

HSBC Global Natural Resources Conference, Singapore

Mineral Resources of Afghanistan

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Ministry of Mines, Islamic Republic of Afghanistan



Ministry of Mines

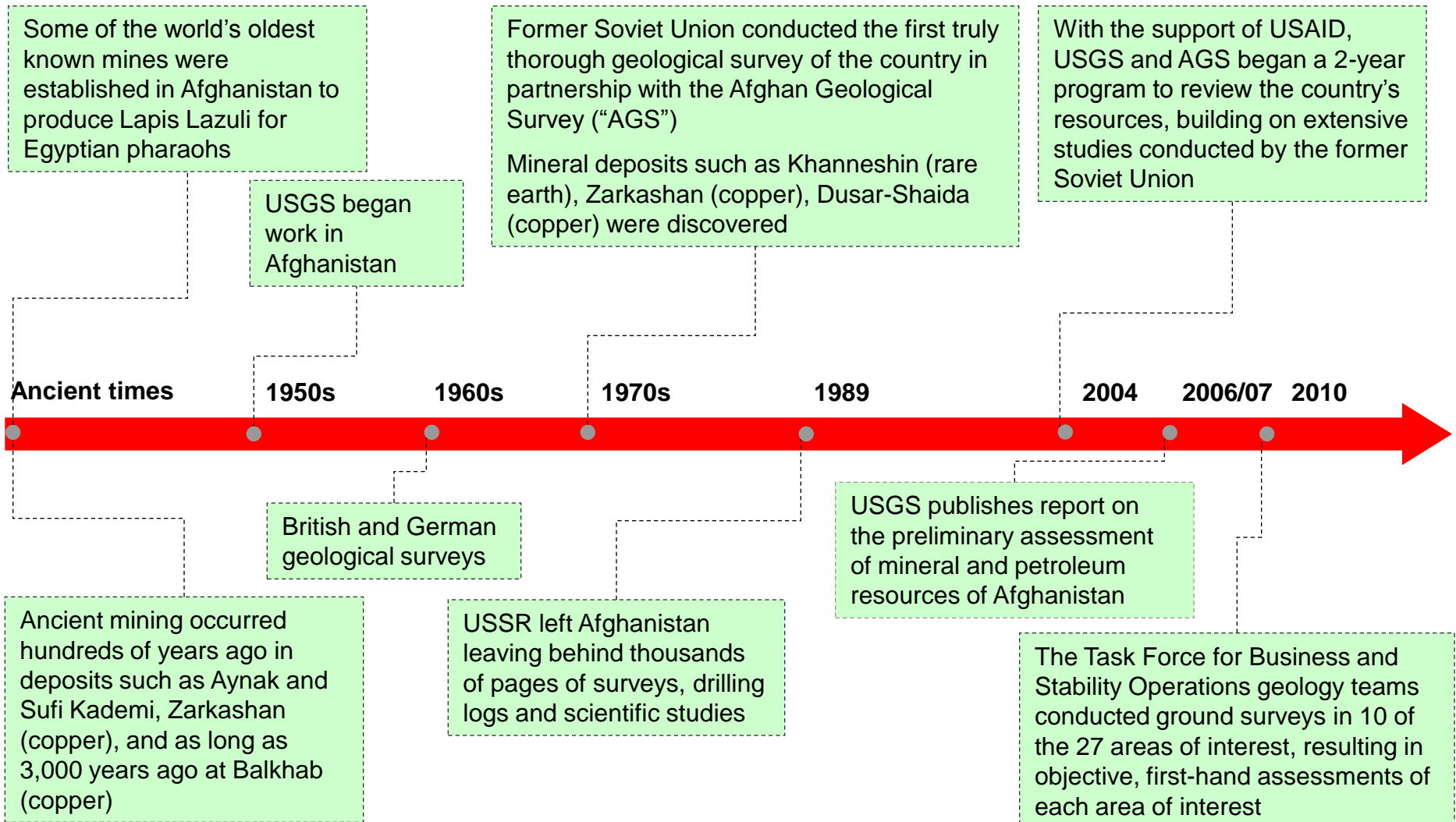
Islamic Republic of Afghanistan



Why Invest in Afghanistan?

- ✓ Access to untapped world-class mineral resources
- ✓ Strong support from the Afghanistan Government and International Forces
- ✓ Afghanistan is the link between Central Asia and South Asia
- ✓ Potential growing market
 - GDP growth in excess of 10% over the last five years
 - Expected to grow 8-9% in future years
- ✓ Close to the largest and fastest growing markets in the world
- ✓ Comprehensive infrastructure development programme focused on resource corridors
- ✓ 'Mining Protection Unit' established to guarantee security of mining projects
- ✓ Potential for a sustainable mining industry to restore economic normalcy in the region

History of Mining in Afghanistan



The Resources Potential of Afghanistan

The gross in-place value minerals in Afghanistan is estimated at more than US\$900 billion

