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# Hwanghaksan - Ogsan Cu-Au-Ag-Pb-Zn prospect

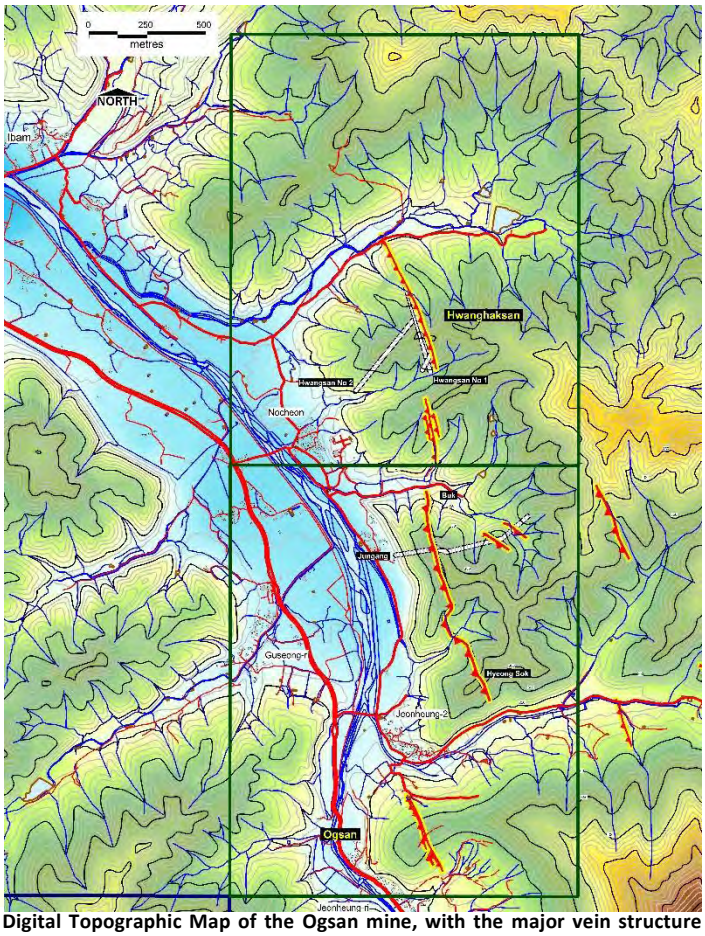
## Technical Summary

The historical Ogsan Cu-Au-Ag-Pb-Zn prospect (*trans.* "Jade Mountain") lies within the Uiseong mining district, situated about 14kn NE of Uiseong town and about 1.5km east of Guseong village. The perennial Dalgocheong River flows north-westerly through the southwest sector of the prospect area with hilly terrain in the east. Elevations rise from 200m in the river up to 435m in the hills to the east.

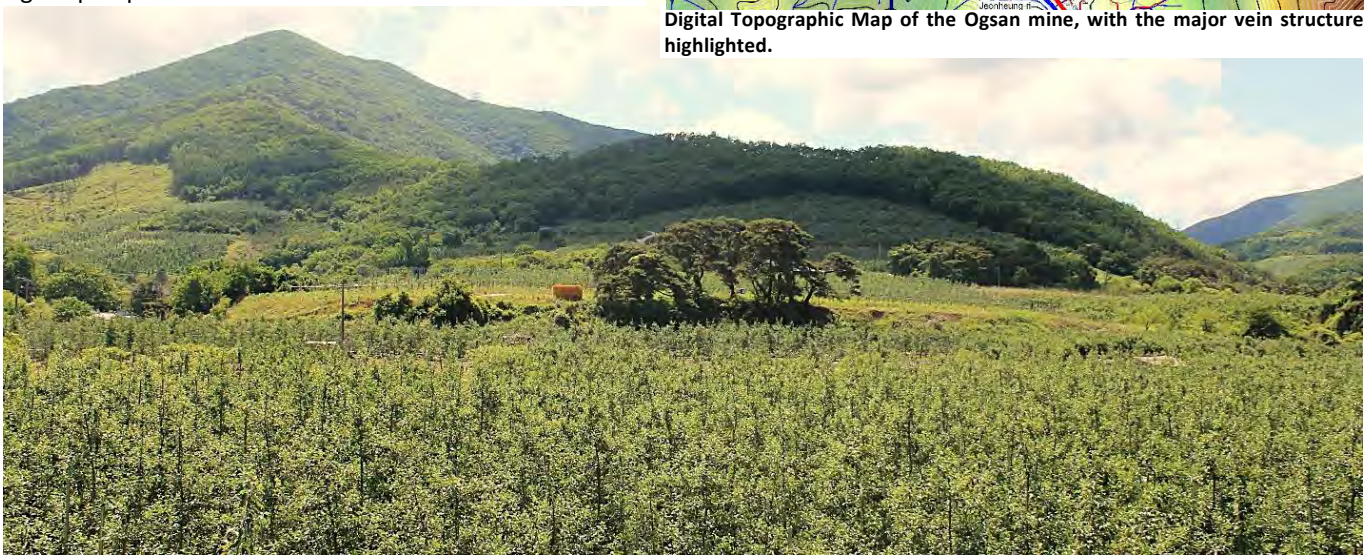
The Hwanghaksan mine (*trans.* "yellow crane mountain") mine in the north, the *Hwangsan*, comprised several workings, including the *Hwanghaksan* (*trans.* "yellow mountain), the *Buk* (*trans.* "north") and the *Jungang* workings in the middle and the *Hyeong Sok* (*trans*. "Fluorite") workings in the south. The adits included the *Hwangsan No 1* (290m Level) and *Hwangsan No 2* Adits (250m Level), the *Buk* Adit (235m Level), and the *Jungang* Adit (230m Level). Mine dumps associated with the adits are still evident, but stoping was minimal and mainly limited to the 290-310m Levels at Hwanghaksan. No production figures were reported.

A 10tpd mobile flotation mill was temporarily erected at Hwanghakson, employing selective flotation methods (Kim, 1964) to recover lead and zinc concentrates. The lead concentrate graded 65-67% Pb, with a recovery of 94-95%, together with most of the silver and copper. The zinc concentrate graded 51-53% Zn with a recovery of 88%.

Exploration conducted by the *Korean Mining Promotion Corporation* ("KMPC") during the 1970s included Self Potential geophysical surveys, limited diamond drilling and several prospecting adits (Se Woo, 2008). This exploration traced the vein system from Hwanghaksan over a strike length of 4,000m to the south, locating the Ogsan prospect in the southern sector.




**Digital Topographic Map of the Ogsan mine, with the major vein structure highlighted.**



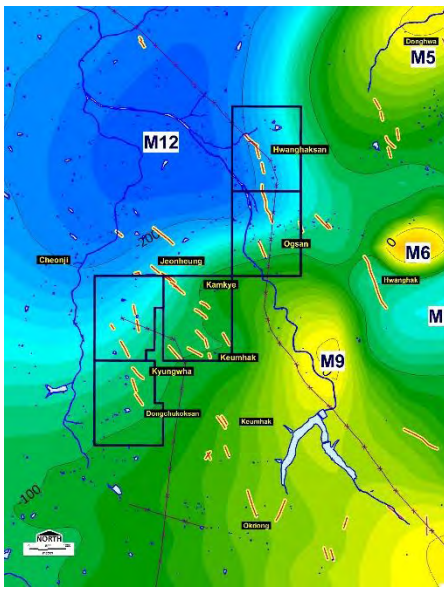
**View looking south along strike towards the small hill hosting the southern part of the Ogsan Vein system.**

## Geophysics

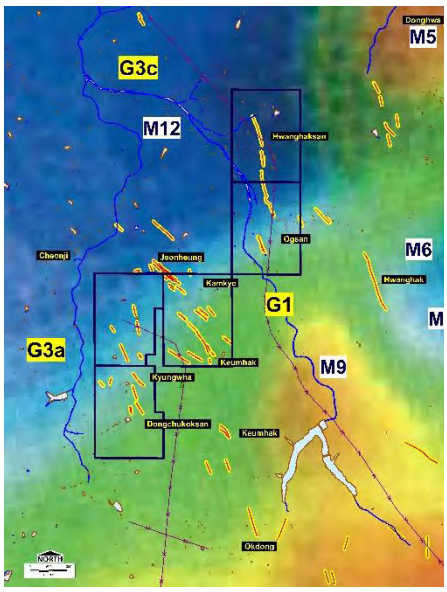
Regional airborne magnetic-radiometer geophysical surveys were flown along east-west lines (1.5km spacing) during 1989-1991 by the *Korean Institute of Geology Mining & Materials* (KIGAM, 2002), at a terrain clearance altitude of 120m.

The Ogsan project sits within a broad magnetic low anomaly **M12**, corresponding with the reduced sediments of the Jeomgog Formation. The anomaly displays magnetic characteristics typical of sediments in a graben setting, with both NE striking and NNW striking fault boundaries evident. Northeast of Ogsan, a sharp boundary (major NNW striking fault contact ?) separates the magnetic low from a broad magnetic high anomaly **M5**, which coincides with "basement" granodiorite of the Jurassic Daebo Igneous Series. South of Ogsan, the NE-striking contact of a broad magnetic high anomaly **M9** is situated within sediments of the Sagok Formation (also coincidental with the **G1** gravity anomaly). The cause of this anomaly is unclear, but must be a shallow blind intrusion or basement.

