perhaps not ready for formal research coverage, we see notable developments or inflection points that we believe may be of interest to investors.

Two For One Copper Oxide Play With Potential Scale To Boot

Unless otherwise denoted, all figures shown in C\$

Corporate Overview:

World Copper is a developer underpinned by two advanced stage projects—the flagship Escalones porphyry-skarn project in Chile and Zonia porphyry project in Arizona. Efforts at both projects are focused on near surface leachable mineralization that provide favourable processing considerations relative to sulphide project counterparts. **A PEA pertaining the Escalones is expected to be tabled in the coming weeks, which stands to garner market recognition of the project’s scope potential—stay tuned!**

Bottom line, World Copper offers low-cost exposure to two notable/advanced ‘oxide’ copper development projects located in favourable jurisdictions—arguably at a fraction (order of magnitude differential) of the cost of direct ‘peers’. Furthermore, the leachable nature of both assets translates into a ‘greener’ source of copper relative to sulphide peers—‘strategic’ consideration further bolstered by a compelling copper ‘macro’ in part driven by the global electrification narrative.

Key Points:

- **Reinventing Escalones** – In 2020, World Copper recognized that Escalones’ shallow, higher-grade supergene (enriched) mineralization (located above a ‘historic’ sulphide resource) is sufficiently oxidized, rendering it mostly acid-soluble and potentially amenable to cost-effective heap-leach SX/EW copper cathode production onsite—prompting an ‘oxide’-focussed resource update in August 2021 headlined by **426 MMt (inferred) grading 0.37% copper** (0.13% copper cut-off; 0.93:1 strip ratio), noting supergene mineralization extends to ~300 m depth (and remains open). **At 3.4 Blb of contained copper, Escalones is Chile’s largest undeveloped ‘oxide’ project—complemented by compelling property wide exploration potential.**
- **Imminent Actionable Catalyst** – We look to the release of an Escalones PEA in the coming weeks to better gage the project’s production profile potential. That said, in the meantime we would not be surprised to see the deposit’s current resource support a ~50 ktpd heap leach SX/EW operation producing ~100 MMlb of copper cathode per annum (possibly higher during the initial years of production focused on higher grade mineralization) over a ~15-20 year open-pit mine life. Based on peer group comparables, an operation of this scale would conceptually entail a ~US\$500 MM initial capital cost and ~US\$1.50/lb C1 copper cash cost profile.
- **More Than A One Trick Pony** – The recently acquired Zonia project bolsters World Copper’s portfolio with an advanced-stage asset underpinned by a 2018 PEA detailing an 8.6-year mine plan averaging 49 MMlbpa copper cathode production at a C1 cash cost of US\$1.46/lb. Initial capital costs are pegged at US\$198 MM for the 30 ktpd open-pit/heap leach operation. Headline economics include a US\$192 MM after-tax NAV8% at US\$3.00/lb copper (increasing to US\$447 MM at US\$4.00/lb copper.

World Copper is a copper developer underpinned by two advanced stage projects—the **flagship Escalones** porphyry-skarn project in Chile and **Zonia** porphyry project in Arizona. Efforts at both projects are focussed on near surface leachable mineralization that provide favourable processing considerations relative to sulphide project counterparts (typically simpler, cleaner, and cheaper). **A PEA pertaining the Escalones is expected to be tabled in the coming weeks, which stands to garner market recognition of the project’s scope potential—stay tuned!**

Bottom line, World Copper offers low cost (mere \$71 MM current market capitalization) exposure to two notable/advanced ‘oxide’ copper development projects located in favourable jurisdictions—arguably at a fraction (order of magnitude differential) of the cost of direct ‘peers’. Furthermore, the leachable nature of both assets translates into a ‘greener’ source of copper relative to sulphide peers (in part noting SX-EW processing is ~38% less carbon intensive per t of refined copper production compared to conventional flotation and smelting)—‘strategic’ consideration further bolstered by a compelling copper ‘macro’ in part driven by the global electrification narrative ([report](#)).

Escalones (Chile) Key Points

- 16,189 ha land package (including exploitation concessions spanning 4,689 ha) located 97 km south of Santiago and near Chile’s West Fissure, a continental-scale structure along which the majority of the country’s copper-molybdenum porphyries occur (35 km east of El Teniente, the world’s largest underground copper mine, and is the same geologic age [Miocene] as El Teniente, Los Bronces, and other deposits in the belt).
- Underpinned by an option agreement to earn a 100% property interest via US\$4.5 MM in cash payments spanning June 30, 2020 to June 30, 2024 (US\$4.0 MM remaining). Said concessions are subject to two 2.0% NSR royalties—one pertaining to exploitation concessions (which encompass the main resource) and one pertaining to exploration concessions (i.e., the distal 3 targets; see below). Each royalty can be re-purchased for US\$3.0 MM within the first 5 years of any production (i.e., a relatively nominal fee that would likely be paid in time to eliminate the royalties).
- Established regional infrastructure including road access, power, proximity to major seaports, and a gas pipeline crossing the property.
- Established exploration camp facilities at 2,400 m elevation (majority of drilling has occurred at 3,200-4,000 m elevation).
- Main porphyry has 24,939 m drilled in 53 ‘historic’ core holes (most recently in 2012-2013; 9,070 m). Near (from) surface copper porphyry mineralization primarily occurs as an oxidized supergene blanket with flanking skarn—spanning a 2.0 by 1.6 km surficial footprint (remains open). Mineralization is centred on a high-standing ridge, which translates into a low strip ratio opportunity; see below)
- **In 2020, World Copper recognized that Escalones’ shallow, higher-grade supergene (enriched) mineralization (located above a ‘historic’ sulphide resource [part of an arguably marginal ~750 MMt ‘global resource’]) is sufficiently oxidized, rendering it mostly acid-soluble and potentially amenable to cost-effective heap-leach SX/EW copper cathode production on site—prompting an ‘oxide’-focussed resource update in August 2021 headlined by 426 MMt (inferred) grading 0.37% copper (0.13% copper cut-off; 0.93:1 strip ratio), noting supergene mineralization extends to ~300 m depth. At 3.4 Blb of contained copper, Escalones is Chile’s largest undeveloped ‘oxide’ project.**
- For comparison, we note Marimaca Copper’s (MARI-TSX; \$317 MM market capitalization; [note](#)), namesake oxide project also located in Chile (albeit at low elevation proximal to a port and other established regional infrastructure) is underpinned by a 113 MMt resource grading 0.57% copper (12-year 2020 PEA open pit mine plan centred on a 40 ktpa cathode operation [processing 131 MMt averaging 0.47% copper including marginal ROM uncrushed material]; US\$1.22/lb C1 copper cash cost and a US\$285 MM initial capital cost).

