

LOG NO:	JUL 16 1992	RD.
ACTION:		
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A PETROGRAPHIC STUDY OF SELECTED LITHOLOGIES AND ALTERATION
STYLES ON THE SPANISH MOUNTAIN PROPERTY

Specific Claims

Name Record #

Don 1	204224
Don 2	204225
Don 3	204226
Don 4	204227
July 2	204334
Peso	204021
My 1	204727
Dog	204274
Cat	204989
March 1	204274

<p>SUB-RECORDER RECEIVED</p> <p>JUL 10 1992</p> <p>M.R.# \$.....</p> <p>VANCOUVER, B.C.</p>

Mining Division: Cariboo

Latitude: 52° 35'N

Longitude: 121° 27'W

Operator: Eastfield Resources Ltd.

Author: J. W. Morton

Date submitted: July 8, 1992

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

22,420

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General Geophysical and Physiographical Position

The Spanish Mountain property is located within the Quesnel Highlands of Central British Columbia approximately 10 kilometers southeast of the village of Likely, B.C. Likely was first settled in the 1860's as a result of placer gold discoveries in the area. Likely remains one of the last significant placer mining areas in Canada. The claims are accessed from Likely by the all weather Spanish Lake road.

Vegetation on the Spanish Mountain property is dominated by mature stands of spruce and cedar, large areas of which have been clear cut logged. Elevations on the property vary from 915 to 1,430 meters (3,000 to 4,700 feet).

Regional Geology

Regional mapping in the area has been completed by Maryanne Bloodgood (1990) and Chris Rees (1987). The area including and immediately surrounding the claims is transitional from the top of the Upper Triassic Black Phyllite unit in the Northeast to the base of the Upper Triassic Takla Group to the Southeast. Rees documents the change as occurring in the bottom of the Spanish Lake Valley. The Black Phyllite unit and the Takla Group are believed to be stratigraphically conformable. The former is inferred to have been deposited in a deep water low energy environment whereas the later was deposited in a higher energy shallower environment. Takla Group sediments are therefore typically more heterogeneous than those of the Black Phyllite unit. Takla Group sediments are more volcanoclastic and become coarser to the west (higher in the section). Intensely altered quartz feldspar porphyry dykes occur in the south central region of the claim group. These porphyry dykes have an apparent spacial association with gold bearing quartz veins. The age of the dykes is the subject of speculation but due to their cross cutting relationship must be younger than the Upper Triassic Takla Group. An attempt to date the dykes is currently in progress.

Methods and Conclusions

Six samples were collected and sent to Vancouver Petrographics Ltd. for section preparation and petrographic description.

Sample locations are indicated on Figure 1 and 2 and individual descriptions follow this section.

It is apparent that all samples have undergone mild deformation and intense alteration. Alteration has resulted in the near complete destruction of plagioclase to sericite and clay. Quartz occurs as intergrowths and as hairline veinlets that cross cut deformation fabrics. Most of the samples contain a further overprint of carbonate and a dusting of a fine grained opaque. It is plausible that the intrusive event that is expressed in the form of porphyry dykes may be responsible for the alteration.

