



**FOCUS ON EXPLORATION AND DEVELOPMENT
IN PROLIFIC MINING DISTRICTS**

TSX: TI

December 2020

Forward-Looking Information

This presentation contains "forward-looking information" within the meaning of Canadian securities laws. In some cases, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "targets", "expects", "is expected", "unique investment opportunity", "is positioned" or "assumes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would" or "will" occur or be achieved. In addition, any statements that refer to expectations, predictions, indications, projections or other characterizations of future events or circumstances contain forward-looking information. Statements containing forward-looking information are not historical facts, but instead represent management's expectations, estimates and projections regarding future events.

Forward-looking information includes, among other things, statements relating to: estimated C1 cash costs and AISC; future financial or operating performance and condition of the Company, including its ability to continue as a going concern, and its business, operations and properties; the Company's ability to implement its growth strategy to maximize the value of its property holdings; the Company's planned exploration and development activities at both Empire State Mine and Mineral Ridge property; costs, timing and results of future exploration and drilling; forecasted trends in the global zinc market, including in respect of the price of zinc and gold; capital and operating cost estimates; economic analyses (including cash flow projections) from the Technical Reports; the adequacy of the Company's financial resources; the estimation of mineral resources; the realization of mineral resource estimates; the probability of inferred mineral resources being converted into measured or indicated mineral resources; the production schedule for the Empire State Mines ("ESM") #4 mine; the timing of completion and results of drift rehabilitation and refurbishment of ESM #4 mine; production estimates for ESM #4 mine; the Company's plans for marketing of zinc concentrate produced at the Empire State Mine and mill; any updates to the mine plan for ESM #4 mine and continuation of the drill program at the Empire State Mine; timing, receipt and maintenance of approvals, consents and permits under applicable legislation; the Company's ability to re-negotiate expired leases and the timing thereof; environmental, permitting, legal, taxation, title, socio-economic, community relations or political issues that may adversely affect the Company's current and anticipated operations; the Company's expectations with respect to the payment of dividends; the Company's ability to make scheduled payments of the principal, or to pay interest on or refinance its indebtedness; the Company's expectations with respect to principal shareholders; and the Company's expectation that it will be able to continue to locate and retain employees and consultants with required skills and knowledge.

Forward-looking information is based on opinions, assumptions and estimates made by the Company in light of its experience and perception of historical trends, current conditions and expected future developments, as well as other factors that the Company believes are appropriate and reasonable in the circumstances, as of the date of this presentation, including, without limitation, assumptions about: equity and debt capital markets; the ability to raise any necessary additional capital on reasonable terms; future prices of zinc, gold and other metals; the timing and results of exploration and drilling programs; the likelihood of discovering new mineral resources in the Balmat-Edwards district; the accuracy in the Technical Report of the mine production schedule; the estimated time of completion of drift rehabilitation and refurbishment of ESM #4 mine; the production estimates; the geology and geophysical data of ESM; the metallurgical forecast; the economic analysis, capital and operating cost estimates; the accuracy of any mineral resource estimates; the successful integration of ESM into the Company's business; availability of labour; the accuracy of drill sample results at ESM; future currency exchange rates and interest rates; operating conditions being favourable;

political and regulatory stability; the receipt of governmental and third party approvals, licenses and permits on favourable terms; obtaining required renewals for existing approvals, licenses and permits and obtaining all other required approvals, licenses and permits on favourable terms; sustained labour stability; stability in financial and capital goods markets; availability of equipment and the condition of existing equipment being as described in the Technical Report; the absence of any long-term liabilities created by the mining activity in the Balmat region beyond those described in the Technical Report; the accuracy of the Company's accounting estimates and judgments; the impact of adoption of new accounting policies; the Company's ability to satisfy the terms and conditions of its indebtedness; and the timing of a revised mine plan for ESM. There can be no assurance that such estimates and assumptions will prove to be correct. In addition, if any of the assumptions or estimates made by management prove to be incorrect, actual results and developments are likely to differ, and may differ materially, from those expressed or implied by the forward-looking information contained in this presentation. Accordingly, readers of this presentation are cautioned not to place undue reliance on such information.

Forward-looking information is necessarily based on a number of the opinions, assumptions and estimates that, while considered reasonable by the Company as of the date such statements are made, are subject to known and unknown risks, uncertainties, assumptions and other factors that may cause the actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information, including but not limited to the following factors described in greater detail under the heading "Risks and Uncertainties" in the Company's Management's Discussion and Analysis for the year ended December 31, 2018, available at www.sedar.com: limited operating history; dependence on ESM; refurbishment of the mine and mill; inherent risks of mining; estimates of mineral resources; production decisions based on mineral resources; uncertainty in relation to inferred mineral resources; fluctuations in demand for, and prices of, zinc; production projections and cost estimates for ESM #4 mine may prove to be inaccurate; future requirements for additional capital; profitability of the Company; ability to attract and retain qualified management; title; competition; governmental regulations; market events and general economic conditions; environmental laws and regulations; threat of legal proceedings; rights, concessions and permits; social and environmental activism; land reclamation requirements; Tailings Management Facility and environmental reclamation; insurance; undisclosed liabilities; health and safety; dependence on information technology systems; zinc hedging activities; conflicts of interest; risks inherent in the Company's indebtedness; risks inherent in acquisitions; integration of the mine assets; labour and employment retention/relations; anti-corruption and bribery regulation, including ESTMA reporting; infrastructure; enforceability of judgments; absence of a market for the common shares; fluctuations in price of the common shares; loss of entire investment; significant ownership by Richard W. Warke; future sales of common shares by Richard W. Warke and other directors and officers of the Company; use of proceeds; payment of dividends; currency exchange rate risks; pro forma financial information; public company status; financial reporting and other public company requirements; dilution; and securities analysts' research or reports could impact the price of the common shares. These factors and assumptions are not intended to represent a complete list of the factors and assumptions that could affect the Company. These factors and assumptions, however, should be considered carefully.

Currency is in US dollars and tonnage is in short tons unless otherwise indicated.

Donald Taylor, MSc., PG, Titan's Chief Executive Officer, is a Qualified Person under NI 43-101, and has reviewed and approved the technical contents of this presentation on behalf of Titan.

Overview

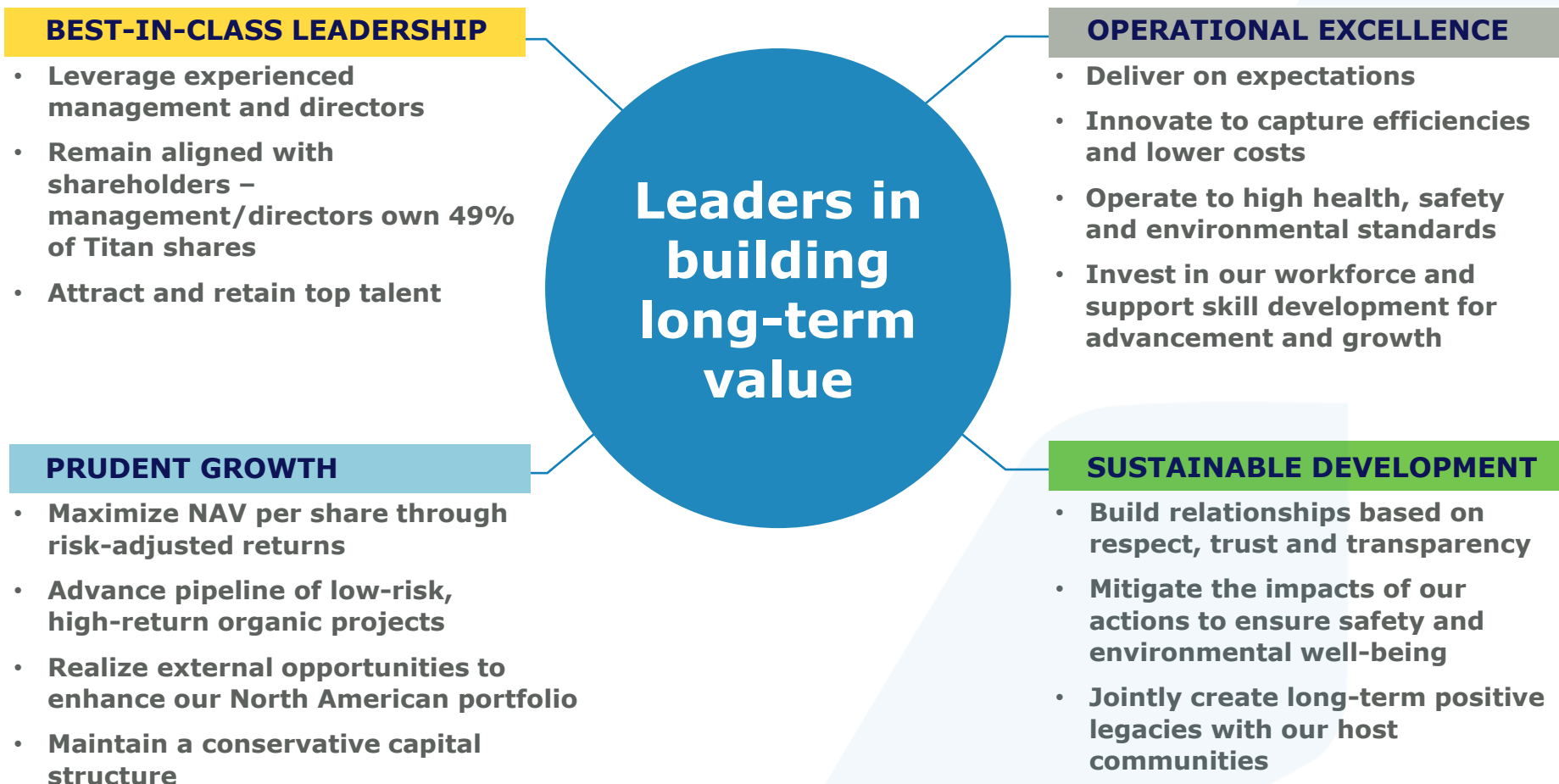
- **Focus on exploration and development; driven by best-in-class leadership**
 - **Empire State Mine (ESM), NY State**
 - 100%-owned zinc producer in historic mining district
 - In the process of developing 3 near-mine open-pitabile resources
 - **Mineral Ridge, Nevada**
 - Earn-In up to 100%
 - Fully permitted with current gold resources of +350koz¹
 - Drill program currently underway
- **Part of the Augusta Group – strong track record in exploration and development**

Toronto Stock Exchange Symbol	TI
Shares Outstanding (09/30/2020)	139 M
Fully Diluted Shares Outstanding (09/30/2020)	170 M
Market Capitalization (as of 12/03/2020)	C\$97 M



Our Strategy

Mission: To deliver extraordinary shareholder value through exploration, development and operational excellence