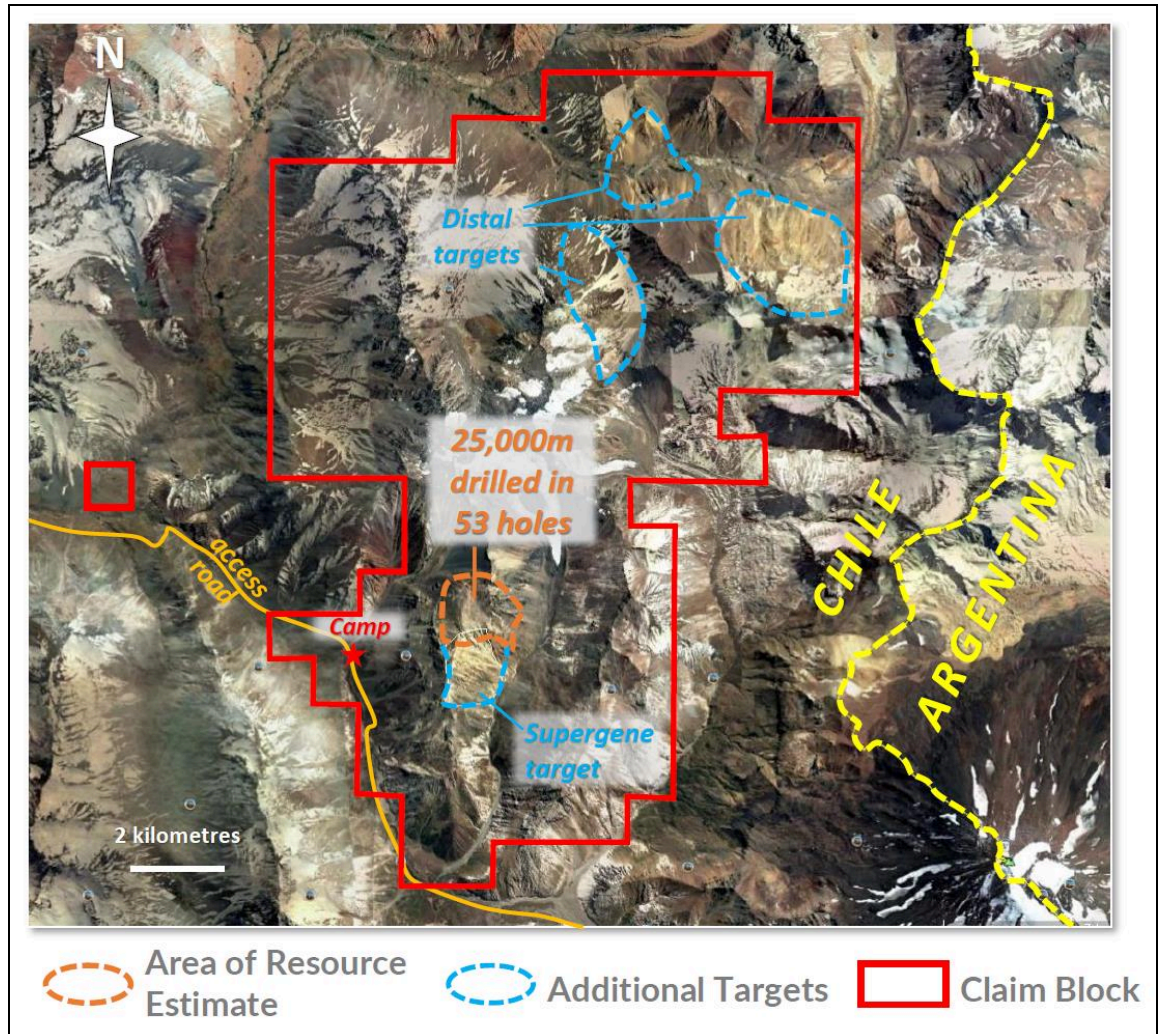
Figure 1: Escalones Location Map



Source: World Copper Ltd.

- Notable copper heap leach mines in Chile:
 - Gaby (Codelco) – 285 MMt reserve grading 0.35% copper and additional 375 MMt resource grading 0.35% copper.
 - Lomas Bayas (Glencore) – 379 MMt M&I grading 0.27% copper and 28 MMt inferred grading 0.21% copper.
 - Zaldivar (Barrick-Antofagasta) – 578 MMt reserve grading 0.52% copper and additional 125 MMt M&I grading 0.44% copper and 37 MMt inferred grading 0.54% copper.
 - Los Bronces (Anglo) – 388 MMt reserve grading 0.33% an additional 46 MMt inferred at 0.28%.
- **Bottom line, Escalones stacks up well to other notable Chilean oxide copper resources and remains open for expansion.**

Figure 2: Escalones Claim Block Map



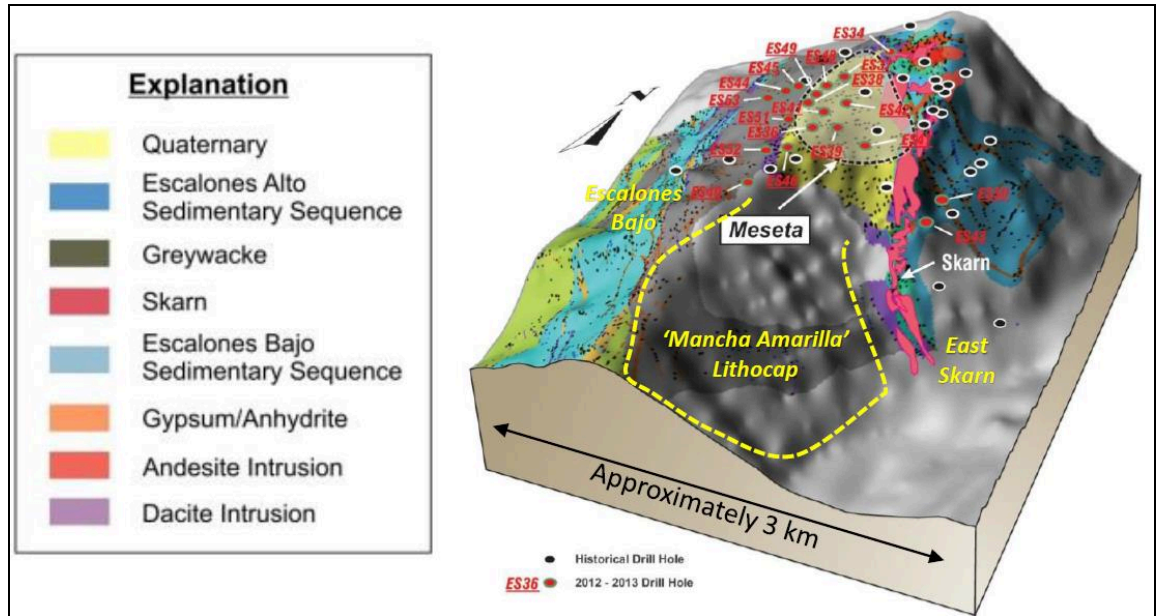
Source: World Copper Ltd.

