CABIN #1 & 2 CLAIMS

RECONNAISSANCE GEOLOGICAL AND GEOCHEMICAL REPORT

OMINECA MINING DIVISION
BRITISH COLUMBIA

NTS 093-F-09

Latitude 53 degrees 35 minutes north
Longitude 124 degrees 16 minutes west

And For

B.C. Prospectors Assistance Program
Reference No. 2001/2002 P12

By

Robin C. Day B.Sc., F.G.A.C.

September 04, 2001

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CABIN CLAIMS-FINGER LAKE, B.C.

EXECUTIVE SUMMARY

A new hydrothermal iron-oxide system has been discovered on the Cabin 1 & 2 claims, between June 29 and July 19, located in central British Columbia, Canada, south of the town of Vanderhoof and immediately north of Finger Lake, at about latitude 53 degrees 35 minutes north and longitude 124 degrees 16 minutes west.

Access to the area is by truck, about 80 kilometers by road from Vanderhoof and important infrastructure such as highway, rail, and major hydroelectric power transmission and natural gas lines.

Field work performed consisted of reconnaissance mapping and sampling glacial till and rocks (outcrop, sub crop and float) on a 5000 meter long grid with 500 meter line spacing and 100 meter sample spacing, with some infill on 250 meter line spacing.

Field mapping of outcrop, sub-crop and float indicates iron-oxide mineralization continues for about 4000 meters, as numerous lenses of unknown dimensions, within a zone 100 to 200 meters wide, apparently offset by a north-south fault (see attached figure). Oxide mineralization is characterized by non-magnetic, massive specular hematite, hematite and hematite-quartz, stockworks, breccias and replacements, hosted in andesites and felsic pyroclastics (very coarse fragmental and crystal tuffs). No copper sulphides were observed. The age of the host rocks are mapped as possibly Jurassic in age.

Many Fe-oxide deposits exhibit magnetite enrichment, hypersaline fluids (>25% NaCl weight equivalent) and high temperatures(~600 degrees C). Also, the solubility of Fe, Au and Cu in hydrothermal fluids is strongly dependant upon temperature and salinity, in addition to oxidation state and Ph.

Analytical results indicate the iron oxide mineralization at the Cabin Claims is devoid of non-ferrous base and precious metals at the present level of exposure. Fluid inclusion work indicates: maximum temperatures of about 400 degrees C; salinities of 11 to 12% weight equivalent; and fluid pressure estimates suggest formation at shallow depths of 1 to 2.5 kilometers. These results suggest the magnetic anomaly that directly corresponds with the eastern end of this system may represent a higher temperature and deeper, magnetite-albite- (copper-gold) sulphide facies nested above the progenitor or parent intrusive. The presence, extent and depth to sulphides may be evaluated with a ground geophysical program including time domain IP and gradient magnetics. Should copper-gold bearing sulphides accompany a magnetite-albite zone, the size of the airborne magnetic anomaly that directly corresponds with the eastern end of this system suggests this new prospect has size potential up to the billion tonne range.

PROJECT LOCATION

The Cabin claims are located in west central B.C. about 50 kilometers south and 15-kilometers west of Vanderhoof, centered on minfile # 093-F-023- “Finger Lake-Iron Mountain”, east of Cabin Creek and on the north side of Finger Lake.

N.T.S MAP

The claims are located on map sheet N.T.S. 093-F-09, at about 53 degrees 35 minutes north and 124 degrees 16 minutes west (fig. 04-claim map).

WORK HISTORY

There is no record of work in this area. A GSC mapper noted an iron showing (GSC map 1131A) now known as “Finger Lake-Iron Mountain” and documented as Minfile No. 093-F-023. Two old trenches were located on Iron Knoll.

ACCESS AND LOGISTICS

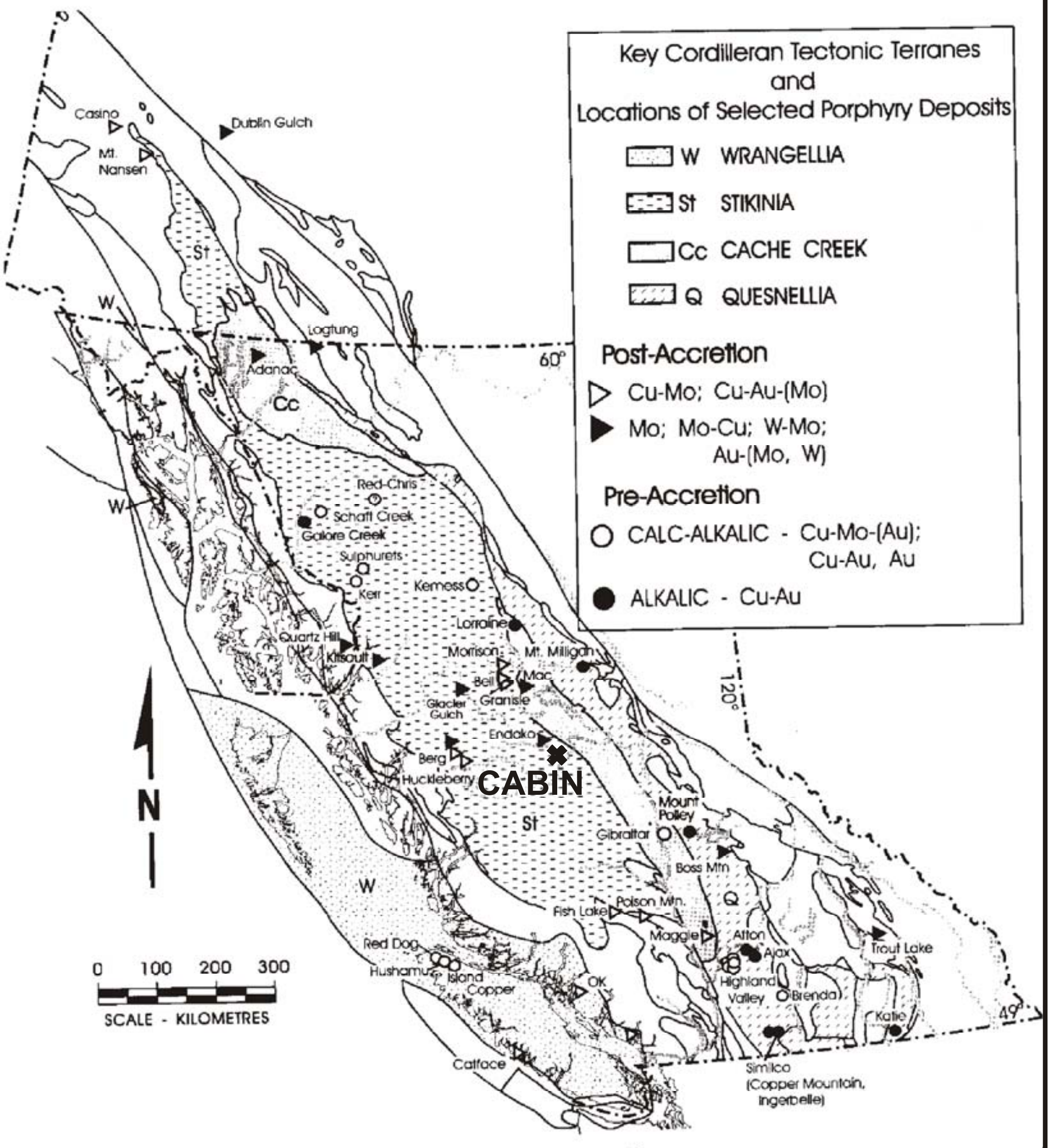
Access to the area is by truck from Vanderhoof on the Kluskus Main haul road to the Finger Road at kilometer 56.5 and east to the Cabin claims. The lands are classified as “Resource Development emphasis zone” however, access is restricted under the Vanderhoof LRMP in order to help deter illegal hunting, and a permit is required from the district Forest office in Vanderhoof. Arrangements must then be made with a local logging contractor to move (and subsequently replace) cement barricades in order to allow passenger vehicle traffic. Alternately, motorbikes or a helicopter are required.

COMMODITIES, MINERALS & DEPOSIT TYPE

The commodities sought are Cu, Au, and Ag. Minerals sought or present include chalcopyrite, bornite, hematite, magnetite, sericite, pyrite and quartz. The target deposit type is hydrothermal iron-oxide- (copper-gold?) or IOCG.

GEOLOGY

The Cabin claims occur near the east flank of the Inter-montane Belt (Stikine Terrane-Fig. 01), underlain dominantly by Lower to Middle Jurassic volcanic and sedimentary rocks of the Hazelton Group. The Upper Cretaceous to Lower Tertiary Ootsa Lake Group and Miocene plateau basalt overlies these assemblages. Intruding Lower Jurassic rocks of the Hazelton Group to the northwest is a belt of granodiorite, diorite and quartz diorite plutons of the Lower Jurassic Topley intrusive suite. Felsic plutons of



✖ **CABIN CLAIMS**

Fig. 01

probable Cretaceous and Eocene ages intrude both Lower and Middle Jurassic Hazelton strata. To the north and east, are the Eocene age Frank Lake pluton and schists and amphibolites of the Vanderhoof Metamorphic complex.

The Finger Lake-Iron Knoll showing is underlain by Lower Jurassic Hazelton Group andesite, rhyolite, basalt, dacite, crystal tuff, flow and breccia. Minor limestone and limestone breccia with rhyolite flows, located on the south side of Tatuk Lake, indicate a shallow marine environment. Jurassic age Brooks Diorites (diorite, monzodiorite, monzonite, amphibolite- Fig. 05) intrude the Hazelton Group. Sericite and pyrite alteration occur on the northwest flank of the Brooks Diorite intrusive center located northwest of Iron Knoll. East-west shears in the volcanic rocks at Iron Mountain contain massive red hematite, specularite, and quartz.

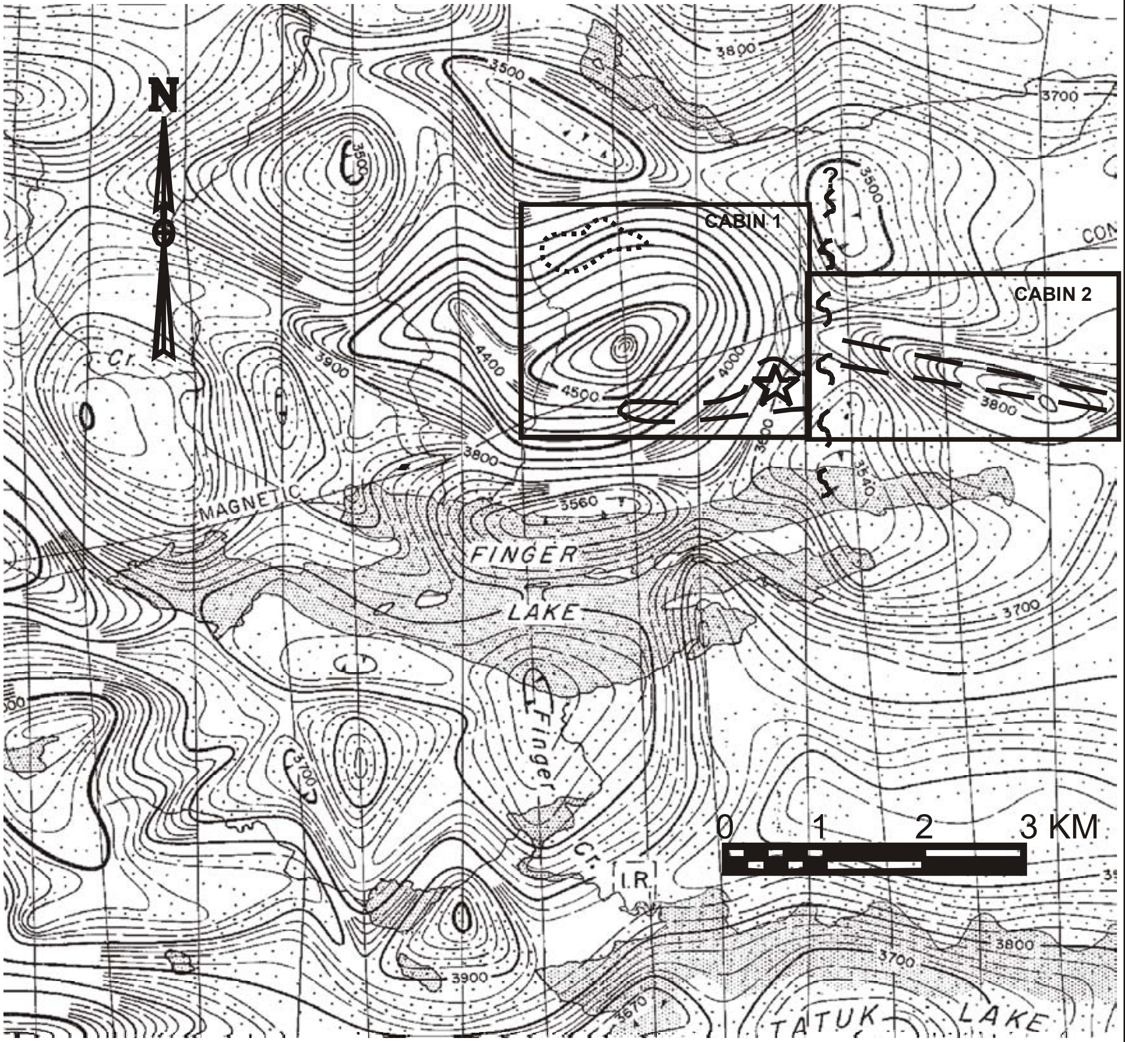
The east-west structure hosting Iron Knoll and Brooks Diorites is proximal to the intersection of two district scale lineaments: a large east-west trending structure corridor underlying Finger Lake and the north-south trending Nulki Shear zone (GSC open file 3631).

The Brooks diorite intrusive located northwest of Iron Knoll is characterized by a "bull's eye" magnetic high, central to a magnetic low (geophysics paper #1578-93F-09, Fig. 02). Also, a linear magnetic high directly corresponds with non-magnetic iron-oxide mineralization located east of Iron Knoll.

Field mapping of outcrop, sub crop and float indicates iron-oxide mineralization continues for about 1000 meters west of Iron Knoll and for 3000 meters east of Iron Knoll, as numerous lenses of unknown dimensions, within a zone 100 to 200 meters wide. An apparent offset suggests the presence of a fault on the east side of Iron Knoll. Alternately, there are two separate iron-oxide hydrothermal systems present. Oxide mineralization is characterized by non-magnetic, massive specular hematite, hematite and hematite-quartz, stockworks, breccias and replacements, hosted in andesites and felsic pyroclatics (very coarse fragmental and crystal tuffs).

Regional Biogeochemistry (GSC open file # 3594) indicates a 98th percentile potassium and silver anomaly associated with iron-oxide mineralization located about 3 kilometers to the east of Iron Knoll.

The surficial geology map (GSC open file #3620), indicates that in the area north of Finger Lake, glacial ice traveled west to east; there is about 5%



