

Goal: Immediate Drilling to identify near-surface oxide minerals (particularly copper) that are commonly associated with underlying sulfide bearing porphyry systems

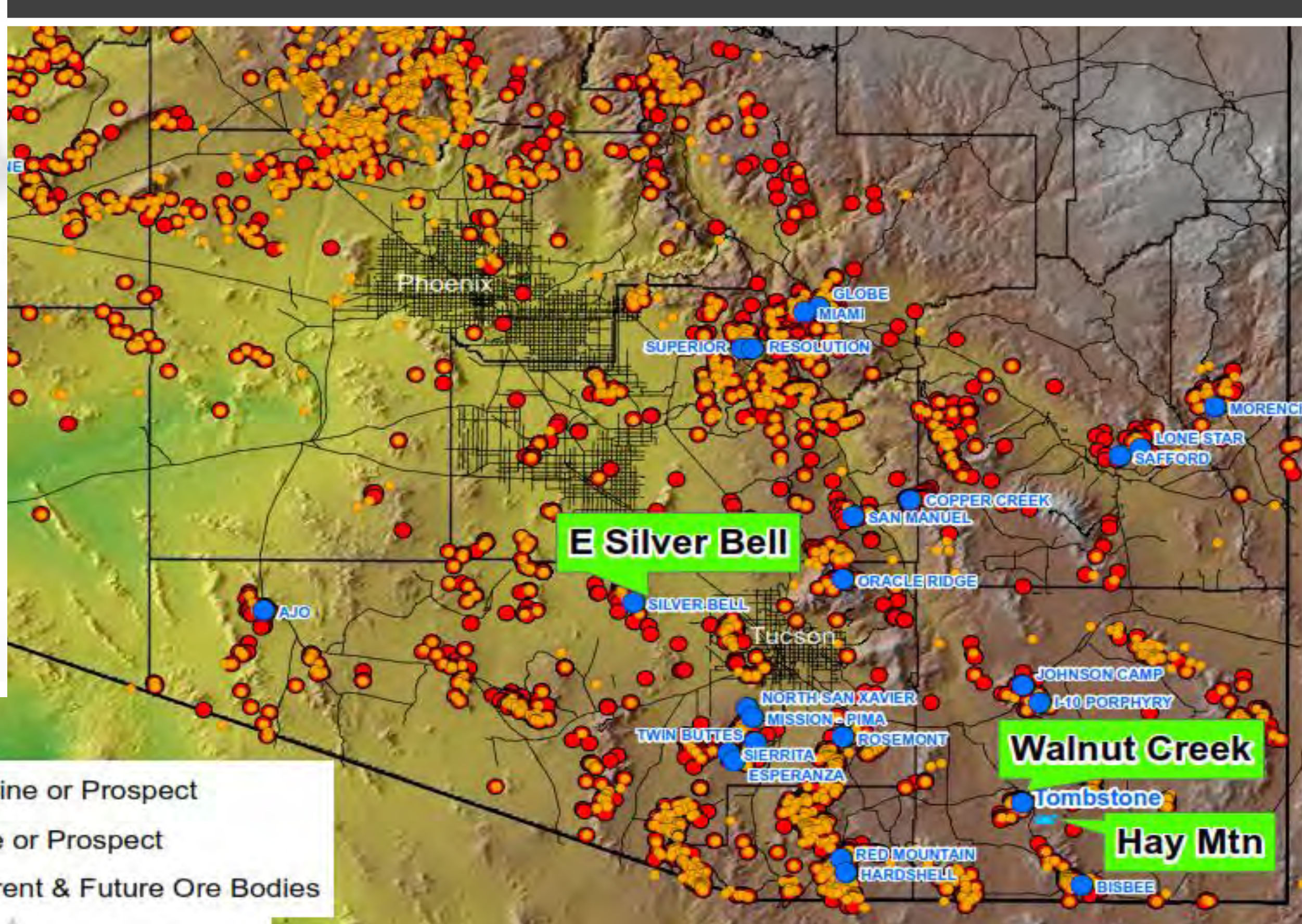
Purpose: to determine the feasibility of an open pit copper heap leach, solvent extraction and electro winning operation and/or in-situ extraction process OR possibly high grade massive copper sulfide mine shipped directly to smelter, without or even with slight further treatment.

Reason: timetable to mining operation is much shorter and at a substantially lower cost OR possibly shallow underground mine exploiting copper sulfide. Also at a much lower cost

Funding: given the current economic realities in the commodities industry, Liberty Star has re-directed efforts to identify mineral development opportunities that may be brought to market more quickly and at reduced capital expenditure. The potential for near surface oxide deposits at Hay Mountain presents such a possibility, thus creating more attractive, near term, investor opportunities: and, in the longer term, may open the door for future development of much larger and deeper sulfide deposits. Other smaller higher grade mineral deposits continues with encouragement



Arizona consistently rates high in Investment Attractiveness according to the Fraser Institute Annual Mining Report



PHASE 1 EXPLORATION OPERATIONS AT HAY MTN

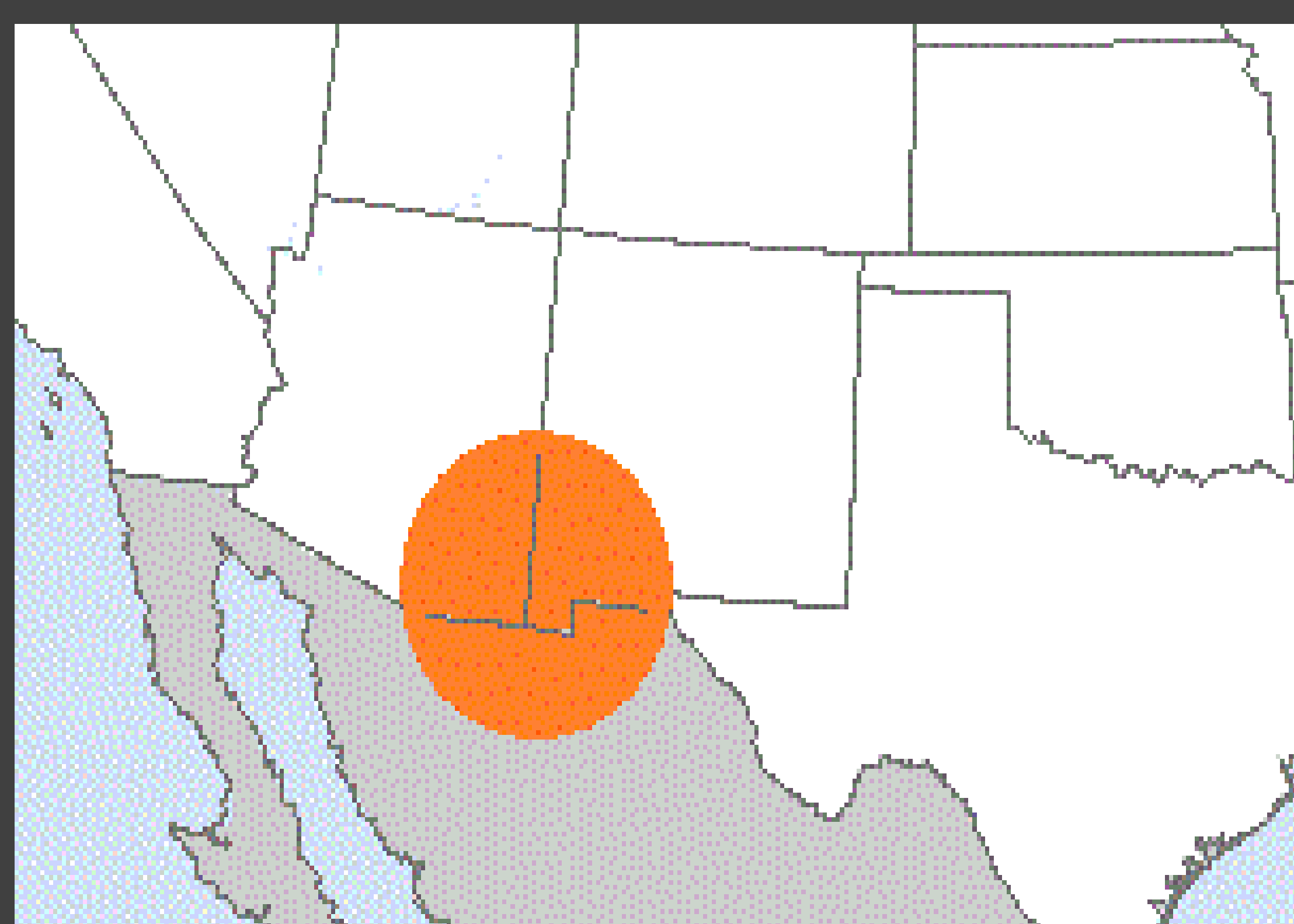
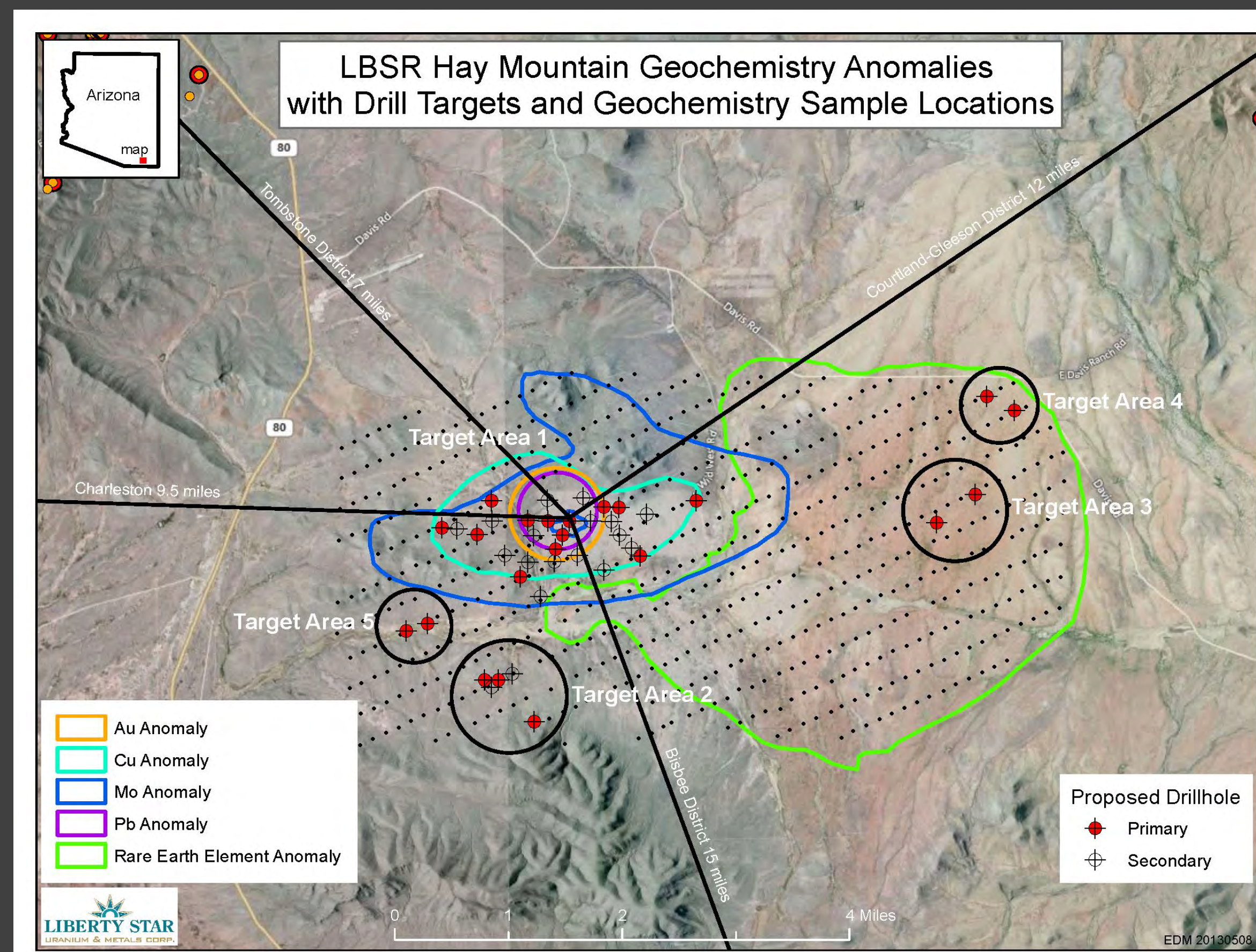
PHASE 1 EXPLORATION

