# ANNUAL GENERAL MEETING Technical Director's Presentation

24 APRIL 2025

Developing Polymetallic Mines on the Korean Peninsula

- Portfolio of forward-facing metals Copper, Gold, Silver & Molybdenum
- Drill-ready high-grade & bulk tonnage Exploration Targets
- > Exploration Team has operated in South Korea for 30 years



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## REPORT ON ACTIVITIES : Work Program 2024 | Summary Review of Activities

### 2024 was a very difficult year for Junior Explorer's and is best characterised by:

- 1. Lack of investor interest. Virtually no IPO's on ASX.
- 2. No funds available for active "boots on the ground exploration"
- 3. Available funds were deployed to maintain the Company's granted Exploration Rights and Applications in "good standing"

### Korean Metals Exploration ("KML") concentrated its technical efforts on:

- 1. Updating the database with research and new exploration concepts
- 2. Reviewed results of field work undertaken since 2019
- 3. Compiled detailed Technical Reports on each of the Company's projects:
  - a. Uiseong Au-Cu-Ag-Pb-Zn. Intermediate Sulphidation Epithermal. Dongil deposit. (Appendix 2)
  - b. Haman Au-Cu-Ag-pyrite-magnetite. Alkaline-carbonatite porphyry. Jaeilgunbuk & Ogok prospects. (Appendix 5)
  - c. Goseong Au-Cu-Ag-Bi. Alkaline porphyry-epithermal transitional. Samjeon & Seongji prospects. (Appendix 4)
  - d. Oksan Mo. Alkaline porphyry molybdenum deposit. (Appendix 3)
  - e. Jeongseon Au. Grassroots Carlin-type gold conceptual project. (Appendix 6)
  - f. Jangheung Zn-Ag-Pb-Cu. Carbonatite magmatic hydrothermal breccia pipe. Breccia pipe B, E & I prospects. (Appendix 8)
- 4. Prepared detailed Budgets for various funding scenarios (IPO, Joint Venture)
- 5. Desktop Conceptual Financial Study on Surgical Mining Method on Dongil, Oksan & Ogok deposits
- 6. Prepared 3D Geological Models, Block Models and Resource Estimates on Dongil and Oksan (GeoEconomics)
- 7. Discussions with KIGAM and KOMIR on Technical Assistance available for some KML Projects in 2026
- 8. Mine Plan-Financial Studies are in progress by *Novamera* on Dongil and Oksan using Surgical Mining method (Appendix 10)

### South Korea is the 12<sup>th</sup> largest Economy in the World

- One of the original "Asian Tiger" economies, its GDP per capita has exploded from around \$US1,000 (1960) to over US\$34,700 (2023).
- Globally, South Korea is now the 2<sup>nd</sup> largest shipbuilder, the 5<sup>th</sup> largest automobile manufacturer, dominates memory semiconductor chips and is the 5<sup>th</sup> largest exporter of armaments and munitions.

### Economic Growth is led by Advanced Manufacturing that require Metals

Economic growth is led by advanced manufacturing and South Korea is ranked 2<sup>nd</sup> in the world in R&D spending as a percentage of GDP. New high-technology manufacturing sectors are developing in aerospace, armaments, EV vehicles and renewable energy. These sectors require metals and this demand is expected to grow rapidly.

### South Korea is the 5<sup>th</sup> largest importer of Metals, but has a negligible domestic supply of mined Metals

- South Korea imports US\$42.1 billion of base metal concentrates annually and refines them to produce metals, powders and chemicals, using most and exporting the rest.
- South Korea is the world's 3rd largest importer of copper ores and concentrates. It has the 6th largest copper smelting capacity and operates the largest lead smelter.
- Today, there are more than 14 specialist Metal Refineries operating in South Korea, smelting silver, bismuth, tungsten, antimony, manganese, molybdenum, cobalt and gold.

### Recycling and a Domestic Mining industry - Displacing imports is part of Korea's strategy of promoting import substitution

- To reduce its dependence on importation of metals, a major Metals Recycling sector has developed since 2000. Today there is a negligible domestic supply of Metals and domestic mining activity is now being actively promoted by KOMIR (see Appendix 1). Since 2021, the number of mines in South Korea has increased from 16 to 20.
- Domestic mining activity is supported by Favorable Regulations, a simplified Tenement Permit system, as well as a Foreign Investment Promotion Act. See Appendix 1.

