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MEMORANDUM

1986-02-26

827761
Mt. Sicker Area-
King Solomon
Property
092B/13

TO: W. (Bill) MEYER
Exploration Manager
Teck Corporation
1199 West Hastings Street
Vancouver, BC V6E 2K5

FROM: J.S. (Jenny) GETSINGER, PhD, Geologist

SUBJECT: KING SOLOMON PROPERTY (REWARD RESOURCES)

Enclosed is a preliminary interpretation of thin and polished thin sections from recent drill holes on the King Solomon property, near Duncan, Vancouver Island.

The following sections, accompanying this memo, are provided for your own interpretation. We would appreciate a prompt return after you have had a chance to look at the thin sections, as reviewing them may be necessary for our final petrographic report.

Sample	DDH	Depth	Rock Type
KS-TS-2-1	2	186'	Cherty breccia with fragments of fine-grained, plagioclase-rich, porphyritic and trachytic intermediate volcanic.
KS-TS-3-1	3	35'	Altered dacite porphyry.
KS-TS-5-1	5	138'	Fresher dacite porphyry from below massive sulphide zone. Phenocrysts are hornblende, plagioclase, and possible relict pyroxene shapes and quartz(?). Groundmass is mostly plagioclase, somewhat altered. Sulphides(3%).
KS-TS-5-2 (Polished)	5	21.5'	Mineralized, layered green rock. Sulphides are sphalerite, chalcopyrite, pyrite. Other minerals: elongate clinopyroxene (diopside), epidote, calcite, quartz.
KS-TS-6-2 (9704) (Polished)	6	88'	Layered massive sulphide with twinned pyrrhotite, chalcopyrite in bands folded with chlorite; some pyrite, minor sphalerite, epidote, crosscutting calcite veins.
KS-TS-6-3 (9705) (Polished)	6	90'	Layered semi-massive sulphide with pyrite rimmed by pyrrhotite, pyrrhotite, chalcopyrite, minor sphalerite, diopside, epidote, and chlorite.

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1986-02-26

CONFIDENTIAL MEMORANDUM

TO: T. GREG HAWKINS

FROM: J.S. GETSINGER, PhD

SUBJECT: KING SOLOMON PROPERTY - V155 (REWARD RESOURCES)

Interpretation of King Solomon geology based on preliminary petrographic analysis of selected core samples:

Petrographic evidence is suggestive of the presence of at least some layered volcanogenic massive sulphides (pyrrhotite $\geq$ chalcopyrite $>$ pyrite) prior to regional deformation and metamorphism (prekinematic sulphides). There is also a strong overprint of skarn-like, static metamorphism with postkinematic minerals such as calc-silicates like Ca-garnet, diopside, and epidote, and associated sulphides (chalcopyrite $>$ pyrite $>$ sphalerite $\geq$ pyrrhotite).

The protolith of the massive sulphide host rocks could have been a marly sediment (calcareous mudstone to impure siliceous dolomite), or an intermediate volcanic or volcaniclastic. Other rock units associated with massive sulphide layers in the drill core are mainly intermediate volcanics and volcaniclastics.

KING SOLOMON PROPERTY (V155)

Review of geological evidence supportive of mineralization as a result of original volcanogenic layered massive sulphide vs. skarn from contact metamorphism of carbonate unit by a granitic intrusion:

Volcanogenic	Skarn
- Layered and laminated massive sulphides occurring in drill core (samples KS-TS-6-2 and 3) are: (a) stratiform, can be traced between drill holes; and (b) stratabound, occurring between overlying units of cherty tuffs and fragmented volcanics and an underlying unit of dacite porphyry.	- Presence of common calc-silicate skarn minerals (high T, relatively low P): Ca-garnet, diopside, epidote
	- Magnetite skarn mineralization on surface outcrop
	- Previous workers have called it a skarn deposit
	- Physical proximity to Jurassic granodioritic body
- Most of the associated rocks are volcanic in origin and/or texture: (a) Sample KS-TS-2-1, typical of rock units overlying a massive sulphide zone, appears to be a cherty tuff but is mainly composed of fragments of fine-grained, intermediate volcanic with trachytic plagioclase. (b) Underlying massive sulphide zones is dacite porphyry (sample KS-TS-5-1) with hornblende, plagioclase, and rare quartz phenocrysts, which has itself been altered and silicified (as in sample KS-TS-3-1), especially near massive sulphide zones. (c) Carbonate and sedimentary rocks are not abundant in drill core.	- Map pattern shows intrusive rocks and dacite porphyry crosscutting stratiform rocks
	- Occurrence of some limestone and/or metamorphosed calcareous rocks locally associated with mineralization

Comments on polished thin sections from drill core from King Solomon property (V155): *

In polished thin section, it appears that some sulphides (dominantly pyrrhotite, chalcopyrite, and some pyrite) were originally layered and crystallized prekinematically, as they are folded in isoclinal microfolds along with interstitial chlorite, and pyrrhotite commonly displays deformation twinning (see samples KS-TS-6-2 and 3). Other sulphides, especially those, such as chalcopyrite, occurring in carbonate veins, are clearly crosscutting an earlier deformation fabric defined by silicate minerals.

Two stages of sulphide crystallization are indicated by the following textures: Large pyrite grains include smaller, euhedral pyrite grains; some pyrite appears to have been brecciated along layers and recrystallized. Pyrrhotite rims and/or replaces pyrite in some places, indicating either metamorphism or drop in S content of mineralizing fluids. Sphalerite includes chalcopyrite, and appears to be late, local, and associated with quartz alteration, indicating possible hydrothermal origin (see sample KS-TS-5-2). Postkinematic minerals include: acicular, radiating diopside; idiomorphic, zoned Ca-garnet; idiomorphic epidote (pistacite); and sulphides (chalcopyrite and pyrite) which contain calc-silicates (especially epidote) as inclusions.