Cost Statement

6 Petrographic Analyses \$ 571.50

Statement of Qualifications

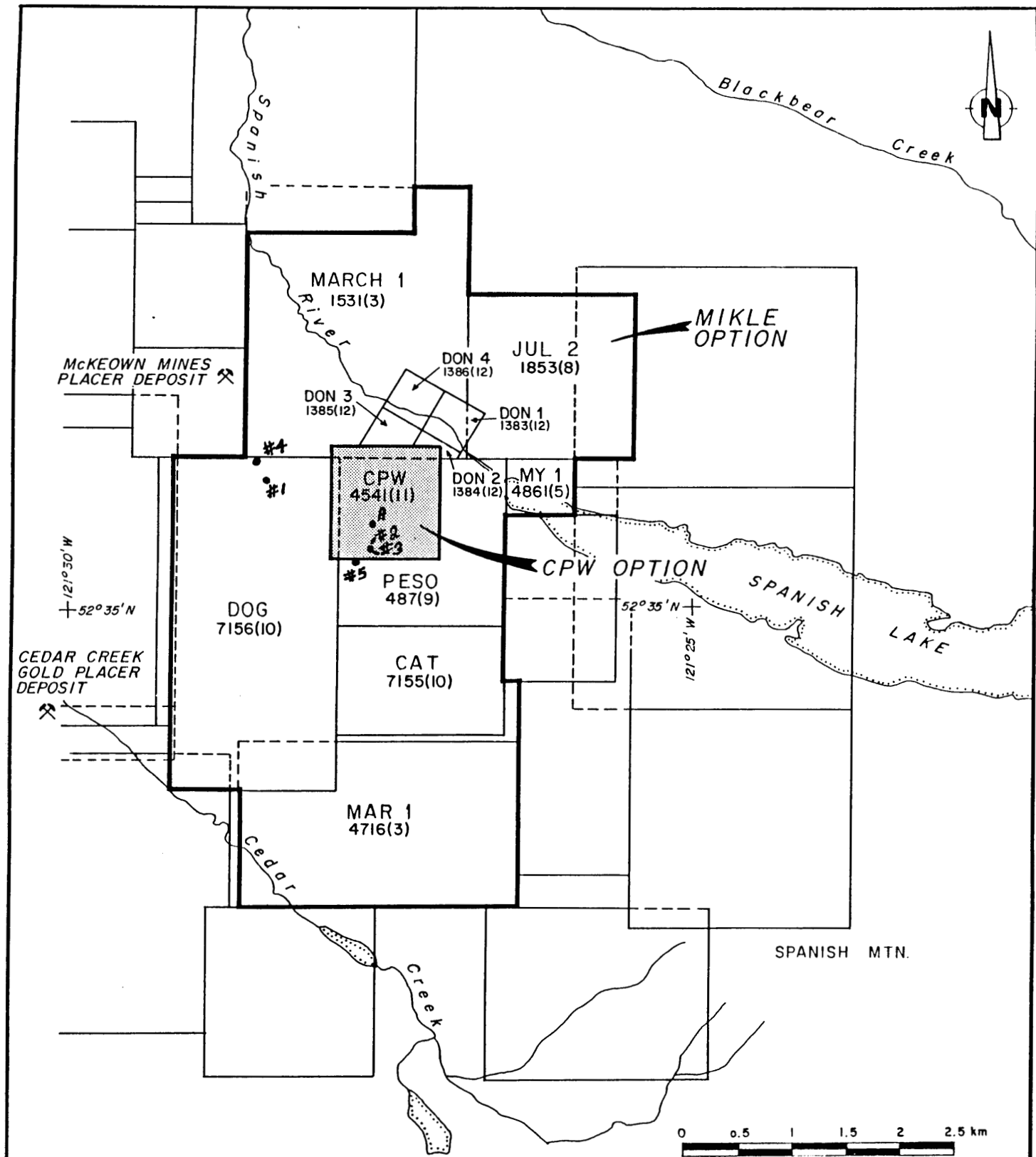
I, James William Morton, of 771 Morgan Road, North Vancouver, British Columbia, do hereby certify:

1. I graduated from Carleton University, Ottawa, in 1971 with a Bachelor of Science in Geology.
2. I graduated from the University of British Columbia, Vancouver, in 1976 with a Master of Science in Soil Science.
3. I am a fellow of the Geological Association of Canada.
4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.
5. I supervised the work described in this report.