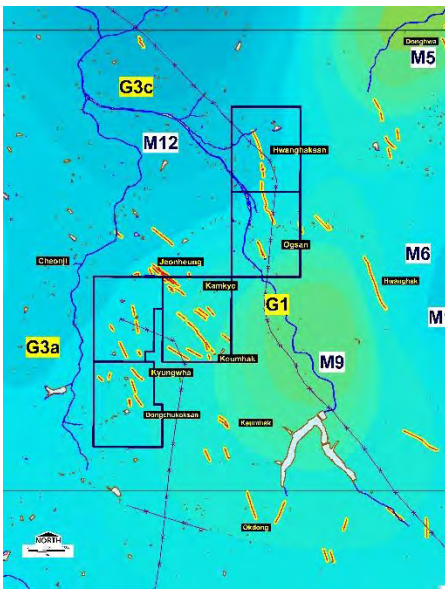
Anomaly **M6** is a circular "bullseye" magnetic high coinciding with the monzogranite intrusion at Hwanghaksan mountain and also coincidental with the intersection of the inferred NE and NNW striking faults.



Magnetic Anomaly Map



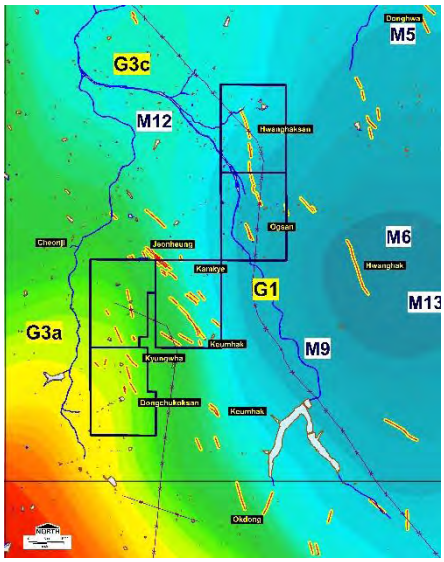
Magnetics- Total Field Map



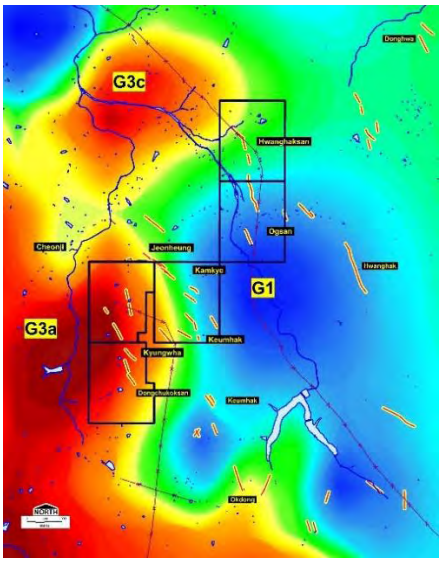
Magnetics - Reduced To Pole

Regional gravity surveys were also conducted in the Uiseong sub-basin by *KIGAM* (Kim etal, 2000; Yu et al, 2005; Yang et al, 2008).

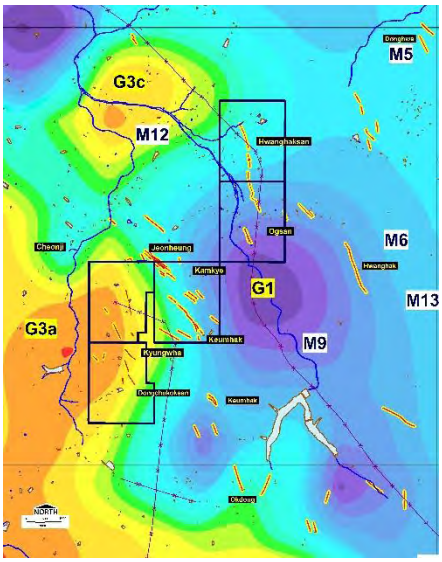
A series of >12mgal gravity highs (**G3a**, **G3c**) occur within the sediments of the Jeomgog Formation, but there is no obvious geological explanation for this anomalism. Anomaly **G1** is a <6mgal gravity low anomaly located south of Ogsan/east of Kyungwha and nearly coincidental with the **M9** magnetic high anomaly.



Bouguer Gravity Anomaly Map



Gravity – 1st Vertical Derivative



Gravity – 2nd Vertical Derivative

## Stream Sediment Geochemistry

The *Korea Institute of Geoscience and Mineral Resources* (KIGAMM, 2001) conducted a country-wide stream sediment geochemical survey in 1971 (Sample density of 1 per 3.5km$^2$). The active fine sand fraction was sieved to -100# (-150µm) and 70-100g collected from each site. Stream sediment geochemistry indicates the creeks draining the Ogsan, Jungang and Hwanghaksan workings are anomalous in Cu, Pb, and eH.

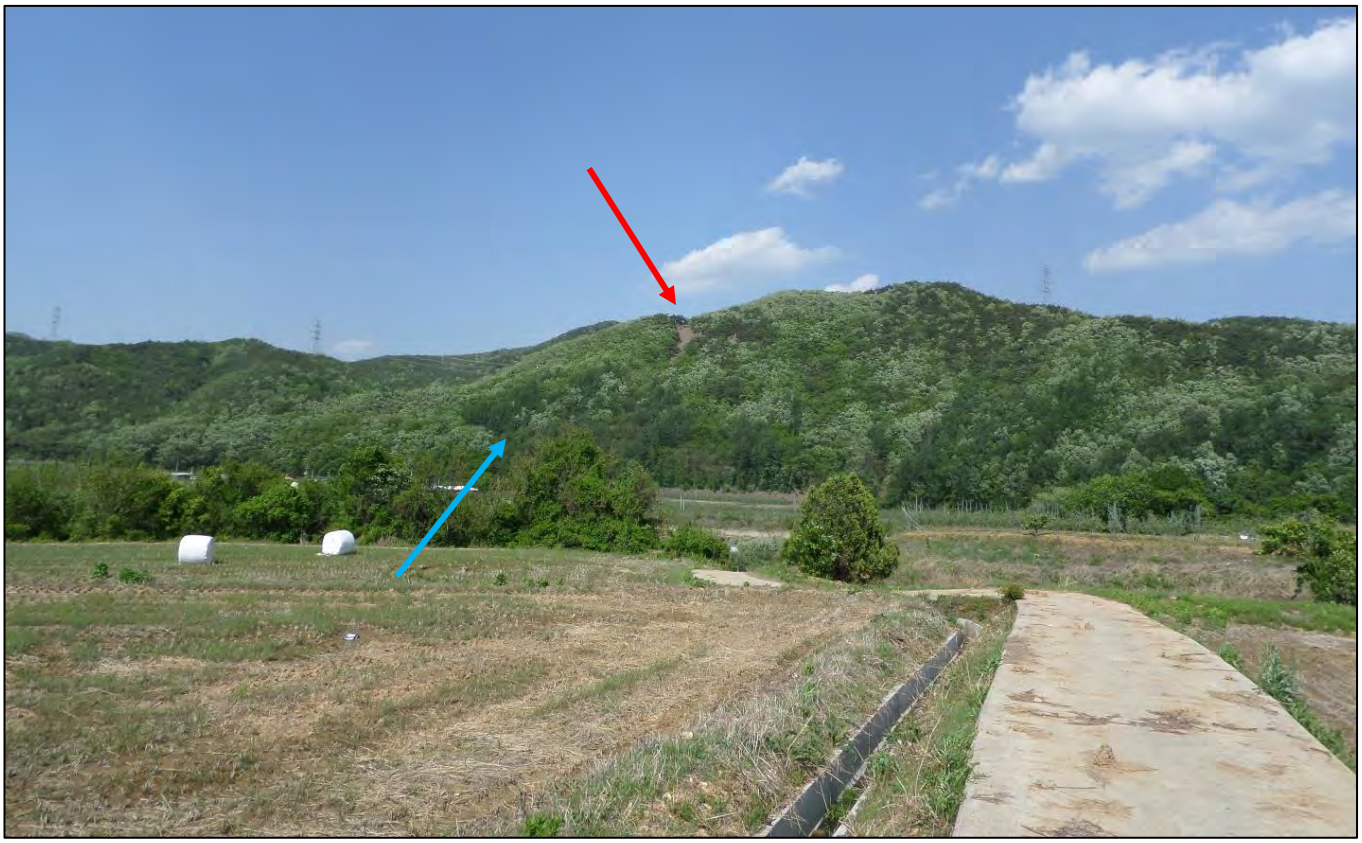
## Geology

The KMPC mapping (Choi et al, 1992) shows the vein system at Ogsan can be traced intermittently over a strike length of 4000m, from Hwangsan in the north extending to Ogsan in the south. The vein system strikes NNW and dips steeply to the west. Vein mineralization outcrops at elevations ranging from 230m up to 350m. Drillhole intercepts of mineralization range from depths of 22m down to 117m, indicating mineralization has a minimum vertical extent of 250m.

