PAP88-027

PROSPECTORS' ASSISTANCE PROGRAM 1988

JAMES S. DODGE

SUMMARY OF FINDINGS

A. Money Creek Lake - Finlayson Lake Map Area

Bedrock area along the northwestern border of the Money Klippe in the Finlayson Lake map area was found to contain two or, possibly, three sites where nephrite jade is exposed in talus blocks and in outcrops.

In each case, the jade occurs in gently inclined tabular bodies of serpentinite of the Anvil allochthonon (see D. Templeman-Kluit). Overlying the serpentinite are discontinuous exposures of limestone-bearing graphitic phyllite and intercalated basalt. Underlying the serpentinite is a thin succession of graphitic phyllites which presumably represent the base of the Anvil allochthon in this area. Separated by a thrust (?) fault, the underlying chlorite-muscovite-quartz schist (Klondike ?) of the Nisutlin allochthon exhibits foliation with a gentle (10° - 25°) south-southeasterly inclination.

Jade appears to be preferentially developed in the immediate vicinity of the talc or talc-silica zones in the serpentinite. These "reaction zones" are indicative of metasomatic transfer of silica to serpentine from the enclosing arenaceous rocks - phyllites and schist - to form nephrite jade masses. Thus, recognition of talc zones appears to be a reliable guide to nephrite possibilities in this area.

Approximately 25 kg of probable nephrite outcrop material was packed down to the float plane pickup site on the lake. However, without a saw cut or drill core to examine, field recognition of commercial quality nephrite is quite problematic until thorough sampling of in-situ occurrences has been undertaken.

#1 Area (discovery or cliff exposure) revealed cliff-forming serpentinite with nephritic zones immediately below a talcose reaction zone, estimated to be 20 meters long and up to 2 meters thick, near the upper contact of the tabular serpentinite body. Randomly selected outcrop samples were subsequently slabbed in Whitehorse. This revealed impurities (magnetite and talc) and fractures. Also, some of the material is semi-nephrite or "soft jade", i.e., hardness somewhat less than a pocket knife, although the colors may be acceptable.

#2 Area (southeast of #1) comprises a 50-meter long reaction zone overlying which is a nephritic serpentinite body inclined gently southwesterly. The jade picked from the outcrop displayed somewhat more lineation (tectonic foliation) of dark impurities than does jade from the #1 outcrops.

(more)

#3 (southeast of #2) Area represents a frost-heaved mass of talcose reaction zone material over 20 meters in length. No bedrock nephrite was observed during a brief examination of the site. However, several small, rounded jade specimens were collected from patches of detrital material forming small outwash aprons of springs situated several hundred meters downslope. The probability of locating in-situ jade immediately below the reaction zone talus at Site #3 appears high.

Unfortunately, and unbeknownst to me on this trip, the camera shutter was broken and in the "open" position at all times. Thus, all the film was completely black-exposed frame by frame, and I have no way of illustrating the geologic settings referred to above.

The five "Lady Lee" claims were staked covering the outcrops and talus slopes of the three sites. Core drilling is planned for 1989 in order to determine the size and quality of jade bodies in the serpentinite.

Of possible further interest are the geochem results of Samples #12614-#12633 taken on the Lady Lee claims of quartz-impregnated, brecciated phyllite and sericite-quartz schist revealing anomalous gold and two exceptionally high antimony values. Prospecting for gold in Money Klippen is to be undertaken in 1989 as soon as weather/snow cover conditions permit.

B. Fire Lake - Finlayson Lake Map Area

Detailed prospecting at the head of the valley in which the Fire Lake massive, strataform (sedex ?) copper sulfide deposit is situated failed to reveal any new worthy exploration targets.

The eastern end of the Fire Lake deposit (east of the block of 4 KONA claims still held in good standing by Welcome North) was "open". Since it became apparent that the steeply dipping outcrops of massive sulfide represented the east limb of a tight, overturned N-S fold with an east-dipping hinge fault, two "SWAN" claims were staked to cover the ground. This was felt prudent, pending assay returns which might reveal heretofore unsuspected gold values, particularly in the brecciated (calcite and quartz healed) fault zone distally from the sulfide body. Assay results #12606-#12613 were not supportive of this hypothesis and there are no plans to renew the SWAN claims or return to the site.

C. Gold Creek - Quiet Lake Map Area

Several days were spent in inclement weather examining the traces of two parallel northeast-dipping thrust faults which are mapped in an area 6 to 8 km southwest of Cretaceous and Tertiary intrusives. This reconnaissance was undertaken to investigate the possibilities that hydrothermal sulfide-bearing solutions, originating in the vicinity of the intrusives, may have ascended the fault zones.

Only weakly limonite stained fault zone outcrops were evident; without significant silicification. Samples #12636-#12642 did not carry highly anomalous precious metal or pathfinder elements. Float samples of pyrrhotite-bearing diopside-garnet skarn in Gold Creek were moderately high in copper, e.g. #12638 = 850 ppm Cu.

No further work is planned in this drainage.

D. Fish Creek-Tower Peak in Quiet Lake Map Area

Two trips of several days each were conducted into the area from the South Canol Road. The 13 km to 16 km one-way hikes reduced the time available for prospecting to only 5 or 6 hours daily in the upper valley of Fish Creek and around Tower Peak.

Numerous cobbles and boulders of listwaenite were examined and sampled #12643-#12649 and #14660 from the bed of upper Fish Creek. This material very likely came from a fault zone at the base (?) of the ultramafic body mapped as crossing the valley east-westerly; serpentinite float was also seen in the creek.

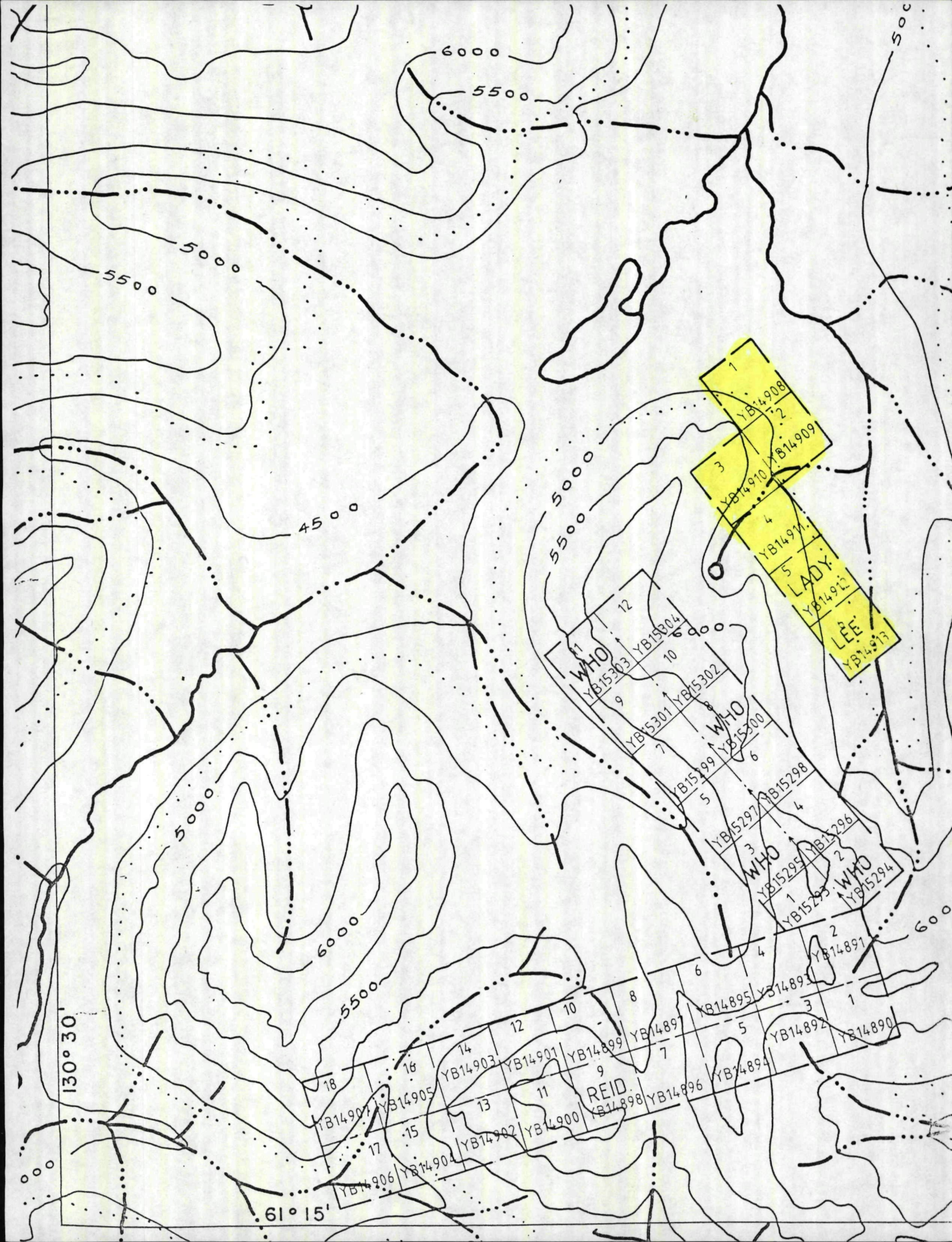
Further detailed prospecting for gold and nephrite is planned in 1989 working out from a nearby base camp to be set up at the southeastern end of Big Salmon lake accessed by boat from Quiet Lake via Sandy Lake.

E. Aishihik Lake Road - Giltana Lake in Aishihik Map Area

Two brief trips were undertaken into this area when further prospecting in the Fish Creek - Tower Peak area was called off because of early, heavy snows.

A sample of biotite-schist hosted diopside-garnet-pyrrhotite from an outcrop exposed in a side road yielded (3 weeks later) encouraging values in gold and arsenic #12634 and #12635. This was followed by additional reconnaissance in the area. On the basis of the recognition of four and perhaps five 2- to 4-meter wide, parallel, steeply east-inclined, pyrrhotite skarn zones, the four CRANE claims were staked. Lines were cut (under the watchful eyes of two buffalo!).

Additional grab sampling of several of these zones through a light (2cm) cover of snow #14661-14667 was subsequently undertaken. Anomalous values were expectedly obtained (0.3 to 0.5%) for copper, as some chalcopyrite had been detected during sampling. One gold value of 450 ppb is encouraging. Additional prospecting of the general area for gold is planned for the 1989 field season.