PLAN OF OPERATION:

- ✓ Adjustment of drill permit
- ✓ Additional mapping
- ✓ Additional geochem
- ✓ Specific drill target

Drilling

(as soon as money is available)



Our vegetation geochemistry results may be indicative of copper oxide minerals as well as copper sulfide minerals in the anomaly area.

All porphyry copper deposits within a 200 mile radius of Hay Mountain have a copper oxide component. This includes operations in Mexico, New Mexico and all of the Arizona Porphyry Copper Province, which had, currently has, or will have a copper leach, solvent extraction and electro winning component - most of which are highly profitable.

Ongoing Phase 1 Work - 2015 Geochem

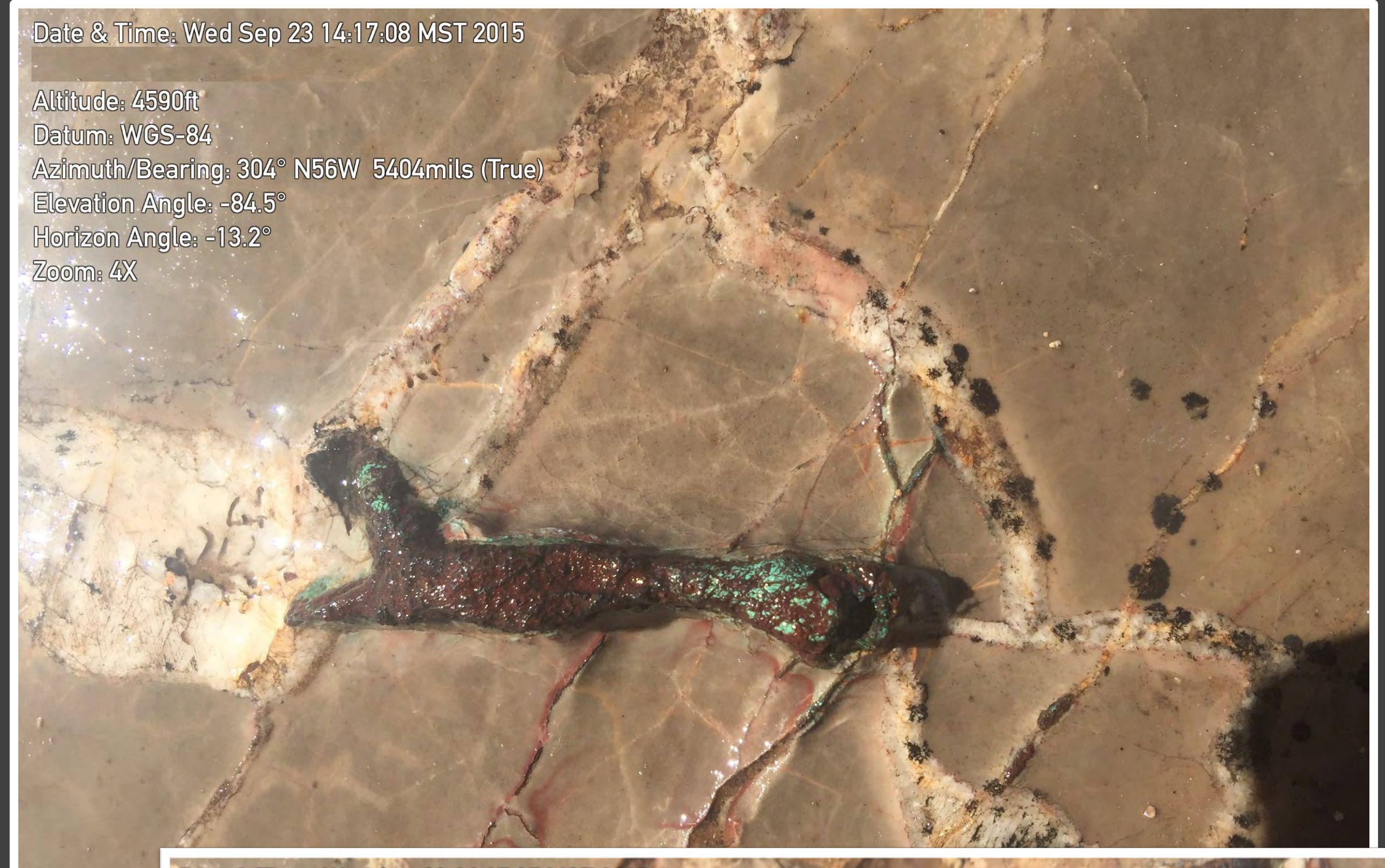
As of August 27 Liberty Star returned to the Hay Mtn Project area to undertake additional geochemical surveys via x-ray fluorescence (XRF) on mineral outcrops to map potential for near surface extraction targets. So far, readings indicate the presence of porphyry style mineralization.