Figure 3: Escalones Resource Estimate/Sensitivity

Cut-Off Grade (% Cu)	Strip Ratio	Inferred		
		Tonnes	Copper	Contained Copper
		(x '000)	(%)	(M lbs)
0.10	0.77	463,472	0.347	3,541
0.13	0.93	426,198	0.367	3,447
0.15	0.99	412,643	0.374	3,405
0.20	1.21	371,385	0.396	3,245
0.25	1.63	312,692	0.428	2,952

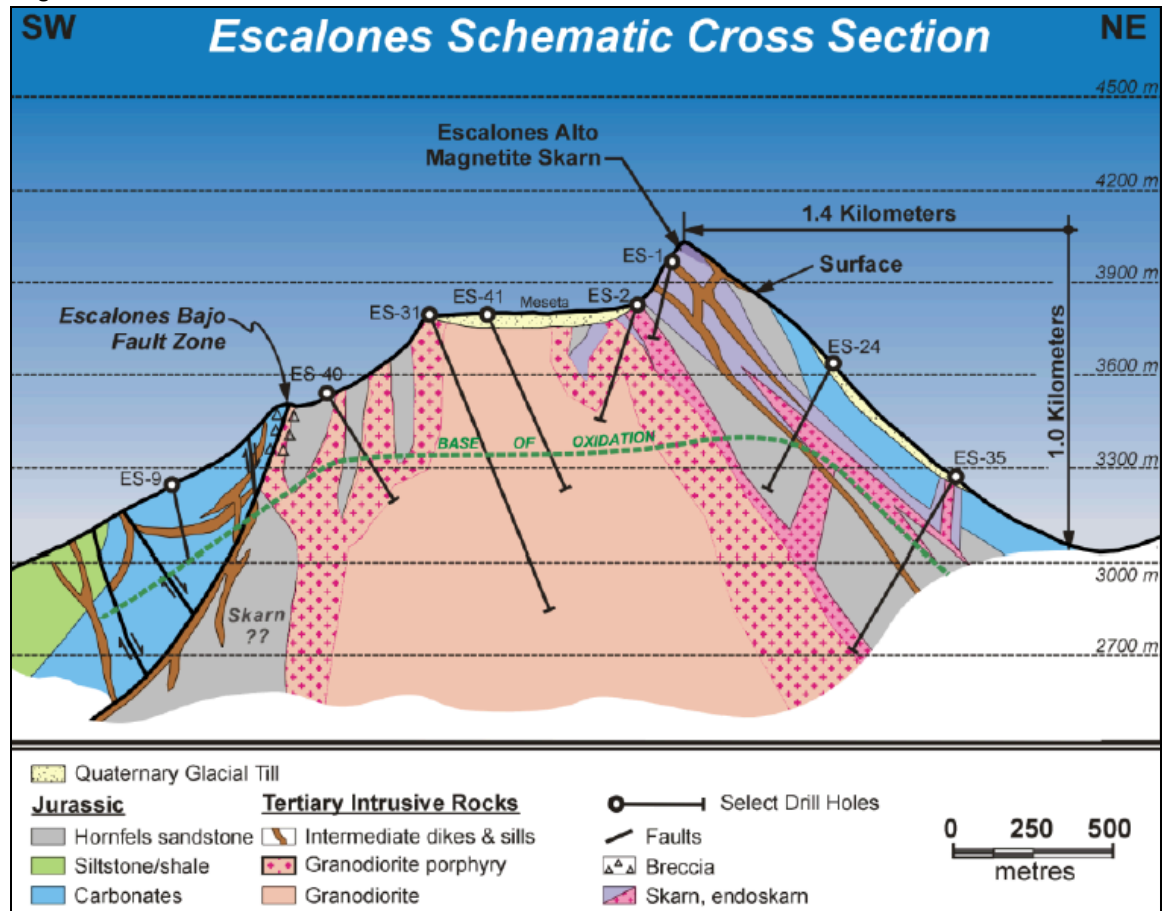
Source: World Copper Ltd.

Figure 4: Escalones Geology Model



Source: World Copper Ltd.

Figure 5: Escalones Schematic Cross Section



Source: World Copper Ltd.

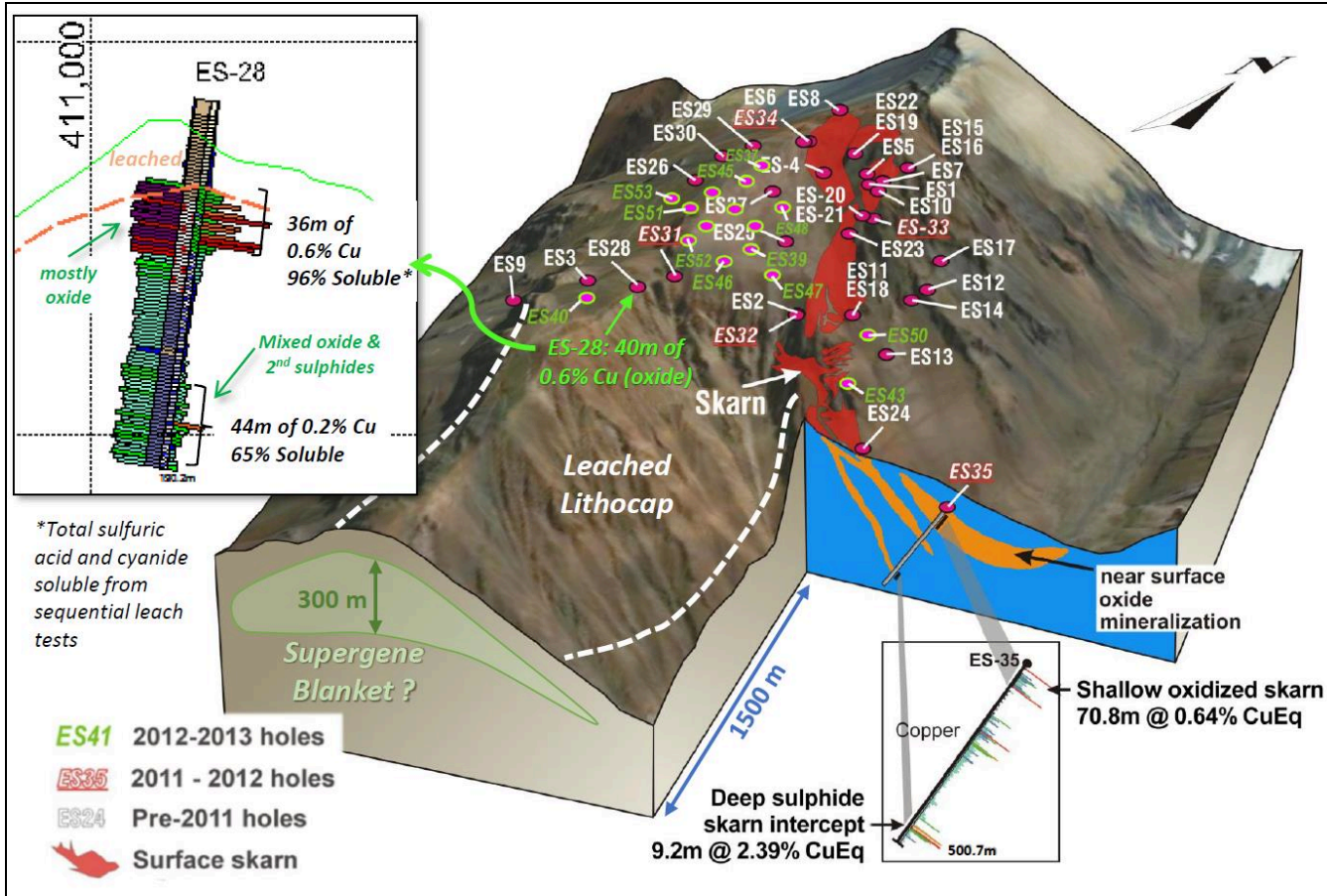
Figure 6: Escalones Panorama (looking south over Meseta; iron-stained Mancha Amarilla below)