6000
5500
5000
4500
LADY
LEE
WHO
REID
YB14908
YB14909
YB14910
YB14911
YB14912
YB14913
YB15303
YB15304
YB15301
YB15302
YB15299
YB15300
YB15297
YB15298
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YB14899
YB14900
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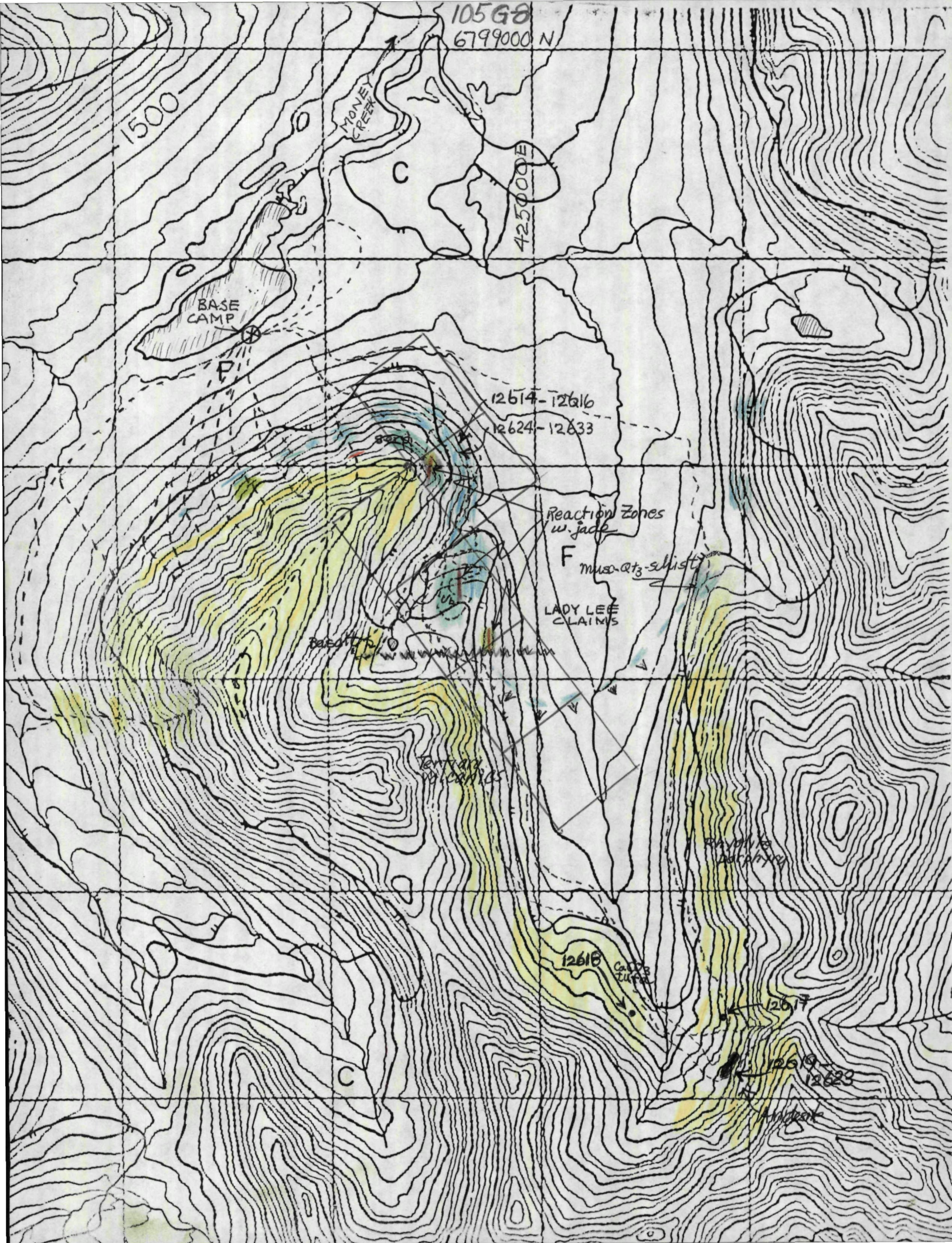
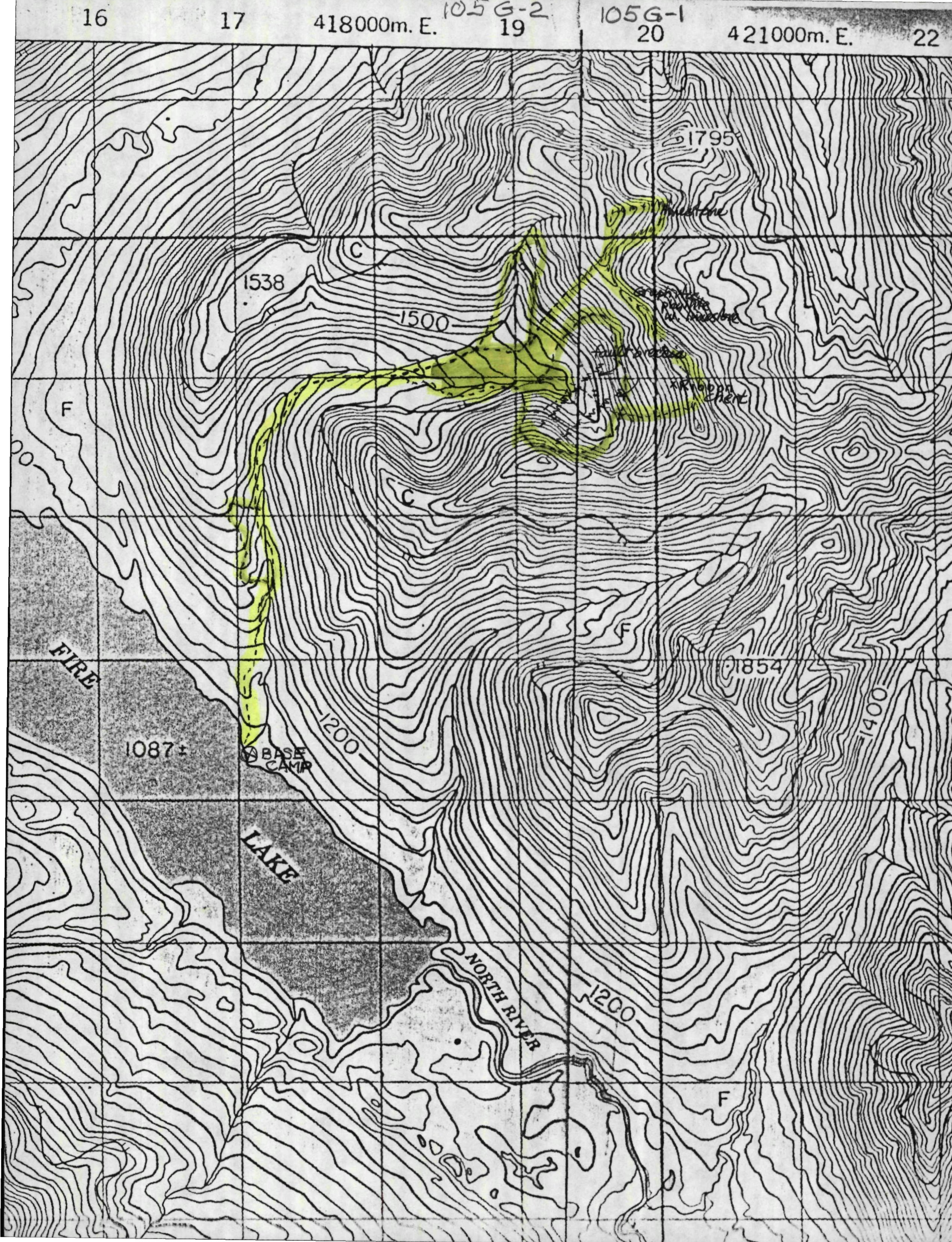
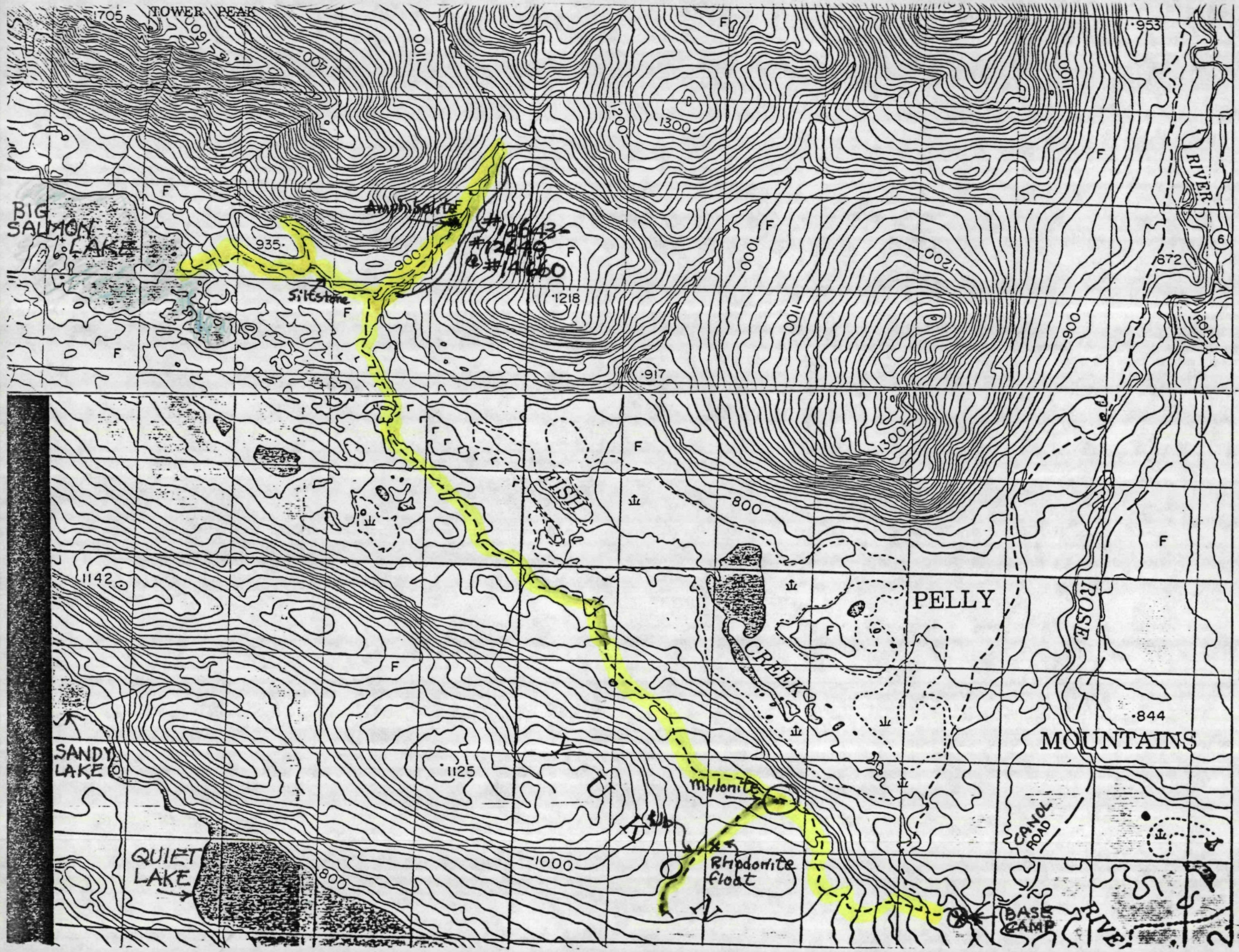
YB14902
YB14903
YB14904
YB14905
YB14906
YB14907
130° 30'
61° 15'


105 G8
6799000 N
1500
MONEY CREEK
C
425000E
BASE CAMP
P
12614-12616
12624-12633
Reaction Zones w. jade
F
musa-Qtz-schist
LADY LEE CLAIMS
Basalt
Tertiary volcanics
12618
12617
12619-12623
C



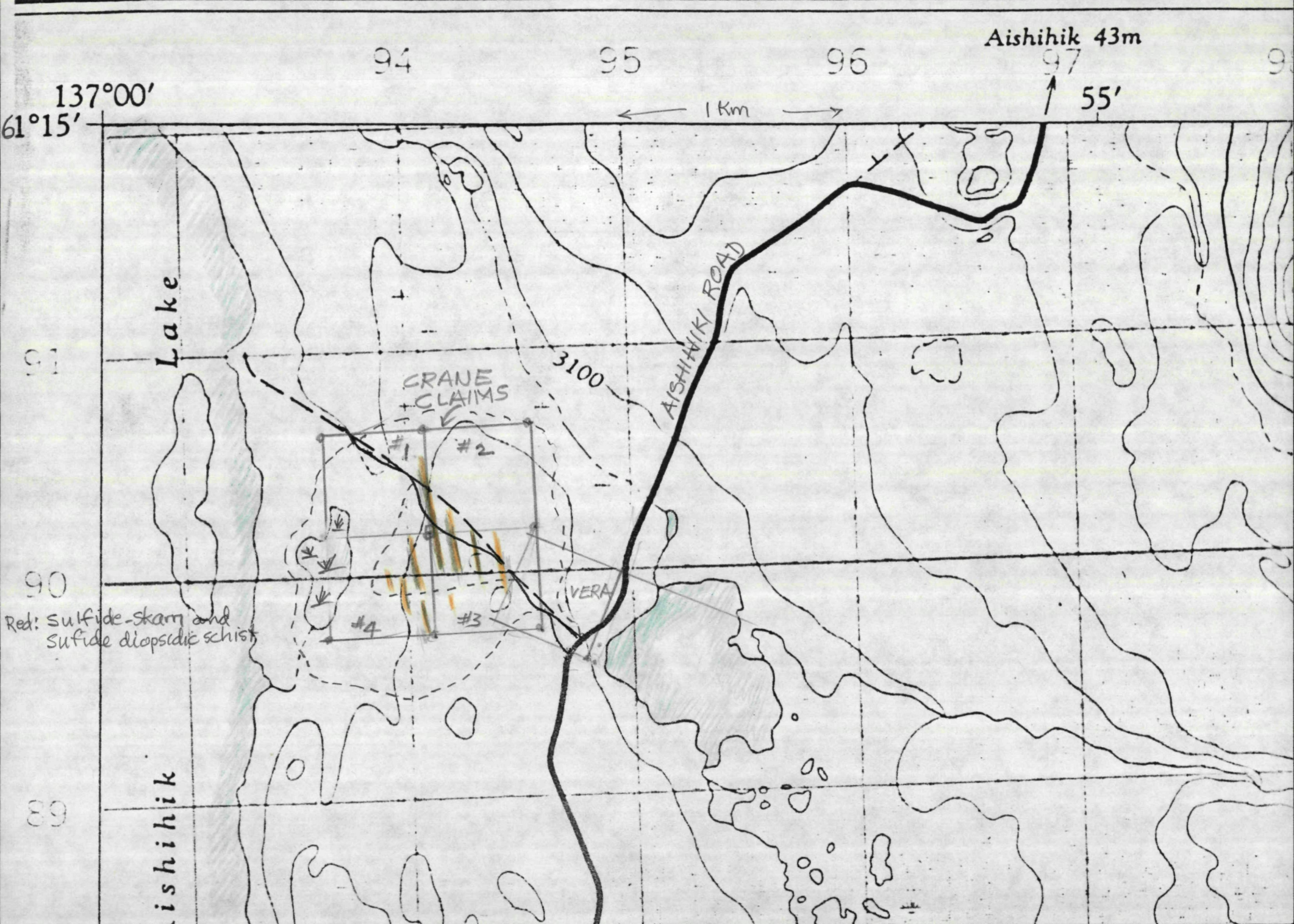
105G-2
105G-1
16
17
418000m. E.
19
20
421000m. E.
22
1795
limestone
C
1538
1500
Graphitic Rhyolite w. limestone
fault breccia
Ribbon chert
F
C
F
1854
1400
FIRE
1087±
BASE CAMP
1200
LAKE
NORTH RIVER
1200
F


TOWER PEAK
BIG SALMON LAKE
Amphibolite
#12643
#12645
#14660
Siltstone
FISH
CREEK
PELLY
ROSE
MOUNTAINS
SANDY LAKE
QUIET LAKE
Mylonite
Rhodonite float
CANOL ROAD
BASE CAMP
RIVER
ROAD
6793000m. N.
6791000m. N.
61° 15
105 F-6

5 H/2 W

105

1:~~50,000~~ PHOTO-ENLARGED.



Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: DODGE, JAMES S.

14 MACDONALD RD.
WHITEHORSE, YUKON
Y1A 4L2

Project :
Comments:

Date : 14-JUL-88
Invoice # : I-8818357
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8818357

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Hg ppb	Sb ppm					
12603	205	--	30	6.5	14	60	0.1					
12604	205	--	230	1.4	6	40	0.1					
12605	205	--	15	0.4	15	20	5.4					

CERTIFICATION : Ivan Bichler

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Project :
Comments:

Date : 30-JUL-88
Invoice # : I-8819216
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8819216

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Au NAA ppb	Ag ppm Aqua R	As ppm	Hg ppb	Sb ppm				
12606	205	--	< 5	-----	0.1	2	20	0.1				
12607	205	--	< 5	-----	0.2	3	20	0.2				
12608	205	--	< 5	-----	0.3	3	10	0.1				
12609	205	--	550	-----	1.9	2	1500	0.1				
12610	205	--	35	-----	0.2	3	110	23.0				
12611	205	--	-----	11	0.8	15	350	3.0				
12612	205	--	-----	100	2.0	35	910	2.4				
12613	205	--	< 5	-----	0.3	9	210	0.2				

CERTIFICATION : Hart Bichler

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Project :
Comments:

Date :29-AUG-88
Invoice # :I-8821462
P.O. # :NONE

CERTIFICATE OF ANALYSIS A8821462

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Hg ppb	Sb ppm					
12614 H	205	--	100	1.9	20	360	8.8					
12615 H	205	--	40	1.6	11	130	2.4					
12616 H	205	--	190	2.2	32	80	100.0					
12617 H	205	--	20	0.8	3	630	0.6					
12618 H	205	--	< 5	1.0	4	290	30.0					
12619 H	205	--	< 5	0.4	9	130	1.4					
12620 H	205	--	< 5	0.2	3	40	0.8					
12621 H	205	--	< 5	0.3	57	120	0.6					
12622 H	205	--	< 5	0.4	3	30	0.4					
12623 H	205	--	< 5	0.5	4	830	0.4					

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Project :
Comments:

Date : 25-SEP-88
Invoice # : I-8822824
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8822824

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Hg ppb	Sb ppm					
12624 H	205	--	< 5	0.2	9	20	1.2					
12625 H	205	--	< 5	0.1	4	20	0.3					
12626 H	205	--	70	0.6	59	80	12.0					
12627 H	205	--	55	0.4	135	50	13.6					
12628 H	205	--	< 5	0.1	10	20	1.8					
12629 H	205	--	< 5	0.1	5	10	0.3					
12630 H	205	--	540	2.3	67	80	13.8					
12631 H	205	--	100	4.3	35	30	930					
12632 H	205	--	135	1.2	29	180	42.0					
12633 H	205	--	75	2.6	27	30	>1000					

CERTIFICATION : Ian Bichler

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To: DODGE, JAMES S.