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AIRBORNE MAGNETICS

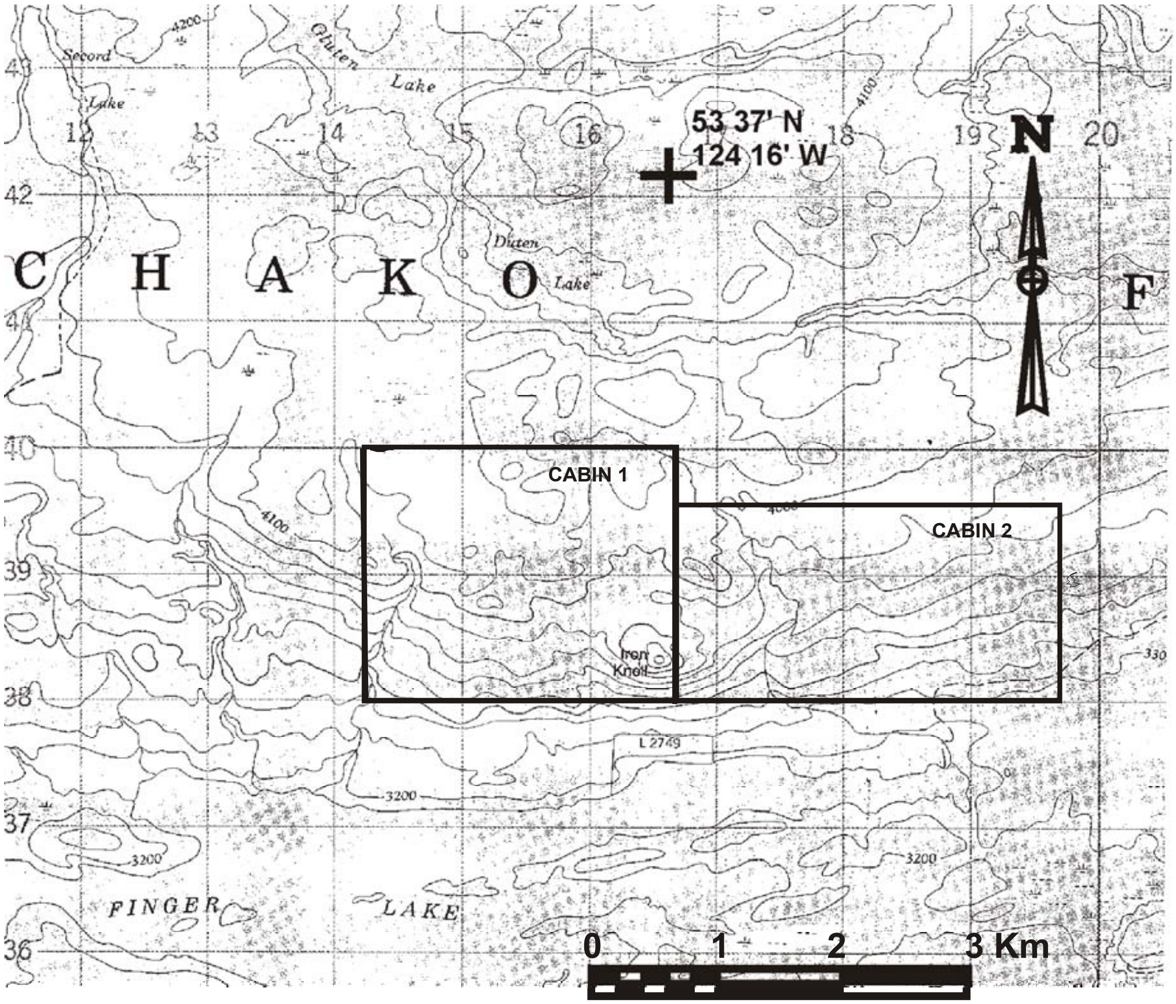
SERICITE-PYRITE ZONE

IRON OXIDE ZONE

IRON KNOLL - HEMATITE-QUARTZ

After geophysical paper #1578

FIG. 02



TOPOGRAPHIC LOCATION

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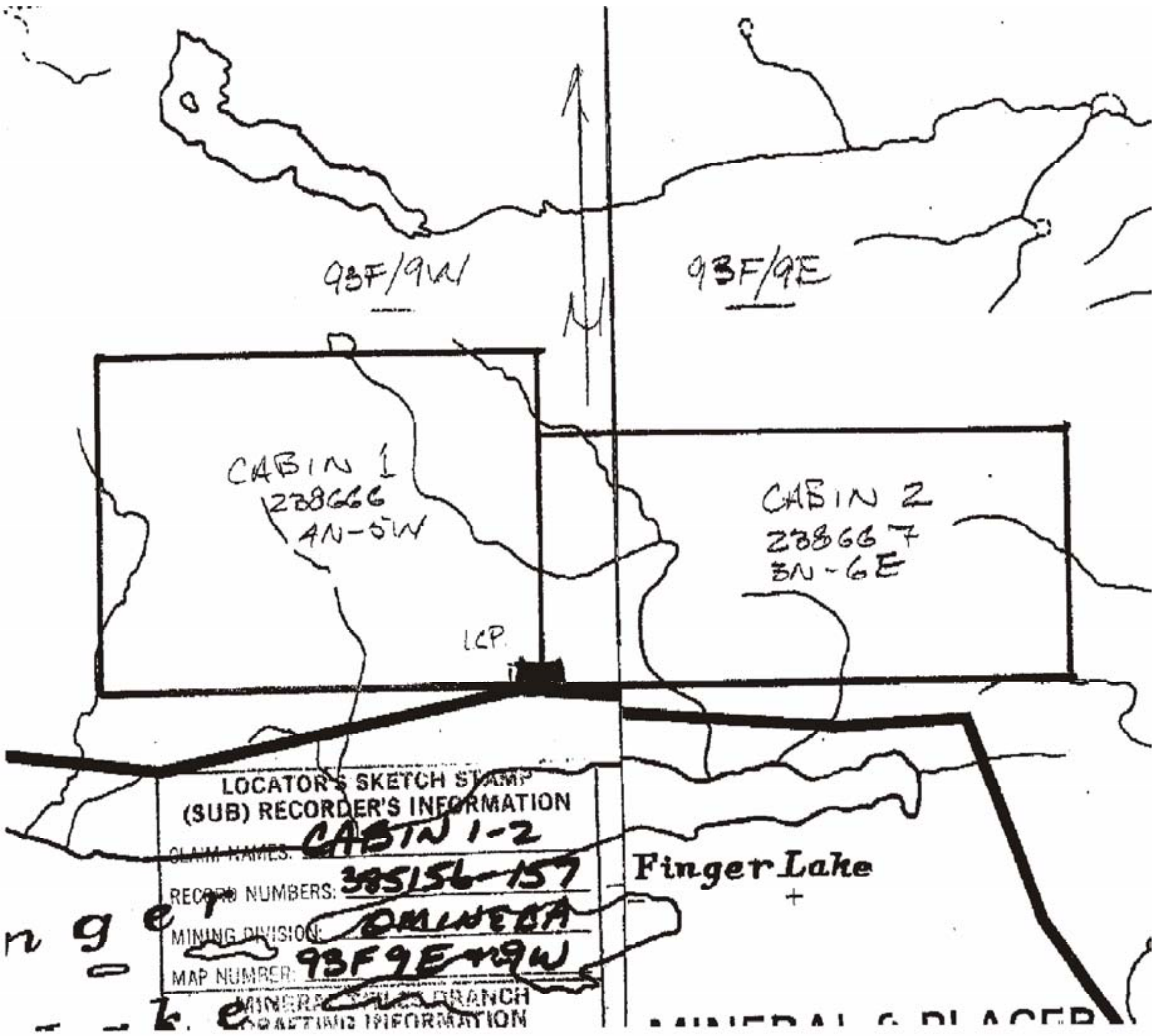
Fig. 03



CLAIM MAP

CABIN CLAIMS

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Fig. 04

outcrop and subcrop; about 45% discontinuous till veneer with abundant subcrop and outcrop and average till thickness of 1 meter; and 50% till blanket with continuous till blanket 1-3 meters thick and few outcrops.

CLAIM OWNERSHIP

Title is held by Robin Day. Claims are shown on Fig. 04.

CLAIM RECORD DATA

Claim Name	Number of units	Record No	Record Date
Cabin 1	20	385156	March 16, 2001
Cabin 2	18	385157	March 16, 2001

LRMP CLASSIFICATION

The claims are located within the Vanderhoof LRMP. The lands under the claims are classified as a “Resource Development Emphasis Zone”.

WORK UNDERTAKEN

Two persons in the field and a cook assisted the author. Procurement of supplies, travel to the claims and camp setup was performed June 26-28. Fieldwork was performed from June 29 to July 19. Egress was July 20 and 21. A 5000-meter long base line was established with cross lines spaced every 500 meters and samples spaced every 100 meters. Some infill lines were established on 250-meter centers in areas of interest. In addition, prospecting on and between grid lines was undertaken. Grid and sample locations were established by hip chain and compass. Magnetic deviation and slope corrections were corrected with a GPS. A total of 248 till, 2 silt and 48 rock samples were collected. Thin section petrology was performed on 10 rock samples and one fluid inclusion section.

PETROLOGY (executive summary from appendix B)

A suite of ten samples have been studied from the Cabin Claims, British Columbia. The samples are variably brecciated, with intensity ranging from veinlet networking, through jigsaw puzzle brecciation, to intense fragmentation. The clasts are variably altered (in parallel with the intensity of brecciation), and are cemented by specular hematite, chlorite, and minor quartz. Chlorite and epidote characterize the wallrock alteration assemblage. The ore mineral assemblage is dominated by hematite, with rare pyrite and very rare chalcopyrite (sulfides being present mostly in the wallrock). The pyrite is typically rimmed with secondary iron hydroxide (goethite).

Fluid inclusions are preserved in quartz in one sample where quartz veining is best displayed. Measurements of homogenization temperatures and ice melting points in these inclusions indicate maximum temperatures near 400°C, and salinities of 11 to 12 equivalent weight % NaCl. The presence of some vapour-rich inclusions, containing traces of CO_2, suggests that this fluid was boiling during formation of the breccias. Minimum fluid pressure estimates (ignoring the presence of CO_2) suggest formation at depths of 1 to 2.5 km (depending on whether lithostatic or hydrostatic pressure conditions prevailed, respectively).

The hydrothermal environment suggested by these observations is of an overpressured, moderately high temperature and moderate salinity fluid system, which caused hydraulic brecciation and deposition of iron oxides with chloritic alteration (indicating an oxidizing, near-neutral pH fluid chemistry).

ROCK, SOIL AND SILT GEOCHEMISTRY RESULTS

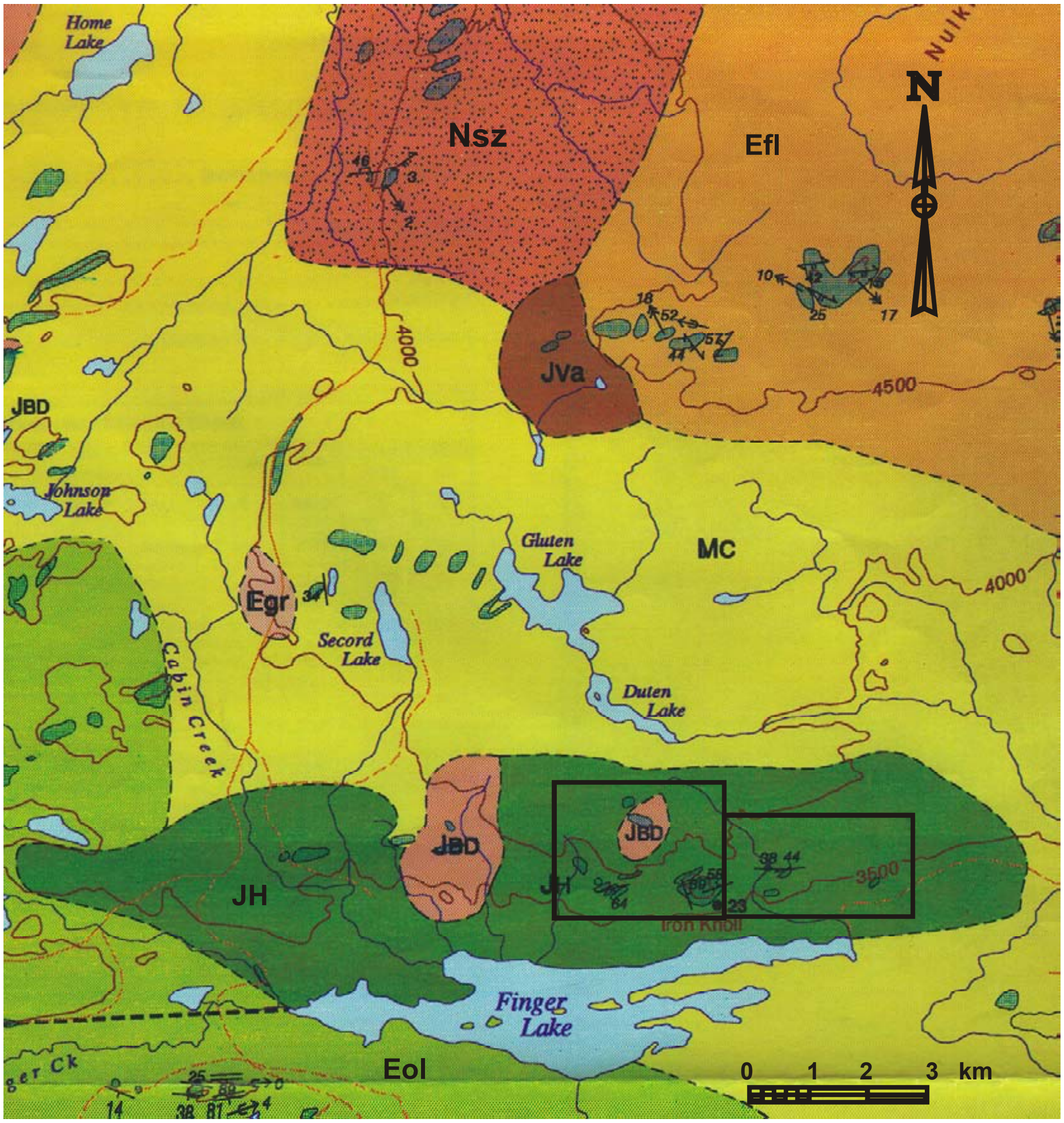
Elevated K and Na with erratic, elevated W, Mo and Bi in the rock geochemistry for hematite rich samples indicate a magmatic component to the fluids in this hydrothermal system.

No anomalous elements are noted in the till and two silt samples collected.

DISCUSSION

Rock geochemistry indicates a magmatic component to the fluids in this hydrothermal system. Fluid pressure estimates suggest formation at depths of 1 to 2.5 kilometers. Temperatures and salinities indicate that the hydrothermal fluids were boiling during formation of the breccias. These results suggest that any zones of magnetite-sulphide mineralization are likely to be below the present level of exposure.

The host volcanic rocks and Brookes Diorites are considered to be Jurassic or perhaps Triassic in age. The presence of crowded feldspar porphyry dykes and horneblende-augite (now altered to biotite) andesites is more typical of Triassic age rocks in Quesnellia, however, felsic volcanics, especially coarse fragmental crystal tuffs, are not common in the Quesnell Trough, but are found in Jurassic and Cretaceous age rocks. Furthermore, the age of the iron-oxide mineralization is unknown. The iron-oxide mineralization may be coeval with the host rocks, however, the age may be as young as late Cretaceous or early Tertiary, associated with the high heat flow,



GEOLOGY(after GSC open file 3631)
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Mc Chilcotin Group: olivine basalt, columnar flows
Eol Endako Group: basalt, andesite
Egr Biotite hornblende granite, granodiorite, quartz-feldspar porphyry
Nsz Nulki Shear Zone: ductilely deformed Frank Lake pluton and Jbd
Efl Frank Lake Pluton: biotite granodiorite, granite
Jbd Brooks Diorite Complex: diorite, monzodiorite, monzonite, amphibolite
JH Hazelton Group: andesite, rhyolite, basalt, dacite, tuff, flows, breccias
Jva amphibolite, calc-silicate veins?, local diorite dykes and sills

Fig. 05

hydrothermal activity, volcanism and uplift of the Vanderhoof Metamorphic complex during a period of extensional tectonics. For example, hematite alteration is widespread in Cretaceous and Tertiary age volcanics at the Holy Cross prospect. Determining the age of iron-oxide mineralization would provide useful constraints in designing future exploration programs for hydrothermal iron-oxide (copper-gold) systems in this area, as this new hydrothermal iron-oxide system in the context of district scale geology and mineralization, suggests the presence of a new iron-oxide district.

CONCLUSION

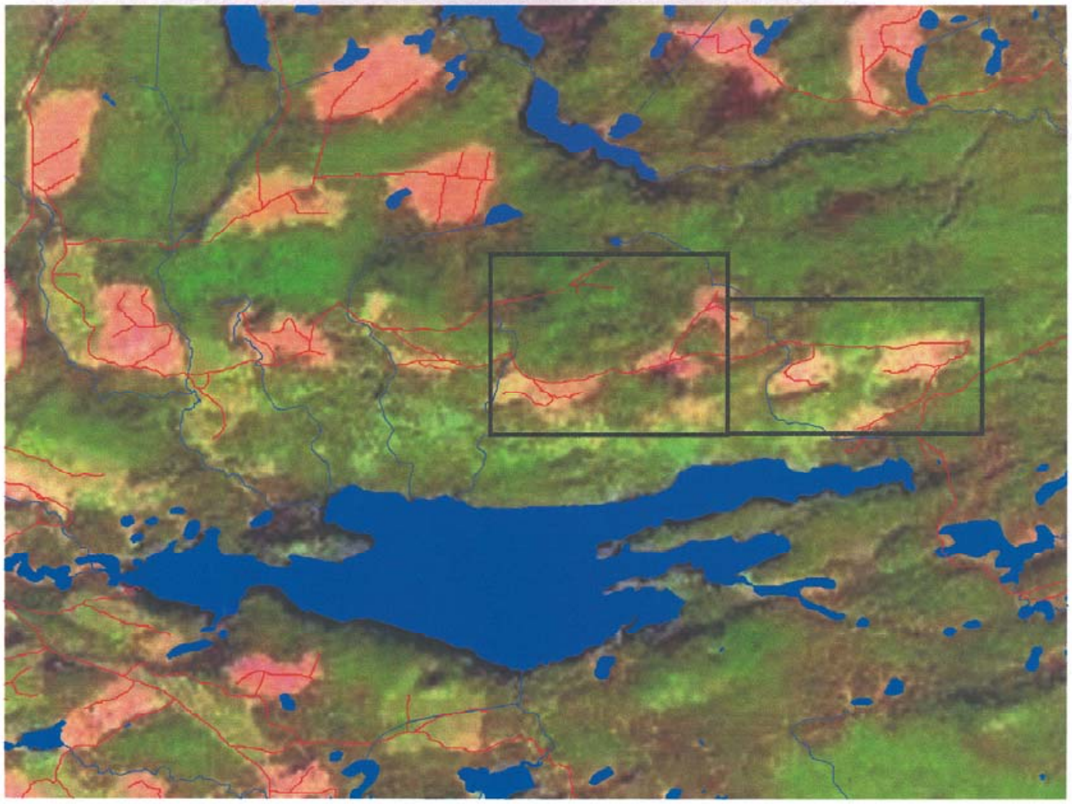
A new hydrothermal iron-oxide system has been discovered. Rock geochemistry indicates a magmatic component to the fluids in this hydrothermal system. Fluid inclusions indicate mineral formation at shallow depths. These results suggest that any zones of sulphide mineralization are likely to be below the present level of exposure. Current understanding of hydrothermal iron-oxide systems suggests the magnetic anomaly that directly corresponds with the eastern end of this system may represent a higher temperature and deeper, magnetite-albite- (sulphide?) facies nested above the progenitor or parent intrusive. Copper sulphide mineralization, when present in hydrothermal iron-oxide systems, is thought to occur later than earlier, barren iron-oxide mineralization. The presence, extent and depth to sulphides may be evaluated with a ground geophysical program including time domain IP and gradient magnetics. Should copper-gold-silver bearing sulphides accompany a magnetite-albite zone, the size of the airborne magnetic anomaly that directly corresponds with the eastern end of this system suggests this new prospect has size potential up to the billion tonne range.

RECOMMENDATIONS

A geophysical survey, consisting of IP and gradient magnetics should be performed in order to in order to determine the presence, location, extent and depth to sulphides that may accompany this large hydrothermal system. A drill test would be subject to results of a geophysical survey.

ACKNOWLEDGEMENT

The B.C. Prospectors Assistance Program in part provided funding for the exploration program on the Cabin Claims.



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LANDSAT SHOWING ROADS

FIG. 06

STATEMENT OF QUALIFICATIONS

I, Robin C. Day, graduated from the University of Alberta in 1976 with a B.Sc. (Concentration in Geology), have been active as a prospector and geologist in Western and Northern Canada since 1972, and am a Fellow of the Geological Association of Canada.