Source: World Copper Ltd.

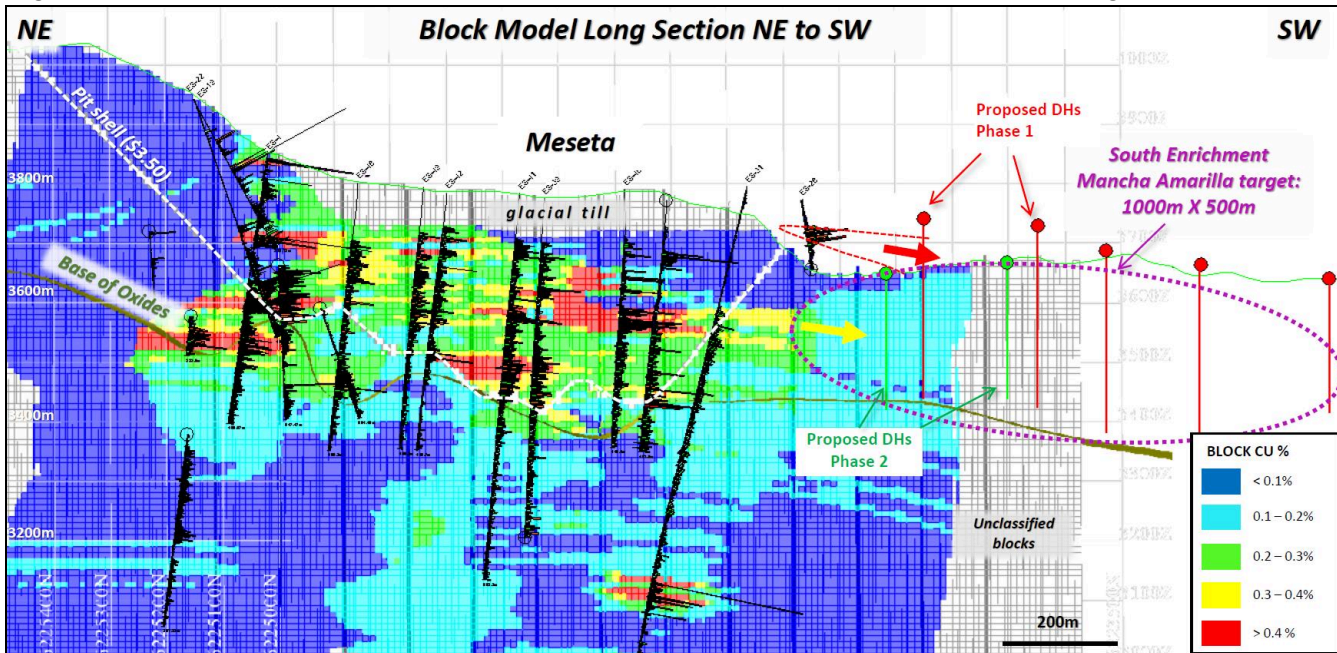
- Favourable initial Escalones metallurgy is headlined by sequential leach test results (1,180 core samples) yielding 71% copper recovery (bulk average for oxide and transitional material; further 'domain' characterization required). Sulphuric acid (the key reagent used to leach copper from 'oxide' ores) consumption remains to be quantified. That said, we would anticipate a figure in the range of 15-25 kg/t given the deposit's predominant porphyry style mineralization (albeit also flanked by carbonate-hosted skarn mineralization).
- **We look to the release of an Escalones PEA in the coming weeks to better gage the project's production profile potential.** That said, in the meantime we would not be surprised to see the deposit's current resource support a ~50 ktpd heap leach SX/EW operation producing ~100 MMlb of copper cathode per annum (possibly higher during the initial years of production focussed on higher grade mineralization) over a ~15-20 year open pit mine life. Based on peer group comparables, an operation of this scale would conceptually entail a ~US\$500 MM initial capital cost and ~US\$1.50/lb C1 copper cash cost profile.
- Next steps:
 - Table maiden PEA on 426 MMt oxide resource (providing market with a quantifiable project scope 'benchmark'; see above).
 - Increase grade and tonnage of resource estimate via additional drilling (only ~half of the main Escalones lithocap [compelling 'Mancha Amarilla' colour anomaly target] has been drilled to date; excellent potential for significant supergene acid-soluble mineralization south of current resource estimate; potential for high-grade skarn extensions along flanks on west and east sides). **Drilling is anticipated to begin next month (funded in part by a current cash balance [~\$3.0 MM at YE/21] and proceeds from the exercise of ITM warrants [also noting said warrant holders have committed to holding shares from the exercise]).**
 - Table updated PEA on an increased oxide resource estimate.
 - Test distal porphyry and skarn targets (three large outlying targets to the north with ASTER gossan and sericite anomalies and only sparse historical surface sampling).
 - We also remain cognizant that Escalones oxide (leachable) mineralization stands to transition to sulphides at depth—potential that offers a blue sky upside opportunity demonstrated by marquee explorer-developer Filo Mining (FIL-TSX; \$1.6 B market capitalization; [note](#)).

Figure 7: Escalones Expansion Targets – South Extension Supergene and Skarns



Source: World Copper Ltd.