J. W. Morton, M. Sc., P. Geo.

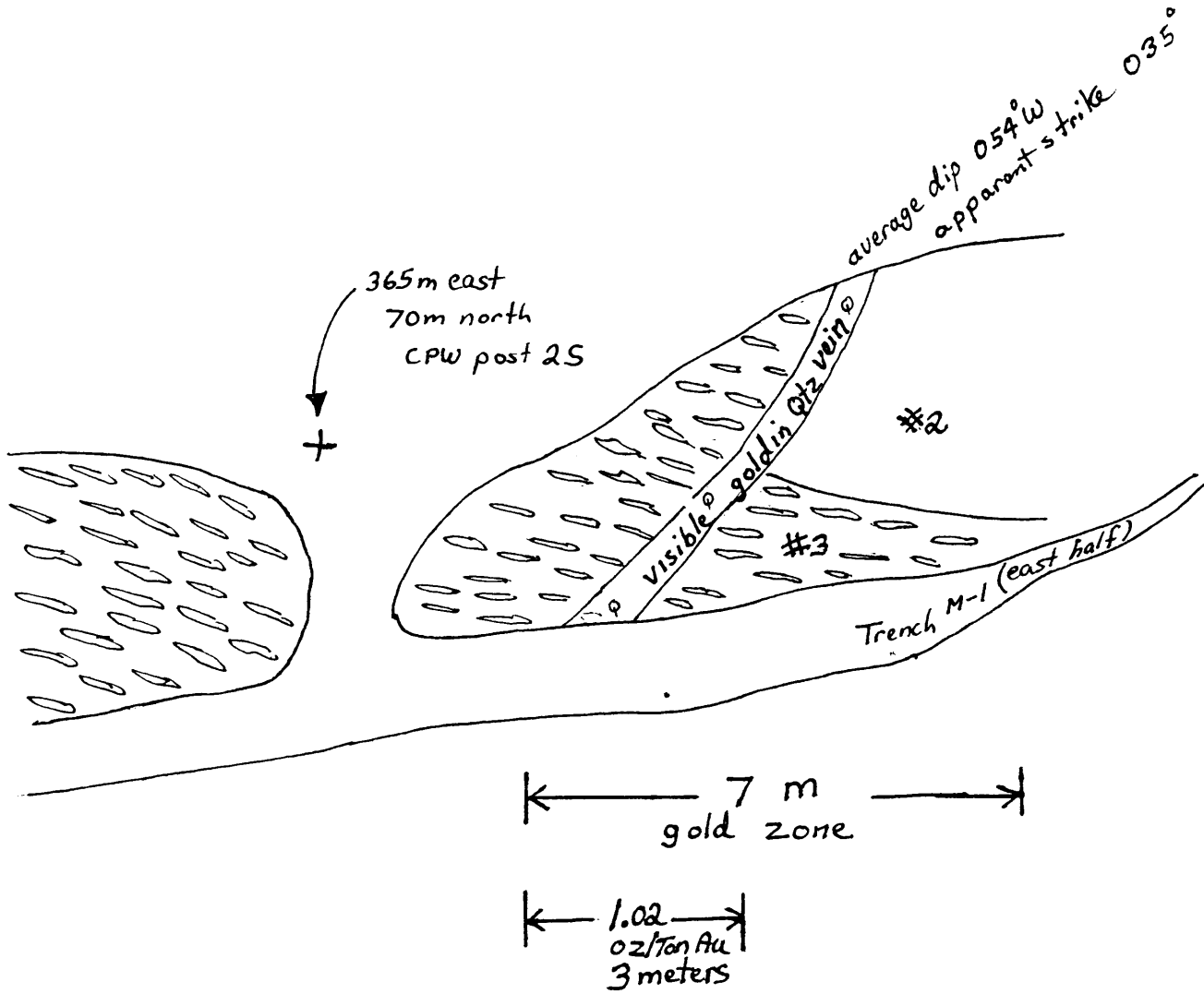
Dated at Vancouver, British Columbia, this 6th day of July, 1992.



Petrographic Samples.

EASTFIELD RESOURCES LTD.	
SPANISH MTN. PROPERTY	
Claim Map	
Date April, '92	N.T.S 93A/11
Scale 1:50000	Figure 1
By	

Cross Section
 East end of M-1 trench
 Looking North



#2, #3 Petrographic
 Samples

0
 1
 3
 1:200

Figure 2.