* Help with identification of minerals in polished thin sections was provided by Jim Logan, a graduate student at UBC; interpretation of textures is by J.S. Getsinger, PhD.

A more detailed petrographic report by J.S. Getsinger is pending.

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
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Report for: W. Meyer,
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Samples: KS series: TS-2-1, TS-3-1, TS-5-1, TS-5-2, TS-6-2, TS-6-3

Summary:

The samples are of three main types, volcanic, skarn, and massive sulfide.

1. Volcanic Rocks

Rocks are of porphyritic andesite flows, a tuff, and a dike. The two flows probably are not the same unit, but may be from the same sequence. Fragments in the tuff are not like the flows. The dike probably is from the same magmatic source as the flow with which it is in contact. All samples contain replacement patches of epidote with one or more of chlorite, pyrite, calcite, and actinolite. These replacement patches may be related in origin to the skarn.

TS-2-1 andesite tuff: fragments of a wide variety of andesites, and a few exotic types in an extremely fine grained groundmass; veins of epidote-pyrite-calcite, chlorite, and alunite?-quartz

TS-3-1 porphyritic andesite; plagioclase phenocrysts in plagioclase-rich groundmass, moderately abundant apatite; replacement patches dominated by epidote with lesser pyrite, actinolite; calcite veins

TS-5-1 porphyritic andesite, with plagioclase and hornblende phenocrysts in plagioclase-rich groundmass; replacement patches of epidote-chlorite-pyrite; cut by equigranular andesite dike dominated by plagioclase with lesser chlorite and epidote, and minor hornblende. (xenolith)

2. Skarn

Samples are strongly zoned skarns dominated by diopside with abundant sulfides. Original textures may be preserved in both, but cannot be well enough identified to indicate the parent rock.

TS-5-2 zoned skarn, with following major zones
1) quartz-sphalerite-(epidote)
2) diopside-sphalerite-(epidote-quartz) ± calcite
3) sphalerite-chalcopyrite-pyrite ± diopside, biotite/chlorite, garnet
4) epidote-diopside

TS-6-3 banded skarn with following major bands
1) pyrite-diopside
2) diopside-(epidote-actinolite)
3) diopside-magnetite-epidote-actinolite-pyrite-pyrrhotite-biotite.

(continued)

3. Massive Sulfide

This sample shows a strongly deformed texture caused by shear folding. Thus it is not related to the skarn samples. It is dominated by chalcopyrite with lesser pyrrhotite and pyrite, with lenses and patches of chlorite-(actinolite-epidote). It could represent the Cu-rich part of a volcanogenic massive sulfide.

TS-6-2

John G Payne

John G. Payne

KS TS-2-1 Andesite Tuff

The sample contains fragments up to a few mm across of several varieties of andesite in an extremely fine grained groundmass, which is difficult to distinguish from one type of fragment. Veins and replacement patches are dominated by epidote-calcite-opaque, with minor chlorite and quartz. Irregular veins and replacement stringers are dominated by chlorite. One late vein is dominated by alunite? with lesser quartz.

major fragment types
1) lathy, very fine to fine grained andesite, slightly porphyritic
2) extremely fine grained andesite
less abundant types
1) plagioclase phenocrysts
2) plagioclase crystal tuff
3) foliated andesite/latite (flow foliation)
unusual fragment types
1) diorite
2) epidote-opaque-(chlorite-quartz)
3) quartz-plagioclase-pyrite
groundmass
plagioclase-chlorite-Ti-oxide-(pyrite)
veins
1) epidote-pyrite-calcite-(quartz)
2) chlorite-(quartz-epidote)
3) alunite?-quartz

The rock contains fragments averaging 0.5-1.5 mm in size. A major type is a fine grained andesite dominated by prismatic to anhedral plagioclase grains, with minor to moderately abundant interstitial chlorite and lesser Ti-oxide and epidote. A few of these fragments contain phenocrysts up to 0.7 mm in size of subhedral to euhedral plagioclase. Generally this rock type is unfoliated.

Also common are fragments? (difficult to distinguish from groundmass) of extremely fine grained andesite, commonly with a feathery, unoriented texture. They consist of plagioclase with much less chlorite and Ti-oxide.

Less abundant fragment types include plagioclase crystals and crystal aggregates averaging 0.7-1.5 mm in size. These commonly are partly altered to very fine patches of extremely fine grained chlorite.

Several patches (fragments?) in the rock contain abundant plagioclase crystal fragments averaging 0.05-0.15 mm in size in an extremely fine grained groundmass of plagioclase with much less chlorite and Ti-oxide.

A few fragments are dominated by lathy plagioclase showing a prominent flow foliation. These have a sparse groundmass of chlorite and Ti-oxide.

One fragment is of a fine grained diorite, dominated by prismatic, subhedral plagioclase with interstitial patches of epidote, Ti-oxide, chlorite and apatite.

A few fragments (or replacement patches) up to 1.5 mm in size are dominated by very fine to fine grained aggregates of epidote and lesser opaque (pyrite).

One fragment consists of fine grained pyrite and quartz, with a thin selvage of extremely to very fine grained plagioclase along one edge of the sample adjacent to quartz.

