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# Invest in Sustainability

Developing an Arizona Copper Mine to Supply the Energy Transition

Precious Metals Summit 2023



ARIZONA SONORAN  
COPPER COMPANY

# Cautionary Information

This presentation (“Presentation”) is being furnished on a confidential basis in order to provide readers certain information with respect to the business and operations of Arizona Sonoran Copper Company Inc. (the “Company” or “ASCU”).

This presentation contains forward-looking information within the meaning of applicable Canadian and United States securities legislation. All information contained in this presentation, other than statements of current and historical fact, is forward-looking information. Often, but not always, forward-looking information can be identified by the use of words such as “plans”, “expects”, “budget”, “guidance”, “scheduled”, “estimates”, “forecasts”, “strategy”, “target”, “intends”, “objective”, “goal”, “understands”, “anticipates” and “believes” (and variations of these or similar words) and statements that certain actions, events or results “may”, “could”, “would”, “should”, “might” “occur” or “be achieved” or “will be taken” (and variations of these or similar expressions). All of the forward-looking information in this presentation is qualified by this cautionary note.

Forward-looking information is not, and cannot be, a guarantee of future results or events. Forward-looking information is based on, among other things, opinions, assumptions, estimates and analyses that, while considered reasonable by the company at the date the forward-looking information is provided, inherently are subject to significant risks, uncertainties, contingencies and other factors that may cause actual results and events to be materially different from those expressed or implied by the forward-looking information. The risks, uncertainties, contingencies and other factors that may cause actual results to differ materially from those expressed or implied by the forward-looking information are described under the heading “Risk Factors” in the ASCU Final prospectus dated November 9, 2021 and filed on SEDAR, and recent financial disclosures. Should one or more risk, uncertainty, contingency or other factor materialize or should any factor or assumption prove incorrect, actual results could vary materially from those expressed or implied in the forward-looking information. Accordingly, you should not place undue reliance on forward-looking information. ASCU does not assume any obligation to update or revise any forward-looking information after the date of this presentation or to explain any material difference between subsequent actual events and any forward-looking information, except as required by applicable law. This presentation contains certain financial measures which are not recognized under IFRS, such as cash cost, sustaining and all-in sustaining cash cost per pound of copper. For a detailed description of each of the non-IFRS financial performance measures used in this presentation, please refer to ASCU’s management’s discussion and analysis for the nine months ended September 30, 2021 available on SEDAR at [www.sedar.com](http://www.sedar.com). All amounts in this presentation are in U.S. dollars unless otherwise noted.

## Technical Information

The scientific and technical information in this Presentation, other than in respect of metallurgy, was prepared under the supervision of Mr. Allan Schappert, Stantec. The scientific and technical information in this Presentation in respect of metallurgy was prepared under the supervision of Dr. Martin Kuhn, MAG. Each of Mr. Allan Schappert and Dr. Martin Kuhn is a Qualified Person as defined by National Instrument 43-101—Standards of Disclosure for Mineral Projects.

The potential quantity and grade presented in the Exploration Target ranges are conceptual and have insufficient exploration and drill density to define a Mineral Resource. At this stage, it is uncertain if further exploration will result in the targets being delineated as a Mineral Resource. Estimates of exploration targets are not Mineral Resources and are too speculative to meet the NI 43-101 reporting standards.

ASCU has conducted extensive exploration work to delineate the exploration target contained in this presentation. This work includes analysis and interpretations from four historical and the two recently drilled core holes into the project, similarities of mineralization intercepted to that of the adjacent Cactus project (for mineralization and alteration characteristics, and grade architecture), and review of geophysical and surface ionic leach programs to support realistic target ranges for extent, thickness, and grade. The Exploration Target ranges assume an underground target for exploration purposes.

## Peers

The comparable information about other issuers was obtained from public sources and has not been verified by the Company. Comparable means information that compares an issuer to other issuers. The information is a summary of certain relevant operational and valuation attributes of certain mining and resource companies and has been included to provide the prospective investor an overview of the performance of what are expected to be comparable issuers. The comparables are considered to be an appropriate basis for comparison with the Company based on their industry, size, operating scale, commodity mix, jurisdiction, capital structure and additional criteria. The comparable issuers face different risks from those applicable to the Company. Investors are cautioned that there are risks inherent in making an investment decision based on the comparables, that past performance is not indicative of future performance and that the performance of the Company may be materially different from the comparable issuers. If the comparables contain a misrepresentation, investors do not have a remedy under securities legislation in any province in Canada. Accordingly, investors are cautioned not to put undue reliance on the comparables in making an investment decision.

# Developing the Next Copper Mine on Private Land in Arizona

To reach the Net Zero emissions goal, 9.7Mt of new copper supply to be added over the next decade. Meaning US\$23B investment per year will be needed over 30 years to deliver new copper projects to reach zero-carbon targets. – Wood Mackenzie, 2023

## High Quality Project

Low-geopolitical risk

Brownfields porphyry copper project, SX/EW

Water and surface rights

Top tier jurisdiction

## Growth-focused

Base-case economics on Cactus and Parks/Salyer

Exploration upside

Primary sulphide optionality

## Experienced Management

A proven track record of delivering successful mining projects

The team takes an environmental and socially conscious approach to project development

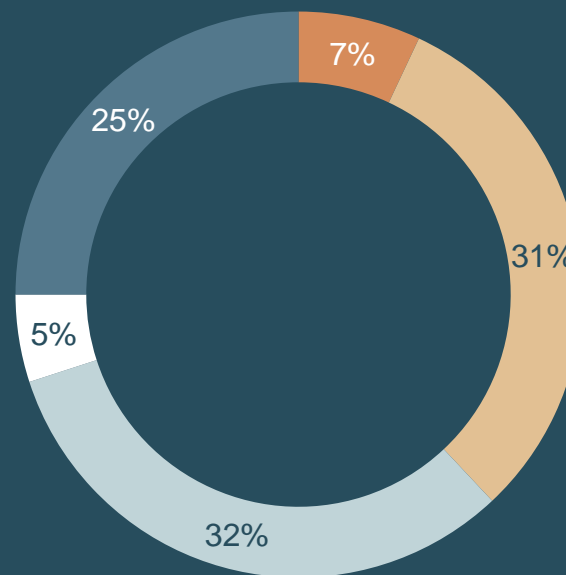
# Capital Structure & Ownership

## CAPITAL STRUCTURE

Market Capitalization	C\$175M
Shares Outstanding (M)	109.0
Warrants (M)	2.5
Options (M)	5.6
RSU's (M) <sup>(1)</sup>	0.2
DSU's (M)	0.5
Fully Diluted Share Capital (M)	117.9
Cash as at Aug 14, 2023	US\$18M
Debt	Debt Free