Figure 8: Escalones Cross Section – South Extension (Mancha Amarilla) Supergene Potential

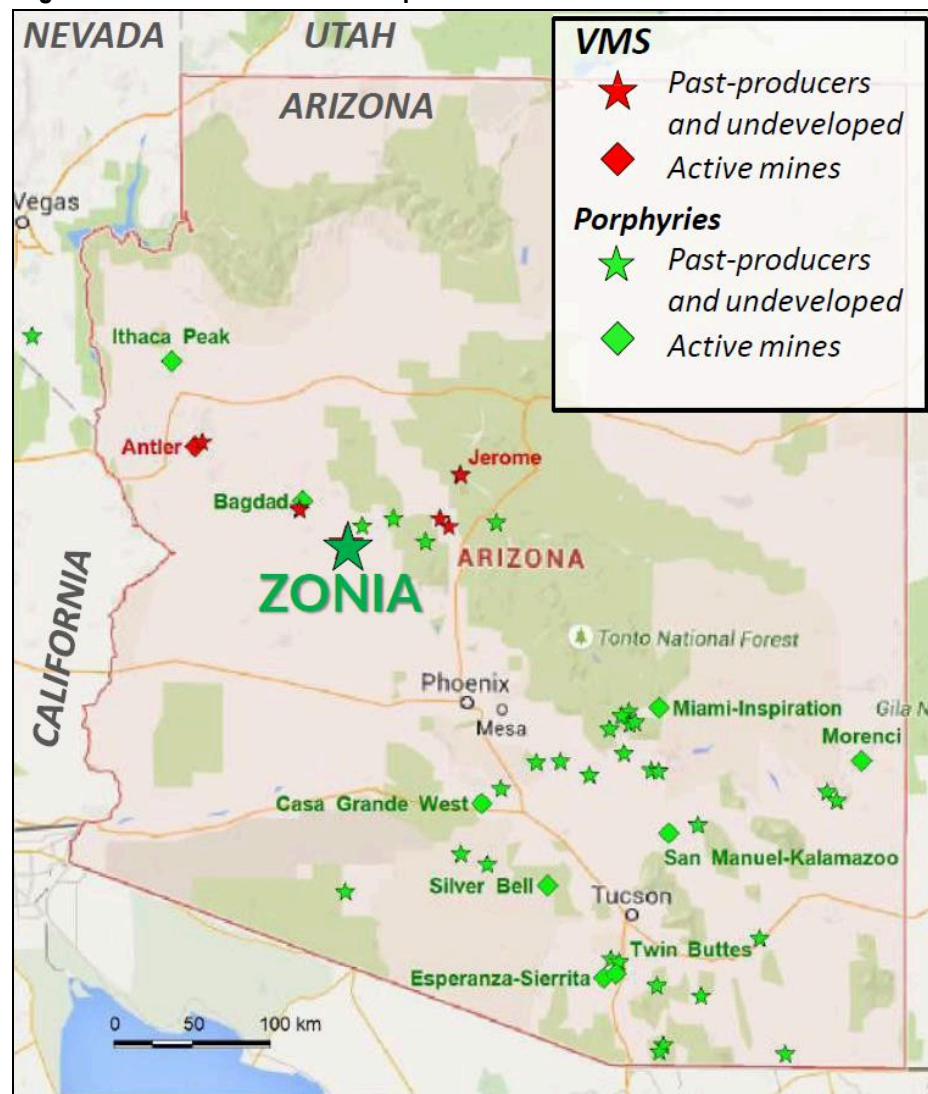


Source: World Copper Ltd.

Zonia (Arizona) Key Points

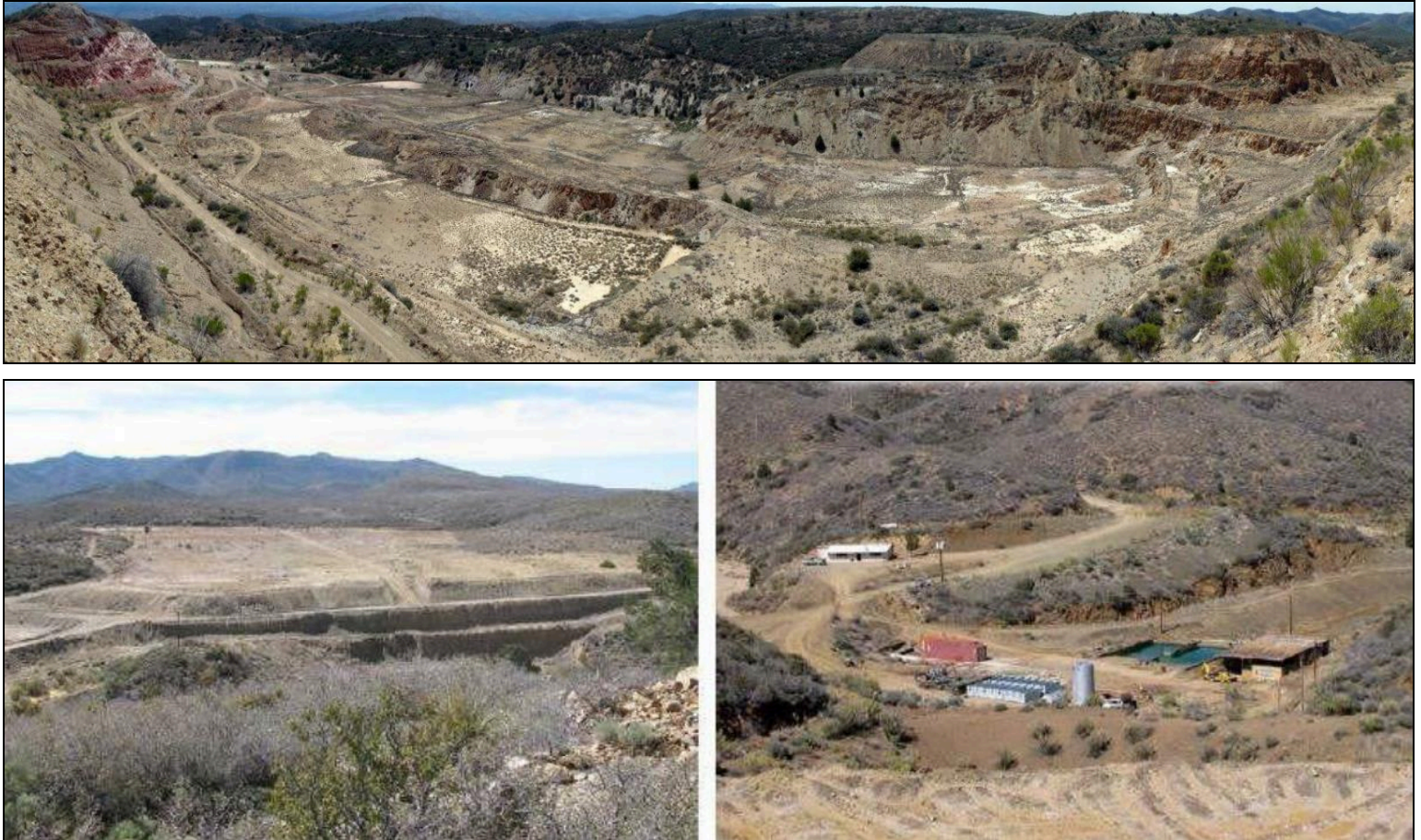
- Recently acquired (100%) via a business combination with Cardero Resources (pre-existing World Copper shareholders hold 60% of the 'pro forma' company; transaction also granted a 1.0% NSR royalty option on Zonia to a controlling shareholder of Cardero that is exercisable within the next year [~\$1.4 MM]; at any point, once exercised, either party may require the royalty's buyback for a fixed sum of 7.0 MM World Copper shares [i.e., effectively a 'warrant'; ~7.0 MM priced at ~\$0.20 per share; exercise of which would leave Zonia unencumbered]).
- Large 4,280 acre property located 100 miles northwest of Phoenix. **Current PEA resource (remains open) and 'Phase 1' production are constrained within 100%-owned private land (i.e., significant permitting advantage; <4 year permitting timeline versus 5-6+ years if on federal lands).**
- Brownfields site (mined in the 1960s and 70s) easily accessible with good infrastructure including a 67 kV powerline starting at a recently upgraded substation 7.5 km from the mine site's entrance and sufficient groundwater availability onsite to support operations.
- Over 50,000 m of drilling in almost 600 drill holes (plus 800 m of underground sampling) define a near-surface copper-oxide resource—namely **77 MMst (M&I) grading 0.33% copper and 27 MMst (inferred) grading 0.28% copper** (0.20% copper cut-off).