Late September, from Hay Mountain

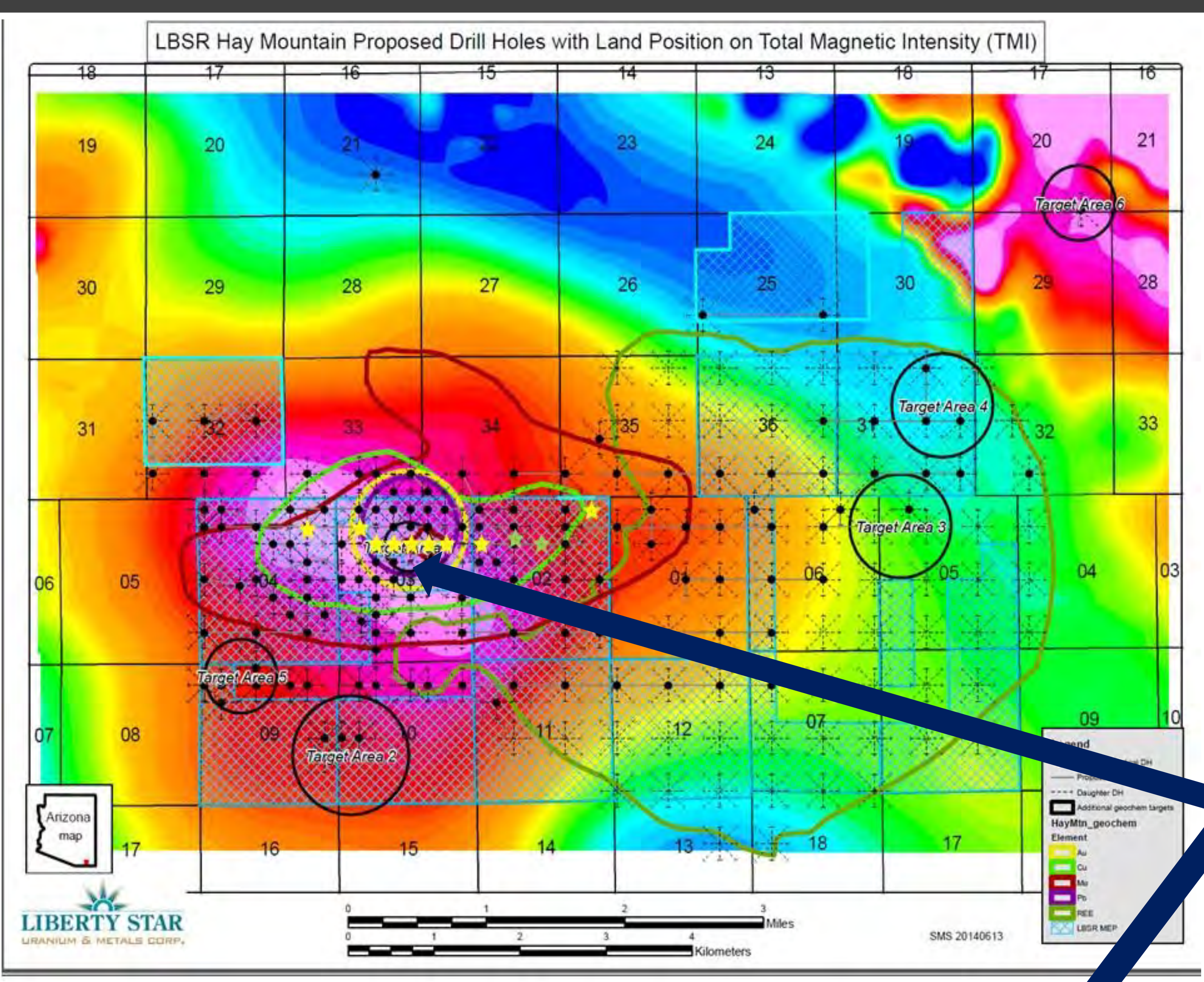
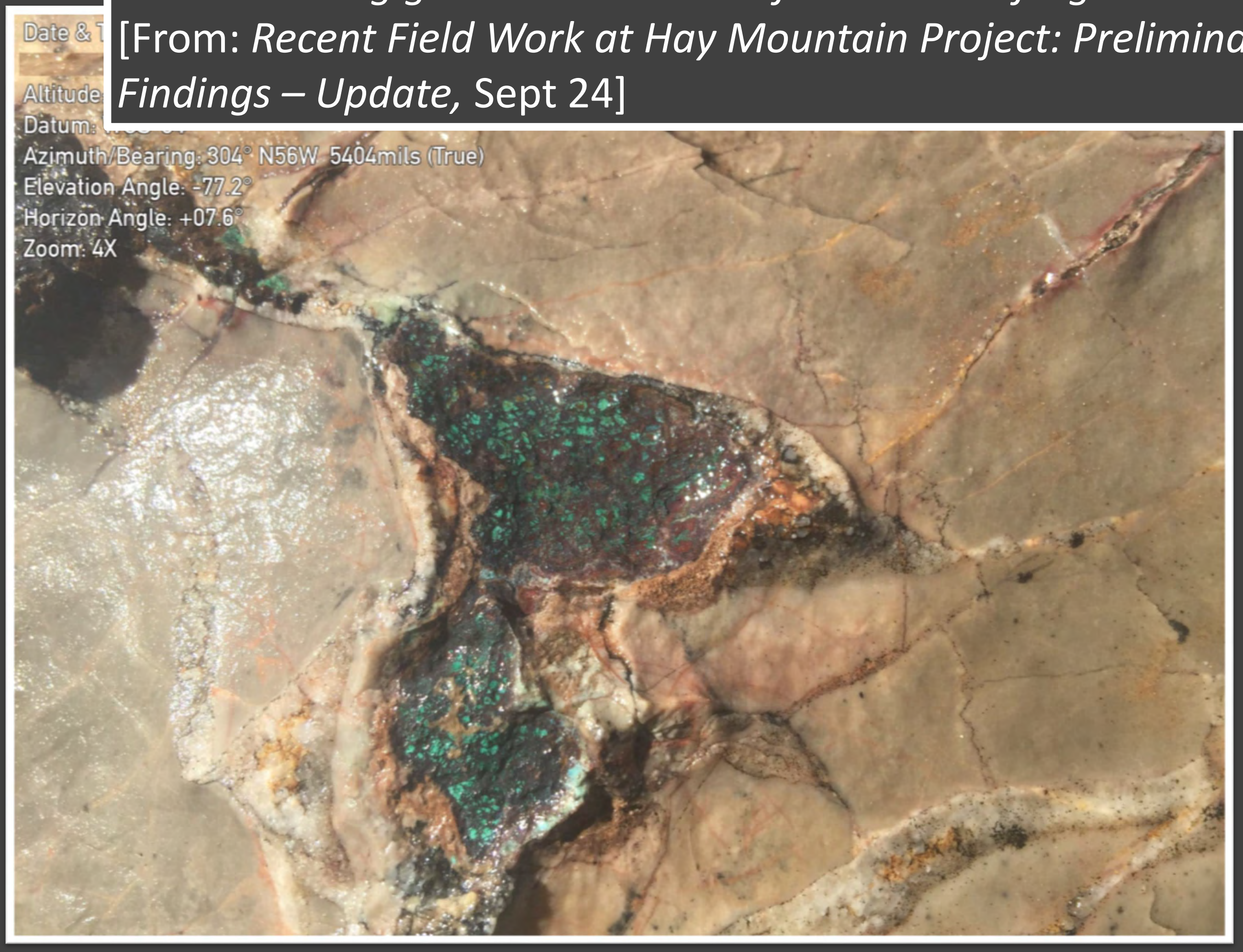
“Our discoveries of gossan with green copper oxide (malachite) in outcrop is unique and I think it is quite an unprecedented accomplishment. The use of the Niton XRF analyzer was critical to those discoveries of mineralization.” Jim Briscoe [From Agoracom Discussion Forum, Sept 24]

From data gathered through the use of the Niton and in conjunction with an experienced consulting geologist’s assessment, Liberty Star is pleased to announce a significant discovery that substantially underscores the potential for drilling out a near surface - shallow program of copper exploration we hope will lead to a minable oxide copper ore body or a high grade sulfide copper ore body.

“We have identified the presence of green copper oxide in outcrop that has escaped human notice for at least 10,000 years including aboriginal peoples, Spanish period prospectors, Mexican period prospectors, and American period prospectors who started right after the Apaches were quelled. Starting right after the discoveries of Tombstone - 1877, 6.5 miles to the west and Bisbee – 1878(?) and about 15 miles to the south, hundreds and then thousands of prospectors swarmed over SE Arizona for more than a hundred years, but there is only one indication of active prospect digging, that being the distant Zebra fluorspar pitting. No others. I have never been in an area of mineralization – alteration covering square miles that has no evidence of prior work.” Jim Briscoe [From Agoracom Discussion Forum, Sept 24]



“These photographed occurrences are along fractures in brecciated limestone which has been subsequently altered to marble leaving ghost-like outlines of the breccia fragments.”
 [From: Recent Field Work at Hay Mountain Project: Preliminary Findings – Update, Sept 24]



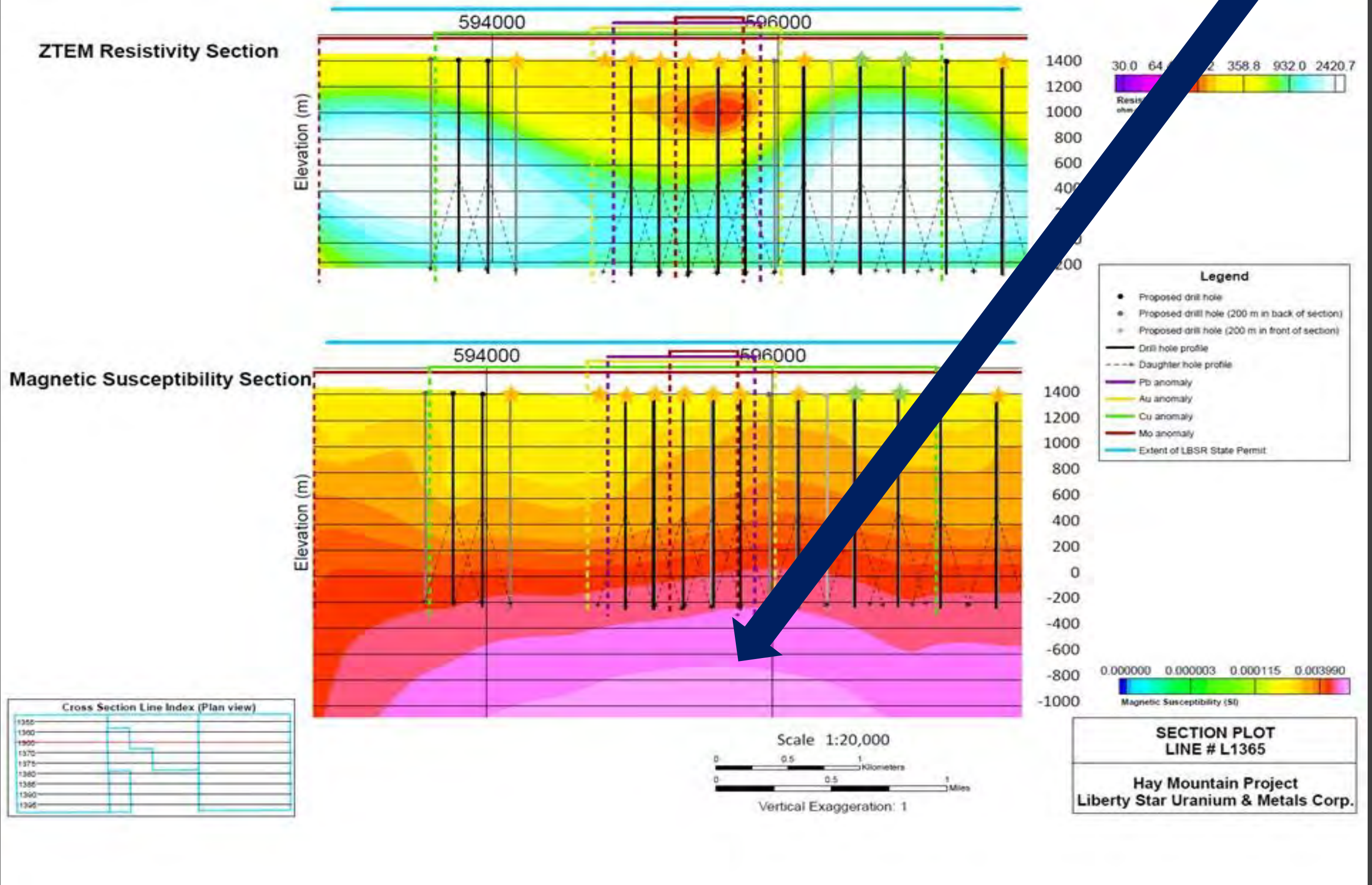
Targets, Geochem & Total Magnetic Intensity (TMI):

The porphyry copper signature is represented by colored lines – see Legend. For those experienced in Por. Cu search they will note the center Mo, Pb, Au Cu contours lie within the outer Mo contour – just the opposite of a igneous porphyry environment. This is because the Cu is quite insoluble and the Mo is quite soluble in the limestone (alkaline) environment.