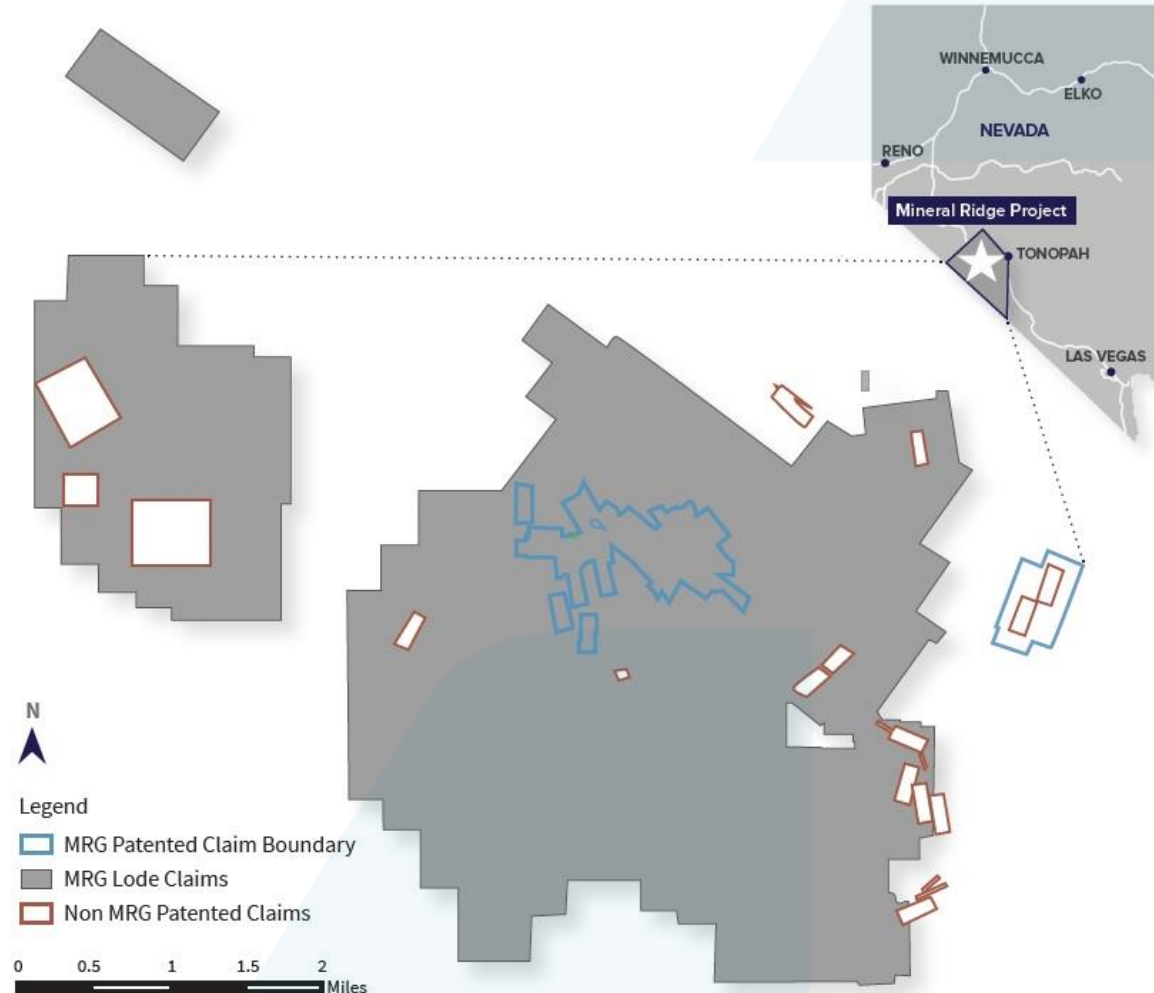


Mineral Ridge, Nevada

Drill-Ready and Fully Permitted

Key Facts:

- **Location:** Esmeralda County, Nevada
- **Earn-In:** Up to 100%:
 - Spend US\$35M in staged expenditures over a period of 5 years to earn 80% interest
 - Right to acquire 100% interest upon spending US\$7M by January 1, 2022 and making a cash payment of US\$35M on or before December 31, 2022.
- **Primary metal:** Gold
- **Type of mining:** Open pit
- **Property:**
 - Current open pit Mineral Resource* of 350,000 oz gold at an average grade of 1.16 g/t
 - Fully permitted for production
 - Limited exploration to date; Initial drill campaign currently underway

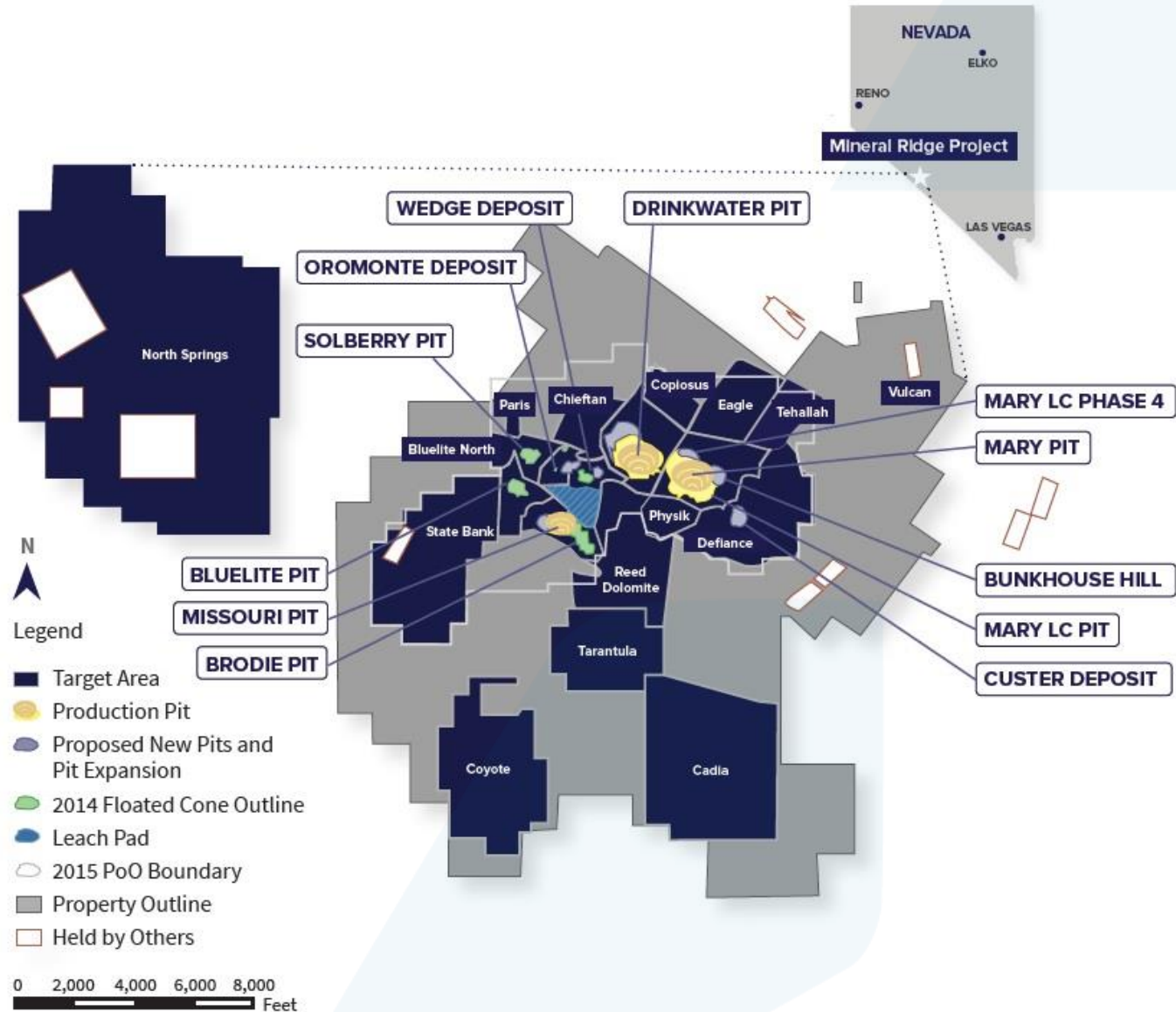


Note: *The Mineral Resources estimates within the technical report from Scorpio Gold Corporation entitled, "Updated Feasibility Study and National Instrument 43-101 Technical Report: Mineral Ridge Project" have an effective date of January 2, 2018

Mineral Ridge, Nevada

Comprehensive Drill Plan Underway

- Exploration will focus on the down-dip and strike extensions of the Drinkwater, Mary, Mary LC, Brodie NW, Custer, Bunkhouse and the Oromonte pit areas outside the existing Mineral Resources



Mineral Ridge, Nevada Exploration Potential

Resource Expansion

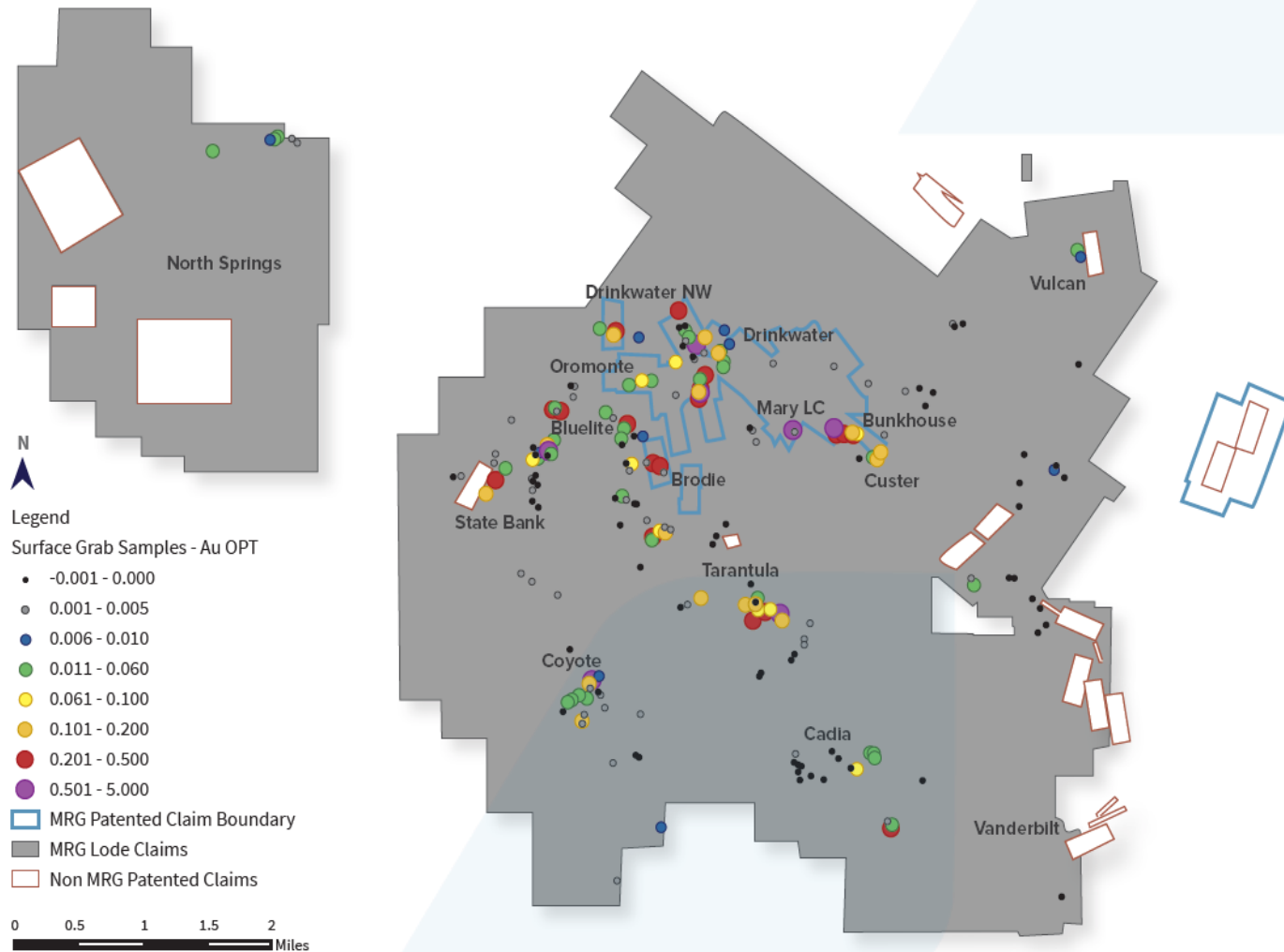
- Areas remain open along strike and down-dip.
 - Bunkhouse
 - Custer
 - Drinkwater
 - Oromonte
 - Bluelite
 - Brodie
 - Solberry