Figure 9: Zonia Location Map



Source: World Copper Ltd.

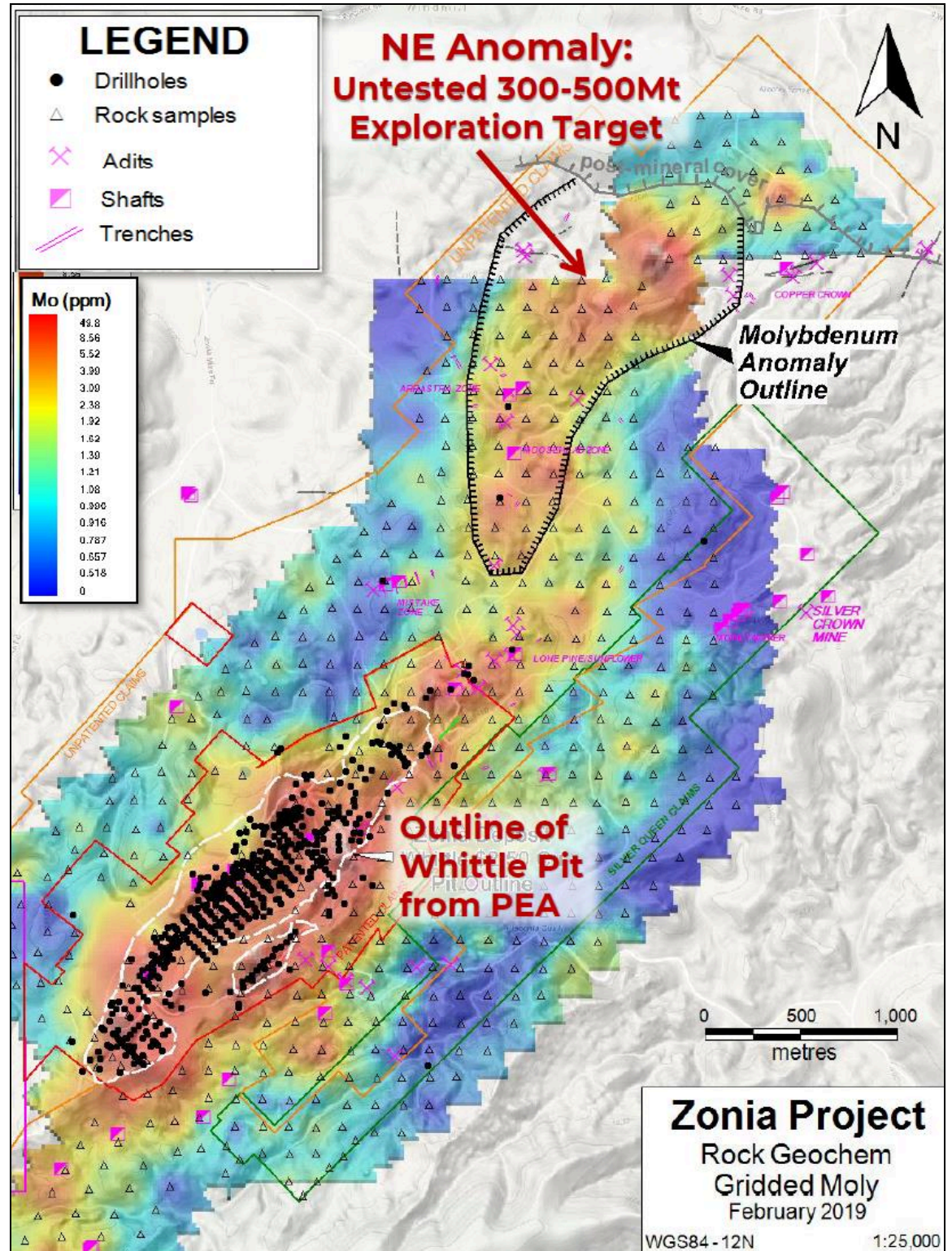
Figure 10: Zonia Historic Open Pit Panorama (top), Leach Pads (left), and Mine buildings (right)



Source: World Copper Ltd.

- Large/coherent (1,500 x 2,000 m; open) geochemical anomaly identified northeast of Zonia’s current resource envelope (same monzonite porphyry host rocks; untested 300-500 MMt target). An exploration permit application has been filed for a 5,000 m drill program spanning BLM and Arizona state land.
- **A March 2018 PEA details an 8.6-year mine plan averaging 49 MMlbpa copper cathode production at a C1 cash cost of US\$1.46/lb. Initial capital costs are pegged at US\$198 MM for the 30 ktpd open pit/heap leach operation (1.0:1 strip ratio; 70-73% copper recovery). Headline economics include a US\$192 MM after-tax NAV8% at US\$3.00/lb copper (increasing to US\$447 MM at US\$4.00/lb copper).**
- Next steps:
 - PEA update (H1/22).
 - Definition drilling in support of PFS/FS efforts (2022).
 - Exploration drilling (northeastern anomaly; see above).
 - Baseline environmental work (~1 year).
 - FS design completion and permitting advancement (late 2022).
- **Bottomline, Zonia adds an advanced-stage ‘second’ project to the World Copper story that offers a sightline to a timely (modest) copper production profile in a favourable jurisdiction (and potential mechanism to fund subsequent development at Escalones)—attributes that arguably justify (on their own) greater value than the company’s current market capitalization relative to peers.**

Figure 11: Zonia Geochemistry Map – Compelling Expansion Potential



Source: World Copper Ltd.

