



Pakistan

The Next Generation Copper Mines

An aerial photograph of a mining site. The top half shows a dark, muddy area with tracks from heavy machinery. The middle section is a large, reddish-brown pit with several orange excavators working. The bottom half shows a lighter, sandy or gravelly area with more tracks and some small structures.

Pakistan's potential as a growing force in copper mining is immense. As companies continue to explore the country's abundant copper resource potential in this underdeveloped region, Pakistan provides significant investment opportunities in this rapidly growing sector. The country's geographical location, regulatory frameworks, and partnerships are driving Pakistan's mining industry forward. Discover how Pakistan is poised to become the next frontier in copper mining, offering high potential prospects for investors and stakeholders alike.



The Tethyan Metallogenic Belt makes the country home to one of the world's most significant porphyry copper-gold mineral provinces. In addition, extensive geological surveys highlight vast, untapped resources of rare earth elements, industrial minerals, non-metallic resources, and gemstones across the country.



The government has made a firm commitment to unlocking Pakistan's mining potential at both macro and micro levels. With an attractive legal and fiscal framework designed to foster investment, the country is ready to offer potentially high-return opportunities to investors. This environment coupled with a focus on policy and infrastructure development initiatives provides a solid foundation for long-term partnerships and growth.

Mining promises to be a transformative industry for Pakistan and it is an opportune time for investors to capitalize on this and secure a stake in this sector.

Pakistan has a history of success in the extractive industry with oil and gas upstream businesses being at the forefront.

Key successes such as the discoveries of the giant gas fields at Sui and Mari followed by accelerated exploration and production of hydrocarbons in subsequent decades enabled various companies to grow into sizeable enterprises. Some of these companies with their rich legacy, skilled human resource base, established supply chain systems and robust processes have also entered

partnerships in joint venture projects beyond the borders of Pakistan.

These players are now expanding their experience in extractive upstream segments to focus on growing the mining sector.

With a geology blessed by natural resources, to a government committed to incentivising investors so Pakistan's minerals can be tapped for commercial advantage, to the players in the Pakistan market who are second to none in their experience and man-power – the time for mining to takeoff in the country seems ripe.

Mining promises to be a transformative industry for Pakistan and it is an opportune time for investors to capitalize on this and secure a stake in this sector.

Tethyan Belt

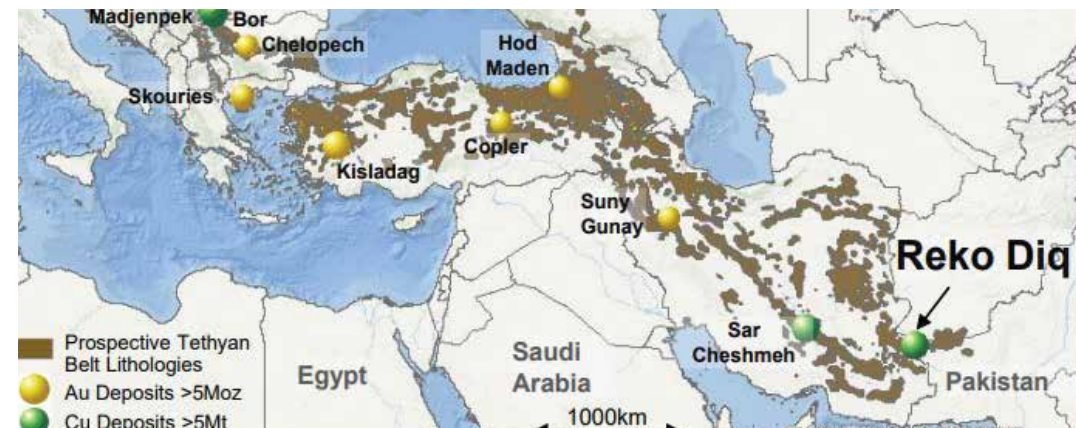
Promise In Pakistan

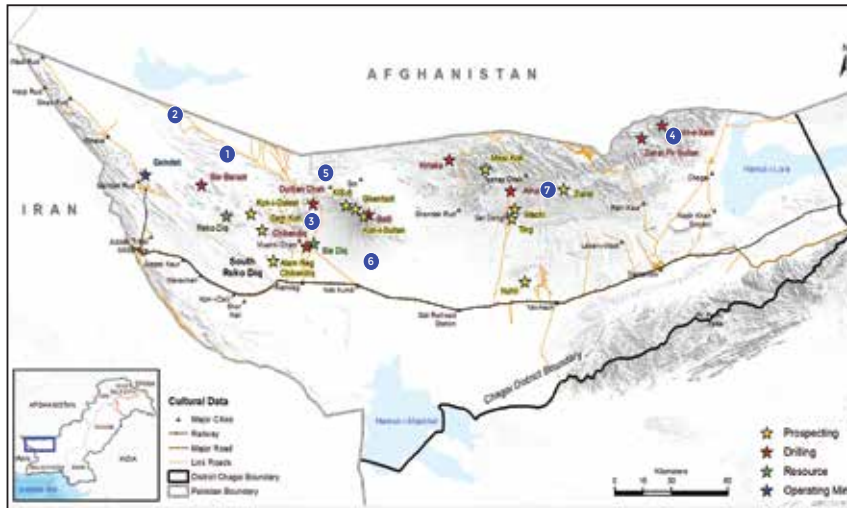
This mineralized zone endowed by the Tethyan Belt is particularly well-developed in some 50,000 sq. km of western Balochistan in the Chagai district.

50,000
sq. km

The Tethyan Tectono-magmatic and Metallogenic Belt creates a globally recognized porphyry copper-gold and base metals mineralized zone through the areas it passes. Closer to home, the Tethyan Belt straddles western Pakistan making the country home to one of the world's most significant yet un-tapped porphyry copper-gold mineral resource.

A map of the Tethyan Belt showcasing lithologies with prospective resource of copper and gold, illustrates that most of the prize is located in the Province of Balochistan, Pakistan. Consisting of the Chagai Magmatic Arc, this area carries promising geology with commercially feasible prospects through which numerous exploration and development mining projects can be founded.





Projects and prospects in the Chagai Magmatic Arc are marked on the area map.