Brownfield Targets

- Limited drilling and highly anomalous gold rock chip samples
 - Cadia
 - Coyote
 - State Bank
 - Tarantula

Greenfields Target Area

- North Springs area has several historic mines and anomalous gold in outcrop. No modern exploration activities have been conducted in the area.



Mineral Ridge, Nevada Exploration Potential; Resource Expansion

Current additional exploration targets to link mineralization together between Oromonte, Blue-lite and Brodie forming a single large resource area

Bunkhouse

- High grade mineralization remains open down dip and along strike to the SE towards Custer. Over 1,000 feet of untested strike length between Bunkhouse and Custer

Cluster

- Mineralization remains open along strike to the NW, southeast and up-dip to the SW

Drinkwater

- Mineralization remains open to the west, NW and SW towards the Blue-lite Deposit

Oromonte

- Mineralization remains open along strike to the NW

Bluelite

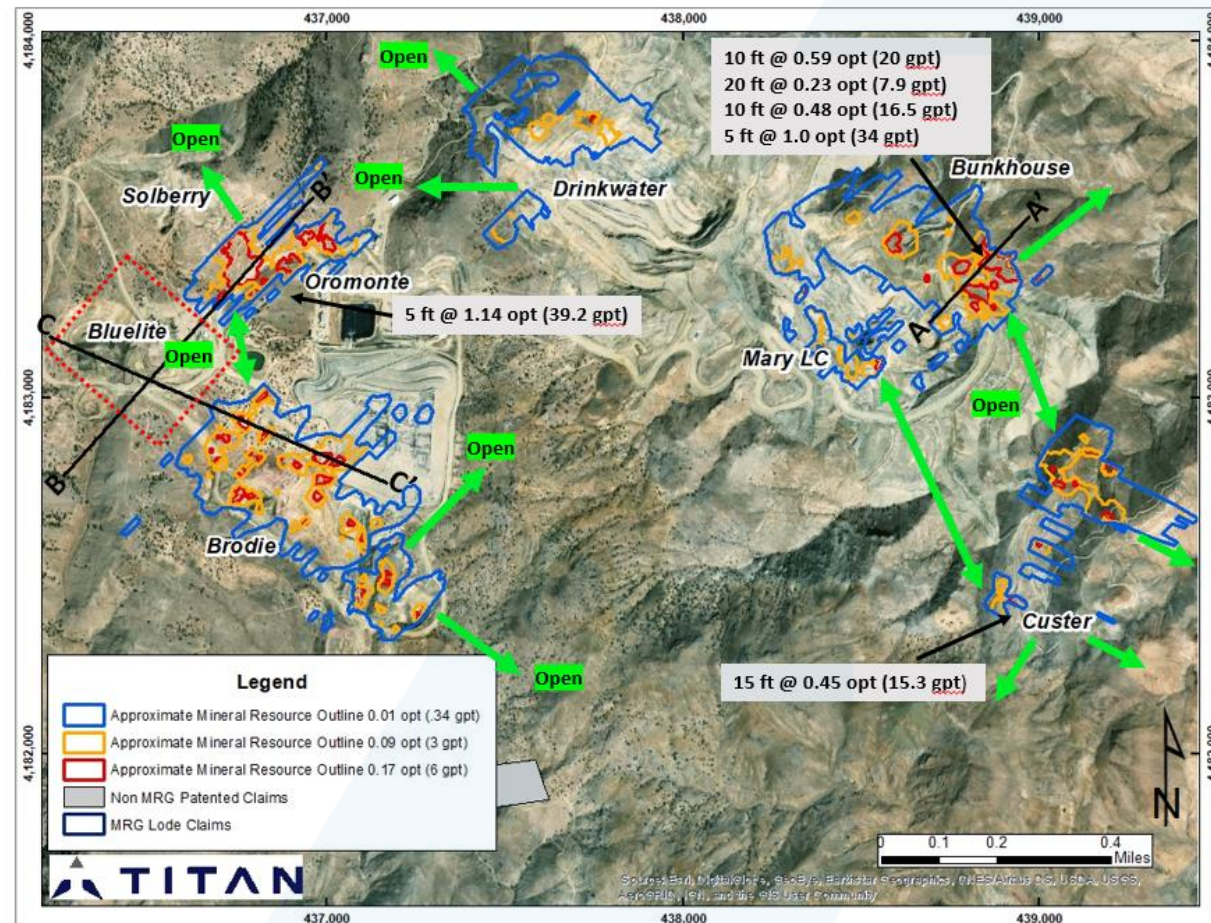
- Large undefined zone of mineralization that remains open to the NE towards Oromonte and connects with Brodie

Brodie

- Mineralization remains open to the NE towards Drinkwater and north towards Oromonte

Solberry

- Shallow mineralization previously mined however zone remains open down-dip to the NW



Mineral Ridge, Nevada

Exploration Potential; Brownfields

State Bank

- Gold in rock chip samples, drilling intercepted mineralization and zone remains open and warrants additional follow-up

Tarantula

- Strong gold mineralization in outcrop. Initial drilling missed target horizon

Coyote

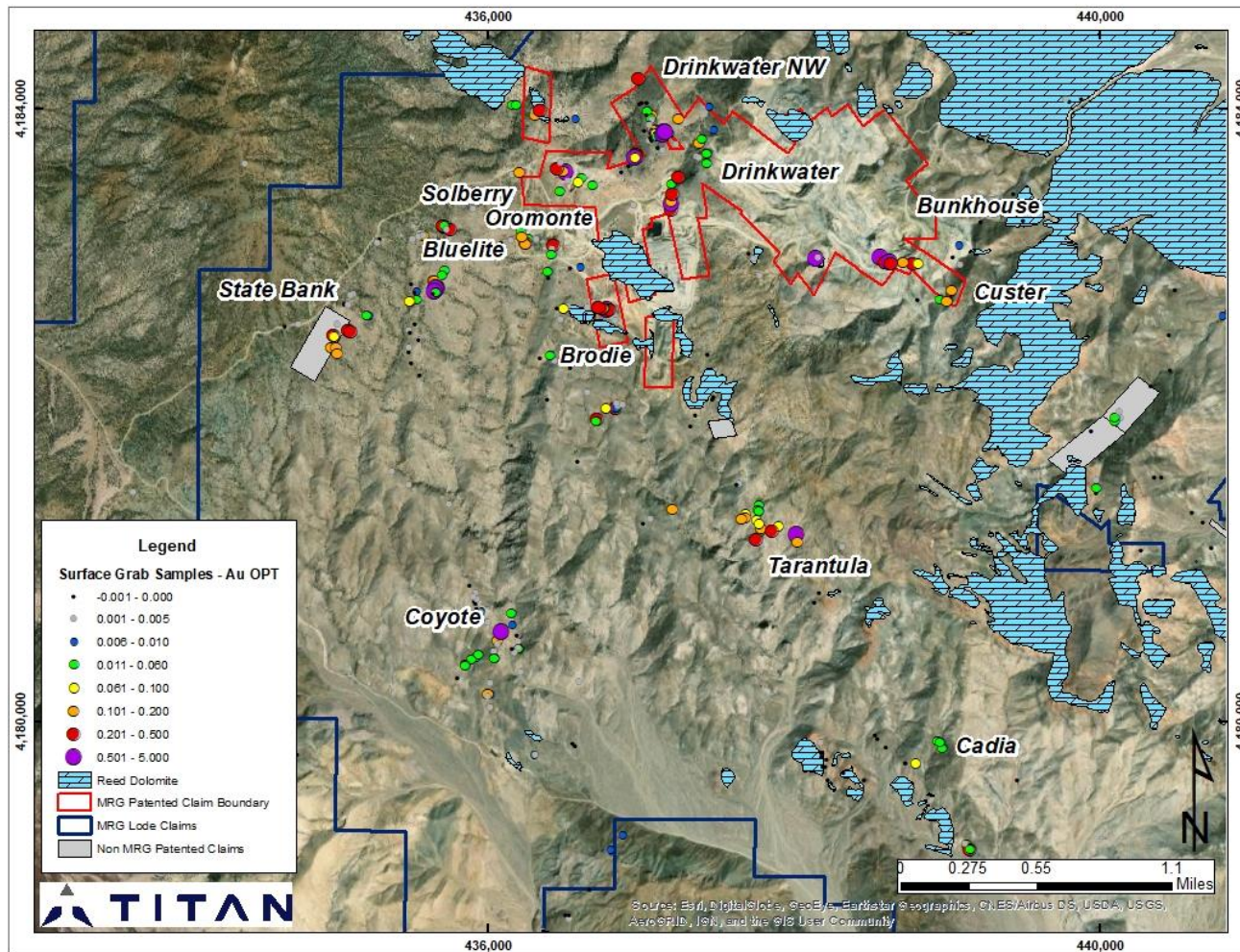
- Anomalous gold in rock chip samples. Mineralization appears to increase to the SE and remains open