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Project :
Comments:

Date : 26-SEP-88
Invoice # : I-8823260
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8823260

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Hg ppb	Sb ppm					
12634	205	--	235	0.3	240	90	1.2					
12635	205	--	250	0.2	33	50	0.1					

CERTIFICATION : Stewart Bichler

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Project :
Comments:

Date : 26-SEP-88
Invoice # : I-8823469
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8823469

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Cu ppm	Mo ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm	Sb ppm		
12636	205	--	< 5	195	5	8	48	0.1	9	0.6		
12637	205	--	< 5	550	2	1	61	0.6	6	0.1		
12638	205	--	< 5	850	1	1	50	0.9	4	0.1		
12639	205	--	< 5	115	1	1	50	0.1	4	0.1		
12640	205	--	< 5	107	3	16	62	0.1	20	0.2		
12641	205	--	< 5	230	2	2	40	0.1	7	0.1		
12642	205	--	< 5	145	1	16	85	0.5	11	0.1		

CERTIFICATION : Ian Bichler

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Project :
Comments:

Date : 13-OCT-88
Invoice # : I-8824828
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8824828

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Hg ppb	Sb ppm					
14662 H	205	--	250	1.4	53	130	9.2					
14663 H	205	--	< 5	0.1	11	20	0.2					

CERTIFICATION : Ian Bichler

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Project :
Comments:

Date : 13-OCT-88
Invoice # : I-8824829
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8824829

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Cu ppm	Mo ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm	Sb ppm		
12643 H	205	--	120	8	1	1	77	0.1	840	86.0	Fish	
12644 H	205	--	< 5	23	1	2	13	0.1	170	26.0	Fish	
12645 H	205	--	55	59	1	12	50	0.7	290	30.0	Carrot slide area	
12646 H	205	--	50	6	1	1	10	0.2	750	27.0	Fish	
12647 H	205	--	< 5	121	1	6	45	0.1	11	0.2	Fish	
12648 H	205	--	< 5	30	3	12	67	0.1	12	0.6	Fish	
12649 H	205	--	< 5	5	5	5	89	0.1	4	0.3		
14660 H	205	--	< 5	41	7	5	28	0.1	5	0.2	Fish pg	
14661 H	205	--	70	360	1	1	21	0.4	4	0.1		
				.36%							$CuFeS_2$	

-- spec Hg m.

CERTIFICATION : Hart Buchler

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C/ DODGE, JAMES S

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Project :
Comments:

Date : 19-OCT-88
Invoice # : I-8825591
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8825591

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Cu ppm	Mo ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm	Sb ppm		
14664	205	--	450	87	1	6	200	0.3	4	0.1		
14665	205	--	30	448	3	15	96	0.4	3	0.1		
14666	205	--	10	304	11	52	103	0.3	3	0.1		
14667	205	--	15	500	2	11	86	0.4	4	0.1		

CERTIFICATION : Hart Bichler

J. S. DOUGE

"Rite in the Rain."
WEATHERPROOF

FIELD

NOTEBOOK NO. 351

#1 BOOK

P.A.P. 1988

35 = Days

37 Days I count
non-flyable weather
days in Watson Lab

YEIP 88-027

Thurs	29	out			
Fri	30				
	1				
	2				
Sun	3	in			

29 June

Lv. Whitehorse - 8 am Cloudy
Ar. Watson Lake 13:30 Rain
Watson Lk Flying Services - arrange
C-185 w Stan Bridcut - for
flight to Fire Lake. However,
rain/low clouds - no flying.
checked Mining Recorders re
land withdrawals + claim status
re KONA, HOWDEE, MONEY,
Slept in cab pickup at WLFS.
dock.

30 June

Rain - sometimes heavy - no
flying. Xeroxed assessment
reports MONEY + HOWDEE claims.
Checked out Magcobar's bent
stockpile and grinding mill.

1 July - rain at times heavy. low clouds - no flying.

Sat 2 July - misty drizzles - low clouds / fog toward Fire Lake, no flying.

Sun 3 July - Stan flew me into Fire Lake before noon - rain showers, 5000' ceiling, fog Black Lake to Fire Lake. 2 Swans North end Fire Lake. Camped at old Atlas / Cassiar site mid-way east side. 55B borrowed from WLFS works fine. Rain during early evening. Scouted beach 2 km comparing float w. various rock units described by DTK and Crawford of Welcome North. Suite collected included massive pyrite-chalco in qtz-ser schi; in qtz-chlorite schi;

dacite (dark gray groundmass) feldspar porphyry, rhyolite with scattered tiny pyrite, amphibolite, serpentinized foliated "greenstone"

Pair magnificent swans at north end of lake.

Mon- 4th July

Low clouds - 100 m ceiling - mist. Left camp noon returned 8:30 pm. Found fair horse trail most all way to main showings of KONA Ck. Geology fits description contained in Crawford report for wet North Nahas.

Discovered 3 pieces (up to 30cm long) of the rock on which this prospecting program was predicated. These chunks came from a south flowing tributary - furthermost SE in the

cirque. Rock is fault breccia of milky white quartz chips - some with sericite. Shatter elliptical gashes filled with fine qtz scls and filled with calcite. Scattered fine grains of pyrite in qtz. Hem & limonite coat qtz fragments. HCl effervescence in matrix - probably $CaCO_3$ but could als be $FeCO_3$. Going for Au assays.

Follow-up prospecting needed to confirm whether this is breccia coming from NNW fault reportedly passing across cirque area - or if this is form thrust fault sole of overlying sheet (Anvil Allochthon).

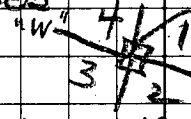
Rain upon returning to camp.

(Note) Deplorable mess of hundreds of tin can left by Cassiar(?) north of theer EX core racks - down steep slope near cookshack.

Tues 5 July

Showers in a.m. - bush wet.
Left camp 11:30 - pouring rain
½-way up @ 12:30. Reached old
Cassiar shelter 13:30 - rain. Saw
9 caribou on south ridge @ 6000'.

Cut posts & staked SWAN 1-4 cls
@ AZ305°



4 No 1 Posts

from 16:30 - 18:30. near largest
boulder of qtz-pyrite in main creek bed.
"E-W" claim line is the picketed
AZ305° base line of ____.

Heavy rain again on 6 km return to
camp.

Wed. 06 July
Overcast, fog down to 4500' then lifting by noon - sunny skies afternoon-evening.
Completed 1/2 of cl. line cutting.
Prospected and found bedrock source of fault breccia about 300m E of Cassiar's easternmost pits at eastern, folded, massive sulfide deposit. It's location fits the prominent Y60°Az fault mapped by D. T-K. Shatter zone lies between uniformly 30°-35° dipping schistosity of chlorite schists to east - and warped, contorted, steeply dipping 50-30° chlorite schists with mineralized phase in "footwall" (or west) of fault.
Sampled intermittent breccia exposure and sub-crop 60m over length of 100 m. Breccia zone at least 5m wide thick - several 1m dia boulders. Could see 1m into shattered outcrops to north - for tomorrow.
Underlying "fault" zone to north

is thinly laminated, peach colored, quartz unit - could be meta-rhyolite volcanic. Appears to be part of schist package - may grade facies-wise into sericite (muscovite) schist "footwall" of fault. (up to 2cm)

Fault breccia fragments of quartz, containing occasional pyrite cemented by qtz & calcite seams with more abundant fine pyrite in seams.

2 sheep on grassy ledges of cirque
9 caribou now on north rim of cirque

Thur 07-July Sunny (Puffy clouds until afternoon showers)

Prospected up W-facing cirque slope opposite "main" showings of KONA to ridge crest @ 1845 m & climbed from lake camp @ 760 m.

Crossed boundary between typical Nisutlin (Klondike) chlorite and chlorite-quartz schists (all dipping 40°-50° @ Az 70-80) and a meta-aphanitic sequence of black-weathering greywacke, white limestone with siliceous lenses (chert), meta-ribbon chert, graphitic slate, —

Two zones of orange-weathering pyritic quartz-biotite schist (from a meta-ribbon chert?) at crest of ridge — with virtually all dipping 45-50° E. down E-facing cirque. Significantly, the 150-200 m strike lengths (and at least (top eroded) 50 m thick) zones are sharp boundaries with non-pyritized qtz-chlorite (meta cherty greywacke) same horizon. Leads to consideration that sets of steeply dipping faults @ Az 45° controlled pyritizing hydrothermal

pulverization of enclosed meta-schists. Will follow up by working back down to SW in gullies (fault traces?) which project toward contorted uplifted ESE end of "main" KONA cupriferous deposit.

Augment - it now appears that base of Amil allochthon - assuming this ophiolitic sequence so typical of andesite with limestone with graywacke and chert found west of Teslin Suture is progenator of this cataclastic suite - lies in a N-S trend approx 100m west of the KONA cirque N-S ridge. The EPAV boundary of D-K and Erdmer - typical of middle ophiolite (basalt and amphibolite) could be shifted westerly 700-800 m. to include this basal-ophiolite sequence - certainly not typical Nisutlin. Would not seem necessary to attempt to insert Nasina autochton because of ls and graphitic slate - which are very thin (5-10 m).

boating 20 Caribou in valley to east, on snow wolf tracks on lake shore at camp.

Out at 8^{45} back at 9^{30} pm

Fri. 08 July

Rain all morning. Rush sorting managed short 3 hr. reconn. of foothills where found exposures of

Sat. 09 July.

Clear skies @ 2 am – cloudy by 6:30 for breakfast. Beat rain to Main Cirque by 10 am. Rain all rest of day. Back by 6:30 pm.

Prospected cliffs toward north and noted exposure of a typical thrust zone – 4 m thick cutting across chlorite schists @ 10°/5°. Rod shaped quartz "S" @ AZ 130°-10°. Zone contains biotite & quartz w pyrite and minor chalcopyrite – not magnetic, so may not correlate with "iron formation-like" said to underlie massive sulfide horizon of "E" zone.

Two pieces of float fault breccia – clasts of milky white quartz, some calcite, limonite with quartz matrix – approx 200 m^2 NW of fault breccia site of 04 July.

10 July

Heavy rain broken by 1-2 hr. periods of drizzle with wind from SW. Climbed southwest-facing nose of main "northern" ridge 1/2 way to timberline.

Subcrop and a few isolated outcrops of chlorite-quartz schist of Nisutlin allochthon which exhibited an inferred average foliation inclination of 20° SW.

No evidence - float or bedrock - was seen of sulfide mineralization. Exception being 2 cobbles of pyritic schist in creek bed - most likely came from the copper sulfide strataform deposit in upper valley.

11 July

Examined magnetite - FeS_2 - $CuFeS_2$ schist horizon exposed in main S-flowing tributary.

Cut line through stunted alpine fir along claim line 2WAN 3 to 4. Returned early (4:30 pm) to camp as steady rain had commenced.

12 July

Pouring rain continuously all day. From water in open collecting in bowl - over 40 mm in last 24 hrs by 7 pm! Main stream out of its banks.

Radio signals to Watson Lake are out - heard only "Logan" camp calling W.L.F.S. also unsuccessfully.

13 July -

W.L.F.S. arrived 3 pm - low clouds in Watson Lake - minimum flying conditions.

14 Filed application Form 1 two SWAN claims w. Mining Recorder

Drove pickup to Whitehorse

18 July Monday
Drove Whitehorse → Watson Lake in time to check claim sheet re any new filings - Mining Recorder

19 July
W.L.F.S. using Beaver dropped me off at "Money Lake" a 1 km shallow lake @ 4600' alt. (1380 m). Set up base camp - scarce timber. by 6 pm. Altitude 4545

Planned for pickup by WLFS on 08 Aug.

20 July up to 15°
Sunny until noon - then thunderstorm - wet. Excellent radio signals AM - all out by evening.
Climbed "#2 to West" spur, as it was handiest. About half way up when grass + heather cover gives way to bits of scree - began to find considerable bituminite

bituminite silicified

chunks up to 20 cm in size. Farther up began to find orange weathering box-work of stringer serpentinite. Stringers were open space fillings. The horizon of scree was approx 100 m vertically - no bedrock seen. Rhyolite up to 100 m thick outcropped sparsely to ridge.

Driving rain + intense lightning on ridge forced an early (4 pm) retreat to camp.

Samples taken for gold assays.

21 July

Windy - to 20-25 km
Partly sunny +15°
Radio signals very poor

Climbed #4 to west" spur. Continuous succession of Klondike chlorite and musc. schists - forming grey-weathering blocky outcrops. Schistosity E-W inclined 20°S.

At a break in the slope ca 5500' - commenced orange-weathering volcanics - no contact beds observed. This unit - approx 100 m thick (wide?) comprises non-por. rhyolite with some breccia (autobrecciated tuff?) and chalcedony-filled vesicules. Occasional spherical shapes as if had been lapilli.

Uppermost 100 m comprises dun-weathering dacite with rare flow lines 95°-110° 80S. Some open vesicules with that orientation.

Carried on SW along crest of ridge also dacite.

Returned along ridge to examine further the serpentinite noted yesterday at top of "#1 spur to west".

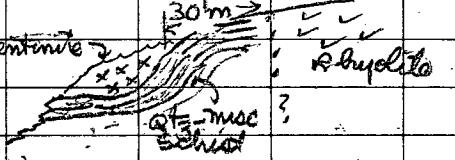
Walking east along ridge where it commences sharp plunge E into valley — noted the 10m wide contact zone between rhyolite and flat lying meta-sediments — an intensely chloritized zone of Klondike schist below which irregular, thin white-weathering limestone outcrops. Structurally, the presence of serpentinite vertically (and thus presumably structurally below) seemed at odds with Anvil Allochthon overlying Klondike. However, a very tight, foot, plunging easterly put the Klondike beneath the serpentinite.

The thrust contact between these two sheets was seen down a steep gut to the east where Klondike hornfels — rusty weathering, very siliceous, much pyrite and numerous 1-3 mm wide qtz as open space filling — samples for assay.

Chalcopyrite

Serpentinite on this spur is harzburgite with pyroxene stretched and oriented E-W 80°S much mot. ~ 1% Cr_2O_3. Will return to examine float lower section of spur, as did not note any of the

silicated → box structure - serpentinite seen yesterday on #2 to West spur; nor for that matter any listwanite.



22 July Fri Signals out.
Cloudy. Drizzle 9am - 4pm
Spent day at base of "#1 to the West" spur collecting float of vein-type material of various suites.
Particularly interesting was graphitic phyllonite with wrapgy-corkscomb open space filling by qtz stringers cutting across foliation. Some pyrite in stringers. Thought even saw spec of gold.
Some vein (fault) breccia up to 25 cm thick.
Large slabs of chloritic slate.
Several pieces of soft schist-ose orange-weathering, grainy silicated carbonate with some sericite - could be a "reaction" zone between

Sample # 14664

CRANE claim area

Aishihik Lake Road

Gltana Lake

PAP 1988

J.S. Dodge

450 ppb Au

Sample # 14667

500ppm Cu

CRANE claim area

Aishihik Lake Road

Giltana Lake

PAP 1988

J.S. Dodge

serpentinite and the qtz-muscovite schist (Klondike schist). Must work higher on this spur tomorrow and around to south beneath the serpentinite in the 'gut' briefly examined yesterday.

23 July Sat. Signals poor; Yellowknife clear in evening

Brisk westerly wind; partly sunny 15°-17° Rain shower at breakfast. Remarkable Day - too bad no champagne or even a Blue.

Climbed the "#1 to West" spur, observing much chlorite phyllonite and graphitic slate in scree - passed under bold outcrop of chlorite phyllonite (90° ± 10° S) and about 100 m traversing began to notice the schist began to appear more like a gneiss with some zones greenish

(semi-nephrite in part)
and knife hard 6-6½. Continuing traverse another 100m and identified nephrite (hard, translucent on edge, fractured, very tough).