### Korea has a long history of Mining & Metal working

- Korea has a traditional cultural history of mining and skilled metal working of iron, copper, lead, gold and silver dating back to the 1<sup>st</sup> Century BC Seorabeol Dynasty.
- During the 1960-1980's, South Korea was the world's leading producer of tungsten and graphite, as well as a major producer of lead, zinc, silver and copper.
- However, the country's rapid economic development during the 1980's competed with mining and the skilled mining workforce was used in tunneling to make the extensive road and rail network efficient. By 1990, Metal Mining and Exploration had effectively ceased. There has been no application of modern Exploration methods or concepts since.

### Korean Metals Exploration sees a significant opportunity – South Korea is under-explored, highly prospective and needs Metals

## EXPLORATION: The Rationale for High-Grade Au-Cu-Ag & Mo Mines

### **Global Geo-Political & Socio-Economic Outlook**

### Declining global geo-political environment

- Deglobalization is taking place move towards security and economic-trading "blocs", a new "cold war" is now evident – resulting in increasing defense spending, internal socio-political tensions and global uncertainty
- *Resource nationalism is evident in some jurisdictions*
- New monetary systems may emerge to replace the US Dollar as the Reserve fiat currency
- Major economies coming out of recession and showing growth (UK, Germany, France, Japan)
- Inflation needs to be kept above Interest Rates to enable credit payback & avoid debt defaults
- Persistent inflation can be expected for several years
- Capital is only just beginning to move from financial assets into "hard assets" Bull market signal

### **Exploration & Mining Industry Status**

### Lack of funding for mineral exploration is primarily a result of poor returns from Tier 1 mines

- The "easy" mines have been found and developed. There is a long-term trend towards high-risk deeper, expensive exploration below cover rocks resulting in a lack of new discoveries
- Tier 1 porphyry Cu-Au projects are expensive to drill out, develop & construct, often in difficult jurisdictions, time consuming to permit with lead times from discovery to mine now >25 years.
- Decline in Tier 1 mine grades is evident forcing even larger tonnages to be mined resulting in bigger environmental issues and lower profitability - a vicious dilemma circle
- Millennials & Gen Z see mining as an unattractive career: mining linked to environmental issues, slow take-up of technology, dirty/difficult work and dislike working in remote locations
- Investor interest has been focused on mega-cap tech stocks, memory chips and AI, with little interest in mining or mineral exploration sector
- Smaller high-grade mines can be developed considerably quicker compared to Tier 1 Mines, at a fraction of the cost, show better profitability and return on capital invested

### Gold

### Proven long-term store of wealth and hedge against inflation

- Central Banks buying gold since 2016 to diversify away from US\$ bonds.
- Potential for BRIC currencies to be backed by physical "gold standard"
- Chinese investor buying forced by lack of investment options
- "Gold Beans", COSCO ATM gold a new Gen Z & Millennials investor trend
- Funding for gold exploration is scarce but starting to pick up
- Gold price broken above long-term resistance Up 50% in 1 year

### Copper

### Conductor of heat and electricity. Used in electrical wiring, copper pipes

- "Dr Copper" an indicator of the health of the global economy
- Capital for construction is scarce no incentive for new production
- Copper price broken above long-term resistance Up 7% in 1 year

### **Silver**

### Best conductor of electricity. Silver is now a hi-tech industrial metal:

- Used in photovoltaics, solar panels, biomedical, water purification
- Samsung SDI has developed a high-performance Solid-State Battery
- Jewelry demand has declined but investor demand follows gold price trend
- Silver price broken above long-term resistance Up 20% in 1 year

### Molybdenum

### Imparts strength, corrosion & thermal resistance to alloys

• Used in stainless steel alloys, inorganic materials, solar cells, highperformance catalyst in hydrogen generation & de-sulphurization

