



Ministry of Industry  
& Mineral Resources

# JABAL SABHA LICENSING ROUND

## INFORMATION MEMORANDUM

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## EXECUTIVE SUMMARY

As announced on 10<sup>th</sup> January 2024, the Ministry is conducting a competitive licensing round for the exploration of the Jabal Sabha site ("**Licensing Round**" or the "**Project**") pursuant to which the Ministry will award the successful bidder ("**Successful Bidder**") an exploration license for the Jabal Sabha site ("**Exploration License**"). The Licensing Round is designed as a transparent, standards-based, competitive process, which will result in the selection of the most appropriate licensee for the Jabal Sabha site ("**Jabal Sabha**" or the "**Site**").

Bidders are hereby invited to submit their best offer for the Exploration License as part of a valid and binding proposal to become a licensee for the Site ("**Proposal**"). Proposals must be submitted to the Ministry on or before 24<sup>th</sup> November 2024 ("**Proposal Submission Deadline**") by completing the application form set out in the Ministry's data room ("**Application Form**") which can be accessed via the data room created on the Taadeen platform <https://taadeen.sa/en/mining-bids> ("**Data Room**").

### The Site

Jabal Sabha covers an area of 170.52 km<sup>2</sup> within the Riyadh Region, ~650 km from the Red Sea and 600 km from the Arabian Gulf. The Site is situated within the Halaban Quadrangle (1:250,000) within the Ad Dawadimi Terrane.

Further details are set out in Section 2 of this Information Memorandum

### Minimum Qualification Criteria

Bidders must demonstrate that they meet the Minimum Qualification Criteria in order for the Ministry to continue evaluating their respective Proposals, as summarized in the below table and further described in Section 4 of this Information Memorandum.

Whilst the Minimum Qualification Criteria is scored on a 'Pass/ Fail' basis and does not have a weighting score attributed to it, bidders must demonstrate that they satisfy all the Minimum Qualification Criteria in order for their respective Proposals to be evaluated further in this Licensing Round.

Section	Criteria	Description
Technical Ability	<i>Internal Capability</i>	Bidders must demonstrate internal capabilities in mineral exploration.
	<i>Track Record / Examples</i>	Bidders must demonstrate track record experience in relevant or similar style mineralization including capability in projects through the development cycle and developing exploration projects beyond the discovery stage through pre-feasibility and feasibility studies.

Financial Details	<i>Exploration Expenditure</i>	Bidders must have undertaken a minimum expenditure of USD five hundred thousand (\$500,000) in exploration activities in the last twelve (12) months.
	<i>Exploration Funding</i>	Bidders must demonstrate access to at least USD five hundred thousand (\$500,000) to fund the first three months of any exploration work program to be undertaken in the Kingdom in connection with the Project.

## Scoring Methodology

Proposals submitted by bidders who satisfy all the Minimum Qualification Criteria will be further evaluated by the Ministry and scored in accordance with the following scoring methodology, and as further detailed in Section 5.8 of this Information Memorandum.

The bidder whose Proposal receives the highest score will be announced as the Successful Bidder for the Site and will be awarded the Exploration License by the Ministry once the legal and regulatory requirements are satisfied.

Section	Criteria	Weighting
Proposed Work Program and Exploration Spend	Proposals will be evaluated on the thoroughness and soundness of the bidder's proposed Work Program for the entire licensed area.	50%
Resource Exploration and Discovery Activities	Proposals will be evaluated on the bidder's experience in relation to focused exploration activities.	20%
Innovation	Proposals will be evaluated based on the innovative solutions and technologies used by the bidder in mineral exploration activities.	10%
Social Impact Management Plan	Proposals will be evaluated on the demonstrated ability to successfully implement social development in and around the Site, and local community expenditure.	20%
Financial Capability	Proposals will be evaluated on the bidder's financial resources, and its capability to fund its Work Program.	Pass/ Fail
Environmental Impact Management Plan	Proposals will be evaluated on the basis of whether the bidder has the demonstrated ability to ensure the protection of the environment.	Pass/ Fail
Corporate and Legal Requirements	Proposals will be evaluated on the basis of the bidder's corporate and legal information.	Pass/ Fail
Performance Financial Guarantee	Proposal will be evaluated on the bidder's commitment to provide a Performance Financial Guarantee if selected as a Successful Bidder.	Pass/ Fail
Model Exploration License	Proposals will be evaluated on the bidder's commitment to accept the terms of the Model Exploration License.	Pass/ Fail

## PART A: GENERAL INFORMATION



## 1. Introduction

The Ministry has launched the Licensing Round with the objective of identifying a Successful Bidder to whom it will award the Exploration License in accordance with the Mining Investment Law (issued by Royal Decree No. M/140 dated 10/19/1441H) ("**Mining Investment Law**") and its Implementing Regulations issued by Ministerial Resolution (3293/1/1444) dated 05/06/1444H ("**Implementing Regulations**"). The Licensing Round is designed as a transparent, standards-based, competitive process, which will result in the selection of the most appropriate licensee for the Site.

**Bidders are hereby invited to submit their best offer for the Exploration License as part of a valid and binding Proposal to become a licensee for the Site. Proposals must be submitted to the Ministry on or before the Proposal Submission Deadline.**

The Licensing Round requires that the Successful Bidder possesses, demonstrates and dedicates to the Project qualified management personnel and resources, adherence to principles of sustainability and conformity with the laws of the Kingdom. The Successful Bidder will have demonstrated that it is committed to working with the Government to explore the Project in a timely manner to define future options for local and regional economic growth.

To that end, the Ministry suggests that the following points be considered seriously by the bidders in preparing their Proposals:

- 1) A clear commitment to conduct an accelerated exploration program for the Site along a suitable timeline, coupled with the technical and financial capability to do so; and
- 2) To the extent possible during the exploration period, the provision of employment for the local population with a particular focus on the education and training of those hired locally.

Responses should be unambiguous and include detailed information.

This Information Memorandum is intended to be used by bidders to provide further information on the Site and the Licensing Round. It also sets out the rules for submission of a valid Proposal and participation in subsequent stages of the Licensing Round, as set out in Part B of this Information Memorandum ("**Proposal Submission Rules**").

### 1.1 Jabal Sabha Ag-Pb-Zn Project

Jabal Sabha covers an area of 170.52 km<sup>2</sup> within the Riyadh Region of central KSA. The Project is centered at 23°23'N, 44°36'E, ~250 km southwest of Riyadh. The Project is situated within the Halaban Quadrangle (1:250,000, Sheet 46A) in the southern Ad Dawadimi Terrane of the eastern Arabian Shield. The Ad Dawadimi Terrane hosts various mineral systems and commodities, most notably intrusion-related gold (Au), as well as silver (Ag), zinc (Zn), and lead (Pb) deposits. The terrane is best known for the Ad Dawadimi Ag belt and the Ar Ridanyah volcanogenic massive sulfide (VMS) belt, which both lie ~100 km north of Jabal Sabha.



## Prospectivity

Exploration activity within the Jabal Sabha area has been minimal; however, given its geological setting within the Ad Dawadimi Terrane and location with respect to known mineral occurrences and deposits, the Project remains prospective for Ag, Au, Pb, and Zn mineralization. The reported presence of highly evolved granitic and pegmatitic bodies indicates the possibility to explore for critical elements hosted in such highly fractionated rocks, such as lithium, rare earth elements and uranium. Systematic exploration using modern exploration methods could lead to the discovery of new mineral deposits on the license.

### 1.2 Structure of this Information Memorandum

This Information Memorandum is structured in two main parts as follows:

#### PART A: GENERAL INFORMATION

- Section 2 provides information about the Site;
- Section 3 introduces the Data Room, an online resource with further information about the license opportunity, including geological survey data as well as the Application Form to be submitted by bidders as part of their Proposal;

#### PART B: PROPOSAL SUBMISSION RULES

- Section 4 sets out the Minimum Qualification Criteria that bidders must meet in order for their Proposals to be further evaluated for the Project;
- Section 5 sets out the Licensing Round process and Proposal requirements including the criteria and scoring methodology; and
- Section 6 provides additional information regarding participation in the Licensing Round and submission of a Proposal.

### 1.3 Key Dates

The table below (Table 1) sets out the key dates relating to the Licensing Round. All dates set out in this Information Memorandum are subject to change at the Ministry's absolute and sole discretion. Any revised dates will be notified to bidders through email to the confirmed address(es) submitted by the bidders to the Ministry in their expression of interest submission.

**Table 1: Key Dates**

Date	Process stage
17:00 (Riyadh time) 24 <sup>th</sup> November 2024	Proposal Submission Deadline
On or around 9 <sup>th</sup> December 2024	Announcement of outcome of the Proposal Stage and Successful Bidder

The Ministry will be available continuously to support bidders through each stage of the Licensing Round.

## 2. The Site

### 2.1 Location

The Jabal Sabha area (covering 170.52 km<sup>2</sup>, Figure 1, Table 2) is located within the Riyadh Region, ~250 km southwest of Riyadh. The Project is situated in the Halaban Quadrangle (1:250,000) in the center of the Kingdom.

The Project is accessible by a combination of sealed and dirt roads from Ar Ruwaidah, which is situated ~20 km to the north along highway 40, a major east-west highway. The eastern boundary of the Jabal Sabha area is approximately parallel to highway 6009, which lies 7-10 km to the east.

The physiography of the area is characterized by variable exposed, rugged outcrops and east trending wadis. The granitic Jabal Sabah intrusion, which straddles the southern boundary of the Project, is a prominent feature. This large granitic pluton rises to an elevation of 1,006 m. The northern two-thirds of the project area are covered by sand dunes, with isolated outcrops of pyroxenite and gabbro. The town of Sabha is located on the southeast boundary of the project area.

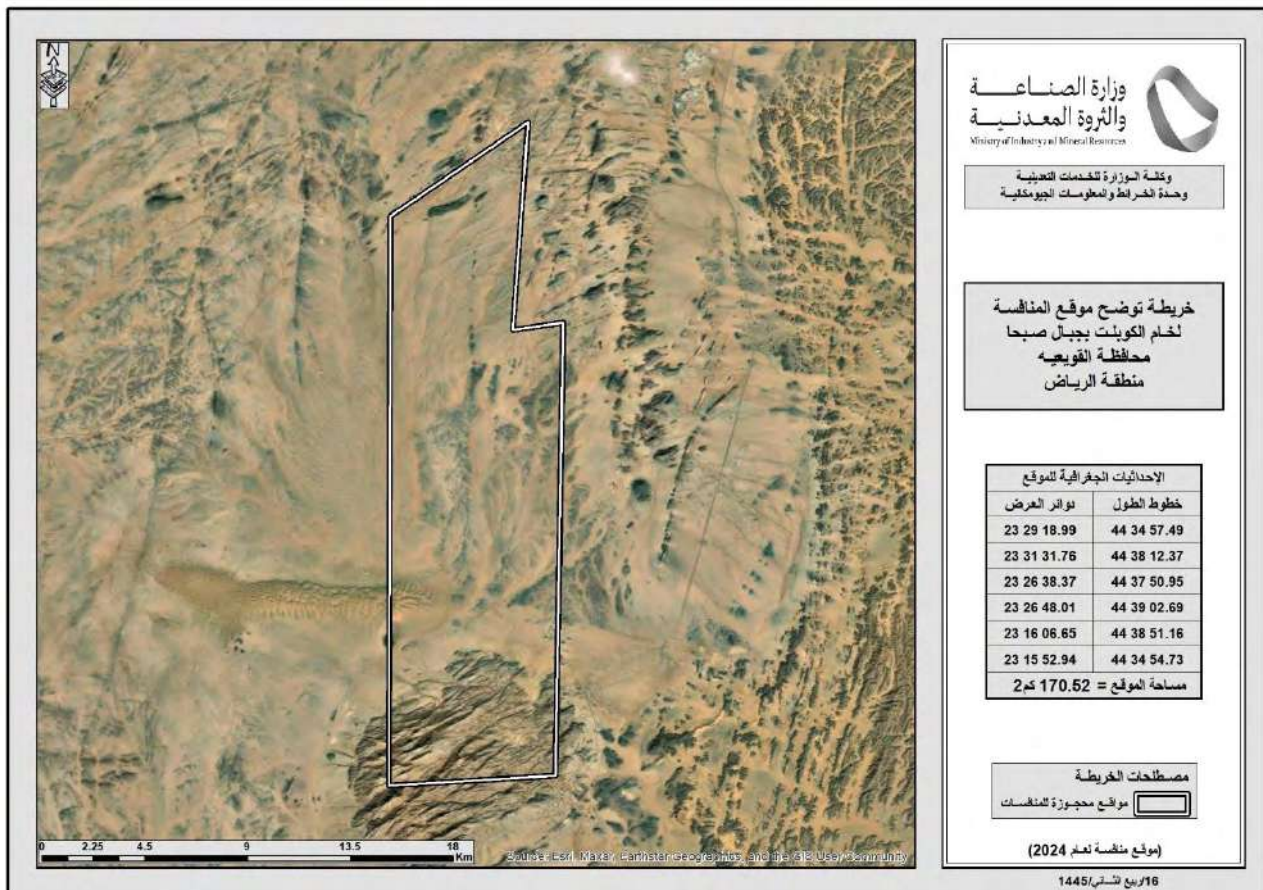


Figure 1: Project location

**Table 2: Site coordinates**

Point	Latitude	Longitude
1	23° 29' 18.99	44° 34' 57.49
2	23° 31' 31.76	44° 38' 12.37
3	23° 26' 38.37	44° 37' 50.95
4	23° 26' 48.01	44° 39' 02.69
5	23° 16' 06.65	44° 38' 51.16
6	23° 15' 52.94	44° 34' 54.73

## 2.2 Exploration History

A summary of the exploration work completed to date is given in Table 3.

### The French Geological Survey (Bureau de Recherches Géologiques et Minières)

The Bureau de Recherches Géologiques et Minières (BRGM) conducted regional airborne magnetic surveys over the majority of the Arabian Shield (550,000 km<sup>2</sup>) between 1962 and 1967. These data were digitized and reprocessed between 1970 and 1980 (Georgel et al., 1985a).

The 1:250,000 geological map of the Halaban Quadrangle represents a compilation of five 1:100,000 sheets and mineral exploration surveys conducted by BRGM between 1966 and 1970. A general revision of the geology was carried out by BRGM between 1975 and 1977, using 506 observations (Delfour, 1979). Much of this work was dedicated to structural analysis and rock sampling. In total, 119 rock samples were collected for petrographic analyses, 38 for rock analyses, and 26 for geochronology.

### The United States Geological Survey (USGS)

In 1982, the USGS produced a Landsat image map of the Ad Dawadimi Quadrangle (United States Geological Survey, 1982).

### RioFinex Ltd

In 1984 RioFinex Ltd produced a study summarizing the state of knowledge concerning the mineralization and mineral resources of the Kingdom within an overall geological framework (RF-OF-05-01).

**Table 3: Summary of past exploration (most recent at top)**

Key Reports	Entity	Location	Activities
Minerals Inventory and Potential Assessment Report, Kingdom of Saudi Arabia	DGMR 2016 A.D. 1437 A.H.	National	Update of the Watts, Griffis, and McOuat (WGM) Ltd. report on the minerals inventory and potential in 2016 as a follow-up to the 1992 report. The report is broadly similar to the 1992 report but with the inclusion of digital maps and new interpretations based on 20 years of advances in exploration technology and techniques.