Continuing on another 30 m, began to see many large (20-80cm) to 1m+ rounded shaped masses of nephrite - colour becoming emerald green. Then ahead were bold, jagged outcrops of massive nephrite - up to 3m high - slabs and large chunks resting on very steep slope. Although many pieces had fractures, some virtually cubical pieces of good colour were 30-40cm on the side. Some nephrite was black (when wet). Obviously many hundreds of tonnes were in site in situ. Then above the cliff outcrops I noted the tell-tale reaction zone - orange weathering talc schist apparently 2m wide extending south over the ridge. Looking down the slope, the same color outcrop partially covered with nephrite talus - will investigate tomorrow.

Carried back 10kg of specimens.

Will stake claims upon return tomorrow - may wait day or two as not going out before 08 Aug.; recording time allowance.

Having been a grad. student with Bob Coleman at Stanford - I kept in touch with him during his work. 25 years ago on ultramafics and remember this idea of reaction zones and metasomatic replacement by nephrite of country rock adjacent to serpentinite masses - hi pressure, lo temp - with CaO & SiO_2 added to migrating serp solns. Schists overlying the chlorite phyllonite are quartz-muscovite schists with irregular limestone lenses - ideal for Si & Ca! This is a text book geologic setting.

Prospecting systematically is still an effective method of mineral exploration. Will see what sort of tales Cowden are at bottom when putting in #2 claim posts.

Although a consideration in genesis of reaction zone (& nephrite) is proximity (100 m or less) of KT rhyolite.

*24
25 July – Mon.

Radio check-in with W. L. Flying Service.

Mostly sunny 16° - 18°

Carefully inspected & tested the several dozens of nephrite boulders found in a grassy clearing, where steep slope begins to level off, below chute leading up to "main" nephrite showings.

Found about 1/2 specimens were borderline in hardness – knife could scratch if pressed down firmly on newly fractured surface – but also fresh rock chips, if pressed hard against knife, would leave tell-tale shallow scratch. Color good in some, dark (w. inclusions) in others. Most evidence fracture faces from 5 – 10 cm apart. Largest boulder was 3m × 1m × 50cm.

Trans North helicopter flew back and forth over area around 8 – 9 pm in heavy rain & low clouds.

Must not postpone staking much longer – even though fairly certain no helicopter-affording crew would be looking for jades. Still, as pickup is for 8± days – and might be

later if foul weather prevents plane coming in – need all days possible to be sure the "10 days plus 1 day each 10 miles from Watson Lk Mining Recorders" can be met for filing claims.

Rain showers all night.

25
~~26~~ July Tues. Partly sunny 48°

Bush very wet – waited until 9:30 for some drying.

Cut proposed staking line through bush at lower end to fir tree to be #2 Posts. Cut two posts to carry up the cliffs to #1 Posts site

Decided to carry on southward up valley at timberline to examine a gentle slope area with light grey blocky boulders as seen from "main" showing. Surprised in small creek leading to site – began finding nephrite which logically couldn't have come as float from "main" outcrops.

To my excitement – found the tremolite schist reaction zone & much nephrite in situ on the low hill about 700 m south of "main" showing at much lower

elevation. Nephrite here is generally harder - virtually all 6½+ - as knife blade & pick are really scratched now. Nevertheless, although color is often good - much nephrite close to reaction zone is somewhat schistose and may not be commercial. Otherwise, blocky masses appear to have potential.

Will need to locate claims and determine relationships (if any) geologically to "main" showings - much overburden area between these 2 sites.

Obviously - quite elated by this second new discovery.

Perhaps should look in valley-glacial train to see if any "solid" boulders.

Brought out 10 kg - 1 hr 10 min hike.

26

July - Partly cloudy, (Times) heavy rain, low clouds & wind - up to 12° - Breaks in system by 1 pm - stopped raining by 2:30.

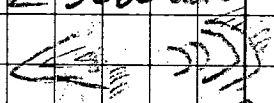
~~28~~ July Rain until 11:30

Staked LADY LEE 1-4 53°42 to Posts (#2-

3/4 @ 5250' alt.

1/2 5680 alt.

285° -20°



LOOKING 285°

Folded chlorite-sericite-graphite schist

20m upcreek from avalanche small patch

Apparently overlies nephinite — evidencing more ~~more~~ that Dunite-Serpentinite is a sill-form.

Reaction Zone — orange weathering, 2m wide ca. 20°Az Foliation vert to 80°W 80m long

AZ 20° 20-30W Nephinite west of reaction zone is grossly concordantly foliated and is 12m "thick", i.e perpendicular to foliation from reaction zone to west sloping nephinite covered talus slope. Bedrock is exposed over a vert interval of 11m in direction of foliation. Thus a block of nephinite bounded ~~east~~ by reaction zone and the foliation "slope" on west would be 80m long × 12m thick and

80×12×10 = 9600×3.2

= 30,900t

Saw 5% commercial = 1500t

Qtz-muscovite schist float @80m NE.

28
29 July – Partly sunny until 6:30 PM when on return to camp drenched by long, heavy thunderstorm.

Set out to cross main valley to south to (1) get photos of "Jade" outcrop and (2) check Mosley Creek float. Surprised to find considerable breccia pieces – qtz stringered (open space filling) and pyritic. Climbed high on east side to timberline checking talus slides for evidence of breccia source. Klondike schist up half way to head of creek, then a buff-weathering qtz-feld. rhyolite porphyry – still no breccia.

Near head of creek, a draw from the east – tan to cream colored rock up another 200m vert. – contained an abundance (70%) of brecciated rocks of several styles: Carbonate & qtz stringer breccias with & without sulfides – one piece chalcopyrite stringers. Will need to return (this was 5 pm) and examine this fault(?) zone between rhyolite and andesite. Several samples for assay.

On return just before storm, noted much neptite in willow clumps springs at break between valley floor and steep hillside on west side of Norway Creek about 200-300 m south of prominent E-W fault zone. Could this be from a southerly extension of the Lady Lee 3/4?

29
~~30~~ July — Rained heavily while trying to dry out gear from yesterday. Managed to sort & pack up samples selected for assay from previous few days. Attempted to repair holes in left boot - but still too wet for glue to hold.

30
31 July Windy - sunny - best day yet
Climbed back up to "main" 5,750 ft
nephrite showing to collect samples
of diopsidic Klondike schist - within
20 m of reaction zone with serpentinite
with a 4m thick dunite/olivine
partly serpentinized. Noted smoke
blue weathering nephrite and a few
specimens of 2-4 cm long clusters of
bladed tremolite - cucumber green.
Selected 22 cm cube of nephrite
and roped it on pack frame - carried
down to lake. $22^3 \doteq 10{,}000\ cm^3 = 10$ kg
10 kg × 3.2 spgr = 32 kg (70 lb) nephrite.
Photographed exit crops; as
well as view of upper Money Creek
with #2 nephrite showing in near
distance.

31 July
& August
Rain until noon.
Re-examined talus slopes
and became convinced from the
many pieces of qtz-stringered,
hydrothermally leached, calcite

blebs in brecciated sericite-qtz schist - that these represent material coming from the thrust zone between N. section allochthon & Amiel allochthon. Very likely the listwaenite found on the #2 to West spur is part of that zone - possibly the sole of the ophiolite sheet. Will run assays for gold - could be the qtz stringers (w. pyrite) were introduced into thrust zone by rhyolite nearby. and always the possibility that heavy metals were mobilized into the reactive zone.

01
02 Aug - Sunny - best day yet

Prospecting southeast cirque at southern-most valley, head of Money Creek. Noted E-W narrow gully with uncommon beige alteration(?) and upon climbing up it saw bedrock was argillized & silicified qtz porphyry rhyolite intruded by a 70-90 cm dike of diabase in footwall of prominent alteration. Collected a (dip 30°S) few silicified & brecciated vein material.

Worked south beneath andesite cliffs. Here rhyolite dike extends south from the beige altered zone in a 220 AZ - may be nearly flat lying. Variety of vein and vein-breccia samples collected. Much calcium carbonate (up to 50% of rock in places) veining as matrix (healing) quartz breccia - notably pyrite accompanying calcite in places. Andesite wall rock pyritized.

West across Money Creek the trace of the beige-altered rhyolite fault zone disappears under massive rock glacier. However, at foot of r-g is a prominent carbonate tufa - similar to typical transported gossans except no iron oxide rust - with assorted rock fragments in slabby-weathering masses of cellular calcium carbonate.

On return to camp noted pieces of orange weathering reaction zone (tremolite/talc) high up on west side of valley about 1500' southeast of the No 2 showing (Lady Lee cls #3/#4). Will check out tomorrow if good weather holds

02

05 Aug. Partly sunny +16° Moose[2] in valley

Relocated outcrops & talus of orange-weathering schistose talc on west side of upper Money Creek @ ca. 5300' alt. Exposures occur for ca. 30 m. Some 30 m south of this reaction zone are bold outcrops of dispersed chlorite(?) schists which most likely overlie the talc zone. Dispersed rx strike 160° and dip 15°-20° SW. This area lies ca. 75 m north of the prominent E-W fault passing through the emerald-colored tarn over ridge to WSW.

Several springs below and to SE expose float of talc schist and serpentinite with some nephrite. Therefore, staked 2 more claims & cut line to cover slope area.

No doubt magnetometer will be efficient for outlining extent of ultramafic rocks. The nephrite is spinel rich - i.e. magnetite (possibly minor chromite as grains).

03

04 August Rain all morning. In afternoon worked west along spur and encountered serpentinite on "No 5 to West" overlying qtz - muscovite schists w. foliation E-W dipping 10°S.

No reaction zones noted and no nephritic phases in the serpentinite

Moved on to "No 6 to West" spur and encountered only a few pieces of serpentinite - no evidence of bedrock source (probably eroded) However, meta quartzite (ultramylonite of qtz - muscovite schist) with faint 1" lines of lamination. Striking E-W and dipping 25°-30° N. Qtzite a buff color. At 4900 elev basalt (with pillow features) crops out in gut with an apparent 10° dip S. Basalt is intensely chloritized; appears to

be at least 10m thick with rhyolite & dacite overlying it to ridge top @ 6200' elevation.

Following are idealized x-sections looking west commencing with E-facing cliffs where nephrite occurs in Main showing:

04
05 August - Friday

Rain, drizzle, fog down to 5000' all day - with two 2-hr breaks in afternoon.

05
06 August - Sat. frost!
Sunny - few puffy clouds.
Prospected SW down valley along its SE slope. Approx 1½ km west of camp came across belt chain filament line trending approx 300 Az with red flagging tied to thick bush brush every 20 to 30 m. Followed "staking line" SE coming upon 2 sites, 1500 ft apart where ribbon had been stretched out on top of brush in an "X" or "□" obviously to indicate visibility from helicopter for its drop of 8 claim posts. Either no posts were dropped or they missed wide of the target, as I could find none.
No lines had been cut, nor trees

blanket — perhaps that will follow. Evidently this "staking" was accomplished in conjunction with Trans North helicopter (ex ranger) that moved in and out of area under rainy conditions early evening of 24 July.

A second "line" was represented solely by a belt chain filament following the water course in valley to west.

Klondike schists - limonite stained qtz-muscovite - crop out beyond "B to West" spur and southeast vals cliffs dipping gently SE beneath rhyolitic & dacitic volcanics.

Coming down cliffs into brush rammed stick in ~~left~~ right - slow to return vision to normal. Also re-fractured toe on left foot in vaulting down one cliff site — began to swell, turn black by time reached camp. This is same toe had broken 4 years previous.

Found chain hobble (for outfitters horses) - looks like I may use it

myself tomorrow - as painful to walk for few days I'm sure.

06

07 Aug - Sunday

Sheet of ice on water pail!

Absolutely clear until puffy clouds began to appear around 11 am.

Yes - toe a mess - can't do much more than hobble down to plane landing site with boxes of rocks; sketch claims on claim sheet for filing in Watson; patch up gear, boots and clothing with All-So and re-read Learnings Lake report.

Beaver pick up due tomorrow.

08 Aug

Radio contact with Watson Lake Flying Service indicated

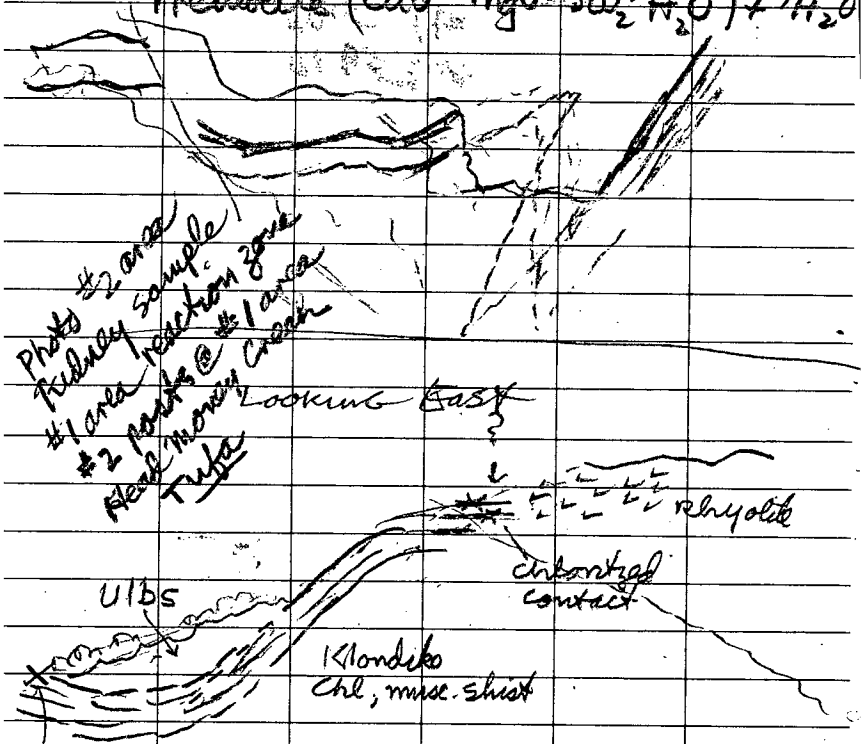
several hours delay in reaching Little Money Creek Lake. Broke camp and after further equipment availability delays Beaver arrived late afternoon for return to Watson Lake.

08 At Watson Lake Fred five Lady Lee claims with mining Recorder

Drove Watson Lake to Whitehorse in afternoon evening.