Projects in the Chagai Magmatic Arc:

Projects	~Rock Tonnage (Mt)	Commodity
Reko Diq (incl. Tanjeel)	6,400	Cu, Au
Saindak	400	Cu, Au, Ag
Siahdiq	650	Cu
Dasht-e-Kain	350	Cu, Au, Ag
Durban Chah	300	Cu, Au
Koh-i-Sultan	n.a.	Cu, Au
Ziarat Pir Sultan	200	Cu, Au, Mo

Estimates of some mineral reserves:

Untapped reserves of Copper stand well in excess of

**7,000
Metric Tons**

Gold and Silver stand at

**50 Million
Ounces each**

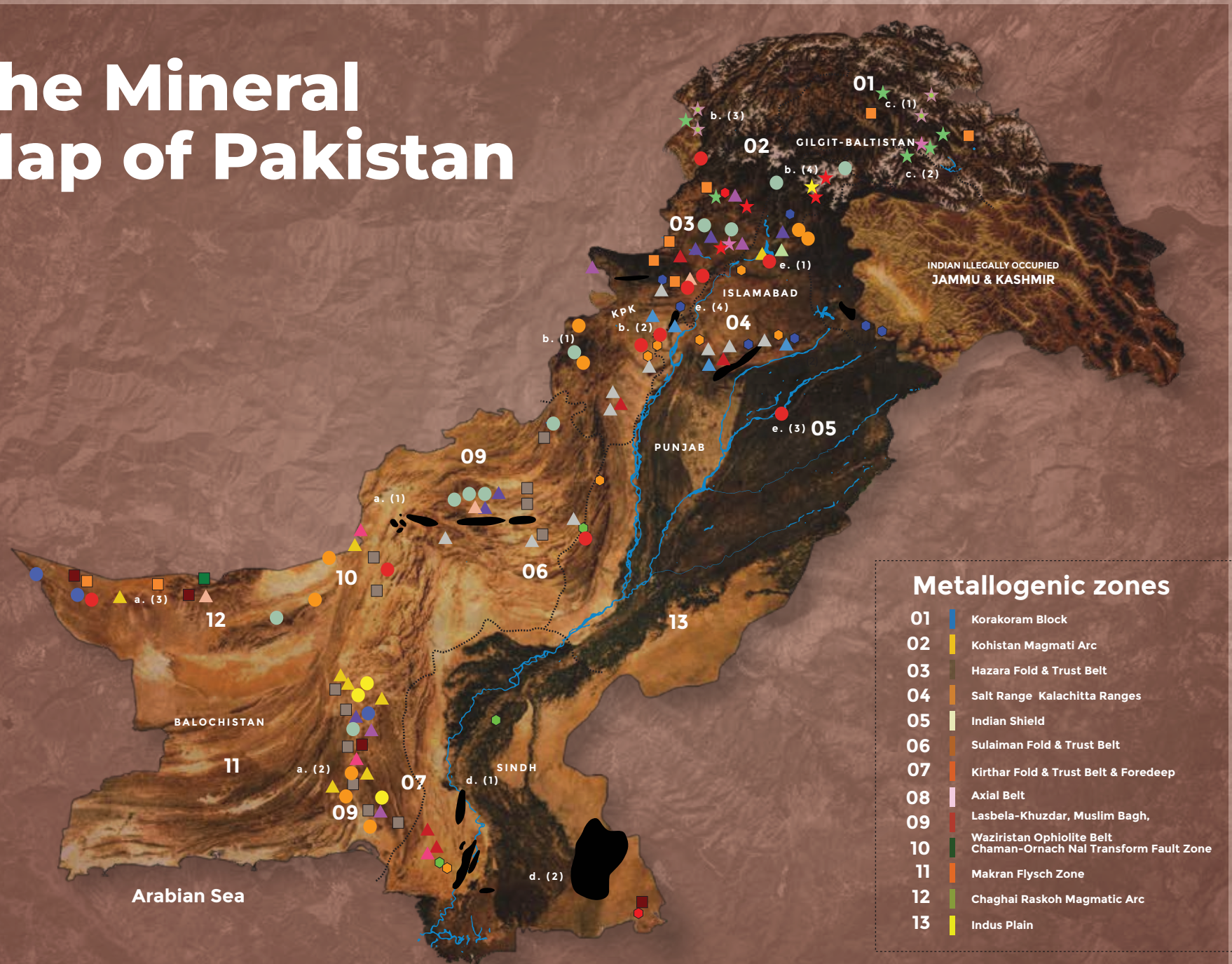
Endowed with huge mining potential Pakistan holds one of the world's largest copper districts, apart from gold, lead, nickel, barite, iron ore, bauxite, graphite and endless other minerals.








This is also where Reko Diq, one of the largest global copper-gold fields is located.







The Mineral Map of Pakistan












METALIC MINERALS

-  Chromite
-  Manganese
-  Iron ore
-  Copper / Gold
-  Zinc-Lead





NON-METALLIC MINERALS DIMENSION STONES

-  Aragonite / Marble
-  Granite
-  Onyx marble
-  Fossiliferous/re-crystallized Limestone

CHEMICAL, FERTILIZER & INDUSTRIAL MINERALS

-  Barite (Barytes)
-  Dolomite
-  Feldspar
-  Gypsum (including anhydrite)
-  Magnesite
-  Phosphate
-  Rock salt
-  Silica sand
-  Soapstone / Talc

CLAYS

-  Bentonite
-  China clay
-  Fire clay
-  Fuller's earth

GEMSTONES

-  Emerald
-  Peridot
-  Ruby
-  Topaz
-  Tourmaline
-  Aquamarine

FUELS

-  Coal

- a. (1) **Qilla Saifullah/
Muslim Bagh:**
Metallic/Industrial
- a. (2) **Lasbela/Khuzdar:**
Metallic/Industrial
- a. (3) **Chagai:** Metallic

Balochistan

Mineral Resource Corridors

Copper:

- 6.5 Billion Tons Reserves
- Saindak Copper
- Potential : 400 Million Tons
- Reko Diq Copper/Gold
- Potential : 5.5 Billion Tons

Barite:

- 14 Million Tons Reserve

Limestone:

- 3 Million Tons per year
- Production

Chromite:

- 500 Million Tons Reserves

Lead/Zinc:

- Duddar Project
- GoB/PMDC/MCC China
- BME Lead/Zinc Feasibility
- Study on-going

- b. (1) **South Waziristan:**
Metallic
- b. (2) **Karak:** Industrial
- b. (3) **Chitral:** Metallic
- b. (4) **Swat:** Gemstone/
Industrial

Khyber-

Pakhtunkhwa

Mineral Resource Corridors

Gemstone:

- Swat Emerald Mines -
- Best Emerald in the
- world.