REFERENCES

1. GSC map 1131A; GSC Open File maps 3594A-C, 3620 & 3631
2. GSC Geophysics papers 1578 & 7224
3. Topographic map N.T.S. 93-F-09

STATEMENT OF EXPENDITURES

Wages for two field assistants ($60.00/day each/26days each)	$ 3,120.00
Wages for Grantee ($250.00/day for 26 days-deemed)	$ 6,500.00
Cook ($100/day/17 days)	$ 1,700.00
Food and accommodation ($60/day-95 man days includes camp cost)	$ 5,700.00
Field supplies/Rock and soil sample bags, topofil, flagging etc	$ 674.04
Sample freight	$ 131.66
Personal truck (3375 kilometers @$.38)	$ 1,282.50
Trailer to haul camp	$ 176.33
Cook's vehicle (2772 kilometers @$.38)	$ 1,053.36
Analysis/assays (250 soil/28 rock)	$ 4,765.79
Petrology	$ 875.00
Assessment report	$ 800.00
Total	$26,778.68

TABLE 1-ROCK SAMPLES (Nad 83)

Sample #	Easting	Northing	Description
R-1	417285	5939100	Coarse fragmental crystal tuff, magnetic, biotite,
R-2	414500	5938670	Subcrop, breccia, .5% py
R-3	415000	5939350	Boulder, ser alt, QPF?
R-4	415000	5938295	Hem, py, andesite, magnetic, outcrop
R-5	415500	5939130	Hem, qtz, andesite, goes to 5939185N
R-6	415500	5939785	Sericite, pyrite alteration, angular boulder
R-7	415507	5939767	Sericite, pyrite altered FP breccia
R-8	417000	5939302	Cobble, Qtz-hem, silicified breccia
R-9	417000	5939200	Qtz-hem veining in boulder
R-10	416500	5938600	Hem, qtz stockwork, subcrop
R-11	416515	5938504	Hem, qtz breccia
R-12	416439	5938533	Qtz-hem stockwork from trench
R-13	416500	5938340	Weakly sericitized rhyolite
R-14	417500	5938295	Hem, qtz altered rhyolite
R-15	417530	5938584	Rhyolite tuff-white fldspars in black matrix
R-16	417500	5938868	Hem-qtz veinlets, bx in creek and hillside
R-17	417500	5938875	Sericitized ash tuff by creek
R-18	417500	5938880	Hem vienlet in cobble in creek
R-19	417523	5938750	Bx with hem matrix-continues to R-20
R-20	417541	5938763	Outcrop, hem bx
R-21	417623	5938810	Hem matrix in bx, outcrop
R-22	417825	5938875	Hem stringers in outcrop
R-23	419562	5938980	Hem bx-cobble in drift
R-24	415250	5939355	Biotite-qtz-fldspr, magnetic, ~1% py, diorite
R-25	415250	5939400	Subcrop, biotite-hem alt porphyry
R-26	415245	5939935	Qtz-ser-py alt rhyolite
R-27	415750	5939800	Diorite, strongly magnetic, epidote
R-28	418493	5938770	Qtz-hem bx in rhyolite, subcrop
R-29	418500	5938722	Hem-qtz stockwork in angular float
R-30	418501	5938698	Hem-qtz veinlets in angular rhyolite boulders
R-31	417750	5938910	Hem alt, angular cobble
R-32	417750	5938923	Hem alt, angular boulder
R-33	419005	5938978	Ser, py alt cobble in drift
R-34	418750	5938640	Rhyolite outcrop with hem alt.
R-35	418750	5938810	Hem alt, angular cobble in till

R-36	419250	5938650	Hem, qtz alt cobbles
R-37	419250	5938718	Qtz-hem alt boulder
R-38	419530	5938870	Qtz-hem alt cobble in till
R-39	416682	5938822	Qtz-hem-bx angular cobble
R-40	417434	5938985	Stock specular hematite in anular boulder in creek
R-41	419182	5938655	Hem alt andesite, subcrop, west side of road
R-42	419182	5938666	Hem stockwork in sericite altered andesite
R-43	419113	5938545	Float by road, hem with ~1% py
R-44	419213	5938695	Subcrop, hem alt andesite
R-45	414940	5939317	Altered andesite, very magnetic
R-46	414907	5939344	Ser, py alt tuff, subcrop?
R-47	418587	5938160	Qtz-hem-bx in andesite, float in till
R-48	418980	5938341	Hem bx, cobble in till along road
R-49	419603	5939070	Qtz-hem veinlets in qtz feldspar dyke?
R-50	419674	5939180	Cobble in till, hem veinlets, ~1% py
R-51	419548	5938987	Hornfels, tourmaline, ~1% py, cobble in till
R-53	417146	5938945	Boulder, qtz-hem alt boulder
R-54	417180	5939015	Boulder, vuggy qtz-hem

TABLE 2
TILL SAMPLE LOCATIONS-NAD 83

Sample Name	Easting	Northing
#1	414500	5939100
#2	414600	5939100
#3	414700	5939100
#4	414800	5939100
#5	414903	5939104
#6	415000	5939100
#7	415100	5939120
#8	415200	5939120
#9	415300	5939133
#10	415400	5939117
#11	415500	5939100
#12	415600	5939100
#13	415700	5939115
#14	415800	5939117
#15	415900	5939118
#16	416000	5939100
#17	416100	5939100
#18	416200	5939100
#19	416300	5939100
#20	416400	5939110
#21	416500	5939100
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#23	416700	5939116
#24	416800	5939100
#25	416900	5939100
#26	417000	5939100
#27	417100	5939100
#28	417200	5939104
#29	417300	5939109
#30	417400	5939104
#31	417500	5939100
#32	417600	5939100
#33	417700	5939096
#34	417805	5939105
#35	417900	5939100
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#192	415750	5939900
#193	415750	5939800
#194	415750	5939700
#195	415750	5939600
#196	415750	5939500
#197	415750	5939400
#198	415750	5939300
#199	415750	5939200
#200	418500	5939000
#201	418500	5939200
#202	418500	5939300
#203	418500	5939400
#204	418500	5939500
#205	418500	5939600
#206	418500	5938900
#207	418500	5938800
#208	418500	5938700
#209	418500	5938600
#210	418500	5938500
#211	418500	5938400
#212	418500	5938300
#213	418500	5938200
#214	418250	5938900
#215	418250	5938800
#216	418250	5938700
#217	418250	5938600
#218	417750	5939000
#219	417750	5938900
#220	417750	5938800
#221	417750	5938700
#222	419000	5939000
#223	419000	5939200
#224	419000	5939300
#225	419000	5939400
#226	419000	5939500
#227	419000	5939600
#228	418750	5938900
#229	418750	5938800
#230	418750	5938700
#231	418750	5938600
#232	419250	5938900
#233	419250	5938800
#234	419250	5938700
#235	419250	5938600
#236	419000	5938900
#237	419000	5938800
#238	419000	5938700
#239	419000	5938600
#240	419000	5938500
#241	419000	5938400
#242	419000	5938300
#243	419500	5939000
#244	419500	5938900
#245	419500	5938800
#246	419500	5938700
#247	419500	5938600
#248	419500	5938500

Table 3-Field notes-Cabin claims

Easting	Northing	Description
416826	5938131	Legal claim post for Cabin 1 & 2 claims
414827	5939100	And, weak carb alt, float? Subcrop?
415455	5939100	And boulders
416810	5939100	Andesite, weakly magnetic to 416920, outcrop
414500	5939240	Andesite outcrop
415500	5939025	Andesite outcrop
415500	5939600	Andesite outcrop, variable epidote alt to 5939640
415500	5939950	Andesite outcrop, epidote on fractures
415500	5938302	Andesite boulders
415500	5938395	Andesite cobbles, dissem hematite, epidote, zoicite? Alt on fractures
416000	5938360	Qtz-hematite alt andesite continues to 5938400 –covered thereafter
416500	5939900	Andesite breccia, boulders
416505	5939935	Amygdaloidal basalt, weak mag, amygdals filled with qtz
416413	5938515	West end of trench #1
416462	5938518	East end of trench #1
416438	5938526	East end of trench #2
416432	5938536	West end of trench #2
416500	5938500	Qtz-hematite alteration
416500	5938400	Qtz-hematite filled fractures
417500	5838360	Rhyolite
415750	5939900	Outcrop, crowded qfp dyke, cutting black porphyry, actinolite alt
415665	5939018	Magnetic diorite, black
418500	5938674	Hem-qtz veinlets in rhyolite boulders, angular
418250	5938800	Felsic ash tuff
417750	5939000	Hematite filled bx cobble
417750	5938910	Hematite mineralized angular boulder
417750	5938795	Hematite veinlets in rhyolite
419000	5938995	Hematite bx cobble, angular, float
418750	5938855	Hematite altered cobble in till
418750	5938702	Hematite-qtz altered cobbles in till
418750	5938795	Qtz-hematite cobbles, angular

419000	5938665	Qtz-hematite veinlets in cobble
419000	5938630	Hem-qtz alt cobble
416637	5938860	Spec hematite breccia and veinlets in cobble in till
416633	5938990	Qfp dyke along road with strike at ~30 degrees, intruding tuffs,
416980	5938917	Fine grained andesite? Black, weakly magnetic, north of road
417250	5939170	Cobble, qtz-hem veinlets and breccia
417418	5939026	Rhyolite outcrop, south side of road by creek
414900	5938583	Andesite outcrop, epidote, carb alt, magnetic
414846	5938433	Andesite outcrop
415866	5938875	Andesite, epidote alt, non magnetic
419665	5939125	Qtz-hem veinlets in qfp dyke? On skid trail, sub crop?
417150	5938995	Qtz-spec hematite cobble
417050	5938825	Andesite, magnetic, outcrop

APPENDIX A

				Geochem	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Certificate	Sample	Easting	Northing	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sc	Sn	Sr	Ti	V	W	Y	Zn	Zr
Number	Name			ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
1V0275SJ	#1	414500	5939100	9	0.2	1.29	10	340	<0.5	<5	0.56	<1	11	36	85	3.18	0.13	0.49	440	<2	0.02	1	860	30	5	4	<10	45	0.13	70	10	7	191	7
1V0275SJ	#2	414600	5939100	4	<0.2	1.03	5	140	<0.5	<5	0.29	<1	7	28	19	2.38	0.06	0.37	215	<2	0.02	<1	560	8	<5	2	<10	27	0.17	58	<10	6	68	9
1V0275SJ	#3	414700	5939100	6	<0.2	1.66	5	150	<0.5	<5	0.43	<1	10	37	25	3.36	0.1	0.56	345	<2	0.02	<1	760	6	<5	4	<10	40	0.14	67	<10	7	72	15
1V0275SJ	#4	414800	5939100	7	<0.2	1.75	5	210	<0.5	<5	0.49	<1	14	43	30	3.95	0.09	0.59	565	<2	0.03	3	920	6	<5	7	<10	52	0.18	87	<10	11	83	26
1V0275SJ	#5	414903	5939104	3	<0.2	2.9	<5	160	<0.5	<5	0.25	<1	21	40	12	4.62	0.07	0.86	480	<2	0.01	<1	880	4	<5	4	<10	19	0.18	104	<10	3	120	8
1V0275SJ	#6	415000	5939100	3	<0.2	1.44	5	170	<0.5	<5	0.36	<1	10	32	15	3.08	0.09	0.4	350	<2	0.02	<1	880	6	<5	3	<10	32	0.18	75	<10	6	73	7
1V0275SJ	#7	415100	5939120	3	<0.2	1.47	5	170	<0.5	<5	0.4	<1	10	36	14	3.27	0.1	0.47	350	<2	0.03	<1	1020	6	<5	4	<10	43	0.19	82	<10	8	76	15
1V0275SJ	#8	415200	5939120	5	<0.2	1.85	5	200	<0.5	<5	0.59	<1	11	41	22	3.89	0.14	0.72	420	<2	0.03	<1	880	8	<5	7	<10	53	0.17	79	<10	15	78	25
1V0275SJ	#9	415300	5939133	3	<0.2	1.23	5	120	<0.5	<5	0.38	<1	7	22	14	2.64	0.06	0.32	230	<2	0.02	<1	380	6	<5	3	<10	23	0.13	63	<10	5	83	4
1V0275SJ	#10	415400	5939117	2	<0.2	1.78	5	160	<0.5	<5	0.39	<1	11	32	18	3.68	0.14	0.53	410	<2	0.02	<1	1330	4	<5	4	<10	34	0.17	81	<10	7	99	6
1V0275SJ	#11	415500	5939100	3	<0.2	1.45	5	120	<0.5	<5	0.23	<1	10	35	19	3.12	0.07	0.49	365	<2	0.01	14	610	6	<5	3	<10	15	0.13	65	<10	4	81	6
1V0275SJ	#12	415600	5939100	4	<0.2	2.08	5	260	<0.5	<5	0.21	<1	12	35	16	3.53	0.06	0.43	420	<2	0.02	<1	650	4	<5	3	<10	18	0.17	80	<10	4	87	9
1V0275SJ	#13	415700	5939115	3	<0.2	1.6	5	180	<0.5	<5	0.35	<1	11	31	17	3.67	0.13	0.63	410	<2	0.02	<1	700	6	<5	3	<10	27	0.16	74	<10	8	76	12
1V0275SJ	#14	415800	5939117	4	<0.2	1.11	<5	100	<0.5	<5	0.24	<1	9	29	8	2.59	0.07	0.35	485	<2	0.01	<1	480	6	<5	2	<10	17	0.14	60	<10	5	100	4
1V0275SJ	#15	415900	5939118	10	<0.2	3.51	15	330	0.5	<5	0.85	<1	12	46	48	5.74	0.17	0.73	560	<2	0.02	9	970	4	5	11	<10	39	0.09	88	<10	50	97	20
1V0275SJ	#16	416000	5939100	3	<0.2	1.68	<5	150	<0.5	<5	0.28	<1	9	29	11	3.12	0.08	0.35	305	<2	0.01	<1	1240	6	<5	3	<10	23	0.13	62	<10	5	138	6
1V0275SJ	#17	416100	5939100	1	<0.2	1.6	<5	160	<0.5	<5	0.35	<1	9	25	9	2.87	0.08	0.48	310	<2	0.02	<1	850	4	<5	3	<10	33	0.18	73	<10	6	81	8
1V0275SJ	#18	416200	5939100	3	<0.2	1.78	<5	140	<0.5	<5	0.21	<1	10	30	8	3.1	0.06	0.31	215	<2	0.02	<1	1220	4	<5	2	<10	21	0.14	69	<10	4	89	6
1V0275SJ	#19	416300	5939100	5	<0.2	1.82	5	160	<0.5	<5	0.61	<1	9	32	30	2.92	0.1	0.51	630	2	0.02	<1	700	8	<5	6	<10	51	0.14	61	<10	15	68	6
1V0275SJ	#20	416400	5939110	6	<0.2	4.56	5	270	1.5	<5	0.71	<1	23	57	44	6.37	0.17	1.06	2250	<2	0.02	19	760	8	<5	10	<10	59	0.09	110	10	18	131	11
1V0275SJ	#21	416500	5939100	1	<0.2	1.15	<5	100	<0.5	<5	0.25	<1	7	22	11	2.44	0.06	0.34	345	<2	0.02	<1	350	4	<5	2	<10	24	0.15	53	<10	5	68	5
1V0275SJ	#22	416600	5939100	2	<0.2	1.02	<5	110	<0.5	<5	0.29	<1	8	26	11	2.6	0.07	0.34	255	<2	0.02	<1	520	6	<5	3	<10	25	0.17	63	<10	6	63	7
1V0275SJ	#23	416700	5939116	3	<0.2	0.92	<5	110	<0.5	<5	0.31	<1	8	29	11	2.78	0.07	0.36	280	<2	0.02	<1	570	4	<5	3	<10	31	0.18	72	<10	7	56	10
1V0275SJ	#24	416800	5939100	3	<0.2	1.66	5	200	<0.5	<5	0.53	<1	13	42	26	4.1	0.1	0.72	615	<2	0.03	<1	850	8	<5	7	<10	54	0.16	87	<10	12	79	23
1V0275SJ	#25	416900	5939100	4	<0.2	1.69	<5	80	<0.5	<5	0.22	<1	14	71	14	3.7	0.05	0.21	660	<2	0.01	35	1980	2	<5	2	<10	13	0.16	67	<10	6	130	4
1V0275SJ	#26	417000	5939100	2	<0.2	1.3	5	180	<0.5	<5	0.47	<1	11	41	22	3.8	0.15	0.57	535	<2	0.03	23	920	10	<5	6	<10	47	0.17	83	<10	10	82	22
1V0275SJ	#27	417100	5939100	1	<0.2	1.96	<5	140	<0.5	<5	0.26	<1	10	32	10	3.19	0.08	0.33	230	<2	0.02	23	1200	6	<5	3	<10	21	0.13	67	<10	5	115	8
1V0275SJ	#28	417200	5939104	2	<0.2	1.19	5	120	<0.5	<5	0.33	<1	9	30	9	2.76	0.08	0.37	375	<2	0.02	14	740	6	<5	3	<10	30	0.17	65	<10	7	79	7
1V0275SJ	#29	417300	5939109	7	<0.2	1.58	<5	130	<0.5	<5	0.24	<1	10	29	9	2.97	0.07	0.34	300	<2	0.02	20	780	2	<5	2	<10	24	0.14	64	<10	4	75	6
1V0275SJ	#30	417400	5939104	1	<0.2	1.21	5	100	<0.5	<5	0.38	<1	8	31	14	2.93	0.07	0.43	460	<2	0.02	15	390	8	<5	4	<10	33	0.15	68	<10	8	71	8
1V0275SJ	#31	417500	5939100	2	<0.2	0.96	<5	90	<0.5	<5	0.57	<1	8	28	7	2.71	0.09	0.43	485	<2	0.02	11	830	6	<5	3	<10	37	0.13	45	<10	6	68	5
1V0275SJ	#32	417600	5939100	1	<0.2	1.36	<5	140	<0.5	<5	0.62	<1	11	33	15	3.09	0.09	0.53	1420	<2	0.02	20	480	6	<5	5	<10	40	0.14	61	<10	8	87	6
1V0275SJ	#33	417700	5939096	28	<0.2	1.2	<5	100	<0.5	<5	0.34	<1	7	23	11	2.4	0.07	0.41	355	<2	0.02	13	390	6	<5	3	<10	22	0.14	51	<10	5	68	4
1V0275SJ	#34	417805	5939105	6	<0.2	1.51	<5	130	<0.5	<5	0.57	<1	11	32	20	3.62	0.1	0.62	635	<2	0.03	19	490	6	<5	6	<10	39	0.12	71	<10	10	80	8
1V0275SJ	#35	417900	5939100	11	<0.2	2.08	5	180	<0.5	<5	0.8	<1	12	35	35	4.17	0.12	0.69	545	<2	0.03	27	770	8	<5	8	<10	45	0.1	69	<10	24	74	16
1V0275SJ	#36	418000	5939100	6	<0.2	1.1	<5	100	<0.5	<5	0.36	<1	9	29	10	3.01	0.08	0.43	410	<2	0.02	15	670	4	<5	3	<10	29	0.14	71	<10	8	57	7
1V0275SJ	#37	418100	5939100	5	<0.2	1.65	5	140	<0.5	<5	0.5	<1	14	38	21	3.93	0.1	0.57	1295	<2	0.03	22	360	8	<5	6	<10	38	0.14	77	<10	13	76	10
1V0275SJ	#38	418200	5939100	5	<0.2	1.17	<5	110	<0.5	<5	0.39	<1	9	29	14	2.61	0.07	0.41	375	<2	0.02	16	420	6	<5	4	<10	29	0.16	57	<10	7	58	6
1V0275SJ	#39	418300	5939100	17	<0.2	1.13	<5	100	<0.5	<5	0.44	<1	10	30	10	3.19	0.07	0.43	425	<2	0.03	15	500	6	<5	4	<10	30	0.15	64	<10	9	58	7
1V0275SJ	#40	418400	5939100	3	<0.2	1.18	<5	100	<0.5	<5	0.26	<1	8	23	8	2.88	0.06	0.47	350	<2	0.02	14	370	4	<5	3	<10	22	0.15	59	<10	5	68	6