$mg_{12}SiO_4 + H_2O \xrightarrow{5} 5(3MgO \cdot 2SiO_2 \cdot 2H_2O) + SiO_2 + CaO$

Olivine Tremolite $3(3CaO \cdot 5MgO \cdot 8SiO_2 \cdot H_2O) + 7H_2O$



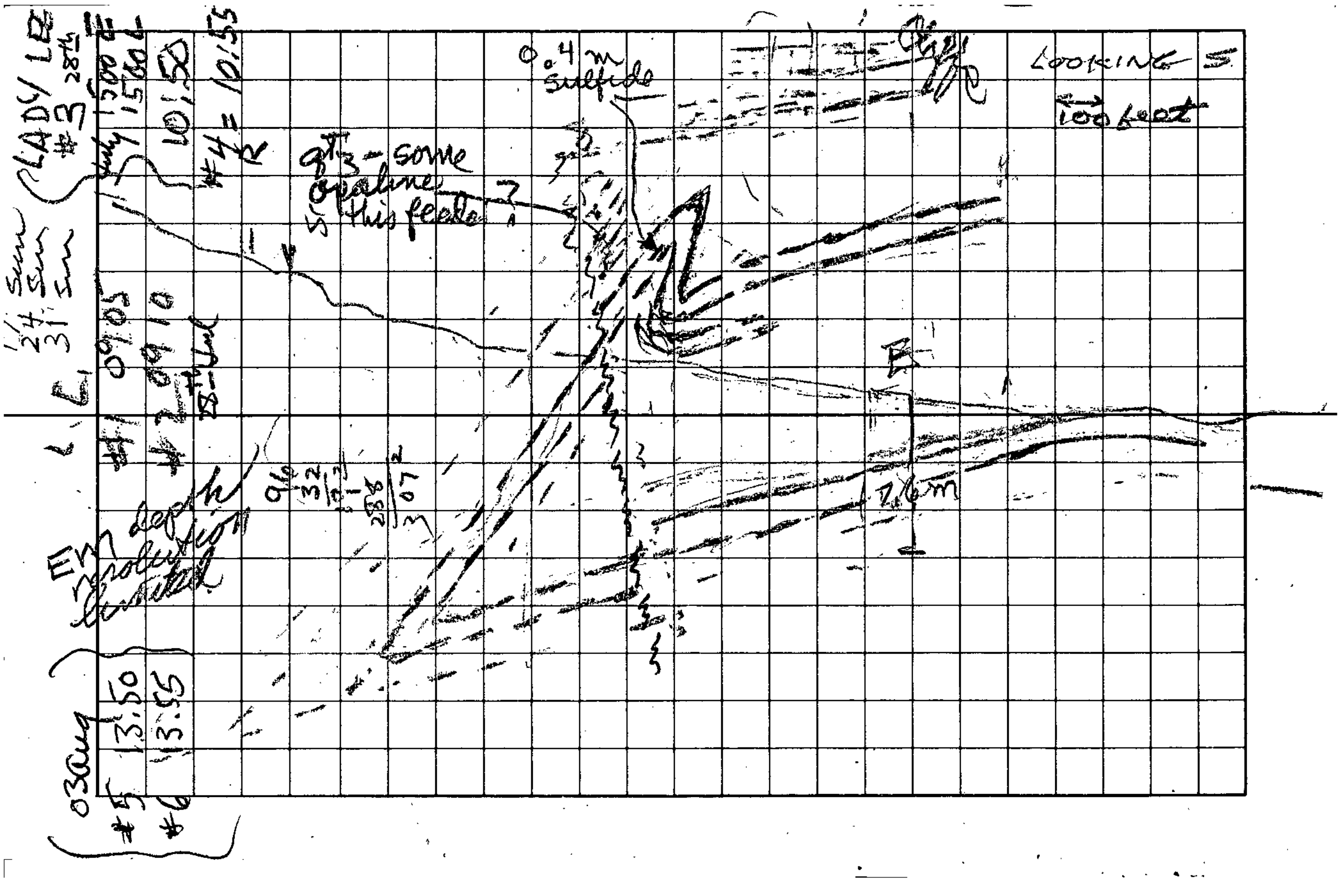
Pyritic hornfels w. 1-3 mm qtz stringers crossing foliation.

$2.5 \frac{g}{22.5}$ $\frac{22}{4}$ $\frac{484}{22}$ $\frac{968}{968}$ $\frac{968}{10.5}$ 3 cm

10 Kg × 3.2 spg

32 kg

70 lbs



LADY LEE
0.4 m sulfide
LOOKING S
100 feet
2.6 m

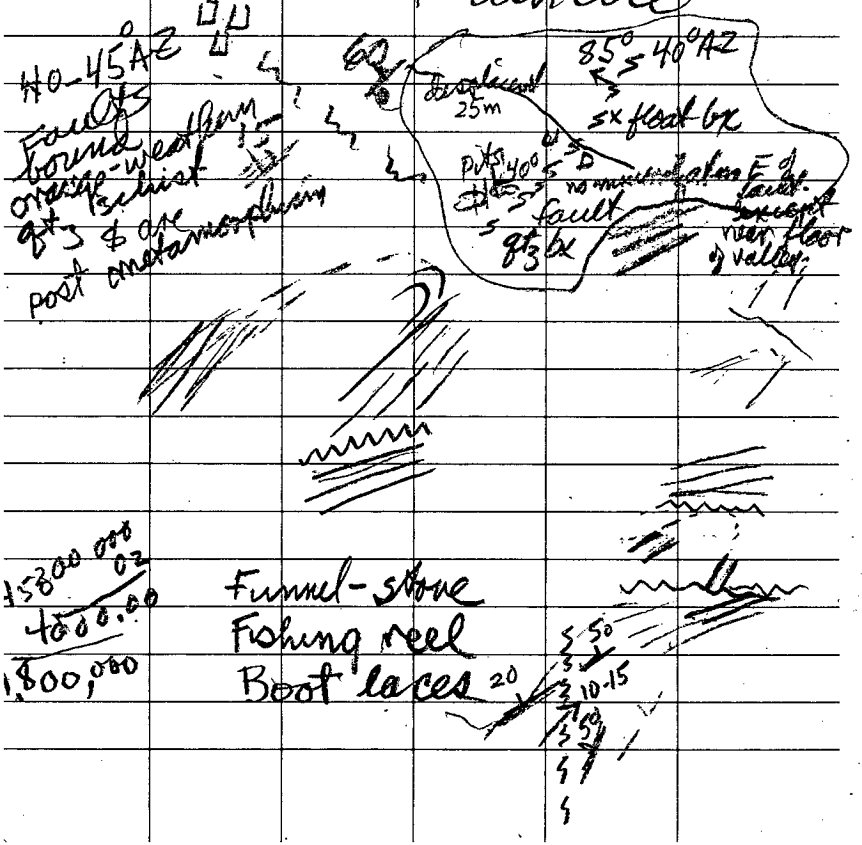
328
424

1840
1087

758
× 3.28

6064
1516
2274
2,486.24 west fx

- Patch boot & pack sacks
- Boot inner soles
- Band aids
- Money Orders .75
- Film processed 15 15
- Track of wolverine?
- Flashlite



1,800,000
1,800,000.00
1,800,000

Funnel-stove
Fishing reel
Boot laces 20

5.50
10-15
1.50

J.S. Dodge

"Rite in the Rain"
WEATHERPROOF

FIELD

NOTEBOOK NO. 351

BOOK #2

P.A.P. 1988

26+ days

YEIP 88-027

23 August 1/2

Drove (afternoon) from Whitehorse - JC - Evelyn Creek @ km 42 on South Canol road -

7pm - 8pm

Conferred with Mr. R.H. Stedmann, pres. of Anooraq Resources Corp. about examining the rhodonite occurrences on EVE claims near head of Evelyn Creek. Advised access road improvement still underway & my visit would be best carried out in a week's time. Discussed world sources of rhodonite & marketing.

Drove on to Sydney Creek camp site.

24 August — Sunny (few showers) Temp + 15°

Examined newly exposed outcrops of chlorite, chlorite-qtz and biotite-qtz schists along the access road from South Canal to Iron Creek on bench above Sydney Creek. Five good exposures over first 4 miles from South Canal. Collected samples of FeS_2-in-quartz from narrow zone (15cm) at approx 3.1 miles (5.0 km). A.M.

Returned to South Canal and prospected the timbered ridge along south side of Sydney Creek following (in part) the cut claim line of northern half of the BOBO claims. Attempted to locate limestone bedrock in-asmuch as there might be the possibility of rhodonite in manganiferous schists underlying

the carbonate horizon. Looking at the typical occurrence of manganese carbonates in the anoxic depositional marine environment peripheral to black shale basins, and pyrolusite etc in oxic environment - estuaries, etc in high sea level periods — all to the possibility that either or both syngenetic manganese sed. deposits may have been overlain by limestone. The subsequent metamorphism producing rhodonite anyway a good model to keep up prospecting enthusiasm.

Didn't find any bedrock outcrops all afternoon - ended up in jungly maze 3 chains before coming down (via old bulldozer tracks) to south Canal at Eyelyn Creek 4 km to south.

25 August Rain, fog +10°

Returned south on canal to JC and west to Summit Lake just as steady rain began along with lake-level fog. Passed recon of series of hills to NNE which I had not previously examined in connection with 1986-87 chromite search in the area. Held up pending improvement in weather until afternoon - whereupon returned to Whitehorse in p.m.

30 August Tues

Drove west of Whitehorse to Aishihik lake road and camped at jct with tote trail to Kirkland Creek. Impressed with road improvements completed by Champagne-Aishihik Enterprises Ltd. - culverts, fill, grading

31 Aug Wed -

Drove on past Louvelle Lake to a site at 600' S of M.P. 55. Climbed steep hillside to east up through 200+ meters of dominantly fine grained dacite flows with a few tuffaceous & very minor tuff-breccia horizons. Bear dow in W5W - facing soft tuff horizon hillside, ey

Carried on East past pond 62 2 km then south 4 km and west to road - returned to truck examining float in freshly bladed up-hill side of road - dacite.

01 Sep. Thur.

58 3

Walked north up Aishihik Road for 5 km with side recons up 2 hillsides. Dominantly tuff beds of intermediate composition - some thin flow breccias weakly healed by comminuted pyroclastic material. In a broad sense - layer sequence appears to dip gently north 10°-15°.

02 Sept Friday

Reconnoiter 2km-wide panel between Road and Aeshihish Lake for 3 km from camp north.

Outcrops on glacially stripped knolls and ridges were of tuff beds of intermediate composition.
Saw no Tatonia breccias or gossans.
Outcrops comprise perhaps 15% of terrain.

Drove south to camp at Quatsino Lake turn-off for camp.

03 Sept. Sat.

Examined pyritic qtz-musc-biotite schist - w some amphibolite - alongside trail leading west to Aishihik Lake @ approx 47 km from Alaska Hwy.

Collected grab samples along intermittant exposures (by bushwhacking) of trail over 200m length foliation-wise. Width of sulfide mineralization appears to be at least 3 meters. Could only detect pyrite - however, will run for gold.

Although schist dominates in many outcrops, diopside and (garnet?) was noted. Saw no indication of copper mineralization. In fading light of evening. Am wondering if carbonate horizons may be present in area thus a resemblance to contact metasomatic type @ Kaphenis Lake.

Returned to Whitehorse afternoon.

07-Sep - Wed

Drove from Whitehorse via J.C up South Canol road to Good Creek @ approx. 107 miles North of J.C.

Worked way up creek for 1 km examining float comprising among large boulders (i.e. >50cm) 80-85% qtz mono; 25% Py (Wasina Schist & Gneiss with pyrite-bearers commonly dark limonite coated). Among cobbles to 50 cm approx 20% comprise Lower Cambrian limestone - typically calcite schist (marble) with dark-orange weathering calcite, some white quartz masses.

Camped @ (6) 008485 north side of Good Creek.

08-09 Started at midnight.
-3° in morning

Prospected up main Gold Creek valley for — km and climbed north slope to examine prominent cliff-forming outcrop @ 4000' altitude. This is med. bedded limestones - most dark grey weathering. Several thin (25cm) [discontinuous - 2-10 m] horizons of the orange-weathering calcite w some qtz + chlorite.

The 10m high outcrop - ls digs 10-15° E with folds // to strike (N) plunging 10° N (not S as shown elsewhere on T-K map.

Traversed hillside at same altitude westerly until reached tributary stream which valley was followed up to E-W trending hanging valley. Cliffs on N side thin-bedded ls with few thin calcite-qtz-chlorite beds - same gentle dip to east. Followed valley floor 2 km to 952 (E) where noted cliff-forming outcrop 15 m above creek (4540') of thick bedded dark grey limestone striking 340 AZ and dipping 25-30° NE. This is evidently the sole thrust of the thrust fault mapped in area. In valley no good bedrock east of this outcrop - i.e. to examine for possible sulfide mineralization

within thrust zone or in sole of overthrust sheet. Apparently, will have to go up to ridge tops (5500'-6000') another day to check on this.

Returned to truck @ 8 pm after much buckbrush throughout day.

Had collected only 2 interesting pyritized limestone float samples - will run for Au @ 978475 and 955484

Fri

09-09-88 +1° to +8°-

At 6 am heard sandhill cranes (obviously off the usual flyway - curious) until I looked out and saw it snowing - already 5 cm on ground. Snowed steadily until 9 am followed by slow melting - pretty much receded to the timberline by 5 pm.

Site on ridge crest in vicinity of 953472 was still snow covered - this area was projected trace of E-dipping thrust zone. Consequently, spent day in camp.

sent to Cindy

Sat.

10-09-88

Examined in very close detail float pebbles, cobbles & boulders in Cold Creek for 1 km west of Canal Road in attempt to correlate their composition with geol. of catchment basin (and beyond - to west) as mapped by Dirk T-K.

No problem so far as porphyritic quartz monzonite of Big Salmon batholith as source [12 km minimum] of dominant 80% of macroboulders in stream bed - virtually none noted in stream banks.

Thereafter smaller boulders to cobbles 10% Klasina-type pyritic schist & gneiss and 10% orange weathering calcite (siderite) - quartz - pyrite chlorite(-) massive 10%. A few boulders were skarn - diopside - pinkish purple garnet, quartz with pyrite, pyrrhotite and chalcopyrite(-). Over ten cobbles and chunks were vuggy dark brown heavy, pyritic and (?) sulfides gossan

vein (or manto?) material with some chlorite, qtz along with ubiquitous siderite — 4 samples of latter collected & to be sent in for precious & base metal geochem.

Pebbles were largely the chlorite phyllite, dark grey Ls, and vuggy quartz-calcite from carbonate horizons examined up-valley on 08-09-88.

Will borrow UV-lamp to check for scheelite-powellite in skarn rocks.

Conclusion:

Only very detailed rock-breaking step-by-step revealed complex pattern of mineral potential in up-valley region. Sufficient gossan float to warrant intensive prospecting (assuming assays are metal-positive). Looks now as if need to look at both NW and SE of Lapie fault, and not just NW at set of fluvial faults "up-fault" from young intrusives.

Sun

11-09-88 +1° up to +6°

Rain with snow early above timberline again. Rising temp, ceased snowing turning to rain with low (4500') clouds. Gusty winds - rain until left camp @ 11 am for drive south to Johnson's Crossing & Whitehorse by 5 pm.

16-Sep

Rhodonite

Drove from Whitehorse via J.C. north on South Canal to km Post 4.2 where road takes off to west to rhodonite property on claims. Examined boulders, etc. (along with 20+ rock in 1-ton bags) stockpiled near turn-off ready for shipment via highboy semi-trailer of Anaconda Resources.

Rhodonite coated with MnO_2 schistose — no boulder evidenced clearly the type of host or wallrock.

Continued up Canal Road to 93.8 km above east shore of Quiet Lake where recent extensive sidehill cut by Hwy Dept. exposed 7m wide limonite weathering shear zone in chloritized andesite. A 1.5 m "core" zone of qtz-stringers w. pyrite in silicified andesite was sampled. Vein appears to strike 75°-80° AZ and be essentially vertical. As this is a newly exposed showing - took sample.