Granite:

- Reserves: 3 Billion Tons

Limestone:

- 7 Cement Plants
- 5 new blocks auctioned
- for new Cement Plants

Metallic:

- Geo Chemical Survey in
- Malakand & Chitral has
- indicated vast potential

Copper:

- Reserve under
- exploration

GB & AJK

Mineral Resource Corridors

Gemstone:

- Great Potential of multiple
- Gems in Rakaposhi, Hunza,
- Skardu, Sost, Neelam
- Valley, Muzaffarabad.

Metallic:

- Rock Gold Potential
- Placer Gold Potential
- Antimony Potential &
- Molybdenum

Limestone:

- Good Potential for Cement
- Raw Material

- c. (1) **Gilgit:** Gemstone
- c. (2) **AJK:** Gemstone & Industrial

Sindh

Mineral Resource Corridors

Coal:

- Reserves: 185 Billion Tons
- Annual Production: 4 Million

Granite:

- Reserves: 26 Billion Tons

Limestone:

- 5 Cement Plants

- d. (1) **Lakhra:** Energy
- d. (2) **Thar:**
Energy/Dimension Stone

Punjab

Mineral Resource Corridors

Limestone:

- Reserves: Inexhaustible

Rock Salt:

- Reserves: Not yet quantified

Iron Ore:

- Reserves: Inexhaustible

Silica:

- 134 Million Tons Reserves

- e. (1) **Attock:** Industrial
- e. (2) **Salt Range:** Industrial
- e. (3) **Chiniot:** Metallic / Iron Ore
- e. (4) **Kalabagh:** Metallic / Iron Ore

The Government's Commitment

The Special Investment Facilitation Council (SIFC)

The Special Investment Facilitation Council (SIFC) was formed in 2023 with a particular focus on attracting investment in earmarked sectors with mining being included amongst those sectors.

The SIFC acts as a single window for 'multi-domain' cooperation in relevant field with global players from the wider world to enable an investor-friendly environment in Pakistan.

SIFC focus on mining led to Pakistan hosting its first international event on mining.

- Pakistan Minerals Summit held on August 01, 2023, brought together diverse stakeholders from within the country and beyond.
- Included representation from senior executives of global mining giants such as Barrick, Rio Tinto, BHP Billiton, Ma'aden etc.
- Panel on 'Ministerial Dialogue' had Ministers from Saudia Arabia, Azerbaijan and Pakistan discussing the way forward on policy developments for mining.
- International investment houses such as Rothschild, Jeffries and PIF were present to share their insights.



Pakistan is gearing up to host its second
**“The Pakistan Minerals
Investment Forum 2025”**

which is scheduled to be held on April 8th - 9th,
2025, at the Jinnah Convention Centre
in Islamabad.



Pakistan Means Business

GoP is demonstrating its conviction in the sector by streamlining the legal framework and incentivizing investment.

In 2022 legislation in the form of the Foreign Investment (Promotion and Protection) Act was ratified by the upper and lower houses of parliament and went on to build investor confidence and secure their investment in the country.

Other than this law being passed the Government of Pakistan has put in place incentives that benefit operators and investors, specifically in the mining sector. These include introducing a fiscal regime that attracts investment through tax breaks, duty exemptions and flexibility on ownership of mining assets.

Tangible steps that illustrate the government's commitment include incentives already in place:

- Introducing legislation such as Foreign Investment Promotion and Protection Act 2022.
- Tax breaks for operators.
- Duty exemptions on mining related equipment.
- Flexibility on foreign ownership.

Legislation and Policy Development

- Mining legislation has been reviewed by global legal experts engaged by the Government of Pakistan.
- Focus on putting in place a favorable legal framework that creates 'mutual advantage' for the investors and operators as well as the country and local communities.
- Harmonization of existing mining laws and regulations especially between the provinces and the federal government.



Consolidated platforms for mining data

- Creation of a National Mineral Data Center to facilitate information availability for interested players and investors.

Geological mapping

- Advanced geological surveys have and continue to be undertaken to map out potential blocks which can be awarded to interested investors.

Curriculum Development to create mining workforce

- Development initiatives underway
- Introduction of vocational trainings and skills-courses after consultative sessions with government and non-governmental stakeholders in the mining sector.



Creation of Special Economic Zone (SEZ) & Export Processing Zone (EPZ)

- Government has established trade zones to promote economic growth and enhance the overall competitiveness of the areas earmarked for mining.
- One of the main drivers was to create an environment conducive to foreign investment and simultaneously incentivize growth in the mining sector.





Infrastructure Development

To further serve the geographical advantage the government has placed a special emphasis on infrastructure development.

Supplementing existing networks to create connectivity for operators and investors.

This includes:

- Enhancing Railway connectivity between Gwadar and Karachi ports and Chagai and other areas along the metallic mineral belt.
- Undertaking overhauls on highway routes to establish safe and efficient transport corridors to and from mining operations in far flung areas.



Other infrastructure development projects in the pipeline include:

- Setting up smelting and refining and processing industries for vertical integration within the mining sector.
- Developing Gwadar and Karachi port facilities to serve mineral exports and imports of necessary equipment for operators.
- Fast track development of traditional and renewable energy supply projects to power mining operations across remote areas.
- Create platforms to encourage public-private partnerships for infrastructure, power supply and mining projects.



Strategic Location & Infrastructure

- Situated at the crossroads of Asia and the Middle East, Pakistan provides access to vast markets with robust infrastructure such as railways and road networks essential for large-scale mining projects.
- Power availability, including renewable energy, further enhances its investment appeal.



Abundant Untapped Mineral Resources

- Pakistan hosts vast resources of critical minerals crucial for energy transitions, in the Chagai Magmatic Arc in Balochistan, which is part of the renowned Tethyan Belt.
- These areas have demonstrated successful and economically viable copper and gold mining projects.



Competitive Advantages for Global Investors

- Ample port capacity, including deep-sea ports, facilitates international trade.
- Access to financial markets ensures funding availability for major projects.
- A skilled and competitive labor force is readily available to meet the industry's demands.
- The country's focus on modern, green technologies eliminates reliance on outdated, inefficient practices.



PAKISTAN: A Premier Destination for Mining Investment



Players with Experience and Expertise

- Pakistan boasts a long-standing history in the extractive industries, supported by experienced local and international stakeholders.



Government Commitment & Vision

- The government actively supports increased Foreign Direct Investment (FDI) through favorable fiscal terms, one-window facilitation, and policy initiatives promoting equity, employment, and sustainability.