Figure 12: Zonia 2018 PEA Summary

<i>Production Profile/Economics</i>	
Total Tons Leached	93 M
Head Grade	0.30% Cu
Mine Life	8.6 years
Payback Period	2.9 years
Mill throughput	30,000 tpd
Copper Recovery (oxide)	73%
Copper Recovery (transition)	70%
Total Copper Recovered	422 M lbs
Average Annual Production (LOM)	49 M lbs
After-Tax NPV 8%, \$3.00 Cu (base case)	\$192 M
After-Tax 1st Year FCF, \$3.00 Cu	\$100 M
After-Tax NPV 8%, \$4.00 Cu (spot)	\$447 M
After-Tax 1st Year FCF, \$4.00 Cu	\$149 M
<i>Operating Costs</i>	
Mining / Processing / G&A	\$1.46/lb of copper
<i>Capital Requirements</i>	
Initial Capital	\$198 M
Sustaining Capital	\$40.8 M

Source: World Copper Ltd.

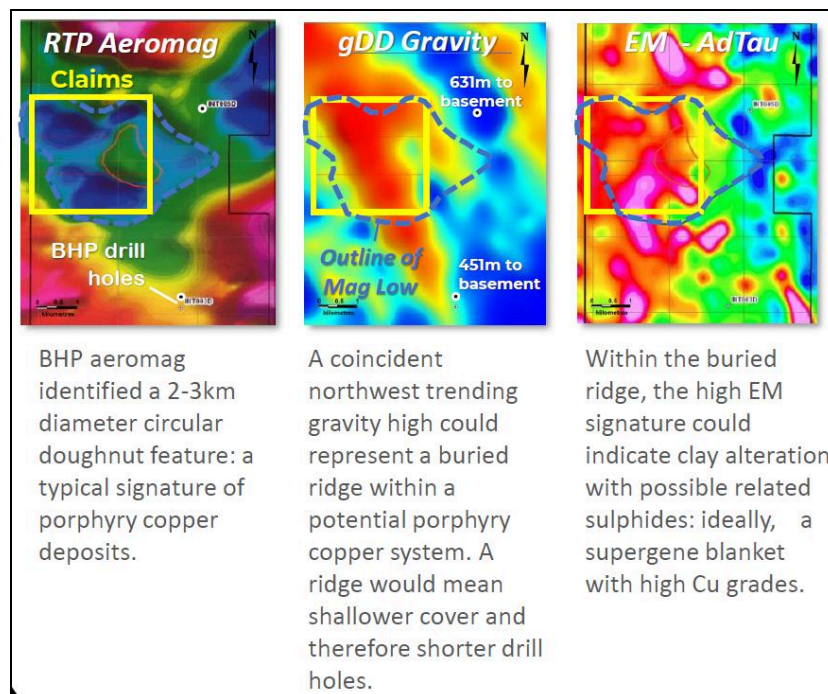
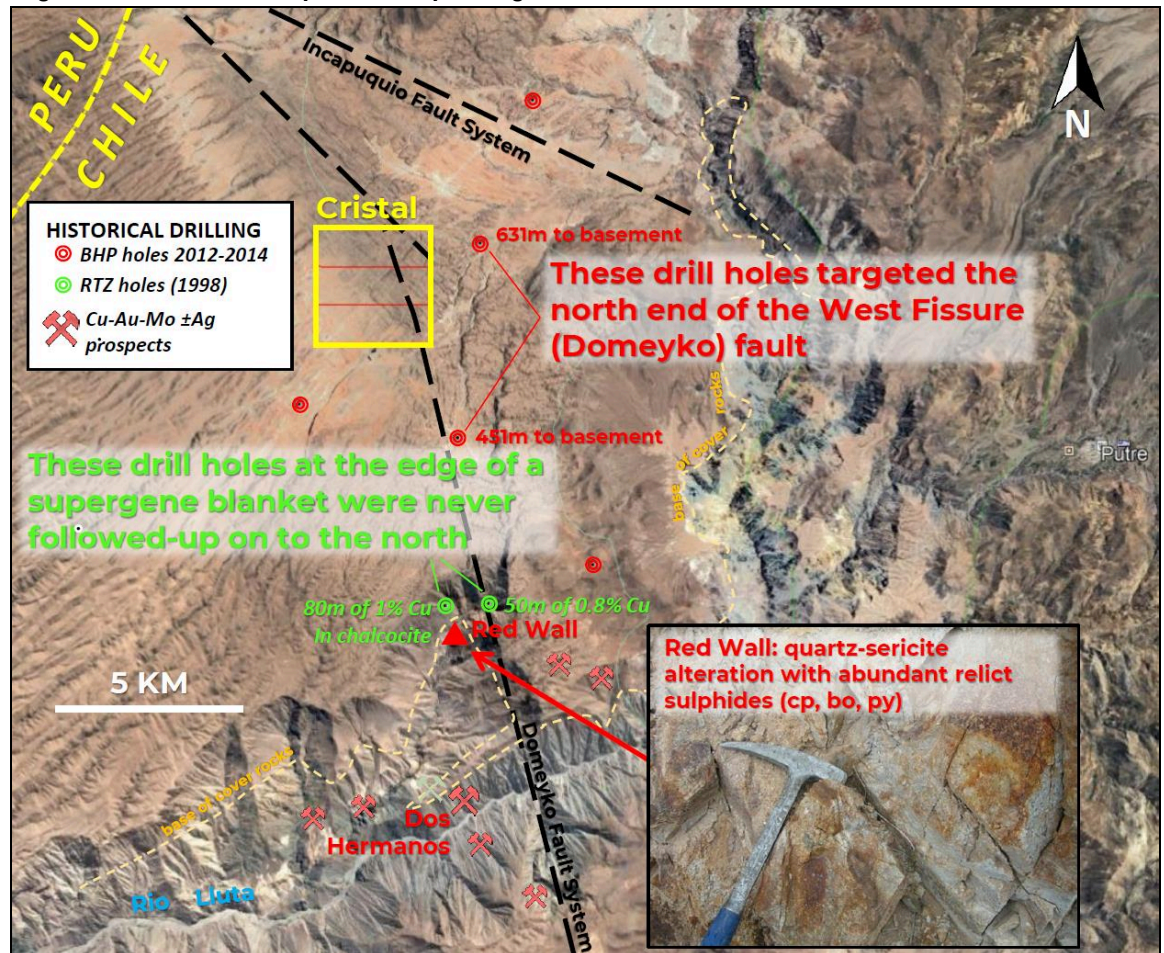
But Wait, There’s More – Cristal (Chile) Key Points

- Grassroots exploration project (9 km² concession) located on public lands in northern Chile.
- Compelling untested play on regional structure—namely the intersection of the Domeyko (northern end of the West Fissure; see above) and Incapuquio fault systems in an area underpinned by notable airborne geophysical signatures (historic [2012-2014] BHP surveys that received limited follow-up drilling) suggestive of a buried copper porphyry system (noting historic exploration in the area focussed on the Rio Lluta valley to the south, which provides an ‘erosional’ window through post-mineral volcanic cover).
- Project surrounded by large land positions held by several majors.
- ~\$1.0-1.5 MM ‘proof-of-concept’ drill program planned this year (4-6 holes extending to 500-1,000 m depth).