## HISTORICAL "BROWNFIELD" RESOURCES: Non JORC Compliant

Project Metals	Mine / Deposit	Tonnes (Mt)	Au (ounces)	Ag (ounces)	Cu (Mlbs)	Pb (Mlbs)	Zn (Mlbs)	Mo (Mlbs)	Exploration Potential (Tonnes)
	Dongil	9.23	352,605	12,949,919	195.23	212.89	213.92		
Uiseong Au-Cu-Ag-Pb-Zn Bi-Sb-Mo-Sn-W	Hwanghaksan	3.00	127,260	5,859,180	214.23	261.48	106.02		
	Jungang	-	-	-	-	-	-		~ 30 Mt
	Kyungwha	4.80	39,316	6,478,763	69.72	178.19	103.78		
	Jeonheung	2.47	150,908	3,099,543	25.02	36.23	39.84		
	Keumdongchilbo	1.32	37,202	1,389,931	-	59.50	50.25		
	SUB TOTAL	20.83	707,291	29,777,336	504.20	748.29	513.81		~ 30 Mt
	Gunbuk	3.00	182,044	5,661,449	215.84	-	-		
	Jaeilgunbuk	-	-	-	-	-	-		~ 200 Mt
	Ogok	0.44	106,518	278,114	45.81	-	-		~ 300 Mt
Haman	Gilgok	0.62	17,150	199,419	15.22	-	-		
Cu-Au-Ag	Bukgok-Namgok	1.03	8,280	231,833	8.84	-	-		
W-Co-Fe	M Vein	0.95	-	-	10.24	-	-		
	Manse	0.40	-	7,500,072	20.09	-	-		
	Ebisu-Haman	0.87	6,698	307,011	22.33	-	-		
	SUB TOTAL	7.55	320,690	14,177,898	338.38				~ 500 Mt
	Jinheung	0.35	25,514	6,056,913	62.086	-	-		
	Samsanjaeil No 2	0.11	-	272,347	6.15	-	-		
Goseong	Samsanjaeil South	-	-	-	-	-	-		~ 65 Mt
Cu-Au-Ag-Bi Te-Se-Ga	Samjeon	-	-	-	-	-	-		~ 100 Mt
	Samsan	0.05	-	283,826	2.23	-	-		
	Sambong	0.04	1,151	227,715	1.58	-	-		
	SUB TOTAL	0.54	26,665	6,840,802	72.05	-	-		~165 Mt
Oksan Mo-Re	Oksan	2.20						33.3	2-6 Mt
	TOTALS	28.92	1,054,646	50,796,036	914.63	748.29	513.81	33.30	~695 Mt



EAST SEA

## South Korea: Regional Geology, Tenement System, Mining Industry & Foreign Investment

## APPENDIX 1: Tenure, Mining Support & Foreign Investment Promotion

### **Domestic Mining Promotion**

### **Government Support for Domestic Mining Industry - KOMIR**

- KOMIR was formed by merger of KORES & MIRECO in 2021
- Drilling subsidy of 3 x 150m drill holes per Exploration Right
- No Annual Rental Fees
- No Work Spending Commitments
- No Annual Reporting Requirements
- Subsidized Loans & Funding for Mine Development
- *R* & *D* funding of Mining

### Korean Institute of Geology & Mining ("KIGAM")

- Mineral Processing Technology R & D
- Geophysical Surveys

### **Foreign Investment Promotion Act ("FIPA")**

### **Guaranteed Repatriation of Approved Capital**

- No Royalties on Minerals
- Designated Foreign Investment Zones ("FIZ")
- First 3-5 Years of Income is Tax Free
- Next 2 Years is 50% Exempt
- Tax Credits on Job Creation
- VAT 10%
- Losses carried forward for up to 10 years
- Depreciation of Assets (based on Useful Life)

### **Tenure System - Sequence**

### 1. Exploration Right Application Process

- Application for Exploration Right ("ER") lodged with MOTIE(\$140 fee)
- Up to 6 months period to prepare "Deposit Report"
- Site visit by Registered Geologist with Applicant
- Sample collected from outcrop for "threshold assay"
- "Deposit Report" lodged by Registered Geologist

### 2. MOTIE Reviews ER Application

- 1-3 months period to Review "Deposit Report"
- Sometimes field checking of outcrop required by MOTIE
- One Minuté Block standard size (~278ha)
- Any conflicting Land Use area is Excised from ER before approval
- MOTIE advises Applicant of Approval of ER

### 3. Exploration Right (7 Years)

- Registration Fee paid (\$150 fee)
- Registration Document of Exploration Right issued (1-day)
- 1 year Decision Phase
- *3 years Exploration Phase*
- Exploration Report prepared by Registered Geologist and submitted to MOTIE
- 3 years Renewal/Extension of Exploration Phase

### 4. Mine Development Permit Application Process

- Land Access Agreement with landowners
- Application prepared by Registered Geologist
- Environmental & Social Impact Assessment (ESIA)
- "Base Line Studies" 4 seasons (12 months) required for >5,000m<sup>2</sup> area
- Community Awareness Campaign (1-month)
- Community Meeting & Discussion
- Assess & Revise ESIA Document (3-months)
- Application reviewed by MOTIE+KORES Committee (1-month)

### 5. Permit to Mine (20 years, Renewable)

- Production Report required every 3 years
- Automatic Renewal if still in Production
- The MDP can be expanded in size gradually as required

### APPENDIX 1: South Korea | Regional Geology



Situated at the margin of the stable *Sino-Korea craton*, the Korean Peninsula is divided into three Archean blocks (the *Nangrim-Pyeongnam Block, Gyeongyi* and *Ryeongnam Massifs*) separated by northeast-trending Phanerozoic mobile belts (the *Imjingang* and *Ogchon Belts*). The boundaries of these Archean blocks are crustal scale faults: *Gyeonggi Shear Zone, Kongju Fault* and the *Honam Shear Zone*.