The large color variegated blob that is about 7 miles x 5 miles = 35 sq. miles appears to be a granodiorite-granite intrusive more than 6 thousand feet deep. We believe it is the source of the porphyry copper revealed by geochem and ZTEM geophysics.

The ZTEM Resistivity cross section and total mag section show the drill holes planned by the colored stars – the 2 green stars represent the drill holes on the copper gossan outcrops. ★ ★

Note: The colored horizontal lines on the sectional views correspond to the geochemical contours on the plan map. The stars on the plan map are the drill holes we will be permitting almost immediately.



Hay Mountain could become a multi type extraction district. While underground/open pit mining could be developed in the long term, the 1st site of revenue generation through mineral extraction could be as follows. We propose using newly available equipment and technologies to increase **copper** recovery, and decrease costs in many ways not fully realized by current mining technologies. The result would be much **higher profit** to Liberty Star and its shareholders.

HEAP LEACHING

is an industrial mining process to extract precious metals, copper, uranium and other elements from ore via a series of chemical reactions that dissolve specific elements and then separates them after their dissolution from other earth materials.

IN-SITU LEACHING

or solution mining, is a process used to recover metals such as copper & uranium through boreholes drilled into an ore deposit. Leaching solution is then pumped into the deposit. The solution bearing the dissolved metals and byproduct is pumped to the surface and processed.

PROPOSED COPPER OXIDE EXTRACTION OPERATION AT HAY MTN

Continued and increased use of modern **x-ray fluorescence analyzers**, to determine copper grade (not leachable recovery grade), and rock type analysis (acid reactive rock vs skarnified limestone – non-acid reactive rock) to get a horizontal idea of grade changes and their 3D position.

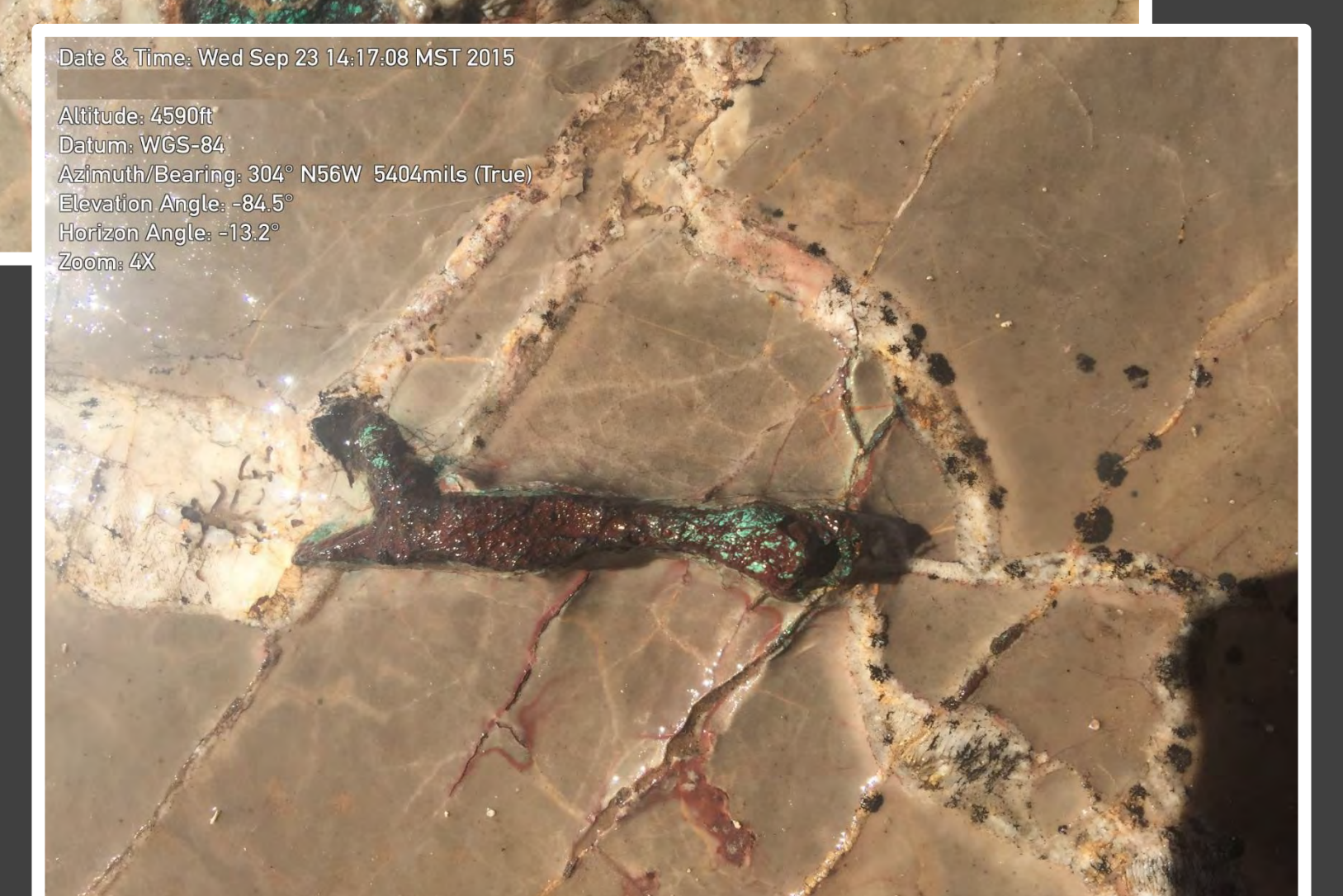
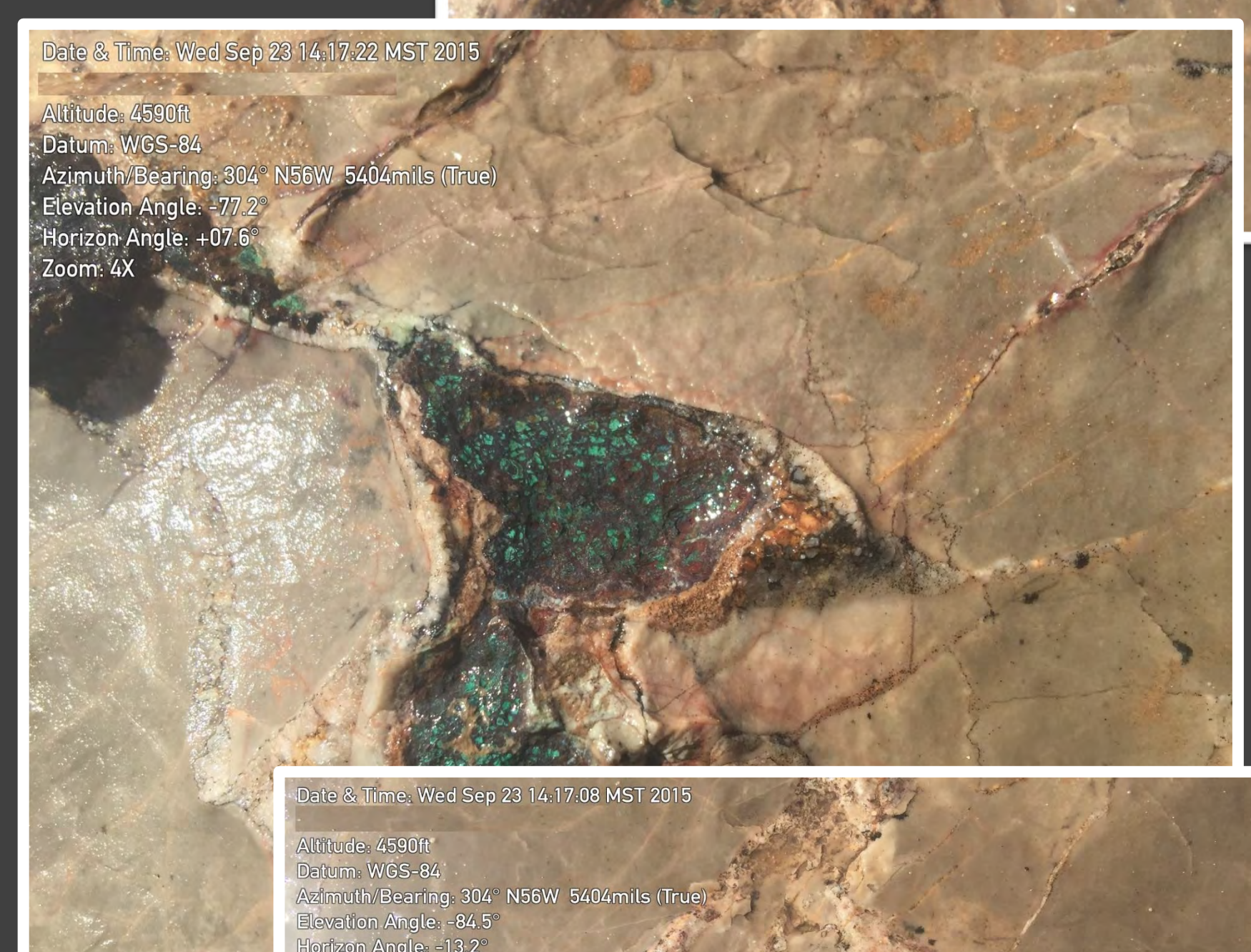


Phase 1 begins - increased detailed **geologic mapping** to include detailed core drilling to define horizontally to semi-horizontally (bedding controlled) primary and secondary copper precipitation (acid reactive) areas.