Notes:  
 (1) RSUs may be issued in shares or cash

## OWNERSHIP



- Rio Tinto
- Tembo
- Institutional
- Management
- Retail

**Including:**  
 Beedie Capital  
 Delbrook  
 Konwave  
 Macquarie  
 Ixios  
 US Global  
 Russell Investment Mgmt  
 Palos Management  
 Empire Life  
 Sentry  
 TBF Global AM  
 Sprott COPJ ETF

## ANALYST COVERAGE



# Management Team with Track Record of Execution



**George Ogilvie, P.Eng.**  
PRESIDENT, CEO & DIRECTOR

+30 years of management, operating and technical experience in the mining industry. Previously **President & CEO of Battle North (sold to Evolution Mining), CEO of Kirkland Lake, and CEO of Rambler Metals**



**Bernie Loyer**  
SVP Projects

+35 years building and delivering large scale mining projects. Prior positions at **SolGold (Cascabel), Goldcorp (Penasquito and Cerro Negro), Torex Gold (Morelos and Media Luna), BHP (Escondida) and at FLSmidth Minerals.**



**Nick Nikolakakis, BSc, MBA**  
VP FINANCE AND CFO

+27 years of North American executive mining finance experience. Former **VP Finance and CFO of Battle North, Rainy River and Placer Dome, VP Corporate Finance at Barrick and other positions at North American Palladium and BMO Nesbitt Burns.**



**Rita Adiani, LLB Hons**  
SVP STRATEGY & CORPORATE DEVELOPMENT

+16 years of mining experience across strategy & business development, investment banking and corporate law. Previously **EVP and Head of Business Development at Xiana Mining, MD at NRG Capital Partners, VP at Societe Generale and Senior Corporate Finance Manager at La Mancha**



**Doug Bowden, MSc.**  
VICE PRESIDENT, EXPLORATION

+40 years mining experience throughout North America and Mexico. Responsible for managing exploration programs for Amselco, BP Minerals, Kennecott and Western Uranium. **Senior executive positions held at Gold Summit Corporation, Western Uranium and Concordia**



**Travis Snider, B.Sc, Env Chem, SME**  
VICE PRESIDENT, SUSTAINABILITY & EXTERNAL RELATIONS

+20 years experience in the mining industry in Arizona. Previously **Mining Project Manager at Engineering & Environmental Consultants, SVP of Operations for Sierra Resource Group and VP of Mining & Oil operations for Wilcox**



**Alison Dwoskin, CPIR**  
DIRECTOR, INVESTOR RELATIONS

+15 years in investor relations. **Formerly Manager, Investor Relations of Klondex Mines and Eastmain Resources.** Began her career at a Toronto-based IR firm, broadly specializing in mining

## STRONG SPONSOR SUPPORT

**RioTinto**

- Global leading diversified metals and mining company with operations in 35 countries.
- Innovating technologies to advance the mining industry
- Shareholder since 2022

## TEMBO CAPITAL

- Private equity fund investing in junior and mid-tier mining companies, with low cost, quality assets managed by high caliber teams
- Shareholder since 2020



Toronto  
Corporate  
Office



Arizona  
Corporate  
Office/Site

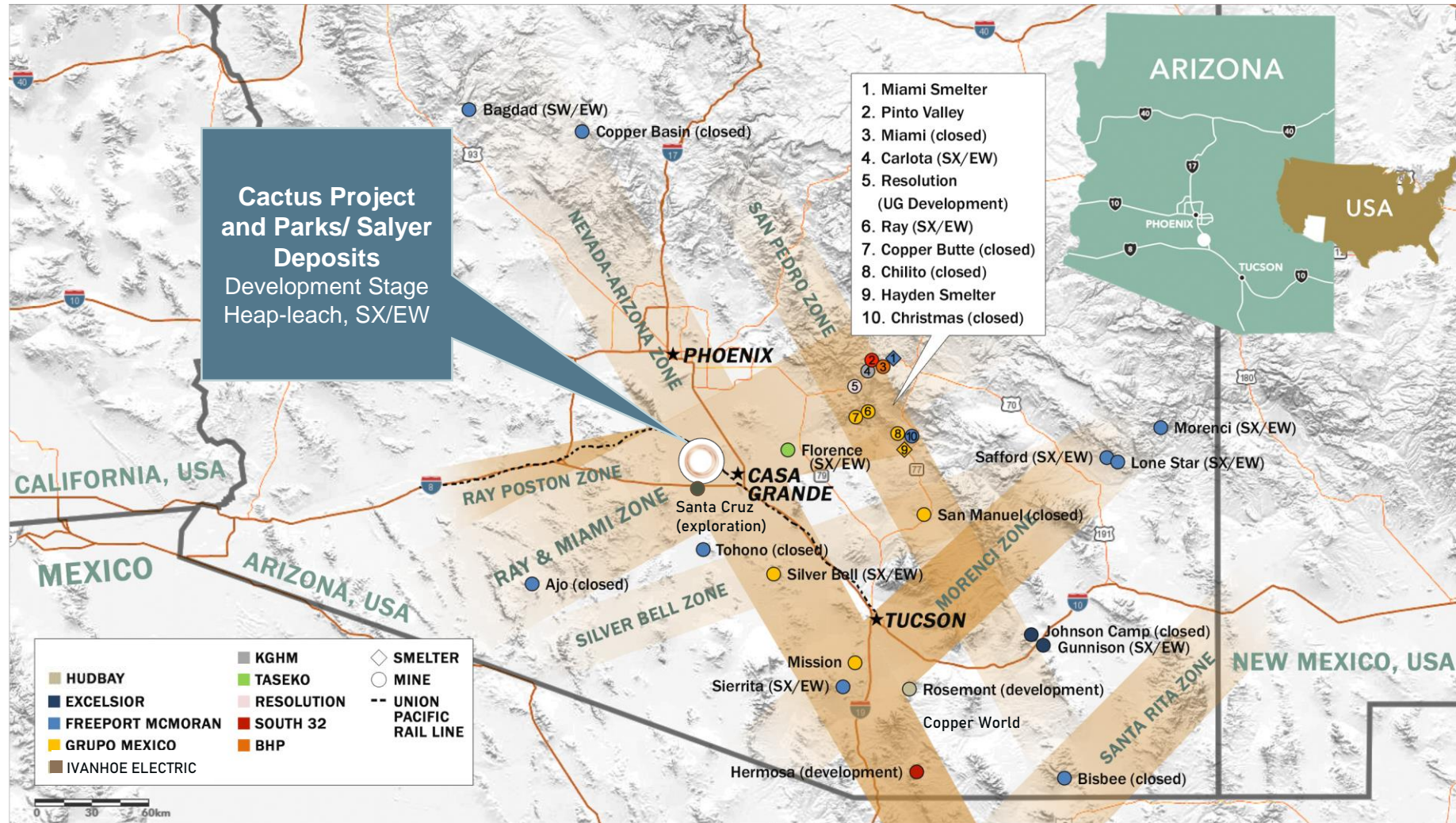


## Location Advantage

5,370 acres on a brownfield's property  
+\$30M in place infrastructure

# Low Geopolitical Risk and Community Support

Centrally located for Accessible Infrastructure and Skilled Labour-force



Arizona is the **USA's leading copper-producing state** which accounted for **70%** of domestic output of copper in 2022<sup>(1)</sup>