1V0275SJ	#41	418500	5939100	2	<0.2	1	5	100	<0.5	<5	0.38	<1	10	31	9	3.35	0.09	0.45	480	<2	0.02	16	820	4	<5	3	<10	26	0.16	75	<10	8	55	8
1V0275SJ	#42	418600	5939100	5	<0.2	1.16	5	130	<0.5	<5	0.44	<1	8	31	19	2.93	0.08	0.42	310	<2	0.03	16	570	4	<5	4	<10	33	0.14	64	<10	13	55	6
1V0275SJ	#43	418700	5939100	3	<0.2	1.37	<5	100	<0.5	<5	0.32	<1	9	28	7	2.97	0.1	0.28	260	<2	0.02	20	1330	4	<5	2	<10	24	0.14	66	<10	4	77	5
1V0275SJ	#44	418800	5939100	9	<0.2	0.73	<5	70	<0.5	<5	0.22	1	10	27	8	2.62	0.1	0.24	665	<2	0.01	11	470	4	<5	2	<10	9	0.15	61	<10	2	185	3
1V0275SJ	#45	418900	5939100	4	<0.2	1.8	5	140	<0.5	<5	0.2	<1	11	28	7	3.68	0.05	0.36	260	<2	0.02	15	640	4	<5	3	<10	13	0.14	81	<10	4	78	7
1V0275SJ	#46	419000	5939100	2	<0.2	1.47	<5	100	<0.5	<5	0.4	<1	15	34	13	3.86	0.24	0.87	655	<2	0.02	20	690	2	<5	6	<10	21	0.21	88	<10	6	77	13
1V0275SJ	#47	419100	5939092	7	<0.2	1.55	<5	130	<0.5	<5	0.32	<1	9	27	8	3.07	0.07	0.32	230	<2	0.01	18	1190	2	<5	3	<10	25	0.1	57	<10	4	129	4
1V0275SJ	#48	419205	5939103	2	<0.2	1.13	<5	100	<0.5	<5	0.39	<1	10	29	7	3.39	0.14	0.34	285	<2	0.02	14	600	4	<5	2	<10	29	0.16	78	<10	4	71	5
1V0275SJ	#49	419300	5939100	2	<0.2	1.69	<5	150	<0.5	<5	0.25	<1	10	28	8	3.06	0.07	0.34	290	<2	0.01	22	1370	4	<5	3	<10	19	0.11	65	<10	5	123	6
1V0275SJ	#50	419400	5939100	3	<0.2	1.95	<5	170	<0.5	<5	0.22	<1	12	31	15	3.23	0.07	0.33	600	<2	0.02	25	1790	6	<5	4	<10	19	0.13	64	10	5	215	8
1V0275SJ	#51	419500	5939100	7	<0.2	1.59	<5	130	<0.5	<5	0.4	<1	10	37	19	3.5	0.1	0.5	770	<2	0.02	19	470	2	<5	6	<10	26	0.12	71	<10	11	112	7
1V0275SJ	#52	414500	5939200	3	<0.2	1.41	<5	150	<0.5	<5	0.37	1	10	32	15	2.93	0.1	0.38	425	<2	0.02	22	940	6	<5	3	<10	28	0.13	64	<10	10	102	5
1V0275SJ	#53	414500	5939300	3	<0.2	1.33	<5	120	<0.5	<5	0.54	<1	12	32	12	3.14	0.17	0.44	465	<2	0.02	18	880	4	<5	3	<10	30	0.13	69	<10	5	69	4
1V0275SJ	#54	414500	5939400	9	<0.2	2.25	<5	180	<0.5	<5	0.61	<1	11	40	31	3.72	0.11	0.71	720	2	0.02	28	790	4	<5	8	<10	54	0.12	66	<10	18	88	10
1V0275SJ	#55	414500	5939500	3	<0.2	1.48	<5	150	<0.5	<5	0.36	<1	9	28	8	2.37	0.05	0.43	225	<2	0.02	15	800	6	<5	3	<10	33	0.15	56	<10	7	55	7
1V0275SJ	#56	414500	5939600	3	<0.2	1.54	<5	160	<0.5	<5	0.45	<1	10	30	11	2.6	0.06	0.46	275	<2	0.03	16	910	8	<5	3	<10	41	0.16	57	<10	8	50	14
1V0275SJ	#57	414500	5939700	3	<0.2	1.58	5	160	<0.5	<5	0.49	<1	11	38	21	3.21	0.07	0.59	400	<2	0.03	22	880	6	<5	5	<10	47	0.17	73	<10	10	62	18
1V0275SJ	#58	414500	5939800	4	<0.2	2.08	<5	200	<0.5	<5	0.69	1	16	41	35	4.09	0.05	0.62	1225	<2	0.02	40	960	6	<5	6	<10	54	0.11	81	10	18	87	10
1V0275SJ	#59	414500	5939900	3	<0.2	1.44	<5	120	<0.5	<5	0.33	<1	7	26	10	2.38	0.06	0.42	195	<2	0.02	14	720	6	<5	2	<10	29	0.15	53	<10	6	58	5
1V0275SJ	#60	414500	5940000	1	<0.2	1.8	<5	150	<0.5	<5	0.28	<1	8	28	10	2.52	0.05	0.41	215	<2	0.02	17	660	4	<5	3	<10	25	0.15	56	<10	5	80	4
1V0275SJ	#61	414500	5939000	3	<0.2	1.87	<5	140	<0.5	<5	0.3	<1	9	29	10	2.92	0.07	0.37	235	<2	0.01	26	1550	4	<5	3	<10	21	0.12	61	<10	5	71	8
1V0275SJ	#62	414500	5938900	3	<0.2	1.25	<5	130	<0.5	<5	0.32	<1	9	30	9	2.56	0.06	0.4	275	<2	0.02	16	740	6	<5	3	<10	31	0.17	62	<10	7	58	11
1V0275SJ	#63	414500	5938800	4	<0.2	1.6	<5	130	<0.5	<5	0.32	<1	11	32	11	3.18	0.1	0.57	320	<2	0.02	29	1200	4	<5	3	<10	28	0.14	60	<10	6	80	7
1V0275SJ	#64	414500	5938700	6	<0.2	1.71	<5	140	<0.5	<5	0.4	<1	11	41	22	3.53	0.11	0.51	1415	<2	0.02	29	490	4	<5	7	<10	30	0.15	75	<10	26	85	7
1V0275SJ	#65	414500	5938600	5	<0.2	1.5	<5	190	<0.5	<5	0.56	<1	13	43	16	3.58	0.11	0.5	445	<2	0.03	25	890	4	<5	5	<10	38	0.22	84	<10	11	66	14
1V0275SJ	#66	414500	5938500	5	<0.2	1.41	<5	220	<0.5	<5	0.46	<1	8	25	10	2.97	0.11	0.33	275	<2	0.01	18	2350	4	<5	3	<10	39	0.09	53	<10	5	153	5
1V0275SJ	#67	414500	5938400	4	<0.2	1.52	<5	110	<0.5	<5	0.36	<1	9	33	18	3.05	0.1	0.45	350	<2	0.02	21	440	4	<5	4	<10	27	0.15	65	<10	9	95	8
1V0275SJ	#68	414500	5938300	5	<0.2	1.22	<5	80	<0.5	<5	0.57	<1	10	60	18	2.97	0.12	0.54	205	<2	0.02	15	320	6	<5	6	<10	35	0.14	46	<10	9	63	10
1V0275SJ	#69	414500	5938200	2	<0.2	1.38	<5	150	<0.5	<5	0.41	<1	10	29	11	2.98	0.16	0.37	575	<2	0.02	14	1380	4	<5	3	<10	30	0.12	60	<10	5	79	6
1V0275SJ	#70	415000	5938800	3	<0.2	1.05	<5	110	<0.5	<5	0.33	<1	8	28	10	2.56	0.06	0.41	230	<2	0.02	15	640	6	<5	3	<10	33	0.17	67	<10	7	49	9
1V0275SJ	#71	415000	5938900	4	<0.2	1.38	<5	110	<0.5	<5	0.27	<1	9	27	8	2.74	0.07	0.34	285	<2	0.01	18	490	2	<5	2	<10	21	0.14	62	<10	4	111	4
1V0275SJ	#72	415000	5939000	6	<0.2	1.28	<5	140	<0.5	<5	0.34	<1	10	33	10	2.82	0.07	0.43	235	<2	0.02	20	740	4	<5	3	<10	34	0.19	72	<10	7	52	12
1V0275SJ	#73	415000	5939200	1	<0.2	1.36	<5	130	<0.5	<5	0.32	<1	9	28	11	2.48	0.07	0.4	205	<2	0.02	15	690	6	<5	3	<10	28	0.16	58	<10	6	61	6
1V0275SJ	#74	415000	5939300	2	<0.2	1.21	<5	120	<0.5	<5	0.29	<1	10	27	9	2.37	0.07	0.38	545	<2	0.02	13	510	6	<5	3	<10	28	0.14	58	<10	7	71	6
1V0275SJ	#75	415000	5939400	3	<0.2	1.38	<5	140	<0.5	<5	0.2	<1	8	26	8	2.53	0.05	0.23	535	<2	0.01	13	890	6	<5	2	<10	16	0.12	55	<10	4	96	3
1V0275SJ	#76	415000	5939500	2	<0.2	1.31	<5	90	<0.5	<5	0.15	<1	5	16	9	1.46	0.04	0.26	125	<2	0.01	6	310	6	<5	2	<10	15	0.13	33	<10	3	38	4
1V0275SJ	#77	415000	5939600	2	<0.2	1.64	<5	160	<0.5	<5	0.29	<1	10	29	11	2.8	0.07	0.38	310	<2	0.01	18	840	6	<5	3	<10	26	0.13	59	<10	5	82	4
1V0275SJ	#78	415000	5939700	1	<0.2	1.36	<5	110	<0.5	<5	0.35	<1	8	24	7	2.06	0.06	0.39	190	<2	0.02	11	770	8	<5	2	<10	30	0.15	48	<10	6	54	5
1V0275SJ	#79	415000	5939800	5	<0.2	1.82	<5	120	<0.5	<5	0.31	<1	9	28	14	2.6	0.06	0.46	260	<2	0.02	15	700	6	<5	3	<10	28	0.12	55	<10	6	68	4
1V0275SJ	#80	415000	5939900	2	<0.2	1.22	<5	100	<0.5	<5	0.22	<1	7	24	6	2.06	0.04	0.32	185	<2	0.02	11	400	4	<5	2	<10	21	0.14	51	<10	4	58	4
1V0275SJ	#81	415000	5940000	1	<0.2	1.78	<5	140	<0.5	<5	0.3	<1	9	32	11	2.95	0.05	0.4	240	<2	0.02	17	940	6	<5	3	<10	27	0.17	66	<10	6	94	5
1V0275SJ	#82	415000	5938700	2	<0.2	1.07	<5	120	<0.5	<5	0.33	<1	9	31	10	2.78	0.08	0.4	320	<2	0.02	16	750	2	<5	3	<10	32	0.16	68	<10	7	61	8
1V0275SJ	#83	415000	5938600	2	<0.2	1.33	<5	130	<0.5	<5	0.28	<1	10	31	11	2.95	0.1	0.34	370	<2	0.02	18	1170	4	<5	3	<10	26	0.15	67	<10	5	78	6

1V0275SJ	#84	415000	5938500	1	<0.2	1.06	<5	120	<0.5	<5	0.36	<1	10	31	10	3.03	0.08	0.37	320	<2	0.02	16	850	4	<5	3	<10	31	0.19	73	<10	7	62	7
1V0275SJ	#85	415000	5938400	9	<0.2	1.06	<5	110	<0.5	<5	0.29	<1	10	33	9	2.94	0.13	0.29	320	<2	0.02	18	930	2	<5	3	<10	26	0.18	71	<10	5	70	11
1V0275SJ	#86	415000	5938300	2	<0.2	1.74	<5	90	<0.5	<5	0.37	<1	16	28	66	3.86	0.17	0.65	850	<2	0.02	15	360	6	<5	4	<10	15	0.19	96	10	5	260	6
1V0275SJ	#87	415000	5938200	3	<0.2	1.35	<5	120	<0.5	<5	0.47	<1	13	40	16	3.5	0.14	0.49	535	<2	0.02	23	770	4	<5	5	<10	33	0.17	75	<10	11	76	13
1V0275SJ	#88	415500	5938800	2	<0.2	2.06	<5	140	<0.5	<5	0.31	<1	10	33	11	3.25	0.07	0.35	360	<2	0.02	25	1180	4	<5	3	<10	25	0.15	66	<10	6	90	8
1V0275SJ	#89	415500	5938900	3	<0.2	0.95	<5	90	<0.5	<5	0.32	<1	8	29	8	2.22	0.06	0.41	240	<2	0.02	20	470	6	<5	3	<10	23	0.16	52	<10	5	54	5
1V0275SJ	#90	415500	5938980	1	<0.2	1.53	5	150	<0.5	<5	0.34	<1	9	28	11	2.82	0.04	0.42	220	<2	0.02	19	570	2	<5	2	<10	34	0.17	69	<10	5	48	6
1V0275SJ	#91	415500	5939200	4	<0.2	1.25	5	100	<0.5	<5	0.23	<1	9	23	11	2.76	0.06	0.35	240	<2	0.01	19	540	8	<5	2	<10	16	0.12	54	<10	3	59	5
1V0275SJ	#92	415500	5939300	3	<0.2	1.85	<5	180	<0.5	<5	0.3	<1	10	29	12	2.85	0.06	0.4	230	<2	0.02	22	720	6	<5	3	<10	29	0.17	63	<10	6	67	8
1V0275SJ	#93	415500	5939400	1	<0.2	2.03	<5	160	<0.5	<5	0.44	<1	10	35	18	3.23	0.07	0.58	260	<2	0.02	17	850	6	<5	5	<10	37	0.15	66	<10	10	62	17
1V0275SJ	#94	415500	5939500	2	<0.2	1.67	<5	150	<0.5	<5	0.35	<1	12	34	10	3.08	0.07	0.5	360	<2	0.02	19	870	6	<5	3	<10	32	0.16	77	<10	6	59	7
1V0275SJ	#95	415500	5939600	1	<0.2	1.44	<5	140	<0.5	<5	0.19	<1	10	24	6	2.77	0.07	0.37	830	<2	0.01	17	1380	4	<5	2	<10	19	0.12	61	<10	3	163	5
1V0275SJ	#96	415500	5939700	2	<0.2	1.43	<5	150	<0.5	<5	0.29	<1	10	32	10	2.94	0.09	0.37	255	<2	0.02	19	790	2	<5	3	<10	24	0.17	70	<10	5	83	12
1V0275SJ	#97	415500	5939800	3	<0.2	2.07	<5	150	<0.5	5	0.19	<1	10	11	18	6.5	0.18	0.61	375	<2	0.02	7	2150	4	<5	3	<10	10	0.06	77	<10	4	71	7
1V0275SJ	#98	415500	5939900	2	<0.2	2.48	<5	110	<0.5	<5	0.13	<1	13	26	18	3.87	0.07	0.48	355	<2	0.01	18	1540	4	<5	4	<10	6	0.09	71	<10	4	117	11
1V0275SJ	#99	415500	5940000	3	<0.2	1.88	<5	140	<0.5	<5	0.22	<1	12	29	12	3.28	0.09	0.38	380	<2	0.01	19	1260	4	<5	3	<10	20	0.1	67	<10	4	97	6
1V0275SJ	#100	415500	5938700	2	<0.2	0.93	<5	110	<0.5	<5	0.32	<1	9	27	8	2.44	0.06	0.32	380	<2	0.02	12	760	6	<5	2	<10	30	0.13	61	<10	8	44	4
1V0275SJ	#101	415500	5938600	2	<0.2	0.79	<5	80	<0.5	<5	0.19	<1	5	19	6	1.74	0.05	0.29	200	<2	0.01	9	300	2	<5	2	<10	18	0.11	38	<10	3	48	4
1V0275SJ	#102	415500	5938500	1	<0.2	1.45	<5	150	<0.5	<5	0.3	<1	9	27	12	2.99	0.08	0.34	290	<2	0.01	18	1290	4	<5	2	<10	22	0.13	63	<10	5	100	6
1V0275SJ	#103	415500	5938400	25	<0.2	0.78	<5	80	<0.5	<5	0.26	<1	7	23	6	2.27	0.1	0.26	260	<2	0.01	11	750	4	<5	2	<10	20	0.1	53	<10	4	53	7
1V0275SJ	#104	415500	5938300	2	<0.2	1.02	<5	80	<0.5	<5	0.28	<1	9	27	10	2.46	0.14	0.32	435	<2	0.01	12	550	8	<5	3	<10	14	0.11	62	<10	5	63	4
1V0275SJ	#105	415500	5938200	2	<0.2	1.07	<5	100	<0.5	<5	0.31	<1	10	29	12	2.91	0.15	0.4	510	<2	0.02	15	450	8	<5	3	<10	20	0.15	70	<10	6	111	6
1V0275SJ	Silt #1	417395	5939100	3	<0.2	1.47	5	240	<0.5	<5	0.73	<1	10	30	12	2.87	0.06	0.41	3580	2	0.01	23	700	4	5	4	<10	52	0.05	49	<10	15	78	6

Certificate Number	Sample Name	Easting	Northing	Geochem Au ppb	ICP Ag ppm	ICP Al %	ICP Ba ppm	ICP Be ppm	ICP Bi ppm	ICP Ca %	ICP Cd ppm	ICP Co ppm	ICP Cr ppm	ICP Cu ppm	ICP Fe %	ICP K %	ICP Mg %	ICP Mn ppm	ICP Mo ppm	ICP Na %	ICP Ni ppm	ICP P ppm	ICP Pb ppm	ICP Sr ppm	ICP Ti %	ICP V ppm	ICP W ppm	ICP Zn ppm
1V0305RR	R-05	415500	5939130	5	1	5.99	4480	0.5	<5	0.03	<1	4	75	13	1.65	6.9	0.07	40	4	0.19	6	210	6	125	0.02	15	10	48
1V0305RR	R-06	415500	5939785	5	<1	6.16	1340	0.5	5	0.5	<1	7	13	18	3.31	3.63	0.2	50	8	1.68	1	2470	<2	77	0.11	100	10	30
1V0305RR	R-08	417000	5939302	4	<1	1.99	940	<0.5	10	0.02	<1	1	139	13	1.99	2.47	0.03	30	6	0.07	6	60	<2	29	0.02	6	40	22
1V0305RR	R-09	417000	5939200	8	<1	3.22	2230	<0.5	5	0.02	<1	1	177	9	0.84	5.32	0.01	35	4	0.12	9	30	<2	58	0.02	4	10	34
1V0305RR	R-10	416500	5938600	6	<1	2.76	790	0.5	10	0.02	<1	1	111	16	3.89	4.26	0.06	40	4	0.24	4	60	2	31	0.02	11	20	52
1V0305RR	R-11	416515	5938504	7	<1	4.59	1800	0.5	10	0.02	<1	2	72	15	4.36	6.99	0.04	1645	8	0.18	6	200	12	68	0.02	9	10	84
1V0305RR	R-12	416439	5938533	11	<1	1.8	1490	<0.5	10	0.01	<1	1	136	11	2.31	3.77	0.02	60	2	0.09	5	50	<2	36	0.02	7	10	26
1V0305RR	R-16	417500	5938868	12	<1	1.58	480	<0.5	30	0.02	1	3	17	<1	>15.00	1.62	0.01	60	6	0.6	6	330	16	18	0.09	299	110	46
1V0305RR	R-18	417500	5938980	6	1	0.91	150	<0.5	20	0.01	1	2	53	<1	12.21	1.33	0.01	65	8	0.41	3	110	2	14	0.03	33	130	8
1V0305RR	R-19	417523	5938750	6	<1	1.83	380	0.5	15	0.03	1	2	69	4	>15.00	2.37	0.01	45	<2	0.53	6	180	4	21	0.06	47	120	28
1V0305RR	R-20	417541	5938763	11	<1	4.04	640	1	10	0.07	<1	1	69	1	6.17	2.82	0.02	25	2	2.16	4	80	2	65	0.03	29	40	18
1V0305RR	R-21	417623	5938810	7	<1	4.17	630	1	10	0.08	1	2	106	<1	7.7	2.67	0.07	290	36	1.97	6	140	4	61	0.04	39	40	34
1V0305RR	R-22	417825	5938875	5	<1	7.21	560	1	5	0.19	<1	6	70	20	8.13	1.83	0.06	100	4	3.78	4	130	<2	126	0.07	55	10	28
1V0305RR	R-23	419562	5938980	5	<1	2.81	480	<0.5	5	0.05	<1	3	162	<1	9.78	1.25	0.12	85	6	1.37	7	110	<2	35	0.04	35	30	26