Supportive Legal and Fiscal Framework

- The government has established a stable and attractive fiscal regime to incentivize investment, ensuring a business-friendly environment for reputable global mining companies.
- Major projects, such as the Reko Diq, Siah Diq and Saindak copper mines, underscore the country's commitment to fostering investment security.
- Financial support is available from domestic and international institutions, including DFIs and IFIs.

Partner of Choice



Mari Minerals (Pvt.) Limited is a wholly owned subsidiary of MariEnergies, a powerhouse with a market capitalization of approximately \$3.0 billion. As part of the Fauji Foundation Group, one of Pakistan's largest and most influential conglomerates, MariEnergies brings unmatched financial strength and industry expertise, driving strategic growth in the mineral exploration sector.

Mari Minerals

(Private) Limited

Established in 2023, it focuses on unlocking the country's vast mineral potential. The name MARI originates from the Mari Gas Field—the largest gas field in Pakistan—discovered in 1957 by Esso Eastern & Mobil.

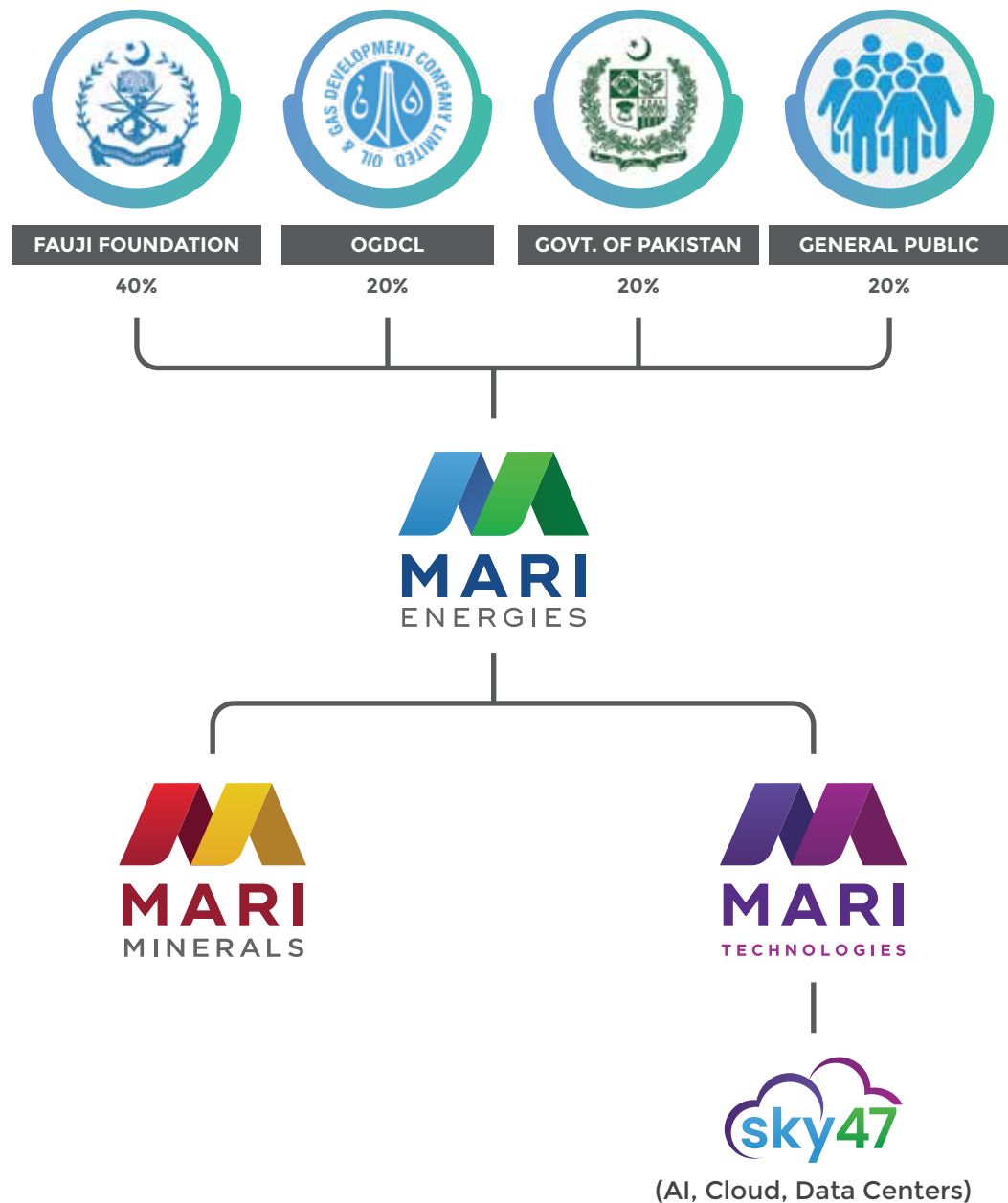
Mari Energies Limited is Pakistan's second-largest integrated energy company, with a market capitalization of approximately USD 3 billion. With an extensive Exploration & Production footprint of 68,290 km², including one offshore block in Abu Dhabi, it has a daily production capacity of over 120,000 BOE. As of June 30, 2024, its total reserves and resources stand at 816 MMBOE. MariEnergies powers 90% of Pakistan's urea production, ensuring national food security.

Expanding beyond energy, MariEnergies has diversified into Minerals, Technology, and Services, fostering sustainable growth through MariMinerals, Mari Technologies, and Mari Services. At COP28, Mari reaffirmed its sustainability commitment by signing the Oil & Gas Decarbonization Charter and investing in green energy and carbon capture solutions.