The groundmass is variable, and dominated by extremely fine grained chlorite and plagioclase, with moderately abundant to abundant disseminated spots of Ti-oxide and scattered subhedral to euhedral pyrite crystals up to 0.8 mm in size.

(continued)

The rock is cut by a major vein and a few lesser, offshooting veinlets dominated by very fine to fine grained epidote, with lesser pyrite and calcite, and with minor quarta. The vein is up to 1 mm in width, and in part banded along its length, with some bands rich in pyrite, and late? stringers rich in calcite. Quartz forms minor very fine grains associated with calcite.

The rock contains abundant replacement stringers and patches of very fine grained chlorite, locally with minor pyrite and/or quartz, and elsewhere minor epidote.

Near the other end of the sample from the main epidote-rich vein is a vein up to 0.2 mm wide composed mainly of very fine grained alunite? with lesser very fine grained quartz. Alunite is identified because of the following properties: colorless, birefringence about 0.010, uniaxial positive optic sign, one good cleavage, parallel extinction, fast ray parallel to cleavage. Relief?

KS TS-3-1 Porphyritic Andesite

Plagioclase phenocrysts are set in a groundmass dominated by plagioclase, with replacement patches dominated by epidote with lesser actinolite and pyrite, and minor chlorite. Apatite is moderately abundant in the groundmass. The rock is cut by stringers of calcite.

phenocrysts		replacement patches	
plagioclase	20-25%	epidote	4- 5
hornblende	one grain	pyrite	1- 1½
groundmass		actinolite	1- 1½
plagioclase	65-70	chlorite	0.2
apatite	0.5		
Ti-oxide	0.7	veins	
chlorite	0.2	calcite	0.3
epidote	0.3		
pyrite (opaque)	minor		
sphene	trace		

Plagioclase forms anhedral to subhedral phenocrysts averaging 0.5-1.5 mm in size, with a few up to 2 mm across. Compositional zoning is minor. Alteration is slight to moderate to disseminated, extremely fine grained flakes of sericite, and locally to irregular patches of epidote.

Hornblende forms one phenocryst 0.5 mm along associated with a plagioclase phenocryst. Hornblende is replaced by pseudomorphic, pale green actinolite.

The groundmass is variable in texture and grain size, with patches and grains averaging 0.1-0.2 mm in size ranging down to more abundant anhedral aggregates averaging 0.02-0.04 mm in grain size. Plagioclase is mainly anhedral and equant in outline.

Apatite forms disseminated euhedral to subhedral prismatic grains averaging 0.07-0.15 mm in length, with a very few subhedral grains up to 0.4 mm long.

Ti-oxide forms patches averaging 0.1-0.3 mm in size; it probably is secondary after ilmenite (or possibly sphene). Epidote forms disseminated, irregular grains averaging 0.03-0.07 mm in size. Chlorite forms wispy flakes and minor patches in the finer grained groundmass. Pyrite forms scattered, subhedral, equant grains averaging 0.05-0.1 mm in size. Sphene forms scattered euhedral to anhedral grains averaging 0.05 mm in size.

The rock contains irregular replacement patches up to a few mm across in which plagioclase is partly to completely replaced by anhedral, very fine to fine grained aggregates dominated by epidote, with lesser patches of pyrite and of actinolite. Other patches are dominated by very fine grained actinolite with lesser chlorite and epidote.

The rock is cut by fracture-filling veins up to 0.05 mm in width of very fine grained calcite. Discontinuous, wispy calcite stringers averaging less than 0.02 mm in width also cut the rock.

Xenolith

KS TS-5-1 Contact: Porphyritic Andesite, Andesite Dike

The sample contains two types of andesite, one strongly porphyritic and the other equigranular. Porphyritic andesite contains phenocrysts of plagioclase and lesser hornblende in a groundmass of plagioclase-chlorite-epidote, with replacement patches of epidote-chlorite-pyrite. The equigranular andesite contains minor plagioclase and hornblende phenocrysts in a fine grained groundmass of plagioclase-chlorite-epidote-hornblende, with epidote-chlorite commonly concentrated in irregular patches.

porphyritic andesite

phenocrysts			
plagioclase	17-20%	replacement patches	4- 5%
hornblende	5- 6	epidote-chlorite-pyrite-(Ti-oxide)	
groundmass			
plagioclase	60-65		
chlorite	5- 7		
epidote	0.3		
apatite	0.2		
Ti-oxide	0.1		
sphene	0.1		
ilmenite	minor		
quartz	0.1		

Plagioclase forms subhedral to euhedral phenocrysts averaging 0.3-1 mm in size, with a few up to 1.5 mm across. Many larger phenocrysts show strong compositional zoning, with a core of uniform composition (0.5 mm) rimmed by a zone 0.2 mm wide showing strong compositional zoning towards more sodic composition, and an outer, more irregular zone (0.1 mm wide) of uniform composition, possibly the same as the core. This conclusion is based on the fact that in many of these grains, the cores and rims are slightly to moderately altered to sericite, whereas the strongly zoned region is fresh. Composition from another, more uniform grain suggests An_{40-45}. Other grains show minor to locally moderately abundant alteration to irregular patches of epidote.

Hornblende forms subhedral to euhedral prismatic phenocrysts averaging 0.5-1 mm in size, with a very few up to 1.7 mm long. Hornblende is pleochroic from pale or light brown to medium brown. It is irregularly altered to patches of extremely fine grained chlorite (average 20-50% of grain), with numerous smaller phenocrysts completely replaced by chlorite with or without much less calcite. One cluster 2 mm across consists of an aggregate of anhedral hornblende grains averaging 0.3-0.8 mm in size.