Leadership

- CEO: Nolan Petersen (metallurgy and finance background; TMAC)
- Chair: Henk van Alphen (Corriente, Cardero, Trevali, Balmoral, International Tower Hill)
- Other Notables: Marcelo Awad (Director; Codelco, Antofagasta), Roberto Freraut (Director; Codelco), Patrick Burns (President; discovered Escondida and Zaldivar)
- Major Shareholders: Wealth Minerals (24%), Insiders (+25%)

Figure 13: Cristal Maps – Compelling Grassroots Potential



Source: World Copper Ltd.

Figure 14: Copper Oxide Development Project Comparison

Company	World Copper (WCU-TSXV)		Arizona Sonoran (ASCU-TSX)	Marimaca Copper (MARI-TSX)	Filo Mining (FIL-TSX)	Granite Creek Copper (GCX-TSXV)	Copperbank (CBK-CNQ)
Market Capitalization, C\$ MM	\$71		\$133	\$317	\$1,557	\$20	\$77
Project	Escalones		Cactus	Marimaca	Filo del Sol	Carmacks	Contact
Location	Chile	Zonia	Arizona	Chile	Chile/Argentina	Yukon	Nevada
Status	Resource	PEA	PEA	PEA	PFS	PEA	PFS
Study Date	August 2021	April 2018	August 2021	August 2020	January 2019	February 2017	October 2013
Proven & Probable Reserve							
Oxide/Enriched Reserve, MMt	-	-	-	-	259	-	128
Oxide/Enriched Reserve Copper Grade, % (CuT / CuS)	-	-	-	-	0.39% / -	-	0.22% / -
Primary Reserve, MMt	-	-	-	-	-	-	-
Primary Reserve Copper Grade, % (CuT)	-	-	-	-	-	-	-
Measured & Indicated Resource (reserve inclusive)							
Oxide/Enriched Resource, MMt	-	70	67	70	350	16	65
Oxide/Enriched Resource Copper Grade, % (CuT / CuS)	-	0.33% / -	- / 0.72%	0.60% / 0.39%	0.34% / -	0.94% / 0.74%	0.20% / -
Primary Resource, MMt	-	-	70.6	-	76	8	-
Primary Resource Copper Grade, % (CuT)	-	-	0.35%	-	0.27%	0.68% / 0.05%	-
Inferred Resource							
Inferred Oxide/Enriched Resource, MMt	426	25	177	43	104	1	12
Inferred Oxide/Enriched Resource Copper Grade, % (CuT / CuS)	0.37% / -	0.28% / -	0.62% / 0.31%	0.52% / 0.31%	0.26% / -	0.45% / 0.30%	0.20% / -
Inferred Primary Resource, MMt	-	-	101	-	71	8	-
Inferred Primary Resource Copper Grade, % (CuT)	-	-	0.38%	-	0.30%	0.63% / 0.03%	-
Timing							
Metal Production Start-Up, year	-	-	-	-	-	-	-
Mine Life (excl. pre-production), years	-	9	18	12	14	7	9
Mine Type	-	Open Pit	Open Pit / Underground / Stockpile	Open Pit	Open Pit	Open Pit	Open Pit
Mill Type	-	3-Stage Crushing, Agglomeration, Heap Leach / SX-EW	Heap Leach / SX-EW	Heap Leach + ROM Leach / SX-EW	2-Stage Heap Leach / SX-EW + Merrill-Crowe + SART	Primary Crush/Grind + Copper/Gold Leaching / SX-EW + ADR	2-Stage Crushing, Heap Leach / SX-EW
Production (100% Basis)							
Open Pit Strip Ratio	-	0.6	1.5	0.8	1.5	5.1	2.3
Ore Milled, MMt	-	84	162	131	259	12	128
Nameplate Copper Cathode Production Capacity, tpa	-	27,216	36,287	40,000	-78,000	-16,000	37,195
LOM Average Copper Head Grade, % (CuT)	-	0.30%	-	0.58%	0.39%	0.98%	0.22%
LOM Average Copper Head Grade, % (CuS)	-	-	0.36%	-	-	0.81%	-
LOM Total Copper Recovery, %	-	73% (Oxide) / 70% (Transition)	-	70%	80%	86%	76%
LOM Net Copper Recovery, %	-	-	79%	-	-	-	-
LOM Average Annual Copper Cathode Production, MMlb	-	49	56	79	148	30	50
Total Copper Cathode Production, MMlb	-	422	1,029	945	1,750	213	462
Total Copper Equivalent Production, MMlb	-	422	1,029	945	3,305	285	462
Operating Costs							
LOM Average On-Site Operating Cost, US\$/t processed	-	\$7.32	\$9.31	\$8.68	\$14.19	\$35.45	\$6.23
LOM Average C1 Copper Cash Cost, US\$/lb (by-product)	-	\$1.46	\$1.55	\$1.22	-	\$1.08	\$1.73
LOM Average C1 Copper Cash Cost, US\$/lb (co-product)	-	\$1.46	\$1.55	\$1.22	\$1.23	-	\$1.73
LOM Average Copper AISC, US\$/lb	-	\$2.06	\$1.88	\$1.29	-	\$1.16	\$2.00
Capital Costs (100% basis)							
Initial Capital Cost, US\$ MM	-	\$198	\$124	\$285	\$1,266	\$188	\$189
LOM Total Capital Cost (initial, sustaining & closure), US\$MM	-	\$239	\$558	\$351	\$1,534	\$206	\$315
Project Valuation (100% basis)							
Long-term Forecast Copper Price, US\$/lb	-	\$3.00	\$3.35	\$3.15	\$3.00	\$2.50	\$3.20
Project NAV Discount Rate, %	-	8%	8%	8%	8%	8%	8%
After-Tax Project NAV, US\$ MM	-	\$177	\$312	\$524	\$1,280	\$(11)	\$107
After-Tax Project IRR, %	-	29%	33%	34%	23%	7%	26%

Source: Cormark Securities Inc. (after company reports)

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