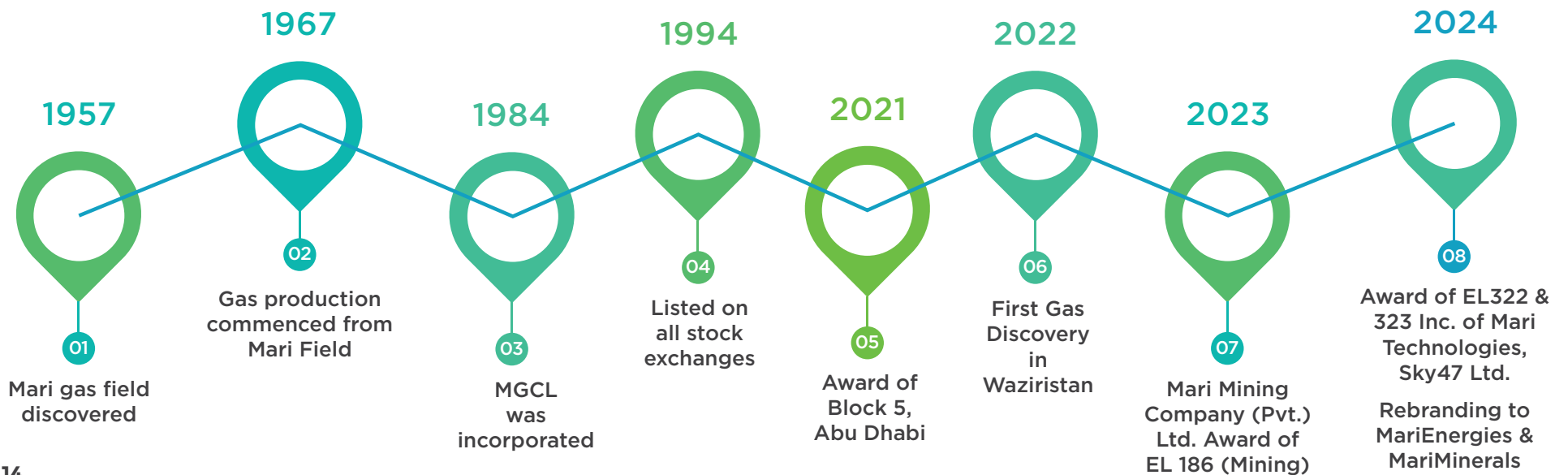




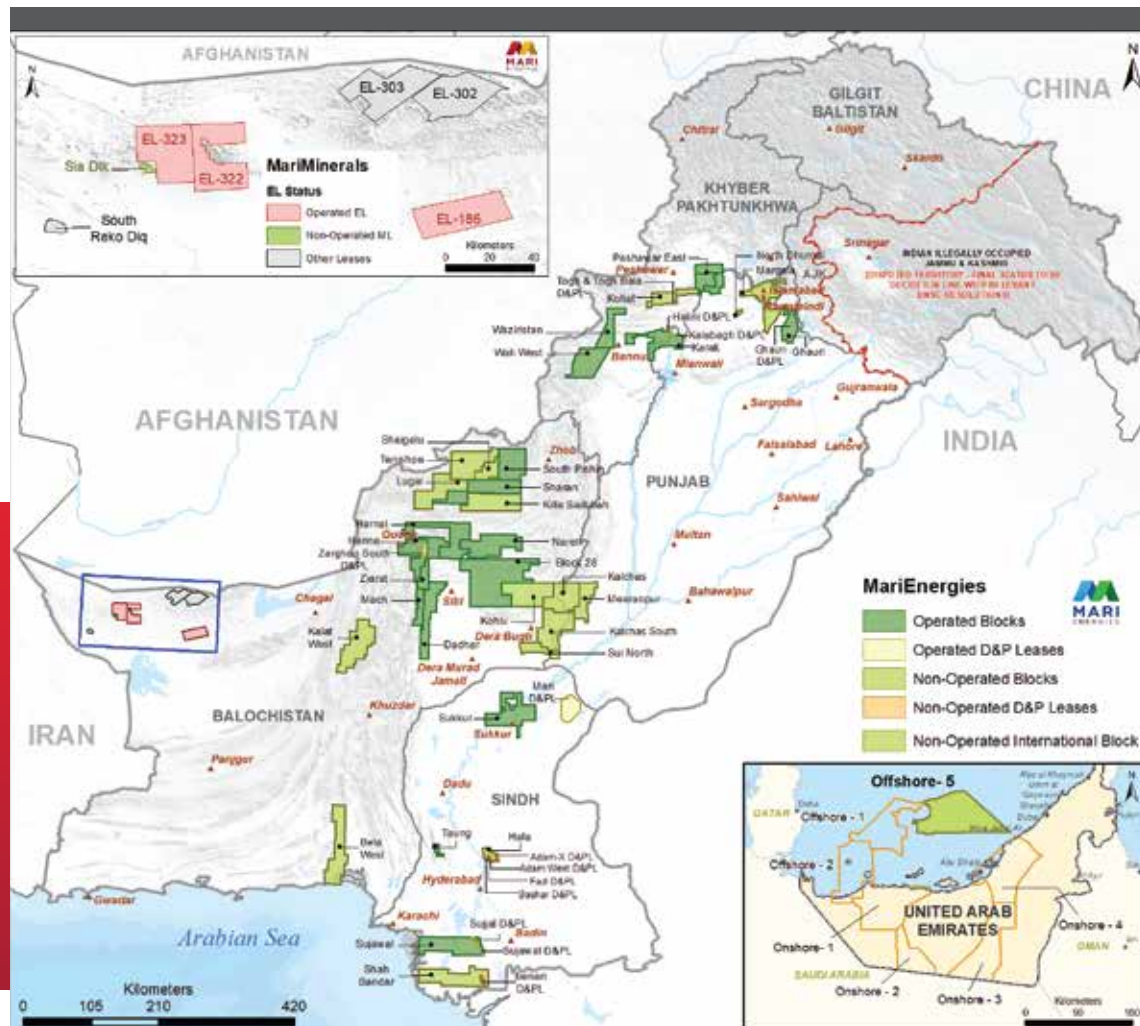
Expanding beyond energy, Mari has diversified into Minerals, Technology, and Services, fostering sustainable growth through MariMinerals, Mari Technologies, and Mari Services.



Mari Minerals (Private) Limited History



MariEnergies' Presence Across Pakistan & Abroad



In-House E&P Services – **Strengthening Exploration Capabilities**

Since 2014, Mari Services has enhanced in-house seismic acquisition and drilling capabilities, supporting its exploration and production growth. Mari is enabling exploration in high-potential regions, overcoming security challenges to drive national energy and mineral development.