Sample 1

Bleached, advanced argillic altered argillite(?)/felsic tuff(?)

Summary description

Groundmass predominantly microgranular, distinct moderate and weak double foliation (at a high angle) microgranular sericite in microgranular feldspathic/"clay" groundmass. Widely scattered fine quartz grains/clusters of grains. Disseminated minute clusters of irregular grains of opaques/semiopaques.

Lacks conspicuous volcanic textures but also lacks compositional layering anticipated in argillites.

Crystal overprint of hematitic carbonate (siderite/ankerite) as abundantly disseminated medium/coarse regular and irregular outlines. Partially to totally leached leaving partial iron oxide infillings.

Cut by irregular bifurcating hairline and slightly wider quartz veinlets following and crossing main foliation.

Note similarities and differences between Sample 1 and Sample A: Sample 1 lacks intensely shattered fabric. Bleached, lacks strong intergranular opaque/semiopaque dusting.

Microscopic description

Groundmass

Sericite; 40%, anhedral, (microgranular) felted. Weak double foliation (at nearly right angles). Single grains clusters of grains, minute wispy foliated partings. Varied intensity across section.

Clay(?); 40%, anhedral (microgranular). Groundmass under superimposed sericite. Microgranular, interlocking grains. Low relief and birefringence. Feldspathic? Soft under needle clay with sericite.

Grains

Quartz; 10%

[a] Minute grains/clusters of grains, 2%, (<.01 to .05 mm).

Fairly evenly disseminated

[b] Veinlets; fine grains (<10%), (.05 to 0.2 mm)

interlocking fine grains form irregular hairline to thicker bifurcating veinlets cutting across the section. Hand specimen has veinlets of coarser striated crystals.

Semiopaques; 5%, minute irregular clusters of microgranular grains

[a] Spene/leucoxene?

[b] Hematite

Sample 1 Continued

Coarse crystal overprint

Carbonate; 5%, euhedral/subhedral (to >5.0 mm) Scattered euhedral grains, aggregates of medium grained crystals. Strong iron-stain. Ankeritic? Too regular to be amygdules.

Sample #2
Arkose

Summary description

Massive groundmass composed of fairly uniformly fine grained interlocking irregular grains of quartz and altered plagioclase. Altered plagioclase commonly finer grained, forming a diffuse network among slightly coarser quartz grains. Widely scattered muscovite/sericite. Weak layered appearance by alignment of elongate grains.

Weak to moderate microgranular felted sericite alteration of plagioclase. Lacks conspicuous compositional layering. Scattered diffuse clusters of microgranular opaque grains.

Overprint of euhedral/anhedral carbonate grains/clusters of grains showing irregular hematitic dusting.

Microscopic description

Groundmass

Quartz; 45%, anhedral (<.05 to 0.2 mm). Interlocking irregular grains. Generally irregular indistinct grain margins.

Plagioclase; >35%, anhedral (<.05 to 0.2 mm with over all grain size smaller than quartz. Generally fine grained than quartz forming a diffuse network among quartz grains. Weak/moderate felted sericitic alteration. Generally weak dusted (clay) alteration.

Sericite/muscovite; <5%, anhedral (<.05 to 0.2 mm). Ragged blades widely scattered throughout groundmass.

Opaque; <5%, anhedral (microgranular). Scattered diffuse clusters of microgranular grains.

Overprint

Carbonate; 15%, subhedral/euhedral (<.05 to 0.5 mm). Disseminated grains, clusters of grains. Irregular hematitic intergrowths and dustings.

Veinlets

Quartz; indistinct irregular hairline veinlets cutting across foliation.

Sample #3

Brecciated, weathered, leached, altered veined argillite.

Summary description

Groundmass argillaceous. Microgranular feldspathic, weakly sericitic shear foliated. Darkened by abundantly disseminated, wispy diffuse foliated discontinuous partings of microgranular opaques.