Arizona ranked **No. 7** for the year 2022 in Fraser Institute's Investment Attractiveness Index<sup>(2)</sup>

Notes: (1) USGS Copper Data Sheet- Mineral Commodity Summaries 2023 (2) Fraser Institute Annual Survey of Mining Companies 2021, available at [www.fraserinstitute.org](http://www.fraserinstitute.org)

# A Clear Path to Development with Major Permits in Place

## COMPLETED PERMITS

Permit		Permit Office
<b>Air Quality Dust Permit</b>		Pinal County
<b>Arizona Pollution Discharge Elimination System (402) (SWPPP)</b>	★	ADEQ
<b>Water Rights</b> Use up to 3,800 acre-ft / yr	★	ADWR
<b>Aquifer Protection Permit</b> For Stockpile Project	★	ADEQ
<b>General Plan Amendment</b> Including development agreement and city zoning change from residential to industrial	★	Casa Grande
<b>Aquifer Protection Permit</b> Major amendment	★	ADEQ
<b>Mined Lands Reclamation Permit (MLRP)</b>	★	Arizona State Mine Inspector
<b>Industrial Air Permit</b>	★	Pinal County

★ Indicates major permit

## OUTSTANDING PERMITS – STREAMLINED PROCESS

Permit	Permit Office	Status
<b>Reclamation Bond</b>	AZ State Mine Inspector	Application post-PFS
<b>Radio Station License, Wireless Communication</b>	FCC	
<b>Notice of Intent to Clear Land</b>	AZ Department of Agriculture	Required pursuant to a construction decision
<b>Mining Construction Permits</b>	Pinal County	
<b>Above-Ground Tank Storage</b>	ADEQ	
<b>State Notice of Startup/Miner Registration Number</b>	AZ State Mine Inspector/MSHA	

Major permits are now in place, based on the Cactus PEA. Amendments may be required for certain permits based on the upcoming PFS

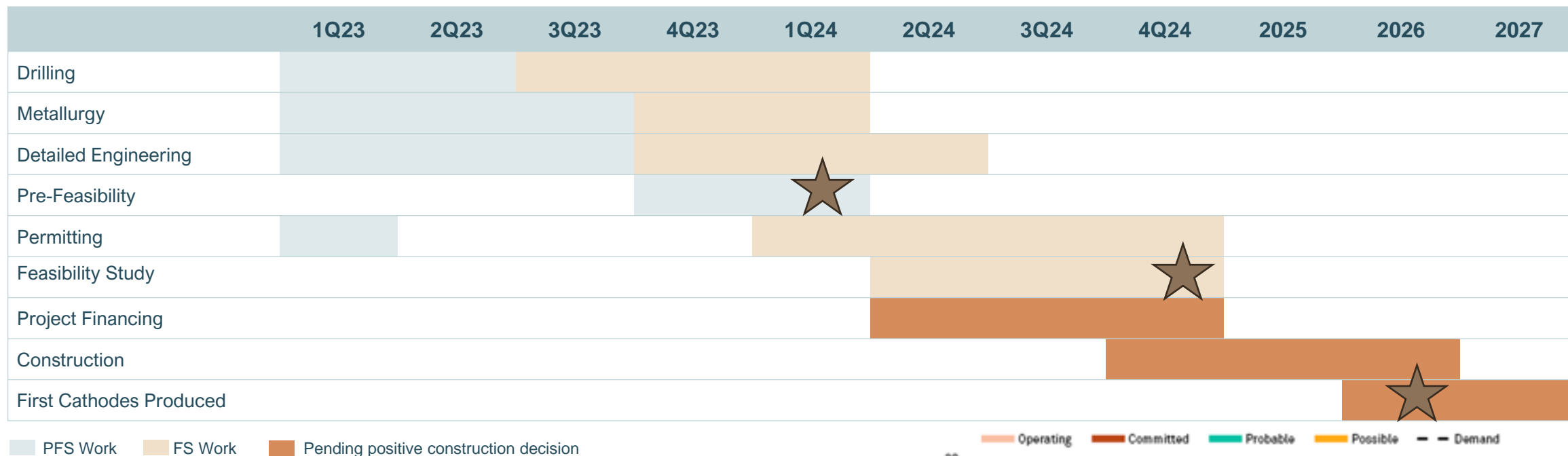




ECN-128 Oxide

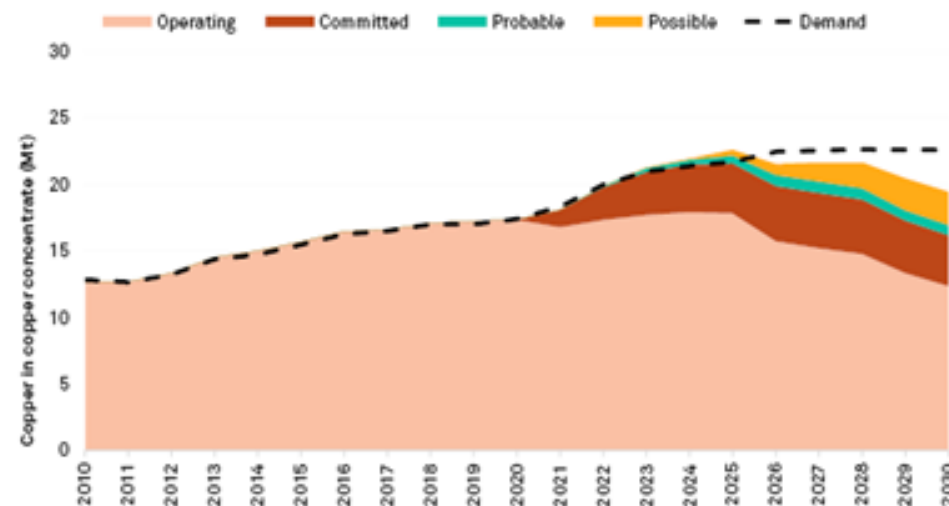
ASCU PFS Base Case

# Targeting First Cathodes in 2026 - Quick Path to Development



## Timing is everything. In 2026:

- ASCU anticipates first cathodes (based on positive construction decision)
- Long-term copper price is predicted to exceed \$4.00 / lb
- Copper supply is set to fall into deficit