The *Gyeonggi* and *Ryeongnam Massifs* consist of Late Archean gneiss, granite gneiss, migmatite, minor schist amphibolite and calc-silicate lenses, interpreted as a deep marine sedimentary sequence intruded by granite.

During the Late Proterozoic. a widespread high-temperature, medium-pressure regional metamorphic event occurred, attributed to the collision and amalgamation of continents during the *Jinningan Orogeny*. This metamorphism was accompanied by deformation and emplacement of deep-seated, mantle-derived peralkaline intrusions and layered ultramafic complexes in a rift setting which likely correlates with the *Yangtse Craton* of southern China.

During the mid-late Cambrian, a subsiding geosynclinal zone developed between the *Gyeonggi* and *Ryeongnam Massifs*, evolving into the Ogchon geosyncline and the Taebaeksan basin. These basins probably formed in an extensional rift tectonic setting, between the *Honam Shear Zone* and the *Kongju Faults*.

Deep-trough sedimentary sequences (*Ogchon Group*) were deposited into the Ogchon Basin and shallow marine platform facies (*Joseon Group*) into the Taebaeksan basin, representing different paleogeographic zones of essentially the same basin. The lithostratigraphic succession of the Taebaeksan basin correlates with the Cambrian-Ordovicean sequence of the North China Platform. The Taebaeksan basin was likely open to the deeper ocean, with variations in the sequence reflecting numerous sea-level fluctuations.

During the Late Silurian-Devonian the regional thermal metamorphic Ogchon Orogeny took place.

Compression and collision of the *Sino-Korea Craton* occurred during the Late Carboniferous and Early Triassic, probably along the *Honam Shear Zone*. This collision produced uplift and deposition of the *Pyeongnam Supergroup* into several, rapidly subsiding half grabens and limnic coal basins. High burial-pressure metamorphic conditions of the *Songrim Orogeny* prevailed during this collisional event.

A post-collisional feature is the emplacement of the *Daebo Granite Series* along the ancient extensional shear zones (*Gyeonggi Shear Zone*, *Kongju Fault* and the *Honam Shear Zone*) during the Middle Jurassic. Slow cooling rates are recognised in the *Daebo* intrusions, suggesting they may have been initially emplaced in the Late Triassic.

During the Cretaceous, Eurasia was characterized by an Andean-type continental margin, which was subjected to extensional tectonism of the magmatic arc. This resulted in the development of the back-arc Gyeongsang basin as the Japanese Island Arc disconnected and migrated to the southeast.

### APPENDIX 1: Adakites Alkaline Porphyry & Carbonatite Igneous Intrusive Complexes

Adakites are rare intrusive and extrusive igneous rocks that are silicic, sodium-rich and of intermediate to felsic composition. They were originally thought to have formed by "slab melting" of altered basalt subducted below subduction zones of volcanic arcs but are also found in non-subduction zone settings. They are derived from hydrous fluids released from the break-down of minerals from the metamorphosed basalt or the fractional crystallization of island arc magmas. Low-magnesium adakites likely indicate melting of a subducted basalt, whereas high-magnesium ultramafic adakites probably indicate melting of a mantle plume (enriched in carbonate fluid) during its rapid ascent to the surface.

Igneous Discrimina	ator Geochemical Characteristics of	Adakites
<ul> <li>SiO<sub>2</sub> &gt; 56 wt %. High-silica adakites &gt;60% SiO<sub>2</sub></li> <li>Al<sub>2</sub>O<sub>3</sub> ≥ 15 wt %</li> <li>MgO &lt; 3 wt %</li> <li>Sr &gt; 400 ppm</li> <li>Rb &gt; 60 ppm</li> </ul>	<ul> <li>La ≥ 100 ppm</li> <li>Ni ≥ 20 ppm</li> <li>Cr ≥ 30 ppm</li> <li>V ≥ 100 ppm</li> <li>Y ≤ 16ppm</li> </ul>	<ul> <li>Sr/Y ≥ 20</li> <li>Nb/Ta ≥ 15</li> <li>V/Sc ≥ 10</li> <li>Yb &lt; 1.9 ppm</li> <li><sup>87</sup>Sr/<sup>86</sup>Sr &lt; 0.7045</li> </ul>