Cadia

- Gold in rock chip samples and has not been drill tested

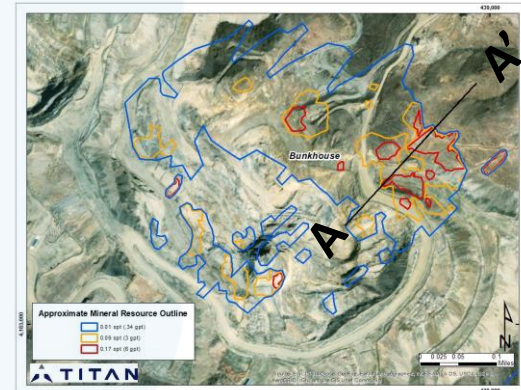
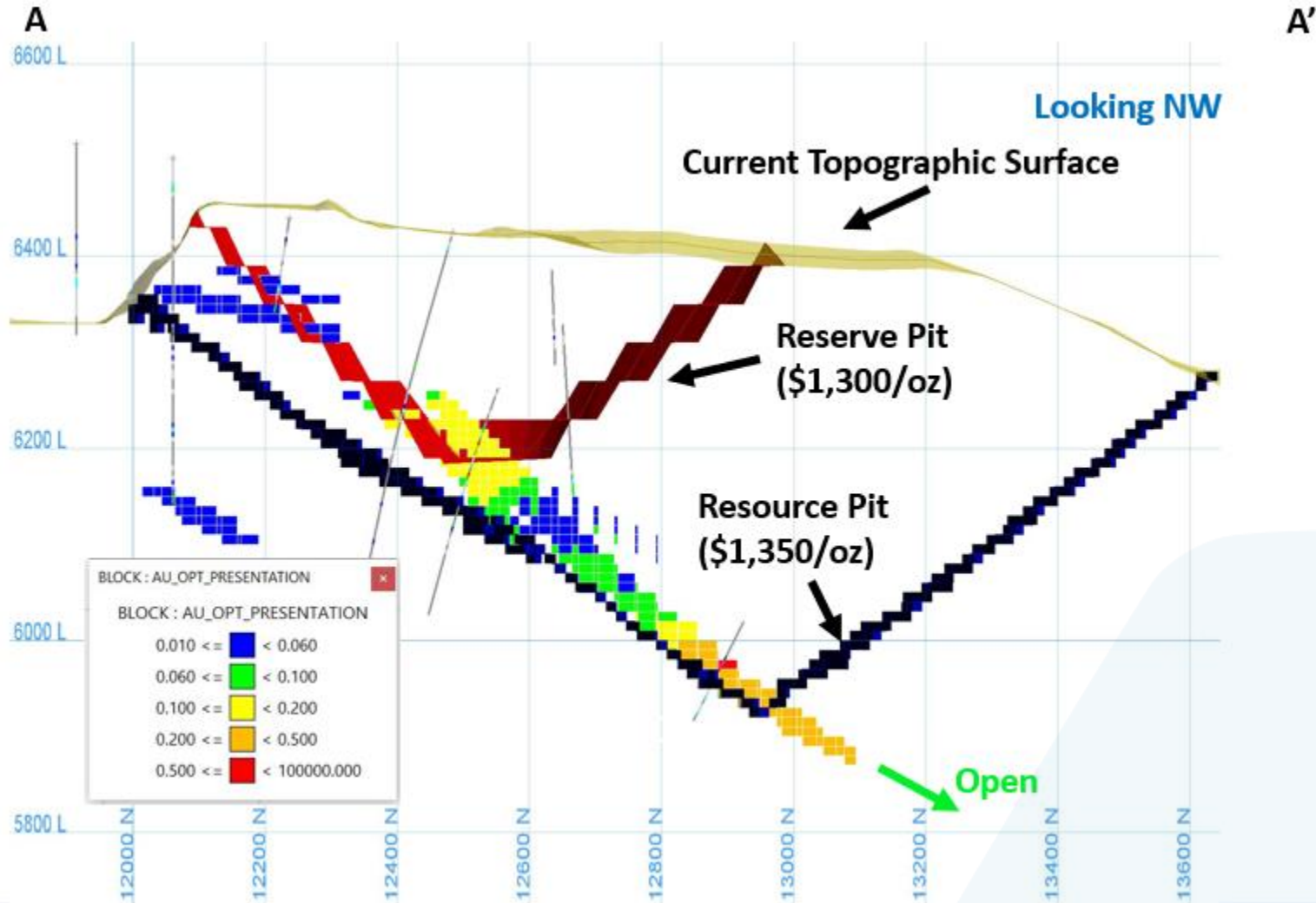
Reed Dolomite

- Mineralization has been intercepted below the Reed Dolomite at Brodie and Custer. There is potential for hidden mineralization on the eastern portion of the property below this unit