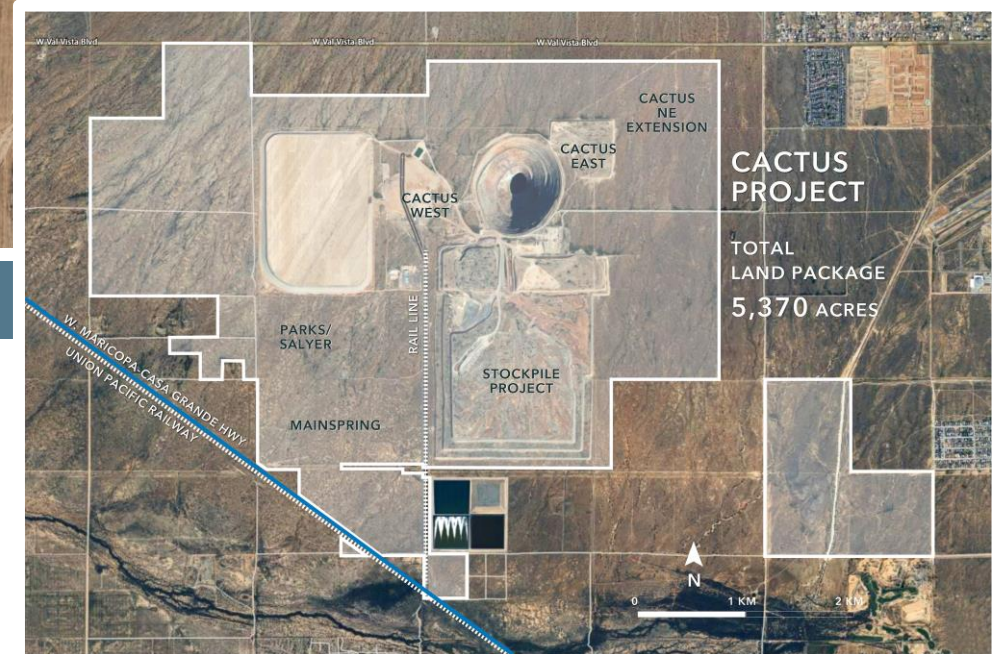
Source: S&P, 2021

# Brownfield Site – Water rights and Surface Rights



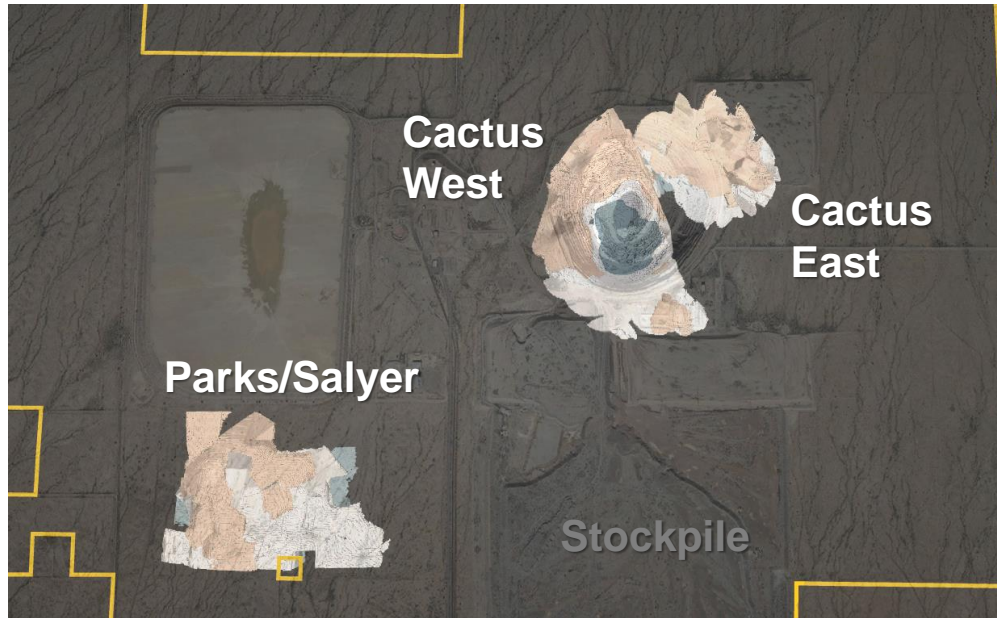
## Infrastructure Valued at +\$30M

- Offices, core shack and ancillary buildings
- Power substation
- Onsite metallurgical testing
- Water wells and water pond permitted
- Permitted water access to the year 2070
- Rail line (to ship concentrate to refinery)
- Stockpile (part of Integrated Cactus PEA)
- Vent raise, shaft and underground workings (has not been upgraded)



# Large Scale Porphyry Copper Mineral Resource Estimate

Close Proximity of Deposits



Porphyry copper deposits  
 Private land, brownfields mine site  
 Water rights (up to 3,800 ac ft./yr) and onsite wells  
 Exploration potential along mine trend

### PFS Expected Q1 2024, programs include:

- Infill to indicated drilling program - *complete*
- Metallurgy – *ongoing*
- Permitting – *next applications will be based on the PFS*