Key Reports	Entity	Location	Activities
RF-OF-05-1	RioFinex Ltd 1984 A.D. 1405 A.H.	Jabal Idsas	RioFinex Ltd 1985 review written on behalf of the KSA. The main emphasis of the study was: (1) to summarize, within an overall geological framework, the current state of knowledge concerning the mineralization and mineral resources of the Kingdom; (2) to recommend a general course of action for the Deputy Ministry's Fourth Sectoral Plan, with special reference to the Mineral Investigation program, but with some comments on related fields; (3) to recommend general priorities for commodities, prospects, regions, and areas deemed to warrant exploration or attention in the future; and (4) to review expenditure in the Mineral Resources Sector in the Kingdom, in terms of both money and effort, in relation to that in other developed and developing countries.
USGS-OF-02-12	USGS 1982 A.D. 1402 A.H.	Jabal Idsas	Landsat image map of the Halaban Quadrangle recorded in 1982. Prepared by the USGS for the Kingdom of Saudi Arabia using computer-enhanced Landsat Multispectral Scanner (MSS) band 7 imagery.
GM-46 A	BRGM 1979 A.D. 1399 A.H.	Regional	The 1:250,000-scale geological map of the Halaban Quadrangle (Sheet 23G) covers an area of 16,682 km <sup>2</sup> in the east of the Najd Province. This area lies in the middle of the Kingdom of Saudi Arabia and forms part of a hilly central plateau with a mean altitude of 950 m. The geological map of the Halaban Quadrangle is a compilation of five 1:100,000-scale geological and mineral exploration surveys carried out by the BRGM between 1966 and 1970. These surveys, entailing a total of 75 geologist months, included the examination and sampling of 51 mineral occurrences and ancient workings and the study of 103 thin sections. This compilation involved two field trips (total 4 weeks) in 1975 and 1977, during which a general revision of the geology was carried out based on a total of 506 geological observations, focusing on structural analysis and rock sampling. In total, 119 rock specimens were collected for petrographic analysis, 38 for rock analyses, and 26 for geochronology.
GM-46 G	BRGM 1979 A.D. 1399 A.H.	Regional	Geological mapping (1:250,000) of the Halaban Quadrangle (Sheet 23G). The 1:250,000 hydrogeological and hydrochemical maps of the Halaban Quadrangle are designed to supplement the geological map of the same area. They were compiled as orientation maps to define areas of potential groundwater resources for mining ventures in the area. The basic fieldwork for the compilation was carried out in February 1978 and January 1979. Interpretation of the hydrogeology of the Halaban Quadrangle and discussions of water resources for possible mine or quarry exploitation are based on hydrogeological data from 102 wells inventoried within the map area.



Key Reports	Entity	Location	Activities
BRGM-TR-05-14	BRGM 1966 A.D. 1386 A.H.	Regional	Aeromagnetic surveys carried out during three campaigns between 1962 and 1967 over the Arabian Shield. Terrain clearance was 150 m over flat terrain and 300 m over rugged terrain, with a basic traverse spacing of 800 m. Data were presented in 1:50k and 1:100k maps. The analog data were digitized and reprocessed by the BRGM between 1970 and 1980.

Source: National Geoscience Database of the Kingdom of Saudi Arabia (NGD)

## 2.3 Geology and Mineralization

### 2.3.1 Tectonic Overview

The Jabal Sabha project is located on the Arabian Shield within the Ad Dawadimi Terrane, which is prospective for intrusion-related gold system (IRGS) mineralization. The tectonic evolution of the Arabian Shield is fundamental for the formation of various deposit styles across the region. The Arabian Shield can be divided into two main regions: the Arabian Shield and the Arabian Platform (Figure 2). The Arabian Shield, a segment of the Arabian–Nubian Shield (ANS), separated from the Nubian Shield to the west during rifting and extension in the Red Sea from ~30 Ma (Bosworth, 2015; Hamimi et al., 2021). The Arabian Platform comprises layered Phanerozoic rocks with thicknesses of up to 10 km, which were deposited on the Arabian Shield. The rock units and structures of the shield can be traced beneath the Phanerozoic cover rocks using magnetic anomalies, and they extend up to 300 km laterally from the exposed shield margins (Hamimi et al., 2021).

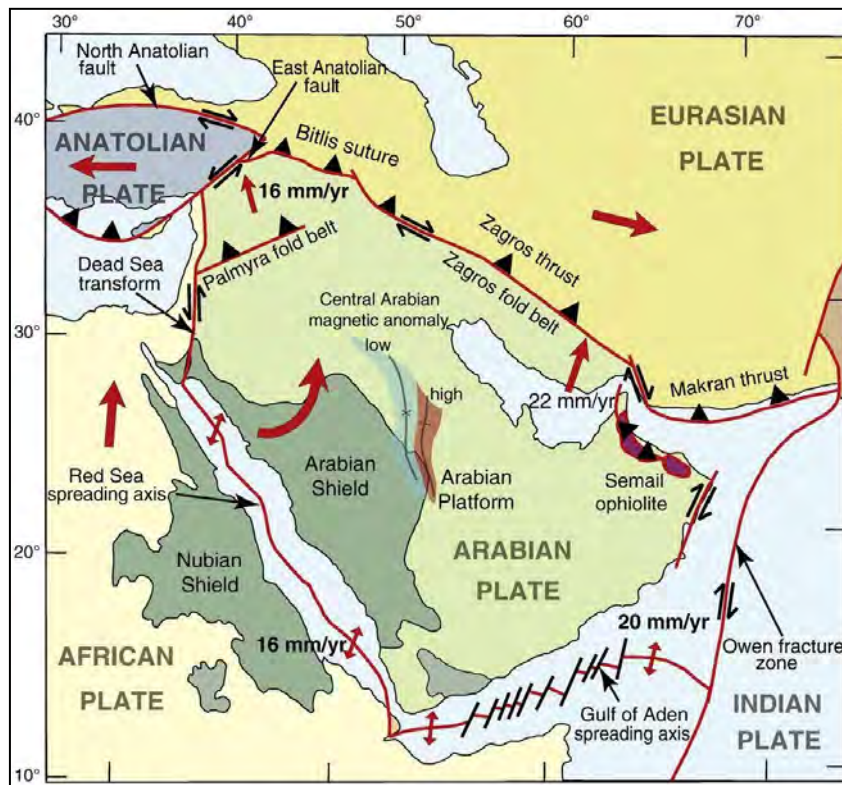
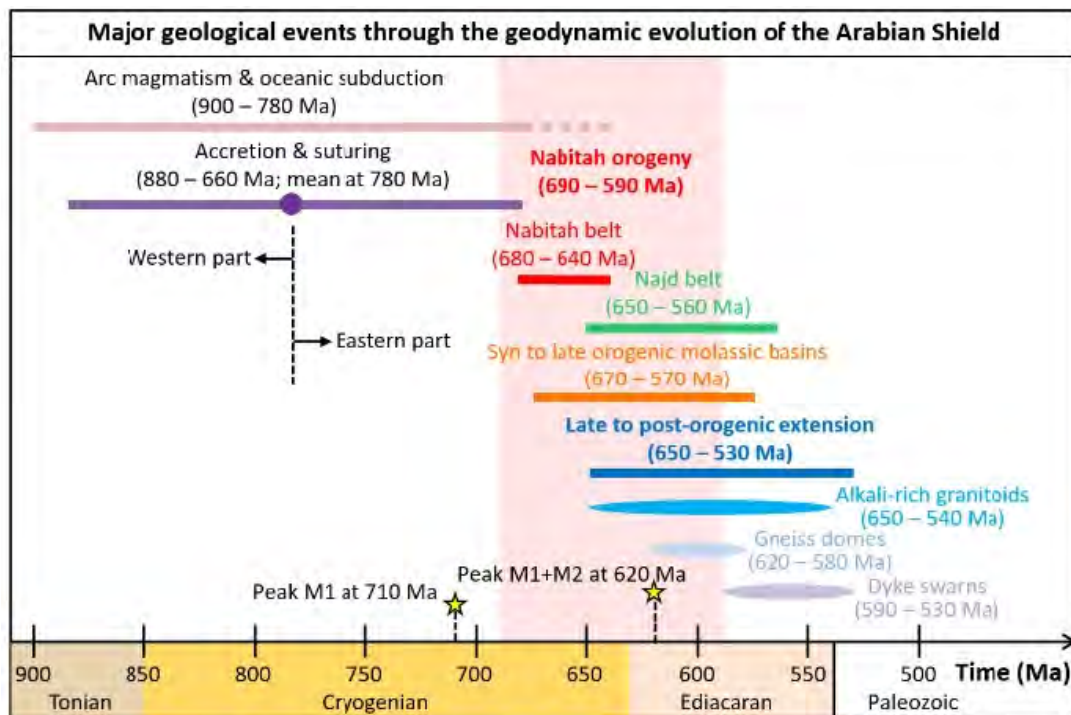


Figure 2: Tectonic framework of the Arabian Peninsula with plate boundaries, approximate relative plate motion vectors, and major fault zones (Stern and Johnson, 2010)

The ANS underwent a complex geological evolution spanning over 300 Myr (Figure 3) (Stern and Johnson, 2010). The juvenile crust of the ANS formed in primitive arc systems throughout the existence of the Mozambique Ocean, which opened as a result of the break-up of the Rodinia supercontinent during 870–800 Ma (Mole et al., 2018). The magmatic arcs, ophiolites, and clastic sedimentary rocks forming the ANS, including the Asir Terrane, were accreted on the margin of West Gondwana, gradually accumulating through a series of subduction-related events referred to as the Nabitah Orogeny (Stern and Johnson, 2010). At 630–600 Ma, the accretionary margin of West Gondwana collided with East Gondwana, resulting in the formation of a major Neoproterozoic mountain belt, the East Africa–Antarctica Orogen (EAAO) (Stern, 1994). The accretion resulted in the formation of tectonostratigraphic terranes that are separated by major north, northwest, and northeast trending suture zones or major northwest trending faults. The suture zones host serpentinized ultramafic rocks, which comprise dismembered ophiolites, along with synorogenic plutonic complexes and transpressional gneissic domes (Nehlig et al., 2002). This collisional event resulted in the formation of a vast mountain chain comparable to the present-day Alpine–Himalayan range.

The final stages of the EAAO's evolution were marked by movement along continental-scale shear zones (escape tectonics), orogenic collapse, crustal delamination, and the exhumation of gneissic domes and the deposition of sediments at 600–550 Ma (Hamimi et al., 2021). Following the assembly of the newly amalgamated arc terranes, volcano-sedimentary assemblages were deposited in post-amalgamation basins from ~650 Ma (Figure 4) (Johnson et al., 2011).



**Figure 3: Chronology of major geological events through the geodynamic evolution of the Arabian Shield (Bonnetti et al., 2023)**

The Arabian Shield is partially overlain by Phanerozoic rocks, including Lower Paleozoic siliciclastic rocks and Mesozoic–Cenozoic rocks (Haq and Al-Qahtani, 2005). These Phanerozoic sedimentary rocks host significant mineral deposits, such as phosphates, evaporites, and potentially stratabound Zn–Pb deposits.

Carbonate replacement-type Zn-Pb-Ag deposits are also formed in the limestones of the Red Sea coast (Taylor et al., 2005).

Early Cambrian uplift led to widespread erosion, and subsequent Cambrian-Devonian sequences were typically deposited on a peneplained platform (Konert et al., 2001). Gentle subsidence during the Late Cambrian and Early Ordovician was followed by increased subsidence during the mid-Ordovician which led to marine transgressions (Sharland et al., 2001).

During the Late Ordovician, a glacial episode occurred while the Arabian Shield resided at a relatively high southern latitude. The Plate started to drift northward into lower latitudes in the Early Devonian, reaching tropical environments by Permian times (Konert et al., 2001). The Late Silurian saw uplift, broad regression, and the development of stratigraphic gaps on the Arabian Platform (Sharland et al., 2001).

The Hercynian Orogeny (the Late Devonian to Permian diastrophism in Europe and North America) resulted in multiple phases of compression and block faulting (Konert et al., 2001). Back-arc rifting and basaltic eruptions occurred in the northern margin of the Arabian Plate. The compression, uplift of central Arabia, and clockwise plate rotation resulted in widespread inversion and erosion, leading to the removal of several kilometers of sediment from uplifted areas (Konert et al., 2001).

During the early Permian, another phase of major crustal extension weakened the crust enough to allow sediment load alone to drive subsidence and facilitate the accumulation of thick carbonate sediments in subtropical latitudes. In the Late Permian, further rifting and block faulting along the northeastern front of the Arabian Shield resulted in the initiation of continental break-up and the development of a passive margin along most of the northeastern boundary of the plate, fronting the newly opened Neo-Tethys Ocean. During this period, sedimentation on the Arabian Platform was dominated by carbonates over a break-up unconformity. The subsidence at the northeastern passive margin was initially largely post-rift thermal and then replaced by sediment loading (Bishop and Al-Husseini, 1995).

Rifting also began in the central Mediterranean in the Early Jurassic, affecting the northern part of the Arabian Shield. Jurassic rifting at the northwestern boundary of the plate led to the subsequent development of a passive margin and accommodation space along the subsiding shelf (Sharland et al., 2001). The Mediterranean rifting continued into the Early Cretaceous and may have been partially responsible for uplift in western Arabia (Haq and Al-Qahtani, 2005).

Before the Eocene, the ANS formed the northernmost corner of the African continental plate, which moved progressively northward towards Eurasia, resulting in the closure of the Tethys Ocean. The Arabian Shield separated from the African Plate with the opening of the Red Sea and the development of the Gulf of Aden rift system at 35-30 Ma. Rifting was centered in the Afar region of Ethiopia, where a mantle plume resulted in volcanism and uplift from ~45 Ma, with peak activity at ~30 Ma (Bellahsen et al., 2003).



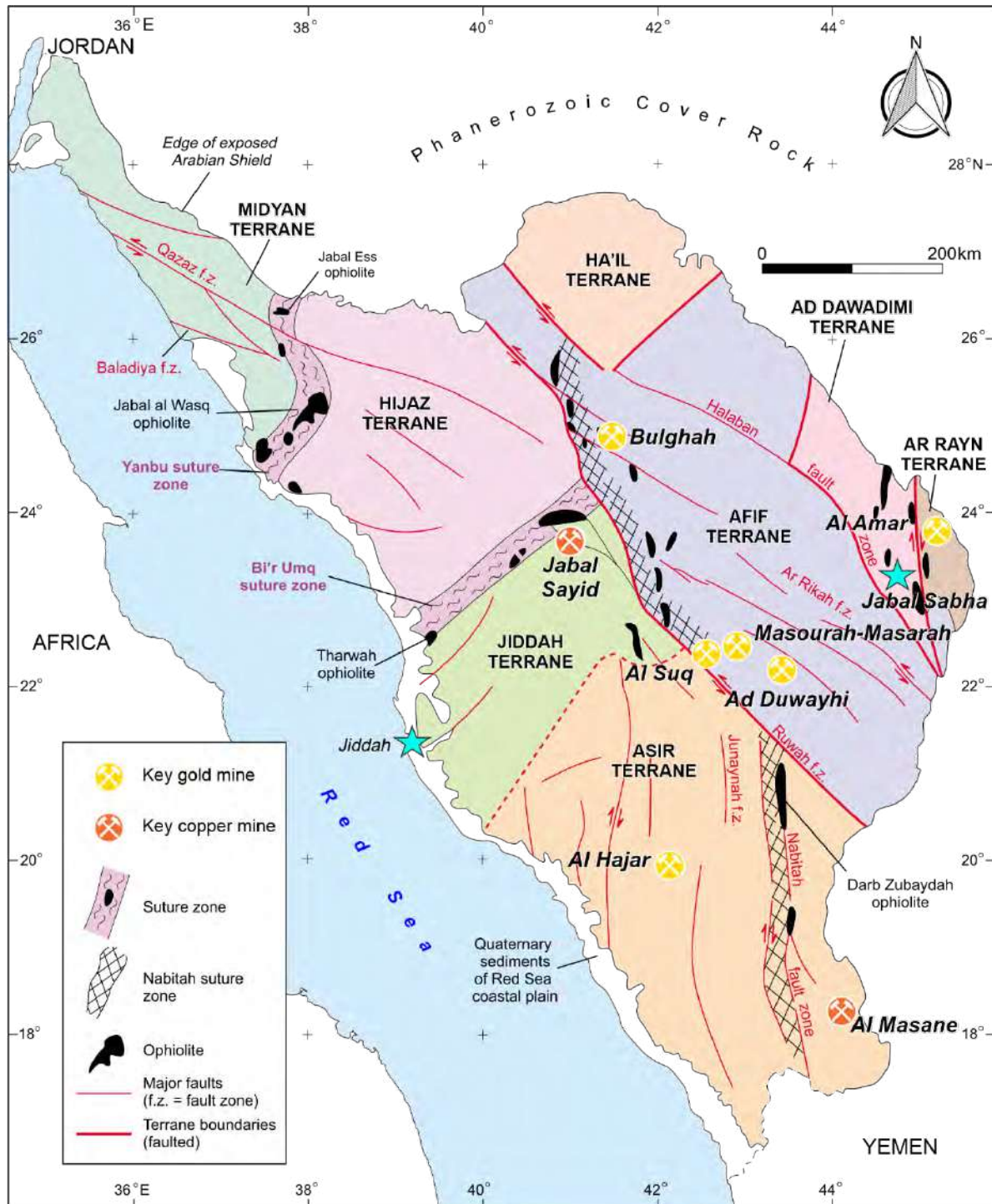


Figure 4: Simplified geological map of the Arabian Shield, with the locations of key mines within the KSA. Major tectonostratigraphic terranes are delineated by sutures and major fault zones. The Jabal Sabha project is located within the Ad Dawadimi Terrane, toward the eastern edge of the map. Modified after Nehlig et al. (2002)