Mineral Ridge, Nevada Bunkhouse Deposit

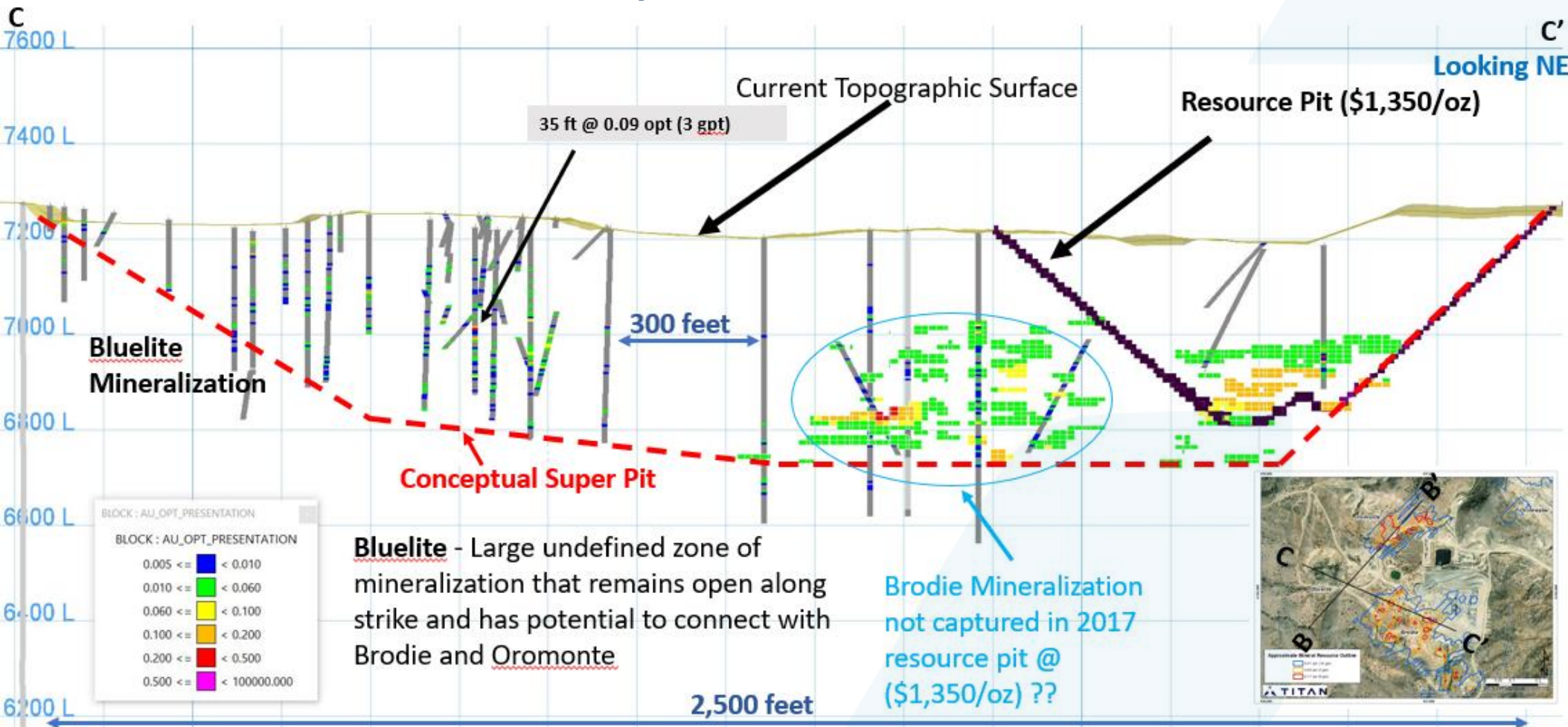
Bunkhouse Deposit 2017 Resource Model



Mineral Ridge, Nevada

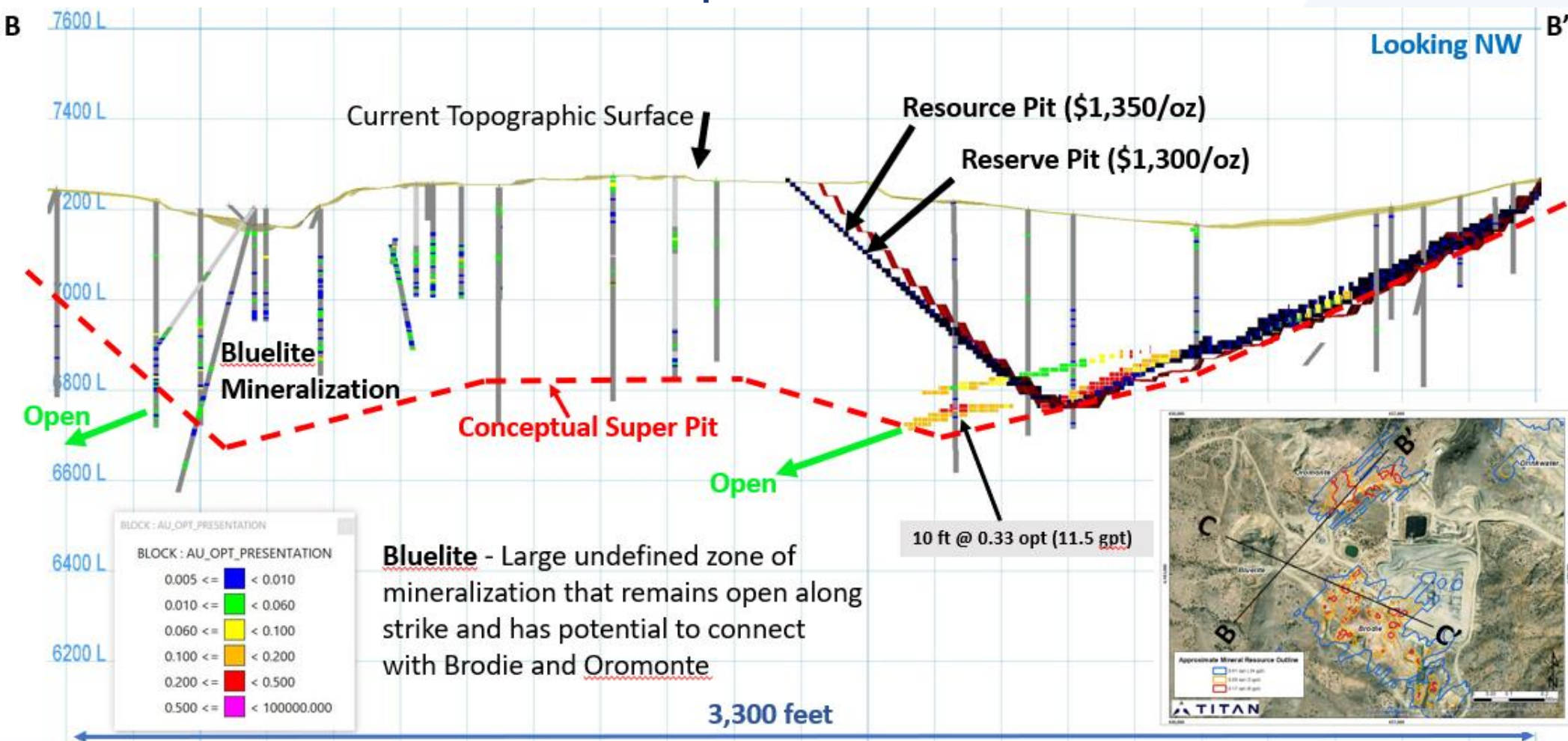
Brodie Deposit

Brodie Deposit – 2017 Resource Model



Mineral Ridge, Nevada Oromonte Deposit

Oromonte Deposit 2017 Resource Model



TSX: TI



Operations Update at ESM

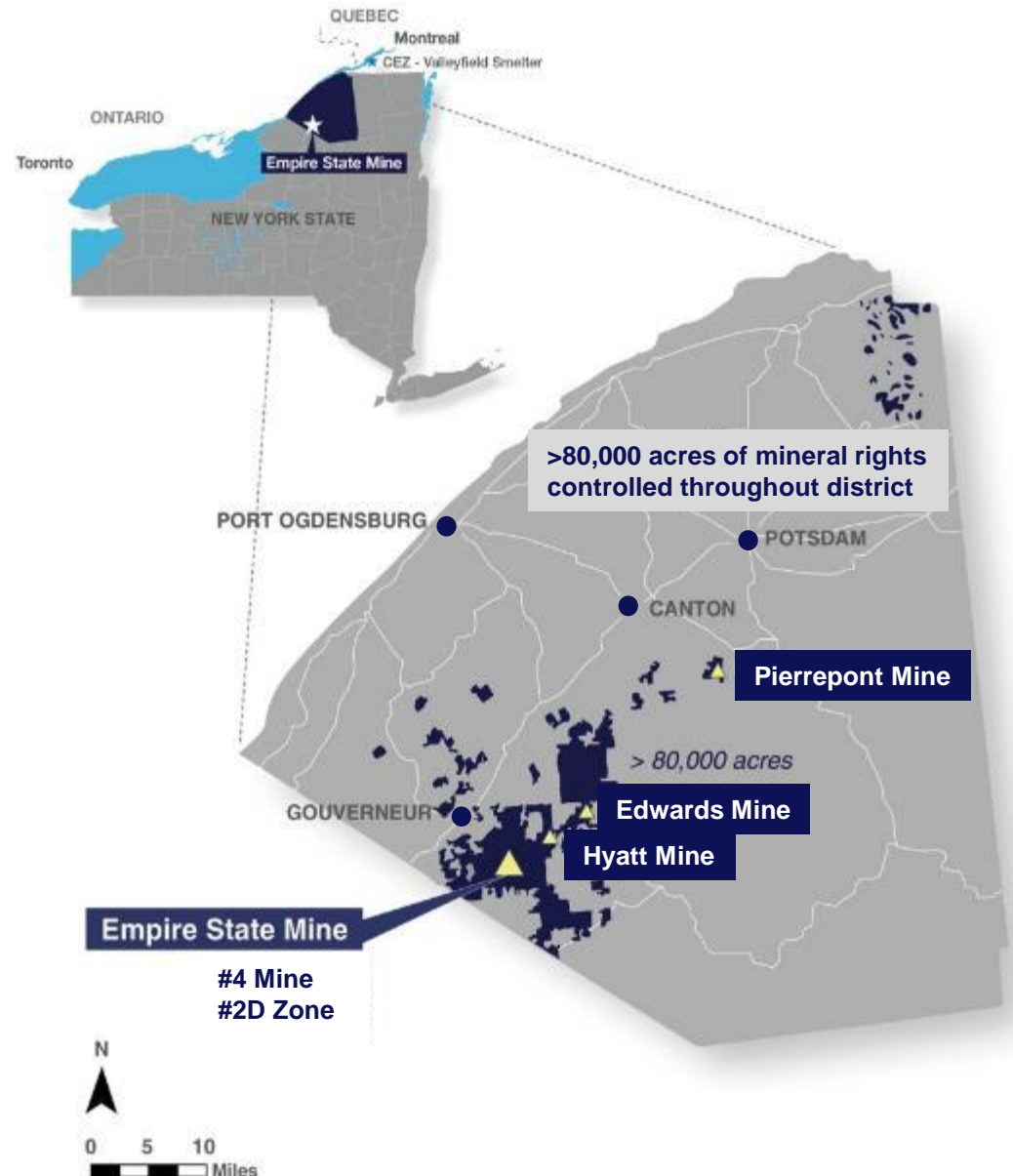


Empire State Mine: Focused on Exploration in a 100-Year-Old Zinc District

- Producing zinc concentrate
- Local employer, benefiting St. Lawrence County in northern New York
- Long-term zinc concentrate offtake agreement with Glencore – transportation within North America
- Historic production – 44M tons milled at average grade of 9.4% zinc from 7 mines within 30-mile radius of mill



Shipment of zinc concentrate leaving site



Empire State Mine: Near-Mine and District Exploration

- Production supported by current mineral resources with potential for near-mine resource additions
 - Current source is ESM #4 mine – multiple zones; Mahler and Mud Pond zones in production, New Fold zone in development
 - Discovery of near-mine open-pitatable mineralization announced Nov 2019 and Jan 2020
 - Future discoveries expected through additional near-mine exploration
- Targeting large, high-grade deposits (15 to 30+ Mt at 10% zinc) – new ideas and modern approach to exploration led by award-winning¹ team