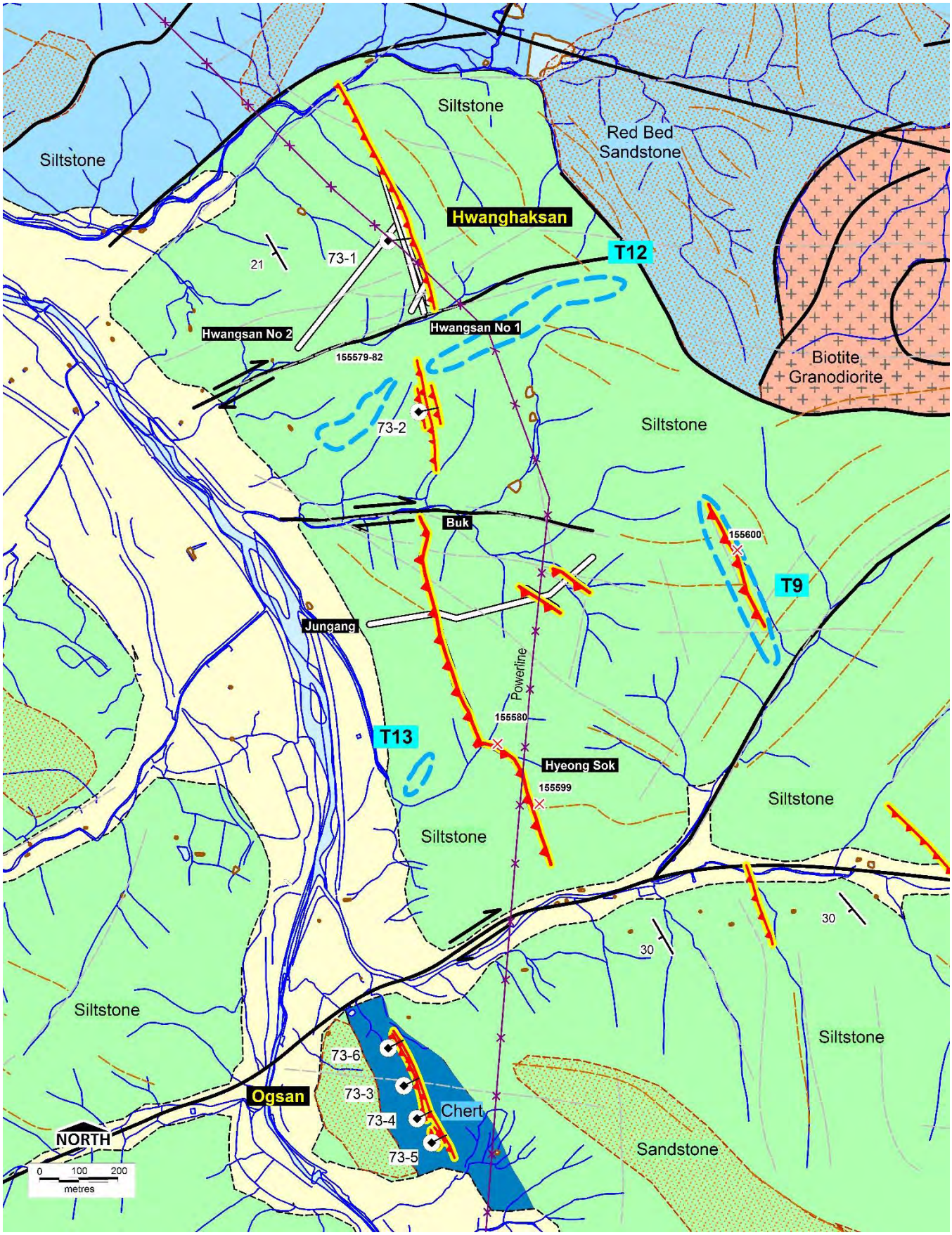
The Ogsan vein system is hosted within the Cretaceous Jeomgog Formation. In the northern sector at the Hwangsan and Buk workings, lithologies consist of an alternating sequence of interbedded "red bed" sandstone bed within reduced green siltstone and shale. In the southern sector at the Ogsan prospect, "chert" with lesser sandstone and "quartzite" are reported in drill logs. The significant of the "chert" and "quartzite" is not known, but these lithologies are unusual and not reported elsewhere in the district. It is quite possible the chert/quartzite represent hornfelsing, silicification or even "silica sinter beds" related to epithermal hydrothermal mineralizing fluids.

Regional geological mapping (1:50,000 scale) shows the Jeomgog Formation has been intruded by monzogranite (*Cheongsong Granite*) at Hwanghaksan mountain east of Ogsan. The granite is composed of orthoclase, microcline, labradorite, quartz, biotite, hornblende and minor sphene, apatite, zircon and muscovite (Choi et al, 1992). The granite was dated at 64.7Ma using K-Ar by Lee et al (1998). Quartz porphyry and dacite dykes are common.

The NNW Ogsan vein system appears to have been dextrally displaced by at least two ENE striking transfer faults. The major west-northwest striking *Cheongsong Fault* separates the sedimentary and intrusive units and forms part of the *Gaum Fault* system.

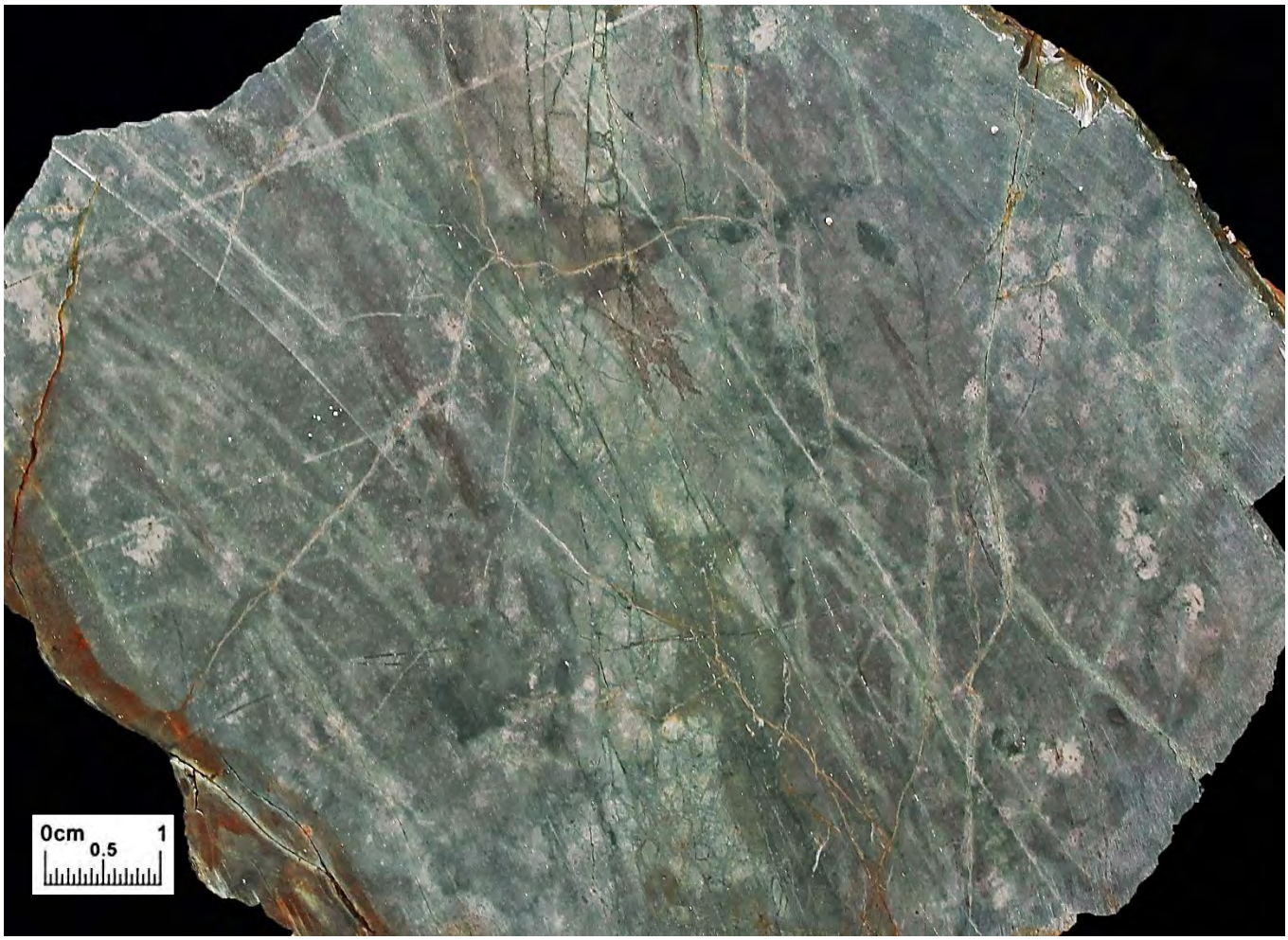


**Looking east towards the central part of the Ogsan Vein system hosting the Buk ("North") workings. Some of the old mine dumps are just visible (red arrow) at the top of the hill. The Jungang Adit is at the base of the hill (blue arrow). A high-tensile power line, just visible on the skyline, traverses the area about 300m east of the mine workings.**