**Seismic
Unit**

3 Crews for 2D &
3D Seismic
Surveys



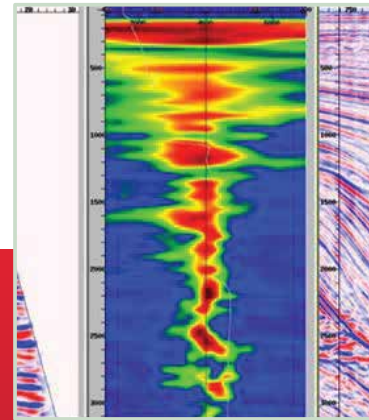
**Drilling
Units**

5 Land Drilling Rigs
Depth rating of
4000-8000 m



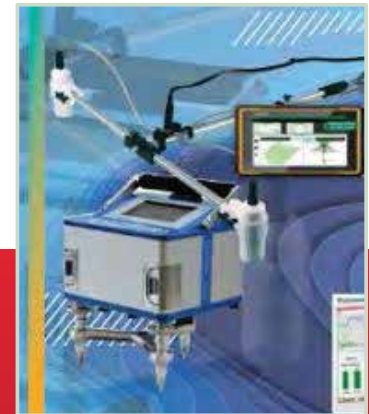
**Mud Logging
Unit**

Geolog[™]
Equipment
Certified for
DNV 2.7-1



**Processing
Center**

2D/3D Processing
& Imaging
Reservoir
Characterization



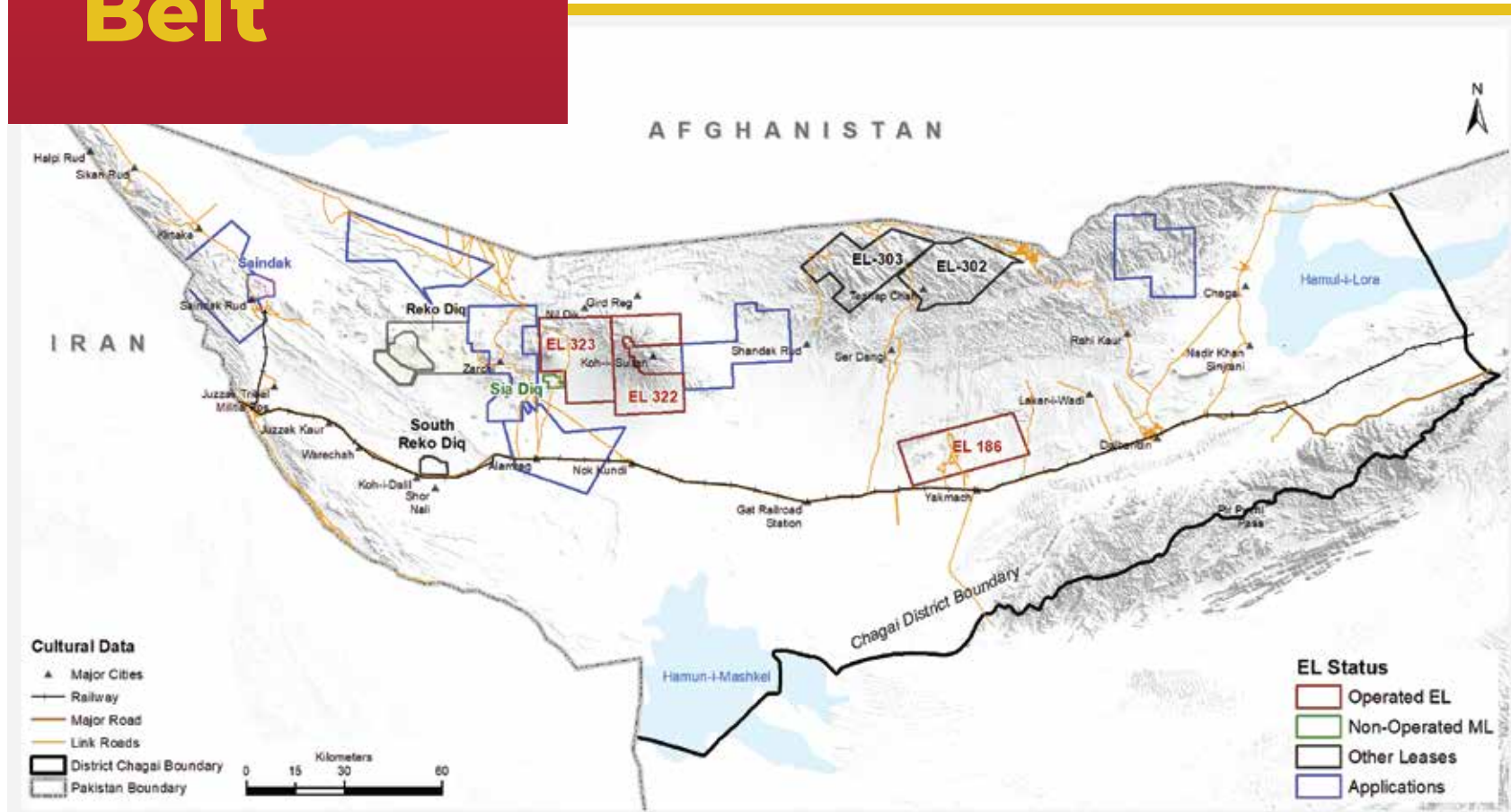
**Gravity &
Magnetic Unit**

For Gravity and
Magnetic Surveys

MariMinerals: Unlocking the Riches of the Tethyan Belt

The Tethyan Metallogenic Belt, one of the world's most prolific mineral belts, has fueled mining booms across Europe, Türkiye, and Iran. Yet, Pakistan remains an untapped powerhouse—home to the emerging giant, Reko Diq. As the region moves toward large-scale development, MariMinerals is at the forefront, securing key exploration licenses in this high-potential landscape.

With exploration rights across the Chagai Magmatic Belt, MariMinerals is positioned in one of the world's least mature porphyry copper-gold terranes, offering immense untapped potential. Our licenses cover prime ground in the Reko Diq district, where evolving targets and large-scale deposits signal a new era for Pakistan's mineral wealth.



Unveiling High-Potential Porphyry Targets

A comprehensive regional target generation study, utilizing ASTER satellite alteration mapping field observations, has led to the identification of multiple porphyry targets, integrating all available data sets.

Key Target Areas:

- **Koh-i-Sultan** – ASTER satellite data and field observations have identified **multiple large alteration zones** along a **NW structural trend**, exhibiting **intense phyllic and advanced argillic alteration**. Previous drilling has **confirmed porphyry Cu-Au mineralization**.
- **KIS-8** – Outcropping porphyry intrusives, identified through **ASTER satellite mapping and ground validation**, exhibit **intense phyllic and lesser advanced argillic alteration**. The site features at least a **2 sq. km area of outcropping phyllic alteration**, with adjacent cover and **extensive propylitic alteration zones**, indicating a promising **copper-gold mineralization system**.
- **Durban Chah** a known prospect where silicified porphyry intrusives crop out in areas with favourable phyllic alteration identified using satellite data, further supporting its mineralization potential.