				Geochem	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Certificate	Sample			Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sc	Sn	Sr	Ti	V	W	Y	Zn	Zr
Number	Name	Easting	Northing	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
1V0305SJ	#106	416000	5938900	4	<0.2	0.94	<5	80	0.5	<5	0.29	<1	7	51	7	2.04	0.06	0.46	310	<2	0.02	10	460	8	<5	3	<10	25	0.15	48	<10	5	47	9
1V0305SJ	#107	416000	5939000	2	<0.2	1.06	<5	110	0.5	<5	0.26	<1	7	28	6	2.41	0.05	0.31	215	<2	0.01	15	680	6	<5	2	<10	26	0.13	56	<10	4	62	7
1V0305SJ	#108	416000	5939200	1	<0.2	0.9	<5	160	0.5	<5	0.39	1	10	31	23	2.89	0.08	0.25	790	<2	0.01	16	1110	10	<5	2	<10	30	0.13	58	<10	4	110	4
1V0305SJ	#109	416000	5939300	3	<0.2	0.95	<5	80	0.5	<5	0.21	<1	6	27	9	1.87	0.04	0.44	215	<2	0.01	25	320	8	<5	2	<10	18	0.12	38	<10	4	56	5
1V0305SJ	#110	416000	5939400	3	<0.2	2.22	<5	280	1	<5	1.06	<1	15	49	42	4.53	0.09	0.59	745	2	0.02	39	810	10	5	8	<10	69	0.13	87	<10	31	84	17
1V0305SJ	#111	416000	5939500	1	<0.2	0.98	<5	90	0.5	<5	0.21	<1	6	19	5	1.94	0.04	0.38	215	<2	0.01	11	460	6	<5	2	<10	22	0.12	45	<10	4	57	4
1V0305SJ	#112	416000	5939600	18	<0.2	1.31	<5	200	0.5	<5	0.47	<1	9	39	14	3.05	0.07	0.56	350	<2	0.02	20	1020	8	<5	5	<10	49	0.19	68	<10	15	72	18
1V0305SJ	#113	416000	5939700	2	<0.2	2.88	<5	130	0.5	<5	0.16	<1	15	30	8	5.19	0.09	0.78	360	<2	0.01	19	2550	10	<5	5	<10	6	0.14	110	<10	5	128	13
1V0305SJ	#114	416000	5939800	5	<0.2	1.98	<5	160	0.5	<5	0.18	<1	12	32	7	3.63	0.07	0.5	550	<2	0.01	20	2670	6	<5	3	<10	8	0.13	69	<10	3	203	8
1V0305SJ	#115	416000	5939900	2	<0.2	1.6	<5	130	0.5	<5	0.19	<1	10	25	8	2.79	0.05	0.33	255	<2	0.01	14	470	6	<5	2	<10	15	0.11	57	<10	4	92	4
1V0305SJ	#116	416000	5940000	3	<0.2	2.14	<5	170	0.5	<5	0.18	<1	16	22	23	4.32	0.15	0.83	410	2	0.02	15	1070	8	5	5	<10	15	0.13	106	<10	4	138	5
1V0305SJ	#117	416000	5938800	5	<0.2	1.15	5	90	0.5	<5	0.34	<1	8	21	8	2.3	0.09	0.37	565	2	0.01	10	1060	10	<5	3	<10	26	0.12	48	<10	10	52	8
1V0305SJ	#118	416000	5938700	2	<0.2	1.54	<5	110	0.5	<5	0.15	<1	7	24	7	2.79	0.04	0.22	475	<2	0.01	14	1390	10	<5	2	<10	10	0.11	53	<10	4	117	6
1V0305SJ	#119	416000	5938600	1	<0.2	0.82	<5	100	0.5	<5	0.23	<1	7	23	6	2.06	0.05	0.26	280	<2	0.02	12	650	8	<5	2	<10	25	0.14	51	<10	5	62	8
1V0305SJ	#120	416000	5938500	2	<0.2	1	<5	110	0.5	<5	0.28	<1	8	27	8	2.42	0.08	0.29	440	<2	0.02	15	850	8	<5	3	<10	28	0.12	54	<10	9	81	8
1V0305SJ	#121	416000	5938400	2	<0.2	1.42	<5	170	0.5	<5	0.19	<1	9	29	5	2.91	0.07	0.31	385	2	0.01	15	460	10	<5	2	<10	21	0.13	63	<10	3	108	5
1V0305SJ	#122	416000	5938300	2	<0.2	1	<5	130	0.5	<5	0.5	<1	10	29	10	2.67	0.14	0.37	585	<2	0.02	17	1590	10	<5	2	<10	36	0.12	57	<10	6	81	6
1V0305SJ	#123	416000	5938200	2	<0.2	0.81	<5	70	0.5	<5	0.32	<1	6	19	5	2.16	0.09	0.24	335	<2	0.01	12	670	4	<5	2	<10	17	0.11	46	<10	3	96	3
1V0305SJ	#124	416500	5939000	6	<0.2	1.06	<5	130	0.5	<5	0.4	<1	9	24	8	2.54	0.08	0.43	345	<2	0.02	15	990	8	<5	2	<10	37	0.12	57	<10	6	73	7
1V0305SJ	#125	416500	5939200	1	<0.2	1.12	<5	110	0.5	<5	0.34	<1	7	27	8	2.5	0.07	0.41	280	<2	0.02	13	890	8	<5	3	<10	32	0.15	56	<10	7	47	11
1V0305SJ	#126	416500	5939300	3	<0.2	0.96	<5	90	0.5	<5	0.24	<1	7	22	7	2.05	0.05	0.31	210	<2	0.01	11	490	8	<5	2	<10	24	0.15	48	<10	5	55	8
1V0305SJ	#127	416500	5939400	2	<0.2	1.3	<5	130	0.5	<5	0.32	<1	8	27	10	2.65	0.06	0.45	220	<2	0.02	16	560	6	<5	3	<10	27	0.13	60	<10	6	54	6
1V0305SJ	#128	416500	5939500	4	<0.2	1.29	<5	150	0.5	<5	0.3	<1	8	25	7	2.2	0.04	0.34	220	<2	0.02	13	860	6	<5	2	<10	27	0.14	53	<10	6	36	13
1V0305SJ	#129	416500	5939600	4	<0.2	1.18	5	110	0.5	<5	0.46	<1	7	27	17	2.45	0.06	0.47	460	<2	0.02	21	570	6	<5	4	<10	31	0.1	48	<10	9	48	6
1V0305SJ	#130	416500	5939700	2	<0.2	1.66	15	170	1	<5	0.31	<1	9	31	22	4	0.07	0.45	580	2	0.02	18	580	16	<5	4	<10	27	0.09	104	<10	11	59	5
1V0305SJ	#131	416500	5939800	1	<0.2	1.09	<5	110	0.5	<5	0.12	<1	8	22	5	2.52	0.04	0.16	220	<2	0.01	12	930	10	<5	2	<10	8	0.1	57	<10	2	69	5
1V0305SJ	#132	416500	5939900	4	<0.2	0.5	<5	70	<0.5	<5	0.1	<1	5	17	5	1.82	0.04	0.11	300	2	0.01	5	380	12	<5	1	<10	6	0.11	44	<10	3	66	4
1V0305SJ	#133	416500	5940000	2	<0.2	2.33	<5	110	0.5	<5	0.1	<1	7	24	7	3.54	0.06	0.24	230	2	0.01	9	3980	12	<5	3	<10	4	0.1	75	<10	3	169	7
1V0305SJ	#134	417000	5939600	3	<0.2	1.14	<5	120	0.5	<5	0.26	<1	7	22	5	2.34	0.05	0.41	235	<2	0.02	13	690	8	<5	2	<10	25	0.14	55	<10	7	62	6
1V0305SJ	#136	417000	5939500	3	<0.2	1.28	<5	130	0.5	<5	0.28	<1	8	24	8	2.31	0.05	0.33	190	<2	0.02	15	800	8	<5	2	<10	25	0.14	52	<10	5	69	9
1V0305SJ	#137	417000	5939400	3	<0.2	1.06	<5	110	0.5	<5	0.24	<1	7	23	9	2.3	0.05	0.32	275	<2	0.02	14	480	8	<5	2	<10	26	0.14	51	<10	6	55	8
1V0305SJ	#138	417000	5939300	8	<0.2	1.52	<5	120	0.5	<5	0.21	<1	10	26	8	2.93	0.06	0.36	345	<2	0.01	20	1530	8	<5	2	<10	21	0.11	64	<10	4	86	6
1V0305SJ	#139	417000	5939200	2	<0.2	1.66	<5	120	0.5	<5	0.2	<1	10	28	8	3.05	0.07	0.35	245	<2	0.01	21	870	8	<5	2	<10	20	0.13	68	<10	4	60	7
1V0305SJ	#140	417000	5939000	3	<0.2	1.09	<5	110	0.5	<5	0.24	<1	8	28	8	2.54	0.08	0.37	240	<2	0.02	16	620	8	5	2	<10	23	0.16	62	<10	6	59	8
1V0305SJ	#141	416500	5938900	3	<0.2	0.81	<5	100	0.5	<5	0.31	<1	6	24	8	2.1	0.07	0.32	325	<2	0.02	12	730	8	<5	2	<10	29	0.14	50	<10	7	62	7
1V0305SJ	#142	416500	5938800	1	<0.2	1.35	<5	120	0.5	<5	0.29	<1	8	26	8	2.61	0.05	0.37	290	<2	0.02	15	900	8	<5	2	<10	30	0.15	59	<10	6	90	8
1V0305SJ	#143	416500	5938700	3	<0.2	1.15	<5	120	0.5	<5	0.26	<1	7	24	8	2.3	0.06	0.32	235	<2	0.02	15	530	12	<5	2	<10	27	0.15	53	<10	6	56	9
1V0305SJ	#144	416500	5938600	4	<0.2	1.51	<5	160	0.5	<5	0.14	<1	10	23	15	3.33	0.06	0.2	1145	2	0.01	16	680	10	<5	2	<10	20	0.11	55	<10	3	271	4
1V0305SJ	#145	416500	5938500	3	<0.2	1.59	<5	720	0.5	<5	0.37	2	10	23	19	3.96	0.12	0.19	3740	4	0.01	33	2110	14	<5	2	<10	40	0.1	46	20	6	917	4
1V0305SJ	#146	416500	5938400	4	<0.2	1.22	<5	240	0.5	<5	0.33	1	7	25	7	2.66	0.09	0.19	1425	<2	0.01	14	700	10	<5	2	<10	32	0.11	52	10	3	364	4

1V0305SJ	#147	416500	5938300	3	<0.2	1.11	<5	130	0.5	<5	0.28	<1	10	35	9	3.13	0.18	0.36	405	<2	0.02	19	610	8	<5	4	<10	30	0.16	73	<10	7	72	19
1V0305SJ	#148	416500	5938200	2	<0.2	1.68	5	120	0.5	<5	0.38	<1	13	39	35	3.68	0.14	0.56	760	<2	0.02	28	750	44	<5	6	<10	34	0.15	78	<10	14	180	29
1V0305SJ	#149	417000	5938200	2	<0.2	0.9	<5	90	0.5	<5	0.29	<1	8	29	10	2.6	0.08	0.28	280	<2	0.02	12	530	12	<5	2	<10	24	0.15	62	<10	5	96	11
1V0305SJ	#150	417000	5938300	3	<0.2	0.98	<5	80	0.5	<5	0.28	<1	7	28	8	2.44	0.08	0.24	245	<2	0.02	14	540	10	<5	2	<10	23	0.14	57	<10	7	97	9
1V0305SJ	#151	417000	5938400	3	<0.2	1.41	<5	120	0.5	<5	0.29	<1	9	34	15	2.99	0.08	0.33	320	<2	0.02	20	830	16	<5	3	<10	30	0.16	72	<10	5	93	14
1V0305SJ	#152	417000	5938500	2	<0.2	1.17	<5	90	0.5	<5	0.31	<1	8	29	9	2.72	0.13	0.27	380	<2	0.01	16	1030	14	<5	2	<10	23	0.13	63	<10	4	138	9
1V0305SJ	#153	417000	5938600	8	<0.2	1.61	5	150	1	<5	0.41	<1	11	35	75	3.48	0.1	0.53	580	<2	0.02	26	660	12	<5	5	<10	41	0.13	70	<10	17	90	7
1V0305SJ	#154	417000	5938700	4	<0.2	1.32	<5	140	0.5	<5	0.33	<1	9	30	11	2.86	0.07	0.33	505	<2	0.02	19	1070	10	<5	3	<10	32	0.14	61	<10	6	104	8
1V0305SJ	#155	417000	5938800	4	<0.2	1.63	<5	160	0.5	<5	0.35	<1	13	29	12	3	0.07	0.47	645	<2	0.02	19	1620	14	<5	3	<10	34	0.12	56	<10	5	168	6
1V0305SJ	#156	417000	5938900	18	<0.2	1.22	<5	100	0.5	<5	0.35	<1	7	26	10	2.35	0.06	0.47	230	<2	0.02	13	870	12	<5	3	<10	32	0.15	48	<10	8	60	10
1V0305SJ	#157	417500	5939000	4	<0.2	2.04	5	110	1	<5	0.72	<1	18	23	11	6.17	0.15	1.11	1705	<2	0.01	19	1870	14	<5	8	<10	31	0.05	97	<10	11	146	9
1V0305SJ	#158	417500	5938900	92	<0.2	1.32	<5	140	0.5	<5	0.35	<1	11	32	13	3.34	0.07	0.49	425	<2	0.02	21	1140	10	5	3	<10	32	0.14	70	<10	7	73	9
1V0305SJ	#159	417500	5938800	3	<0.2	1.09	<5	100	0.5	<5	0.22	<1	7	22	7	2.31	0.04	0.35	265	<2	0.02	13	480	14	<5	2	<10	22	0.13	49	<10	4	97	6
1V0305SJ	#160	417500	5938725	6	<0.2	1.17	<5	120	0.5	<5	0.32	<1	12	30	10	2.81	0.07	0.41	530	<2	0.02	17	920	12	5	3	<10	34	0.16	67	<10	7	74	10
1V0305SJ	#161	417500	5938600	4	<0.2	1.01	<5	120	0.5	<5	0.29	<1	9	31	7	2.84	0.07	0.34	265	<2	0.02	15	940	10	<5	2	<10	34	0.17	72	<10	5	58	11
1V0305SJ	#161A	417500	5938500	4	<0.2	0.95	<5	130	0.5	<5	0.3	<1	9	28	9	2.53	0.06	0.34	290	<2	0.02	15	750	8	<5	3	<10	33	0.15	63	<10	8	56	11
1V0305SJ	#163	417500	5938300	8	<0.2	0.98	5	470	0.5	<5	0.47	<1	2	4	4	0.96	1.15	0.13	940	<2	0.02	3	440	10	<5	1	<10	58	0.03	13	<10	4	57	3
1V0305SJ	#165	417500	5939300	5	<0.2	1.13	<5	120	0.5	<5	0.42	<1	9	32	12	3.05	0.11	0.48	560	<2	0.01	15	330	14	5	3	<10	17	0.09	70	<10	14	106	6
1V0305SJ	#166	417500	5939400	8	<0.2	1.53	<5	280	0.5	<5	0.36	1	10	26	5	3.18	0.12	0.6	2005	<2	0.01	13	1570	16	<5	3	<10	21	0.07	63	10	3	550	4
1V0305SJ	#167	417500	5939500	13	<0.2	1.87	<5	260	0.5	<5	0.27	3	11	32	11	3.8	0.08	0.8	2670	<2	0.01	16	2980	20	<5	4	<10	18	0.05	73	10	5	448	3
1V0305SJ	#168	417500	5939600	5	<0.2	1.52	<5	140	0.5	<5	0.15	<1	9	18	6	3.08	0.08	0.58	460	<2	0.01	17	1990	8	<5	3	<10	6	0.07	61	<10	5	150	6
1V0305SJ	#169	418000	5939000	4	<0.2	1.26	5	110	0.5	<5	0.38	<1	11	31	12	3.3	0.08	0.53	630	<2	0.02	20	600	12	5	5	<10	26	0.12	68	<10	11	70	11
1V0305SJ	#170	418000	5938900	3	<0.2	1.02	<5	100	0.5	<5	0.29	<1	10	25	9	2.92	0.05	0.39	550	<2	0.01	16	340	10	5	3	<10	21	0.09	59	<10	7	65	8
1V0305SJ	#171	418000	5938800	5	0.4	1.41	<5	110	0.5	<5	0.51	<1	10	30	16	3.14	0.1	0.49	535	<2	0.01	23	550	6	5	5	<10	38	0.08	55	<10	17	63	12
1V0305SJ	#172	418000	5938700	40	2.6	1.42	5	110	0.5	<5	0.46	<1	17	25	14	4.57	0.1	0.54	1120	4	0.01	20	920	12	<5	4	<10	27	0.08	81	<10	9	156	7
1V0305SJ	#173	418000	5938600	3	<0.2	1.34	<5	160	0.5	<5	0.44	<1	10	34	16	3.06	0.08	0.45	360	<2	0.02	21	810	10	<5	5	<10	37	0.15	65	<10	12	65	17
1V0305SJ	#174	418000	5938500	3	<0.2	1.5	<5	180	0.5	<5	0.25	<1	8	27	6	2.87	0.12	0.29	400	<2	0.01	19	2380	8	<5	2	<10	24	0.13	56	<10	4	79	9
1V0305SJ	#175	418000	5938400	3	<0.2	1.14	<5	130	0.5	<5	0.22	<1	8	28	7	2.7	0.11	0.27	260	<2	0.02	15	1100	6	<5	2	<10	24	0.13	62	<10	4	44	6
1V0305SJ	#176	418000	5938300	1	<0.2	1.26	<5	130	0.5	<5	0.26	<1	8	28	6	2.6	0.08	0.27	325	<2	0.01	19	1290	6	<5	2	<10	21	0.12	56	<10	4	70	6
1V0305SJ	#177	418000	5939200	5	<0.2	1.17	<5	100	0.5	<5	0.25	<1	8	23	6	3.28	0.05	0.48	325	<2	0.01	15	880	6	<5	3	<10	16	0.1	68	<10	5	86	5
1V0305SJ	#178	418000	5939300	4	<0.2	1.16	5	110	0.5	<5	0.31	<1	9	30	9	2.95	0.07	0.36	240	<2	0.02	17	830	6	<5	3	<10	27	0.15	71	<10	5	51	11
1V0305SJ	#179	418000	5939400	6	<0.2	1.82	<5	160	0.5	<5	0.22	<1	10	28	10	3.08	0.05	0.4	415	<2	0.01	23	1590	10	<5	3	<10	14	0.1	62	<10	5	122	7
1V0305SJ	#181	418000	5939300	3	<0.2	1.31	<5	140	0.5	<5	0.26	<1	9	26	7	2.93	0.1	0.41	620	<2	0.01	19	1160	10	<5	3	<10	15	0.09	60	<10	5	168	7
1V0305SJ	#126 Dup			4	<0.2	1.56	<5	220	0.5	<5	0.21	<1	4	14	2	1.78	0.29	0.17	220	<2	0.01	10	1110	4	<5	1	<10	23	0.08	35	<10	2	45	7
1V0305SJ	Silt#2	416000	5939460	4	<0.2	2.3	5	210	1	<5	0.72	<1	13	40	39	3.68	0.1	0.61	540	<2	0.02	33	890	10	5	8	<10	53	0.08	75	<10	23	74	17