**Geology of the Hwanghaksan Mine and Ogsan prospect. The major Vein structures are shown, together with Airphoto Targets (highlighted in blue) and faults, with direction of movements indicated.**


**Sample 243475. Medium-grained monzogranite at Hwanghaksan mountain (3km east of Ogsan). Note the entrained xenoliths of an early, more mafic and finer-grained phase.**




**Sample 243476. Hornfelsed siltstone with disseminated pyrite, Hwanghaksan.**

## Mineralization

The Ogsan vein system can be traced over a strike length of 4000m, from Hwanghaksan in the north to Ogsan in the south. The vein system strikes NNW and dips steeply at 80° to the west. Vein mineralization outcrops at elevations ranging from 230m up to 350m and drill intercepts of mineralization range from depths of 22m down to 117m, indicating a minimum vertical extent of 250m.

In the northern sector, Choi et al (1992) reported ore grades from the *Hwangsan/Jungang No 2 Vein* were 162-226g/t Ag, 1.85-2.28% Cu, 2.25-3.13% Pb and 3.66-4.76% Zn. The Hwangsan and Jungang No 2 Vein were tested by 2 drill holes (each of 100m depth) which intersected 2-6 sulphide veins/stockworks of 0.2-8.8m width.

In the centre of the vein system at *Jungang*, reported grades from the *Jungang Main* vein were 186-145g/t Ag, 0.91-1.77% Cu, 1.46-3.69% Pb and 1.15-4.34% Zn, but tended to decrease with depth. The *Jungang Main* vein was not drill tested, but the prospecting adit followed the vein structure along strike for a distance of 600m.

At *Ogsan* in the south, exploration located a 300m long quartz vein structure, striking NNW, dipping at 80° to the SW. The structure was drill tested (4 holes; 100m) which intersected 3-4 sulphide veins/stockworks of 0.4-7.0m width. This limited drilling suggests the *Ogsan* vein system is composed of 2 subparallel vein-stockworks within a 50m wide structure.

The quartz veining is multi-phase and banded, with a paragenetic sequence comprising:

- **Stage I Early Vein** coarse euhedral saccharoidal quartz and zonal prismatic quartz.
- **Stage II Base Metal** with sulphides of early pyrite, arsenopyrite, pyrrhotite and specular hematite, followed by chalcopyrite, bornite, Fe-rich black sphalerite, electrum, tetrahedrite, galena, hematite and marcasite.
- **Stage IIIa Sulphosalts** occur as anhedral grains with galena intergrown with Fe-poor honey-brown sphalerite (Lee et al, 1998), interstitial to quartz vughs and filling fractures in quartz. The sulphosalts comprise wittichenite (Cu-Bi), lillianite (Pb-Bi), boulangerite (Pb-Sb), polybasite (Ag-Sb), galenobismuthinite (Pb-Bi) and a rare unidentified Cu-Bi-Pb-Sb-S sulphosalt.
- **Stage IIIb Brecciation Event**, with vughy cavities lined with white comb quartz, with minor sulphides.
- **Stage IV Late Vein** white calcite and anhedral green or purple fluorite deposition.
- **Stage V Supergene** covellite and chalcocite are present, with cuprite and malachite observed in the oxidized weathering zone and at surface.

Fluid inclusion studies (Choi et al, 1992 & Lee et al, 1998) indicate “boiling” occurred after reacting with wall-rock, followed by cooling and dilution (pH increase) by meteoric waters. Mineralization occurred at temperatures between 160->380°C, from fluids with salinities of 0.0-6.3 wt.% NaCl, with chalcopyrite deposition at temperatures > 300°C. There is evidence of boiling with pressures of 60-210 bars, typical of 900m depth (deep epithermal) that changed from lithostatic (closed) to hydrostatic (open conditions) consistent with explosive brecciation event. Sulphur isotope fugacity $\delta^{34}S$ of 8.6 per mill is consistent with an igneous source. Mineralization was dated at the nearby Jeonheung mine at 62.3Ma (Jeonheung mine; Choi et al, 1992), corresponding to ages of the quartz porphyry and dacite dykes.

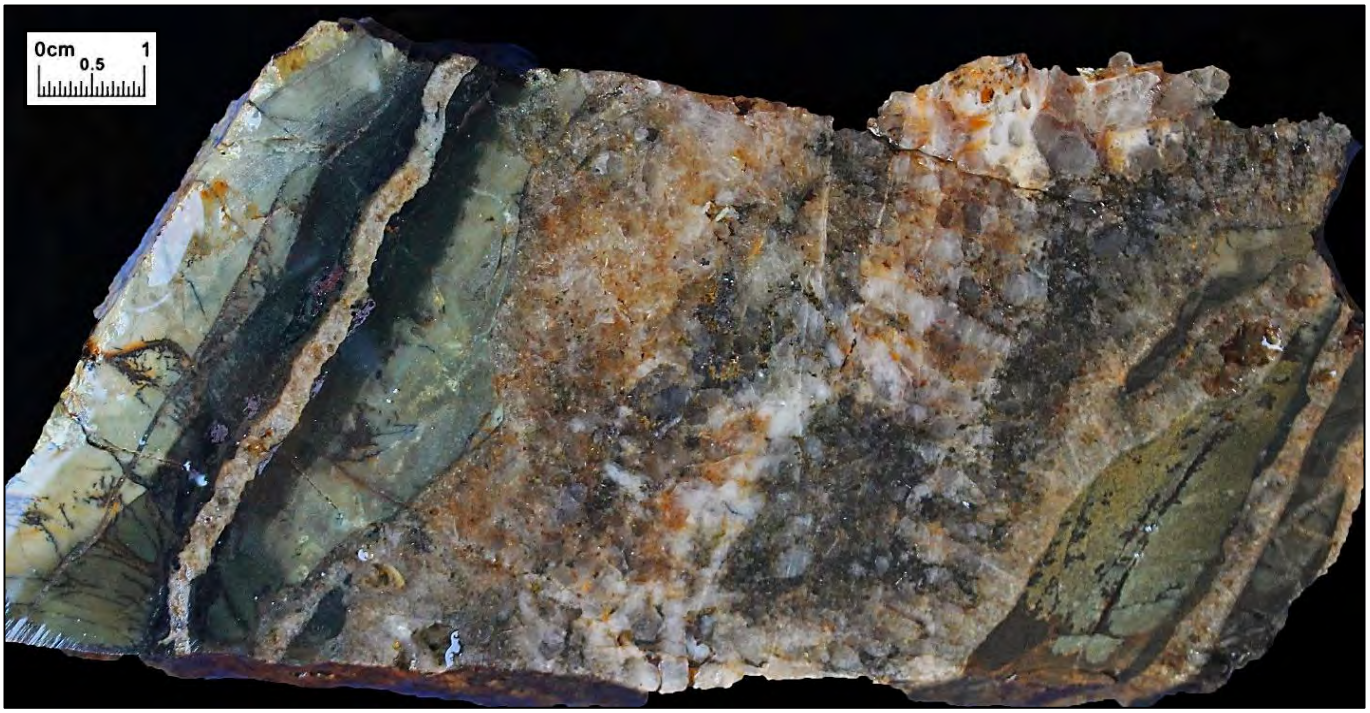
**View of large mine dump at the Hwangsan No 2 Adit, located in the northern part of the Ogsan Vein system.**

**The Ogsan Vein structure exposed on a ridge near the Hwangsan No 1 Adit, located in the northern sector of the Ogsan Vein system.**