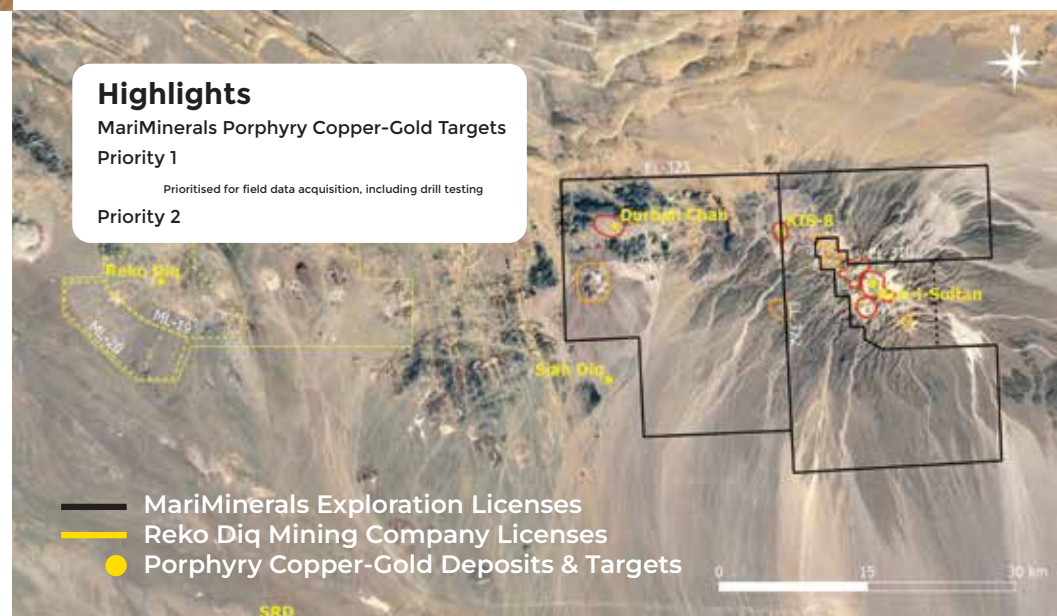
Highlights

MariMinerals Porphyry Copper-Gold Targets

Priority 1

Prioritised for field data acquisition, including drill testing

Priority 2



MariMinerals Presents a Unique Opportunity to Explore Priority 1 & 2 Porphyry Targets in the Koh-i-Sultan District in EL-322 & 323

Proven Copper-Gold Potential at Koh-i-Sultan

KIS-8: A High-Potential Target

The KIS-8 target features outcropping porphyry intrusives with intense phyllic alteration, accompanied by localized advanced argillic alteration. Adjacent areas are covered by post-mineral sediments and surrounded by extensive propylitic alteration zones, indicating a strong copper-gold mineralization system.

- **Lake Resources (2012 Report)** – Drillhole LRMDH-002 confirmed **significant porphyry copper-gold mineralization**, intersecting:

Au **Cu** 128 m @ 0.14% Cu & 0.19 g/t Au from 392 m in potassically altered porphyry intrusives.

- The hole intersected **altered breccias and porphyry intrusives**, though no follow-up drilling was conducted, leaving significant exploration potential untested.
- This drill intercept proves porphyry copper-gold mineralization at Koh-i-Sultan, linked to extensive hydrothermal alteration.



Porphyry Copper-Gold Mineralisation Previously
Intersected By Drilling At Koh-i-Sultan

Porphyry Targets

at Koh-i-Sultan and Beyond

- **KIS-8: A High-Potential Target** – A remarkable, **untouched porphyry target** with no prior exploration.
- **Extensive Hydrothermal Alteration** – Features **outcropping phyllic alteration** spanning ~2 sq. km, indicating strong mineralization potential.
- **Durban Chah: A Concealed Opportunity** – Previously explored, but **post-mineral sediment cover** obscures the **true extent of the target**, leaving significant discovery potential.
- **Silicified Quartz-Feldspar Porphyry** – Outcrops observed on-site, providing **visual confirmation of a mineralized system**.



KIS-8 Target: Outcropping Porphyry With Intense Phyllic Hydrothermal Alteration

**EL-322 & EL-323
KIS-8 Target**



**EL-322 & EL-323
KIS-8 Target**



**EL-323
Durban Chah Target**

Targets at Koh-i-Sultan and Beyond
Outcropping hydrothermally -altered porphyry intrusives

Expanding the Horizon:

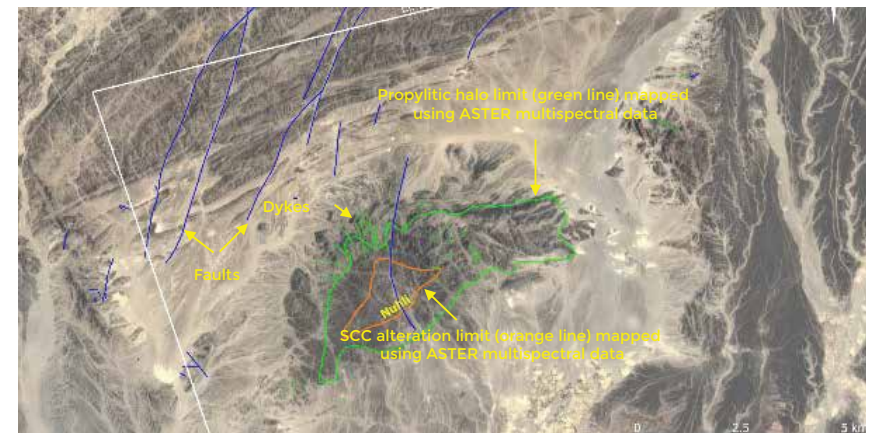
Nuhli Porphyry Target (EL-186)

MariMinerals' **regional target generation study**, supported by **ASTER satellite alteration mapping** and detailed field observations, has defined the **Nuhli porphyry target (EL-186)** as a promising exploration prospect.

Key Geological Features:

- **Host Rocks:** Monzonite & granodiorite intrusives exhibiting **sericite-chlorite-clay (SCC) hydrothermal alteration**.
- **Surface Indicators:** Disseminated pyrite & weak quartz veining observed at the surface.
- **Exploration Potential:** Interpreted to overlie a **potassic-altered porphyry center**, indicating **strong copper-gold mineralization potential**.