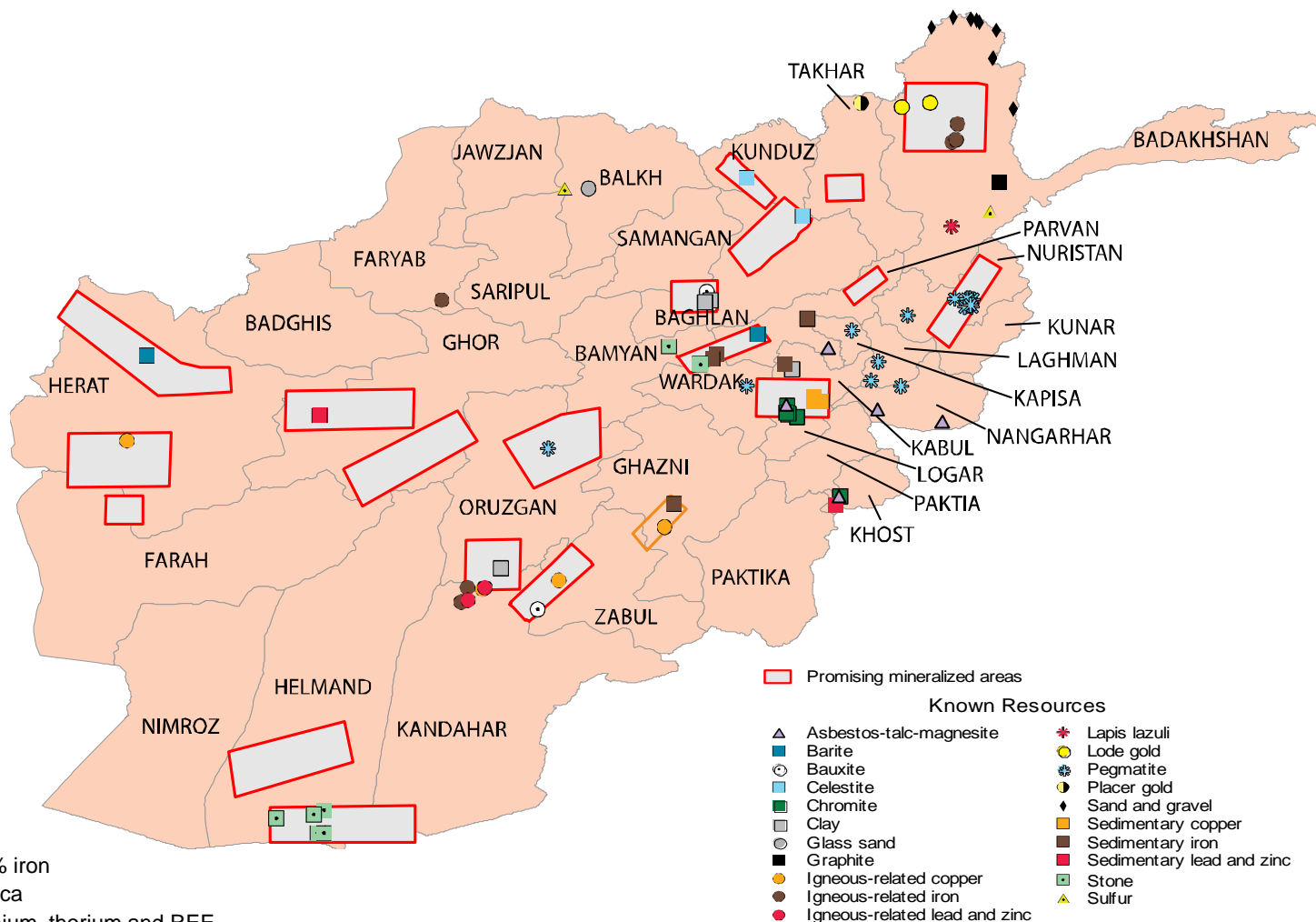
USGS-AGS assessment of undiscovered deposits plus known resources

Commodity	Resources
Copper	57.8 mt
Iron ore	2,438 mt ¹
Gold	2,698 kg
Barite	151.5 mt
Bauxite	4.5 mt ²
Rare-earth elements	4.88 mt ³
Oil and natural gas liquids	1,596 mmbbls ⁴
Natural Gas	15.7 Tcf ⁴