The groundmass is dominated by plagioclase in two textures. Anhedral irregular grains from 0.1-0.4 mm in size are intergrown with subhedral prismatic grains averaging 0.03-0.07 mm in length; the coarser grains appear to be interstitial to the finer lathy grains. Chlorite forms irregular, wispy flakes, and interstitial patches of extremely fine to very fine grain size. Color is pale to light green, with normally deep blue interference color. Epidote forms irregular, equant to elongate patches, mainly associated with chlorite. Apatite forms subhedral to euhedral grains averaging 0.1 mm in size. Ilmenite forms scattered equant grains averaging 0.07 mm across; they appear to be partly to totally altered to leucoxene. Ti-oxide forms irregular, extremely fine grained patches up to 0.05 mm in size. Sphene forms a few clusters of anhedral grains averaging 0.05 mm in size; these are included in chlorite adjacent to two hornblende phenocrysts. Sphene also forms disseminated equant grains of similar size and shape. Quartz forms a few interstitial patches of grains from 0.05-0.1 mm in size.

The rock is replaced by irregular patches up to 1.5 mm in size of fine to very fine grained intergrowths of epidote, chlorite, and pyrite, with minor Ti-oxide and locally moderately abundant apatite.

(continued)

equigranular andesite

phenocrysts	
plagioclase	1%
hornblende	0.5
groundmass	
plagioclase	65-70
chlorite	10-12
epidote	12-15
hornblende	4-5
Ti-oxide	0.5

Plagioclase forms a very few phenocrysts up to 0.7 mm in size. Hornblende forms prismatic to acicular phenocrysts up to 1.3 mm in length.

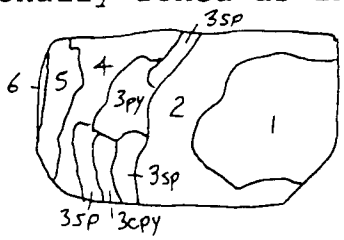
The groundmass is an unoriented intergrowth of plagioclase with lesser chlorite, epidote, and hornblende, with minor Ti-oxide and opaque. Epidote is concentrated somewhat in irregular patches, in part associated with chlorite. Ti-oxide is as in the porphyritic andesite.

The more uniform and coarser grain size of the groundmass of this rock suggests that the rock may be a hypabyssal dike cutting across the volcanic to subvolcanic andesite.

The porphyritic andesite is cut by a wispy stringer 0.01-0.02 mm wide of quartz.

KS TS-5-2 Zoned Skarn (Diopside-Sphalerite-Chalcopyrite-Pyrite-Quartz-Epidote)

The sample is strongly compositionally zoned as in the sketch below:



Zone 1 Quartz-Sphalerite-Epidote

Sphalerite (35%) forms irregular grains and aggregates averaging 0.05-0.2 mm in size, with a few patches up to a few mm across. It is intimately intergrown with quartz (55%), which forms an extremely fine to very fine grained aggregate with a slightly interlocking cherty texture. Scattered through the quartz aggregates are anhedral grains up to 0.25 mm across. Epidote forms subhedral to euhedral prismatic grains averaging 0.1-0.3 mm in length, with a few up to 0.6 mm long. Pyrite (minor) forms scattered, equant, anhedral grains up to 0.1 mm across. The zone is somewhat gradational into Zone 2, in that epidote and quartz are moderately abundant in Zone 2 near the border of Zone 1

Zone 2 Diopside-Sphalerite

Diopside forms an anhedral aggregate of grains averaging 0.3-1 mm in grain size. These range from equant to prismatic in shape. Sphalerite (10-15%) forms irregular to subangular grains averaging 0.2-0.5 mm in size. Towards zone 3, sphalerite grains commonly contain minor to locally moderately abundant chalcopyrite inclusions. Quartz forms anhedral grains averaging 0.05-0.2 mm in size, moderately abundant near Zone 1 and rare near Zone 3. Epidote forms disseminated prismatic grains as in Zone 1.

Zone 3 Sulfide-rich (Sphalerite-Pyrite-Chalcopyrite)

The zone is divided into subzones characterized by the abundance of one of the sulfides. Sphalerite forms grains up to 2 mm across. Chalcopyrite inclusions as blebs and trains are moderately to very abundant. Pyrite forms grains up to a few mm across. Some are cut by veinlets dominated by chalcopyrite. Pyrite also forms a much finer grained intergrowth with diopside; textures suggest that this pyrite may be secondary after pyrrhotite. Chalcopyrite forms coarse patches up to a few mm across. Diopside occurs mainly in sphalerite-rich patches as very fine to medium grains, intergrown with sphalerite as in Zone 2.

Zone 4 Diopside-rich (Calcite alteration)

This zone is moderately similar to zone 2. It contains finer grained (0.05-0.1 mm) and coarser grained (0.3-0.8 mm) zones of diopside. Diopside is irregularly replaced by patches of calcite, and locally near Zone 5, calcite forms coarse interstitial grains up to 1 mm in size. Epidote and sphalerite are present in textures and abundances similar to those in Zone 2.

Zone 5 Chalcopyrite-Sphalerite-Pyrite-Diopside-Biotite/Chlorite-Garnet

The zone is somewhat similar to Zone 3, with patches rich in each sulfide, and with sphalerite containing abundant chalcopyrite inclusions. Garnet forms a cluster of a few grains up to 0.5 mm in size associated with chalcopyrite. Biotite/chlorite forms patches up to 0.3 mm across of extremely fine grained, unoriented aggregates of flakes of light brown color. Calcite forms scattered interstitial patches near the large patch in zone 4.