Overprint of medium/coarse-grained euhedral iron-bearing carbonate which has largely weathered out leaving iron-stained rhombic shaped outlines of former crystals, clusters of crystals.

Brecciated. Healed and impregnated by irregular veinlets, microveinlets, impregnations of fine/very fine crystalline quartz.

Microscopic description

Groundmass

Plagioclase; 40%, anhedral (microgranular), interlocking minute grains forming much of the groundmass. Intergranular opaque dustings.

Sericite; 15%, anhedral, (microgranular to .02 mm). Irregular bladed grains, diffuse felted to weakly foliated. Some foliated concentration in irregular partings.

Opaque dusting; 10%, anhedral (microgranular). Disseminations, discontinuous diffuse wispy partings. Some concentration in layers.

Quartz; <5%, anhedral, (<.05 to 0.3 mm). Scattered irregular grains/clusters of grains not obviously related to quartz grains/impregnations.

Overprint

Leached carbonate(?) and/or pyrite; 20%, euhedral outline (<0.1 to clusters several mm). Single and clusters of rhomb-shaped pits. Leached carbonate(?) and/or pyrite(?) with partial infilling of cavities by microgranular iron oxide.

Veining and Impregnation; 10%, Irregular and branching veins, breccia infilling of:

Quartz; predominates, anhedral (<.05 to 0.3 mm), irregular interlocking grains.

Sericite/muscovite; few scattered clusters of coarser grains associated with quartz grains.

Sample #4

Advanced carbonate sericite quartz alteration

Summary description

Protolith textures obliterated by a mosaic of irregular patches (to several mm) of fine felted sericite intermingled with quartz, and with fine to coarse clusters of interlocking carbonate. A few felted sericite masses show regular outlines of pseudomorphous replacement of plagioclase.

The groundmass is cut by irregular segregations and discontinuous interstitial quartz networks. Some quartz contains dustings of impurities suggesting plagioclase but all grains tested gave uniaxial (+) interference figures of quartz. Scattered clusters of bladed grains (plagioclase and amphibole habit) also give poor uniaxial (+) interference figures of quartz suggesting replacement of these minerals by quartz.

Widely scattered coarse euhedral pyrite crystals.

Microscopic description

Protolith textures obliterated by alteration assemblage.

Carbonate; 60%, anhedral/subhedral (<.05 to >2.0 mm). Forms irregular clots (to several mm). Some intermingling with coarser bladed sericite, quartz.

Sericite; <25%, anhedral, (<.01 to 0.2, generally <0.1 mm). Irregular felted masses (to several mm). Intermingled with quartz. Weakly disseminated clusters, generally coarser grained (to 0.2 mm) in carbonate clots.

Quartz; 15%, anhedral (<.05 to 0.3 mm, generally <0.2 mm). Segregations of irregular interlocking grains with indistinct margins. Discontinuous interstitial quartz networks. Most grains contain dustings of impurities. Scattered clusters of bladed grains with plagioclase and amphibole habit give uniaxial (+) interference figures of quartz suggesting replacement of these minerals by quartz.

Clay(?); suspected, not confirmed, intermingling with sericite, and as clusters of minute grains interstitial to carbonate. Probably quartz.

Pyrite; <1%, euhedral, (to >4.0 mm). Widely scattered coarse crystals.

Sample #5

Weathered, altered porphyry(?)

Summary description

Protolith fabric largely obliterated by alteration but less intense carbonate alteration than Sample 4. Conspicuous sericite pseudomorphs after plagioclase, some twinned plagioclase remnants. Scattered quartz grains not obviously associated with quartz impregnation.

Groundmass obliterated by irregular masses of very fine felted sericite and quartz clusters, segregations irregular impregnation.

Microscopic description

Protolith remnants

Plagioclase; 30% (included with sericite), subhedral/anhedral (<0.1 to 2.0 mm). Partial to generally near complete pseudomorphous replacement by very fine felted sericite. A few twinned remnants. R.I. > quartz. Indicated composition in low andesine range.