### 2.3.2 Ad Dawadimi Terrane

The Jabal Sabha project area is located in the southern Ad Dawadimi Terrane. The Ad Dawadimi Terrane is composed of Middle to Late Paleoproterozoic rocks that trend northwest along the eastern margin of the ANS, between the Neoproterozoic Ar Rayn Terrane to the east and the Paleozoic–Neoproterozoic Afif Terrane to the west (Figure 4). The Ad Dawadimi Terrane is one of the most homogeneous terranes within the Arabian Shield. It is characterized by the prominent Abt Schist, which is a greenschist-facies metamorphic unit composed of fine-grained sandstones and siltstones (Figure 6). The maximum depositional age of the Abt Schist is ~616 Ma, and the peak metamorphic age is 613 Ma (Lewis, 2009). The Abt Schist protolith sediments were derived from late Mesoproterozoic sources (1,154 Ma; Lewis 2009). Immobile element data indicate a sedimentary source in the Afif Terrane. The sediments were deposited in a fore-arc environment above a westward dipping subducting slab. Mafic dikes crosscut the dominant foliation of the Ad Dawadimi Terrane, indicating a period of extension after basin closure. Foliation attitudes vary in the eastern and western margins of the terrane. The east is dominated by open, moderately inclined, asymmetric folds with a sub-horizontal west-southwest vergence and minor south-southeast plunge, whereas the west is predominantly characterized by open, gently to moderately inclined asymmetric folds with a sub-horizontal west-northwest vergence and a northeast-trending extensional component (Lewis, 2009). The Ad Dawadimi Terrane is best known for the Ad Dawadimi Ag belt and the Ar Ridanyah VMS belt.

### 2.3.3 Local Geology

The Project geology is dominated by rocks of the Urd Group, which comprise Neoproterozoic intrusive complexes and metasedimentary units (Delfour, 1979). On the 1:250,000 geological map of the Halaban Quadrangle, these units include (youngest at top):

- the Najirah granite, granodiorite, and diorite
- the Abt formation, which comprises sandstone, siltstone, graywacke, conglomerate, schist, and marble (btn); and
- the Halaban gabbro, peridotite, and serpentinite

The Halaban gabbro, peridotite, and serpentinite form north-trending lenticular outcrops within the Project area. These mafic–ultramafic rocks have an inferred age of ~695 Ma, and represent components of an ophiolite complex that have been metamorphosed to greenschist or amphibolite facies. The Abt Formation is widespread throughout the Ad Dawadimi Terrane and comprises a range of facies, including sandstone, siltstone, graywacke, conglomerate, schist, and marble. Within the Jabal Sabha area, rocks of the Abt Formation include sericite–chlorite schist, graywacke and conglomerate (Delfour, 1979). The Abt Formation rocks are intruded by plutonic rocks of the Urd Group, as well Najirah felsic–intermediate intrusions that outcrop within the center of the Project area.

The Jabal Sabha intrusion is a circular stock of granite that crops out in the south of the Project area. The granite of Jabal Sabha is uniformly alkalic, bearing phases such as perthitic orthoclase or microcline, oligoclase–albite, biotite, and sodic amphibole (Delfour, 1979). This intrusion is interpreted to be post-tectonic with respect to the folding of the Abt Formation schist.



Rocks within the northern part of the Jabal Sabha area include pyroxenite and gabbro, which are locally pegmatitic. At the southern end of the Project, pyroxenite and metagabbro form roof pendants in the younger granites. In the north, disseminated chromite occurs in harzburgite interlayered with dunite and pyroxenite. Quaternary siliciclastic deposits that cover northern and western parts of the Project include eolian sand sheets and dunes, gravels, and silt.

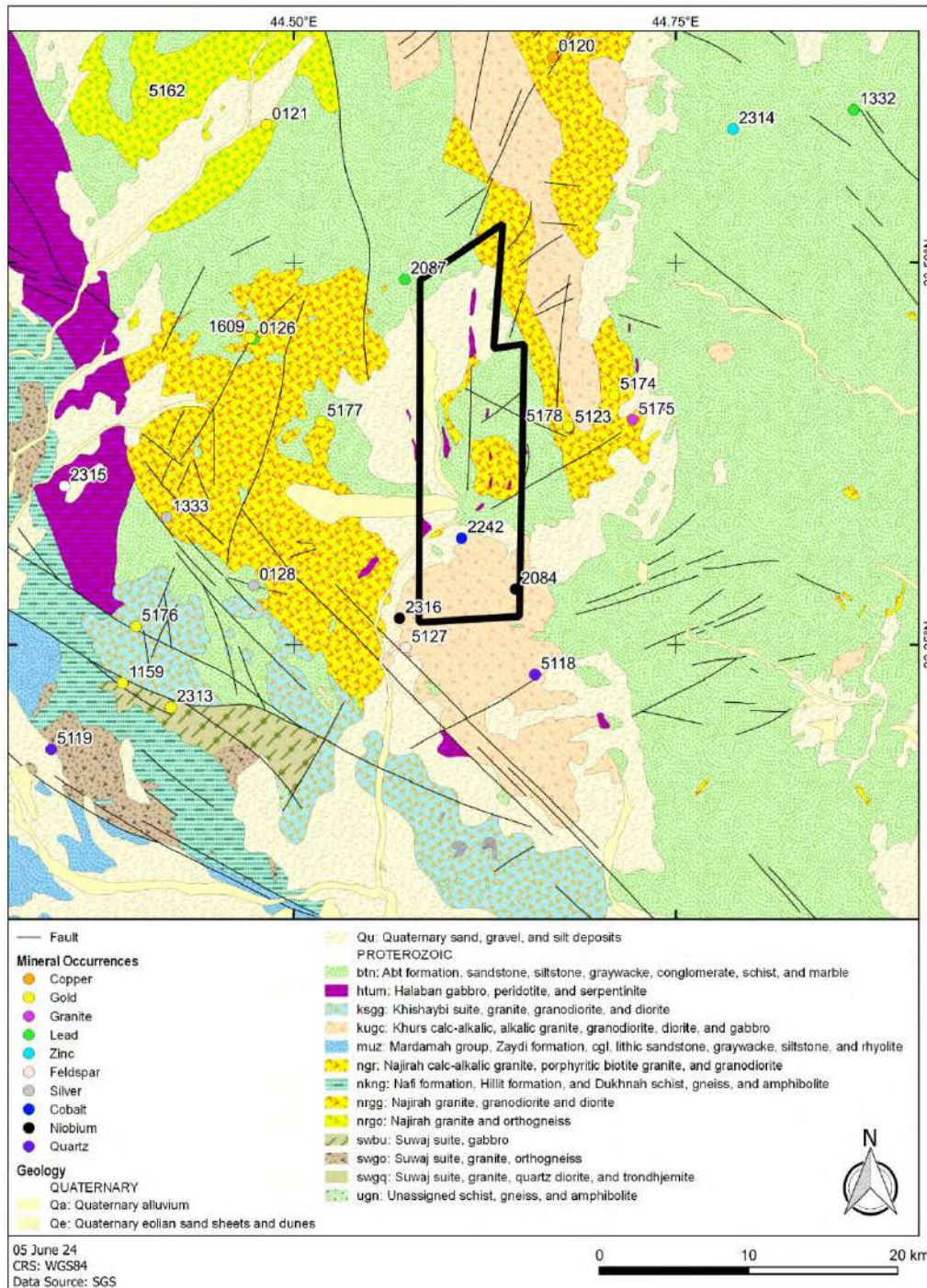


Figure 5: Jabal Sabha Project geology and mineral occurrences. Source: NGD and Geological Map of the Halaban GM-046C 1:250,000 Sheet 1, KSA



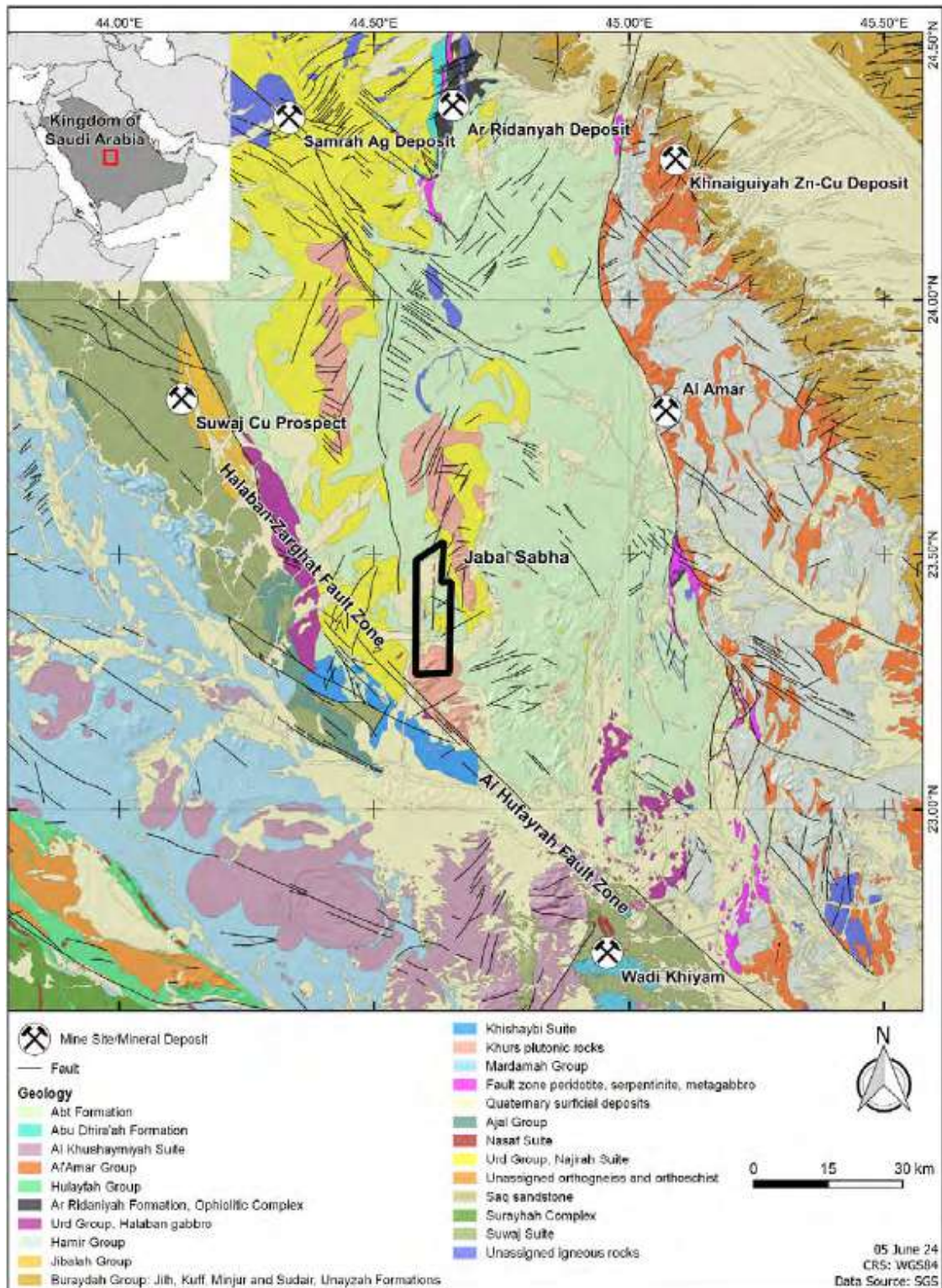


Figure 6: Al Amar Belt and Al Amar Gold Mine among other mineral deposits; Jabal Sabha Project area (outlined in black) is located in the center of the image (Workman et al., 2016)

### 2.3.4 Mineralization

Several hundred mineralization occurrences have been mapped within the Ad Dawadimi Mineral Field (Mytton, 1965; Theobald, 1965; Eijkelboom, 1966a; Kilsgaard, 1970; Bois, 1971; Meaton, 1971). Most of these mineral occurrences are small fracture- and breccia-controlled sulfide-bearing quartz or carbonate veins. The main sulfide constituents are pyrite, galena, and sphalerite. Gangue mineralogy is dominated by quartz, carbonate, ankerite, chlorite, and potassium feldspar. Zones of fine stockwork veining in wall rocks have also been observed. The mineralization style is epigenetic fracture-hosted veining related to proximal granitic intrusions. Primary economic metals include Ag, Pb, and Zn; however, elsewhere in the region (e.g. Jabal Hillit), the main metal is Au.

Modern work has concentrated on the Samrah, As Sidriyah, and West Arjah workings (Kilsgaard, 1970; Georgel et al., 1985b; Ministry of Petroleum and Mineral Resources, 1992). The mineralization is spatially narrow and variable and is largely hosted in northeast-trending fractures and horsetail structures, which are interpreted as conjugates to the main northwest trending fracture sets. Other controls on mineralization include the intersection of structures, dike boundaries, and contacts between intrusive bodies and other lithologies (i.e. the Abt schist and older gabbros). Mineralization is typically oxidized at the surface, with some depletion in Ag values. Primary economic minerals in the Samrah, As Sidriyah, and West Arjah workings include Ag, Zn, and Pb. Up to 5 g/t Au was reported for some rock chips, but this value was not considered potentially economic at the time (Lacombe and Letalenet, 1970). In addition, geochemical sampling in 1984 allowed the identification of some tin (Sn) anomalism in association with granites, consistent with the IRGS model. Regional assessments have been undertaken for Sn and tungsten (W); however, there is no record of historical Sn mining.

Several small Pb–Zn–Ag-bearing stratabound massive sulfide lenses are present in the broader Al Ridaniyah area. These are hosted within ophiolite sequences of the Urd Group. In addition, elevated Sn contents were recorded in one drillhole associated with rhyolite porphyries that intrude the Abt Schist at Al Ridaniyah. The potential of layered gabbroic complexes to host Ni, Cu, and cobalt (Co) mineralization was assessed in earlier work; however, the results were negative.

### 2.3.5 Nearby Mineral Occurrences

Precious and base metal mineral occurrences found in the Mineral Occurrence Documentation System (MODS) are distributed throughout the Ad Dawadimi Terrane and areas surrounding the Project (Table 4, Figure 6, Figure 5). Mineral occurrences in the Project area are limited to two the occurrence of cobalt (MODS 2242) and niobium (MODS 2084) in the central south and southeast corner of the Project, respectively. Within 10 km of the Project boundary, there are several mineral occurrences: two quartz, one Pb, one Nb, one feldspar, one granite, and three Au occurrences (Figure 5).