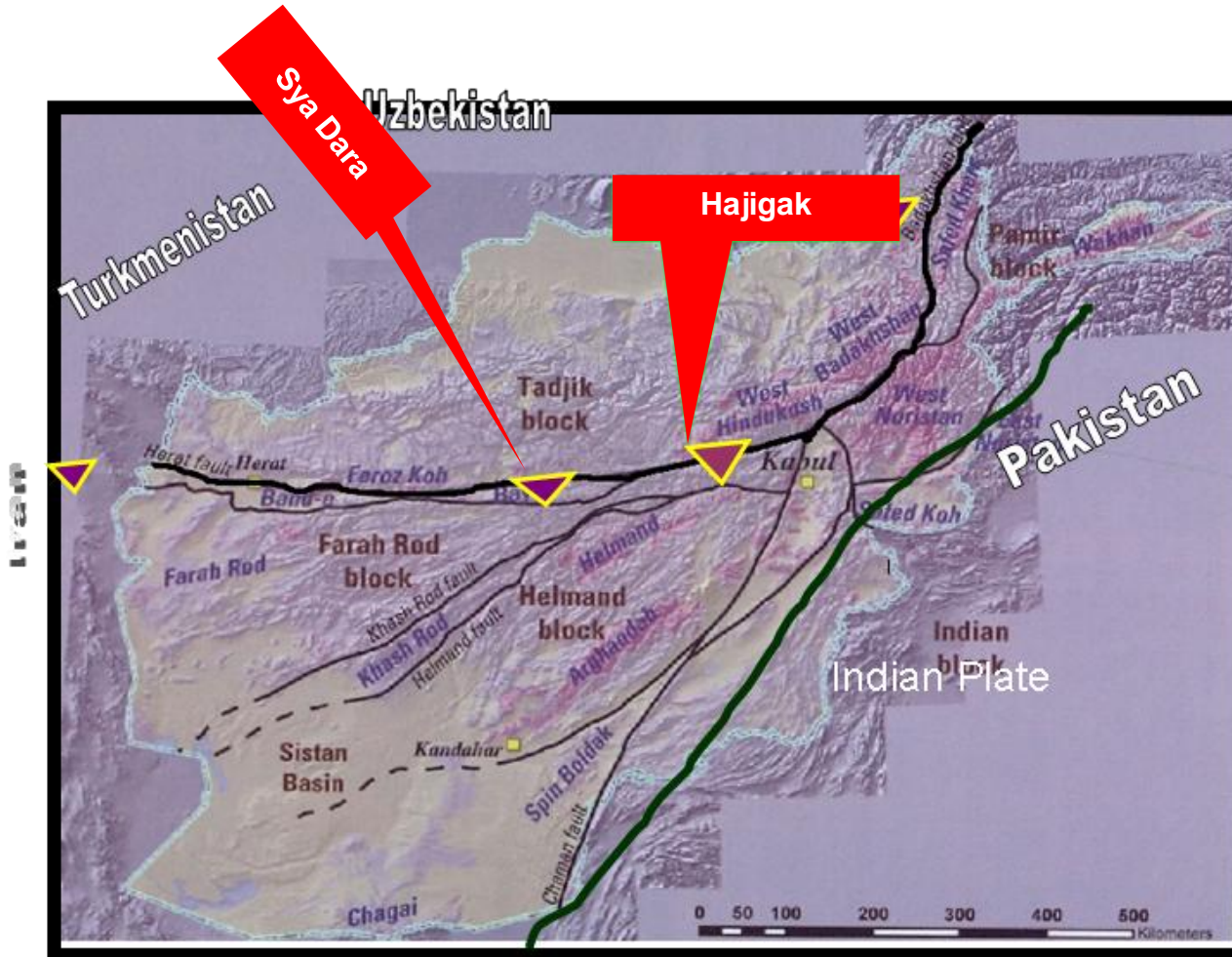
Source: USGS

Notes:

- (1) Various deposits: >62 and 47-68 wt.% iron
- (2) 50.5 wt.% alumina and 12 wt.12% silica
- (3) Contains niobium, phosphorous, uranium, thorium and REE
- (4) Reserves based on mean estimates; excludes discovered resources



Geology of Afghanistan



- Afghanistan has a complex geology and massive anomalies such as in South African Bushveld, Gobi and Tethyan
- Northern part belongs to Eurasia
- The South is made up of accreted fragments of Gondwana Land including the Indian and African Plates
- Each block is separated by deep seated faults
- There were different geological activities in each zone which resulted in formation of very rich mineral assemblages
- Coal and oil/ gas are found on the Eurasian plate

Ministry of Mines' Vision

Ministry's Mission:

To be an enabler of the sector's development and steward of all mineral resources through the implementation of international best practice policies, regulations and procedures to encourage environmentally and socially acceptable private investment.

Generate Revenue

Attract Private Investment


Ensure security of supply

Efficient Administration

Create Jobs

Ministry of Mines' Business Plan

2010 - 2015



Function 1

Implement mineral
sector policy

- Creating a **policy unit**
- Developing a **national minerals policy**
- Setting future policies as the minerals sector evolves
- Contribution to a **national energy policy**

Function 2

Regulate the sector

- Developing modern minerals **law and regulations**
- **Licensing, concession** and **contract** negotiation
- Contract monitoring and compliance procedures
- Implementing **royalty** and **tax regimes**
- Developing a robust inspection regime to check **HSE compliance**

Function 3

Enable private sector
investment

- Creating an **investment promotion department**
- Collecting and disseminating geodata and economic data
- Promotion and application of all **tax incentives**
- Restructuring / corporatising SOEs

Foreign Direct Investments to Date

Aynak Copper Mine

- Supervision of world class Aynak Copper Mining Contract
- Capital expenditure – US\$ 4.4 billion
- 35 km south-east of Kabul
- Development rights awarded to China Metallurgical Group (75% stake) and Jiangxi Copper (25% stake) in December 2007
- Expected first production: 2014
- Expected to bring hundreds of millions of dollars annually to state treasury

Hajigak Iron Project

- 130 km west of Kabul
- High quality magnetite of approx. 1,800 Mt
- US\$340 billion in-situ gross value
- Several additional adjacent prospects that will extend life and quantity of production
- Government is in process of inviting bids, with 17 interested parties
- Target contract award: Nov 2011
- 20,000 jobs expected to be created

Amu Darya Oil Tender Project

- Located in northern Afghanistan
- The blocks contain 5 known fields with estimated median crude oil reserves of more than 80 mmbbls
- Four bidders believed to have been pre-qualified
- Target contract award: October / November 2011

Other Projects

- Two gold projects (Noraba-Samti, Qara Zaghan)
- Cement in Jabal-Seraj, Heart and Samangan
- Chromite in the South-east
- Gemstones in the North-east