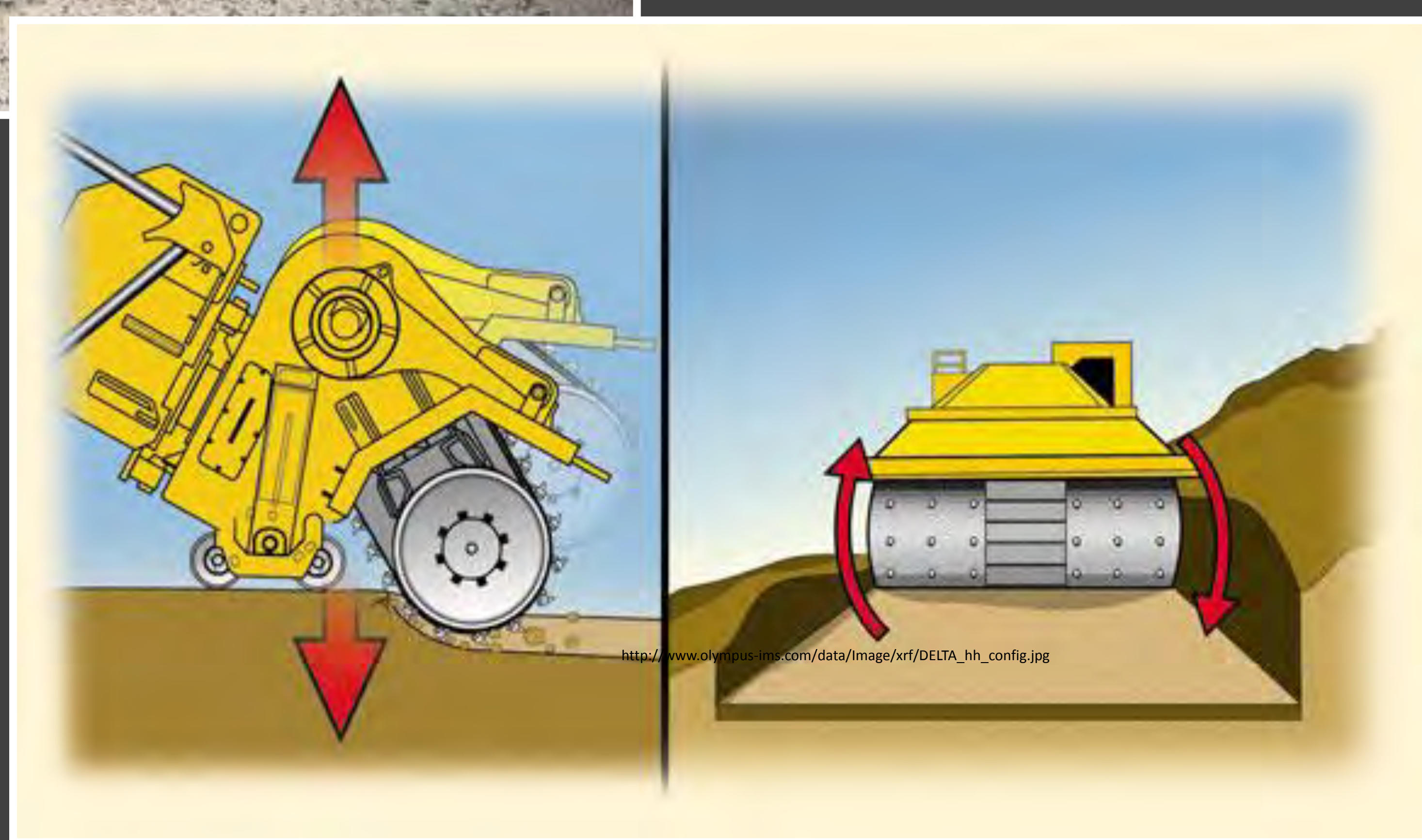
Recent work at Hay Mtn: Mapping and XRF

“This find is exciting and meaningful because it is the largest exposure so far located, and is similar to outcrops in the Bisbee mining district 15 miles to the south.”

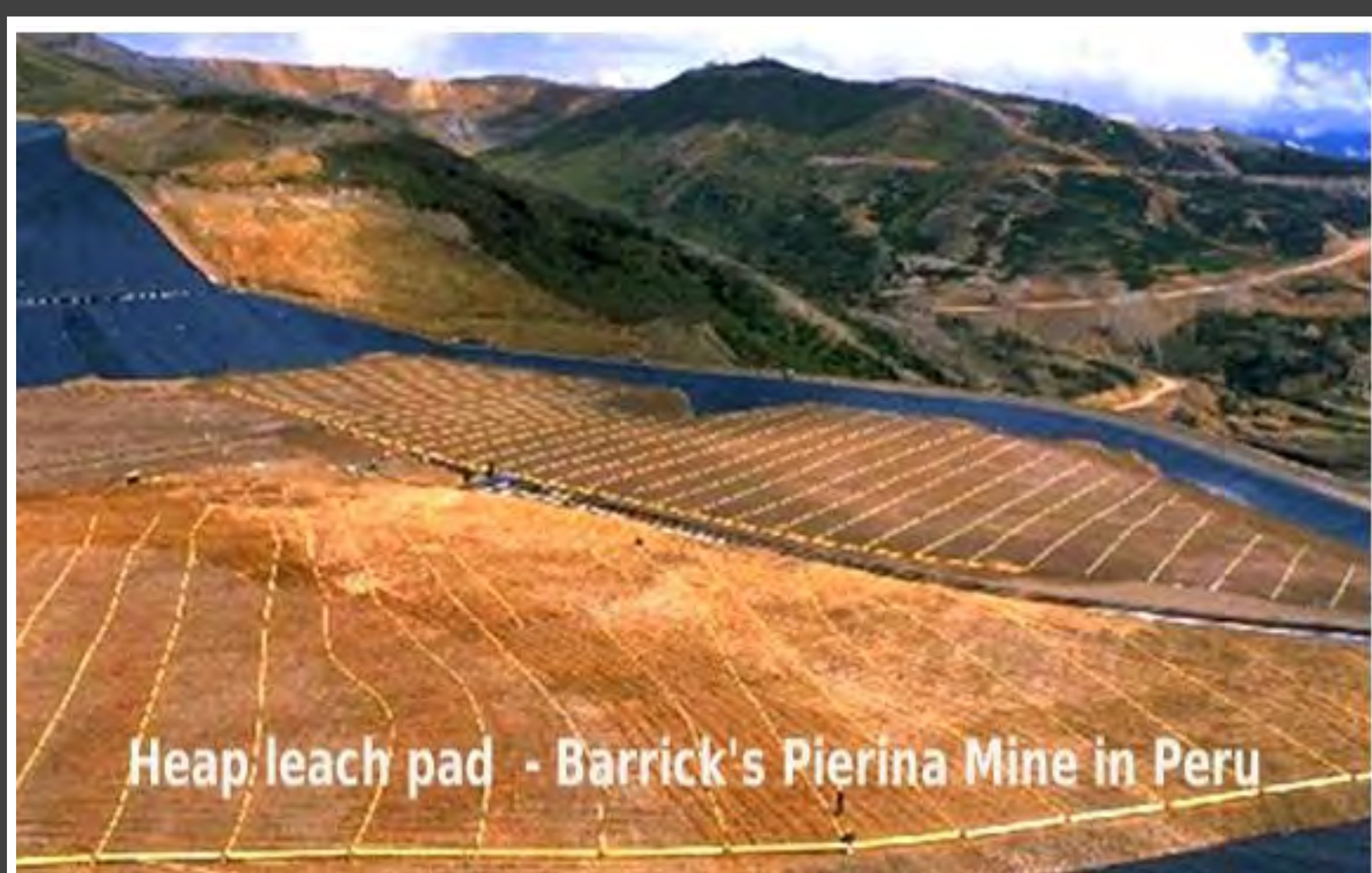
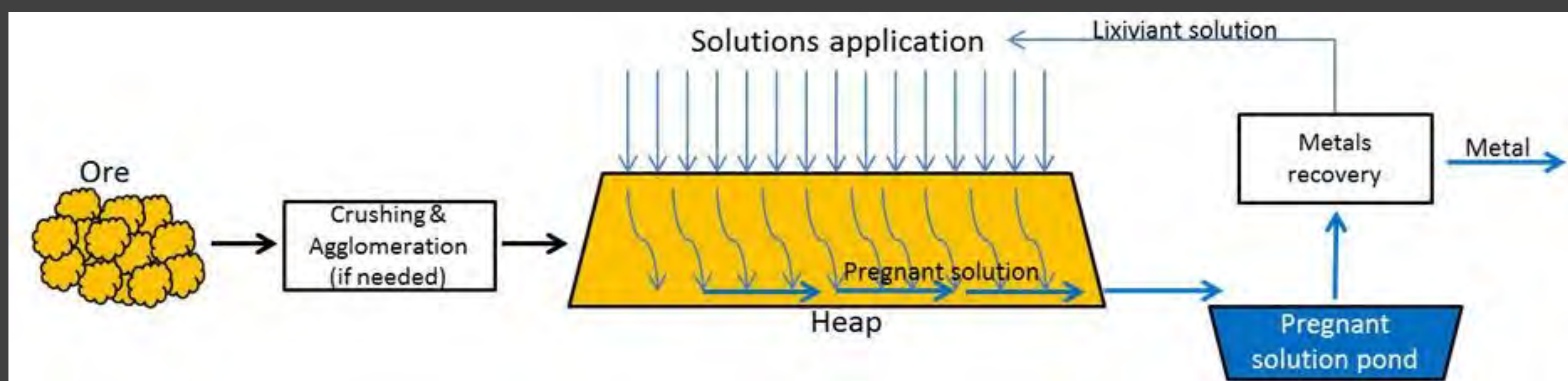
Rock samples subjected to XRF analysis showed a copper content as high as 22% and an iron content topping 15%. Initial indication is that the sample is the product of massive chalcopyrite, copper-iron-sulfide (CuFeS₂). As the mineral oxidized the copper went into solution and immediately reacted with calcium carbonate (from the adjacent limestone-marble) in solution to form malachite (copper carbonate) and the iron was fixed as iron oxide when iron in acid solution was neutralized by carbonate, to form massive hematite -limonite. The small mineral bodies, which are a few inches long would be referred as “gossan,” and is typical of carbonate (limestone) replacement deposits around the world. Geologic evidence suggests Hay Mountain, at least in part, is this type of deposit.