(continued)

KS TS-6-2 Strongly Deformed Massive Sulfide (Chalcopyrite-Pyrrhotite-Pyrite) with Chlorite-Actinolite-Epidote Seams

The sample shows strongly deformed bands of silicates surrounded by massive sulfides dominated by chalcopyrite and lesser pyrrhotite, which also show evidence of strong shear deformation.

chalcopyrite	77-80%
pyrrhotite	7- 8
pyrite	2- 3
chlorite	8-10
actinolite	2- 3
epidote	1-- 1½
Ti-oxide	0.2
calcite	0.2

Chalcopyrite shows a strongly foliated texture defined by wispy seams of silicates (probably mainly chlorite). Tiny folds in some of the shears are mirrored by larger folds in broader bands of silicates, and together these indicate that the rock was strongly sheared and recrystallized.

Pyrrhotite is intergrown coarsely with chalcopyrite as lenses parallel to foliation, and much more finely intergrown locally along borders of some lenses and in patches within some lenses. Pyrrhotite is mainly very fine grained, with grains showing a preferred orientation parallel to foliation.

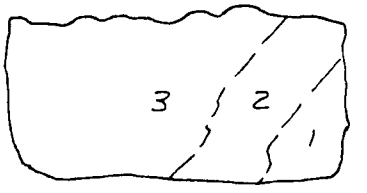
Pyrite is concentrated locally as patches and seams, some of which have outlines suggesting that they were deformed. Larger grains are up to 1.5 mm in size. They commonly have subhedral outlines, but in detail the grain borders generally are ragged, as if they had been corroded during deformation. A few coarse pyrite grains are strongly corroded, with irregular patches of chalcopyrite replacing 25% of the grains.

Silicate-rich lenses are up to several mm wide, with widest zones being in the noses of folds. They are dominated by very fine (0.02-0.05 mm) grained chlorite in random orientation of equant books, with irregular patches of very fine grained, fibrous to locally prismatic actinolite intimately intergrown with chlorite in some patches. Chlorite is moderately pleochroic from pale yellowish green to light green. Actinolite is nearly colorless, suggesting that it is near the tremolite end of the solid solution series. Other patches of chlorite contain minor to abundant irregular to subhedral grains of epidote averaging 0.05-0.1 mm in grain size. Ti-oxide forms scattered, extremely fine grained aggregates up to 0.2 mm in size, intimately intergrown with chlorite.

Calcite occurs in a vein-like zone as several grains up to 0.4 mm in size. It may have filled a fracture zone formed during late tensional deformation of the massive sulfide.

KS TS-6-3 Banded Skarn (Diopside-rich)

The sample shows a prominent banding of compositional layers, with the largest layer also showing internal foliation parallel to compositional banding. It is dominated by diopside, with lesser pyrite, epidote, actinolite, pyrrhotite, magnetite, chalcopyrite, biotite, and chlorite.



Zone 1 Pyrite-(Diopside)

Pyrite forms massive aggregates of medium to coarse grains, with interstitial patches (10-20%) of granular to prismatic, extremely fine grained diopside averaging 0.01-0.03 mm in grain size. Pale to light green actinolite forms irregular patchy to lensy replacements of diopside. Chalcopyrite forms very fine grained patches along edges of and near pyrite grains, and one veinlet 0.03 mm wide cutting a pyrite grain.

Zone 2 Diopside-rich

The contact with zone 1 is marked by an abrupt decrease in pyrite content; diopside textures are the same in both zones, although zone 2 contains some coarser grained patches averaging 0.03-0.05 mm in grain size. Actinolite (2-3%) forms replacement patches and seams as in zone 1. Epidote (3-5%) forms irregular, very fine grained replacement patches. Chalcopyrite (0.3%) forms extremely fine grained aggregates intimately intergrown with diopside. Pyrite forms one coarse lens (with minor chalcopyrite) similar to pyrite in zone 1.

Zone 3 Lensy, variable composition, diopside-rich

Trains of minerals define a prominent foliation. This was outlined in the original diopside-magnetite skarn by lenses of extremely fine grained magnetite (4-5%). Sulfides (pyrite [4-5%], pyrrhotite [2-3%] and chalcopyrite [0.3%] probably were introduced during epidote-actinolite alteration. Pyrite and pyrrhotite occur mainly in separate lenses of very fine to locally fine grain size. Pyrrhotite commonly contains minor pyrite and chalcopyrite intergrowths. Chalcopyrite also is common as disseminated patches up to 0.15 mm across intergrown with diopside.

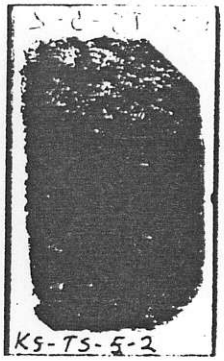
Diopside grades in grain size from extremely fine to fine, with coarsest patches commonly associated with sulfide-rich lenses. Biotite (3-4%) generally occurs in extremely fine to very fine grained lenses and patches intergrown with magnetite, and to a lesser extent with pyrite. Biotite is a medium brown color, and shows weak to moderate pleochroism. Epidote (7-10%) forms irregular extremely fine to very fine grained replacement patches, in part associated with actinolite and sulfides. Actinolite (2-3%) is concentrated in a few patches with epidote and sulfides. Chlorite (0.5%) forms scattered, extremely fine grained patches less than 0.15 mm across.