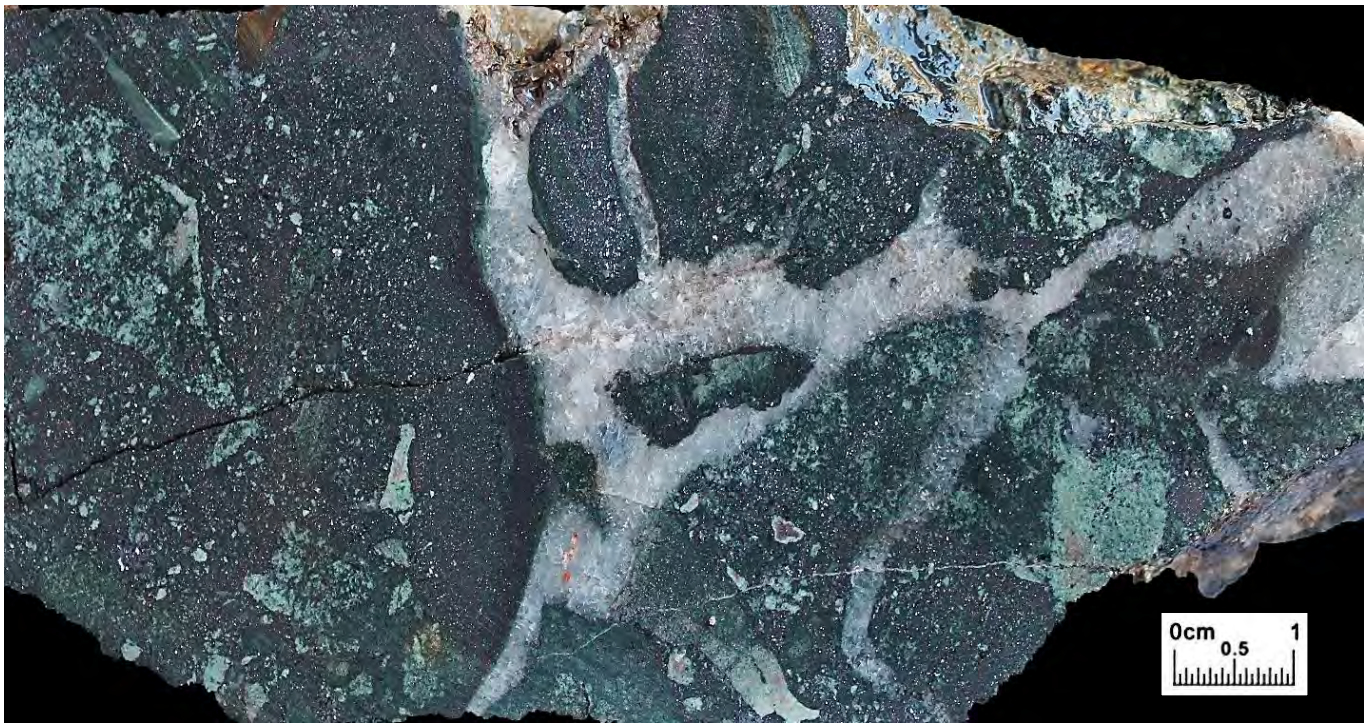
**Small Adit portal at Hyeong Sok (aka Fluorite Adit), located in the southern sector of the Hwanghaksan Vein system.**

**Outcrop of 2.5m wide quartz-fluorite vein breccia at T9, situated in the eastern sector of the Ogsan project. The vein breccia was discovered during follow up of anomalous features identified on high-resolution Aerial Photography (Sample 155600).**

**Subcrop of sheeted quartz-fluorite veins and breccia at T9, 10m south of above outcrop.**



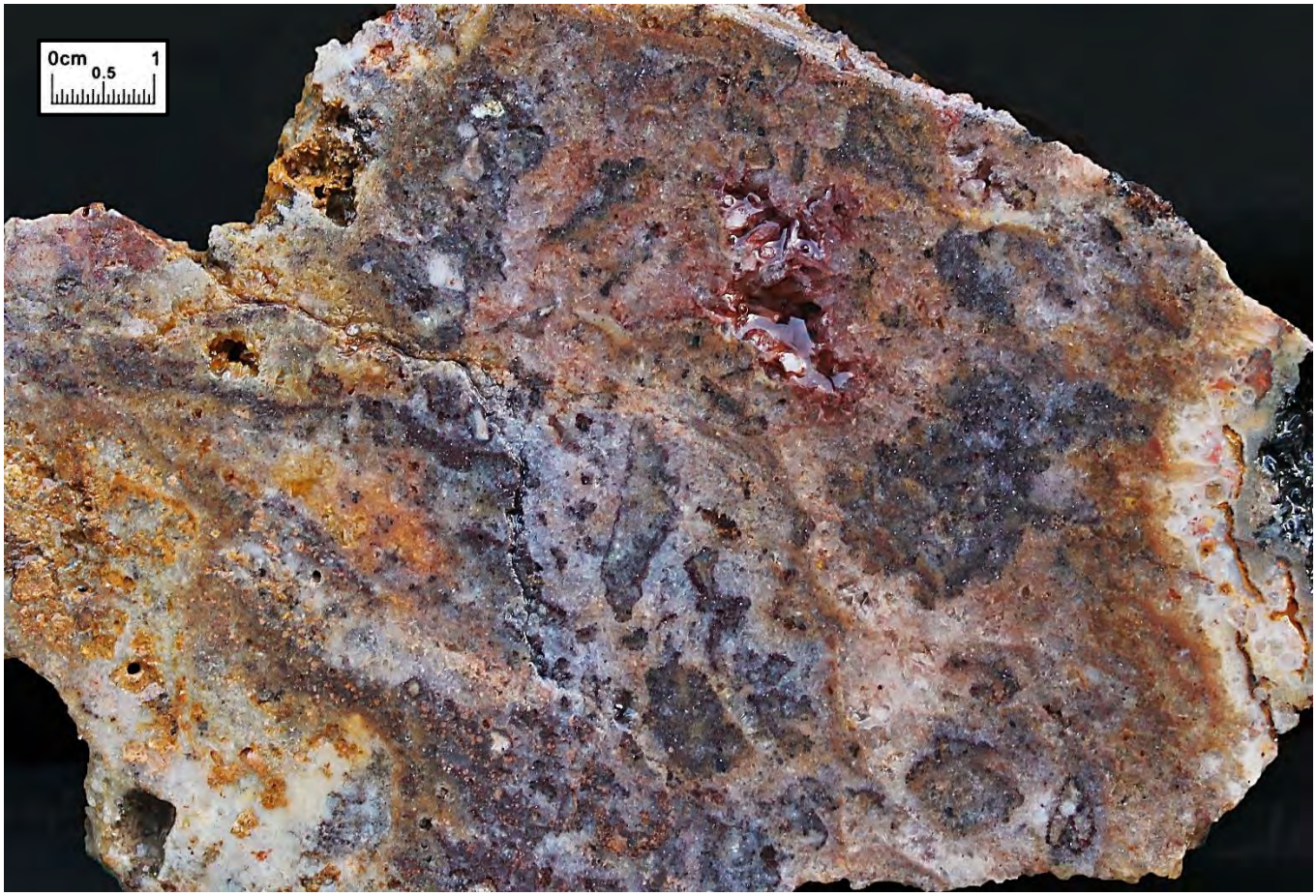

**Banded quartz vein breccia from the Hwangsan No 1 mine dump. Banding is composed of zonal prismatic quartz with vuggy core and slightly brecciated purple zonal fluorite, hosted in bleached sericite-chlorite-silica altered siltstone. A thin dark grey-black chill margin composed of Fe-chlorite surrounds the veining. Sample 155580: 0.15% Zn, 780ppm Pb, 203ppm Cu, 54ppm Bi.**




**Comb quartz vein stockwork, with dark grey-black Fe-chlorite chill margins, is hosted in fluidized, chaotic breccia of bleached, sericite-chlorite (blue-green) altered rock fragments set in a fine matrix of dark grey specular hematite, some peperite? and sulphides, Hwangsan No 2 mine dump. Sample 155582: 28g/t Ag, 0.22% Cu, 0.37% Pb, 0.24% Zn, 82ppm Bi, 167ppm Mo.**


**Weakly developed banding comprising comb quartz vein stockwork with chalcopyrite and breccia of sphalerite-galena, is hosted in sericite-chlorite (blue-green)-specular hematite-smectite clay altered siltstone. A thin chill margin of Fe-chlorite lines the quartz veining. Hwangsan No 2 mine dump. Sample 155579: 0.11g/t Au, 140g/t Ag, 0.90% Cu, 2.31% Pb, 2.82% Zn, 0.147% Mo, 388ppm Bi, 215ppm W, 185ppm As.**


**Sample 155599; 19g/t Ag, 0.47% Pb, 0.24% Zn, 48ppm Bi, 0.62% Mn, 7.4% Fe. Green sericite-silica altered tuffaceous siltstone, brecciated with diffuse dark grey specular hematite matrix, overprinted by comb quartz stockwork. The core of the comb quartz vein contains partially clay altered, pink feldspar (adularia?) with some cavities.**




**Sample 155600; 15g/t Ag.T-9 Anomaly east of Ogsan. Banded, fluidised quartz vein breccia composed of saccharoidal quartz, zonal prismatic quartz and purple fluorite, with limonite stained, partially clay-filled vughy cavities. Reaction rims are evident on some clasts.**

## Geochemistry

Limited rock chip sampling of the Hwangsan No 2 Adit dump (4 samples) by *Senlac Geological Services Pty Ltd* (2017) obtained best results of 0.11g/t Au, 140g/t Ag, 185ppm As, 0.90% Cu, 4.68% Pb, 2.82% Zn, 0.147% Mo, 0.90% Co, and 388ppm Bi.

## Alteration

Widespread silica-chlorite hornfelsing of the siltstones is relatively common and probably forms a distal outer halo around the mineralization. Disseminated pyrite is common and minor kaolinite and calcite are also present.