FS infill to measured drilling has begun

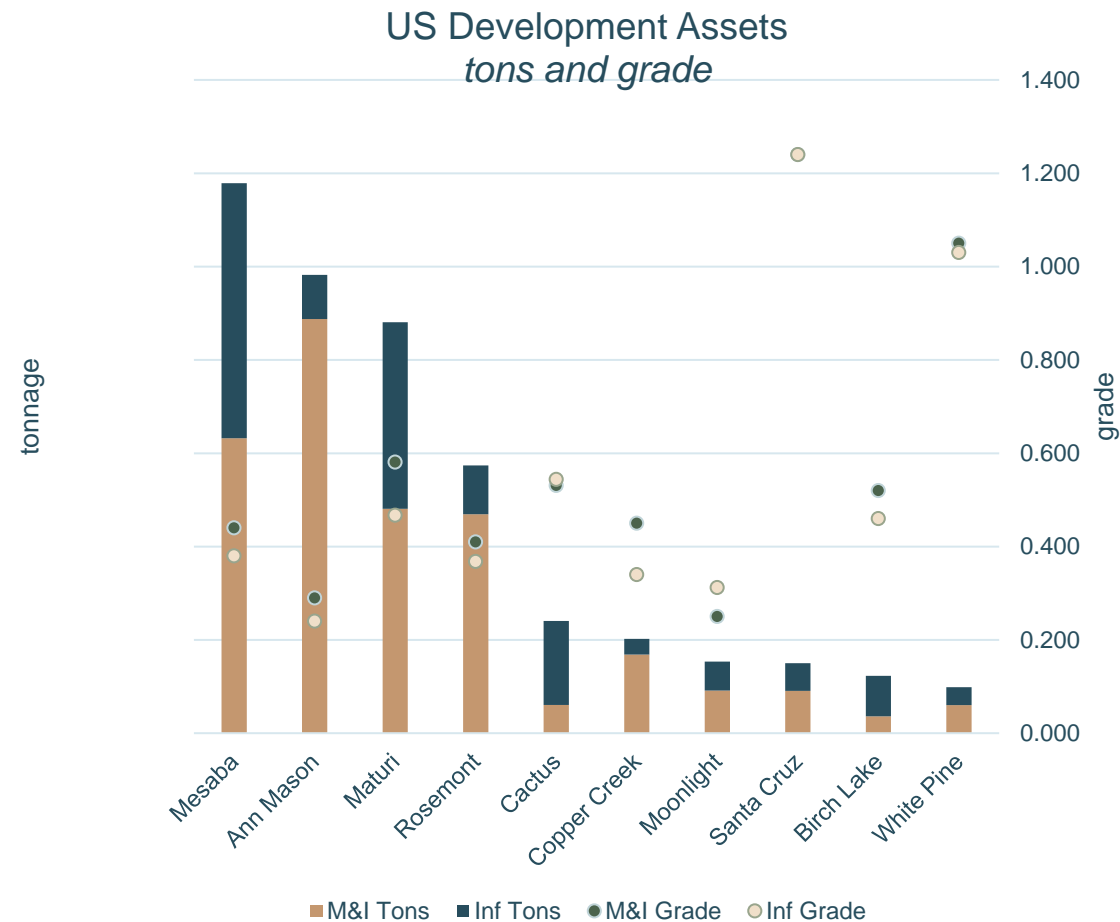
## OXIDE AND ENRICHED MINERAL RESOURCE

Total Leachable Resource		Parks/Salyer		Underground (CE)		Stockpile		Open Pit (CW)	
Indicated	1.1 B lbs	<i>Updating for PFS (expecting high conversion)</i>		146,200 Klbs 7.7 Mtons	<b>0.954% Cu TSol</b>	<i>Updating for PFS</i>		919,700 Klbs 66.2 Mtons	<b>0.696% Cu TSol</b>
Inferred	3.6 B lbs	2,460,900 Klbs 115.4 Mtons	<b>1.066% Cu TSol</b>	315,700 Klbs 17.9 Mtons	<b>0.881% Cu TSol</b>	223,500 klbs 77.4 Mtons	<b>0.144% Cu TSol</b>	672,100 Klbs 99.7 Mtons	<b>0.334% Cu TSol</b>

# Few Quality Development Assets in the USA

- ASCU shows well among independent developers and assets owned by major miners
  - MRE grade of 0.53% TCu (M&I) exceeds most current Cu deposits in the US
  - Cactus West – OP layback
  - Cactus East and Parks/Salyer – UG deposits mineralization begins at a depth of approximately 300 m (1,000 ft)

Project	Company	M&I tons	Inf tons
Mesaba	Teck Resources Limited	1,580,600,000	1,366,300,000
Ann Mason	Hudbay Minerals Inc.	2,219,000,000	237,000,000
Maturi	Antofagasta plc	1,202,800,000	998,900,000
Rosemont	Hudbay Minerals Inc.	1,173,000,000	262,000,000
<b>Cactus</b>	<b>Arizona Sonoran Copper Company</b>	<b>151,800,000</b>	<b>449,900,000</b>
Copper Creek	Faraday Copper Corp.	421,900,000	83,600,000
Moonlight	US Copper Corp.	228,610,554	155,400,746
Santa Cruz	Ivanhoe Electric Inc.	226,715,000	148,998,000
Birch Lake	Antofagasta plc	90,400,000	217,000,000
White Pine	Highland Copper Company	150,700,000	96,400,000



Source: S&P, Removal of Pebble, Resolution and Upper Kobuk Mineral Projects

# Emerging Copper Developer in the USA via Heap Leach & SXEW

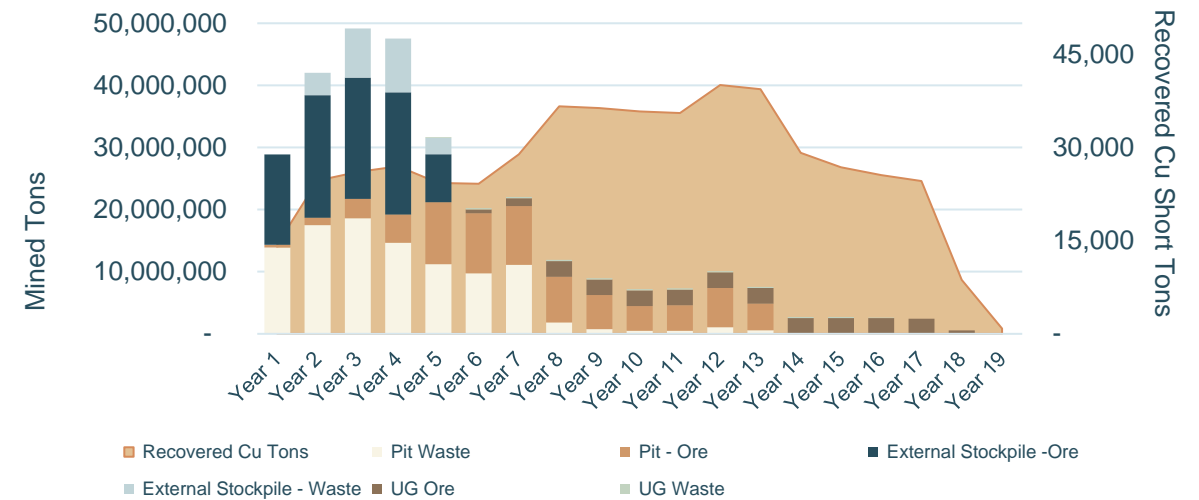
PEA Base Case + Parks/Salyer Oxide and Enriched Material