				Geochem	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
Certificate	Sample			Au	Ag	Al	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	W	Zn
Number	Name	Easting	Northing	ppb	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
1V0314RR	R-25	415250	5939400	5	<1	6.6	3690	0.5	<5	0.11	<1	13	183	6	1.45	8.24	0.38	190	8	0.71	12	340	4	140	0.04	17	10	60
1V0314RR	R-26	415245	5939935	2	<1	6.97	770	<0.5	<5	<0.01	<1	2	87	3	1.6	4.02	0.23	55	2	0.14	3	1090	<2	15	0.11	190	10	18
1V0314RR	R-28	418493	5938770	1	<1	5.14	650	0.5	<5	0.06	<1	2	128	3	1.92	2.73	0.08	70	2	2.13	7	150	6	46	0.03	11	<10	30
1V0314RR	R-29	418500	5938722	6	<1	4.68	880	0.5	<5	0.05	<1	2	110	2	3.33	3.15	0.05	35	2	1.66	6	90	4	53	0.02	12	20	28
1V0314RR	R-30	418501	5938698	3	<1	4.23	760	0.5	10	0.05	1	1	98	<1	10.76	2.83	0.03	55	<2	1.48	6	150	2	58	0.03	29	40	14
1V0314RR	R-31	417750	5938910	4	<1	4.75	70	0.5	<5	0.8	1	16	46	<1	7.94	0.1	1.17	875	<2	2.48	13	1110	<2	46	0.04	151	10	72
1V0314RR	R-32	417750	5938923	4	<1	4.62	40	<0.5	<5	0.16	1	5	27	<1	>15.00	0.11	1.25	1135	<2	2.24	14	640	16	41	0.09	191	100	84
1V0314RR	R-37	419250	5938718	8	<1	2.25	120	<0.5	10	0.06	1	8	87	3	14.4	0.45	0.07	115	14	0.95	6	200	10	23	0.03	102	200	40
1V0314RR	R-38	419530	5938870	5	1	3.72	380	0.5	<5	0.03	<1	2	145	11	3.74	3.15	0.05	45	4	0.95	8	50	<2	30	0.03	11	50	26
1V0314RR	R-40	417434	5938985	6	<1	4.58	50	0.5	5	0.93	1	6	32	<1	14.48	0.45	0.28	650	50	2.76	10	960	4	46	0.05	130	100	52
1V0314RR	R-41	419182	5938655	2	<1	4.11	100	0.5	<5	0.18	1	14	115	<1	10.94	0.45	1.1	755	12	2.97	16	400	8	71	0.08	170	50	76
1V0314RR	R-42	419182	5938666	5	<1	3.36	710	<0.5	10	0.09	1	6	114	<1	>15.00	1.73	0.03	25	24	2.3	8	180	10	78	0.06	95	120	8
1V0314RR	R-43	419113	5938545	7	<1	2.22	460	<0.5	5	0.02	<1	4	134	3	12.94	1.5	0.42	325	<2	0.49	10	140	6	29	0.04	48	50	62
1V0314RR	R-44	419213	5938695	3	<1	4.63	100	0.5	5	0.1	1	20	142	<1	10.65	0.2	0.22	225	4	3.15	9	110	6	56	0.04	48	70	52

Certificate Number	Sample Name	Easting	Northing	Geochem Au ppb	ICP Ag ppm	ICP Al %	ICP As ppm	ICP Ba ppm	ICP Be ppm	ICP Bi ppm	ICP Ca %	ICP Cd ppm	ICP Co ppm	ICP Cr ppm	ICP Cu ppm	ICP Fe %	ICP K %	ICP Mg %	ICP Mn ppm	ICP Mo ppm	ICP Na %	ICP Ni ppm	ICP P ppm	ICP Pb ppm	ICP Sb ppm	ICP Sc ppm	ICP Sn ppm	ICP Sr ppm	ICP Ti %	ICP V ppm	ICP W ppm	ICP Y ppm	ICP Zn ppm	ICP Zr ppm
1V0314SJ	#182	415250	5939200	6	<0.2	1.5	<5	160	0.5	<5	0.59	<1	13	37	32	3.52	0.14	0.62	800	<2	0.02	26	1300	12	<5	5	<10	51	0.14	70	<10	14	111	7
1V0314SJ	#183	415250	5939300	3	<0.2	1.11	5	160	0.5	<5	0.45	<1	9	32	13	2.65	0.07	0.41	550	<2	0.02	18	820	8	<5	4	<10	45	0.15	66	<10	14	52	7
1V0314SJ	#184	415250	5939400	3	<0.2	1.96	<5	140	0.5	<5	0.12	<1	10	29	7	3.1	0.05	0.27	165	<2	0.01	21	1140	12	5	2	<10	11	0.13	63	<10	3	87	7
1V0314SJ	#185	415250	5939500	4	<0.2	1.11	5	120	0.5	<5	0.35	<1	9	32	15	2.76	0.06	0.43	310	<2	0.02	18	690	10	<5	3	<10	37	0.15	68	<10	6	51	11
1V0314SJ	#186	415250	5939600	4	<0.2	1.27	5	140	0.5	<5	0.31	<1	8	31	14	2.76	0.06	0.4	255	<2	0.02	19	460	6	<5	4	<10	23	0.14	67	<10	12	56	6
1V0314SJ	#187	415250	5939700	11	<0.2	1.48	5	160	0.5	<5	0.44	<1	10	36	19	3.23	0.08	0.58	355	<2	0.02	21	970	10	<5	5	<10	46	0.14	67	<10	8	57	20
1V0314SJ	#188	415250	5939800	5	<0.2	1.29	<5	120	0.5	<5	0.3	<1	8	26	12	2.27	0.05	0.38	275	<2	0.02	15	830	6	<5	2	<10	27	0.13	50	<10	6	45	6
1V0314SJ	#189	415250	5939900	3	<0.2	1.24	<5	130	0.5	<5	0.43	<1	9	29	11	2.74	0.09	0.32	300	<2	0.01	16	660	10	<5	2	<10	35	0.14	66	<10	3	73	9
1V0314SJ	#190	415250	5940000	2	0.2	1.01	<5	310	0.5	5	0.05	<1	8	13	40	7.55	0.09	0.07	360	12	0.01	8	1880	26	10	1	<10	12	0.04	68	<10	2	73	5
1V0314SJ	#191	415750	5940000	2	<0.2	2.12	<5	120	0.5	<5	0.15	<1	11	25	11	4.89	0.12	0.73	465	2	0.02	13	2340	12	<5	6	<10	4	0.13	114	10	3	133	9
1V0314SJ	#192	415750	5939900	3	<0.2	2.64	<5	150	0.5	<5	0.28	2	18	26	13	4.52	0.08	0.77	935	<2	0.01	18	2290	114	<5	4	<10	23	0.14	115	20	4	1092	10
1V0314SJ	#193	415750	5939800	2	<0.2	1.39	<5	120	0.5	<5	0.4	<1	9	29	14	3	0.08	0.48	325	<2	0.02	18	980	10	<5	3	<10	32	0.14	67	<10	8	81	6
1V0314SJ	#194	415750	5939700	1	<0.2	1.95	5	150	0.5	<5	0.29	<1	10	31	10	3.22	0.08	0.38	300	<2	0.01	26	1350	8	<5	3	<10	27	0.12	62	<10	5	101	10
1V0314SJ	#195	415750	5939600	3	<0.2	1.47	5	130	1	<5	0.47	<1	15	19	17	4.48	0.14	0.58	1065	<2	0.01	14	900	18	<5	4	<10	31	0.09	79	<10	11	135	5
1V0314SJ	#196	415750	5939500	2	<0.2	1.58	5	150	0.5	<5	0.29	<1	8	29	9	2.72	0.07	0.37	215	<2	0.01	19	1110	8	<5	2	<10	28	0.13	60	<10	5	72	8
1V0314SJ	#197	415750	5939400	2	<0.2	1.36	5	110	0.5	<5	0.23	<1	8	27	14	2.87	0.06	0.44	225	<2	0.01	16	800	10	<5	3	<10	16	0.12	59	<10	4	131	5
1V0314SJ	#198	415750	5939300	21	<0.2	1.24	<5	150	0.5	<5	0.23	<1	8	27	13	3.03	0.06	0.36	295	<2	0.01	18	900	8	<5	3	<10	19	0.11	63	<10	5	120	5
1V0314SJ	#199	415750	5939200	3	<0.2	1.21	<5	110	0.5	<5	0.22	<1	8	24	9	3.06	0.1	0.49	330	<2	0.01	15	510	8	<5	3	<10	20	0.12	62	<10	6	69	6
1V0314SJ	#200	418500	5939000	2	<0.2	1.35	<5	140	0.5	<5	0.72	<1	12	28	31	3.26	0.08	0.63	1070	<2	0.02	25	470	10	<5	4	<10	52	0.09	59	<10	12	76	10
1V0314SJ	#201	418500	5939200	3	<0.2	0.92	5	70	0.5	<5	0.32	<1	10	26	7	2.6	0.11	0.35	480	2	0.01	14	400	8	<5	2	<10	25	0.12	59	<10	3	46	7
1V0314SJ	#202	418500	5939300	2	<0.2	1.37	5	160	0.5	<5	0.27	<1	8	31	9	2.98	0.07	0.36	245	<2	0.01	17	750	8	<5	2	<10	26	0.16	69	<10	5	50	11
1V0314SJ	#203	418500	5939400	10	<0.2	1.05	<5	100	0.5	<5	0.3	<1	7	24	7	2.52	0.05	0.4	290	<2	0.02	11	590	10	<5	3	<10	25	0.16	60	<10	5	57	7
1V0314SJ	#204	418500	5939500	3	<0.2	1.27	<5	120	0.5	<5	0.29	<1	9	28	10	2.76	0.06	0.4	330	<2	0.01	17	910	6	<5	3	<10	27	0.13	58	<10	5	124	5
1V0314SJ	#205	418500	5939600	6	<0.2	2.34	<5	110	0.5	<5	0.2	<1	9	30	10	3.96	0.06	0.44	310	<2	0.01	18	2980	12	<5	3	<10	10	0.11	78	<10	5	221	8
1V0314SJ	#206	418500	5938900	3	<0.2	1.55	<5	130	0.5	<5	0.27	<1	13	29	10	3.75	0.07	0.4	305	2	0.01	19	1410	12	<5	3	<10	17	0.13	80	<10	4	62	10
1V0314SJ	#207	418500	5938800	2	<0.2	0.54	<5	200	<0.5	<5	0.16	<1	6	12	5	2.48	0.05	0.12	880	2	0.02	4	400	10	<5	1	<10	13	0.06	42	<10	2	91	3
1V0314SJ	#208	418500	5938700	3	<0.2	1.16	<5	290	0.5	<5	0.5	<1	14	24	11	3.62	0.12	0.36	915	2	0.01	18	1450	10	<5	3	<10	45	0.12	65	<10	5	104	7
1V0314SJ	#209	418500	5938600	2	<0.2	0.95	<5	90	0.5	<5	0.27	<1	7	28	8	2.48	0.08	0.27	295	<2	0.02	14	790	6	<5	2	<10	23	0.13	57	<10	5	59	5
1V0314SJ	#210	418500	5938500	2	<0.2	0.98	<5	120	0.5	<5	0.36	<1	9	29	10	2.7	0.1	0.36	355	<2	0.02	15	760	8	<5	3	<10	32	0.13	62	<10	6	39	10
1V0314SJ	#211	418500	5938400	1	<0.2	0.85	<5	230	<0.5	<5	0.2	<1	8	24	7	2.27	0.1	0.17	715	<2	0.01	10	1700	6	<5	2	<10	20	0.11	48	<10	3	75	4
1V0314SJ	#212	418500	5938300	3	<0.2	1.07	<5	150	0.5	<5	0.21	<1	8	25	5	2.4	0.05	0.18	635	<2	0.01	12	1950	6	<5	2	<10	19	0.11	50	<10	3	60	4
1V0314SJ	#213	418500	5938200	7	<0.2	0.9	<5	130	0.5	<5	0.28	<1	7	30	7	2.48	0.07	0.25	370	<2	0.01	12	530	6	<5	2	<10	31	0.13	60	<10	5	54	7
1V0314SJ	#214	418250	5938900	4	<0.2	0.88	<5	90	0.5	<5	0.24	<1	8	25	9	2.59	0.06	0.33	300	2	0.02	12	230	8	<5	2	<10	19	0.13	57	<10	4	42	8
1V0314SJ	#215	418250	5938800	3	<0.2	0.73	<5	80	0.5	5	0.38	<1	9	7	8	4.64	0.08	0.13	955	6	0.01	5	750	16	<5	2	<10	13	0.01	29	<10	4	208	5
1V0314SJ	#216	418250	5938700	5	<0.2	1.31	<5	190	0.5	<5	0.27	<1	10	25	6	3.2	0.11	0.29	690	<2	0.01	13	1280	8	<5	2	<10	17	0.11	63	<10	3	126	5
1V0314SJ	#217	418250	5938600	2	<0.2	1.57	<5	130	0.5	<5	0.2	<1	8	28	6	3.05	0.08	0.24	315	<2	0.01	17	2680	8	<5	2	<10	18	0.12	61	<10	3	74	5
1V0314SJ	#218	417750	5939000	6	<0.2	1.34	<5	130	0.5	<5	0.42	<1	10	27	13	3.3	0.1	0.53	665	2	0.02	18	630	12	<5	4	<10	27	0.11	63	<10	8	57	14
1V0314SJ	#219	417750	5938900	4	<0.2	1.14	<5	130	0.5	<5	0.42	<1	10	28	11	3.42	0.09	0.42	645	2	0.01	15	480	10	<5	3	<10	22	0.12	70	<10	11	56	6
1V0314SJ	#220	417750	5938800	7	<0.2	0.84	<5	100	0.5	<5	0.35	<1	8	20	8	3.25	0.06	0.2	420	2	0.01	10	390	12	<5	1	<10	17	0.09	54	<10	6	55	5
1V0314SJ	#221	417750	5938700	4	<0.2	1.5	<5	180	0.5	<5	0.9	<1	15	34	22	3.56	0.09	0.63	1810	2	0.02	31	520	12	<5	4	<10	43	0.14	67	<10	9	81	12
1V0314SJ	#222	419000	5939000	2	<0.2	1.35	<5	150	0.5	<5	0.27	<1	10	28	8	3.13	0.07	0.32	390	<2	0.01	17	1060	8	<5	2	<10	22	0.13	70	<10	4	63	7
1V0314SJ	#223	419000	5939200	3	<0.2	1.2	<5	110	0.5	<5	0.34	<1	8	27	8	2.95	0.07	0.36	260	<2	0.01	16	1330	6	<5	2	<10	22	0.12	66	<10	4	47	6
1V0314SJ	#224	419000	5939300	6	<0.2	0.91	<5	100	0.5	<5	0.29	<1	7	22	11	2.27	0.05	0.32	365	<2	0.01	12	420	6	<5	2	<10	20	0.12	50	<10	5	40	6
1V0314SJ	#225	419000	5939400	4	<0.2	1.47	<5	110	0.5	<5	0.59	<1	8	27	15	2.95	0.04	0.48	240	<2	0.02	18	410	8	<5	3	<10	28	0.11	58	<10	7	31	9
1V0314SJ	#226	419000	5939500	21	<0.2	1.89	<5	140	0.5	<5	0.66	<1	12	39	23	3.85	0.08	0.51	840	<2	0.02	23	400	8	<5	6	<10	41	0.12	74	<10	16	64	10
1V0314SJ	#227	419000	5939600	3	<0.2	0.93	<5	70	0.5	<5	0.2	<1	6	20	5	2.11	0.04	0.34	255	<2	0.02	9	280	6	<5	2	<10	19	0.14	46	<10	3	35	6
1V0314SJ	#228	418750	5938900	2	<0.2	1.11	<5	110	0.5	<5	0.21	<1	8	24	6	3.28	0.08	0.27	275	<2	0.01	13	880	6	<5	2	<10	16	0.1	66	<10	3	50	5
1V0314SJ	#229	418750	5938800	16	<0.2	1.43	<5	180	0.5	<5	0.35	<1	11	31	10	3.62	0.08	0.39	555	<2	0.01	18	690	10	<5	3	<10	20	0.13	79	<10	7	63	9
1V0314SJ	#230	418750	5938700	4	<0.2	0.95	<5	110	0.5	<5	0.36	<1	9	28	11	2.43	0.09	0.33	455	<2	0.02	16	800	4	<5	2	<10	35	0.15	61	<10	7	61	8
1V0314SJ	#231	418750	5938600	6	<0.2	1.15	<5	110	0.5	<5	0.32	<1	8	27	7	2.61	0.08	0.26	380	<2	0.01	18	1500	6	5	2	<10	31	0.13	58	<10	3	70	6
1V0314SJ	#232	419250	5938900	6	<0.2	1.01	<5	100	0.5	<5	0.35	<1	7	27	12	2.42	0.07	0.29	245	<2	0.02	15	350	4	5	3	<10	27	0.13	58	<10	7	58	7
1V0314SJ	#233	419250	5938800	11	<0.2	1.05	<5	110	0.5	<5	0.33	<1	10	29	10	3.11	0.09	0.37	415	<2	0.01	17	1310	6	<5	3	<10	24	0.13	71	<10	6	69	7