**Table 4: Summary of mineral occurrences.**

MODS	English name	Long DD	Lat DD	Main metals	Minor metals	Stratigraphic unit	Host rocks	Deposit class	Mineralization style
0121	GAHAB TAYR (GAHAB AT TAIR)	44.48194	23.59028	Au	Ag; Zn; Pb; CaSiO <sub>3</sub>	Undifferentiated	Granite; quartz	Unclassified	Disseminated; veins
0126	QAHAH AL ARTAWI (AL ARTAWI)	44.47361	23.45	Pb	Au; Ag	Undifferentiated	Gneiss; granite; quartz	Hydrothermal	Disseminated; veins
0128	SHAIB AL HARRARRAH (ABU ISNUN)	44.47361	23.28889	Ag	Zn; Pb; Au	Undifferentiated	Granite; quartz	Hydrothermal	Stockwork veinlets
1159	DULAYAT AL UKAYTHAL (JABAL AL ATHL)	44.38797	23.22492	Au	Cu; Pb; Zn; Ag	Ophiolite complex	Gabbro; gneiss; granite; metasedimentary rock; quartz	Hydrothermal	Veins
1332	WADI AL WUDAYY (WADI AL WODAY)	44.86667	23.6	Pb	Zn; Ag	Abt Formation	Carbonate; quartz; sericite schist	Hydrothermal	Veins
1333	QULBAN AL ARTAWI-S (AL ATATHAL)	44.41667	23.33333	Ag		Undifferentiated	Andesite; quartz	Hydrothermal	Veins
1609	QULBAN AL ARTAWI (AL ARTAWI)	44.47133	23.45108	Au	Zn; Pb; Ag	Abt Formation	Gneiss; granite; quartz	Volcanic; Hydrothermal	Disseminated; veins
2084	JABAL SABHA (JABAL SABHAH)	44.64511	23.28639	Nb		Undifferentiated	Aplite; granite; pegmatite; quartz	Unclassified	Disseminated; lenses

MODS	English name	Long DD	Lat DD	Main metals	Minor metals	Stratigraphic unit	Host rocks	Deposit class	Mineralization style
2087	ABAR SHUBAYRI MAH (JABAL SABHAH NORTH)	44.5725	23.48917	Pb		Abt Formation	Dacite; granite ; quartz	Hydrothermal	Veins
2242	JABAL SABHA-N (SABHAH)	44.60972	23.31972	Co	Sn; Fluorite	Undifferentiated	Aplite; granite ; quartz	Hydrothermal	Stockwork veins; stockwork veinlets
2313	DULAYAT AL UKAYTHAL (E) (JABAL AL ATHL EAST)	44.41942	23.20908	Au		Ophiolitic complex	Gabbro; gneiss; granite ; metabasite; metasedimentary rock; quartz	Hydrothermal	Veins
2314	BIR AL ABD EAST	44.7875	23.5875	Zn	Pb	Abt Formation	Greenschist; quartz	Hydrothermal	Disseminated; veins
2316	JABAL SABHA-W (JABAL SABHAH)	44.56917	23.26731	Nb		Undifferentiated	Aplite; granite ; pegmatite; quartz	Unclassified	Lenses; veins
5162	QAHABAR RUKAYYAH	44.40111	23.60528	Au		Undifferentiated	Diorite	Hydrothermal	Veins
5118	SOUTH OF JABAL SABHA	44.65783	23.23053	Quartz		Undifferentiated	Quartz	Hydrothermal	Veins
5123	JABAL AL KHADIR	44.68014	23.39197	Quartz		Unnab Formation	Quartz	Unknown	Unknown
5127	SOUTH OF SABHA VILLAGE	44.57308	23.24822	Feldspar		Undifferentiated	Pegmatite	Pegmatitic	Veins
5174	JIBAL AL KHUDR-NE	44.70975	23.41353	Au		Undifferentiated	Quartz	Hydrothermal	Veins
5175	JIBAL AL KHUDR-E	44.72183	23.39722	Granite		Undifferentiated	Calc-alkalic granite	Intrusive rocks	Massive
5176	SINAF ABU SINUN-W	44.39664	23.26192	Au	Ag	Abt Formation	Quartz	Hydrothermal	Veins



MODS	English name	Long DD	Lat DD	Main metals	Minor metals	Stratigraphic unit	Host rocks	Deposit class	Mineralization style
5177	SHUQRAN AL ARTAWI-S	44.51769	23.39608	Au	Ag	Abt Formation	Quartz	Hydrothermal	Veins
5178	JIBAL AL KHUHR	44.67956	23.39261	Au	Ag	Abt Formation	Quartz	Hydrothermal	Veins

Source: National Geoscience Database NGD of the Kingdom of Saudi Arabia.

### 2.3.6 Project Mineralization

Shearzone-hosted Ag mineralization in granites and gneisses, is observed in the center of the Project area, with maximum reported values of 34.2 g/t Ag, 3.2% Pb, and 0.67% Zn; however, the exact locations and number of samples are unknown. Mineralization may have been controlled by north-trending shears and faults, with post-tectonic intrusions driving hydrothermal systems (Workman et al., 2016).

### 2.3.7 Nearby Mineral Deposits

#### Ar Ridanyah VMS belt

The Ar Ridanyah VMS belt spans an area of ~208 km<sup>2</sup> and comprises ~695 Ma volcanic rocks of the Ar Ridanyah Formation of the Abt Group (Eijkelboom, 1966b). The belt is partially overlain by Phanerozoic and Quaternary cover sequences; therefore, it may be significantly more extensive than mapped. The Ar Ridanyah VMS belt is located ~30 km east-southeast of Ad Dawadimi. The main Ar Ridanyah deposit (MODS 2070) and related prospects (MODS 2071, 2072, and 3205) are the most extensively explored Pb-Zn-Ag prospects within the broader Ar Ridanyah VMS belt.

A summary of VMS deposits within the Ar Ridanyah VMS Belt was obtained from the Minerals Inventory and Potential Assessment Report (Workman et al., 2016) and is shown in Table 5.

**Table 5: VMS deposits within the Ar Ridanyah Mineral Belt (Workman et al., 2016)**

MODS	Name (new)	Name (old)	Main Commodity	Longitude	Latitude	Nearest Town	Potential Ranking	Geometry
2072	Ar Ridanyah	Ar Ridanyah	Pb	44.6655	24.3865	Ad Duwadimi	Medium	Disseminated, stratiform
3205	Jibal Rik al Hamar	Jabal Rik Al Hamar	Pyrite	41.407111	25.368722	Al Hinakiyah	Low	Disseminated
806	Ar Ridanyah NE1	Ar Ridanyah NE1	Cu	44.695833	24.392222	Ad Duwadimi	Medium	Disseminated, stratiform
3649	Ar Ridanyah S2	Ar Ridanyah S2	Cu	44.661111	24.343889	Ad Duwadimi	Low	Undetermined
2070	Ar Ridanyah N1	Ar Ridanyah N1	Zn	44.654361	24.381306	Ad Duwadimi	Medium	Lenses, stratabound
2071	Shaib As Safani	Anomaly B	Pyrite	44.729444	24.402222	Ad Duwadimi	Medium	Disseminated, lenses, stratiform

The Ar Ridanyah area was mapped by BRGM between 1967 and 1968. Areas of interest were subsequently mapped in higher resolution and investigated using ground geophysical survey and diamond drilling (Delfour, 1982).

Within the main Ar Ridanyah prospect (MODS 2070), stratabound and stratiform lenses of pyrrhotite-sphalerite-galena and pyrrhotite-sphalerite are hosted in a marble unit within biotite schist (Eijkelboom, 1966b; Elsass, 1981). These units strike north and dip to the east. Sulfide lenses occur in association with marble at amphibolite-mica schist contacts and directly overlie disseminated sulfides. Biotite-chlorite alteration is observed. The main gossan includes metamorphic pyrrhotite-sphalerite, with minor cassiterite-stannite mineralization in veinlets. In addition, RioFinex Ltd identified Sn in prospects adjacent to the primary gossan zone. Two holes were drilled at the main Ar Ridanyah prospect by BRGM in 1967-1968 to explore down dip from the gossan. These holes intersected several calcareous layers that were rich in pyrite, pyrrhotite, and sphalerite. The mineralized interval for hole 1 (AR1) totaled 15.5 m at 6.1% Zn; for hole 2 (AR2), the mineralized interval was 16 m at 4.5% Zn. Values of Pb, Cu, and Ag were low, and Au was not reported. Subsequent exploration by the BRGM in the 1970s yielded estimations of 1.5 Mt of mineralization, averaging 4.65% Zn and 20.0 g/t Ag to a depth of 130 m for the main gossan (Elsass, 1981).

The Ar Ridanyah East prospect (MODS 2072) crops out ~1 km northeast of the main prospect (MODS 2070). It is composed of gossanous calcareous tuff and is characterized by amphibole-epidote-calcite-garnet assemblages that contain disseminated pyrite and sphalerite. The best drill intersection gave values of 1.32% Pb and 2.46% Zn over 3 m (Delfour, 1982).

Ar Ridanyah anomaly B (MODS 2071) is located ~9 km east-northeast of the main prospect and is situated within the Abt Schist. Anomaly C (MODS 3205) is proximal to anomaly B, located ~9 km northeast of the main prospect and within the Ar Ridanyah Formation. Anomaly B was explored using ground magnetic geophysics, soil geochemistry, and trenching. The best drill intersection gave values of 14.0 g/t Ag over 15 m (Delfour, 1982).

## Suwaj Porphyry Cu Prospect

The Suwaj Porphyry Cu Prospect is a relatively new prospect under exploration by the SGS near the eastern margin of the Arabian Shield (Figure 6). No MODS index has been allocated to the Suwaj Prospect, but it is located near the center of a 23-km long north-northwest trending belt. There are 14 Cu occurrences, all of which have variations of the names “Shaib Ad Dad” or “Shaib Umm Habiyah”. Table 6 is taken from the Minerals Inventory and Potential Assessment Report (2016) and summarizes these mineral occurrences.

**Table 6: Porphyry Cu occurrences in the Suwaj Prospect (Workman et al., 2016)**

MODS	New Name	Old Name	Main Commodity	Longitude	Latitude	Nearest Town	Ranking	Geometry
2298	Shaib Abu Hasak	Jabal Hentag-W	Cu	44.003333	23.912778	Halaban	Low	Disseminated, veins
2299	Shaib Umm Habiyah-W	Jabal Hentag-W	Cu	44.075278	23.896944	Halaban	Low	Disseminated, veins
2300	Shaib Ad Dob-NW	Jabal Hentag-W	Cu	44.092972	23.88675	Halaban	Low	Disseminated, veins
2301	Shaib Umm Habiyah-E	Jabal Hentag-W	Cu	44.101917	23.882556	Halaban	Low	Disseminated, veins
2302	Shaib Ad Dab-SE	Jabal Hentag-W	Cu	44.0925	23.8575	Halaban	Low	Disseminated, veins

MODS	New Name	Old Name	Main Commodity	Longitude	Latitude	Nearest Town	Ranking	Geometry
2303	Shaib Ad Dab-SE <sub>1</sub>	Jabal Hentag-W	Cu	44.101833	23.861056	Halaban	Low	Disseminated, veins
2304	Shaib Ad Dab-SE <sub>3</sub>	Jabal Hentag-W	Cu	44.110167	23.859056	Halaban	Low	Disseminated, veins
2305	Shaib Ad Dab-SE <sub>4</sub>	Jabal Hentag-W	Cu	44.117889	23.854417	Halaban	Low	Disseminated, veins
2306	Shaib Abu Salam-N	Jabal Hentag-W	Cu	44.1225	23.805083	Halaban	Low	Disseminated, veins
2307	As Sahamiyah	Jabal Hentag-W	Cu	44.098333	23.788222	Halaban	Low	Disseminated, veins
2308	Shaib Abu Salam-S	Jabal Hentag-W	Cu	44.135833	23.761111	Halaban	Low	Disseminated, veins
2309	Nufayyid Qaradan	Jabal Hentag-W	Cu	44.151556	23.733528	Halaban	Low	Disseminated, veins
2310	Rawdat Qararah Al Gharbiyah	Jabal Hentag-S	Cu	44.090556	23.730278	Halaban	Low	Disseminated, veins
2311	Jabal Al Ghuthayra	Jabal Hentag-W	Cu	44.043778	23.729083	Halaban	Low	Disseminated, veins

Mineral occurrences of Cu in the Suwaj Prospect are within the area of the former Jabal Hentag prospects, which were discovered by the BRGM in 1969 during reconnaissance geological mapping (Bois, 1971). Hydrothermal Cu mineralization is present along siliceous veins in fractures within diorite and granodiorite and within an ophiolite complex.

The main area of mineralization is within the Shaib Abu Hasak ancient workings (MODS 2298), where ultramafic rocks are intruded by microdiorite/andesite dikes and quartz veins. Mineralization includes visible pyrite and minor galena in siliceous fracture zones. Rocks are typically hematized and silicified. Analyses of five dump samples returned maximum values of 2 g/t Au and 5 g/t Ag (Bois, 1971). Surrounding prospects are hosted within variable settings, including calc-alkaline granodiorite, andesite, diorite, conglomerate, metabasalt, and sandstone. Results from these prospects have not been reported.

In 2011, the SGS reported Cu mineralization over a 600 m x 600 m section of the Wadi Al Ghuthayra Project area (Workman et al., 2016). On average, these samples had 1,939 ppm Cu, with 14 samples exceeding 3,000 ppm Cu and one sample exceeding 1% Cu. Contents of Cu were typically weakly correlated to Mo, lithium (Li), scandium (Sc), thorium (Th), and some rare earth elements (REEs). Only trace amounts of Au (<0.02 ppm) were measured, and the average Ag value was 0.32 ppm, with a maximum of 5.9 ppm. The average Pb value was 12 ppm (range = 2–22 ppm), and the average Zn value was 42 ppm (range = 13–151 ppm). REE contents were low. As of 2016, work by the SGS in the Suwaj Project area was ongoing (Workman et al., 2016).

### Samrah Epithermal Vein-type Ag deposit

The Samrah Deposit comprises a series of widely scattered Ag prospects and ancient mines (Figure 6; MODS 0145–0149, 0745, 0756, 0803, 0805, 0808, 0810, 0847, 0848, and 0854). The main prospect (MODS 0145) is situated at 44°23' E, 24°20' N. Most of the remaining prospects are within 5 km of the central prospect, although there are a total of 45 sites within 10 km of the Samrah Deposit. Sites within 5 km are summarized in the Minerals Inventory and Potential Assessment Report (2016) and Table 7.