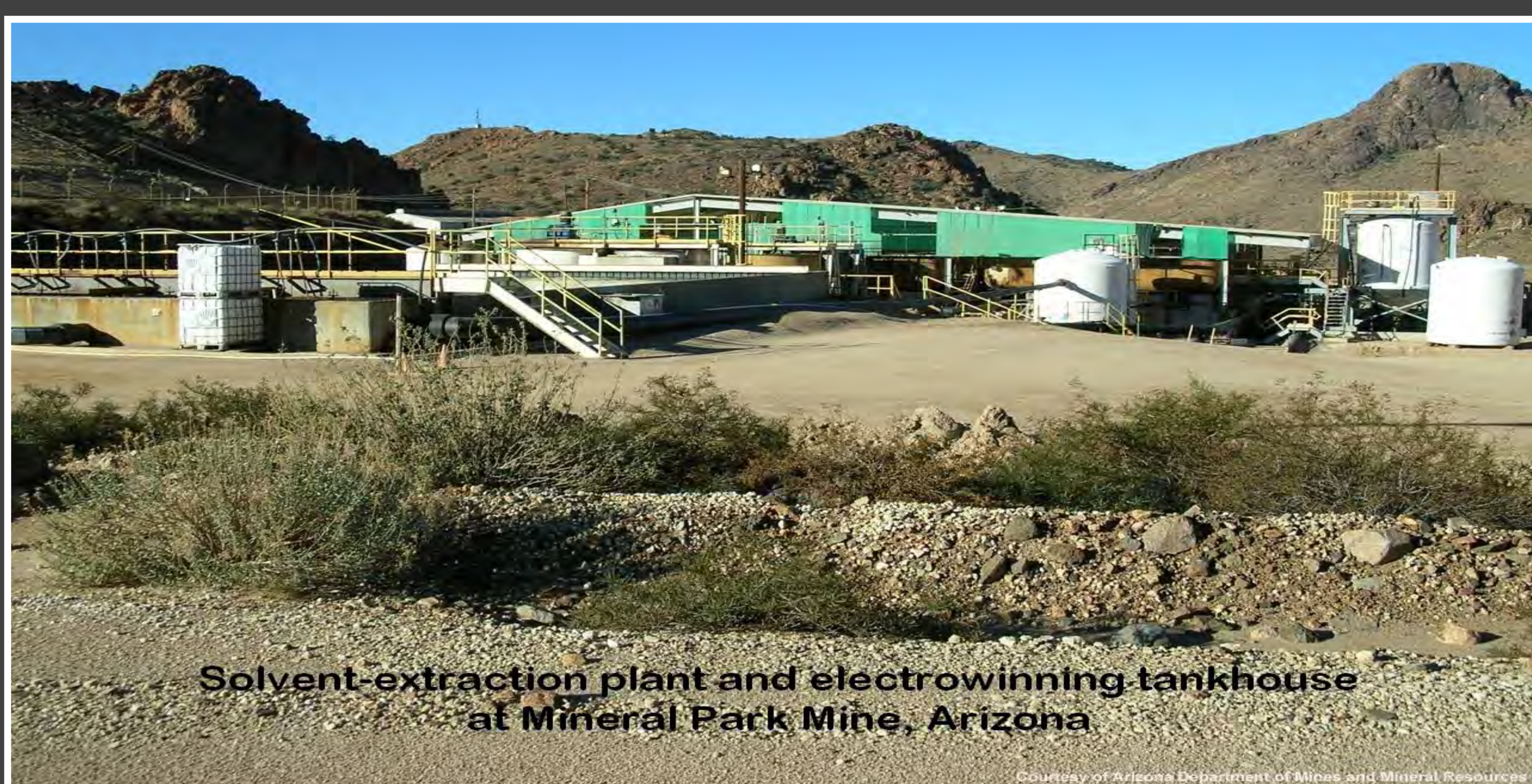
Selectively mine using a **terrain leveler (TL)**. The use of these excavators is currently gaining momentum on surface mining projects in Australia and Africa. A TL is used to selectively mine (6 inch side control, 1-2" vertical control, and 8'-12' cut) high grade rock up to +2% copper or more acid soluble copper, and adjust TL to produce optimal fragment size (determined by testing of recovery in leach test towers) which is then loaded into less expensive road trucks (vs haul pack off road type mine trucks), because the rock is already crushed by the TL, and unloaded directly at the heap conveyor belt loaders.



Heap Leach-Solvent Extraction-Electrowinning (HL-SX-EW) operations



OP-HL-SX-EW programs are conducted in porphyry rich zones globally and throughout Arizona

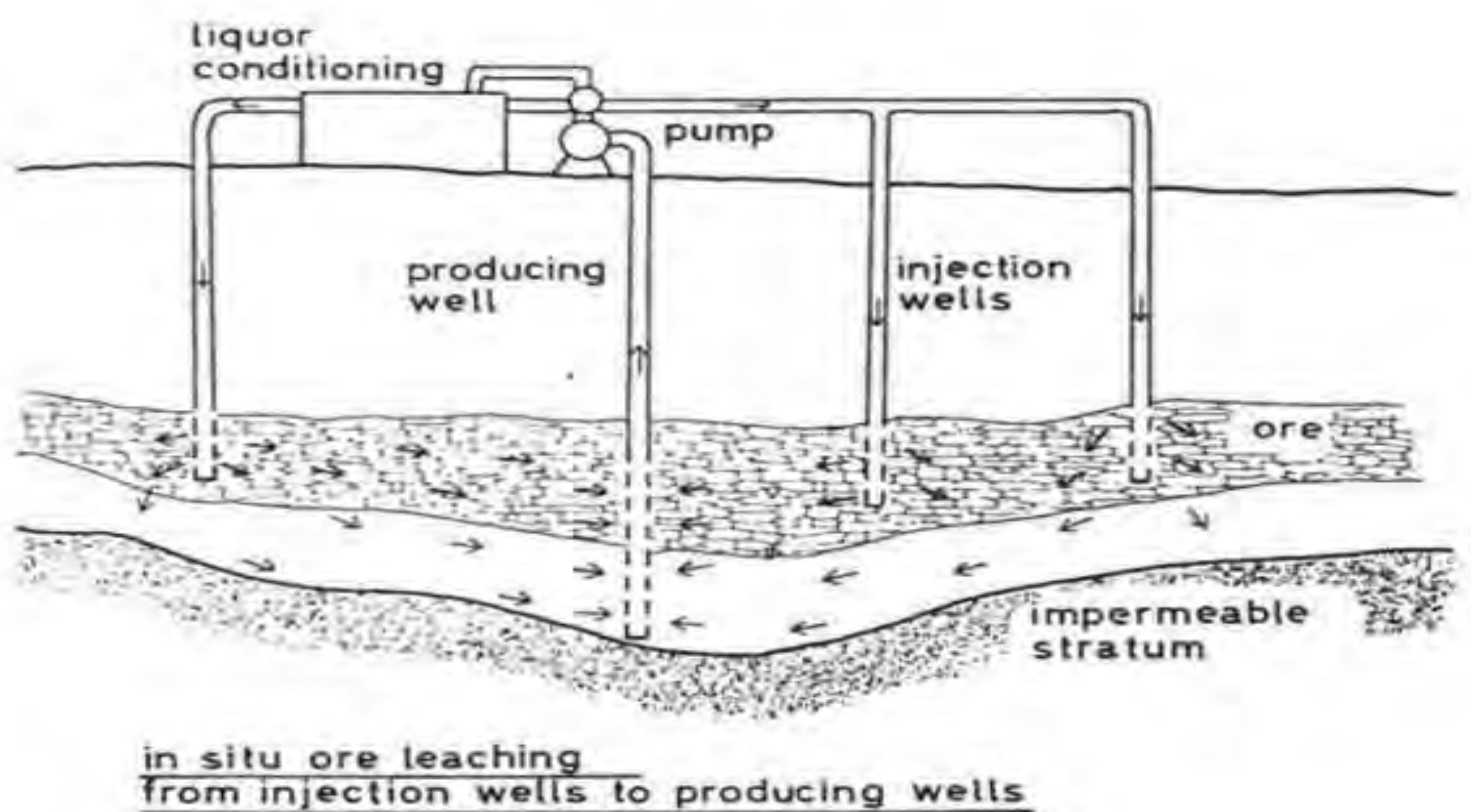


The Liberty Star shallow program results in lower costs, higher profits & fewer environmental impacts

- a. Higher grade ore processed
- b. Elimination of using reagent (acid) to wet non ore bearing rock or rock surfaces
- **Lower reagent use and cost**
- c. Elimination of processing non-ore rock through ore control and selective mining using Niton XRF sampling
- d. Smaller heap leach pad by elimination of non-ore rock comingled with high grade ore and thus **lower heap leach pad construction** cost and reagent cost/consumption (see b. above).
- e. Lower mining cost
- f. Lower haulage cost
- g. **Lower manpower requirements**
- h. No primary crushing, and the possibility of little or no secondary or tertiary crushing depending on metallurgical test work
- i. No blasting and hence **no explosives costs**, including shipping, storage or safety
- j. Greater pit slope stability
- k. **Lower dust creation**: the TL carries its own dust suppression spray
- l. Lower noise generation
- m. Probable sale of mined waste rock as itemized above
- n. **No waste rock** entrained in the ore rock flow because the TL is very selective separating ore from waste while blasting co-mingles waste with ore grade, and large equipment cannot segregate small ore pods from waste
- o. Introduced at the NRC (Nuclear Regulatory Commission) Annual Meeting (2006) Briscoe's "no-seeum" mining plan using the latest technology and know-how implementing rehabilitation and reclamation as mining progresses to lower environmental costs and impacts. Shortly after startup the mine will be invisible and almost immediately after the last ore is mined remediation rehabilitation will be complete

The **in-situ recovery operation option** offers many of the same benefits of Heap Leaching but even less expensive generally. The finishing process via SX-EW is the same as for HL mining. Ore recovery occurs below the surface at up to a few hundred feet to a few thousand feet.