## 2021 PEA BASE CASE PROJECT METRICS<sup>(1)(2)</sup> Cactus Mine's Oxide and Enriched Material

	Over the Life of Mine
<b>Mine Life</b>	1.27 B lbs of Cu over 18 years
<b>Average Production</b>	28 ktpa (56Mlbs); Peaks at 40 ktpa (80Mlbs) (see production schedule, right)
<b>Operating Costs</b>	<ul style="list-style-type: none"> <li>• US\$9.06/t</li> <li>• US\$1.55/lb</li> <li>• US\$1.88/lb (incl. 3.18% royalty on Cactus)</li> </ul>
<b>Capex</b>	<ul style="list-style-type: none"> <li>• Initial Construction Capex: US\$124M</li> <li>• Sustaining Capex over LOM: US\$340M</li> </ul>
<b>Free Cash Flow (Post tax Undiscounted)(US\$3.35/lb Cu)</b>	<ul style="list-style-type: none"> <li>• US\$960M</li> </ul>
<b>NPV8 Post-Tax</b>	<ul style="list-style-type: none"> <li>• \$312 M</li> </ul>
<b>IRR Post-Tax</b>	<ul style="list-style-type: none"> <li>• 33%</li> </ul>

Step-up PFS layers in Parks/Salyer over the Cactus PEA: Targeting 45-50 ktpa over approximately 30 years

### CACTUS PEA PRODUCTION SCHEDULE<sup>(1)(2)</sup>



Sources/Notes: t or tons = Short Tons. (1) Integrated Cactus PEA, Table 1-6, 1-7 (2) The Integrated Cactus PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorised as mineral reserves and there is no certainty that the preliminary economic assessment will be realized. Mineralized Material Sources: Stockpile, Cactus East, Cactus West, Parks/Salyer

**Low capital intensity project: \$2.20/lb**

US\$CAPEX/LOM average Cu production – per the Cactus PEA

# Onsite Metallurgical Program in TruStone Facility

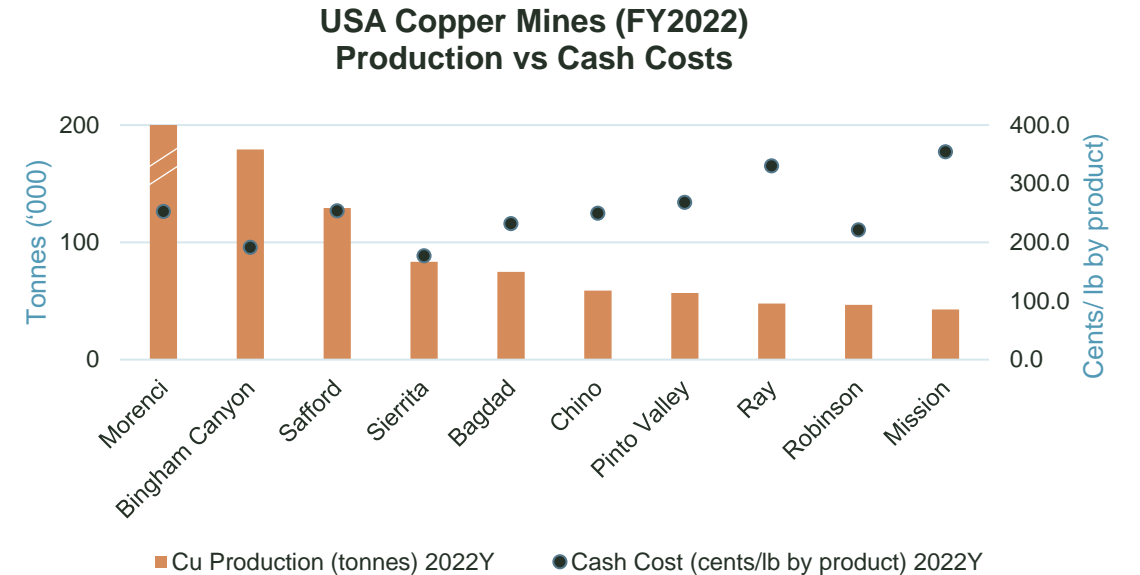
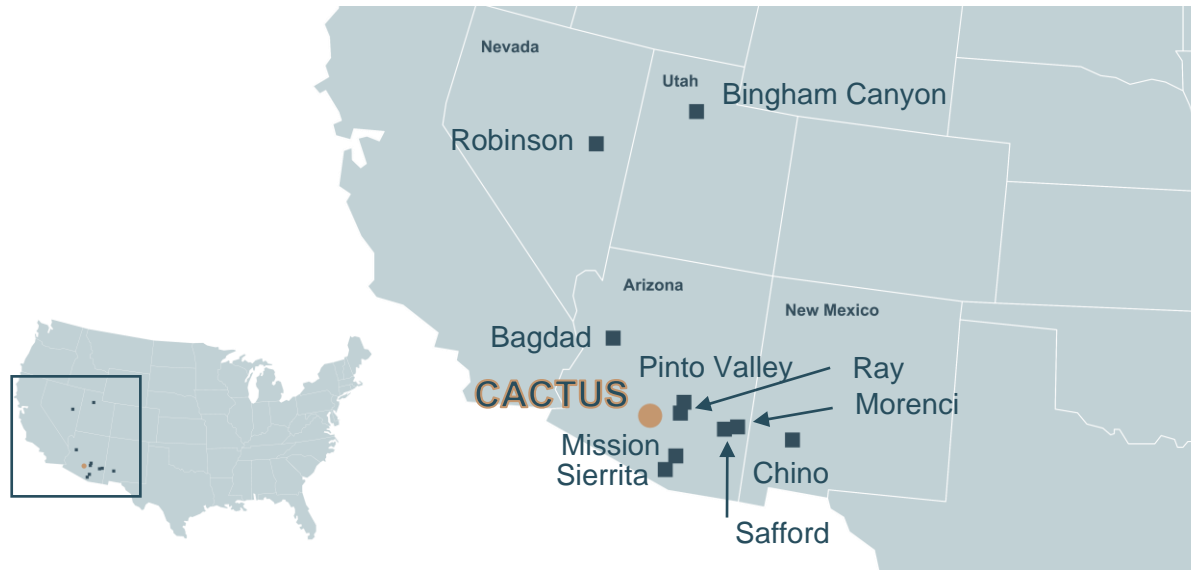