1V0314SJ	#234	419250	5938700	3	<0.2	1.15	<5	90	0.5	<5	0.22	<1	14	24	10	3.13	0.09	0.32	385	<2	0.01	15	720	4	<5	2	<10	19	0.11	63	<10	3	85	5
1V0314SJ	#235	419250	5938600	6	<0.2	1.02	<5	100	0.5	<5	0.47	<1	10	30	11	2.71	0.04	0.32	300	2	0.02	15	300	4	<5	2	<10	41	0.14	70	<10	3	46	6
1V0314SJ	#236	419000	5938900	3	<0.2	1.43	<5	150	0.5	<5	0.32	<1	10	28	9	3.18	0.1	0.36	405	<2	0.01	21	1600	6	<5	3	<10	24	0.09	60	<10	6	102	7
1V0314SJ	#237	419000	5938800	4	<0.2	0.96	<5	120	0.5	<5	0.38	<1	11	33	13	2.87	0.1	0.4	410	<2	0.02	21	760	10	<5	4	<10	36	0.16	71	<10	9	50	18
1V0314SJ	#238	419000	5938700	3	<0.2	0.77	<5	100	0.5	<5	0.29	<1	11	25	7	3	0.09	0.24	530	<2	0.01	10	810	4	<5	2	<10	17	0.11	62	<10	5	66	5
1V0314SJ	#239	419000	5938600	8	<0.2	1.21	<5	150	0.5	<5	0.6	<1	9	37	15	2.97	0.09	0.52	285	<2	0.02	20	820	4	<5	5	<10	46	0.12	55	<10	15	56	13
1V0314SJ	#240	419000	5938500	1	<0.2	1.42	<5	140	0.5	<5	0.3	<1	10	30	10	2.89	0.07	0.33	365	<2	0.02	21	1440	2	5	2	<10	30	0.13	64	<10	5	63	7
1V0314SJ	#241	419000	5938400	5	<0.2	1.39	<5	140	0.5	<5	0.28	<1	10	35	9	2.92	0.08	0.34	265	<2	0.02	21	1150	4	<5	2	<10	27	0.16	73	<10	5	63	12
1V0314SJ	#242	419000	5938300	4	<0.2	1.22	<5	130	0.5	<5	0.48	<1	11	44	20	3.45	0.08	0.49	485	<2	0.02	26	810	6	<5	6	<10	37	0.17	80	<10	17	56	20
1V0314SJ	#243	419500	5939000	3	<0.2	1.02	<5	130	0.5	<5	0.29	<1	8	26	7	2.67	0.07	0.26	385	<2	0.01	15	1230	4	5	2	<10	29	0.12	61	<10	4	96	4
1V0314SJ	#244	419500	5938900	3	<0.2	1.14	<5	110	0.5	<5	0.3	<1	10	28	9	2.83	0.07	0.29	520	<2	0.01	16	920	2	<5	3	<10	27	0.12	60	<10	8	72	5
1V0314SJ	#245	419500	5938800	3	<0.2	1.24	<5	130	0.5	<5	0.46	<1	10	31	17	3.14	0.11	0.37	535	<2	0.01	19	1290	8	<5	3	<10	34	0.13	68	<10	5	103	6
1V0314SJ	#246	419500	5938700	2	<0.2	1.58	<5	170	0.5	<5	0.28	<1	10	33	10	3.24	0.08	0.4	500	2	0.01	20	1940	8	<5	3	<10	25	0.13	71	<10	5	137	8
1V0314SJ	#247	419500	5938600	2	<0.2	0.94	<5	100	0.5	<5	0.38	<1	8	27	10	2.47	0.07	0.26	685	<2	0.01	14	490	6	<5	2	<10	26	0.13	58	<10	5	81	5
1V0314SJ	#248	419500	5938500	2	<0.2	1.08	<5	130	0.5	<5	0.31	<1	8	26	10	2.47	0.06	0.31	480	<2	0.02	13	1080	4	<5	2	<10	24	0.13	55	<10	5	80	5

APPENDIX B

Cabin Claims
Preliminary Petrographic Report
24 August 2001

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EXECUTIVE SUMMARY

A suite of ten samples have been studied from the Cabin Claims, British Columbia. The samples are variably brecciated, with intensity ranging from veinlet networking, through jigsaw puzzle brecciation, to intense fragmentation. The clasts are variably altered (in parallel with the intensity of brecciation), and are cemented by specular hematite, chlorite, and minor quartz. Chlorite and epidote characterize the wallrock alteration assemblage. The ore mineral assemblage is dominated by hematite, with rare pyrite and very rare chalcopyrite (sulfides being present mostly in the wallrock). The pyrite is typically rimmed with secondary iron hydroxide (goethite).

Fluid inclusions are preserved in quartz in one sample where quartz veining is best displayed. Measurements of homogenization temperatures and ice melting points in these inclusions indicate maximum temperatures near 400°C, and salinities of 11 to 12 equivalent weight % NaCl. The presence of some vapour-rich inclusions, containing traces of CO_2, suggests that this fluid was boiling during formation of the breccias. Minimum fluid pressure estimates (ignoring the presence of CO_2) suggest formation at depths of 1 to 2.5 km (depending on whether lithostatic or hydrostatic pressure conditions prevailed, respectively).

The hydrothermal environment suggested by these observations is of an overpressured, moderately high temperature and moderate salinity fluid system, which caused hydraulic brecciation and deposition of iron oxides with chloritic alteration (indicating an oxidizing, near-neutral pH fluid chemistry).

SAMPLE DESCRIPTIONS

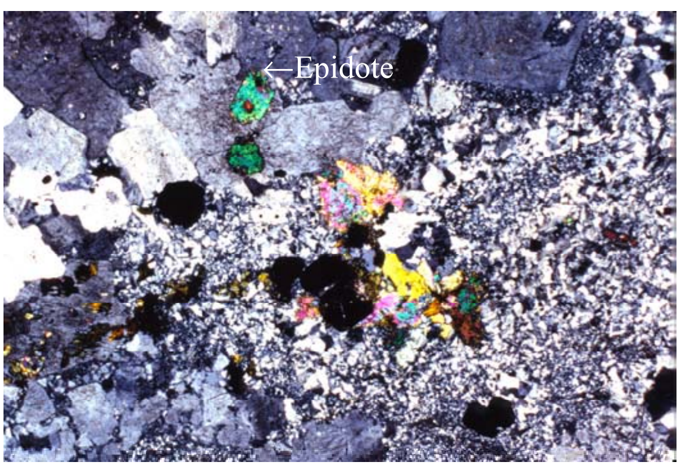
R-1

In hand specimen, the sample is massive (no vugs or obvious veins) but has a fragmental appearance imparted by the presence of dark-coloured angular clasts (≤1 cm size). The matrix appears to be igneous, and consists of medium-grained, somewhat altered intermediate-composition material, with pinkish feldspars and greenish (chloritic) groundmass.

In polished thin section, the fragmental nature of the rock is less apparent, but is still visible as domains of material with different textures and groundmass. The bulk of the rock is made up of feldspar-phyric igneous rock, with variably saussuritized plagioclase and altered K-feldspar phenocrysts up to 3 mm in length, set in a quartzofeldspathic and chloritic matrix. In some fragments the chloritization is extensive, and consists of swirly masses in between relict feldspar crystals; an unidentified, fine-grained, granular, moderate relief, birefringent mineral also occurs in zones of intense chlorite alteration. In other fragments, plagioclase phenocrysts have a sieve texture typical of intermediate composition volcanic rocks; inclusions which would be filled with glass in fresh samples are here chloritized. Still other fragments are not clearly igneous in origin, and consist of quartz and chlorite in a finely banded texture; here the chlorite locally appears to pseudomorph a spheroidal texture reminiscent of perlitic cracks in glass; these fragments may be sedimentary or perhaps volcaniclastic in origin.

Epidote, minor green amphibole (probably actinolite), and rare sphene (titanite) occur in isolated clusters with chlorite, perhaps replacing mafic fragments, although no relict textures are preserved.

In reflected light, the igneous materials contain relict magnetite microphenocrysts (up to 0.5 mm), which now have a rather porous appearance and are locally replaced by sphene. Some of the non-porphyritic clasts contain sparsely disseminated pyrite, but no other sulfides are present. The pyrite is pseudomorphed by secondary Fe-hydroxide (probably goethite) near fractures in the rock.



Left: Epidote in fine-grained quartzofeldspathic matrix (width of field = 3.3 mm; crossed polars). Right: Chlorite (dark green) surrounding sieve-textured plagioclase phenocrysts (width of field = 6.6 mm; crossed polars).

R-4

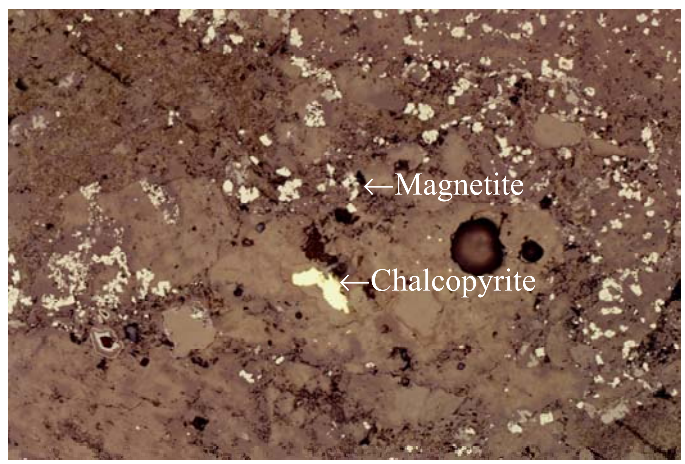
In hand specimen, the sample has a uniform dark green appearance, with sparse feldspar phenocrysts, and rare sulfides (mainly pyrite).

In polished thin section, the rock presents a relict igneous texture, with large saussuritized feldspar phenocrysts (≤5 mm), often in glomeroporphyritic clusters, set in a finer-grained (<0.5 mm) feldspathic matrix, everywhere permeated with chlorite. The original composition of the feldspars is not clear because of the degree of alteration, but their habit suggests sodic plagioclase rather than K-feldspar. No mafic phenocrysts are preserved, but may be represented by clumps of chlorite, which are intergrown with magnetite and minor epidote.

Tourmaline is present in minor amounts, forming prisms in feldspar phenocrysts (up to ~2 mm-long) and intergrown with clumps of chlorite. The tourmaline is zoned from colourless to dark blue-green, is strongly pleochroic, and is unaltered. Its occurrence with chlorite suggests that it is part of the alteration assemblage.

In reflected light, magnetite is abundant as small alteration granules (≤100 µm) with sphene or rutile intergrown with chlorite, and is particularly abundant in what might be pseudomorphs of mafic minerals. Here, the magnetite is commonly arranged in a bow-tie appearance, suggesting a relict texture (zoning?) of the original silicate mineral.

Pyrite occurs as sparse grains, locally oxidized to goethite, and is commonly associated with tourmaline. Rare grains of chalcopyrite were also observed (≤100 µm) in a small fracture/veinlet cutting the rock. Where the veinlet is filled with secondary minerals, these consist of quartz and feldspar, with fine-grained sphene, chlorite, and sparse epidote. Chalcopyrite and traces of pyrite occur as inclusions in the veinlet minerals.



Left: Tourmaline prisms and chlorite replacing plagioclase phenocrysts (width of field = 3.3 mm; crossed polars).
Right: Chalcopyrite in quartz veinlet (width of field = 1.33 mm; reflected light).

R-8

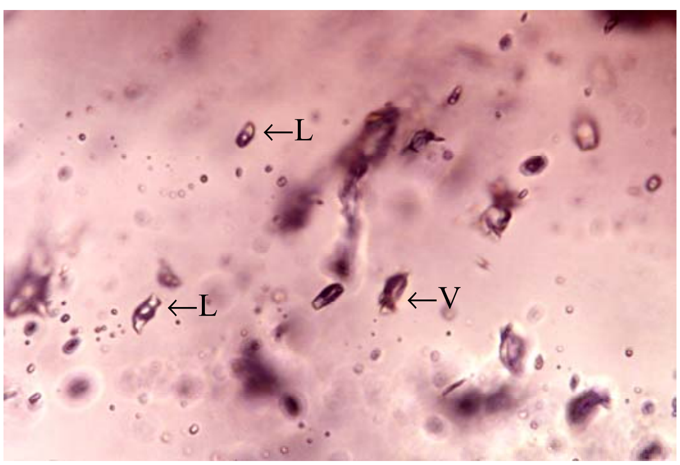
This sample was selected for fluid inclusion study because it contains quartz veins with visible vuggy cavities. The rock is quite siliceous, and contains less hematite than the other brecciated samples. Wallrock clasts are strongly altered, and feldspar phenocrysts have been altered to clay. Detailed petrography of the wallrock material was not possible on the thick fluid inclusion section.

The quartz matrix consists of mosaic-textured intergrowths, with vuggy cavities lined with quartz euhedra. Minor hematite lines the veins.

Fluid inclusions are variably present in the quartz. The majority are secondary in origin, but some primary or pseudosecondary inclusions are also present. The latter populations include both liquid- and vapour-rich inclusions, which suggests that boiling may have occurred during breccia formation and cementation. Homogenization temperatures were measured on 23 liquid-rich inclusions, yielding values from 193° to 382°C with the majority between 310° and 360°C. Salinities determined from ice melting point measurements ranged from 11.5 to 12.3 equivalent weight % NaCl, and initial ice melting temperatures of near –20°C suggest that the fluid is a NaCl-H_2O solution.

Homogenization and ice melting point temperatures are difficult to measure on vapour-rich inclusions, but two examples appeared to homogenize near 395°C, close to the upper range of temperatures measured for the liquid-rich inclusions. These results therefore support an interpretation in terms of boiling. Small amounts of material in these inclusions were observed to melt at –56.6°C, the melting point of pure CO_2, suggesting that the vapour phase contained traces of this gas as well as H_2O.

These results suggest that the breccia was formed by moderate salinity (11 to 12 equivalent weight % NaCl) boiling fluids at maximum temperatures near 400°C. In the absence of CO_2, these temperatures would indicate pressures of ~250 bars, and depths of between 1 and 2.5 km (assuming lithostatic and hydrostatic pressure conditions, respectively). The presence of CO_2 causes higher vapour-pressures in the fluid, however, and so these depth estimates are minima.



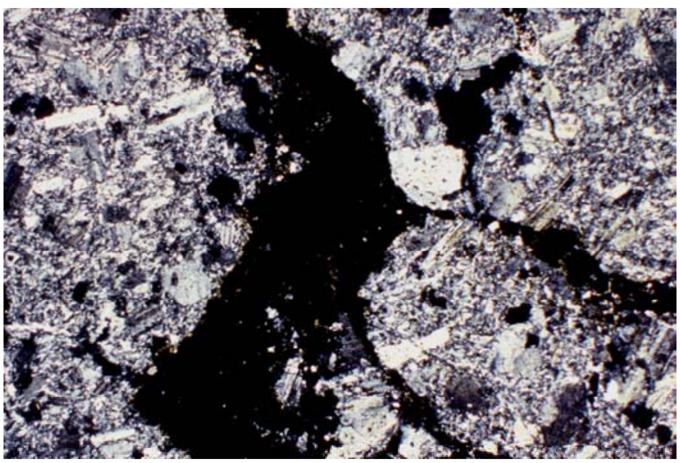
Primary liquid-rich (L) and vapour-rich (V) fluid inclusions in quartz breccia cement (width of field = 0.133 mm).

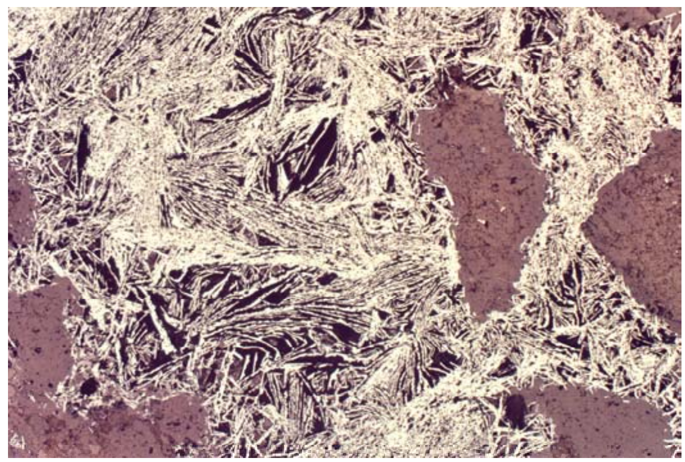
R-16

In hand specimen, the sample presents a monolithic, matrix-supported breccia texture, with pale-beige igneous rock fragments cemented by hydrothermal specular hematite matrix. The rock has some yellow surficial oxidation.

In polished thin section, the igneous wallrock is seen to be relatively fresh, and consists dominantly of crowded plagioclase phenocrysts and rare K-feldspar phenocrysts (≤1 mm-long), set in a finer-grained feldspathic matrix. The feldspars are saussuritized, but twinning is still clearly recognizable. No primary mafic minerals are preserved, nor obviously pseudomorphed. Chlorite is not abundant as an alteration product, which is mainly represented by weakly developed fine-grained sericite or clay. The wallrock clasts are angular, between a few centimetres and a few millimetres in size, and are cemented by hematitic matrix.

In reflected light, hematite is the dominant opaque mineral in the breccia matrix forming interlocking laths and meshes, sometimes with a swirly appearance; individual crystals are up to 1 mm-long. Minor amounts of quartz and feldspar gangue occur interstitially to the hematite laths, and secondary orange Fe-hydroxide (probably goethite) occurs locally. Small granules of bluish anatase (TiO_2) occur with scattered hematite in the wallrock clasts.





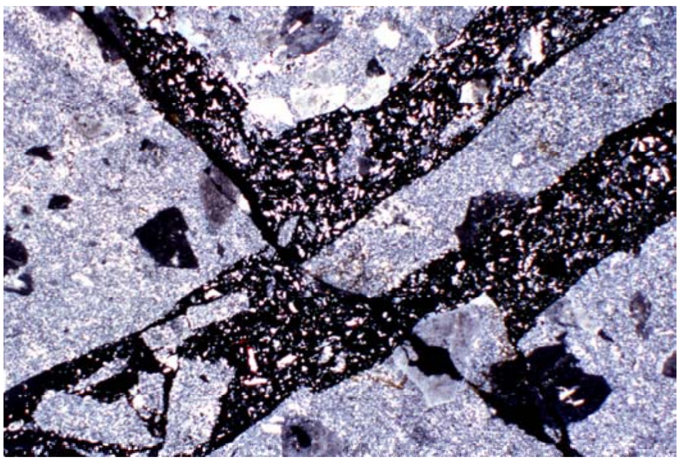
Left: Breccia texture: porphyritic wallrock clasts cemented by hematite (black; width of field = 6.6 mm; crossed polars).
Right: Specular hematite (white) in breccia matrix (width of field = 3.3 mm; reflected light).