Camped @ 102 km on divide above Rose River.

17 Sep Sat.

At 102.7 km (just above Rose River bridge on Canol Road, parked (as had only 2-wheel drive pickup) and walked northwesterly along old road to asbestos showings near Big Salmon Lake. At 11.7 km turned north on overgrown thickly-alderfied dozer trail along Fish Creek for [illegible] to site of old base camp @ 2 km. Dozer trail split with one branch to NW and other following Fish Creek with several crossings in next 1 km. Followed latter until time running out for return to truck by dark. Several large rounded pieces of bastnaesite (sampled) and one 3 km rounded chunk of banded (3 cm each) of pale and light green hackly fine-grained nephrite (?) similar in appearance (of the pale green zone) to Cassiar nephrite. Brought out 1 kg piece.

Returned to Camp 8 pm - after 27 km hike.

18 Sep - Sun

Retraced route to 6 km section where prospected chloritized andesite crappings along north side of trail. One 0.7 m quartz-stringer zone was weakly pyritic. Other outcrops showed no evidence of sulfide mineralization.

19 Sep - Monday

Left Canol Road camp early and reached Big Salmon Lake (13.7 km) by 11:30 - saw cabin E end of largest island.

Backtracked 1.5 km to locate completely and densely alder-overgrown bulldozer trail leading up to prominent bulldozer excavations half way up Tower Peak - probably exposing ultramafics.

As dozer trail impassable, began hike up through forest, but after 1 km of slow going at low elevation transverse, abandoned attempt. Would return next time (when not raining) to Lake, skirt north shore and climb directly up south slope of Tower Peak as best route to follow.

1.5 km east of Lake noted Paleozoic grey schist and shales with some calcareous members.

In float at "mouth" of trail leading up Fish Creek picked up 2 rounded chunks

of nephritic rocks - darkly colored when wet and perhaps to soft for true nephrite. However, brought out 2 pieces for slabbing.

This reinforces potential for finding in-situ nephrite up Fish Creek - possibly in vicinity of "Asbestos" X marked on D. T-K map of Quesnel Lake.

Returned Canal Road after dark.

20 Sep Thurs.

Cloudy - 3°C a.m.

Hiked west 4 Km on access trail to junction with a wide bulldozed (cattle used) trail leading to South. As wanted to take Fish Cr. samples in for mailing to assay lab - spent only 2 hours examining float to determine if area worthy of more thorough bedrock prospecting. Noted several pieces of carbonatized serpentinite and concluded these were probably

from a bedrock source surely closer than the Tower Rock Hannaford would be worthy of more prospecting on next trip.

Return Canol Road mid afternoon and drove back to Whitehorse arriving 9 pm via Johnson's Crossing.

24 Sep - Sat

Drove from Whitehorse via Johnsons Crossing north on Canol Road.

Stopped again @ 93.8 km for (again) investigation of silicified andesitic volcanics — resampled qtz stgrs w pyrite. Zone reappears to strike N-S and dips steeply east - contrary to first impression.

Drove on to Rose River for camp.

11 12
5 6
6 32

25 Sep. - Sun.

Hiked west 12 km and then 2 km north up headwaters Fish Creek examining stream boulders & sampling listwaenitic rocks, increasing dominance of serpentinite upstream.

Located one discus-sized piece of quartz-stringered tabular orange-weathering coarsely crystalline calcite (± siderite) with crystal masses of specular hematite. My guess, will run only weakly anomalous Au as a Uncertain if this is spatially related to source structure from which listwaenite cobbles are derived.

Suggest that the hematite-bearing rock came from Fish Creek drainage - as it is quite similar lithologically to the listwaenite stream boulders that surely are associated with the ultramafic serpentinite E-W trending mass in immediate vicinity. Will plan further detailed pros-

Inspecting of upper Fish Creek drainage in next few days - or in 1989 if threatening snowy weather culminates in storm & snow cover.

Returned to camp after dark 20:20. with samples of spec. lamprite, lamprophyres for assaying.

26 Sep. Monday

Hiked 4 km west and 1 km south on old access road where dozing in west ditch exposed serpentinite for 50m "length" although its contact relationship with qtz-musc.-biotite schist to south is unclear. This area lies within the allochthonous terrane of D T-K although the presence of ultramafic rocks has not been described - perhaps too small

to be shown on map scale. Much talc reaction talc float in road - suggests possibility of nephrite. However, among numerous pieces serpentinite no nephrite noted.

27 Sep - Tues

Prospected 4 km west of Camel to junction with rarely-used 4x4 trail branching southerly toward Quiet Lake.

At junction bulldozing has exposed 20m x 20m bedrock comprising mylonite (chlorite-quart

Bedrock and several large boulders sampled for slabbing with the view to determining if the rock might be suitable for cutting as stone facing, tile, etc. The finer fabric, pale green color, and tight, difficultly fractured - really tough characteristics might suggest some use - especially as the site is accessible by truck.

28 Sep.

Returned to "Junction" area in morning and prospected roadside ditches 1 km to south where located schistose rhodonite slab indicating (by only moderate rounding) a possible nearby source bed.

As snow began coming down heavily - retreated to pickup on Carol with plans to fan out prospecting

general area for rhodonite in 1989 in connection with the upper Fish Creek - Tower Peak prospecting.

Return drive through up to 18 cm wet snow on divide south of Johnson's Crossing - to Whitehorse in evening.

02 October '88

Partly cloudy + 12° windy

Drove from Whitehorse to Aishihik Lake road 44 km (4 km north of Aishihik Lake dam campground cut-off.

Re-examined multiple zones of pyrrhotite-chalcopyrite in biotite quartz schists (345°-355° and foliation inclined 40°-75°E) along and in trail leading to Aishihik Lake. In view of anomalous As and Au in assay #12634 and evidently extensive outcrops of what appears to be stratiform (volcanogenic?) sulfide bodies (or tightly folded single horizon) - indicated need for geochem - geophysics and thus called for staking 4 CRANE claims.

Several exposures of feldspar porphyry (weakly pyritic) were noted - need to understand their relationship to pyrrhotite-Cu zones. Also need to understand

amphibolite and banded sugary quartz
units in schist package.

Unusual good accessibility, many bedrock exposures + relatively thin overburden - makes this previously known (and partly bulldozed) prospect worthy of investigation using a volcanogenic paradigm.

03 October

Cut lines north & south of claim line while examining and grab sampling a number of rusty weathering outcrops of pyr. bio schist.

Ran into a pair of mature buffaloes (evidently still trying to find a route to Alaska to join up with their group from Canada).

Return drive to write here in evening.

07 Oct. 1/2 day

Left Whitehorse noon to Aishihik Road to km 50 northwest of Gladhand Lake & examine 50m x 60m bulldozer stripped skarn showing west side of road on VERA claims.

Pyrrhotite bands 4 to 8 cm wide within a 2m wide diopside-garnet skarn - trending 350° and inclined 70-80° E. Feldspar porphyry dike and chilled (non-porphyritic) margin vicinity of calcareous beds.

Camped just off Aishihik Road - snow flurries

08 Oct.

Road (trail) to NW frozen-able to pass mud section (previously not possible with 2-wheel drive pickup. Light snow "mist" all day - Temp -2° - night -8°

Prospected south of VERA claims south boundary - for 300 m before turning west to pt. half way to Asthitika Lake, thence NNW along Buffalo Meadow to road (so-called Cadbe Trail.

Several heavily limonite stained outcrops of skarny schist with schist/meation @ 350°-355° Az inclined 50°-70° E. Pyrrhotite mineralized schist 3 to 6 meters wide — probably discontinuous in direction of lineation - exposed for 6-25 m lengths.

Fracture pattern 30°-40° Az steeply dipping W/E.

09 oct.

Snow thermos increasing during day — daytime −3°C

Grab sampled several "gossan" outcrops of pyrrhotite (Cp minor) in skarn and diopsidic biotite schist in order to determine if any of the multiple parallel sulfide skarn zones carried anomalous values in gold.

Feldspar porphyry dikes (20-50cm wide) crosscut and jog dogleg-like for short distances (1 m) parallel to

metamorphic fabric (foliation). Not all limestone (marble zed) pods are skarnified.

Could be that there may be some metal zoning - will increasing values of gold be found westward spatially removed from garnetiferous skarn and concentrated in diopsidic biotite-qtz schist?

Snow - at times heavy - while completing sampling on exposures in roadbed.

Camped back on Ashibuck Road in case snow is heavy overnight

1/2 day

10 Oct

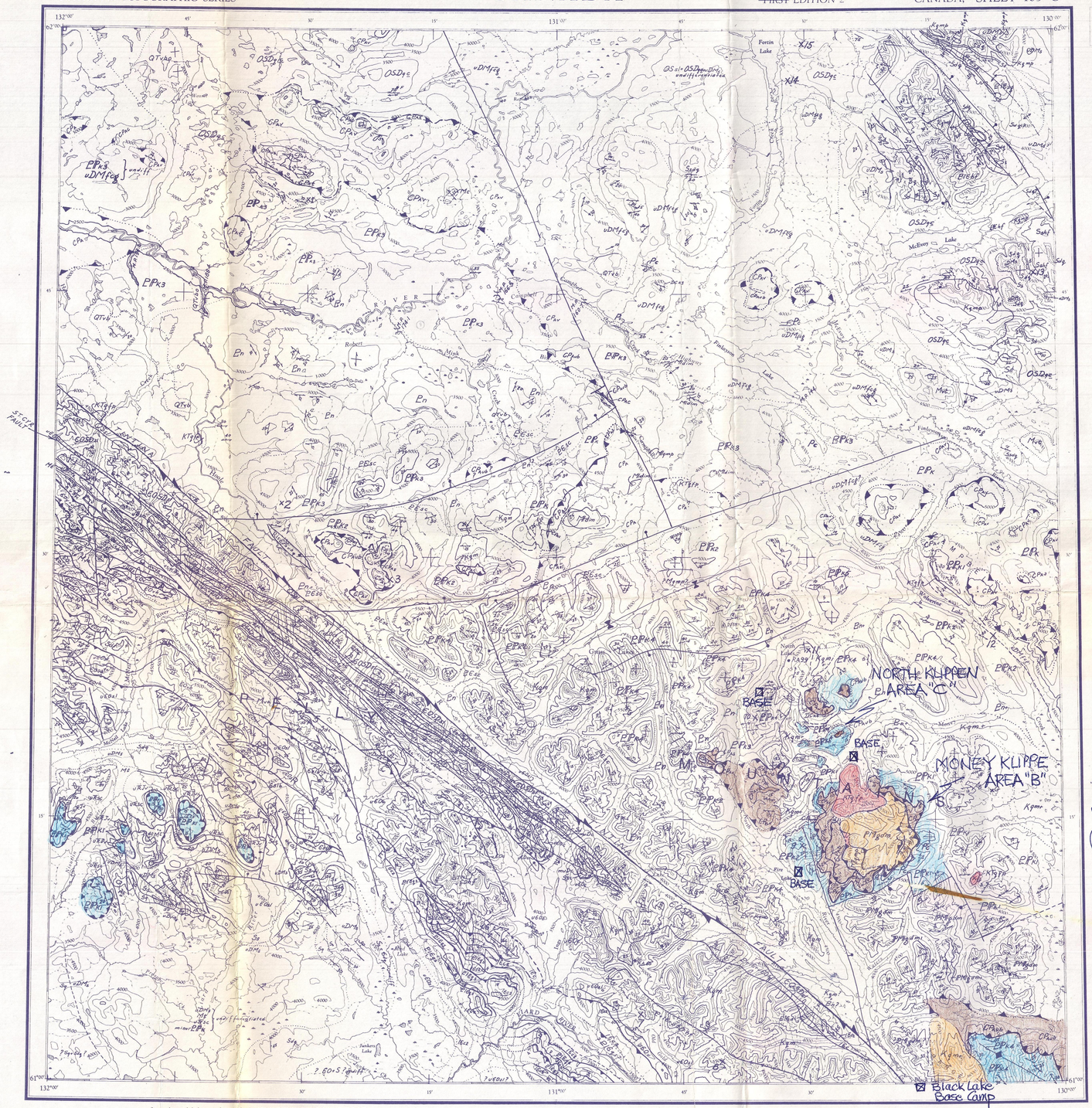
Awoke to 8cm new snow and found it touch & go getting up and over 2 steep hills southbound on Alaska Road on way back to Whitehorse.

NATIONAL TOPOGRAPHIC SERIES

CANADA

~~FIRST~~ EDITION 2

CANADA, SHEET 105 G



Military users refer to this map as Reference de la carte pour usage militaire: Sheet A502, 105 G, Edition 2 MCE

SYMBOLS

- Geological contact, defined, approximated, assumed
- Bedding, horizontal, inclined, vertical, overturned
- Foliation or mylonite fabric, horizontal, inclined, vertical
- Linear elements including minor fold axes, mullions and wrinkles
- Synclinal and anticlinal fold axes in unmetamorphosed rocks
- Synformal and antiformal axes of open folds that deform the metamorphic fabric
- Major transcurrent fault, dextral slip approximately 480 km.
- Basal or sole thrust beneath major allochthonous thrust sheet; movement Mesozoic, possibly Lower Cretaceous
- Thrust fault within autochthonous or parautochthonous sequence; movement Mesozoic, possibly Lower Cretaceous
- Steeply dipping fault, circle on downthrown side
- ●F Fossil locality, only a few are shown on this preliminary map
- X 12 Mineral occurrence; see list for name and brief description
- 130● Potassium-argon determination; date in m.y.
- XG Gossan zone where rocks are prominently rust stained

Geology by J.O. Wheeler, 1958, 1959; L.H. Green, 1959; J.A. Roddick, 1959; G. Abbott, 1974, 1976; S.P. Gordey, 1975, 1976; D.J. Tempelman-Kluit, 1973, 1974, 1975, 1976.

Compiled by D.J. Tempelman-Kluit, 1977.

MINERAL OCCURRENCES

1	CHOW	Zn, Pb geochemical anomaly.
2	HOO	Sphalerite and galena occur in extensive float apparently close to its source. The mineralization is conformable with the metamorphic layering of the rocks.
3	EL	Asbestos in serpentinized ultrabasic rocks.
4	AXE	Native copper in Cambro-Ordovician basalt.
5	FH	Zn, Pb, Ag massive sulphides in Mississippian acid volcanic rocks.
6	TINTINA	Ag, Pb, Zn vein mineralization in Lower Cambrian carbonate near a Cretaceous quartz monzonite stock.
7	BLUEBERRY	Pb, Zn, Ag vein mineralization in Cambro-Ordovician calcareous phyllite near a quartz monzonite stock.
8	MONT	Chalcopyrite occurs in Cambro-Ordovician phyllite within the thermal aureole of a Cretaceous quartz monzonite stock.
9	FYRE	Massive sulphide mineralization of copper and zinc occur within graphitic slate and quartzite.
10	PACK	Pyrrhotite and minor chalcopyrite occurs within schist and quartzite conformable with the formation.
11	MYDA	A scheelite bearing skarn is developed in Paleozoic marble which occurs within schist and quartzite next to granitic rocks.
12	FETISH	Chalcopyrite and sphalerite occur as thin stringers in sericite schist.
13	JAKE	Sphalerite and galena is disseminated in hornfels next to a Cretaceous stock of quartz monzonite.
14	PHIL	Sphalerite occurs within a quartz lens in phyllitic rocks.
15	PAY	Sphalerite and galena occurs in Silurian quartzite and limestone.