A Comparison with Mongolia

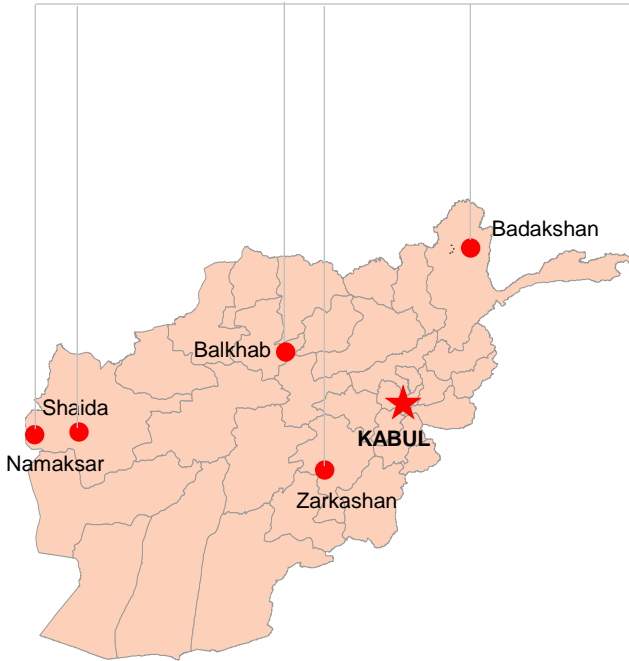


	Afghanistan	Mongolia
Population	• 26.0 million	• 2.7 million
Land area	• 652,100 sq km	• 1,566,000 sq km
GDP (2010)	• US\$16.3 bn	• US\$6.0 bn
GDP growth rate (real)	• 3.2%	• 6.1%
Forecast GDP growth rate (real, 2011E)	• 8.0%	• 13.4%
Key resources	<ul style="list-style-type: none"> • Copper • Iron • Gold • Rare-earth elements 	<ul style="list-style-type: none"> • Copper • Gold • Coal
Major deposits	<ul style="list-style-type: none"> • Aynak: 12.3 Mt contained copper resources • Hajigak: 1,800 Mt iron ore resources (63-69% Fe) 	<ul style="list-style-type: none"> • Oyu Tolgoi: 36.9 Mt contained copper resources; 1,431,000 kg of gold • Tavan Tolgoi: 6,400 Mt coal reserves
Copper resources	• 57.8 Mt ¹	• 39.9 Mt ²
Iron ore resources	• 2,438 Mt	• 743 Mt ³
FDI (2009)	• US\$185 m	• US\$496 m
Corporate tax rate	• 20%	• 25%

Source: CSO, USGS, Brook Hunt, EIU, ADB, Worldbank

Note: (1) Estimates of known and undiscovered copper resources (2) Based on major copper resources (3) Based on major iron ore resources