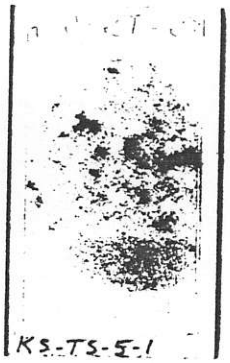
The zone is cut by a few veinlets up to 0.15 mm in width of pyrite and biotite. Biotite in the veins is fine to medium grained, with a brownish green color and unusual texture.

Actinolite is concentrated in a lens a few mm long and up to 0.4 mm wide parallel to foliation, and forms veinlets ranging from wispy stringers to one vein 0.1 mm in width cutting across foliation.


KS-TS-6-2


KS-TS-6-3


KS-TS-5-2


KS-TS-5-1


KS-TS-3-1


KS-TS-2-1

86-02-27

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re: Nexus - Reward 5-4, King Solomon Property.

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Invoice 5643

Samples: WM-1 to 4

Summary:

The samples are from a skarn zone in a felsic volcanic terrain. Only minor amounts of the original felsic volcanic rock are preserved in WM-1 and WM-2. It is an extremely fine grained latite which might be a flow or a tuffaceous sediment. Evidence for a sedimentary origin is suggested by the strongly banded nature of sample WM-1. However, an alternate possibility for the banding is that it was formed during skarnification of the rock. The skarn is dominated by diopside, epidote, and pyrrhotite, with lesser patches of quartz, garnet, and actinolite. Actinolite, locally with chlorite and biotite forms a retrograde assemblage in interstitial patches and along fractures and in a breccia matrix.

WM-1 Latite in contact with epidote-rich skarn, with patches of quartz and a diopside-rich layer. The latter is in contact with a diopside-rich skarn containing patches and replacement lenses of pyrrhotite-(chlorite).

WM-2 Latite in irregular contact with skarn dominated by epidote with much less actinolite and diopside, with moderately abundant patches and seams of pyrrhotite, and with interstitial zones of quartz and of calcite. Late replacement veins and breccia matrix contain chlorite, biotite, and actinolite.

WM-3 zoned skarn, with a major zone of epidote-(pyrrhotite) skarn surrounded by pyrrhotite-diopside-(garnet-quartz) skarn. Secondary veinlets are mainly of actinolite-(pyrrhotite). Chlorite forms minor interstitial patches, possibly of secondary origin.

WM-4 lensy, patchy skarn with three main types of zones: 1) pyrrhotite ± epidote, 2) diopside-pyrrhotite, and 3) diopside-epidote-actinolite.

A few of the samples are cut by late hematite veins and veinlets, most probably the result of surficial weathering.

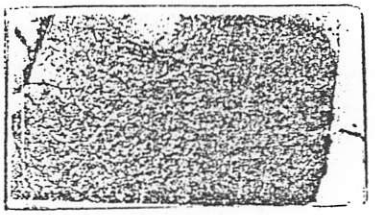
It is impossible to determine whether the rocks are of volcanic (flow) or tuffaceous sedimentary origin because of the absence of diagnostic features (phenocrysts, bedding), and the intense replacement of the primary rocks.

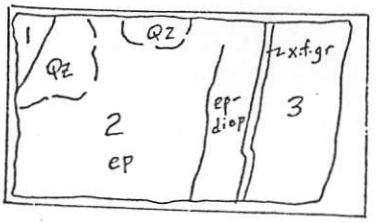
John G Payne
John G. Payne

Note: In some samples, pyrrhotite includes minor to moderately abundant chalcopyrite, not distinguishable in thin section, and grouped with pyrrhotite in descriptions.

WM-1 Skarnified Volcanogenic Sediment? - Flow?

The rock is layered with three main types. An extremely fine grained latite is in contact with a coarser epidote-quartz skarn, which in turn is adjacent and gradational in part to a finer grained epidote-diopside skarn. This is in sharp contact with a diopside-rich skarn with abundant patches of altered pyrrhotite.





Zone 1 Latite

This is an extremely fine grained latite (possibly andesite) sediment or flow, composed mainly of anhedral, interlocking plagioclase grains averaging less than 0.01 mm in size, with a few small patches of grains averaging 0.02 mm in size. Disseminated through the rock is minor to abundant, extremely fine grained epidote and/or actinolite. Coarser grained patches of actinolite and/or epidote represent incipient skarn formation in the latite.

Zone 2 Epidote-Quartz, Epidote-Diopside Skarn

In sharp contact with Zone 1 is a very fine to locally fine grained aggregate of subhedral to massive epidote, with interstitial patches averaging 0.05-0.1 mm in size of Fe-oxide and altered pyrrhotite. A few larger patches up to several mm or 1 cm across consist of fine to very fine grained quartz aggregates with moderately abundant intergrown epidote and minor actinolite. Epidote commonly is subhedral to euhedral and ranges up to grains 0.8 mm in length. Actinolite forms concentrations of disseminated acicular needles and a few patches of prismatic to fibrous grains. The zone is cut by discrete veins of epidote up to 0.2 mm in width, and wispy seams and stringers up to 0.1 mm in width of feathery actinolite?. The latter has a pale to light brownish green to medium olive green color; some of the color probably is due to Fe-oxide staining.

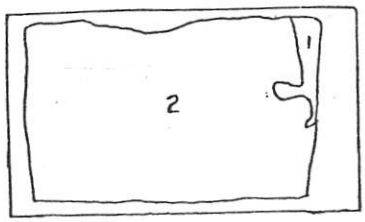
This zone grades in part and is in relatively sharp contact in part with an epidote-diopside skarn containing disseminated very fine grains of epidote as in the rest of zone 1 within a groundmass of extremely fine grained, granular diopside, and with minor to moderately abundant groundmass Fe-oxide.