## **Uiseong Au-Cu-Ag-Pb-Zn Project**

## APPENDIX 2: Dongil | Mine Development Permit & Development Options



### **Exploration Target (Non-JORC Compliant – Historical Data)**

9.2Mt @ 1.00g/t Au, 44g/t Ag, 0.95% Cu, 1.50% Pb, 1.50% Zn (Senlac Geological Services, 2017)
 Contained metals: 352,605oz Au, 12.95Moz Ag, 89,000t Cu, 97,000t Pb & 97,000t Zn. Insitu value =US\$2,680M
 3D Geological Model, Wire Frame & Block Model (GeoEconomics, 2019 & 2025):
 8.1Mt @ 3.74g/t AuEq = 974,000 ounces AuEq



### **Conceptual Potential Mine Development**

Mine Development Permit ("MDP") granted on 8/11/2023 for 20 years; Renewable & Expandable Open pit & Sub Level Open Stope ("SLOS") 1,000tpd "base case" underground mine operation

- Low CAPEX Mine (est. US\$50-100M); >20 year mine life
- Conventional "Sequential Cu-Pb-Zn Flotation" mill with Au-Ag dore leach-electrowin
- Additional "Satellite Mine" potential Hwanghaksan, Jungang & Kyungwha. See Next Slide

Novamera - Costings & Mine Plan Study in progress. See Appendix 10



## **Oksan Mo Project**

## APPENDIX 3: Oksan | Historical Molybdenum Resource



### **Historical Exploration**

### KMPC 1980-81:

- *Prospecting adits, trenching, soil geochemical survey*
- 13 drillholes for 3,170m core (1980-1981)

### KORES 2002:

Inferred mineral resource of 2.2Mt @ 1.10% MoS<sub>2</sub>

- Contained 15,125 tonnes molybdenum
- 33.3Mlbs Mo. Current insitu value = US\$932M

### **Geology & Exploration Targets**

**Precambrian basement:** *metasediments & granite gneiss* **Cretaceous multi-phase intrusion:** 

- Granodiorite porphyry stock. Adakite signature
- Quartz porphyry late phase

### **Mineralization & Exploration Targets**

- Breccia pipe with molybdenite in voids
- Silica cap" cupola of quartz porphyry intrusion
- Alteration Assemblages:

Potassic, phyllic, propylitic, advanced argillic

Alkalic porphyry Mo affinity (F-W association) Exploration Targets:

- Breccia pipe with existing resource
- 2 x untested subparallel stockworks
- Additional Mo prospects identified in region

## APPENDIX 3: Oksan | Historical Molybdenum Resource



## APPENDIX 3: Oksan | Mine Development Potential



### **Exploration Targets**

- 1. Breccia pipe with Non-JORC Inferred Mineral Resource
- 2. Untested subparallel stockworks & Additional Mo prospects identified in region

### **Conceptual Potential Mine Development**

Conceptual Desktop Scoping Study (Senlac Geological Services, 2009) Low CAPEX (<US\$50M) 1,000tpd Sub Level Open Stope mining operation

- Conventional Flotation Mill (moly is an excellent 'floater')
- Concentrate sold to Kwangyang moly roaster.
- Coproduct Rhenium recovered in fume dustbags
- Potential to consolidate other Moly mine developments in Korea

### **3D Geological Model, Wire Frame, Block Model** (GeoEconomics, 2025): 2.35Mt @ 1.40% MoS<sub>2</sub> = 44.23Mlbs Mo metal

Novamera: Surgical Mining Costings & Mine Plan Study in progress





## **Goseong Au-Cu-Ag Project**

### APPENDIX 4: Samjeon Highest-Priority Gold-Copper-Silver Exploration Target









### **Exploration Target:**

600m long strike x 300m wide zone of stockwork-breccias 100Mt size conceptual bulk tonnage Exploration Target

- Consistent high Au, Ag, Cu, Bi & Te in KML rock chips
- High Au-Ag-Bi-Te assays suggest epithermal "boiling zone"
- Acid sulphate cap (kaolinite-dickite-alunite alteration)
- Quartz-magnetite alteration association with ore grades
- Limited historical mining, Au not assayed, No drilling
- *"Copper fern" geobotanical anomaly*
- Diorite porphyry has Adakite signature, Porphyry Cu permissive