Key Projects – Phase I Tenders

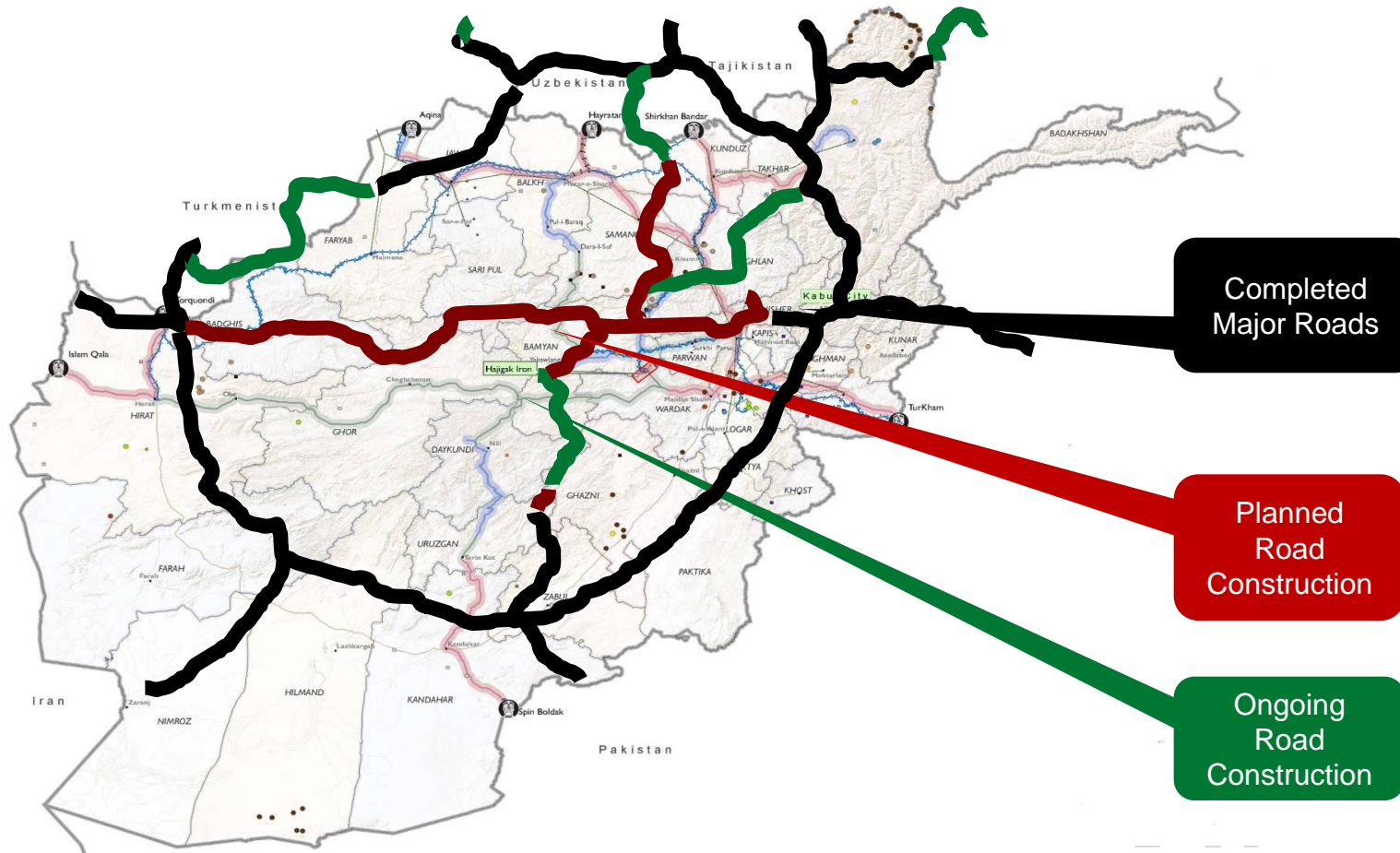


	Badakshan	Zarkashan	Shaida	Balkhab	Namaksar
Resource Type	• Gold	• Copper-gold	• Copper – gold	• Copper	• Lithium
Deposit	• Gold quartz veins and small placer deposits	• Gold placer deposit with significant copper mineralisation	• Volcanogenic Massive Sulphide and porphyry deposits	• Volcanogenic Massive Sulphide	• Lithium in evaporite lakes
Estimated resource	• 1,203 kg	• undetermined	• 4.34 mt (copper) plus undetermined amount of molybdenum and gold	• undetermined	• 275 kt of lithium
Development potential	<ul style="list-style-type: none"> • Suited for artisanal gold mining and simple metallurgy • Can be converted to larger development 	<ul style="list-style-type: none"> • Large grains of “free gold” means deposit could be easily mined using low-capital intensive and low-skilled techniques 	<ul style="list-style-type: none"> • Prospect is under explored and will require further exploration work to advance the prospect 	<ul style="list-style-type: none"> • Contains mostly of oxide ore that is easily mined and converted to copper metal with minimal capital investment 	<ul style="list-style-type: none"> • High evaporation rates that lead to faster and more efficient production than lithium in other countries

Source: TFBSO, USGS

Major Road Developments

Key projects close to major roads



Bid Prioritization and Process

- Key projects will be put out to tender using international best practice tendering methods
- Tender process will be fair and transparent
- Bidders will be pre-qualified based on technical ability and financial standing
- Bids will be evaluated in accordance with stated evaluation criteria
- Early exploration projects will place most emphasis on quality of exploration work plan and exploration budget
- Comprehensive mining agreement will set out key rights and obligations of both parties
- Process initiation in Q4 2011

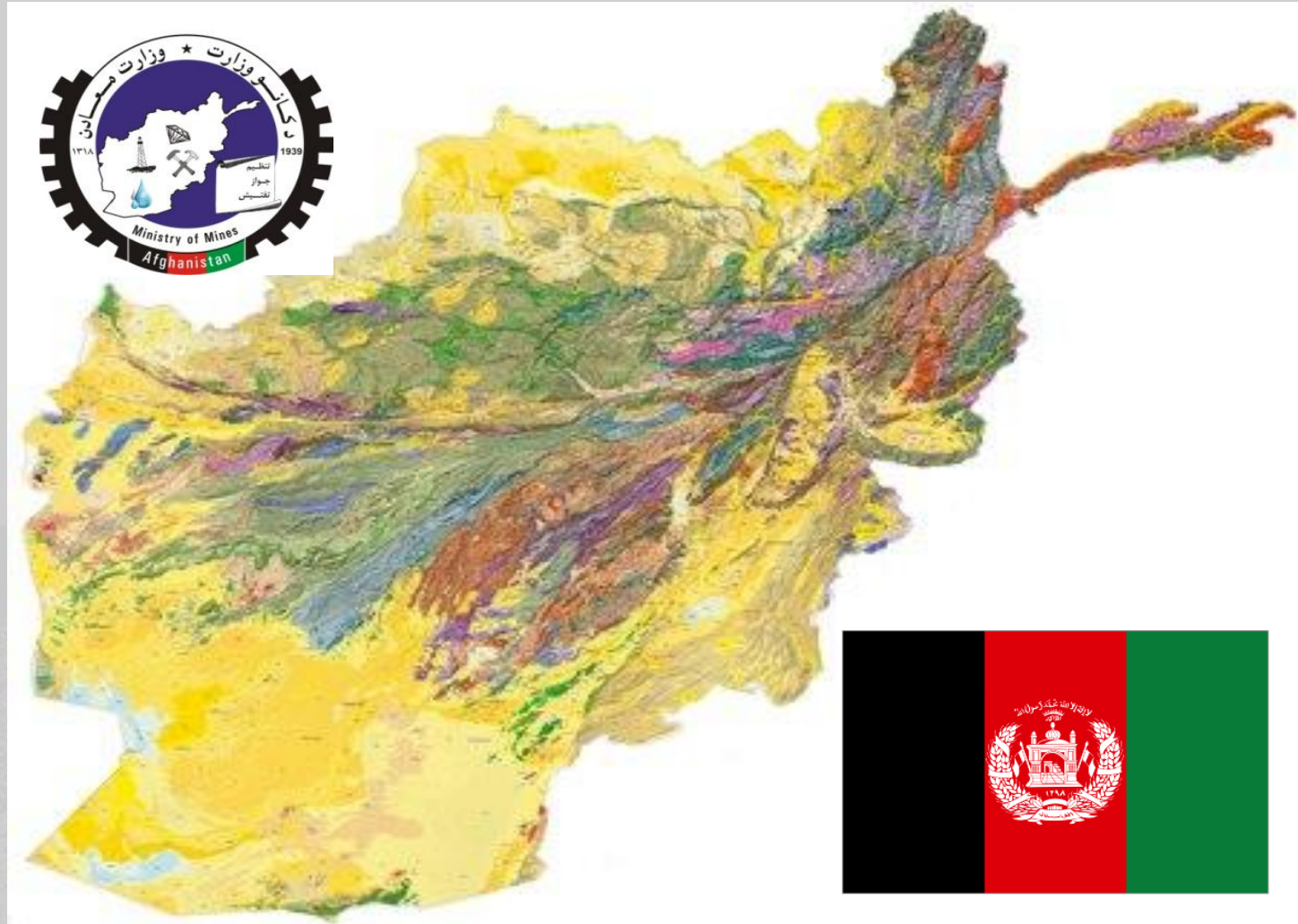
Duration of mining contracts

- 30 years for large projects
 - Can be extended every five years until reserves are completely exhausted
- 10 years for small mines
 - Can be extended every five years