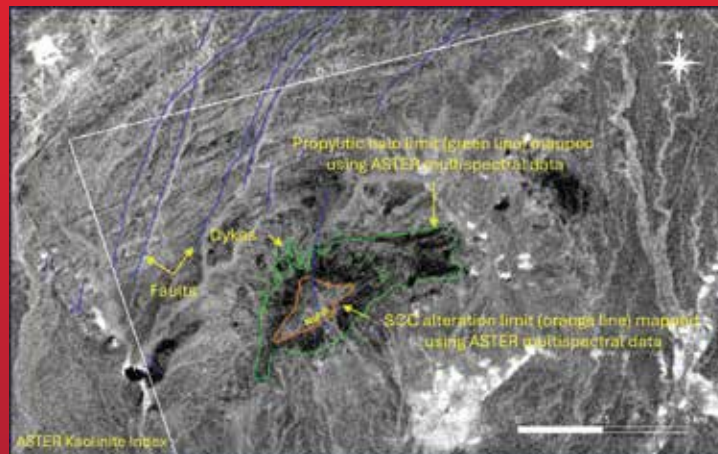
The area is defined by monzonite and granodiorite intrusives, exhibiting **sericite-chlorite-clay (SCC) hydrothermal alteration**, a key indicator of mineralization. Surface observations reveal **disseminated pyrite and weak quartz veining**, further supporting the target's mineral potential. The target is interpreted to overlie a **potassic-altered porphyry center**, reinforcing its **strong copper-gold mineralization potential**.



Porphyry Target on EL-186:
Identified MariEnergies Nuhli Porphyry Target

Alteration Footprint at EL-186

At EL-186, the Nuhli Porphyry Copper-Gold Target showcases a concentrically zoned intrusive structure, with a weak phyllic ASTER signature mapping sericite-chlorite-clay (SCC) alteration further supporting a well-developed mineralization system. The interpretation suggests that Nuhli overlies a potassic-altered porphyry center, reinforcing its high copper-gold mineralization potential.



Unlocking Future Opportunities

With exploration efforts expanding beyond Nuhli, additional porphyry targets are being refined, unlocking new opportunities for resource development in this highly prospective region.

Porphyry Target on EL-186 – Alteration Footprint of MariEnergies' Nuhli Prospect

Porphyry Copper-Gold System

at South Reko Diq EL



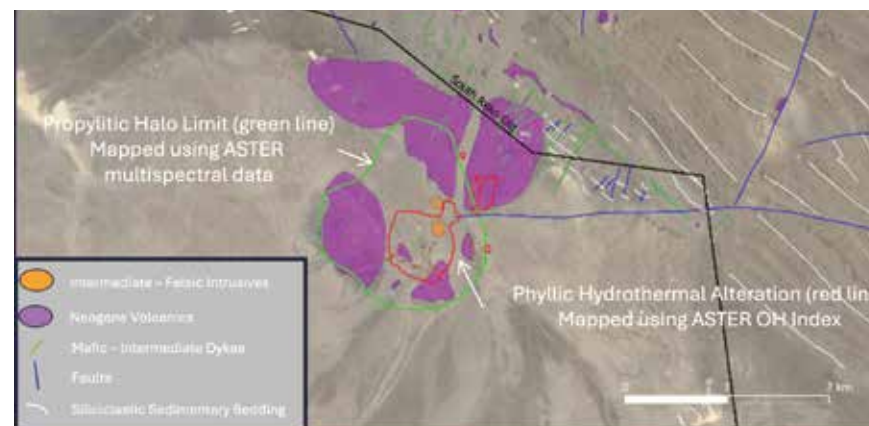
MariMinerals has entered into an agreement to acquire an 87.5% working interest in the South Reko Diq Exploration Licenses (ELs), reinforcing its commitment to unlocking high-value mineral resources.



Geological Characteristics & Exploration Potential

The **NNE-trending high-level intrusives**, manifesting as **stocks and dykes**, are emplaced within the **root zone of an eroded Neogene volcanic edifice**—a favorable setting for porphyry copper-gold mineralization.

ASTER satellite data has been utilized to map **hydrothermal alteration**, revealing strong consistency with a **porphyry copper-gold system**. The defined target area spans approximately 1 km², highlighting a significant exploration opportunity.



South Reko Diq Porphyry Copper-Gold & Related Exploration Target



A Win-Win Proposition for **Strategic Partnerships**

MariMinerals presents an exceptional opportunity to explore an under-explored yet highly prolific mineral province, paving the way for a long-term, sustainable business while contributing to the to the global energy transition.

Highly Prospective Licenses with Strong Industry Interest

The licenses granted to MariMinerals are considered highly prospective, attracting strong interest from leading mining players.

Strategic Local Partnership with Comprehensive Support

Partnering with MariMinerals means collaborating with a well-established local entity, backed by key stakeholders and extensive regional expertise.

Low-Cost Entry into a World-Class Mineralized Belt

The joint venture (JV) structure with MariMinerals offers a cost-effective entry point to identify a potentially significant porphyry copper-gold system in one of the few remaining under-explored regions for these valuable deposits.

- No barriers to entry or exit.
- A minimal investment of up to USD 0.1 million is required to secure the license/area.
- Access to a land package of approximately 1,500 to 2,500 sq km, with the possibility of additional areas based on interest.

Scalability and Long-Term Growth Potential

MariMinerals and its JV (Joint Venture) partners will be well-positioned to apply for additional exploration licenses upon completing the initial work program and demonstrating on-the-ground progress.

Flexible Exploration Framework & Capital Requirements

The mining regime allows for flexible and reasonable exploration spending, with an estimated capital requirement of USD 25–30 million per license over the first three years. Further engagement and data sharing will proceed following the signing of a Non-Disclosure Agreement (NDA).



MariMinerals, A Partner of Choice

**All communications and queries may be directed to
the following dedicated personnel:**

Faheem Haider
MD/CEO
faheem.haider@marienergies.com.pk

Muhammad Azeem
Manager Joint Venture
muhammad.azeem@marienergies.com.pk

Abdul Rauf Khan
Director Exploration
k.rauf@marienergies.com.pk

John Mortimer
Consultant Exploration
John.Mortimer@marienergies.com.pk



21, Mauve Area, 3rd Road,
G-10/4, Islamabad



+92 51 111 410 410



Info@mariminerals.com.pk



www.MariEnergies.com.pk
www.MariMinerals.com.pk