**Table 7: Epithermal Ag prospects within 5 km of the Samrah Prospect (Workman et al., 2016)**

MODS	Name (new)	Name (old)	Main Commodity	Longitude	Latitude	Nearest Town	Potential Ranking	Geometry
145	Samrah	Samrah District	Ag	44.333194	24.357556	Dawadimi	Medium	Disseminated
3647	Hadabat Umm Ruqaybah-W	Jabal Umm Ar Ragabah	Ag	44.332083	24.352028	Dawadimi	Very low	Undetermined
797	Hadabat Umm Ruqaybah-E	Umm Ergabah	Ag	44.3395	24.352444	Dawadimi	Medium	Disseminated
747	Samrah-NW	Jabal Abiad	Ag	44.337111	24.3655	Dawadimi	Very low	Disseminated, veins
746	Samrah-SW	Samrah	Ag	44.343694	24.363222	Dawadimi	Very low	Disseminated
4148	Abal Abu Hufur-SE	Siliceous Zone-NW	Ag	44.319444	24.363889	Dawadimi	Low	Veins
745	Hadabat Umm Ruqaybah-NE1	Samrah	Ag	44.348861	24.365306	Dawadimi	High	Veins
748	Abal Abu Hufur	Samrah	Ag	44.317333	24.365611	Dawadimi	Very low	Disseminated, veins
756	Samrah-E	Samrah	Ag	44.350806	24.365194	Dawadimi	Medium	Veins
4482	Hudaybat Ar Rajajil-W	Sahrah District	Ag	44.351111	24.345833	Dawadimi	Very low	Veins
851	Hadabat Al Uwayja-SE	Jabal Al Aouejah	Ag	44.335	24.336111	Dawadimi	Very low	Disseminated, veins
744	Hadabat Umm Ruqaybah-SE	Samrah	Ag	44.355361	24.351	Dawadimi	Medium	Disseminated, veins
750	Hadabat Al Uwayja	Jabal Al Aouejah	Ag	44.321167	24.337056	Dawadimi	Medium	Disseminated
850	Hadabat Al Uwayja	Jabal Al Aouejah	Ag	44.336028	24.332861	Dawadimi	Very low	Disseminated
144	Hidab Rudayhat	Jabal Ar Radahat	Ag	44.318306	24.377722	Dawadimi	Medium	Disseminated, veins
810	Samrah-NE2	Samrah-E	Ag	44.361611	24.361889	Dawadimi	Medium	Disseminated
808	Samrah-SW	Samrah-SE-E	Ag	44.362806	24.361611	Dawadimi	Medium	Disseminated, veins
849	Samrah-NE3	Samrah	Ag	44.360556	24.371111	Dawadimi	Very low	Disseminated, veins
803	Samrah-NE6	Samierah	Ag	44.363778	24.373833	Dawadimi	Medium	Disseminated
805	Samrah-NE1	Samrah-E	Ag	44.36675	24.36925	Dawadimi	Medium	Disseminated
804	Samrah-NE4	Samrah	Ag	44.366028	24.373861	Dawadimi	Undefined	Disseminated
139	Al Gilani	Sidriyah	Ag	44.3175	24.394444	Dawadimi	Medium	Disseminated, veins
802	Samrah-NE7	Samrah	Ag	44.368139	24.37725	Dawadimi	Medium	Disseminated, veins
852	Hadabat Al Maslukhah-NE	Jabal Ar Radahat	Ag	44.297222	24.383333	Dawadimi	Very low	Disseminated, veins
148	Samrah-NE4	Samrah	Ag	44.377972	24.369944	Dawadimi	Medium	Disseminated, veins

The Samrah Prospect mainly overlies the Dawadimi–Najirah Batholithic Complex and layered volcano-sedimentary sequences. These layered sequences comprise albite–sericite–chlorite schist, slate, phyllite, conglomerate, and arenite. Mineralization is structurally controlled by northeast shearing and east–west tensile fractures within granite. Four generations of sphalerite, pyrite, galena, and chalcopyrite veining have been mapped in silicified breccia zones, where galena is typically in the centers of veins and sphalerite occurs at the margins. Additional minor minerals include hematite, magnetite, and arsenopyrite, with Ag-bearing minerals such as polybasite, freibergite, pyrargyrite, stromeyerite, and acanthite. In addition to their economic levels of Ag, these deposits are recognized for their substantial base metal values. Deposits are classified as epithermal polymetallic veins.

Silver values for 32 dump samples collected by the USGS between 1950 and 1965 averaged at 229 g/t. A mineral resource estimate, that is considered historical, is based on data from 18 cored holes across a strike of 400 m at an average depth of 179 m. Estimates range from 230,000 to 301,000 tons at 5.0%–5.3% Zn, 0.9%–1.64% Pb, and 411–750 g/t Ag (Kilsgaard, 1970). Reassessment of the minerals resource by the BRGM in 1976 resulted in an historic mineral resource estimation of 278,000 tons at 5.12% Zn, 1.64% Pb, and 651 g/t Ag.

### **Al Amar Gold Mine**

The Al Amar Gold Mine is an underground polymetallic Au–Cu–Zn mine located ~195 km southwest of Riyadh and situated within a north trending belt of felsic to mafic volcanic rocks (Figure 6). It is the most advanced exploration project in the Ar Rayn Terrane. Mineralization is concentrated primarily in two parallel vein structures, the North and South veins. Each is 400–500 m long and up to 30 m wide, trending 110°–130° and dipping 70°–90° southwest. Most mineralization in Al Amar is epigenetic and vein-hosted; however, there are some instances of massive, bedded sulfide-barite mineralization interpreted as VMS-style (Pouit et al., 1984). Surour and Bakhsh (2013) concluded that Al Amar was an Au-rich VMS deposit with a younger epithermal overprint deposited in a subaerial to shallow-water volcanic setting.

Reported historic estimated mineral resources are 2.10 Mt at 2.42 g/t Au, 8.14 g/t Ag, and 2.81% Zn in the stockwork zone, and 1.077 Mt at 33.1 g/t Au, 33 g/t Ag, 7.79% Zn, and 0.87% Cu in the North Vein Zone (Lofts, 1984b). After a feasibility study in 2001, Ma'aden Gold began production in 2009. The Ma'aden Annual Report in 2018 estimated remaining total ore reserves of 2.77 Mt at 3.26 g/t Au and 3.96% Zn included within mineral resources of 5.20 Mt at 4.02 g/t Au and 3.79% Zn (Ma'aden, 2018). Reporting is compliant with the 2012 version of the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) International Reporting Template for Exploration Results, Mineral Resources and Ore Reserves.

### **Khnaiguiyah Zn–Cu Deposit**

The Khnaiguiyah Zn–Cu deposit is located ~170 km southwest of Riyadh and comprises four distinct Zn–Cu–Fe–Mn mineralized bodies within a 3 km x 3 km area (Figure 6). The Khnaiguiyah deposit rocks belong to the Shalahib Formation of the Al Amar Group and are mainly volcanic and volcanoclastic. The Zn–Cu–Fe mineralization is contained in magnetite, hematite, pyrite, sphalerite, and chalcopyrite, and Mn is found within complex carbonates and silicates, as well as skarn-type minerals. Mineralization is typically confined to hydrothermally altered shear zones that are several hundred meters in length and tens of meters thick.

Proven and probable reserves for the Khnaiguiyah deposit are 26.08 Mt grading at 3.3% Zn and 0.24% Cu (Saudi Arabian Deputy Ministry for Mineral Resources, 2022). The Khnaiguiyah deposit was included in the 2022 Kingdom of Saudi Arabia Exploration Licensing Round Auction.

## 2.3.8 Exploration Data

### 2.3.8.1 Regional Geophysical Data

Diverse geophysical data covering almost the entire Kingdom were available. Some of the data compilation included surveys flown by the USGS and are still used for interpretation today, although many areas have been re-surveyed since 2006. Table 8 summarizes the acquisition parameters of various airborne geophysical surveys. The compilations of geophysical data include surveys stitched together, and line spacings vary between 300 m and 2,500 m. These magnetic data (total magnetic intensity, TMI) are available as reduction to pole (RTP), first vertical derivative (1VD), analytical signal (AS), and tilt derivative enhancements (Figure 7).

**Table 8: Overview of available geophysical data**

Survey Name	Method	Coverage (km <sup>2</sup> )	Line Spacing (m)	Grid size (m)
<b>Arabian Shield Magnetic Compilation</b>	Magnetic	Compilation	300–2,500	200
<b>Habla, Sukhaybarat, Najadi / Shabah and Najadi/Quartz Hill</b>	Magnetic, EM and Radiometric	952	200	50 (magnetic and radiometric)
<b>Al Hajar</b>	Magnetic, EM	748	250	No information available
<b>Wadi Bidah, Hamdah</b>	Magnetic, EM	4,236	250–300	50
<b>RGP (Area 1)</b>	Magnetic	~90,000 available of 219,193 planned	300	No information available
<b>RGP (Area 3)</b>	Magnetic	No information available	300	No information available

More recently acquired aeromagnetic data covering parts of the Arabian Shield are available as RTP through the SGS (Table 8 and Figure 8). These data were collected as a component of the Regional Geological Survey Program (RGP) that was launched by the SGS in October 2020 (Global Mining Review, 2020). The initial phase of the presently ongoing RGP focuses on undertaking mapping and surveying of an approximately 600,000 km<sup>2</sup> area of the Arabian Shield. The SGS contracted Sander Geophysics Limited to conduct airborne geophysical magnetic and radiometric surveys across the eastern part of the Arabian Shield (referred to as Area 1); and Xcalibur Multiphysics to conduct airborne geophysical magnetic and radiometric surveys across the southern part of the Arabian Shield (referred to as Area 3). At present, magnetic data comprising 73 map tiles covering the southeastern parts of areas 1 and 3 have been made available (Figure 8).



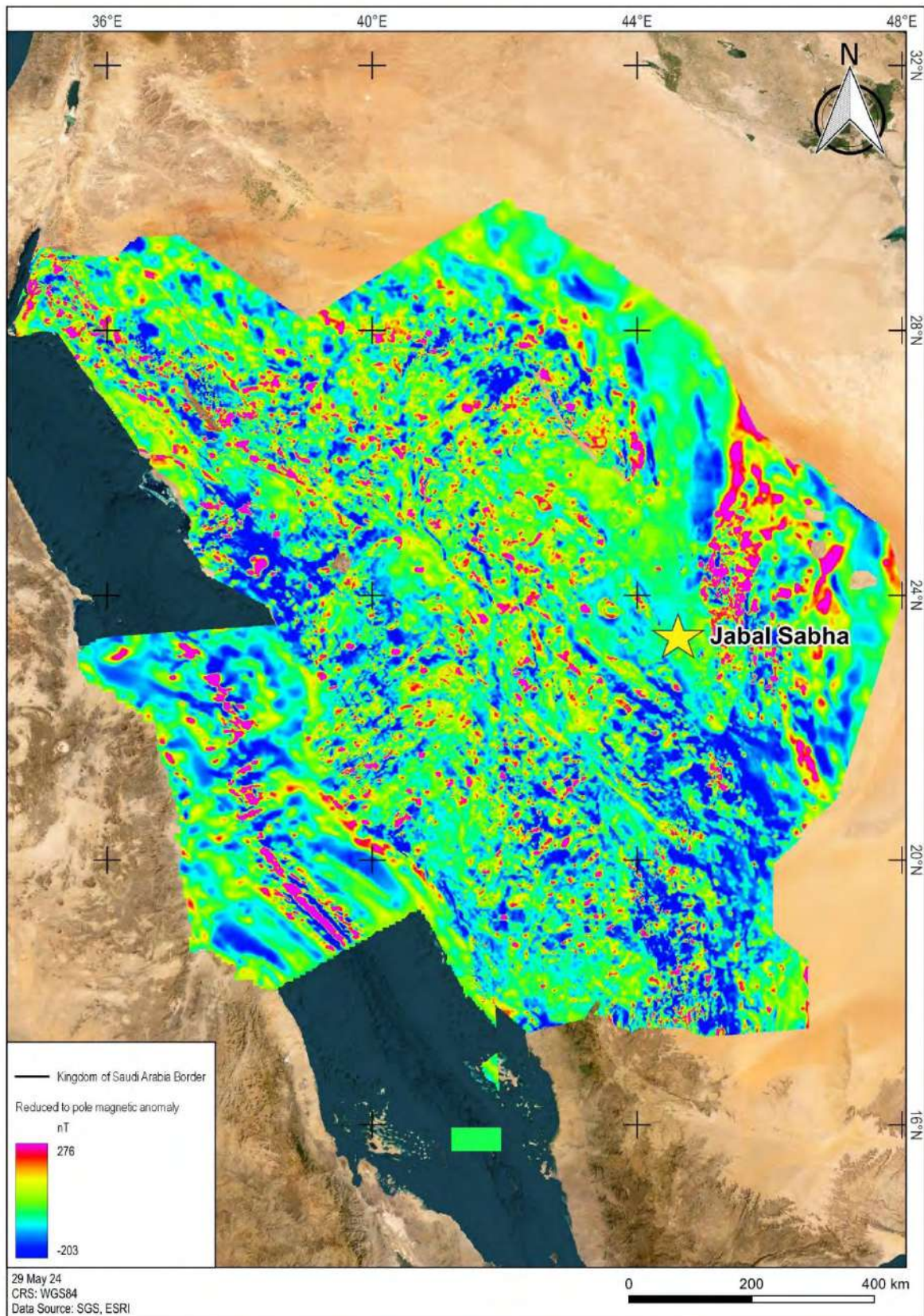


Figure 7: Magnetic data compilation available across the Kingdom



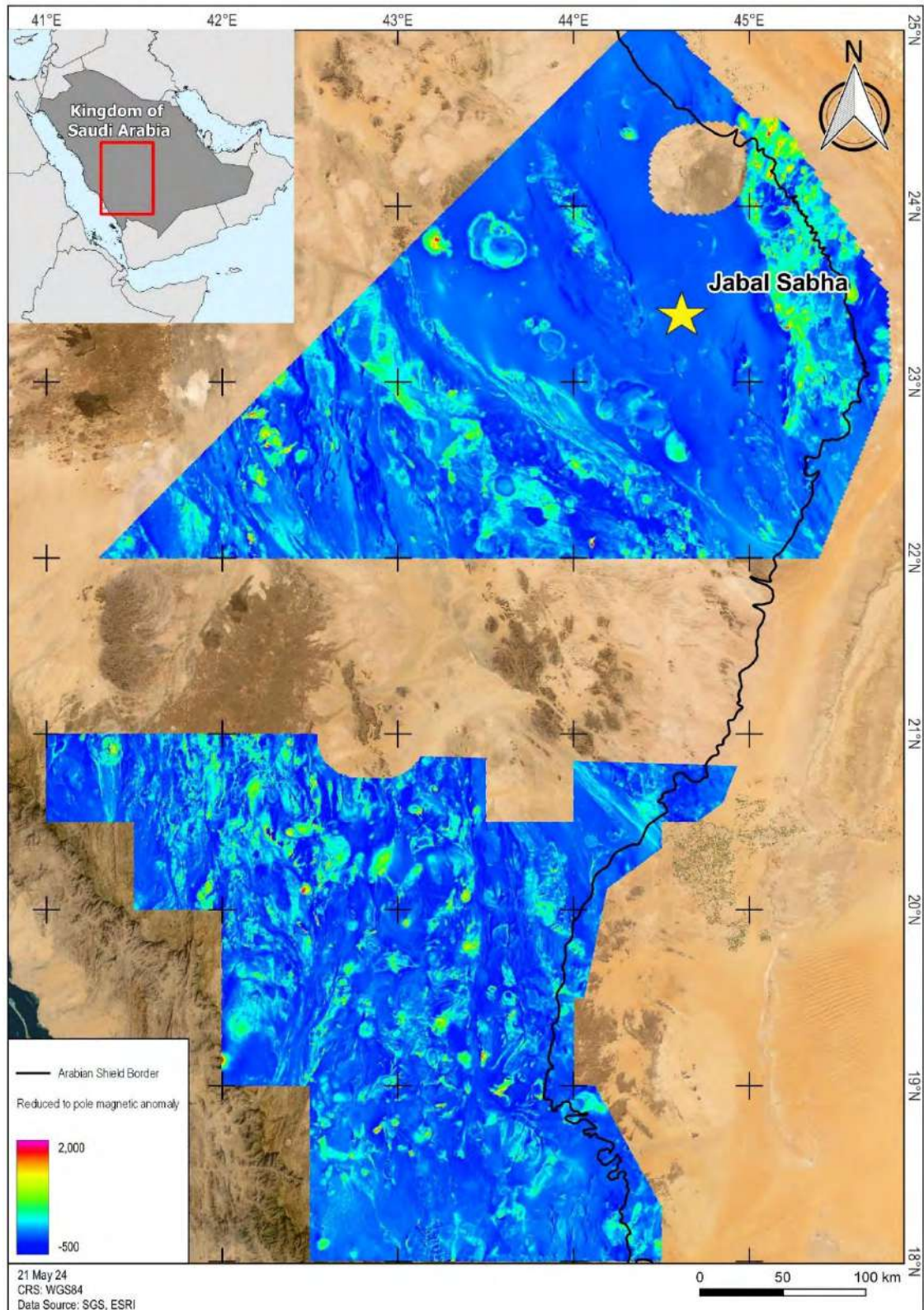


Figure 8: Recently acquired magnetic data available as part of ongoing RGP geophysical surveys covering parts of the Arabian Shield within the Kingdom

### 2.3.8.2 Regional Geochemical Data

#### Geochronological Data

A recent publication by Wu et al. (2023) contains a compilation of U-Pb geochronological data from 149 locations in the KSA. Metadata included isotopic data for  $^{206}\text{Pb}/^{238}\text{U}$ ,  $^{207}\text{Pb}/^{235}\text{U}$ ,  $^{207}\text{Pb}/^{206}\text{Pb}$ , and  $^{208}\text{Pb}/^{232}\text{Th}$ ;  $^{206}\text{Pb}/^{238}\text{U}$ ,  $^{207}\text{Pb}/^{235}\text{U}$ ,  $^{207}\text{Pb}/^{206}\text{Pb}$ , and  $^{208}\text{Pb}/^{232}\text{Th}$  ages; the instrument type used for analysis thermal ionization mass spectrometry (TIMS), secondary ion mass spectrometry (SIMS), sensitive high-resolution ion microprobe (SHRIMP), or laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS); sample lithologies; and sample locations (Figure 9).