In situ ore leaching: from injection wells to producing wells



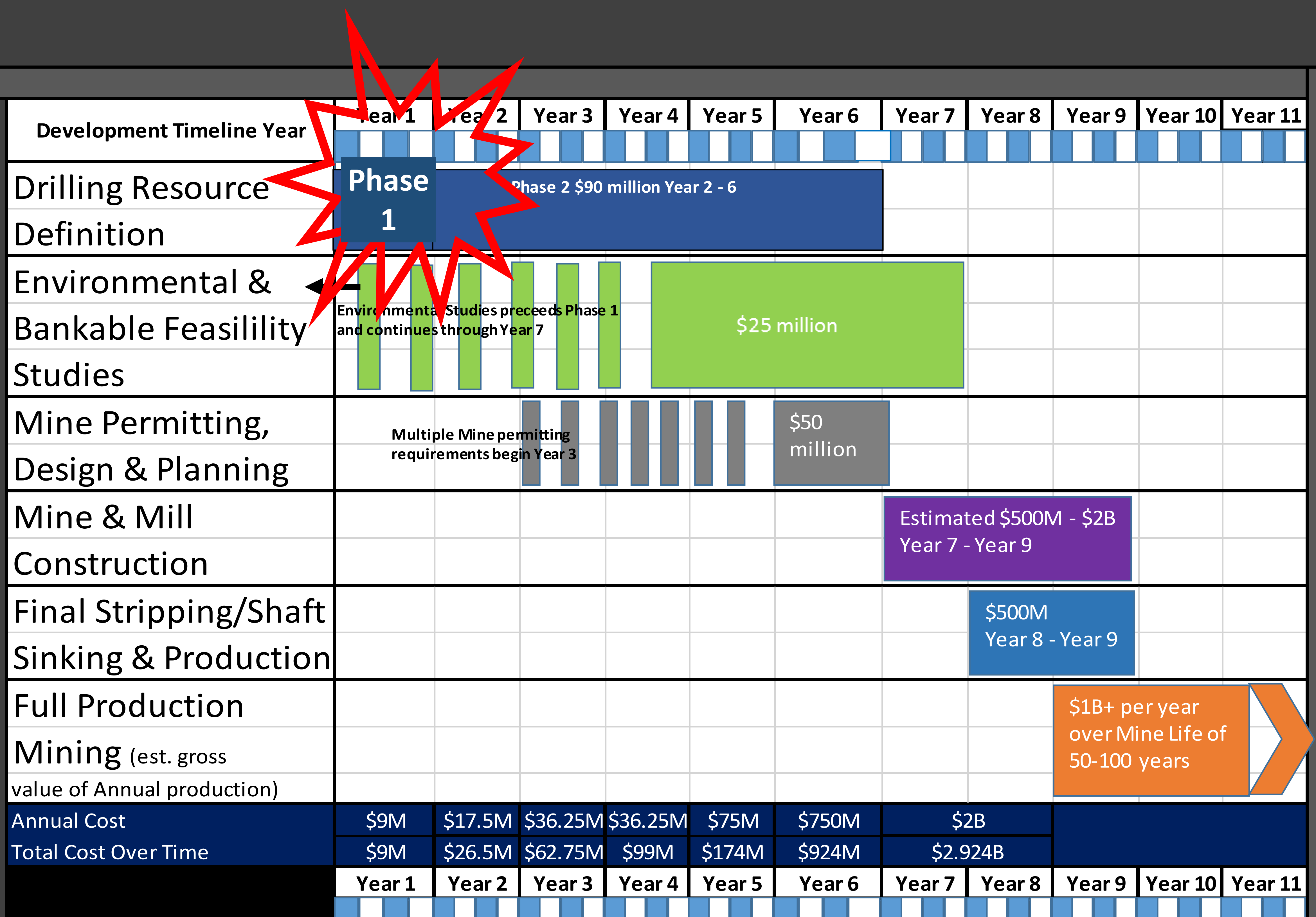
Hay Mountain Super Project LLC Proposed Investor Participation

Earn-in Opportunity for Primary Investor –

All Targets, Development Stages and LLCs

Maximum capital productivity - Mining at Target 1 for a near surface extraction operation for copper oxide and associated precious and base metals would be determined by phase 1 results.

Contemporaneous and continuing (through Phase 2) exploration for additional deep porphyry bodies can occur as funding becomes available through the generation of revenue and acquisition of new & additional partners.



Phase 1 funding requirements:

target permitting and drilling = \$2 - \$9 million

\$9 million is the earn-in basis for the Hay Mountain Super Project LLC, which represents 9% of the projected fully executed value of Phase 1 & 2.



Mr. James A. Briscoe
CEO - President/Chief Geologist & Chairman of the Board

The chief founder of Liberty Star Uranium & Metals Corp. Mr. Briscoe's involvement in mineral exploration and discoveries spans over 40 years.

He is a Registered Professional Geologist in the States of California and Arizona since 1969 and 1972 respectively. Career Highlights:

+ Credited with expanding porphyry copper ore reserves at Silver Bell, Arizona and identifying major gold deposits in the Randsburg District in California, he was also instrumental in the discovery of the large disseminated McDermitt open-pit mercury mine in Nevada. Mr. Briscoe co-discovered and co-owned the Wind Mountain gold-silver mine in Nevada.

+ Alaska, he identified the Big Chunk caldera and the copper-gold-moly potential continuation from the Pebble mine and alteration zone which is a twin of the Silver Bell zone in the Silver Bell caldera, Arizona.

+ Mr. Briscoe was the first geologist to identify the Tombstone Caldera in 1988. Recently, he discovered a significant intrusion indicating multiple mineral occurrences under the Tombstone Arizona caldera. He has served as either an officer and or director of three other publicly trading exploration and development companies.



Ms. Patricia Madaris - Vice President, Finance

Ms. Madaris joined Liberty Star in 2011 serving as the Executive Assistant to the CEO and Board of Directors. In May 2015 she was appointed to the position of Vice President, Finance upon the recommendation of Liberty Star's CEO, James A. Briscoe, and unanimously elected by the Board of Directors. Since the beginning of her tenure with Liberty Star, Patricia has worked to engage, negotiate, and close financings, and has overseen the Company's financial reporting and projected budgeting for ongoing operations.

She has also worked as an accountant/manager for corporations in Arizona, Florida, and California since 2005. Ms. Madaris received a BS, summa cum laude, in Accounting with Indiana Wesleyan University. Ms. Madaris is currently pursuing a MBA with an expected graduation date in 2016.

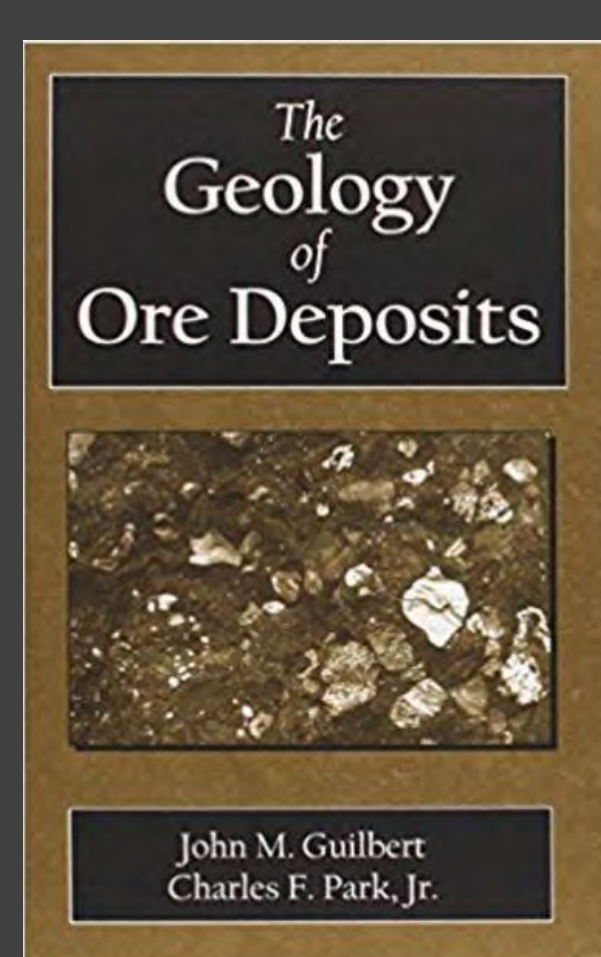
Board of Directors



Brett Gross – Director

Mr. Gross is a mining engineer (BS, Ohio state university, 1982; MS Virginia polytechnic institute, 1988; P.E., Colorado and Alabama) and attorney (JD, University of Denver, 2001) with over 30 years of experience, both domestic and international. His work experience includes surface and underground mining operations, engineering, and delivery of construction mega-projects

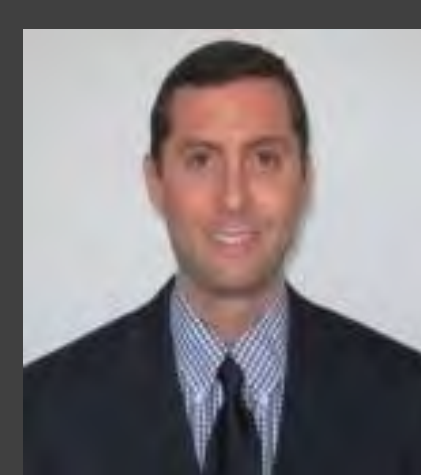
across multiple industrial and commercial markets and the practice of law related to each of these sectors. Brett brings a combination of professional skills that benefits every aspect of Liberty Star's business. Brett's engineering career began at Virginia Tech with research focused on rock mechanics and the stability of underground openings, particularly the phenomenon of "coal bumps" and "rock bursts" and studying methods to monitor stress changes in the longwall barrier pillar during the onset of the active longwall face. The ensuing years of his career have been intimately involved with a broad spectrum of engineering, operations, management and project delivery. Since 2002, Brett has practiced law both in private practice and as in-house counsel negotiating and closing complex deals with what today is among the largest and most successful engineering and construction firms in the United States.