Office building and 3,800 tpd shaft



5,000 tpd processing plant



Underground crusher at 3,100 level

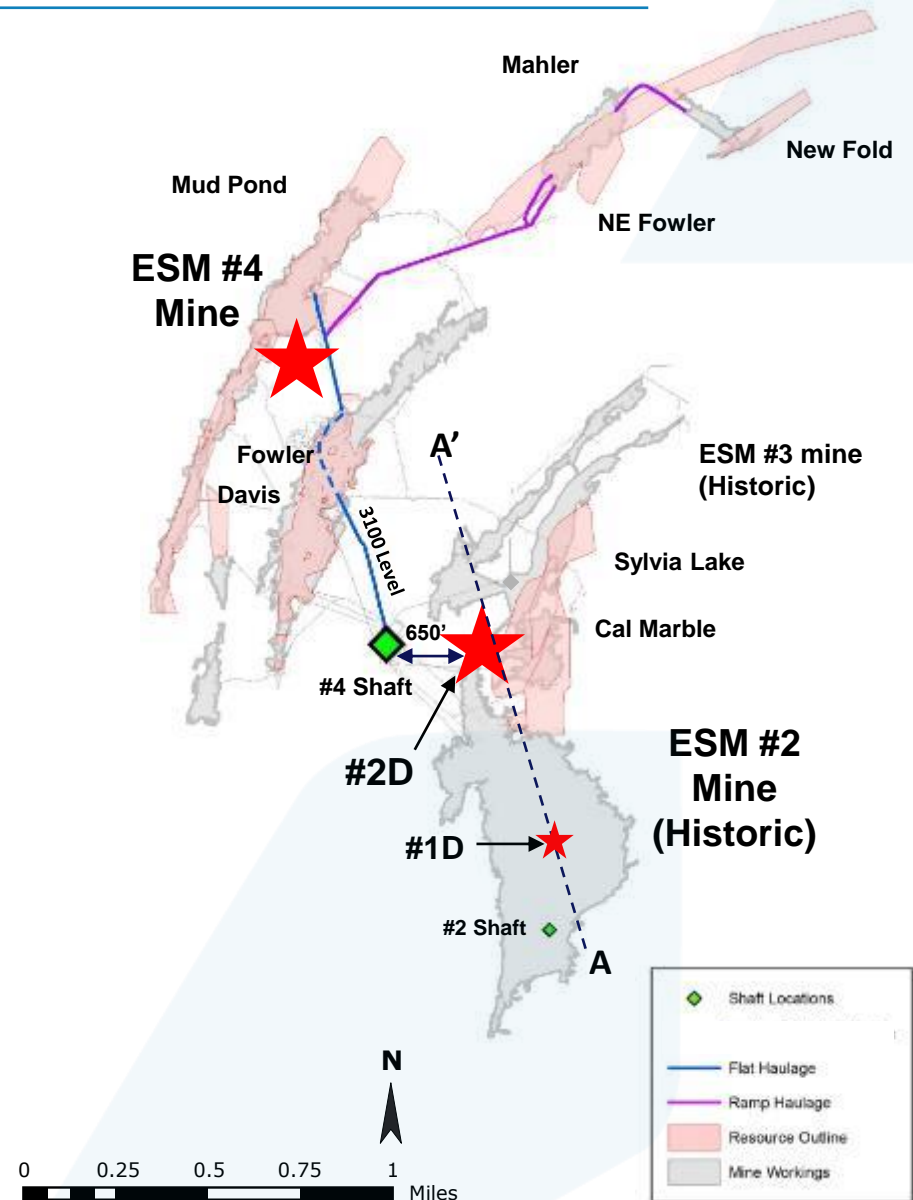


Fully equipped maintenance shop capable of servicing all equipment

Empire State Mine: Excellence in Exploration

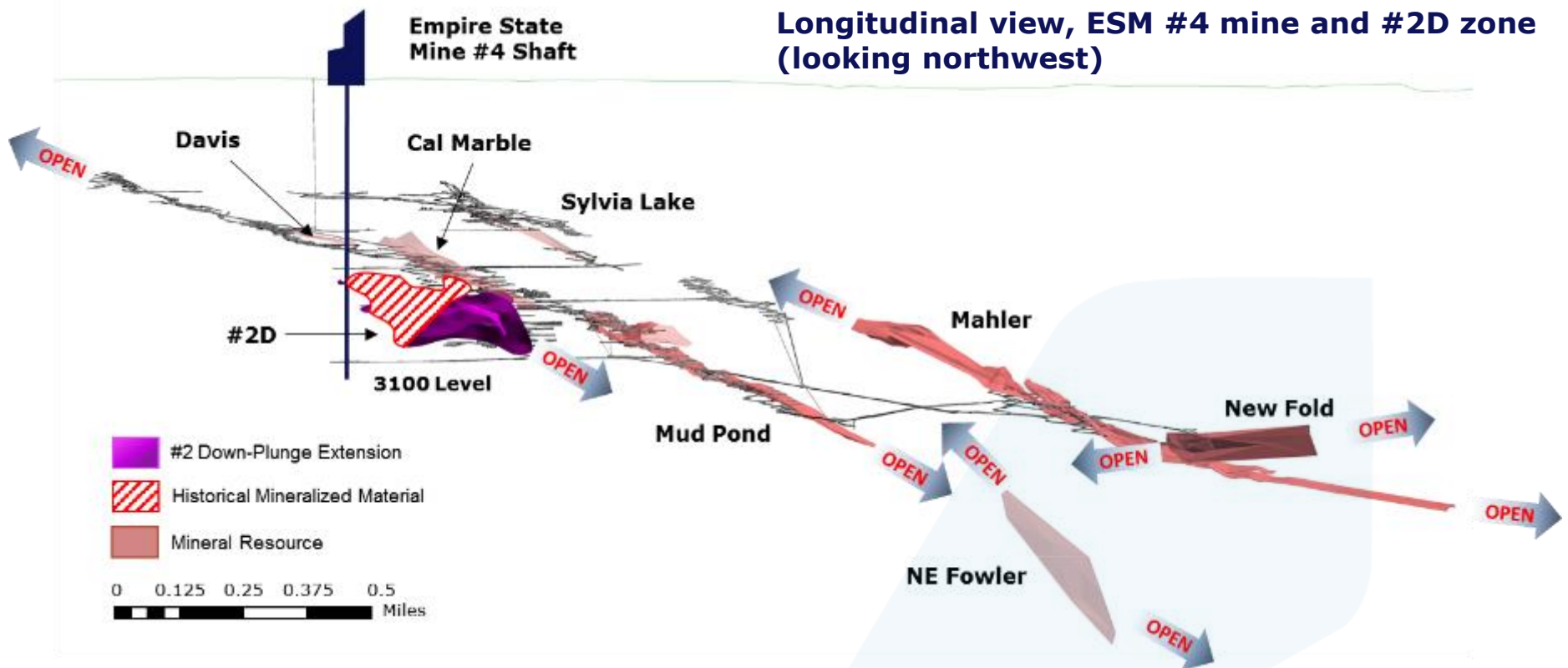
Plan view of ESM #4 mine and #2D zone

- #4 mine – drilling potential zone extensions and increasing confidence for mine design
- #2D zone – major extension of zone mined in historic #2 mine; 650 feet east of #4 shaft; historic infrastructure in place; open down-plunge and laterally
- #1D – potential extension of historically-mined zone

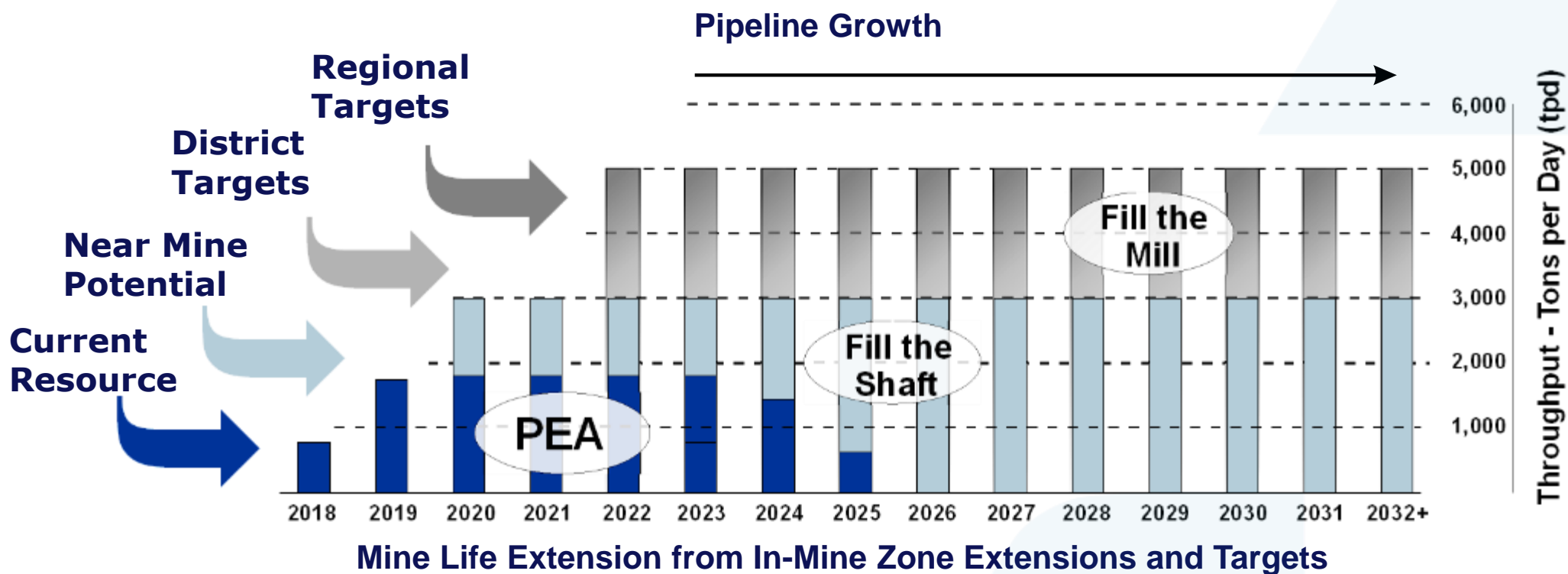


Mineral Resource Expansion Potential at ESM #4 Mine and #2D Zone

- #4 mine – mineralized zones generally plunge to northeast; potential to extend zones up- and down-plunge
- #2D zone – More than 2,000 feet of strike length and open down-plunge and laterally; connected by historic infrastructure on 2500 level to the #4 shaft



ESM: Growth Strategy – Exploration

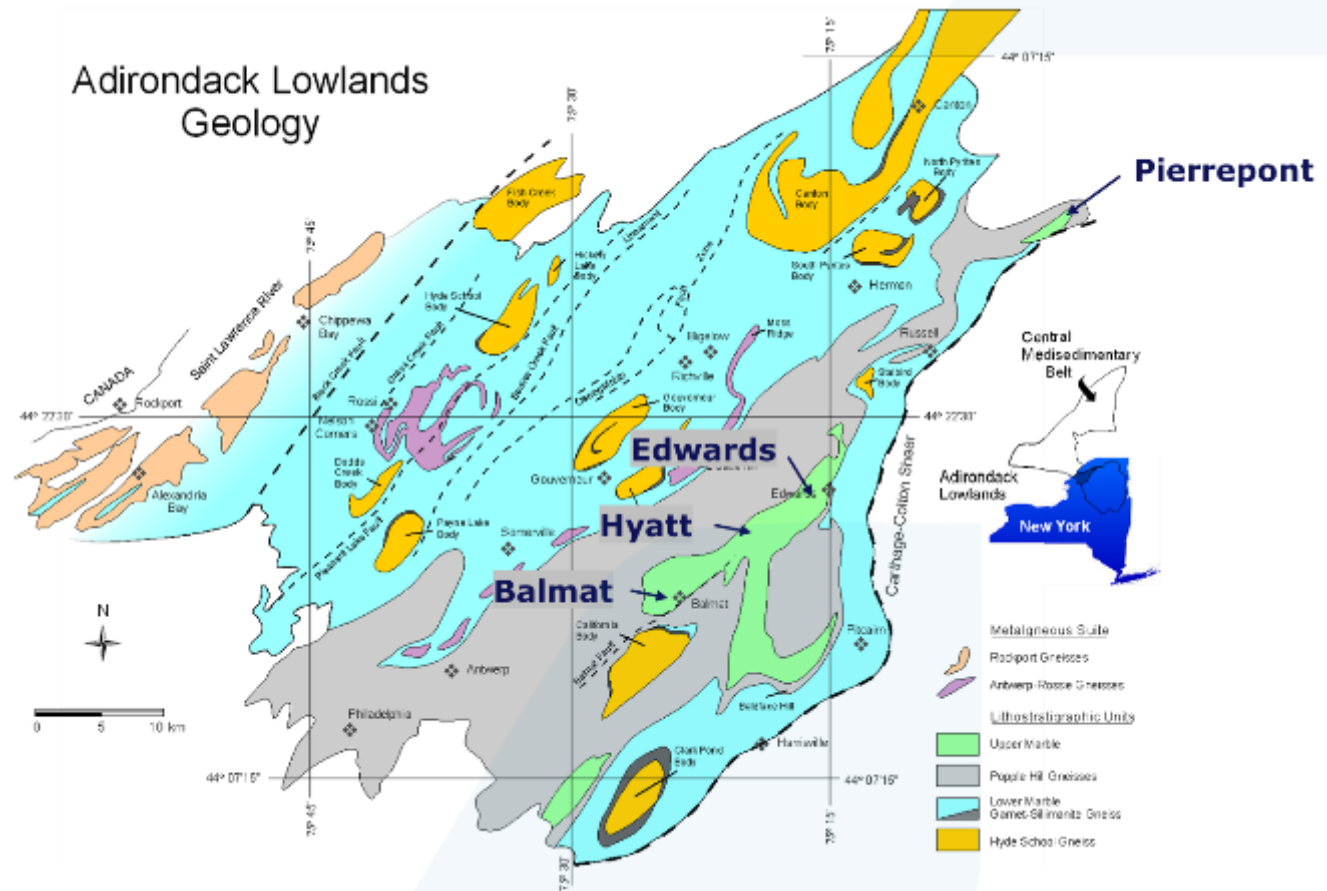


Preliminary Economic Assessment	Near Mine Potential	District Targets	Regional
<ul style="list-style-type: none"> Existing Resource Historic Reserves and Remnants 	<ul style="list-style-type: none"> #2D, #1D NE Streeter West Gleason 	<ul style="list-style-type: none"> Hyatt, West Branch Sully Edwards - Pierrpont VTEM Targets 	<ul style="list-style-type: none"> Geochem Targets VTEM Targets

ESM: New Ideas for a Prolific Zinc District

Exploration targets throughout district

- Targeting large, high-grade deposits in the 15 to 30+ Mt range
- Multiple targets identified along trend northeast of ESM and south of Hyatt
- Target areas exhibit favourable host rocks, prospective structures and surface expressions of zinc mineralization
- Untested geophysical targets generated from 2008 VTEM survey
- Drill site selection from compilation and review of existing data within target areas