Alteration observed at the Hwanghaksan mine consists of early pale green sericite and blue-green chlorite alteration in the siltstones. Sericite is accompanied by disseminated fine euhedral to subhedral pyrite grains, along with some kaolinite and quartz (silicification). The alteration observed is consistent with an intermediate argillic alteration assemblage. Chert is recorded in drill logs at Ogsan, but this could represent silicification. Choi et al (1992) note medium-coarse-grained arsenopyrite is disseminated in this alteration zone.

A thin chill margin is observed around some veins overprinting the early sericite alteration and is likely composed of black Fe-chlorite. Following the middle stage brecciation and fracturing event, specular hematite is a common mineralization and alteration mineral.

Kaolinite and dickite are present in the upper levels, consistent with an advanced argillic assemblage.

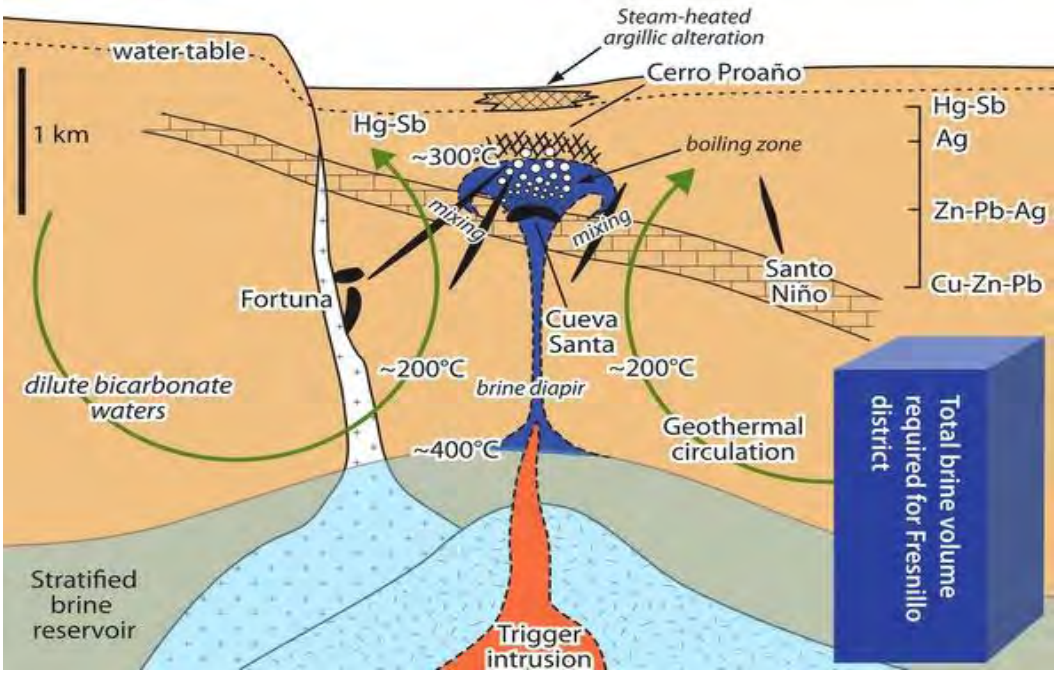
## Conceptual Model of Transitional Intermediate-Sulphidation Epithermal & Alkalic Porphyry Mineralization

The mineralization of the Uiseong mining district is considered analogous to intermediate-sulphidation ("IS") epithermal style polymetallic Ag-Au deposits of the Fresnillo, Zacatecas, Guanajuato and Palmarejo mining districts, Mexico. Mineralization consists of silver sulphides and sulphosalts. gold as electrum and Cu-Pb-Zn accompanied by As, Sb and Hg. A vertical geochemical zonation pattern is recognized. Ag occurs at shallow levels grading downwards to Zn-Pb-Ag, then Cu with Zn-Pb at depth. Au, Ag and Ag-Bi sulphosalts are typically associated with the "boiling zone". Ba, As, Sb, Hg occur above this boiling zone at shallower levels closer to the palaeo-surface.

Alteration consists of argillic assemblages in the shallow, upper parts of the system, above the "boiling" ore zone, characterized by low-temperature silica phases, including cristobalite, opalline amorphous silica, fine silica-sulphide "silica gris", chalcedony and Hg-Se-S-Cl complexes. A sub-horizontal zone of hypogene hematite occurs above and extends down into the "boiling" zone and is indicative of the fluid mixing zone with oxygenated meteoric waters. Deeper in the system, vein quartz contains chlorite, calcite, rhodonite and adularia, surrounded by sericite (phyllic) and chlorite (propylitic) alteration assemblages. High-temperature zones may be indicated by skarn-type minerals (prograde silicates diopside, hedenbergite & garnet) and retrograde silicates (epidote, clinochlore).

Mineralization and alteration are consistent with magmatic-derived, chlorine fluids that injected into a circulating meteoric water geothermal system. Fluid flow is horizontal (Clarke & Titley, 1988) and boiling off of dissolved gases (mainly $CO_2$) increases the Ag/Au ratio. Higher grades of Ag are typically associated with higher salinities, suggesting proximity to the intrusive source may play an important role. The polymetallic Ag-Au mineralization of Mexico is regarded as equivalent to the carbonate-base metal Au deposits of the Southwest Pacific (Corbett, 2010). The characteristic features of low-temperature, intermediate-sulphidation epithermal deposits include:

- Surface expression is a subtle barren argillic cap that sits above 'blind' mineralization.
- The veins barely reach the surface, forming a wispy seditious zone below the barren cap.
- Mineralization is hosted in veins, stockworks and breccias. The veins can balloon out in size up to 10m in width.
- Mineralization displays coarse mineral banding, contrasting with the rhythmic fine banding of low-sulphidation veins.
- Dark brown Fe-rich sphalerite occurs in the early base metals stage and is indicative of high-temperature and salinity.
- Significant Cu-Pb-Zn occurs at depth from distal magmatically-derived fluids.
- Deposition is controlled by fluid mixing (Leach & Corbett, 2008), dilution and rapid cooling with oxidized meteoric waters, as the base metals are transported as chloride complexes.
- Gold and silver deposition is controlled by rapid cooling (Leach & Corbett, 2008) of a shallow "boiling" zone, typically located about 400m below the palaeo surface.
- Honey-yellow Fe-poor sphalerite is deposited late stage and is an indicator of lower temperatures, commonly associated with Ag-bearing sulphosalts, freibergite and electrum.
- The vertical extent of mineralization can be over 450m.
- Alunite-like high-sulphidation minerals may occasionally be present. Exploration focus directed to locating acid-sulphate caps (evidenced by kaolinite-alunite alteration), as high-grade Au-Ag can deposit at depth.




**Mexican Style Au-Ag-Cu-Pb-Zn Epithermal Mineralization Model (after Williams et al, 2013).**

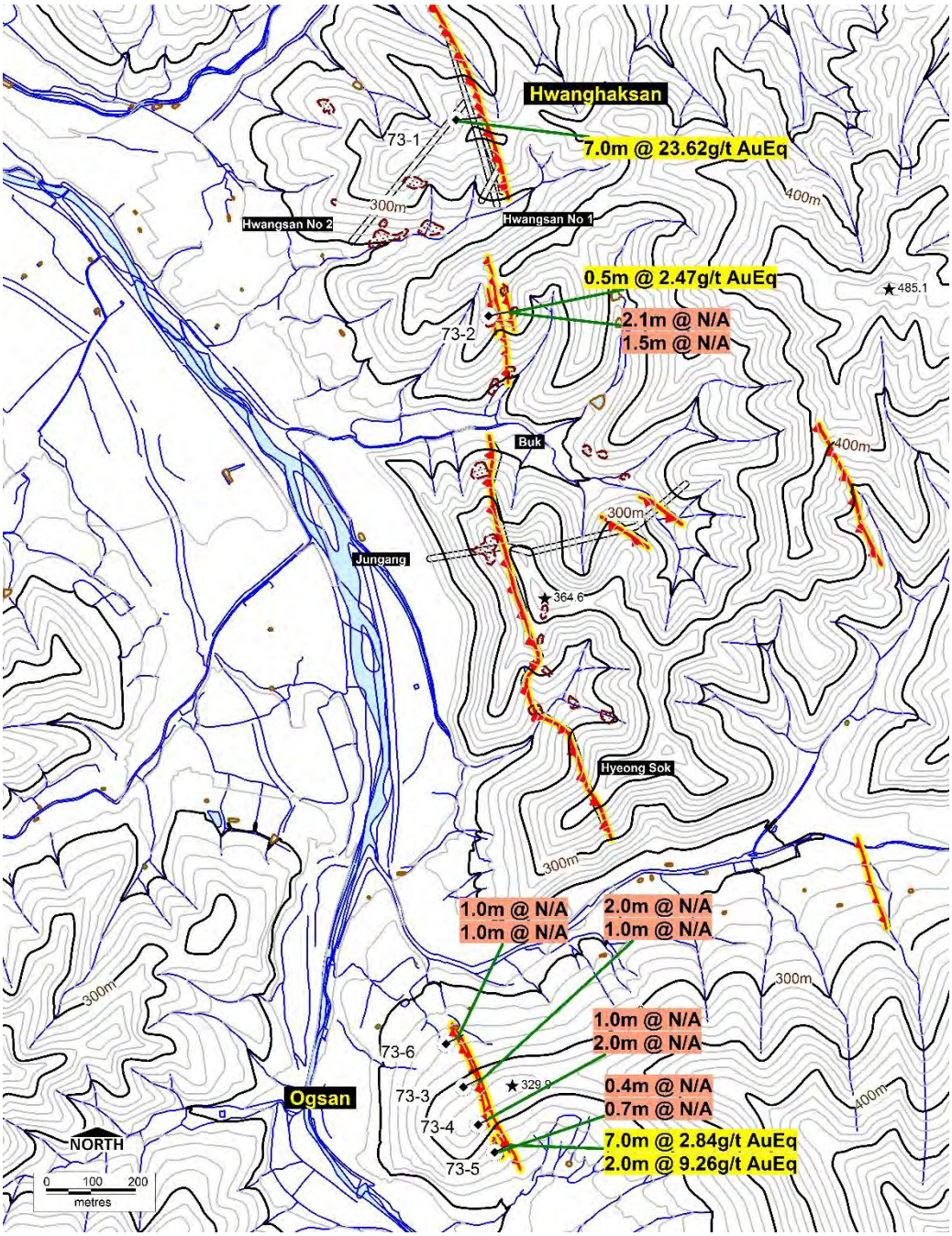
## Drilling (Historical)