Thank You



Mineral Tender Project Support



SRK's Initial In-Country Program

- SRK visited Kabul several times and regularly meet with the Ministry of Mines (“MoM”) and Afghan Geological Survey (“AGS”)
- Reviewed data on 28 exploration assets and selected 4 of the more advanced projects with the most exploration data for tendering
- SRK conducted site visits to all key sites
- Review of current and planned infrastructure – power, rail and road transportation, water
- Preparation of technical information for each project
- Establishing a virtual data room for each project

SRK Project Selection

- SRK evaluated 28 projects identified by the USGS and gave priority to those projects which have the most analytical sampling and historically defined resources/reserves. Precious and base metals prioritized because of current metal prices and interest
- Industrial minerals have more local uses; will be important later in construction process
- These projects are identified as closest to making a development decision
- Key Ranking Criteria
 - Base and precious metals only (non-placer)
 - Drill ready
 - Existence of trenches/drill holes/UG sampling
 - Historic Russian/German "reserves"
 - Size potential
 - Relative security

SRK's Recommended Projects

Project	Commodity	Deposit Type	Security	Level of Previous Work	Infrastructure	Number of Prospects	Historic Soviet Resource	Historic German Resource	Drill Holes	Historic Mining	Trenches	Pits/shafts	UG Sampling	USGS/AGS Sampled	Geophysics	Size Potential	Drill Ready
Badakhshan	Au	Qtz-Sulfide Veins (+placer)	Good to to moderate	moderate	poor	4	C1+C2 958.3kg Au @ 4.1g/(Ragb)	none	no	yes	yes	yes	yes	no	mag	small-moderate	yes
Zarkeshan	Cu-Au	Cu-Au skarn	Moderate to poor	moderate	moderate	3	C1+C2 7.7t Au	none	yes	yes	yes	yes	yes	yes	grav, mag	small-moderate	yes
Shaida	Cu	VMS/Porphyry	Good	moderate	poor	2	C1 +C2 ???	none	yes	yes	yes	yes	no	yes	mag, radiometric, grav; regional mag and RAD planned	moderate-large	yes
Balkhab	Cu	VMS	Good	moderate	poor	1	unknown	none	no	yes	yes	yes	yes	yes - 50m sample grid in progress	planned: EM and mag	moderate	yes - 6-9 months

SRK's Recommended Projects



Zarkashan – Cu/Au – Copper-Gold Skarn

- SRK visit May 8, 2011
- SRK collected 4 grab samples assayed at SGS Laboratory in Vancouver, Canada
- USGS has compiled many of the historic maps into GIS format
- Skarns are an important gold and copper deposit type
- Exploration in skarns focuses on the pluton/limestone contact, providing a large area yet to be explored at Zarkashan
- Recent geophysical surveys include magnetic and gravity
- Interpretation of hyperspectral data indicates other promising targets for exploration
- Located 225 km south-southwest of Kabul
- Highway A01 (Ring Road) passes through the license area and is approximately 22 km from the Zarkashan prospect
- A railroad is planned to link Afghanistan with Pakistan and will pass just east of the project

Shaida – *Cu* – *Copper Porphyry/VMS*

- SRK visit April 30, 2011
- SRK collected 4 grab samples assayed at SGS Laboratory in Vancouver, Canada
- USGS has compiled many of the historic maps into GIS format
- Moderate amount of historic work conducted at in the license area including (historic mining/drilling/trenching/pits and shafts) and Historic Russian “reserves” (C2 and Geological) at Shaida
- Recent geophysical surveys include magnetic and gravity
- Interpretation of hyperspectral data indicates other promising targets for exploration