## METALLURGICAL RECOVERIES

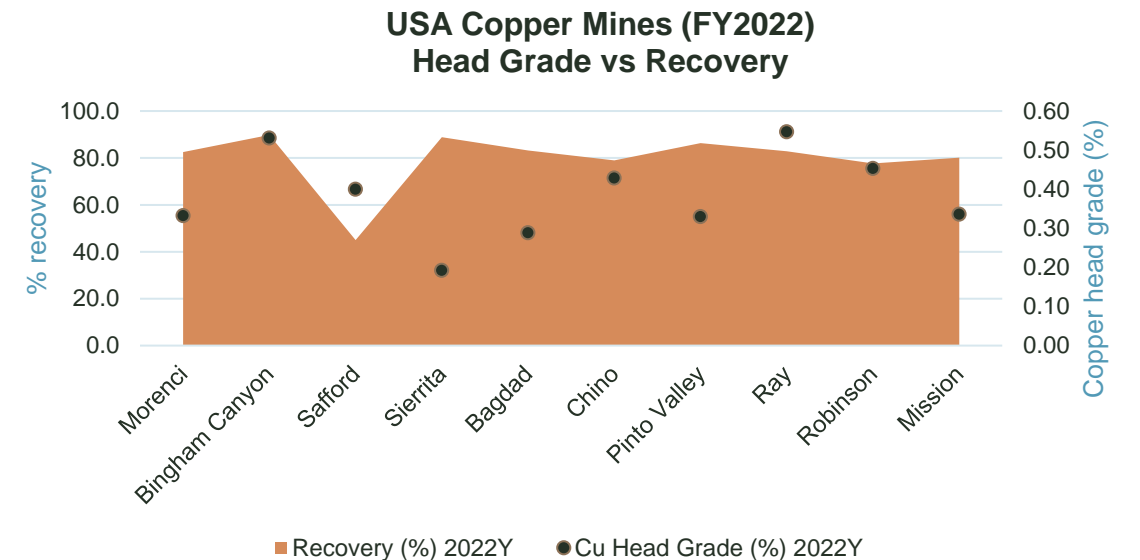
Parks/Salyer	80% enriched
Cactus East	76% enriched   90% oxide
Cactus West	78% enriched   88% oxide
Stockpile	92% oxide

*\*see PR dated May 2, 2023 for details and disclosures*

# Top 10 USA Copper Mines



	Mine	County and State	Owner	Operation
1	Morenci	Greenlee, Arizona	Freeport-McMoRan (72%), Sumitomo Group (28%)	Open Pit
2	Bingham Canyon	Salt Lake, Utah	Rio Tinto	Long Hole Stoping, Open Pit, Sublevel Stoping
3	Safford	Graham, Arizona	Freeport-McMoRan	Open Pit
4	Sierrita	Pima, Arizona	Freeport-McMoRan	Open Pit
5	Bagdad	Yavapai, Arizona	Freeport-McMoRan	Open Pit
6	Chino	Grant, New Mexico	Freeport-McMoRan	Open Pit
7	Pinto Valley	Gila, Arizona	Capstone Copper.	Dump, Open Pit, Tailings
8	Ray	Pinal, Arizona	Grupo México	Open Pit
9	Robinson	White Pine, Nevada	KGHM Polska Miedz	Open Pit
10	Mission Complex	Pima, Arizona	Grupo México	Open Pit, Underground



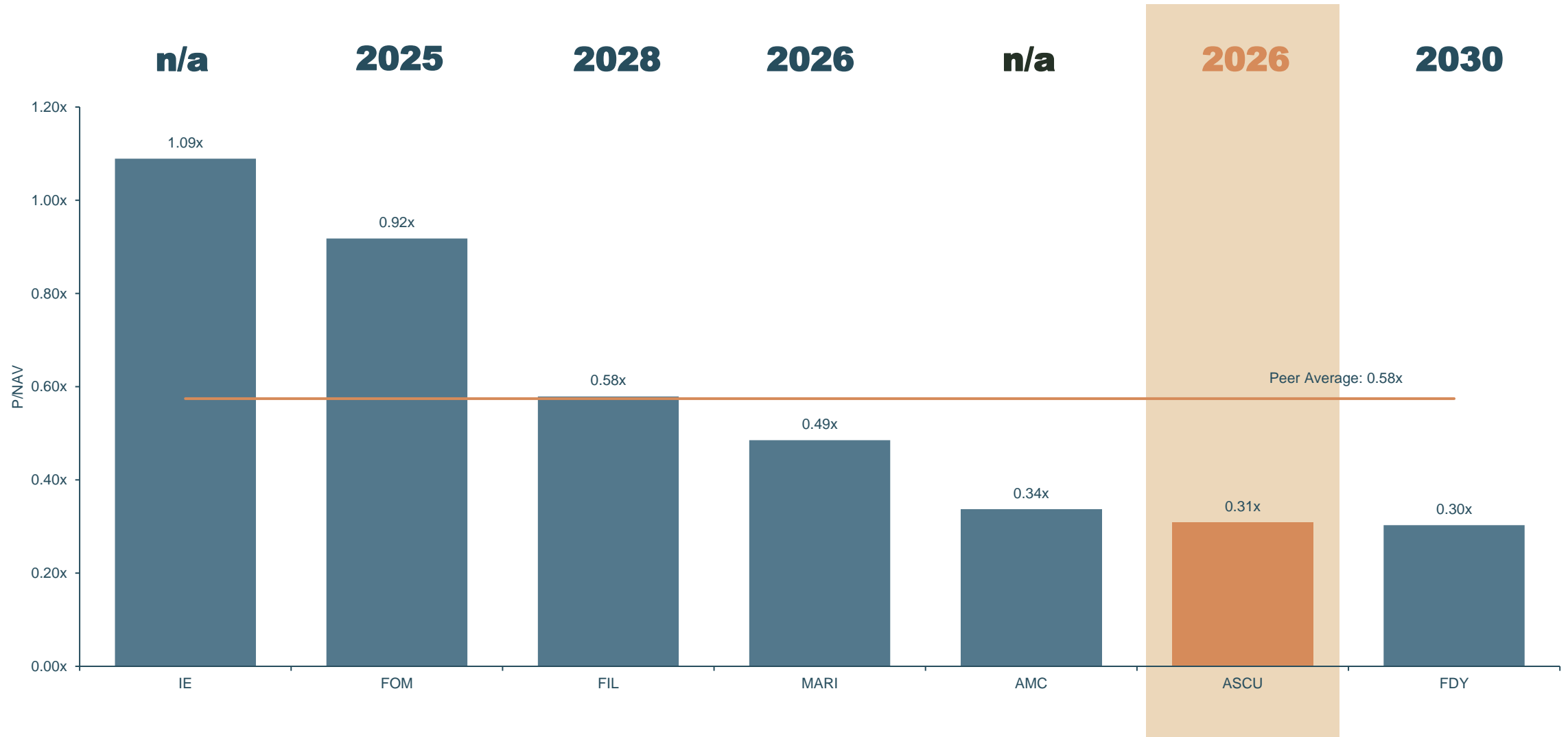
Source: S&P Copper Production in 2022, ranked by tonnes produced. Morenci produced 401kt in 2022.