During 1973, 6 diamond drill holes were completed on the Ogsan mine area for a total of 650m (Se Woo, 2008). Each hole was drilled at an angle of 70° on an azimuth of 060-080°, roughly perpendicular to the strike of the main vein-breccia structure. Three holes intersected significant widths of Au-Ag-Cu-Pb-Zn mineralization, as indicated below.

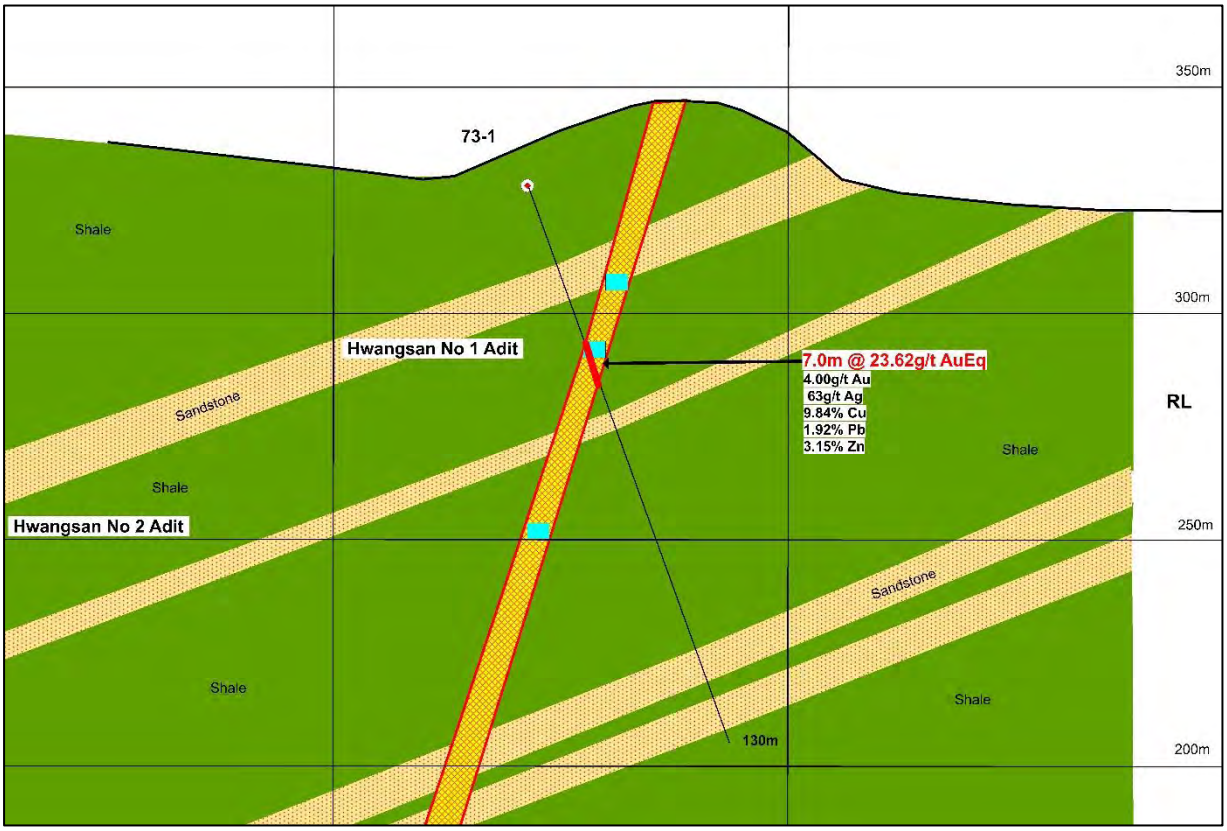
It is worth noting that only obvious high-grade mineralization was sampled-assayed. Several sulphide veins and quartz veins recorded in the drill logs were not sampled/assayed. In addition, Cu was not routinely assayed, although rock chip sampling by KME indicates that it is present.

At the Hwanghaksan mine, the northern-most hole (73-1) intersected a very significant 7m wide interval of high-grade mineralization (23.62g/t AuEq) and 400m south, the southern hole (73-2) intersected 3 sulphide veins over a 50m wide zone. Mineralization is open in all directions.

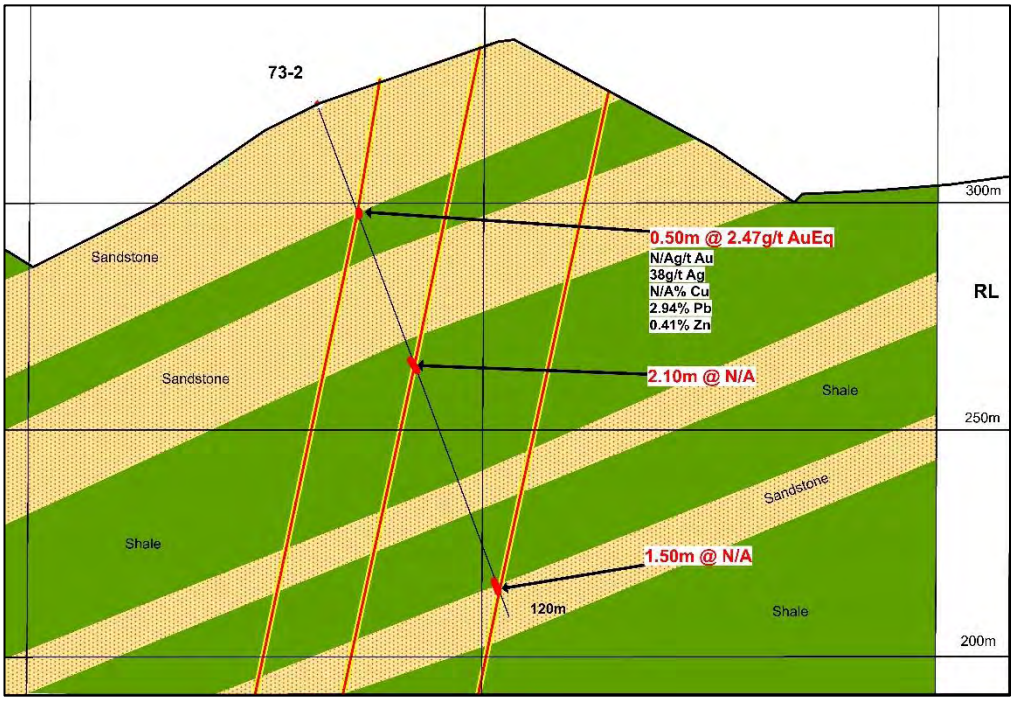
In the southern sector at Ogsan, the 4 drillholes (73-3 to 73-6; 100m hole spacing) intersected wide zones of sericite alteration, accompanied by narrow, 20-50cm thick sulphide veins, mineralized veinlets and brecciation hosted in “chert”, forming a 20m wide stockwork zone over a strike length of 500m. Mineralization is open in all directions.