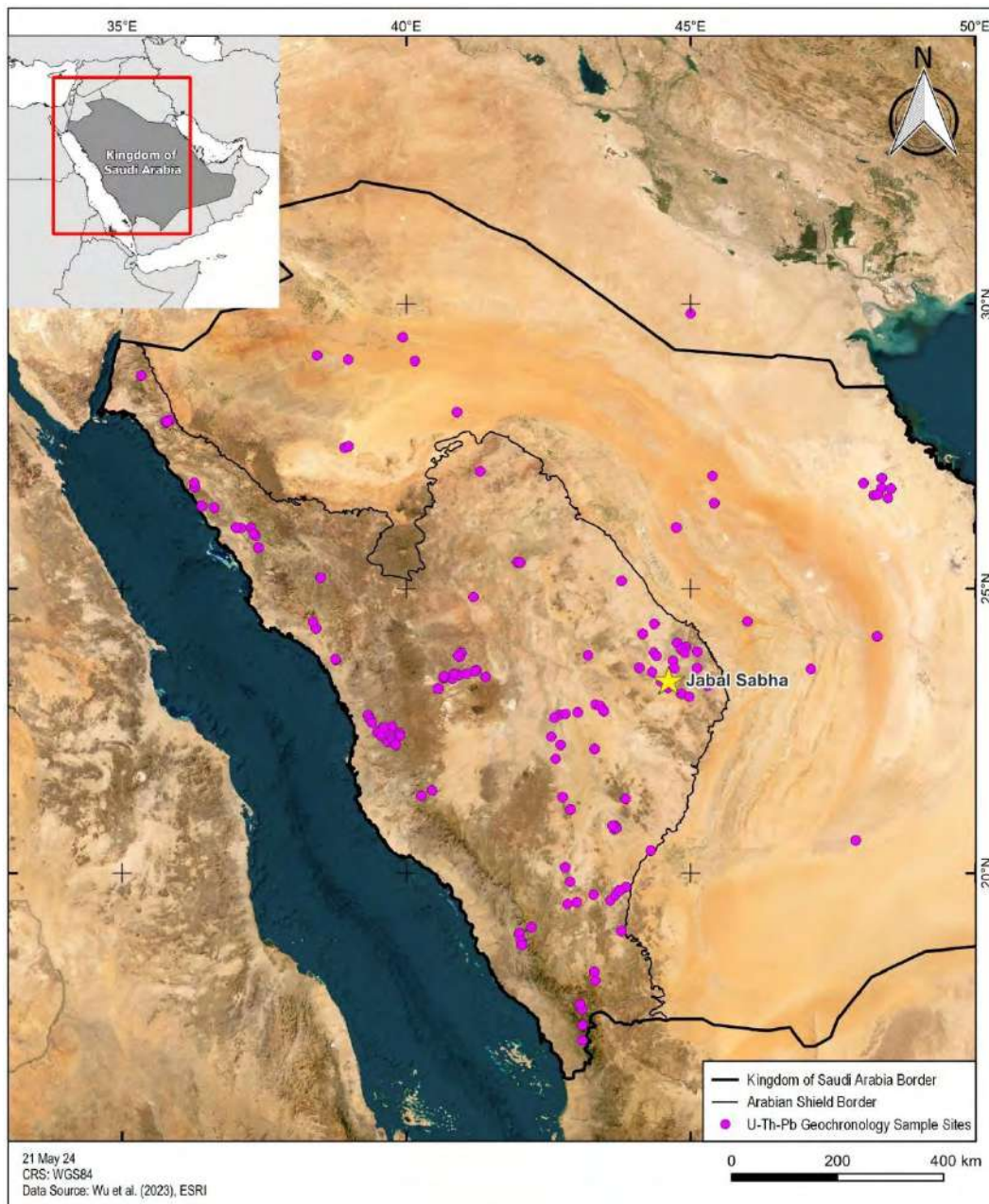


Figure 9: Locations of sampling sites for geochronological analysis in Wu et al. (2023)



## Stream-Sediment Sampling

Geochemical data are available from two stream-sediment sampling programs covering central and southwestern regions of KSA: the Geochemical Atlas of the Kingdom of Saudi Arabia Program by the SGS in 2001 (Saudi Geological Survey, 2021), and the presently ongoing High-Resolution Geochemical Survey of the Arabian Shield (GSAS) Project that commenced in 2021 (Saudi Geological Survey, 2024).

The SGS stream-sediment sample dataset includes 6,259 samples collected across southwestern regions of KSA (Table 9, Figure 10). Following the Geochemical Atlas Protocol of the Kingdom of Saudi Arabia, sample preparation and chemical analysis were carried out at the SGS' Geological and Chemical Laboratories in Jeddah (Saudi Geological Survey, 2021).

**Table 9: Number of samples within individual datasets**

Dataset	Number of Stream-Sediment Samples
GA GAJHQ Jabal al Hasir Dataset	611
GA GAJIQ Jabal Ibrahim Dataset	666
GM-048C_GA-GAYQ Yanbu Dataset	640
GM-049C_GA-GAHQ Al Hamra Dataset	101
GM-052C_GA-GAMQ Al Madinah Dataset	626
GM-053C_GA-GAAQ Wadi al Ays Dataset	637
GM-070C_GA-GAQQ Al Qunfudhah Dataset	400
GM-84C_GA-GARQ Rabigh Dataset	495
GM-087C_GA-GAUQ Umm al Birak Dataset	602
GM-093C_GA-GATRQ Turabah Dataset	555
GM-095C_GA-GALQ Al Lith Dataset	211
GM-107C_GA-MQ Makkah Dataset	652

Multielement analysis used a 1-g aliquot, following HF/HClO<sub>4</sub>/HCl/HNO<sub>3</sub> digestion. Determination of the major element oxides SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, MnO, MgO, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, TiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, and SO<sub>3</sub><sup>2-</sup> (reported in weight percent [wt.%]) and the trace elements As, Ba, Be, Bi, Cd, Ce, Co, Cr, Cu, Dy, Er, Eu, Ga, Gd, Ge, Hf, Ho, La, Li, Lu, Mo, Nb, Nd, Ni, Pr, Sb, Sc, Sm, Sn, Sr, Ta, Tb, Th, Tm, U, V, W, Y, Yb, Zn, and Zr (reported in parts per million [ppm]) employed inductively coupled plasma optical emission spectroscopy (ICP-OES). Determination of the trace elements Ag and Pb (in ppm) and Au (in ppb) was performed using atomic absorption spectrometry (AAS). Loss on ignition (LOI; wt.%) was determined as a proxy for estimating the organic matter content of the sample by heating the sample in a furnace at 500°C for one hour.

The presently ongoing GSAS Project commenced in 2021, and includes a total of 35,575 stream-sediment samples collected across central KSA (Figure 10; Saudi Geological Survey, 2024). Sample preparation adhered to the Stream Sediment Sample Preparation Manual (Yao et al., 2022b) of the GSAS Project. Field sample preparation was carried out at the Field Base of the GSAS Project, and laboratory sample preparation took place at the Chemical Laboratories of China Geological Survey (CGS), China. Stream-sediment samples were systematically collected at a density of one sample per 6.25 km<sup>2</sup>. Sampling sites comprised mainly lower-order streams to represent the largest possible drainage areas. Detailed descriptions of sampling procedures and rationale can be found in the GSAS metadata (Saudi Geological

Survey, 2024). Multiple geochemical analytical procedures were employed for the analysis of 76 elements and LOI, all of which adhered to the Chemical Analysis Manual of the GSAS Project (Yao et al., 2022c). Specific methods applied for each element included x-ray fluorescence spectrometry (XRFS); inductively coupled plasma-mass spectrometry (ICP-MS), sometimes employed after fire assay (FA); inductively coupled plasma-atomic emission spectrometry (ICP-AES); atomic fluorescence spectrometry (AFS), sometimes involving cold mercury vapor generation (CV); emission spectrometry (ES); ion-specific electrode (ISE); gas chromatography (GC); and gravimetric methods (GRAV). The analytical methods employed for each element are detailed in Table 10.

**Table 10: Applied instrument methods per element group in the GSAS Project (Saudi Geological Survey, 2024)**

Analyte	Instrument Method
SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , TFe <sub>2</sub> O <sub>3</sub> , K <sub>2</sub> O, Ti, P, Cr, Cl, Br, Hf, Zr, Rb	XRFS
Be, Bi, Cd, Co, Cu, Cs, Ga, In, Li, Mo, Nb, Ni, Pb, Th, Tl, U, Te, La, Ce, Dy, Er, Eu, Gd, Ho, Lu, Nd, Pr, Sm, Tb, Tm, Yb, Y, Sc, Re, I, Ge, Ta, W	ICP-MS
Ir, Rh, Os, Ru, Pt, Pd, Au	FA/ICP-MS
MgO, CaO, Na <sub>2</sub> O, Ba, Mn, Sr, V, Zn	ICP-AES
As, Sb, Se	AFS
Hg	CV-AFS
Ag, B, Sn	ES
F	ISE
N	GS
TC, S	IRS
LOI	GRAV

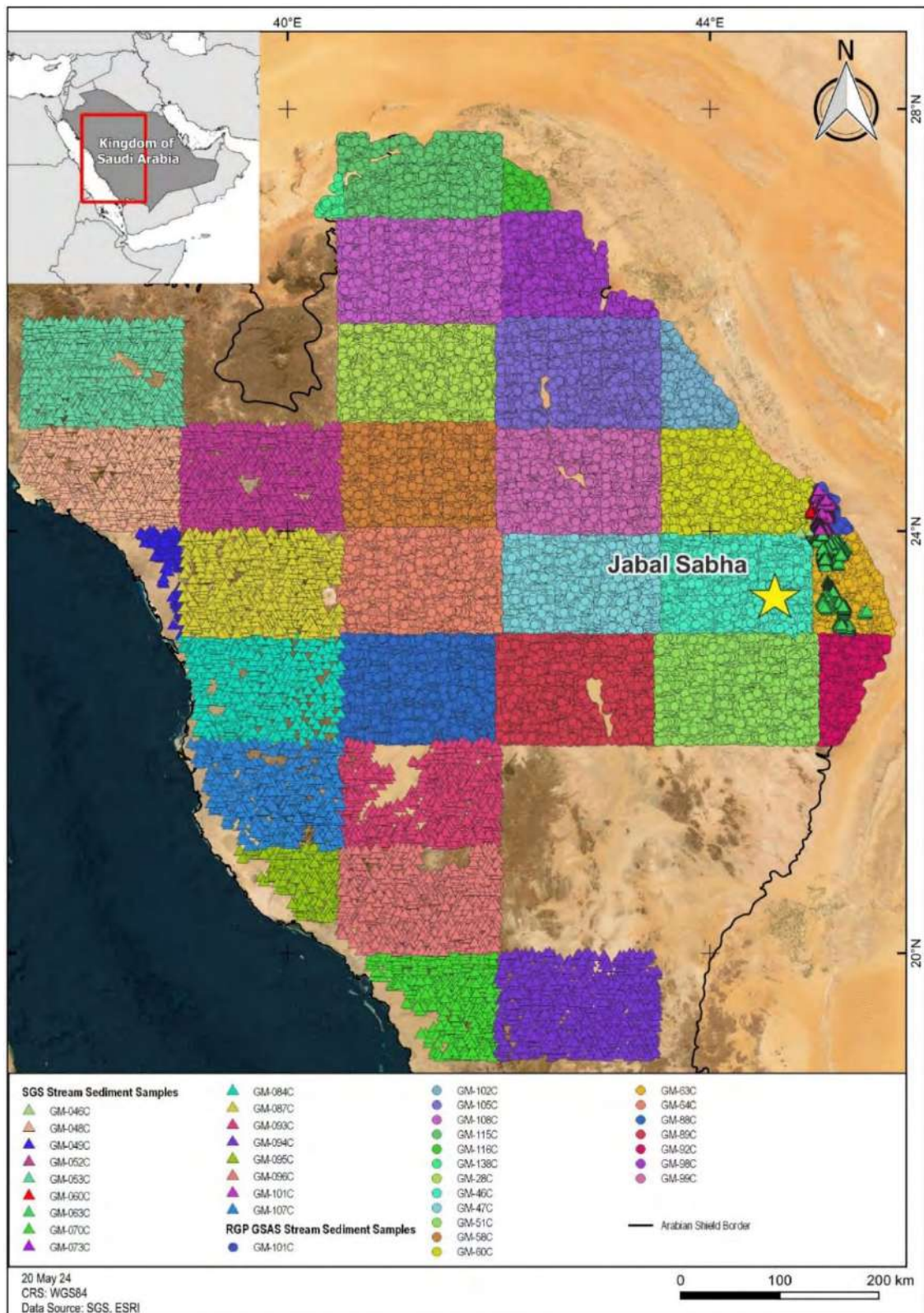


Figure 10: Map of stream-sediment sample locations from the Geochemical Atlas Program and the GSAS Project (Saudi Geological Survey, 2021, 2024)



### 2.3.8.3 Project Geophysics

As discussed in Section 2.3.8.1, airborne magnetic data covering the Jabal Sabha project are accessible through the National Geological Database Portal. These recently acquired data are provided at 10 Hz, equivalent to one sample every ~7 m, and can be displayed at a scale as small as 1:100,000. The Project falls within the Area 1 geophysical surveys flown by Sander Geophysics Limited (Figure 11).