Zone 3 Diopside-Pyrrhotite Skarn

In sharp contact with Zone 2 is an extremely fine grained (0.01 mm) granular aggregate of diopside up to 1 mm in width. This grades into a coarser grained (0.02-0.04 mm) aggregate of equant to slightly prismatic diopside, with scattered disseminated grains and patches of subhedral epidote averaging 0.03-0.7 mm in size. Pyrrhotite occurs in two modes. More common are patches up to a few mm across of extremely fine grained aggregates with minor intergrown silicates of similar grain size (0.01-0.02 mm). Late gash-filling seams are of very fine to fine grained pyrrhotite. Both probably are partly altered to marcasite/pyrite and/or Fe-oxides. Late patches of pyrrhotite contain very fine grained patches of altered chlorite with a medium greenish brown color. A few dark seams contain abundant disseminated and interstitial semiopaque, probably Fe-oxides.

WM-2 Skarn/Latite

The sample contains minor patches of extremely fine grained latite flow? or sedimentary tuff? in a variable, very fine to fine grained epidote-quartz-actinolite-diopside-calcite skarn. Brecciation was followed by veining of chlorite-biotite-actinolite-(Ti-oxide).



Zone 1 Latite

In one corner of the sample is a zone of extremely fine grained latite, inpart similar to that in sample 1. This consists of plagioclase and/or quartz with a cherty interlocking texture, grading locally to coarser grained aggregates of quartz. The rock is replaced in irregular patches by extremely fine to very fine grained aggregates of feathery actinolite, and by lesser extremely fine grained granular aggregates of epidote and Ti-oxide, with a few coarser grained patches of epidote associated with actinolite. The contact with the skarn is sharp and irregular in outline.

Zone 2 Skarn

epidote	50-55%	
quartz	2- 3	
actinolite	7- 8?	(may be less, see diopside below)
calcite	2- 3	
diopside	1- 2?	(may be more, see actinolite above)
opaque	5- 7	
late replacement veins, breccia groundmass		
chlorite	10-12	
biotite	7-10	
actinolite	3- 4	
Ti-oxide	1	

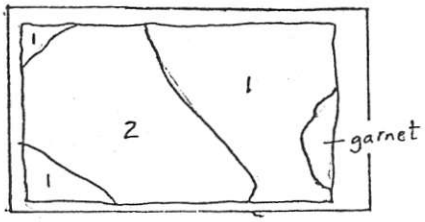
Epidote forms very fine to fine grained aggregates of anhedral to subhedral, equant to prismatic grains, with a few euhedral grains set in a groundmass of quartz or calcite. Actinolite and diopside form fine grains and aggregates intergrown with epidote. Both are colorless to pale green, and are optically similar in many grains.

Quartz is concentrated in one patch 1.5 mm across where it forms a fine grained aggregate associated with lesser subhedral to euhedral epidote. It also occurs as interstitial patches in epidote near the latite of Zone 1. Calcite forms interstitial grains up to 0.7 mm in size between epidote and actinolite/diopside aggregates. Opaque, mainly pyrrhotite forms a few patches up to several mm across and moderately abundant lenses and disseminations, commonly intergrown with silicates.

The rock is brecciated, with breccia matrix and veinlets composed of extremely fine to very fine grained aggregates of chlorite, biotite, and actinolite. Chlorite is pale green, biotite yellowish brown, and actinolite yellowish brown. Associated with these are granular aggregates and trains of Ti-oxide. Late chlorite veins and gash-fracture fillings are pale to light green in color and in part coarser grained. These commonly have minor to moderately abundant intergrowths of granular Ti-oxide.

WM-3 Zoned Skarn

The sample is a zoned skarn, with one zone dominated by pyrrhotite with interstitial diopside and a huge garnet grain, and the other zone dominated by epidote with lesser pyrrhotite in veinlets and lesser patches. Secondary veinlets and patches are dominated by actinolite.



Zone 1 Pyrrhotite-Diopside-Garnet-Quartz

This zone is dominated by massive patches of pyrrhotite, with interstitial patches of extremely fine to locally very fine and fine grained diopside and much less quartz. Diopside is coarsest along the border with Zone 2. Garnet forms one megacryst 1.5 mm in size at one end of the section; it is pale orange in color and contains very few inclusions of opaque and of silicates. Chlorite forms scattered, very fine to extremely fine grained patches interstitial to aggregates of diopside. Quartz forms very fine grains and aggregates interstitial to pyrrhotite, either alone or with diopside.

Zone 2 Epidote-(pyrrhotite)

This zone is dominated by a very fine to locally medium grained aggregate of anhedral epidote. Pyrrhotite forms irregular seams and patches cutting across the epidote aggregate.

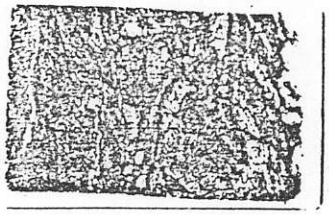
The rock is cut by veinlets, a few veins, and irregular patches of pale green actinolite. Some of the actinolite appears to be in the matrix of a breccia. The coarsest vein is discontinuous, and consists of actinolite and much less pyrrhotite. Actinolite is oriented perpendicular to the vein walls in fibrous aggregates averaging 0.2-0.4 mm in length.

One late veinlet contains deep red-brown hematite.