SHEET 2 of 3

THE DECLINATION OF THE COMPASS NEEDLE, 1952

The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the neighbouring red lines; thus at the place marked A, the declination is between N.34°.30'E. and N. 35°E. The eastern declinations of the compass needle are decreasing 4.3' minutes annually.

Surveyed, compiled, drawn and printed by the ARMY SURVEY ESTABLISHMENT R.C.E., 1949-52.
Aerial photography by the R.C.A.F., 1949.
Universal Transverse Mercator Projection.

Interim Corrections 1974

REFERENCE

	More than 2 Lanes	2 Lanes
Road, Loose Surface, All Weather		
" Loose Surface, Less than 2 Lanes	All Weather	Dry Weather
Cart Track		
Trail		
Railway, Multiple Track		
" Single Track		
Boundary, International		
" Province or State		
" County or District		
" Reservations, Indian, Military, Park, etc.		

FINLAYSON LAKE

YUKON TERRITORY

Scale 1 : 250,000

1 Inch to 4 Miles Approximately.

Miles 0 5 10 15 20 Miles

Kilometres 0 5 10 15 20 25 30 Kilometres

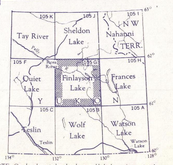
ROADS - ROUTES

hard surface - pavée
loose surface - de gravier
cart track - de terre
trail - sentier
Deletions - Suppressions x x x x x

The general public may obtain copies of this map from the Map Distribution Office, Dept. of Mines and Technical Surveys, Ottawa.

REFERENCE

Triangulation Station
Contours, Elevation
" Depression
" Approximate
Church
School
Stream, Intermittent
Aerodrome, on Land
Main Electric Power Line
Spot Elevation, in feet
Wooded Areas
Swamp or Marsh
W.L. 241
Ferry
Mud
Sand
Dam
Falls
Navigation Light
Elevation in Feet
Water
Land



NOTE: On the above index the sheets published are shown tinted green.

PAP88-027
1988 P.A.P.
James A. Dodge

FINLAYSON LAKE Y.T
SHEET 105 G
~~FIRST EDITION~~
EDITION 2

O.F. 486

$ 3.00

QUIET LAKE (105 F) AND FINLAYSON LAKE (105 G) MAP—AREAS

1988 P.A.P.
James L. Dodge

LEGEND

SOUTHWEST OF TINTINA FAULT

INTRUSIVE ROCKS
POST- (&SYM-?) TECTONIC

MID-CRETACEOUS

KTnfp — Quartz feldspar porphyry dykes with light grey and green coloured aphanitic to very fine-grained quartzo-feldspathic groundmass studded with small, subhedral, clear quartz and white feldspar phenocrysts

Kqm — Moderately resistant, light grey weathering, biotite quartz monzonites; medium to coarse grained equigranular; generally lacks fabric; boundaries with Em+ are arbitrary: lacks small xenoliths, but locally includes large screens of metamorphic rocks

Kqmp — Moderately resistant, light grey weathering, homogeneous porphyritic (pinkish K-feldspar) medium-grained biotite quartz monzonite; locally exhibits a strong inherited fabric; boundaries with Em+ are arbitrary: lacks small xenoliths but locally includes large screens of metamorphic rocks

ALLOCHTHONOUS ROCKS

OMINECA CRYSTALLINE&PELLY-CASSIAR

CARBONIFEROUS AND PERMIAN
(MAY INCLUDE OLDER AND YOUNGER ROCKS)
ANVIL-CAMPBELL ALLOCHTHON

CP_{Ag} — Resistant, dark grey weathering, dark green fine-grained amphibolite, less metamorphosed "greenstone" and altered basalt; includes minor altered gabbro,undifferentiated; largely massive and structureless, but a nematratiw flaser fabric is developed above the basal thrust and in places within the mass (e.g.north side of Mt. St Cyr)

CP_{Aub} — Resistant, dun brown weathering, dunite, peridotite and pyroxenite with serpentinized equivalents; includes CP_{As} undifferentiated

CP_{As} — Yellow-green and grey weathering recessive serpentinite

(AGE UNKNOWN)
KLONDIKE SCHIST

Mc — Light grey weathering resistant marble: age and relations unknown

EPk1 — Light buff weathering, pale green muscovite quartz blastomylonite, muscovite quartz schist and muscovite quartzite; includes minor quartz and feldspar granule grit undifferentiated and chlorite schist; may include CP_A undifferentiated

AUTOCHTHONOUS ROCKS

OMINECA CRYSTALLINE BELT

PARAUTOCHTHONOUS &
AUTOCHTHONOUS ROCKS
PELLY-CASSIAR PLATFORM

UPPER DEVONIAN AND MISSISSIPPIAN

uDMcp — Dark grey weathering, medium-bedded chert granule grit and chert pebble conglomerate with interbedded black slate

uDMc — Black recessive weathering, with rusty streaks, thin bedded black siliceous slate with minor interbedded chert grain greywacke and chert granule grit; includes lenses of intermediate to acid volcaniclastic rocks undifferentiated; may include Mt undifferentiated; includes interbedded dark grey barite undifferentiated, includes Csl undifferentiated

MIDDLE AND UPPER DEVONIAN

muDc — Resistant, blue grey weathering, medium-grey, medium to thin bedded fetid bioclastic limestone

SILURIAN AND (?) LOWER DEVONIAN

SDc — Dark grey massive crinoidal limestone and minor dolomite; gradational to DSqc

SILURIAN?

Sqt — White and light grey weathering, medium to thick-bedded, light buff, medium-grained, mature orthoquartzite, commonly with dolomite cement, minor interbedded sandy dolomite; laterally gradational to DSDc and SDdo

SILURIAN AND (?) LOWER DEVONIAN

SDmt — Resistant, medium grey to buff weathering, medium- to thick-bedded dolomite, sandy dolomite and dolomitic sandstone; gradational to SDd and Sc

SDm — Resistant, light grey, buff and light orange weathering, medium-bedded dolomitized laminated mudstone to sucrose dolomite and dolomitized calcarenite with minor silty and sandy dolomite; vugs, birdseye and fenestral cavities are common as are bioturbation burrows, mottling and mudcracks

SDd — Resistant, thick-bedded to massive, red weathering, coarsely sucrose dolomite; minor sandy dolomite; gradational with SDd

SILURIAN

Ss — Tan, medium grey, and very locally deep maroon weathering; light grey, thin-bedded to platy dolomitic siltstone, dolomitic fine-grained sandstone and minor silty dolomite; gradational to DSDsc

Sv — Orange weathering, recessive, maroon and green laptili tuff and volcanic breccia with interbedded bioclastic dolomite; gradational with EODv?

ORDOVICIAN AND SILURIAN

OSSl — Recessive, black, locally calcareous, fissile graptolic slate; includes thin sills or flows of dark green, basalt undifferentiated; includes Sv undifferentiated; rarely includes lenses or large blocks of algal-laminated dolomite; grades upward into Ss and laterally into uEOsl, uEOslv and uEOc

?CAMBRIAN, ORDOVICIAN, SILURIAN AND (?) DEVONIAN?

EOSDs? — Orange brown weathering, recessive, thin bedded, medium to dark grey, calcareous shale, siltstone and argillaceous limestone; includes slate and phyllitic slate - its metamorphic equivalents; includes SDvu undifferentiated, laterally gradational to OSsl and OSslc

?ORDOVICIAN AND SILURIAN ?

OSSlq — Moderately resistant, black graphitic siliceous and pyritic slate; weathers black with rusty streaks; includes OSSlc undifferentiated; gradational to EOSDsl

OSSlc — Black, recessive weathering, calcareous graphitic "sooty" slate and silty slate; includes thin beds of dark grey, graphitic, very fine grained quartzite and black "sooty" crinoidal limestone; gradational to EOSDsl

?UPPER CAMBRIAN AND ORDOVICIAN?

uEOslv — Medium grey, recessive weathering, chlorite muscovite quartz phyllite and slaty phyllite , locally calcareous; in places includes lenses sills and flows of olive to dark green basalt and basaltic tuff EO_b and EO_{bt}; may include OSsl unidifferentiated; grades laterally to uEOc

EOv — Olive green, sandy and finer grained tuff and tuffaceous slate; commonly strongly foliated and metamorphosed to greenschist facies - equivalents include chlorite phyllite and chlorite amphibolite; abundant but undifferentiated in uEOslv

EOvb — Resistant, dark weathering, massive, dark green and dark maroon amygdaloidal basalt; calcite fills amygdules; locally strongly foliated and amygdules are chlorite patches; may include EOv undifferentiated

Eb — Resistant, dark grey weathering, massive, saussuritized, dark green medium to fine-grained diabase or diorite sill with aphanitic margins

UPPER CAMBRIAN AND ORDOVICIAN

uEOc — Orange to orange-brown weathering, recessive, medium grey, thinly interlaminated calcareous shale and silty limestone or calcareous siltstone; proportion of carbonate to clastic material varies widely; includes slaty and phyllitic equivalents; includes distinctive red weathering quartz ankerite "sweats"; locally includes thin layers of olive green tuff undifferentiated; laterally gradational to uEOsl

uEOc? — Bright orange weathering, massive, medium grey, ankeritic shale, slate and phyllitic slate

?UPPER CAMBRIAN AND ORDOVICIAN?

EOcs1 — Resistant, brown weathering, thinly interbedded shale, calcareous siltstone and argillaceous limestone; metamorphosed to biotite phyllite, tremolite calcite quartzite and impure marble

?LOWER CAMBRIAN?

1Cc2 — White weathering, resistant, marble, recrystallized lime mud and bioclastic limestone

LOWER CAMBRIAN

1Cd — Orange red weathering, resistant, massive, coarsely crystalline dolomite; dolomitized equivalent of 1Cc

1Cc — Recessive weathering, grey, thin-bedded, calcareous argillite, limestone and calcareous siltstone; locally includes calcareous biotite schist and thinly banded quartz tremolite diopside skarn - its metamorphic equivalent

1Cc1 — Resistant, thick bedded to massive, medium grey to blue grey limestone and argillaceous limestone; includes archeocyathid buildups, undifferentiated

PROTEROZOIC AND/OR LOWER CAMBRIAN

PtCn — Undifferentiated, dark weathering, dull greenish, thin-bedded silty slate and shaly quartzite; locally includes medium to coarse grained poorly sorted feldspathic sandstone to orthoquartzite (notably near Clard River, NTS 106 G); laterally gradational to PtCs a higher metamorphic grade equivalent

PROTEROZOIC AND/OR LOWER CAMBRIAN

PtCs — Buff weathering muscovite biotite schist, garnet mica quartz schist and micaceous quartzite with minor amphibolite; includes minor marble undifferentiated; stratigraphically roughly equivalent to, and gradational with PtCss and En

PROTEROZOIC AND/OR LOWER CAMBRIAN

Ens — Buff weathering muscovite biotite granodiorite gneiss with, abundant interfoliated muscovite biotite quartz schists; gradational to EtEs

En — Buff weathering, black lichen covered, resistant muscovite biotite granodiorite gneiss and augen gneiss

En+ — Injection migmatite consisting of muscovite biotite gneiss, augen gneiss and schist with sills, dykes and small plugs of fine-grained biotite granite, biotite quartz monzonite, aplite and pegmatite; proportions vary: gradational with Ens and En; contacts with Kqm and Kpqm are arbitrary and based on the proportion of metamorphic to igneous rocks

TORDOVICIAN, SILURIAN AND L.DEVONIAN?

DSQmq — Recessive, dark grey to black "sooty" limey or dolomitic, thin-bedded to platy graphitic siltstone and fine-grained impure quartzite with interbedded graphitic silty shale; gradational to Ss, Sq and SDc; metamorphosed equivalents include graphitic metaquartzite and muscovite graphite quartz schist

AUTOCHTHONOUS ROCKS

SELWYN BASIN

UPPER TRIASSIC AND (?)JURASSIC

uTRJv — Dark green,massive, volcaniclastic sandstone; minor tuff

UPPER TRIASSIC

uTRSc — Dark grey and buff weathering, recessive, thin-bedded bioclastic limestone with interbedded sandy or silty limestone, calcareous siltstone and shale; commonly finely cross-laminated; includes Csl undifferentiated

CARBONIFEROUS

Csl — Recessive, dark grey weathering, thin-bedded interlaminated buff yellowish siltstone and brown argillite with minor interbedded argillaceous limestone; strongly bioturbated

MISSISSIPPIAN

Mt — Pasty orange weathering, resistant, apple green and dark grey thin bedded chert and "cherty tuff", may include minor Mv undifferentiated

Mv — Resistant, dark grey and locally rusty weathering, massive to weakly foliated, green and maroon intermediate cherty to sandy tuff and volcanic breccia; minor flow rocks; includes Mva and Mt undifferentiated

Mva — Heterogeneous,rusty,black,white and orange weathering lapilli and sand sized tuff,volcanic breccia and flow rocks ranging from trachyte to andesite in composition;black argillaceous slate and siliceous pale grey and pale green "cherty tuff" locally abundant; minor finely crystalline buff limestone; locally includes abundant trachyte dykes; locally highly pyritic; weakly sericitized and commonly strongly foliated so that primary textures are masked; includes maroon and green intermediate tuffs and flows(Mv); may include My undifferentiated

My — Resistant, massive, medium to fine-grained equigranular syenite; magmatic hornblende replaced by actinolite, but K-feldspar is comparatively fresh perthite; gradational to trachytes; may include Mva undifferentiated

DEVONIAN (UPPER?)

Dvc — Orange weathering, pale green, resistant amygdaloidal (calcite) basalt, basaltic tuff and breccia; intercalated crinoidal calcarenite; includes Dc undifferentiated; includes calcareous brown weathering slate

Dc — Light grey weathering, platy, medium to dark grey, thin bedded, fetid, crinoidal limestone and buff weathering thick bedded, medium grey coarsely crystalline fetid limestone; includes minor calcareous slate

?SILURIAN AND LOWER DEVONIAN?

SDsq — Orange buff weathering, resistant, medium grey, thin to medium bedded, finely laminated and cross-laminated calcareous quartz siltstone and calcareous very fine-grained orthoquartzite, with brown slaty phyllite partings; minor interbeds of massive light grey orthoquartzite

LEGEND
NORTHEAST OF TINTINA FAULT

POST-TECTONIC
EXTRUSIVE AND SEDIMENTARY ROCKS

LATE TERTIARY OR QUATERNARY

QTvb — Recessive, brown weathering, fresh brown basalt and basalt breccia

QTvbo — Columnar jointed, brown weathering fresh olivine basalt

TERTIARY

Tscg — White weathering, poorly indurated sandstone, conglomerate and shale; shale is brown and thin bedded with abundant coaly partings and plant debris; sandstone is coarse grained, poorly sorted arkose with beds to 4 metre thick; conglomerate, in beds to 20 metres thick, includes pebbles and cobbles of quartz, quartz schist, green basalt and red cherty tuff in a sandy matrix of quartz feldspar and muscovite.