Dr. John M. Guilbert – Director In Memoria

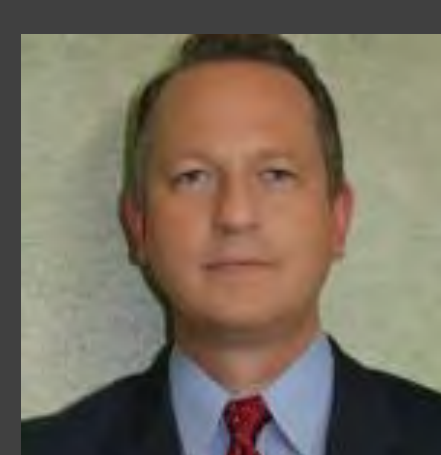
Dr. John M. Guilbert held the position of Professor Emeritus at the University of Arizona at the time of his death in October, 2017. Dr. Guilbert was a world-renowned and award winning geologist & author. He is the co-developer of the Lowell-Guilbert porphyry copper model, and recipient of mining's two most prestigious awards back to back (the R. A. F. Penrose Gold Medal and the D. C. Jackling Gold Medal Award).

Dr. Guilbert has served as a director on two TSX Venture companies and now brings his extensive exploration experience to Liberty Star Uranium & Metals Corp.



Keith P Brill - Director

Mr. Brill joined the board in December, 2009. He has been a management consultant with PA Consulting Group, Inc., a leading global consulting firm. Mr. Brill has provided Fortune 500 companies with consulting advice on topics including cost reduction, operational efficiency, and IT strategy. Mr. Brill received an International MBA from the Moore School of Business, University of South Carolina. He earned his BS, magna cum laude, in Economics and Finance, minor in Spanish, from the South Carolina Honors College.



Pete O'Heeron - Director

Mr. O'Heeron joined the board in September, 2012. Mr. O'Heeron leads an operational investment group which identifies early stage opportunities in the medical field with strong intellectual property positions. Through his 20+ years of medical product development experience, Mr. O'Heeron brings together the resources from strategic disciplines

necessary to commercialize unique technologies. Prior to founding Advanced Medical Technologies LLC, Mr. O'Heeron founded NeoSurg Technologies, Inc. to develop a minimally invasive access system. As a result of his efforts, NeoSurg Technologies was successful in developing the T2000 Minimally Invasive Access System, the world leader in reusable surgical instrumentation. Mr. O'Heeron completed the sale of NeoSurg Technologies to Cooper Surgical in 2005. Mr. O'Heeron graduated from Texas State University with a BS in Healthcare Administration and a minor in Business Administration. He received his Master's in Healthcare Administration from the University of Houston. Mr. O'Heeron currently holds 5 patents and has 4 patents pending.


Dr. John M. Guilbert – Director In Memoria

Dr. John M. Guilbert, Professor Emeritus at the University of Arizona. Dr. Guilbert was a world-renowned and award winning geologist & author. He is the co-developer of the Lowell-Guilbert porphyry copper model, and recipient of mining's two most prestigious awards back to back (the R. A. F. Penrose Gold Medal and the D. C. Jackling Gold Medal Award). Dr. Guilbert has served as a director on two TSX Venture companies and now brings his extensive exploration experience to Liberty Star Uranium & Metals Corp.


Adam P. Hawkins State and Local Public Policy & Environmental and Natural Resources Consultant

Mr. Hawkins has a MBA, Thunderbird School of Global Management and graduated *cum laude*, Arizona State University. Mr. Hawkins is a well regarded consultant specializing in a range of public policy issues including environment, water, natural resource, taxation, human resource, commerce, transportation and public lands at all levels of government from municipal to federal, including regulatory. Mr. Hawkins also assists clients on how to effectively position their projects in the public arena, including how to identify key stakeholders, activate the community through

conventional contact and social media, as well as forging partnerships with key non-governmental organizations. Previously, Hawkins worked for Rio Tinto with the global mining leader's executive and legal teams on legislative, regulatory and policy shifts necessary to developing some of the largest mining projects in North America. Mr. Hawkins has experience working with policymakers and regulators in multiple states, with an emphasis on Arizona and Alaska.


Gene C. Rosenlund Microsoft *Project* Consultant and Administrator, Exploration Geologist

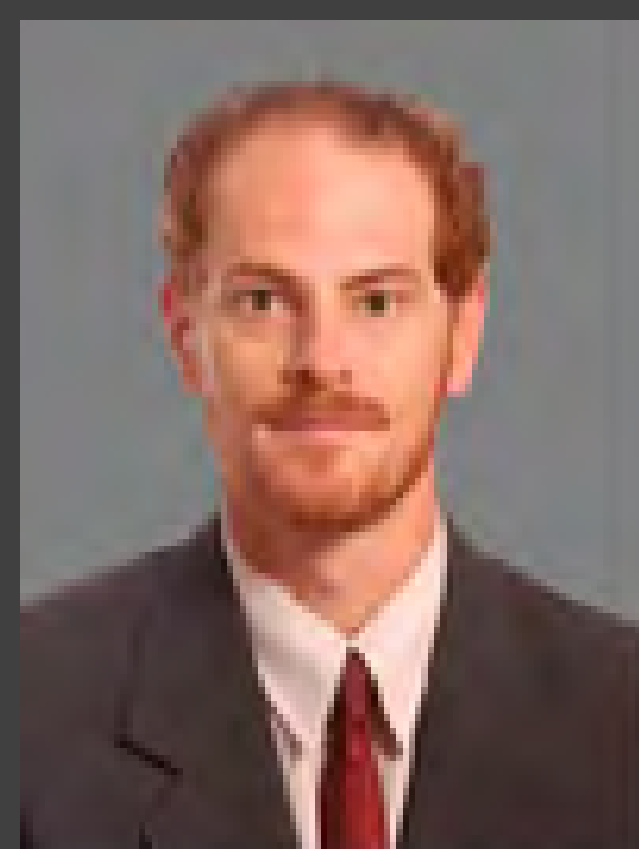
Mr. Rosenlund has a Master of Science Degree, Geology from the Colorado State University. He is currently a project management consultant (Integrated Geologic Services, LLC) specializing in Microsoft *Project* software to monitor personnel, equipment acquisition/usage, and expenditures for multimillion dollar projects. While Gene began his career as an exploration geologist, he has worked as a Vice President – Project Management for Bank of America for the

last 12 years, where he made extensive use Microsoft *Project* in the management of multiple large projects involving many people and resources. He has worked throughout the western United States in mineral resource exploration, evaluation, development, mapping, data management & 3D modeling and has experience in software systems/ process development, quality & regulatory compliance, and vendor management for commercial contracts. Gene's management, systems and geology background will help him in the use of Microsoft *Project* to monitor the operational and financial management of Liberty Star's Hay Mountain and other Liberty Star projects.


Shea Clark Smith, MSc., P.Geo. Geochemist

Mr. Smith owns and operates Minerals Exploration & Environmental Geochemistry, a laboratory, research, and consulting company that focuses on the detection of deeply buried metal and geothermal deposits. He is particularly known for his biogeochemistry and soil gas work in North America, and particularly the Great Basin of Nevada. He was Chief Geochemist for Houston Oil and Minerals (later Tenneco Minerals), Chief Geochemist for Philips Petroleum/Strategic Minerals Group, and Chief Geochemist for American Selection Trust (later

British Petroleum Minerals/Kennecott) before launching MEG in 1984. He is a member of several professional societies, past Councilor of the Association of Applied Geochemists, and past editor of Explore Newsletter. Mr. Smith has a BS and MS in Geology and geochemistry.


Michael J. Schaefer Geo-Information Specialist/Analyst

Mr. Schaefer is a Geoscience and GIS consultant and principle of Geo-Information Solutions (www.GeoInfoSol.com). He specializes in geologic, hydrologic, and geochemical GIS, data management and data analysis solutions for the Mining and Environmental Industries, and government. Mike has a BS and MS in Geology and has over 20+ years experience in the mining industry; 7 years experience owning and operating Geo-Information Solutions and prior to that 13 years of work experience with major mining companies where most recently he managed the western US Exploration for Noranda Inc.


Dr. Charles A. Ferguson Research Geologist

B.S., University of Kansas, M.S., New Mexico Tech, and Ph.D., University of Calgary.

Dr. Ferguson is a structural geologist with an extensive background in volcanology. Interpreting the structural and eruptive history of volcanic fields throughout the southwest has become a specialty. Using a somewhat novel approach to mapping volcanics that involves an emphasis on phenocryst mineralogy rather than volcanic textures, Ferguson has unraveled the structural and eruptive histories of several, previously poorly understood volcanic fields. Ferguson's experience

with volcanic rocks was gained chiefly during his Masters thesis research at New Mexico Tech. His main interest and first love in geology is, however, compressional mountain belts. His interests have taken him from the Mackenzie Mountains of northern Yukon and the Katmai volcanic arc of southwestern Alaska and many other areas. His Ph.D. research at the University of Calgary in one of the world's most impressive fold belts deep within the metamorphic internides of the Canadian Cordillera involved detailed study of slaty cleavage, a phenomenon that his fascinated geologists for over three centuries.

Primary Geophysical, Geologic, Mining and Environmental Consulting Firms

- **Geotech Ltd.**, Specialists in Helicopter Borne EM Geophysics, Ontario, Canada www.geotech.ca
- **MWH International Mining and Environmental Consultants** with offices in Anchorage, Alaska & Phoenix, Arizona www.MWHglobal.com
- **Montgomery & Associates** specialists in water resources and permitting with offices in Tucson, Phoenix, Denver, Santiago de Chile, and Lima, Peru www.elmontgomery.com