R-30

In hand specimen, the sample presents a jigsaw-puzzle breccia texture, the pinkish igneous host rock being fractured and veined by hydrothermal specular hematite

In polished thin section, the igneous rock is relatively fresh, and consists of sparse K-feldspar phenocrysts (≤1 mm-long) set in a finer-grained quartzofeldspathic matrix. The feldspar crystals are commonly broken, suggesting that this may originally have been a pyroclastic rock, although matrix textures are not clearly preserved. No mafic minerals are present, but rare zircon crystals are visible.

In reflected light, hematite occurs with minor quartz and abundant small wallrock fragments in the breccia matrix and as veinlet fillings. The hematite is finer-grained than in R-16, with laths reaching only ~200 µm in length. Minor anatase, and very rare pyrite occur in the wallrock.




Left: Jigsaw-puzzle breccia texture: fine-grained porphyritic wallrock clasts cemented by hematitic matrix (black) containing smaller wallrock fragments (width of field = 6.6 mm; crossed polars).
Right: Specular hematite (white) in breccia matrix (width of field = 3.3 mm; reflected light).

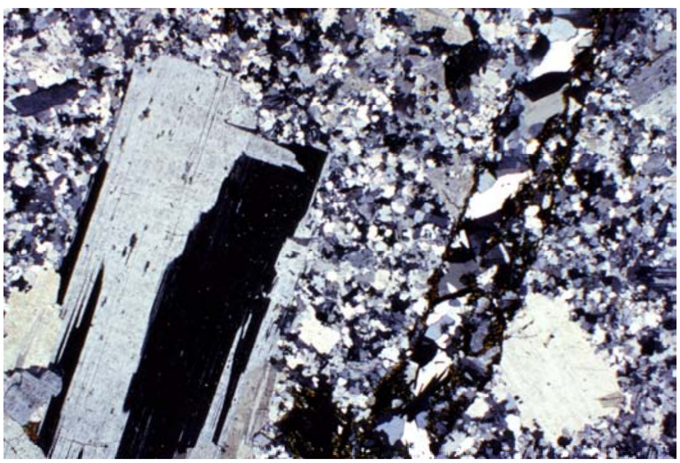
R-37

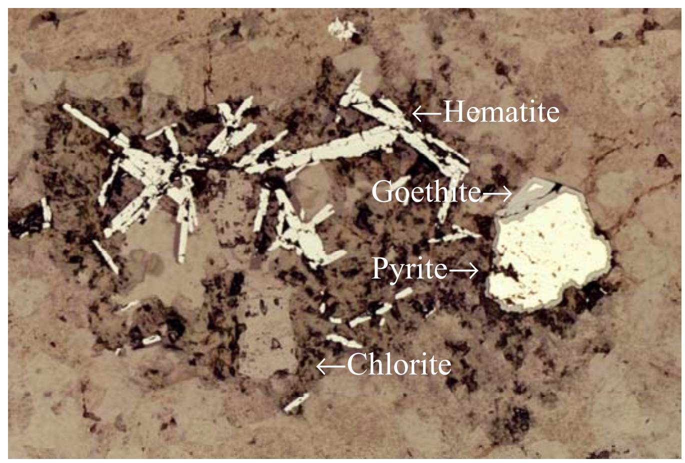
In hand specimen, the sample is of a light pinkish porphyritic igneous rock, cut by small hematitic fractures.

In polished thin section, the igneous rock is very fresh, and consists of large plagioclase phenocrysts (up to 5 mm-long) set in a finer-grained, mosaic-textured quartzofeldspathic matrix. Extinction angles (~15°) measured on the plagioclase phenocrysts suggest that they are oligoclase–andesine in composition. No mafic minerals are present, and alteration consists of minor sericite affecting feldspar crystals, and small clots of chlorite. The chlorite ranges to a brownish birefringent colour, suggesting that it may be regressive after mica.

Quartz-filled veinlets, rimmed with minor hematite and chlorite, cut the rock. The quartz is mosaic-textured and relatively undeformed, but contains only small secondary fluid inclusions, which appear to have been trapped at low temperatures (small bubble size).

In reflected light, hematite is sparsely developed lining quartz veinlets as noted above, and occurring with clots of chlorite. Brownish rutile granules also occur in the rock, often with chlorite, and may represent an alteration product of minor mafic silicate phases. Pyrite is present as scattered pyritohedra, up to 250 µm in diameter; locally the pyrite has rims of secondary goethite.





Left: Quartz veinlet with minor hematite (central right) cutting fresh, plagioclase-porphyritic igneous rock (width of field = 6.6 mm; crossed polars).
Right: Sparse pyrite crystals rimmed by goethite in wallrock, with minor hematite and chlorite alteration (width of field = 1.33 mm; reflected light).

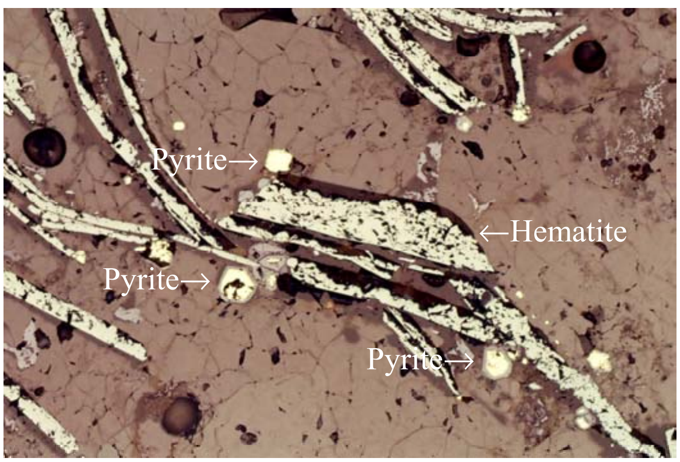
R-40

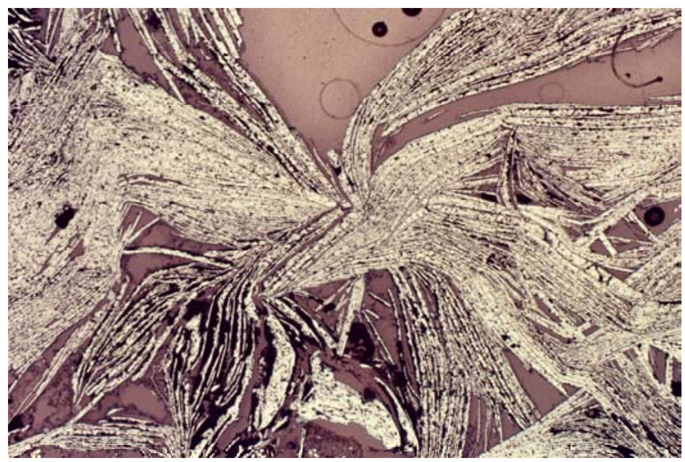
In hand specimen, the sample consists of massive specular hematite veining in an igneous matrix. The host rock appears to be a feldspar porphyry similar to those above.

In polished thin section, the igneous rock remains quite fresh, with plagioclase and lesser K-feldspar phenocrysts (up to 1 mm-long) showing minor saussuritization, and set in a finer grained quartzofeldspathic matrix. Locally, more intense sericitization affects the wallrock, preferentially replacing the plagioclase. Rutile occurs as an alteration mineral in this assemblage.

The bulk of the rock consists of hematite, which forms interlocking laths and meshes, often with swirling textures. Curved crystals in such swirling masses are not deformed and are optically continuous, suggesting that they grew in this form. Individual hematite crystals are up to several millimetres long. Brownish-green chlorite, quartz, and wallrock fragments occur in between the hematite laths, with chlorite being abundant towards the edge of the vein, and quartz towards the centre. At the vein margin, hematite replaces rutile grains in the wallrock, whereas in the centre, small pyrite crystals (≤100 μm) are present with hematite and jarosite (tentative identification) in the quartz gangue. The pyrite appears to be in equilibrium with the hematite, but has locally been rimmed or replaced by secondary goethite.

Primary fluid inclusions were not observed in the quartz gangue.



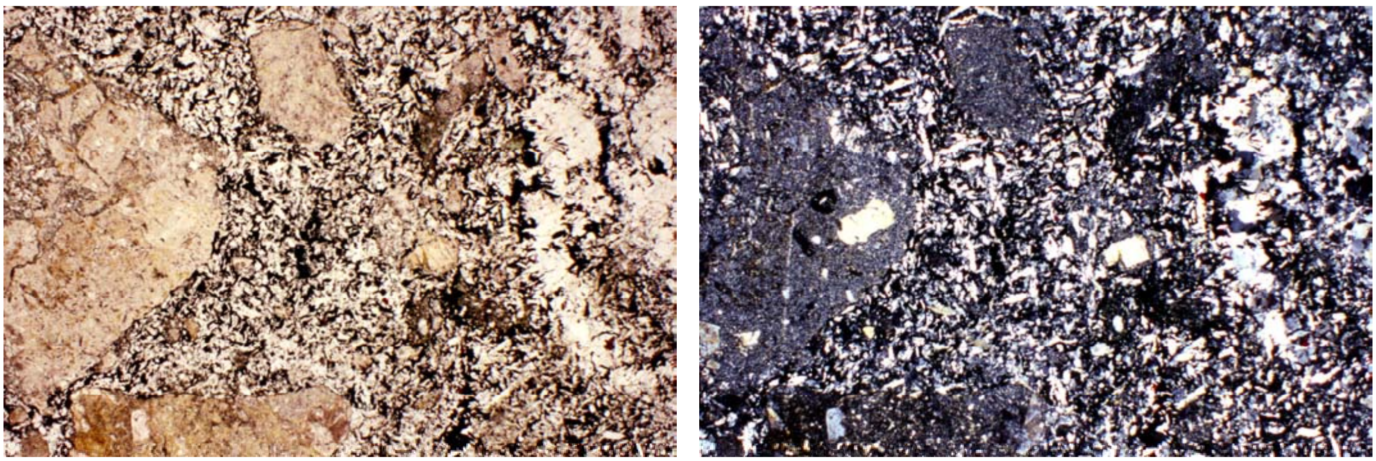


Left: Small pyrite crystals rimmed by goethite with curved hematite crystals in quartz gangue (width of field = 1.33 mm; reflected light).
Right: Curved hematite sheaves (white) in breccia matrix (width of field = 3.3 mm; reflected light).

R-43

In hand specimen, the sample consists of a matrix-supported breccia, cemented by hydrothermal quartz and hematite. Breccia clasts are up to 2 cm in size, but are subordinate to matrix material, suggesting formation in a high-energy fluid system.

In polished thin section, the igneous rock clasts are moderately altered, probably silicified, and consist of sparse saussuritized feldspar phenocrysts set in a fine-grained siliceous matrix, similar to the rock in R-30. The clasts are set in a matrix of interlocking quartz and hematite, with grain sizes typically <0.25 mm; minor amounts of chlorite and sericite accompany the quartz and hematite. The matrix shows no obvious layering or banding, and hematite is subordinate to quartz. Rare fine-grained rutile is present in the clasts, but no other ore minerals were observed.



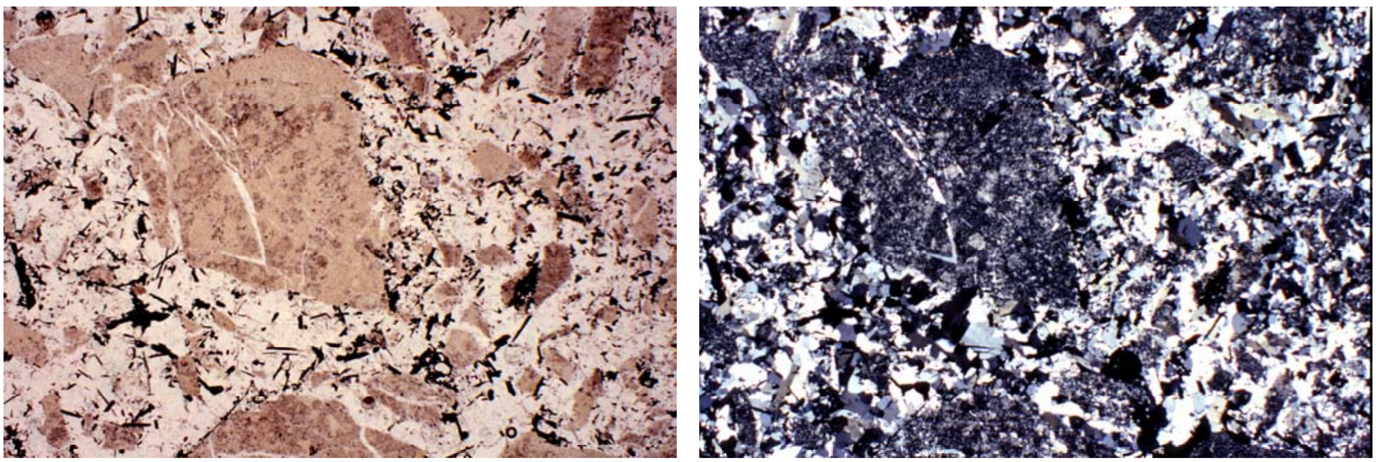
Igneous wallrock clasts in matrix-supported breccia; matrix consists mainly of quartz with minor hematite (width of field = 6.6 mm; left, plane-polarized light; right, cross-polarized light).

R-?

In hand specimen, the sample consists of a monolithic, matrix-supported breccia, cemented by hydrothermal quartz and hematite. The rock fragments are of salmon-coloured igneous material similar to that described above.

In polished thin section, the igneous rock is fine-grained and weakly feldspar porphyritic, although much of the feldspar is saussuritized making identification difficult. Some phenocrysts reach up to 4 mm in length. Texturally, it resembles the rock in R-30, and contains sparse zircon crystals. The igneous rock matrix is a fine-grained, textureless, quartzofeldspathic intergrowth, with minor sericite present as alteration.

Contrary to the appearance in hand specimen, the breccia matrix is dominantly quartz, with hematite less abundant. The hematite forms isolated laths and clusters, with crystal sizes mostly less than 0.5 mm, but some crystals exceed 2 mm. The quartz has an interlocking mosaic texture, and is relatively undeformed. Primary fluid inclusions were not observed.



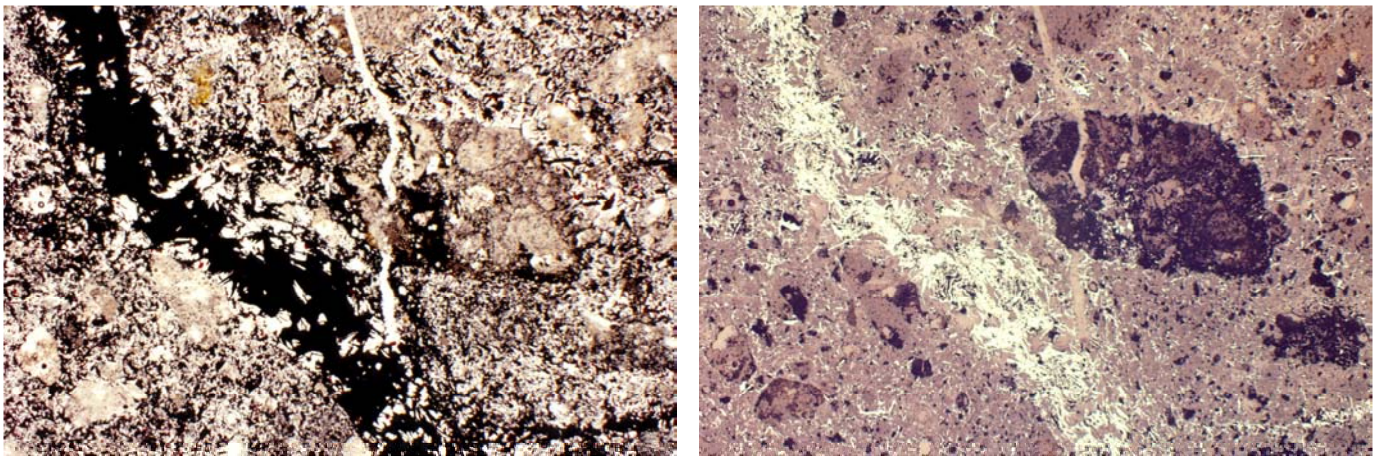
Angular igneous wallrock clasts in matrix-supported breccia; matrix consists mainly of quartz with minor hematite (black laths; width of field = 6.6 mm; left, plane-polarized light; right, cross-polarized light).

R-19

This sample texturally resembles R-43 and R-?, and consists of a matrix-supported breccia, cemented by hydrothermal quartz and hematite. Breccia clasts are mostly less than 1 cm in size, and are subordinate to matrix material.

In polished thin section, igneous rock clasts are strongly silicified with little relict texture visible. They are cemented, as before, by interlocking quartz and hematite crystals, the latter rarely exceeding 0.25 mm in length.

Of interest in this section is evidence for multiple pulses of fracturing and hydrothermal mineral deposition. The main stage of brecciation is cross-cut by quartz veinlets and a more hematite-rich vein, with slightly coarser-grained quartz gangue; no fluid inclusions were visible in this material, however.



Evidence for multiple stages of brecciation and veining. Early breccia clasts and quartz-hematite matrix are veined by quartz (centre right) and hematite veins (centre left; width of field = 6.6 mm; left, plane-polarized light; right, reflected light).


414 000
415 000
416 000
417 000
418 000
419 000
420 000
5940 000
5939 000
5938 000
CABIN #2
CABIN #1
LEGEND
Silt Samples; 1 to 2
Till Samples; 1 to 248
Rock Samples; R 01 to 54
Road
Lake
Drainage
Claim Block
CABIN CLAIMS
GEOLOGY MAP
N.T.S. 093 - F -09
Scale
0
200
400
Meters
1: 10000
OCTOBER 2001
FIGURE 07
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CABIN #2
CABIN #1
?
414 000
415 000
416 000
417 000
418 000
419 000
420 000
5940 000
5939 000
5938 000
LEGEND
LCP Legal Claim Post
Rock Type
Hematite +/- quartz
Trench
Iron Oxide Zone
Diorite
Fault
Quartz Sericite Pyrite
Rock Samples; R 01 to 54
Road
Lake
Drainage
Claim Block
CABIN CLAIMS
GEOLOGY MAP
N.T.S. 093 - F -09
Scale 0 200 400 Meters
1: 10000
OCTOBER 2001
FIGURE 08
N
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