WM-4 *Pyrrhotite-Diopside-Epidote-Actinolite Skarn

The sample contains irregular lenses and patches of three main types, with gradations between them. They are as follows:

1) pyrrhotite ± epidote
2) diopside-pyrrhotite-(epidote-actinolite)
3) diopside-epidote-actinolite



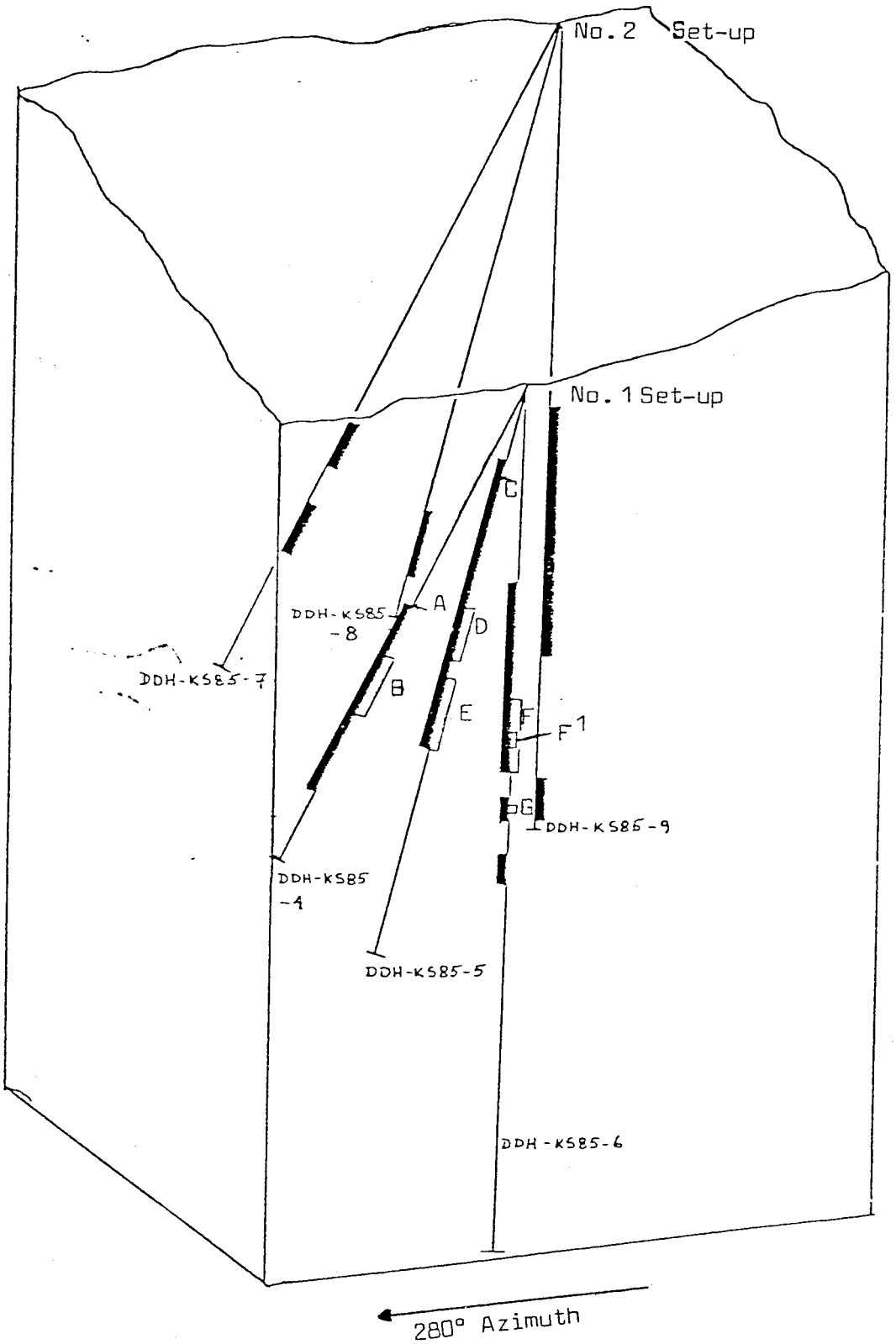
Pyrrhotite-rich lenses and patches commonly contain disseminated, subhedral to euhedral grains of epidote averaging 0.1-0.3 mm in size. Some pyrrhotite-rich lenses are relatively free of silicate inclusions. Less commonly, inclusions are of diopside and/or actinolite.

A large amount of the rock consists of intimate intergrowths of extremely fine grained diopside and patches of pyrrhotite of irregular outline. Within diopside are irregular patches of very fine to fine grained, fibrous to prismatic actinolite. It has a pale green color, which distinguishes it from diopside; however, in extremely fine grained aggregates the two minerals are difficult to distinguish. Epidote forms scattered anhedral to subhedral grains from 0.05-0.1 mm in average size.

Lenses and patches up to 1 cm in length are relatively free of pyrrhotite. These consist of extremely fine grained aggregates of diopside, with scattered coarser grained clusters or single grains of actinolite, and scattered grains or aggregates of a very few grains of epidote of similar grain size to actinolite.

The rock is cut by braided veins and veinlets of medium to dark reddish-brown hematite.

* Note: Pyrrhotite includes moderately abundant chalcopyrite, not distinguishable from pyrrhotite in thin section.



Legend

Assay Interval — B

Mineralized Zone

End of Hole

REWARD RESOURCES LTD.

NEXUS RESOURCE CORPORATION

KING SOLOMON PROPERTY

Thomas Zone

Diamond Drill Hole

Block Diagram

Holes DDH-KS85 4-9

Scale 1:500

feet

0 25 50

MPH Consulting Limited