## APPENDIX 4: Seongji & Samsanjaeil High Grade Au-Cu-Ag Exploration Targets







### **Exploration Target**

### 3.5km long x 2km wide zone of sheeted vein-breccias

 Numerous workings, many still accessible, limited drilling
 Late Cretaceous Goseong Fm siltstone, sandstone & andesite tuff unconformably overlain by pyroclastic ignimbrite tuff

- High Au-Ag-Bi-Te assays suggests epithermal "boiling zone"
- Feldspar porphyry has Adakite signature
- Quartz-magnetite-hematite alteration with ore grades
- Argillic clay-chlorite alteration
- Capped tailings potential for re-processing

### 0.24g/t Au, 318g/t Ag, 0.21% Bi, 2.42% Cu, 0.40% Pb, 0.13% Zn





## Haman Au-Cu-Ag-Pyrite-Magnetite Project

### APPENDIX 5: Haman Project | Alkaline-Carbonatite Porphyry Cu-Au Exploration Targets



## APPENDIX 5: Jaeilgunbuk | Alkaline-Carbonatite Porphyry Au-Cu Exploration Target



### **Exploration Target**

### ~200Mt size bulk tonnage Au-Cu Exploration Target with Pyrite-Magnetite coproduct

- 900m long strike x 500m wide sheeted vein-breccia system. No drilling
- Historical 1968 KMPC u/g adit sampling good Cu-W grades but not assayed for Au
- KML rock chip sampling: Consistent good Au & Cu grades over wide area

### Sheeted magnetite-hematite-quartz-sulphide carbonate breccias

Magnetite has partially replaced early specular hematite ("muskevitization"). This magnetite-hematite oscillation is observed in porphyry Cu deposits. Pyrope, almandine, andradite (garnets), Kaersutite (Ti-amphibole), olivine (mantle peridotite), rutile, xenotime and apatite (REE phosphates) are diagnostic "Carbonatite" minerals & indicate an upper mantle source

- Carbonatite & serpentinite dyke swarm close association with Au-Cu-W mineralized breccias mantle hot spot plume
- Mineralised monzonite porphyry (assay 0.66g/t Au) with high-silica adakite signature





Carbonatite breccia: 12.15g/t Au, 0.33% Cu

## APPENDIX 5: Ogok, Gunbuk & Gilgok | Alkaline (adakite) Porphyry Cu-Au Exploration Target



### **High Grade Exploration Target**

KMPC Historical drilling: 11 holes 1973-1980 (3,230metres) Inferred Resource: 0.44Mt @ 7.59g/t Au, 20g/t Ag & 4.77% Cu

### **Bulk Tonnage Exploration Target**

### ~300Mt size Au-Cu-Pyrite-Magnetite Alkaline Porphyry Au-Cu

- 900m long strike x 300m wide sheeted vein-breccia system. No drilling
- Airborne geophysics: Bullseye magnetic anomaly
- Sheeted pyrite-magnetite-quartz veinlets, consistent low-grade Au-Cu
- "Pyrite shell" magnetite-albite-biotite = Calc potassic alteration
- Monzonite porphyry is classified as high-silica adakite
- Alkaline porphyry Cu Permissive

Pyrite-magnetite-albite-biotite altered monzonite porphyry: 1.50g/t Au, 0.72% Cu



# Jeongseon Au Project

## APPENDIX 6: Jeongseon Au Project | "Grassroots" Project – Carlin-type Gold Exploration Target



Mg-phengite mica



### Early Stage "Grassroots" Gold Exploration Project

Abisan prospect – arsenic-bismuth-gold skarns; historical Au-Bi-As workings Yongtan prospect – Yemi Lime Breccia is the Exploration Target Yemi prospect – Yemi Lime Breccia is the Exploration Target

- Coincidental As-Sb-Bi-Cu-Co-Cd-Pb-Zn stream geochemical anomalies
- Early Exploration stage no drilling targets

### Geology

**Cretaceous: Jeongseon Granite** 

### Alkali granite complex: granite stock, felsic porphyry dykes & diabase sills

Magnetic anomalies, Extensional thrust faults control intrusion

### Late Ordovicean – Silurian: Haengmae & Hoedongri Formations

- Yellow dolomitic mudstone breccias, healed bedding fault breccia contact
- Dolomite, Mg-phengite mica reactive hydrothermal fluid

### Middle Ordovicean: Yemi Lime Breccia

- Strata-bound lenticular bodies, debris flow & tectonic in places
- Lime breccia Decalcification of carbonates by reactive hydrothermal fluid

### **Middle Ordovicean: Jigunsan Formation**

• 60m thick organic-rich black shale & mudstone

### Lower-Middle Ordovicean: Maggol Limestone

- Dolomitic limestone, flat pebble conglomerate, oncoloid grainstone
- Trilobites, cephalopods, conodonts, stromatolites tidal flat environment