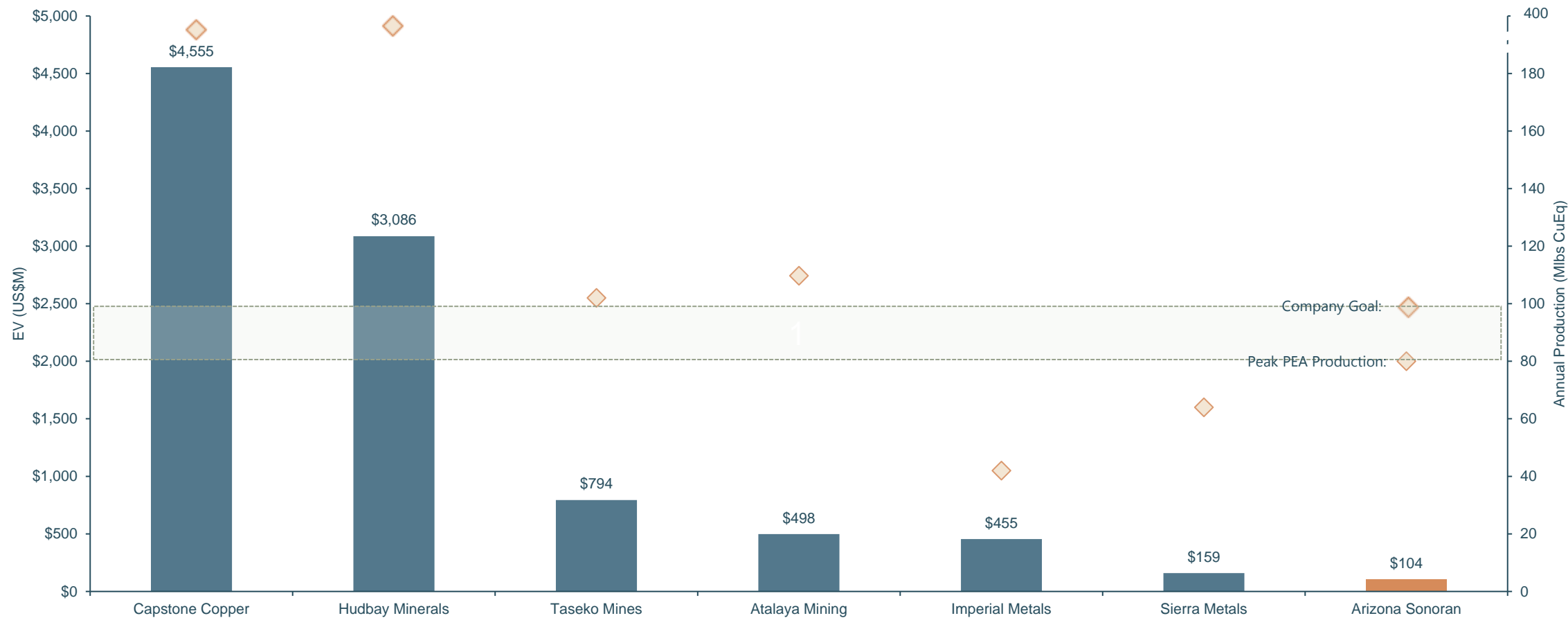
# Peer Benchmarking

# Copper Development Peers (P/NAV)



Source: Company Filings, Capital IQ, August 31, 2023

# Junior Copper Producer Benchmarking (Enterprise Value and Production)



Source: Company Filings, Capital IQ – August 31, 2023

(1) Arizona Sonoran production shown as peak production of ~80 Mlbs, an additional data point is shown as the Company's goal of +100 Mlbs of annual copper production

# Key Investment Highlights

A Goal to Provide the US with Locally Sourced Copper



**Brownfield  
Exploration and  
Development  
Project in Tier 1  
Jurisdiction**



**Private  
Landownership =  
State and County  
Led Permitting  
process**



**Proposed Copper  
Heap Leach, SXEW  
Operation<sup>(1)(2)</sup>**



**Building Scalability  
and Growth**



**Experienced  
Leadership Team;  
Strong Supportive  
Sponsors**



**Supportive  
Copper Market  
Fundamentals  
ESG Framework  
in Place, Path to  
Net Zero**



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# Notes to the Mineral Resource Estimate

1. *CuT means total copper and TsoI means total soluble copper as the addition of sequential acid soluble and sequential cyanide soluble copper assays. Tons are reported as short tons.*
2. *Cactus and Stockpile Resource estimates have an effective date of 31<sup>st</sup> August, 2021 and use a copper price of US\$3.15/lb. The assumptions in respect of the Cactus and Stockpile Resource estimates are as stated in the Preliminary Economic Assessment ("PEA") titled "Arizona Sonoran Copper Company, Inc. Cactus Project, Arizona, USA Preliminary Economic Assessment" with an effective date of filed in August 31, 2021; Parks/Salyer Resource estimate has an effective date of 7<sup>th</sup> September, 2022 and uses a copper price of US\$3.75/lb*
3. *Technical and economic parameters defining resource pit shell: mining cost US\$2.45/t; G&A US\$0.55/t, and 44°-46° pit slope angle.*
4. *Technical and economic parameters defining underground resource: mining cost US\$28.93/t, and G&A representing 7% of direct costs.*
5. *Technical and economic parameters defining processing: Heap leach (HL) processing cost including selling US\$1.77/t; HL recovery 83% of CuT; mill processing cost US\$8.50/t.*
6. *For Cactus: Variable cutoff grades were reported depending on material type, potential mining method, and potential processing method. Oxide material within resource pit shell = 0.096% TSoI; enriched material within resource pit shell = 0.098% TSoI; primary material within resource pit shell = 0.205% CuT; oxide underground material outside resource pit shell = 0.56% TSoI; enriched underground material outside resource pit shell = 0.70% TSoI; primary underground material outside resource pit shell = 0.70% CuT.*
7. *For Parks/Salyer: Variable cutoff grades were reported depending on material type associated potential processing method. Oxide underground material = 0.495% TSoI; enriched underground material = 0.60% TSoI; primary underground material = 0.586% CuT.*
8. *Mineral resources, which are not mineral reserves, do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, sociopolitical, marketing, or other relevant factors.*
9. *The quantity and grade of reported inferred mineral resources in this estimation are uncertain in nature and there is insufficient exploration to define these inferred mineral resources as an indicated or measured mineral resource; it is uncertain if further exploration will result in upgrading them to an indicated or measured classification.*
10. *Total may not add up due to rounding.*