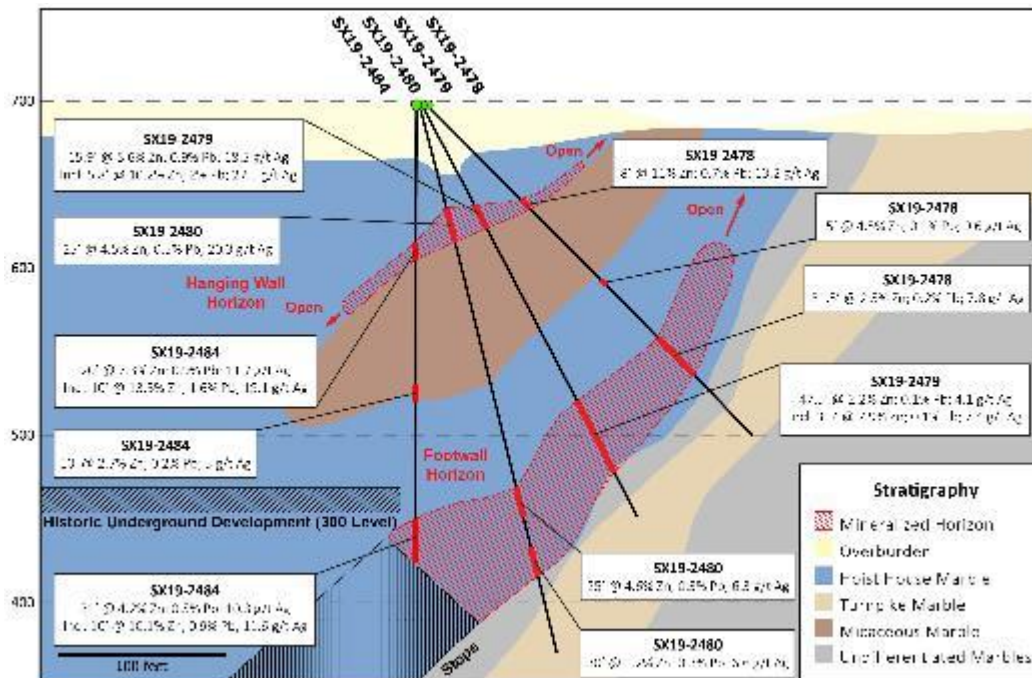


ESM: Potential Near-Term Incremental Mill Feed

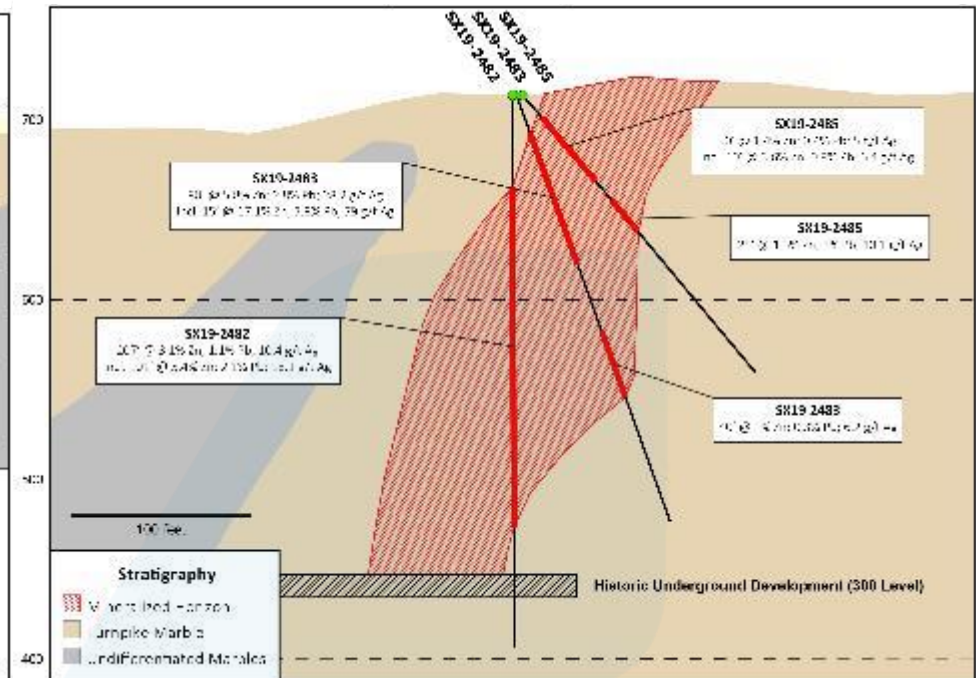
Hoist House and Turnpike zones – potential to add low-cost production

- New shallow zones discovered of near-mine open-pit mine mineralization in Nov 2019 and Jan 2020
- Definition drilling of these potential new open-pit mill feed zones is a key goal of the Company's strategy of filling over 3,000 tpd of excess capacity at the ESM mill in an effort to dramatically increase production and lower costs
- Future discoveries expected through additional near-mine exploration

Hoist House Zone at ESM, Looking Northeast

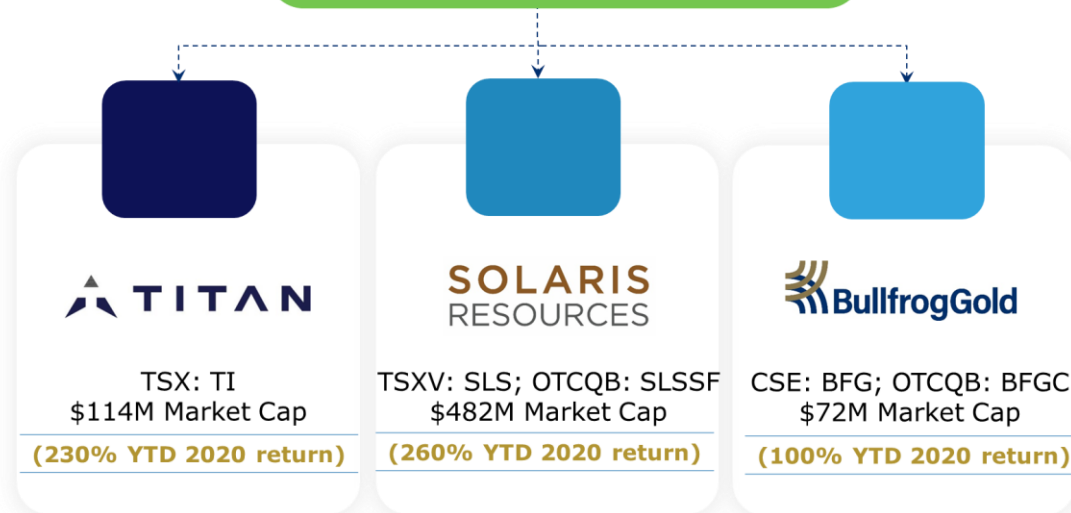


Turnpike Zone at ESM, Looking Northeast

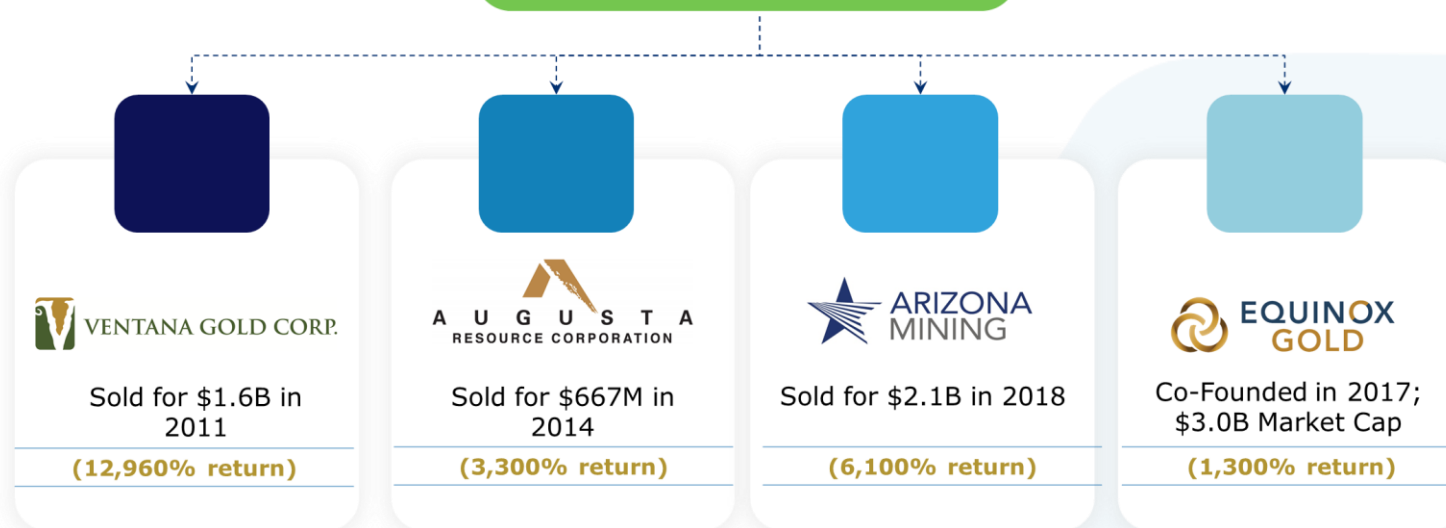


The Augusta Group – Track Record in Exploration and Development

Current Augusta Company Returns



Past Augusta Company Returns



Market cap as of December 15, 2020

Note: The results for Ventana Gold Corp., Augusta Resource Corp., Equinox Gold, and Arizona Mining Inc. are independent of the results of Titan Mining Corp. and are no guarantee of the future performance. Undue reliance should not be placed thereon when considering an investment in Titan Mining Corp.

Investment Highlights

Best-in-Class Leadership

- **Demonstrated track record in exploration and development.** Executive Chair, Richard Warke, and the Augusta Group have generated extraordinary shareholder value
- **Award-winning.** CEO Donald Taylor is the recipient of PDAC's 2018 Thayer Lindsley Award for the 2014 discovery of the world-class Taylor lead-zinc-silver deposit in Arizona
- **Strong board.** Experienced, well-rounded and widely-recognized directors

Diversified Portfolio of Assets

- **Exposure to Zinc and Gold.** Assets located in prolific mining districts
- **Significant Discovery Potential.** Initial drill program underway at Mineral Ridge and targeting new discoveries in the 15-30Mt range at ESM, grading 10% zinc

Focus on Optimizing Cash Flow

- **New ESM mine plan expected in late-2020,** to include higher-grade New Fold zone in ESM #4 mine and #2D zone as well as recent results from Turnpike and Hoist House zones.
- **Focus on development and exploration.** Infill drilling at #4 mine, drilling of near-mine open-pit mine mineralization as well as district drilling

APPENDIX



EMPIRE STATE
MINES

OFFICIALLY OPENED BY



MINING CORP.