### **Mineralisation Style**

Microscopic "invisible" gold in pyrite - identified by Pukyong University
 Dolomite, sulphide, hematite, Mg-phengite mica, argillic clay alteration







## APPENDIX 6: Jeongseon Au Project | Breccias, Mineralization, Silicification, Decalcification, Intrusions





## Sujung W-Mo-Bi-Ag Project

## APPENDIX 7: Sujung Project | "Brownfield" Tungsten-Molybdenum Exploration Target



### **Historical Mining & Exploration**

- Mine production at Suri, Jungbo & Deogman mines (1941-1945)
- KORES drilled 3 holes in 2014 intersected Molybdenum in Proximal Skarn

Historical Non-JORC Resource (KMPC, 1979): 127,810t @ 1.00% MoS<sub>2</sub>

### **Geology & Geophysics**

**Ordovicean:** *Phyllite, Argillaceous Limestone, Slate (Samtaesan Fm)* **Cretaceous Susan Granite:** 

- Monzogranite and quartz porphyry sill with diabase-amphibolite sills
- Alkaline porphyry moly affinity. Adakite signature?

### **Magnetic Anomalies:**

• Suggestive of 'blind' magnetite skarn or porphyry plugs

### **Mineralisation Styles**

### Quartz-wolframite veins in porphyry

- Disseminated & veinlet wolframite in quartz porphyry
- *"Greisen" endoskarn style alteration*
- Muscovite-topaz-fluorite with devitrified quartz
- Quartz porphyry host alkalic porphyry Mo type intrusion

### Molybdenum-scheelite-fluorite Skarn

- Skarn replacement of 350m thick argillaceous limestone
- Garnet, olivine, diopside, hedenbergite, epidote, magnetite
- "Proximal Reaction" & distal "Infiltration Skarn" facies
- Molybdenite and fluorite are more dominant in the skarn.
- Tungsten decreases away from the granite contact. Scheelite is the dominant tungsten mineral in skarn

## APPENDIX 7: Sujung Project | Jeogokri & Sugokri Tungsten Greisen Exploration Targets



## APPENDIX 7: Sujung Project Sujung & Sobo Molybdenum-Tungsten Skarn Exploration Targets

### Molybdenum-scheelite-fluorite Skarn

### Skarn replacement of 350m thick argillaceous limestone

- Quartz-feldspar-actinolite monzonite intrusion
- *Garnet, olivine, diopside, hedenbergite, epidote, magnetite*
- "Proximal Reaction" & distal "Infiltration Skarn" facies
- Molybdenite and fluorite are more dominant in the skarn
- Tungsten grade decreases away from the granite contact
- Scheelite is the dominant tungsten mineral in skarn

### KORES drilled 3 x 150m core holes at Sujung in 2014

• Molybdenite visible in core, but not assayed (lack of funds)



Sobo infiltration skarn: 0.63% Cu, 7.61% Fe<sub>2</sub>O<sub>3</sub>, 187ppm As

Monzonite





## Jangheung Zn-Pb-Ag-Cu

## **APPENDIX 8:** Jangheung Project Copper-Lead-Zinc-Silver Breccia Pipe Exploration Target



#### **9**m 1.10 1.27 2.20 JD-7 **6**m 0.16 2.85 7.40 JD-1 Geology Foliated granodiorite, syn-kinematic, 250Ma age (Early Triassic) Diorite porphyry, feldspar porphyry (Adakite-signature), east-west structural control Serpentinite/lamprophyre/basalt dykes (Adakite signature), east-west structural control. Components sourced from mantle Carbonatite intrusive complex ? Mineralization • Carbonate (calcite-ankerite-siderite) altered mineralized diorite porphyry Carbonate (calcite-ankerite-siderite) infill breccia matrix with primary Zn-Pb-Cu sulphides Alteration includes vermiculite and sepiolite/chrysolite fibrous minerals

**Historical Exploration & Drill Intersections** 

Silver was not assayed in KIER drill core

Grade Cu

(%)

0.44

0.21

0.28

1.27

Intersection

(m)

146m

69m

34m

8m

• "Cluster" of 16 breccia pipes found & explored by KIER during 1977-1982. Only 3 of these breccia pipes were drilled. See Table for Drill Intersections

Grade Zn

(%)

4.87

3.73

3.47

4.80

Hole

ID

**JD-10** 

**JD-11** 

**JD-12** 

JD-7

Interval

(m)