Shaïda – Cu –Copper Porphyry/VMS

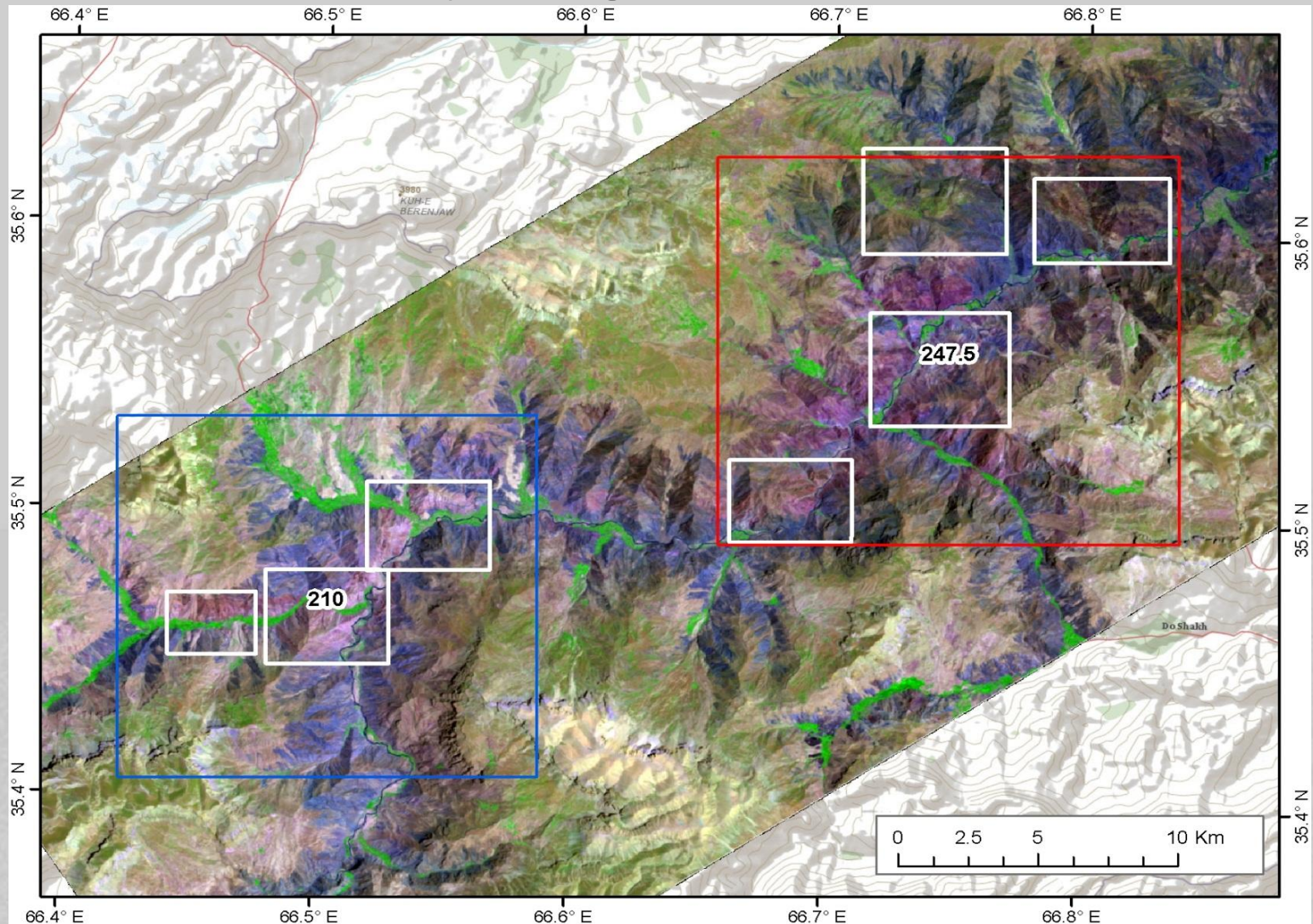
- Located 65 km south-southwest of Herat
- Highway A01 (Ring Road) passes east of the license area and is approximately 27 km from the Shaïda license
- A railroad terminus is planned for Herat and will link to the following cities:
 - A line east from Sangan, Iran;
 - A second line south from the Afghan border town of Towraghundi at the Turkmenistan border;
 - A third tying-in with the terminus at Mazar-i-Sharif; and
 - A line from Herat south to Delaram, Afghanistan.



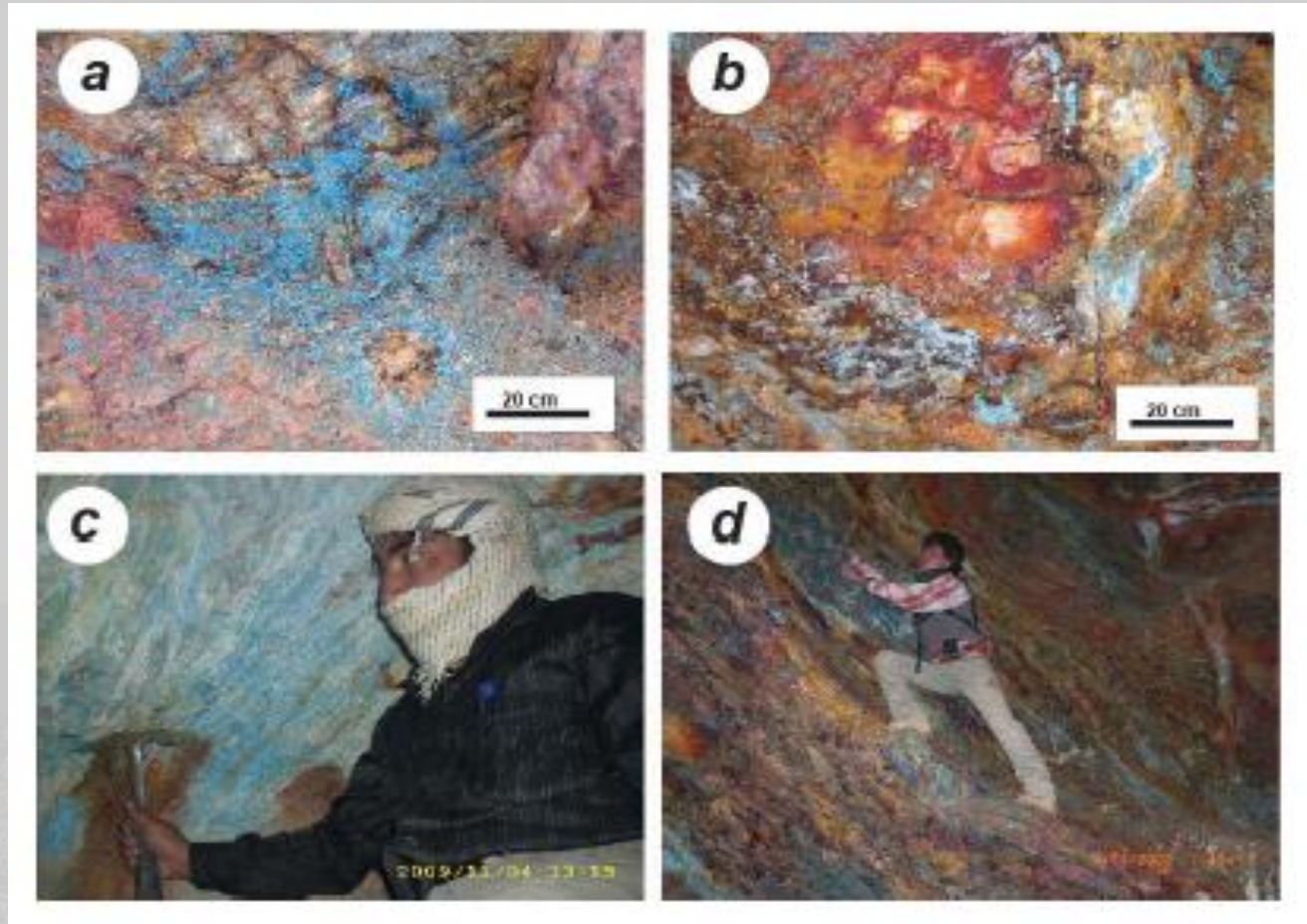
Balkhab – Cu – Volcanogenic Massive Sulfide (VMS)