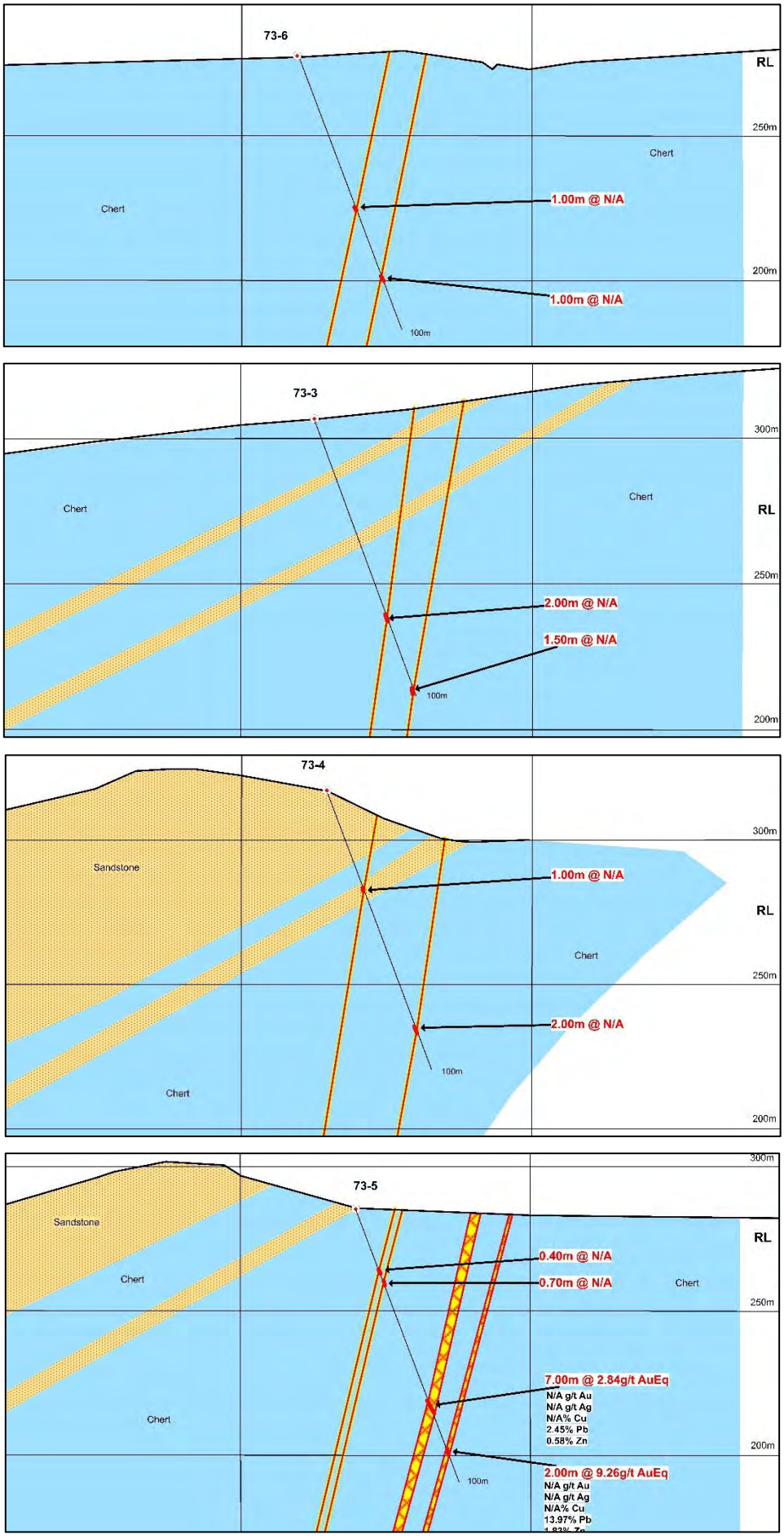

**Topographic Map of the Hwanghaksan mine and Ogsan prospect, with significant mineralized intersections (highlighted in yellow), including intersections of sulphide veins not assayed (N/A) in pink.** The location of the mapped Veins, Adits and 6 drillholes is shown.




**Hwanghaksan Mine Drill Section, Looking North. The Hwanghaksan No 1 Adit (290m Level) and the No 2 Adit (250m Level) are shown. The KMPC (1975) report and maps show only limited stoping was undertaken.**




**Hwanghaksan Mine Drill Section, Looking North. Drill Sections are 400m apart.**




**Ogsan Prospect Drill Sections, Looking North. Drill Sections are 100m apart.**

## Resource Estimates

The *Korean Mining Promotion Corporation* estimated a mineral resource at the Ogsan mine of 67,000 tonnes @ 4% Cu & 6-13% Pb-Zn at the Ogsan mine (Se-Woo Mining, 2008). A further 11,840 tonnes @ 4% Cu, 2.28% Pb & 5.2% Pb were estimated to remain in stopes of the Hwangsan adit at the Ogsan mine. Cautionary Statement: These mineral resource estimates are historical and do not comply with current JORC or NI-43-101 standards.

*Senlac Geological Services Pty Ltd* (2017) compiled a drilling database from the historical drilling data, with significant drill intersections presented below and illustrated on the geological map. Using the historical KMPC drill results, *Senlac Geological Services Pty Ltd* prepared a preliminary Exploration Target resource estimate, using several assumptions, including:

- True vein width could not be estimated because of the absence of orientated core.
- Individual vein panels extend to the mid-point between drill holes, 100m along strike and 200m down-dip.
- No minimum widths, or mining parameters, or cutting of grades was applied.
- The Mineral Resource tonnages and grades were estimated on a dry in-situ basis. The estimate is undiluted, so appropriate dilution needs to be incorporated in any evaluation of the deposit.

*Senlac Geological Services Pty Ltd* estimates an Exploration Target for the Ogsan project of **3.06 Mt @ 1.32g/t Au, 61g/t Ag, 3.24% Cu, 3.95% Pb & 1.60% Zn**. This Exploration Target has contained metals of 127,260 ounces gold, 5,859,180 ounces of silver, 97,376 tonnes of copper, 118,855 tonnes of lead and 48,190 tonnes of zinc. The resource is near-surface and potentially exploitable as an open pit. Cautionary Statement: This Exploration Target is based on wide-spaced, historical drilling and does not comply with current NI43-101 or JORC 2012 requirements.

The contained metals have an insitu value of about US$1,316,353,076 (approximately US$438/t), using metal prices as of August 2017. The relative value distribution of the metals is 47.62% copper, 21.06 lead, 12.41% gold, 11.37% zinc, and 7.54% silver. The contained metals are approximately equivalent to 1,025,197 contained ounces of gold using August 2017 metal prices (Refer Table Notes below). Corresponding metal equivalent grades are 10.64g/t AuEq, 806g/t AgEq, 6.80% CuEq, 18.79% PbEq and 14.12% ZnEq.

**Significant Mineralized Drill Intersections & Resource Estimate, Hwanghaksan & Ogsan.**

| Hole ID | Width (m) | Grade AuEq (g/t) | Grade Au (g/t) | Grade Ag (g/t) | Grade Cu (%) | Grade Pb (%) | Grade Zn (%) | Length (m) | Depth (m) | Volume ($m^3$) | SG (g/cc) | Tonnes (t) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73-1 | 7.00 | 23.62 | 4.00 | 63 | 9.84 | 1.92 | 3.15 | 257 | 200 | 359,800 | 2.75 | 989,450 |
| 73-2 | 0.50 | 2.47 | NA | 38 | NA | 2.94 | 0.41 | 206 | 200 | 20,600 | 2.75 | 56,650 |
| 73-5 | 7.00 | 2.84 | NA | NA | NA | 2.45 | 0.58 | 396 | 200 | 554,400 | 2.75 | 1,524,600 |
| 73-5 | 2.00 | 9.26 | NA | NA | NA | 13.97 | 1.83 | 396 | 200 | 158,400 | 2.75 | 435,800 |
| TOTALS | | 10.61 | 1.32 | 61 | 3.24 | 3.95 | 1.60 | | 200 | 1,093,200 | 2.75 | 3,006,300 |

**NOTES:**

- AuEq was calculated using metal prices as at August 2017:
  - Au = US$1284/oz, Ag = US$16.94/oz, Cu = US$2.93/lb, Pb = US1.06/lb & Zn = US$1.41/lb.
- Intersections of >4.0m, >250,000 tonnes and a grade of >4g/t AuEq are highlighted in dark red font.
- N/A = Not Assayed
- Some intersections contain intervals which were not assayed. For the purposes of aggregation into composited intersections, these intervals have been assigned zero value, although it is likely they may carry some low grades.

## Development Potential

The Hwanghaksan-Ogsan vein structure has a strike length of 4,000m with significant drill intersections recorded in the 1970's historical drilling. The vein system and surrounding area warrants further exploration, including geological mapping, soil geochemical survey, geophysical survey and infill drill testing using modern methods and concepts.

The Exploration Target resource identified at Ogsan is potentially exploitable as a satellite mine, trucking "flash flotation" sulphide and gravity concentrates to a central mill facility for sequential flotation and/or vat leach processing. The steeply-dipping vein mineralization is amenable to mining using the *Sustainable Mining by Drilling* method using Pile Top Reverse Circulation Drills.

Critical metals are associated with the Au-Ag-Pb-Zn mineralization and include Bi and Mo. Along with Cu, these elements were not assayed in the historical exploration programs. These metals have significant potential as valuable by-products recovered during sequential flotation production of Pb and Zn concentrates.

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