0-146

33-102

71-105

16-24

53-62

23-29

Breccia

Pipe ID

Pipe B

Pipe B

Pipe B

Pipe E

Pipe E

Pipe I

Grade Pb

(%)

0.26

0.09

0.19

6.03

- Primary sulphides (drill core only) = sphalerite, galena, chalcopyrite, pyrite
- Supergene minerals = adamite, smithsonite, cerussite, anglesite, malachite, covellite, chrysocolla, azurite, cuprite, native copper, pyrolusite, goethite
- Silica-biotite-albite pegmatoid brecciated cap. Porphry Cu permissive
- Bulk Metallurgical Sample (Breccia E) assayed 1.1% Cu, 5.4% Pb, 4.3% Zn & 143g/t Ag
- KML rock chip samples confirm above assays & show silver is high grade

## APPENDIX 8: Jangheung Project Copper-Lead-Zinc-Silver Breccia Pipe Exploration Target

### Breccia E Prospecting Pit (KIER, 1979)

Prospecting pit exposed 2m thick cemented breccia cap above 5m thick leached zone. Carbonate minerals are absent, and supergene depletion is recognised in this leached zone.

*Supergene minerals:* adamite, smithsonite, cerussite, anglesite, malachite, covellite, chrysocolla, azurite, cuprite, native copper, pyrolusite, goethite, Liesegang banding.

Bulk Sample assay: 1.1% Cu, 5.4% Pb, 4.3% Zn & 143g/t Ag.

Primary sulphides with carbonate (drill core only): sphalerite, galena, chalcopyrite, pyrite

### **Magmatic Hydrothermal Breccia Pipe Model**

### Inverted cone morphology, vertical geometry, stockworks margin of pipe

- Carbonate occurs with primary sulphides in mineralized pipe & diorite porphyry
- Diorite "pencil" porphyry intrusions Adakite-like signature
- Serpentinite, lamprophyre mafic dykes Adakite signature.
- Components sourced from the upper Mantle
- Carbonatite magmatic hydrothermal breccia pipe





# APPENDIX 9 Uiseong Field Office & Core Shed

## APPENDIX 9: Uiseong Field Depot Field Office, Core Shed & Laydown Facilities





### **Field Office**

*Geological office, computers, equipment storage, Formal meeting area, toilet, laundry* 

### **Core Shed**

Lock-up double sliding door vehicle entry, overhead lighting, open light panels – ideal for core processing using roller racks & auto coresaw

- Core trays, photo, logging & Geotech equipment
- Large concrete pad area for core racks, drill rigs
- Weighbridge & Forklift available on site





## Surgical Mining by Drilling Method

## APPENDIX 10: Surgical Mining by Drilling | "Game changing" Mining Method for the Junior Miner

### Surgical Mining by Drilling Operation







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Assistance Program

### Novamera is completing Mine Plan & Costings Study on Dongil & Oksan

### **Technology**

### Novamera Inc (Canada) with Major partners funding R&D

- Near Borehole Imaging Radar Survey Tool "Sees the Vein" up to 3m outside hole
- Survey Tool and Steering Plates allow "real time" course steering to "Follow the Vein"
- Mining commenced at Anaconda Mining gold mine in Newfoundland

### Pile Top RCD Drill Rig

**Pile Top RCD drills** - used in Construction, Oil & Gas & Wind Turbine foundations

- Large diameter Drill Bits able to "mine" Veins/structures up to 4.5m width
- *Reverse Circulation Drilling method ("RCD"). Drill Cuttings airlifted in water to surface*
- Steering plates in the Drill Bit body steer course to "Follow and Mine the Vein"
- Water is recycled & reused

### **Key Advantages**

### Any steep-dipping vein structure can be mined and followed down dip

- Drill cuttings are -2mm size ideal feed size for pumping as slurry direct into a Mill
- No Blasting, U/G Machinery, Primary or Secondary Crushing required
- Low Capital and Low Operating Cost (Cost savings est. 50%)
- Safe Mining Method No Operators or Equipment required underground
- Enables rapid development & selective mining of ore zones
- Minimal Dilution of Ore grades: Surgical precision mining method
- Clean: No dust, No vibration, Quiet, Rehabilitation is rapid
- No Tailings or Waste Mill Tailings & Waste are "backfilled" in the RCD holes.
- Drill Water muds separated & water is recycled for re-use in the drilling process
- Made in South Korea (BUMA CE & Sambo CMC), with trained Drillers in country
- SMD qualifies for R&D Funding by KOMIR for Trial Mining



### Developing Polymetallic Mines on the Korean Peninsula

## THANK YOU

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