12 JUNE 2018

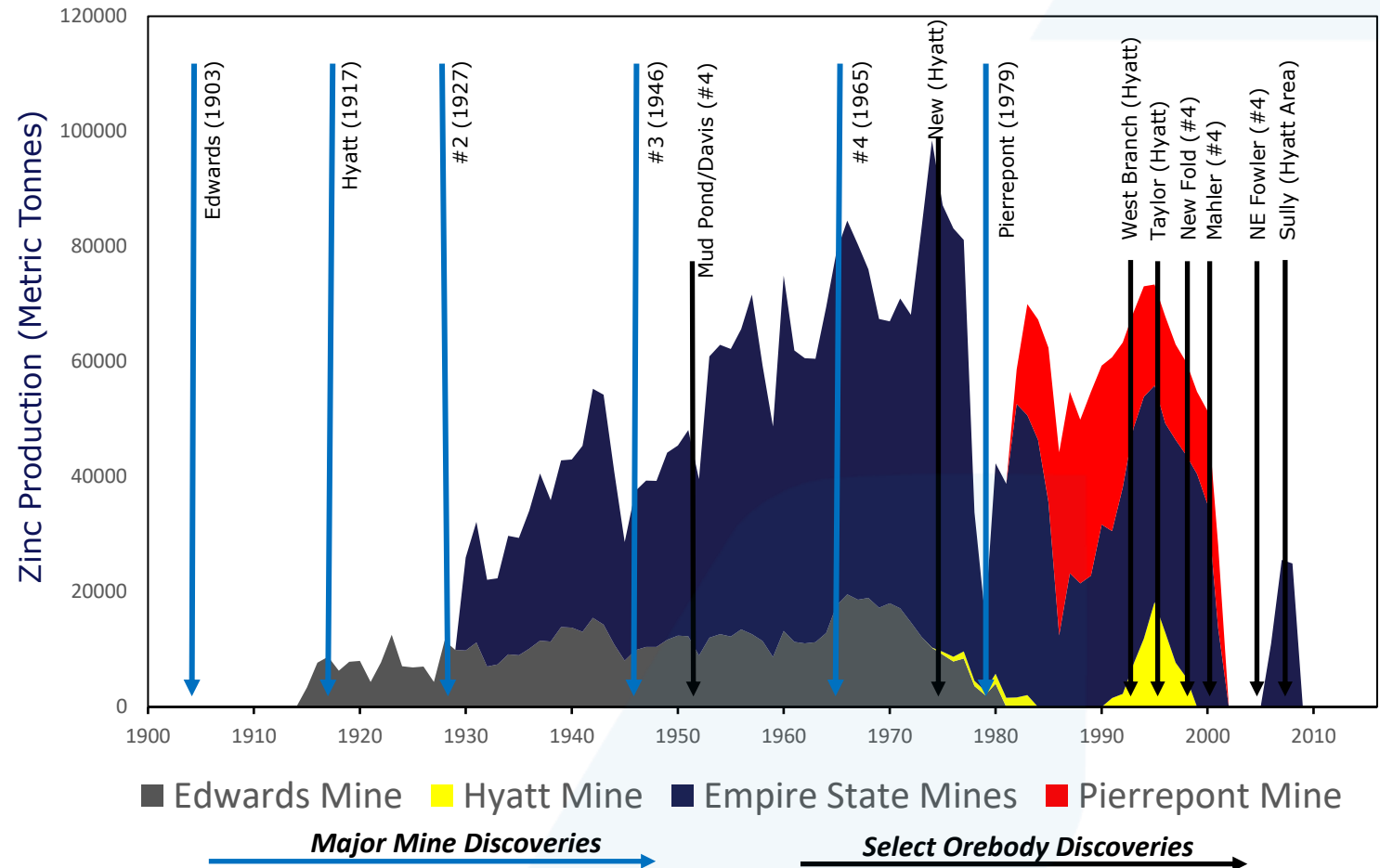


History of Exploration Success Plus Potential for Additional Discoveries

Many discoveries made during a century of mining operations

- Minimal exploration during 2000-2010 period
- District remains highly prospective – refocus on exploration concurrent with production

Long Production History with Numerous Discoveries



The Right People



Richard Warke
Executive Chairman

- Consistent record of creating shareholder value at Augusta Group



Donald Taylor
CEO

- 25+ years of mineral exploration experience
- Discovered world-class Taylor sulphide deposit – winner of PDAC's 2018 Thayer Lindsley Award



Purni Parikh
President

- 25+ years of public company experience in the mining sector
- President of the Augusta Group



Michael McClelland
CFO

- 15 years' experience with global mining companies
- Former CFO of Bisha Mining Share Company, a Nevsun Resources subsidiary



Scott Burkett
VP, Exploration

- 10+ years' experience in exploration and ore control
- Instrumental in discovering world-class deposit at Arizona Mining's Hermosa project



Lynette Gould
SVP, IR & Corporate Dev.

- 20+ years' experience in IR and finance roles.
- Former VP, IR for Galiano Gold and Alio Gold and Director of IR for Goldcorp Inc.



Key directors

- John Boehner, Len Boggio, James Gowans, William Mulrow, George Pataki,

Mineral Resources - ESM

Empire State Mine #4 Mine as at January 31, 2018

Mineralized Zones	Measured		Indicated		Measured & Indicated		Inferred	
	'000 Tons	Grade (% Zn)	'000 Tons	Grade (% Zn)	'000 Tons	Grade (% Zn)	'000 Tons	Grade (% Zn)
Mud Pond	337.0	10.40%	285.2	10.87%	622.2	10.61%	1,390.5	10.68%
New Fold	68.0	12.75%	249.6	11.72%	317.6	11.94%	539.4	13.97%
Mahler	400.5	15.89%	700.9	15.27%	1,101.4	15.50%	516.6	15.59%
Other Mineralization	44.9	10.73%	83.5	10.16%	128.4	10.36%	2,969.6	12.55%
Total	850.4	13.19%	1,319.2	13.33%	2,169.6	13.27%	5,416.1	12.50%

Notes:

1. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all, or any part, of the mineral resources estimated will be converted into mineral reserves.
2. The underground mining economics used operating costs of \$70/t, and a zinc price of \$1.00/pound at 96% recovery.
3. Tonnage is reported to the nearest 100 tons, and grades are rounded to the nearest two decimal places.
4. Rounding as required by reporting guidelines may result in apparent summation differences between tons, and grade.
5. Mineral resources were completed by Allan Reeves, P.Geo., President of Tuun Consulting Inc.

Mineral Reserves – Mineral Ridge

	Tons (000's)	Gold (opt)	Gold (g/t)*	Contained Gold (oz)
Leach Pad Reserves				
Proven	2,895	0.017	0.58	48,500
Probable	4,220	0.017	0.58	73,200
Less Material Remaining	-260	0.017	0.58	-4,500
Total Proven and Probable	6,855	0.017	0.58	117,200
Run-of-Mine Reserves				
Proven	2,474	0.047	1.61	116,200
Probable	1,239	0.032	1.10	40,100
Total Proven and Probable	3,713	0.042	1.44	156,300
Total Reserve Inventory				
Proven	5,369	0.031	1.06	164,700
Probable	5,199	0.021	0.71	108,800
Total Proven and Probable	10,568	0.026	0.88	273,500

Notes:

1. Rounding as required by reporting guidelines may result in summation differences. Tonnage and grade measurements are in Imperial units. Grades are reported in ounces per ton.
2. Leach Pad Mineral Reserves have an effective date of June 29, 2017 with the following assumptions: long-term gold price of \$1,300/oz ; assumed total ore process costs of \$10.59/t; metallurgical recovery for gold of 91%, and 24% for silver, refining and smelting cost of \$28.39/oz of gold. Allowance has been made for the facility location which excludes 260,000 t; this material must remain in-place, based on the heap material mining and tailings placement design.
3. Run of Mine Mineral Reserves are effective as of November 30, 2017. Mineral Reserves are reported within the pit designs at a 0.01 opt gold cut-off grade. Pit designs incorporate the following considerations: base case gold price of \$1,300/oz; pit slope angles that range from 38--47°; average life-of-mine metallurgical recovery assumption of 93%; crushing costs of \$1.81/t, process cost of \$5.79/t, general and administrative and tax costs of \$2.90/t; and average mining costs of \$1.42/t mined
4. The Mineral Reserves estimates within the technical report from Scorpio Gold entitled, "Updated Feasibility Study and National Instrument 43-101 Technical Report: Mineral Ridge Project", with an effective date of January 2, 2018, were prepared by Mr. Jeffery Choquette P.E., an employee of Hard Rock Consulting.
5. *Titan shows g/t gold for reporting purposes only (1 oz./short ton = 34.2857 grams/tonne).

Mineral Resources – Mineral Ridge

	Tons (000's)	Gold (opt)	Gold (g/t)*	Contained Gold (oz)
Leach Pad Resources				
Measured	2,895	0.017	0.58	48,500
Indicated	4,220	0.017	0.58	73,200
Total Measured and Indicated	7,117	0.017	0.58	121,700
Run-of-Mine Resources				
Measured	2,088	0.074	2.54	155,200
Indicated	1,094	0.066	2.26	72,600
Total Measured and Indicated	3,183	0.072	2.47	227,800
Total Resource Inventory				
Measured	4,983	0.041	1.40	203,700
Indicated	5,314	0.027	0.93	145,800
Total Measured and Indicated	10,300	0.034	1.16	349,500

Notes:

1. Rounding as required by reporting guidelines may result in summation differences. Tonnage and grade measurements are in Imperial units. Grades are reported in ounces per ton.
2. Leach Pad Mineral Resources have an effective date of June 29, 2017 with the following assumptions: a long-term gold price of \$1,216/oz; assumed process costs of \$11/t; and metallurgical recovery for gold of 91%. Silver was not used in the consideration of reasonable prospects for eventual economic extraction. Silver recoveries from heap leach pad material are projected to be 24%.
3. Run of Mine Mineral Resources have an effective date of November 30, 2017 and are reported within the pit designs at a 0.01 opt gold cut-off grade. These Mineral Resource are considered to be amenable to open-pit mining. Conceptual Whittle pit shells used the following assumptions: a long-term gold price of \$1,350/oz; assumed combined operating costs of \$12.36/t (mining, process, general and administrative); metallurgical recovery for gold of 95%, and variable pit slope angles that ranged from 38–42°. Mineral Resources are constrained to the area within the grade-shell wireframes. The areas outside of these grade shells are assumed to be at zero grade.
4. The Qualified Person for both estimates is Mr. Ian Crundwell, P.Geo., of Mine Technical Services.
5. The Mineral Resources estimates within the technical report from Scorpio Gold Corporation entitled, "Updated Feasibility Study and National Instrument 43-101 Technical Report: Mineral Ridge Project", with an effective date of January 2, 2018, were prepared by Mr. Ian Crundwell, P.Geo., of Mine Technical Services.
6. *Titan shows g/t for reporting purposes only (1 oz./short ton = 34.2857 grams/tonne).

Our Approach to Sustainability

Guiding Approach

- Our employees are governed by a commitment to integrity, trust, community involvement as well as environment and social stewardship
- Our projects are developed with the goal of delivering long-term mutual economic benefits for employees, communities, local governments and shareholders
- We strive to minimize the environmental, social and safety impacts of our activities through innovation and the use of technology
- A key measure of a successful project is defined by direct engagement and transparent discussions by our company with the surrounding communities which we impact

INTEGRITY AND TRUST

- We listen, communicate and respond to community stakeholders in an open, respectful and timely manner
- We build and reinforce our relationships through transparency
- We back up our commitments with action
- We comply with both the letter and spirit of laws, regulations and permits

COMMUNITY INVOLVEMENT

- We promote local economic development by hiring and buying locally
- We partner and invest in workforce training – so workers have the skills for future advancement and growth
- We use our projects as a catalyst to expand economic development and community investment for the benefit of local residents, community organizations and local governments

Committed to localization and building partnerships that deliver long-term mutual benefits

ENVIRONMENTAL AND SOCIAL STEWARDSHIP

- We mitigate the impacts of our actions to ensure the safety and environmental, well-being of the areas in which we operate
- We work jointly with communities to create positive, long-term legacies that benefit future generations
- We carefully manage the natural resources of our projects, and minimize our environmental footprint through sound business decisions



**FOR MORE INFORMATION
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