- SRK visit on May 4, 2011: collected 1 grab sample (float) assayed at SGS Laboratory in Vancouver, Canada
- Evidence of mineral extraction activity as old as 3,000 years
- Moderate amount of historic work (mapping, channeling/underground sampling/historic mining - no record)
- USGS defined a block of silicified limonitic rocks 4,000-5,000 m long by 300-400 m wide (depth unknown)
- Showings of malachite, azurite, pyrite and disseminated chalcopyrite, bornite and galena observed by the AGS/USGS in at least four sub areas
- Current work by AGS on a 50 m sample grid – collected over 800 soil and chip samples; over 500 still pending assay results
- Drill ready in 4-6 months, dependent on completion of assay results of soil grid by AGS

Balkhab Cu Prospect – Concession Areas and Landsat Anomaly Target Areas



Balkhab Cu Prospect – Photographs of Historic Underground Workings



a: malachite; b: Fe and Cu oxides; c: malachite and azurite;
d: malachite and Fe oxide (Source: AGS, 2009)

Badakhshan – Au – Shear Zone Hosted Gold

- Site visit June 27, 2011
- Prospects are gold with sulfides in quartz-veins, in metamorphic rocks (schist and gneiss)
- Veka Dur prospect is the most studied: quartz veins up to 350 m in strike extent, variable widths (average of 2.0 m). Depth extent of veins not tested
- 1283 Veka Dur Trench samples, for which 44% (229) have +0.1g/t Au, 18% (229) have +1.0g/t Au, and 4% (52) +5.0g/t Au
- Gold bearing mineralized shoots defined – drill ready to determine depth extent
- Several similar Au-quartz-vein prospects in the area

Badakhshan – Au – Shear Zone Hosted Gold

- Numerous Au-Quartz veins and placer gold occurrences in area of metamorphic rocks suggests Shear Zone Hosted Gold exploration conceptual targets – similar to other gold-producing regions of the world
- Veka Dur prospect is drill ready; other targets need additional work
- Prospective gold exploration target, at early stage of understanding in large permissive region for Au
- Potential for Skarn Gold in other areas N and NE of Fayzabad

Li, B, K Projects - *Salars*

- Technical Report completed for Namaksar-e-Herat
- Currently at an early prospect stage; Namaksar-e-Herat is most prospective of the eight identified salars
- Li, B, K potential within Afghanistan is prospective and further verification drilling, brine sampling and analysis are planned
- Geologic characteristics of the salar at Namaksar-e-Herat are consistent with known lithium brine deposits





Afghanistan Mineral Tender Project Support

Increasing Global Presence/Executing a Transparent Tender Process

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September 2011

What investors are looking for

- We are working with the Ministry of Mines to help ensure a compelling investment opportunity in Afghanistan that includes:
 - Mineral potential/quality of infrastructure /stable security, political structure and labour force
 - Certainty in administration, interpretation and enforcement of existing regulations
 - World-standard environmental regulation
 - Transparent, fair and efficient legal system and fiscal regime



Current state of play in Afghanistan

- The Mining Code has been designed to accommodate significant investment in large projects
- Mayer Brown has drafted a model Mining Agreement that takes into consideration issues specific to Afghanistan and addresses typical investor requirements
- Tender process
 - Designed to provide framework for a clear, objective and transparent procedure
 - Sets out the nature of process and approval mechanisms



Moving towards a world class Mining Agreement

- Mining Agreement to include:
 - a clear grant of rights and statement of obligations of both parties
 - detailed dispute resolution provisions and procedures
 - detail on plans for exploration/exploitation of a deposit (it is unlikely that, by the time of the tender, an investor will have been able to produce a detailed development plan)
 - detailed provisions in connection with environmental management (including compliance with IFC/Equator/other international standards)



Process documents

- Documents to include:
 - Request for expressions of interest
 - Pre-qualification questionnaire
 - Tender security and confidentiality agreements
 - Request for proposal documentation including:
 - instructions to bidders
 - evaluation criteria
 - negotiation rules
 - technical documentation
 - details on communications/notifications to bidders
 - The Mining Agreement