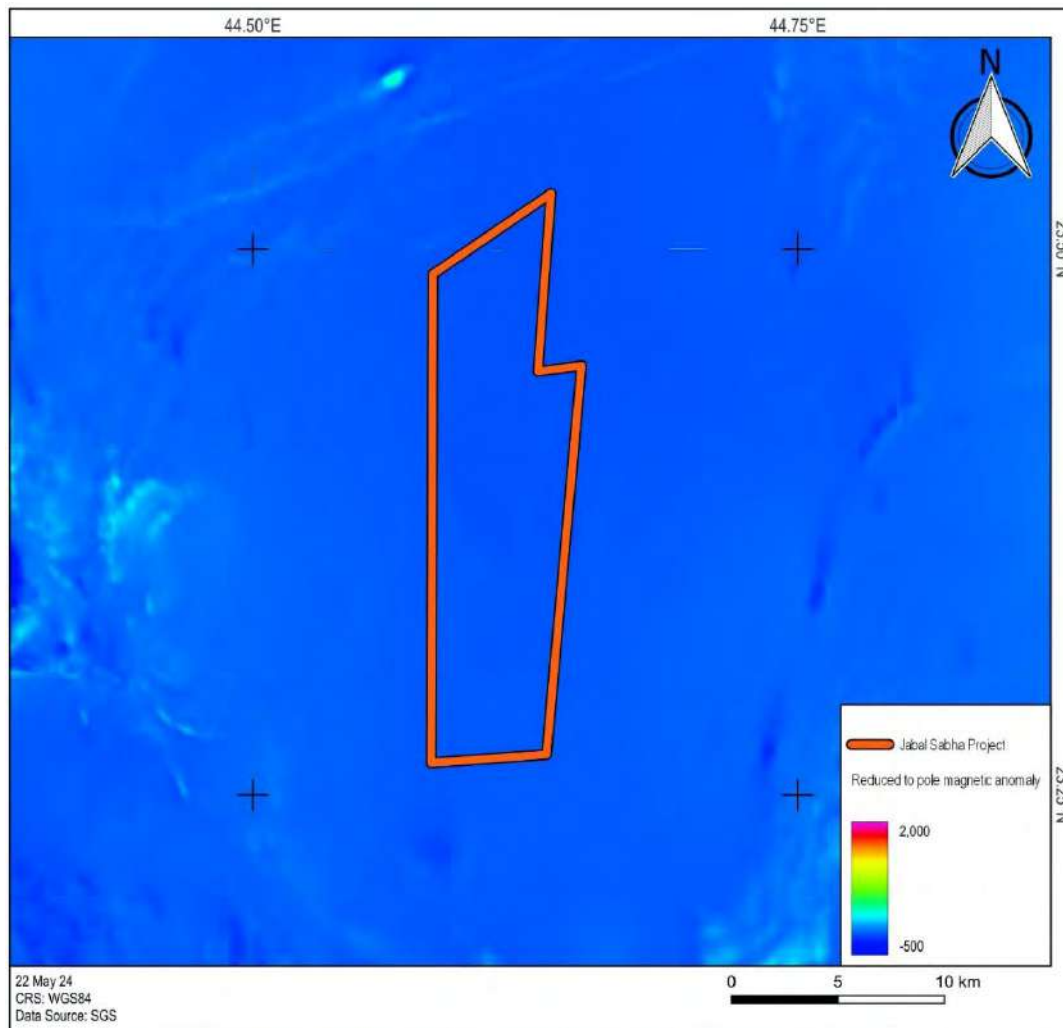


Figure 11: Aeromagnetic data covering the Jabal Sabha project

### 2.3.8.4 Surface geochemistry

As outlined in Section 0, regional stream-sediment geochemical data are available for the Arabian Shield. The Jabal Sabha area was covered by the geochemical survey (GSAS Project) undertaken by the China Geological Survey under contract to the Saudi Geological Survey. A total of 30 samples were collected within the Jabal Sabha area and analyzed for 55 analytes using a range of techniques.

### 3. Data Room Overview

Technical and other data are hosted in the Data Room <https://taadeen.sa/en/mining-bids>.

#### TECHNICAL INFORMATION

The technical information folder in the Data Room includes the files described in Table 11 and will remain open to bidders until the award of the Exploration License.

**Table 11: Data Room file overview**

Key Reports	Entity	Location	Activities
BRGM-TR-05-14	BRGM 1985 A.D. 1405 A.H.	Arabian Shield	Aeromagnetic survey covering 550,000 km <sup>2</sup> of the Arabian Shield. Data reprocessed by the BRGM between 1970 and 1980 AD.
USGS-OF-02-12	USGS 1982 A.D. 1402 A.H.	Halaban Quadrangle	Landsat image map of the Halaban Quadrangle, Sheet 23G.
GM-46-A	BRGM 1979 A.D. 1399 A.H.	Halaban Quadrangle	Geological mapping and explanatory notes for the Halaban Quadrangle, Sheet 23G.
GM-46-G	BRGM 1979 A.D. 1399 A.H.	Halaban Quadrangle	Hydrochemical and hydrogeological maps and explanatory notes for the Halaban Quadrangle, Sheet 23G.

## APPLICATION FORM

The Data Room includes the Application Form that must be completed by bidders as part of their Proposal. The Application Form includes the below sections as referenced in this Information Memorandum.

Section	Description
Section A	Proposal Cover Letter
Section B	Minimum Qualification Criteria
Section C	Technical Requirements
Section D	Resource Exploration and Discovery Activities
Section E	Innovation
Section F	Social Impact Management Plan
Section G	Environmental Impact Management Plan
Section H	Financial Information Requirements
Section I	Corporate and Legal Requirements
Appendix 1	Model Exploration License
Appendix 2	Form of Statement of Confirmation (to be used for Consortium submissions only)
Appendix 3	Form of Financial Pledge Letter – Parent Company
Appendix 4	Form of Financial Pledge Letter – New Company
Appendix 5	Undertaking to Incorporate Licensee in the Kingdom

## **PART B: PROPOSAL SUBMISSION RULES**



## 4. Minimum Qualification Criteria

Bidders must demonstrate that they meet the below minimum technical and financial criteria ("**Minimum Qualification Criteria**") in order for the Ministry to continue evaluating their respective Proposals. Bidders must provide responses relating to the Minimum Qualification Criteria in accordance with the form set out in Section B of the Application Form.

The below Minimum Qualification Criteria will be evaluated on a "Pass/Fail" basis. Bidders who do not pass all the Minimum Qualification Criteria or do not provide the supporting documents required by the Ministry in relation to any or all of such criteria will be disqualified from the Licensing Round and their Proposal will not be evaluated any further.

**As such, bidders are encouraged to consider the Minimum Qualification Criteria and exercise their own judgment in ensuring that they meet such criteria and are able to provide the supporting documents before they proceed with preparing their Proposal for the Project. The Ministry is not liable to any bidder who submits a Proposal and following evaluation by the Ministry, such bidder is deemed unqualified for the Project for any reason including not satisfying the Minimum Qualification Criteria and is therefore disqualified from the Licensing Round.**

For the avoidance of doubt, where the bidder is a Consortium (as defined in Section 5.13), the technical and financial criteria may be satisfied by separate (and not all) Consortium members. The identity of the relevant Consortium member satisfying the relevant requirement must be indicated clearly in the relevant section and response.

### PART A: TECHNICAL CAPABILITY

#### 1. Internal Capability

Bidders must demonstrate internal capabilities in mineral exploration, and are encouraged to demonstrate the following experience in relation to their personnel:

- access to and ability to appoint, as required, sufficient qualified and experienced geoscientists to carry out the exploration work program as agreed with the Ministry to be undertaken by the bidder, if successful, following the award of the Exploration License, the requirements for which are set out in Section C of the Application Form ("**Work Program**").
- relevant or similar commodity experience; and
- ability to develop (or manage the development of) assets through pre-feasibility and feasibility studies.

*Bidders must provide CVs of proposed staff for the Projects (including the exploration manager) and are encouraged to demonstrate the following experience in relation to its personnel:*

- *access to and ability to appoint, as required, sufficient qualified and experienced geoscientists to carry out the Work Program;*
- *relevant or similar commodity experience; and*

- *ability to develop (or manage the development of) assets through pre-feasibility and feasibility studies to construction and operation.*

## **2. Track Record / Examples**

Bidders must demonstrate the following in relation to their past relevant experience:

- a track record of at least one greenfield site and/or two brownfield sites;
- experience in relevant mineralization model or similar mineralization style;
- capability in projects involving similar or relevant commodities through the development cycle, from discovery to preliminary economic assessment, via feasibility studies; and
- capability in developing exploration projects beyond the discovery stage.

*Bidders must include the following in relation to each project:*

- *details of prospect being explored;*
- *any significant reliance upon third-party sub-contractors;*
- *details of any geophysical surveying conducted;*
- *details of any relevant technologies used; and*
- *details of any geological activity including mapping and drilling (diamond drilling and reverse drilling).*

## **PART B: FINANCIAL CAPACITY**

### **3. Exploration Expenditure**

Bidders must have undertaken a minimum expenditure of USD five hundred thousand (\$500,000) in exploration activities in the last twelve (12) months, and be able to provide suitable evidence of this.

### **4. Exploration Funding**

Bidders must demonstrate access to at least USD five hundred thousand (\$500,000) to fund the first three months of the Work Program to be undertaken in the Kingdom in connection with the Project.

## 5. Licensing Round Process and Proposal Requirements

### 5.1 Overview of Licensing Round

After the announcement of made by the Ministry in January 2024 in relation to the launch of the next series of the exploration licensing rounds, prospective bidders were invited to submit a nonbinding expressions of interest confirming their interest in participating in licensing rounds launched by the Ministry in the year 2024. Prospective bidders are now invited to participate in the subsequent stage of the Jabal Sabha Licensing Round by submitting a Proposal in response to this Information Memorandum.

**Bidders are hereby invited to submit their best offer for the Exploration License as part of a valid and binding Proposal.**

It should be noted that all bidders must satisfy the Minimum Qualification Criteria set out in Section 4 of this Information Memorandum in order for the remainder of their Proposal to be considered and evaluated by the Ministry.

Bidders who do not satisfy all the Minimum Qualification Criteria or do not provide the supporting documents required by the Ministry will be disqualified from the Licensing Round and their Proposal will not be evaluated any further.

As such, bidders are encouraged to consider the Minimum Qualification Criteria and exercise their own judgment in ensuring that they meet such criteria and are able to provide the supporting documents before they proceed with preparing their Proposal for the Project. The Ministry is not liable to any bidder who submits a proposal and following evaluation by the Ministry, such bidder is deemed unqualified for the Project and will therefore disqualify from the Licensing Round.

The Proposal stage will identify a single Successful Bidder. The Ministry may then proceed to final discussions with the Successful Bidder, with an expectation that an Exploration License will be awarded to that bidder as quickly as possible.

### 5.2 Proposals

Bidders participating in the Licensing Round should submit a complete Proposal by the Proposal Submission Deadline. **The Proposal must be prepared using the Application Form included in the Data Room and in accordance with the guidelines set out below.**

Proposals will be assessed and scored based on a number of criteria, including technical and commercial terms and environmental and social impact management plans, including commitment to local communities development.

The bidder whose Proposal receives the highest score following evaluation will be declared as the Successful Bidder for the Site and will be awarded the Exploration License by the Ministry once the legal and regulatory requirements are satisfied.

If the Ministry selects a single Successful Bidder, they will proceed directly to the final stage of the Licensing Round. In this case, the relevant Successful Bidder will be invited by the Ministry to proceed straight to conclusion of the final terms of its Proposal. The second highest scoring bidder in such circumstances shall be the "**Reserve Bidder**".

### 5.3 Model Exploration License

Bidders will be required to confirm in as part of the Proposal Cover Letter (Section 1 of the Application Form) that they accept the terms and conditions of the model exploration license in the form set out as Appendix 1 of the Application Form ("**Model Exploration License**").

In order to comply with the Mining Law, the Exploration License will take the form of two (2) inter-conditional licenses for contiguous areas covering the entire Site, but for simplicity will be referred to in this Information Memorandum, and treated in the Licensing Round, as a single exploration license.

Bidders are advised that the terms of the Model Exploration License are non-negotiable, and this should be taken into account in the course of preparing their submissions.

### 5.4 Performance Financial Guarantee

Bidders will be required to confirm in the Application Form and particularly in the Proposal Cover Letter (Section 1 of the Application Form) that, if they are announced as the Successful Bidder, they will provide a performance financial guarantee in favor of the Ministry to guarantee the Successful Bidder's due and punctual performance of the Work Program submitted as part of its Proposal ("**Performance Financial Guarantee**").

The Successful Bidder must submit a Performance Financial Guarantee within the timeline specified by the Ministry (not to be less than 30 days) from when it is announced as the Successful Bidder. The Performance Financial Guarantee must be for an amount equal to at least fifteen per cent. (15%) of the Successful Bidder's projected expenditure throughout the Work Program.

The Performance Financial Guarantee should take the form of an irrevocable on demand bank guarantee, in accordance with the forms approved by the Saudi Central Bank.

The Performance Financial Guarantee shall be provided by a bank licensed to operate in the Kingdom and made in favor of the Ministry and with a validity period of not less than thirty (30) months from the Exploration License issuance date, renewable automatically on a rolling basis for one (1) year periods throughout the term of the Exploration License.

The Performance Financial Guarantee may be called upon by the Ministry at any time during the term of the Exploration License in the event that the relevant Licensee fails to meet the agreed performance requirements and targets as set out in the Work Program.

### 5.5 Social Impact Management Plan

Bidders must submit a social impact management plan ("**Social Impact Management Plan**"), identifying proposed contributions to the local community, and how the applicant will address the communities' needs



and mitigate any negative impacts. The form of the Social Impact Management Plan to be submitted by bidders is set out in Section G of the Application Form.

## 5.6 Environmental Impact Management Plan

Bidders must submit an environmental impact management plan ("**Environmental Impact Management Plan**") in accordance with the form set out in Section H of the Application Form.

## 5.7 Proposals Evaluation

The Proposal stage evaluates both the technical and financial aspects of each submission. This analysis will look at the bidder's capabilities, as well as its plans and proposed investments with regards to the exploration and possible development of the Site including community engagement and employment and training opportunities for the Local Communities.

It should be noted that pursuant to the Implementation Regulations, Local Communities for the purposes of preparing Proposals means natural persons who permanently reside in communities within one hundred (100) kilometers from the Site. Please refer to the Mining Investment Law and its Implementing Regulations for the further clarify on the definition of Local Communities.

**When submitting any Proposal, bidders are to always adhere to the Proposal Submission Rules and this Information Memorandum. Proposals that are not compliant with the requirements to this Information Memorandum, or are incomplete, may be rejected by the Ministry. All Proposals must be received by the Ministry by the Proposal Submission Deadline.**

**The bidder whose Proposal receives the highest score will be announced as the Successful Bidder for the Site and will be awarded the Exploration License by the Ministry once the legal and regulatory requirements are satisfied.**

## 5.8 Scoring Methodology

Each Proposal shall be assessed by the Evaluation Committee<sup>1</sup> in accordance with the scoring method set out in the following table.

**Table 12: Scoring Criteria Weighting**

Section	Criteria	Weighting
Proposed Work Program and Exploration Spend	Proposals will be evaluated on the thoroughness and soundness of the bidder's proposed Work Program for the entire area and the knowledge and understanding of the regional and license area geology, including stage planning, contingency planning and whether the bidder has the ability to attain the objectives in a	50%

<sup>1</sup> The evaluation committee appointed by the Ministry to assess the Proposals, comprising of experts in mining, environmental, legal, and commercial matters

Section	Criteria	Weighting
	timely manner. Bidders must address the requirements set out in Part 1.1 of Section C of the Application Form.	
Resource Exploration and Discovery Activities	Proposals will be evaluated on the bidder's experience in relation to focused exploration activities, based on its responses to the information required in Section D of the Application Form.	20%
Innovation	Proposals will be evaluated based on the innovative solutions and technologies used by the bidder in mineral exploration activities and discovery of mineral potential in base metals, based on the responses provided by bidders to the information required in Section E of the Application Form.	10%
Financial Capability	Proposals will be evaluated on the bidder's financial resources, and its capability to fund its Work Program and other proposed expenditure, in accordance with the form and requirements set out in Section F of the Application Form. Each bidder should provide an outline of its potential financing plan for the first two license years to support such funding requirements.	Pass/ Fail
Social Impact Management Plan	Proposals will be evaluated on the basis of whether the bidder has the demonstrated ability to successfully implement social development in and around the Site, as well as their proposed local community expenditure based on its responses to the information required in Section G of the Application Form.	20%
Environmental Impact Management Plan	Proposals will be evaluated on the basis of whether the bidder has the demonstrated ability to ensure the protection of the environment based on its responses to the information received in the form set out in Section H of the Application Form.	Pass/ Fail
Corporate and Legal Requirements	Proposals will be evaluated on the basis of the bidder's corporate and legal information regarding the structure, activities and litigation history of the bidder and its group, as set out in Section I of the Application Form.	Pass/ Fail
Performance Financial Guarantee	Proposal will be evaluated on the bidder's commitment to provide a Performance Financial Guarantee if selected as a Successful Bidder.	Pass/ Fail
Model Exploration License	Proposals will be evaluated on the bidder's commitment to accept the terms of the Model Exploration License.	Pass/ Fail

## 5.9 Final Satisfaction of Legal and Regulatory Requirements Stage

The announcement of the Successful Bidder will be made promptly after the Evaluation Committee has concluded its evaluation of the Proposals. Following the announcement, the Ministry will invite the Successful Bidder into final discussions and conclusions on the details of any proposed Work Program, Environmental Impact Management Plan or Social Impact Management Plan, to the extent that the Ministry believes any such discussions are required.