Quartz; 5%, subhedral (<0.2 to 2.0 mm). Widely scattered regular grains, composite coarse grains. Generally show strained extinction. Some associated with pyrite crystals.

Alteration assemblage

Sericite; 60%, includes altered plagioclase phenocrysts, anhedral (microgranular to 0.2 mm). Fine felted. Partial to complete pseudomorphic replacement of plagioclase crystals. Other smaller irregular felted masses in groundmass.

Carbonate; 15%, euhedral/subhedral, (<0.1 to 2.0 mm). Disseminated fine to coarse grains, clusters of grains. Superimposed in groundmass. Coarse sieve texture (poikilitic-like) enclosing small quartz grains. Associated iron stain and dusting.

Impregnation

Quartz; 20%, anhedral, (<.05 to 0.2 mm). aggregates of irregular gains permeate the groundmass producing diffuse irregular segregations and discontinuous networks.

Accessory minerals

Apatite; traces, euhedral/subhedral (to 0.2 mm) Widely disseminated.

Opaques

Pyrite; <1%, euhedral to 3.0 mm). Widely scattered crystals.

Sample "A"

**Weathered, sheared intensely altered, iron-rich argillite(?).
pitted by leached pyrite(?)**

Summary description

Strong superimposed layering/foliated fragmented fabric. No definitive volcanic textures were observed. Lacks compositional layering that would be anticipated in argillite. Consists of close packed, aligned, fine/very fine fragmented rectangular to lensoidal composite grains composed of intergrowths of microgranular sericite(?) and "clay"(. Contains widely disseminated slightly coarser irregular quartz grains. Partially obscured by large patches of iron staining. The mixture is fairly soft and produces a soapy powder under a needle. Component minerals are too fine to obtain definitive optical properties. Microprobe analysis is required.

Dark colour at least in part the result of a strong microgranular opaque/semiopaque dusting among clay(?)/sericite(?) granules.

Pitted by iron-stained, hematitic/limonitic leached coarse pyrite and/or iron-rich carbonate. Also contains conspicuous ovoid iron stained spots some with concentric stained and non stained shells with foliated fabric passing through them. Some of these spots have associated leached cores and outlines of hematite pseudomorphs after pyrite.

The protolith fabric has been destroyed by at least two deformational episodes. One produced close spaced microfracture system filled with microgranular opaques and discontinuous hairline to narrow quartz veinlets. A strong shear foliation was superimposed affecting the rock fabric and granulating and contorting most of the quartz veinlets, leaving a few unaffected sections.

Microscopic description (Section slightly thick)

Groundmass

Elongate composite grains.

Sericite(?); 30%, anhedral (microgranular to <.05 mm), irregular bladed/acicular. Felted. Localized iron stain darkens the sericite to look like biotite but lacks pleochroism. Birefringence extreme, high for sericite. Parallel extinction, (+)? elongation.

Clay(?); 45%, anhedral (microgranular to <.05 mm). Intermixed with sericite. Birefringence low, a mosaic slightly anomalous blue-grey and cream of first order. Uneven extinction within single grains. Soft for plagioclase remnants.

Quartz; 2%, anhedral (<.05 to 0.1 mm). Widely scattered irregular quartz grains.

Sample "A" Continued

Opaque/semiopaque; 15%, anhedral (microgranular). The dark colour of the rock is in part but not entirely a result of a strong opaque/semiopaque dusting among composite "sericite/"clay" granules.

Leached pits and ovoid structures.

Leached pyrite and/or iron-rich carbonate; <5%, euhedral/subhedral outlines, (to >2.0 mm). Regular outlines, cavities partially to completely hematitic.

Ovoid structures; 5%, ovoid shapes, (to several mm). Some as concentric shells of iron-stained and non iron-stained layers with foliated fabric passing through ovoid. Some with leached (pyrite cores) and regular outlines of hematite pseudomorphous after pyrite.

Veins/hairline fracture fillings

Quartz
Opaque/semiopaque.