## 5.10 Award of Exploration License

Once a Successful Bidder is selected, the Ministry may seek to clarify with the Successful Bidder certain final points on the Successful Bidder's Work Program, the Environmental Impact Management Plan and the Social Impact Management Plan.

If discussions are concluded successfully, and subject to the satisfaction of all legal and regulatory requirements (including issuance and delivery of the Performance Financial Guarantee) the Ministry shall award the Exploration License to that Successful Bidder.

In the event that the final discussions referred to above are not successfully concluded with the Successful Bidder, the Ministry shall have the right to approach the Reserve Bidder to enter into such discussions.

If, subject to the satisfaction of all legal and regulatory requirements (including issuance and delivery of the Performance Financial Guarantee) the Reserve Bidder becomes the Successful Bidder, the Ministry shall award the Exploration License to that Successful Bidder.

If no agreement is reached with either the Successful Bidder or the Reserve Bidder, the Ministry reserves the right to approach such other bidders who have submitted a valid and binding Proposal as it sees fit.

## 5.11 Bidders' Information Requests and Clarifications

Bidders may wish to raise clarifications or request further information concerning this Information Memorandum.

All clarification and information requests concerning this Information Memorandum must be written in Arabic or English and submitted via email to [miningbidding@mim.gov.sa](mailto:miningbidding@mim.gov.sa) no later than 17<sup>th</sup> November 2024 ("**Information Request Deadline**").

Bidders should not contact any person within, or associated with, the Ministry or the Government, or persons associated with their Project advisors, in connection with any requests for additional information or clarifications relating to this Information Memorandum, except via email as set out above.

To the extent possible, such information requests shall receive written responses by email communication as soon as practicable and where the question is of relevance to all bidders, the question and response will be distributed to all bidders may not respond to information requests submitted after the Information Request Deadline. The Ministry may, in its sole and absolute discretion, delete or remove any of the clarifications or request for further information if in the Ministry's view the clarification or request will

result in any confusion in respect of the Information Memorandum or contains indications to certain items such as costs and prices.

## 5.12 Bidder Site Visits

In the event a bidder wishes to visit the Site in advance of submitting its Proposal, such bidder may liaise with the Ministry to arrange a site visit by sending a request via [miningbidding@mim.gov.sa](mailto:miningbidding@mim.gov.sa).

## 5.13 Consortium Proposals

Bidders may form a consortium (including as a joint venture, special purpose vehicle with multiple shareholders or other similar arrangements) ("**Consortium**") and the lead consortium member should be identified in the Proposal ("**Lead Consortium Member**"). Responses must enable the Ministry to assess the overall Consortium.

For the avoidance of doubt, the Consortium does not necessarily need to include a KSA national partner or KSA incorporated entities; however, Consortium members should note that, pursuant to Article 17 of the Implementation Regulations, the members of the Consortium that are part of a successful bid for the Project are required to incorporate a legal entity in KSA, with the shareholdings of each member in that legal entity being equal to the members' interests in the Consortium. The Exploration License is then required to be issued to the KSA-incorporated legal entity, within the period prescribed by the Ministry.

Proposals submitted by Consortiums must include the following:

1. Details of the arrangement to establish the consortium (maximum 500 words).
2. Proposed percentage shareholding and governance rights of each member in the Consortium.
3. The elements of the Proposal and the wider Project for which will each Consortium member be responsible.
4. Confirmation statement signed by all proposed members of the consortium (in the form set out as Appendix 2 of the Application Form).

In responding to the Minimum Qualification Criteria on behalf of the Consortium, technical and financial requirements may be satisfied by separate (and not all) Consortium members. The identity of the relevant Consortium member satisfying the relevant requirement must be indicated clearly in the relevant response.



## 6. Other Terms of the Proposal Submission Rules

### 6.1 Documents and Information

This Information Memorandum is and shall remain the property of the Ministry and is provided to the bidders solely for the purpose of preparing and submitting their Proposal.

The provisions of this section shall also apply to Proposals and all other documents submitted by the bidders in relation to their Proposals, and the Ministry will not be under any obligation to return to the bidders any bid, document or any information provided along therewith.

### 6.2 Proposal Submission Rules

Submissions must be received no later than the Proposal Submission Deadline and shall be deemed to be the bidder's binding offer with respect to the award of the Exploration License.

Bidders are required to prepare their Proposals in the English language and submit their Proposal electronically via email to [miningbidding@mim.gov.sa](mailto:miningbidding@mim.gov.sa).

The Ministry will provide written acknowledgement of receipt of each submission, indicating the time and date of such receipt, as soon as is reasonably practicable.

The Ministry may, in its sole discretion, extend the Proposal Submission Deadline, by issuing an amendment to the Proposal Submission Rules that is made available to all bidders.

### 6.3 Costs of Proposal

The bidders shall be responsible for all costs and expenses associated with the preparation of their Proposal and their participation in the Licensing Round. The Ministry will not be responsible or in any way liable for such costs and/or expenses, regardless of the outcome of the Licensing Round.

### 6.4 Verification of information by the Bidders

By submitting a Proposal, each bidder is deemed to have:

- (1) made a complete and careful examination of the Information Memorandum and unconditionally and irrevocably agreed and accepted the terms thereof;
- (2) reviewed all relevant information provided by the Ministry or SGS as may be relevant to the Proposal;
- (3) undertaken their own review of any information provided in the Data Room and which is publicly available, taken any professional advice they deem appropriate and accepted the risks of inadequacy, error or mistake of the information provided in this Information Memorandum or furnished by or on behalf of the Ministry relating to any of the matters related to the Licensing Round;

- (4) satisfied itself on all matters regarding the Licensing Round and the submission of the Proposal, in accordance with this Information Memorandum and the Mining Regime (including in relation to the performance of any obligations);
- (5) acknowledged and agreed that inadequacy, lack of completeness or incorrectness of information provided in this Information Memorandum shall not be a basis for any claim for compensation, damages, extension of time for performance of its obligations and loss of profits from the Ministry, or a ground for termination of the Exploration License by the Successful Bidder; and
- (6) agreed to be bound by and to comply with the terms of the undertakings provided by it.

The Ministry shall not be liable for any omission, mistake or error in respect of any of the information provided or on account of any matter or thing arising out of or concerning or relating to the Information Memorandum or the linked documents, including any error or mistake therein or in any information or data given by the Ministry.

## **6.5 Information Requests, Verification by the Ministry and Disqualification**

The Ministry reserves the right to verify all statements, information and documents submitted by the bidder in response to the Information Memorandum, and to request any further information it requires in order to make an informed assessment of any Proposal. The bidder shall, when so required by the Ministry, make available all such information, evidence and documents as may be reasonably requested by the Ministry. A bidder is encouraged to provide a written response to such request or clarification promptly and in all cases, within five (5) business days. Any such verification or lack of such verification by the Ministry shall not relieve the bidder of its obligations or liabilities hereunder or under the Mining Investment Law and its Implementing Regulations nor will it affect any rights of the Ministry thereunder.

The Ministry reserves the right to reject any Proposal in the event that any of the following occurs:

- a. at any time a misrepresentation is made by the relevant bidder or the Ministry becomes aware of any such misrepresentation;
- b. the bidder does not provide, within the time specified by the Ministry, any supplemental information requested by the Ministry to complete its evaluation of the Proposal; or
- c. any act or omission of the bidder which results in violation of or non-compliance with this Information Memorandum, or any other document referred to therein or issued pursuant thereto or the Mining Regime and any other applicable laws relevant for the award process.

Any rejection of a Proposal under the above terms may lead to a disqualification of the bidder for bidding in any stage of the Licensing Round or any other Licensing Round(s) conducted by the Ministry for a period of five (5) years commencing from the submission date of the Proposal or any other earlier date specified by the Ministry.

## 6.6 Non-Compliant Proposals

Notwithstanding Section 6.5, bidders may submit non-compliant Proposals which depart from the terms set out in this Information Memorandum, including without limitation, the various requirements set out in Section 5. However bidders are advised that in evaluating Proposals, preference will be given to compliant Proposals and any non-compliant Proposals will only be considered when there is demonstrable and substantial commercial or technical benefit to the Kingdom, such assessment to be made solely at the Ministry's discretion.

## 6.7 Amendments to this Information Memorandum

At any time prior to the Proposal Submission Deadline, the Ministry may, for any reason, whether on its own initiative or in response to clarifications requested by a bidder, amend this Information Memorandum.

Any amendment to this Information Memorandum shall be made in writing and shall be made available to all bidders. Any such amendment shall be deemed as an integral part of this Information Memorandum.

In order to provide the bidders reasonable time to take into account any such amendment, or for any other reason, the Ministry may, in its sole discretion, extend the Proposal Submission Deadline.

## 6.8 Modifications/Substitutions/Withdrawal of Proposals

A bidder may modify, substitute or withdraw its Proposal after submission, but prior to the Proposal Submission Deadline.

No Proposal shall be modified, substituted or withdrawn by the bidder on or after the Proposal Submission Deadline, unless the modification, substitution or withdrawal has been expressly requested by the Ministry.

## 6.9 Rejection of Proposals

Notwithstanding anything contained in this Information Memorandum, the Ministry reserves the right to reject any Proposal and/ or to annul or elect not to proceed with the Licensing Round and reject all Proposals at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons therefor.

Without prejudice to the generality of the foregoing, the Ministry reserves the right to reject any Proposal based on any conditions specified in this Information Memorandum, including without limitation, the following:

- a. the relevant Proposal has not been submitted with all the information and details listed as being required in this Information Memorandum; or
- b. the relevant Proposal is non-compliant with the terms of this Information Memorandum.

## 6.10 Validity of the Proposals

A Proposal must be and remain valid for a period of one hundred and eighty (180) days from the Proposal Submission Deadline.

If the Successful Bidder is not announced within of one hundred and eight (180) days from the Proposal Submission Deadline, the Licensing Round shall be annulled.

## 6.11 Changes affecting Bidders

Upon submission of the Proposal, any changes of information which have been submitted by the bidder must be immediately communicated to the Ministry.

## 6.12 Fraud and Corrupt Practices

Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Licensing Round and subsequent to the grant of the Exploration License. Notwithstanding anything to the contrary contained herein, the Ministry may elect to reject a Proposal and/or revoke the Exploration License, without being liable in any manner whatsoever to the bidder, Reserve Bidder, or the Successful Bidder, as the case may be (each a "**Relevant Bidder**"), if the Ministry determines that the Relevant Bidder has, directly or indirectly or through an agent, engaged in Corrupt Practices, Fraudulent Practice, Coercive Practice, Undesirable Practice or Restrictive Practice as part of the Licensing Round.

Without prejudice to the rights of the Ministry hereinabove and the rights and remedies which the Ministry may have under the Exploration License, or otherwise if a Relevant Bidder is found by the Ministry to have directly or indirectly or through an agent, engaged or indulged in any Corrupt Practices, Fraudulent Practices, Coercive Practices, Undesirable Practices or Restrictive Practices during the award process, or after the grant of the Exploration License, such Relevant Bidder shall not be eligible to participate in any Licensing Round undertaken by the Ministry for a period of five (5) years from the date the Ministry becomes aware of the same.

For the purposes of this Information Memorandum, the following terms shall have the meaning hereinafter respectively assigned to them:

### **Corrupt Practice**

means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Licensing Round (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Ministry who is or has been associated in any manner, directly or indirectly, with the Licensing Round, or at any time prior to the expiry of 1 (one) year from the date such official resigns or retires from or otherwise ceases to be in the service of the Ministry, shall be deemed to constitute influencing the actions of a person connected with the award process);

<b>Fraudulent Practices</b>	means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the award process;
<b>Coercive Practices</b>	means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the award process;
<b>Undesirable Practice</b>	means <ul style="list-style-type: none"><li>i. establishing contact with any person connected with or employed or engaged by the Ministry with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the award process; or</li><li>ii. violating of the Mining Regime or any other applicable laws; and</li></ul>
<b>Restrictive Practice</b>	means forming a cartel or arriving at any understanding or arrangement among other bidders with the objective of restricting or manipulating a full and fair competition in the award process.

## 6.13 Correspondence

Unless otherwise provided in this Information Memorandum, all communications and correspondence from bidders to the Ministry in connection with the Licensing Round prior to the award of the Exploration License must be in English and submitted via email to [miningbidding@mim.gov.sa](mailto:miningbidding@mim.gov.sa).

For the avoidance of doubt, clarifications relating to the Information Memorandum should be sent by bidders to the Ministry in accordance with Section 5.11.

## 6.14 Governing law

The Licensing Round shall be governed by, and construed in accordance with, the laws of the Kingdom.

## 6.15 Rights of the Ministry

The Ministry, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:

- a. suspend and/ or cancel the Licensing Round and/or amend and/or supplement the award process or modify the dates or other terms and conditions relating thereto;
- b. consult with any bidder as it may deem fit in connection with the Licensing Round;
- c. seek clarification of any Proposal, to interview, or to hold discussions with any bidder at any time after the Proposal Submission Deadline;



- d. retain any information and/ or evidence submitted to the Ministry by, on behalf of, and/ or in relation to any bidder; and/or
- e. independently verify, disqualify, reject and/ or accept any and all submissions or other information and/ or evidence submitted by or on behalf of any bidder.
- f. establish the rules and procedures governing the bid preparation, submission, evaluation, and selection processes;
- g. cancel or modify the terms and conditions of Proposal Submission Rules and/or cancel the evaluation process at any stage;
- h. select the Successful Bidder and Reserve Bidder;
- i. appoint an Evaluation Committee;
- j. use the Transaction Advisory Team and/or any third-party consultants to assist with any aspect of the Proposal submission, evaluation, selection, and/or negotiation processes; or
- k. waive any deficiency, irregularity, or omission in any Proposal provided that such waiver does not materially affect the substance or validity of the tender process as outlined in this Information Memorandum.

By submitting a Proposal, a bidder agrees to release the Ministry, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder, pursuant hereto and/ or in connection with the Licensing Round and waive, to the fullest extent permitted by applicable law, any and all rights and/or claims it may have in this respect, whether actual or contingent, whether present or in future.

## **6.16 Bidder Acknowledgements**

In addition to the acknowledgments set out in Section 6.4, by submitting a Proposal, each bidder acknowledges the following:

- a. neither the Ministry nor its representatives makes any express or implied representation or warranty as to the completeness, accuracy, currency, reliability or suitability of this Information Memorandum and none of such persons will have any liability to the bidder or its representatives relating to or arising from their use of any information or for any errors therein or omissions therefrom nor will they be obliged to update or correct any inaccuracy in the information or otherwise provide additional information;
- b. reliance upon or use of the information contained in this Information Memorandum is at the sole risk of the bidder and its representatives;
- c. the Ministry will not be under any legal obligation or have any liability to the bidder of any nature whatsoever by virtue of the instructions in this Information Memorandum;

- d. the Ministry will not be deemed to have accepted any offer, and no contract or agreement with respect to the Site would be deemed to be entered between the Ministry and any bidder, unless and until the Exploration License has been executed by the Ministry and awarded to the Successful Bidder; and
- e. the Ministry has the right at any time and in its absolute discretion to terminate, change or delay the award process and terms and the Ministry will not be obliged to accept any or the highest or best offer and may, at any time and in its absolute discretion, request that the bidder return or destroy any document or information provided to it in connection with this Information Memorandum.

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