TERTIARY (OR LATE CRETACEOUS?)

Tqfp — Buff weathering, white rhyolite with small phenocrysts of quartz and feldspar in an extremely fine grained kaolinized groundmass

INTRUSIVE ROCKS
POST- (&SYM-?) TECTONIC

CRETACEOUS

KTqfp — Fresh, acid and intermediate, subvolcanic and volcanic rocks including two main types not differentiated, a dark weathering dacite with stubby hornblendes in a dark green aphanitic groundmass and rusty weathering rhyolite with clear quartz and white albite phenocrysts (locally pyritic)

Kqmp — Blocky, resistant, medium grey weathering, fine-grained biotite quartz monzonite with smoky quartz and white albite euhedra in a quartzo-feldspathic groundmass; gradational with Kqm

Kqm — Resistant, blocky weathering, mainly equigranular medium-grained, but locally porphyritic (white K-feldspar), homogeneous grey biotite quartz monzonite and lesser granodiorite; contacts with Em are arbitrary and based on the proportion of plutonic rock to the schist

Kqm+ — Biotite quartz monzonite with numerous screens and pendants of schist and gneiss, mainly Em ; contacts with Em are arbitrary

MESOZOIC?

Mdlm — Dark grey weathering equigranular medium-grained hornblende diorite; occurs as sills

ALLOCHTHONOUS ROCKS
OMINECA CRYSTALLINE BELT

SIMPSON RANGE ALLOCHTHONOUS ASSEMBLAGE

DEVONIAN TO TRIASSIC?

Mpmp — Resistant, medium grey weathering porphyritic (pink K-feldspar) biotite quartz monzonite; generally fresh to weakly saussuritized, locally shattered and recemented, but lacking the cataclastic texture of PMgdm; includes PM gdm undifferentiated

PMgdm — Massive , resistant, medium-grey weathering, blocky, dark green protomylonite and mylonite derived from hornblende granodiorite to quartz diorite. In places the original texture and minerals are fairly fresh and the rock is equigranular medium-grained with subhedral hornblende and blue quartz grains. For the most part the rocks are strongly saussuritized and now appear as quartz chlorite feldspar schist. Locally euhedral white K-feldspar crystals to 5 cm. across are grown across the cataclastic texture. May include Mpmp undifferentiated.

PMqdm — Light rusty weathering, yellow greenish mylonite and ultramylonite derived from hornblende quartz diorite; boundaries with PMgdm are arbitrary.

ANVIL-CAMPBELL ALLOCHTHONOUS ASSEMBLAGE

CARBONIFEROUS AND PERMIAN (POSSIBLY OLDER)

CP_{Av} — Resistant, dark grey weathering, massive, dark green aphanitic basalt and minor augite porphyry; includes CP_{Ab} and CP_{As} undifferentiated

CP_{Avt} — Recessive, jasper-red and apple-green chert and cherty tuff; includes CP_{Av} undifferentiated

CP_{Ag} — Dark grey weathering, resistant, massive medium-grained pyroxene gabbro; includes CP_{Av} and CP_{Ap} undifferentiated

CP_{Aub} — Resistant dun brown weathering dunite, peridotite and pyroxenite and serpentinized equivalents: includes CP_{As} and CP_{Ac} undifferentiated

CP_{As} — Yellow green weathering serpentinized peridodtite and pyroxenite; includes CP_{Ac} and CP_{Aub} undifferentiated

CP_{Ac} — Resistant, orange weathering quartz carbonate rock with minor green chromian muscovite; includes CP_{As} undifferentiated

? ALLOCHTHONOUS?

AGE UNKNOWN

KLONDIKE SCHIST

EPk5 — Resistant weathering metaquartzite with minor graphitic slate

EPk1 — Slightly rusty weathering, white to pale green, muscovite quartz blastomylonite; includes minor fine-grained amphibolite and chlorite quartz and biotite quartz blastomylonite

EPk3 — Pale green muscovite chlorite quartz phyllite and medium green amphibole chlorite phyllite; includes minor black marble; generally strongly sheared with a well developed, slightly recrystallized, cataclastic texture

EPk2 — Black siliceous phyllite and medium green amphibole chlorite phyllite; locally includes much interbedded gritty and pebbly greywacke containing clasts of blue quartz, white K-feldspar and slate chips; locally includes thin black marble lenses undifferentiated; for the most part the rocks are strongly sheared phyllonite

EPk4 — Fairly resistant medium grey weathering, muscovite biotite quartzo-feldspathic gneiss with interfoliated chlorite biotite quartzite, quartz chlorite schist, amphibole chlorite schist and minor white marble; the more metamorphosed equivalent of EPk2 and EPk3 ; relationships between EPk2 , EPk3 and EPk4 are gradational: in the southeast part of the area EPk4 and En are gradational with each other

?AUTOCHTHONOUS? ROCKS

OMINECA CRYSTALLINE BELT

?WINDERMERE AND CAMBRIAN?

PCsc — Buff weathering biotite garnet muscovite schist with interfoliated lenses of coarsely crystalline, light grey marble; includes minor augen gneiss: structurally gradational with augen gneiss (En)

En — Blocky , medium grey weathering, biotite muscovite quartz feldspar augen gneiss of quartz monzonite composition with minor interfoliated biotite muscovite quartz schist; laterally gradational to , boundaries arbitrary

En+ — Injection migmatite consisting of sills and dykes of fine grained biotite quartz monzonite, aplite and pegmatite, in biotite muscovite augen gneiss and schist: proportion of injected plutonic rocks to the host schist varies widely. Contacts with Kqm are arbitrary, based on the proportion of plutonic rock to schist.

En+Kqm — Augen gneiss En , injection migmatite En+ and biotite quartz monzonite Kqm , undifferentiated

AUTOCHTHONOUS AND PARAUTOCHTHONOUS ROCKS
PELLY-CASSIAR PLATFORM

CARBONIFEROUS OR PERMIAN

Pc — White weathering, resistant, massive light grey recrystallized crinoidal limestone; commonly has well developed flaser texture and grades into a marble blastomylonite; includes minor EPk undifferentiated

Mt — Rusty orange weathering, pale green cherty textured volcanic rocks of intermediate composition with less greenish chert; minor black slate; massive medium green intermediate lapilli tuff

UPPER DEVONIAN AND MISSISSIPPIAN

uDMcc — Resistant, medium grey, chert pebble conglomerate with minor interbedded black slate. For the most part the rocks have a well developed cataclastic texture so that they grade into graphitic siliceous phyllonite

uDMs — Black recessive weathering, with rusty streaks, thinbedded black siliceous slate with minor interbedded chert grain greywacke and chert granule grit

SILURIAN AND LOWER DEVONIAN

NASINA FACIES

DSDsc — Recessive, dark grey to black weathering thinbedded and platy,calcareous and dolomitic graphitic siltstone with minor black graphitic slate: gradational with ,and contains lenses of SDd and SDs undifferentiated

SANDPILE GROUP

Sdq — Interbedded, white weathering, resistant, medium bedded, light grey, algal laminate and sparry dolomite, orthoquartzite and sandy dolomite

Sq — Silvery white weathering, resistant, medium bedded, medium-grained mature orthoquartzite commonly with dolomitic cement; minor interbedded sandy dolomite

Sd — Resistant, light grey and white weathering, massive, medium grey, medium bedded, laminated to sucrose, dolomite; minor sandy dolomite

SILURIAN

Ss — Tan weathering, thinbedded to platy, dolomitic siltstone and silty dolomite

Sshf — White weathering, thinly laminated white and green hornfels; probably the thermally metamorphosed equivalent of Ss ; may include thermally metamorphosed equivalents of SDq and Sq

UPPER CAMBRIAN AND ORDOVICIAN

KECHIKA GROUP

uEOs1 — Orange brown weathering, recessive, medium grey slate and slaty phyllite with lenses of pale green tuff; minor calcareous phyllite

WINDERMERE AND LOWER CAMBRIAN

PtEsg — Dark grey weathering, medium green silty slate with some interbedded greywacke made up of white quartz grit in a greenish matrix

PtEhf — Rusty weathering, green, white and purplish banded hornfels; thermally metamorphosed equivalents of the late Windermere green silty slate (PtEsg)

SHEET
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O.F. 486

$ 1.50

PAP88-027

SYMBOLS

- Geological contact, defined, approximated, assumed
- Bedding, horizontal, inclined, vertical, overturned
- Foliation or mylonite fabric, horizontal, inclined, vertical
- Linear elements including minor fold axes, mullions and wrinkles
- Synclinal and anticlinal fold axes in unmetamorphosed rocks
- Synformal and antiformal axes of open folds that deform the metamorphic fabric
- Major transcurrent fault, dextral slip approximately 450 km.
- Basal or sole thrust beneath major allochthonous thrust sheet; movement Mesozoic, possibly Lower Cretaceous
- Thrust fault within autochthonous or parautochthonous sequence; movement Mesozoic, possibly Lower Cretaceous
- Steeply dipping fault, circle on downthrown side
- ●F Fossil locality, only a few are shown on this preliminary map
- ×12 Mineral occurrence; see list for name and brief description
- 130● Potassium-argon determination; date in m.y.
- ×G Gossan zone where rocks are prominently rust stained

Geology by J.O. Wheeler, 1958, 1959; L.H. Green, 1959; J.A. Roddick, 1959; G. Abbott, 1974, 1976; S.P. Gordey, 1975, 1976; D.J. Tempelman-Kluit, 1973, 1974, 1975, 1976.

Compiled by D.J. Tempelman-Kluit, 1977.

1988 P.A.P.
AREA "A"
DUNITE MTN
KLIPPE

Base Camp

James A. Dodge

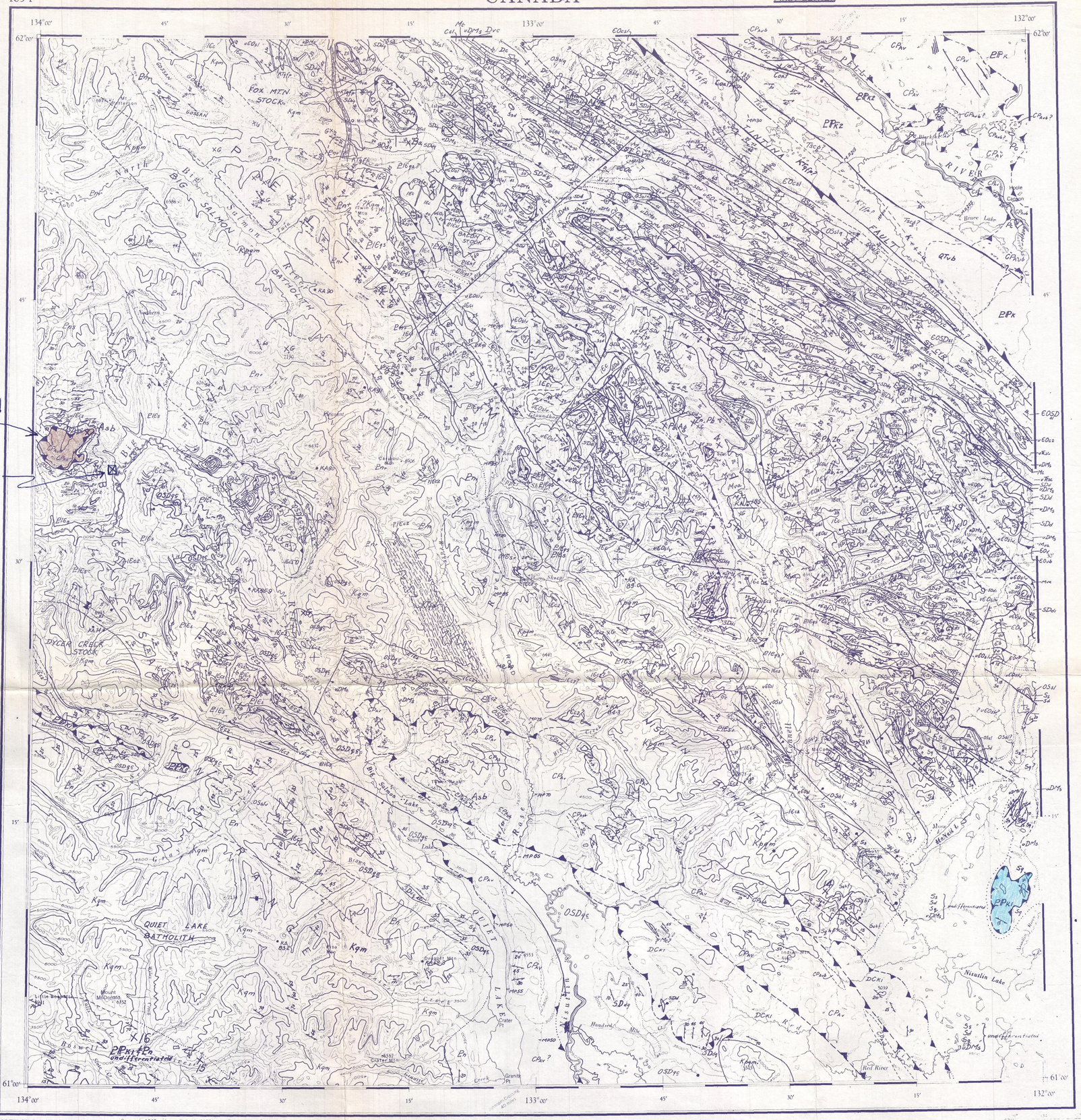
MINERAL OCCURRENCES

1	RISBY	Scheelite in skarn and marble of Lower Cambrian age close to a mid-Cretaceous quartz monzonite.
2	TUB	Sphalerite and galena with quartz gangue, from a vein, is found as boulders in this stream.
3	GROUNDHOG	Galena and pyrite occurs in quartz siderite veins in Silurian carbonate rocks.
4	GRAYLING	Galena, pyrite and pyrrhotite occur in a vein that cuts the unconformable contact between Siluro-Devonian carbonates and Devono-Mississippian slate and volcanics.
5	BOX	Galena and pyrite occur in a vein in sheared Mississippian volcanic rocks.
6	WOODCOCK	Auriferous arsenopyrite and pyrite occur with pyrrhotite in fault controlled lenses in Eocambrian slate and siltstone.
7	KEY	Galena with sphalerite, tetrahedrite and chalcopyrite occurs as massive lenses and veins within Mississippian slate and volcaniclastic rocks.
8	HOEY	Galena with pyrite and tetrahedrite occurs in veins that cut Silurian orthoquartzite.
9	KETZAKEY	Galena with pyrite and tetrahedrite in siderite gangue occurs as veins in Cambro-Ordovician calcareous slate.The main vein is known as the Key-18.
10	STUMP	The main A-1 vein contains "steel" galena with pyrite and tetrahedrite in siderite. It cuts Cambro-Ordovician calcareous slate.
11	OXO	Galena and pyrite occur in a pyrrhotite lens conformable with bedding in Lower Cambrian limy argillite.
12	CPA	A geochemical anomaly over sheared Mississippian acid volcaniclastic rocks. Skarn in Silurian carbonate developed next to nearby syenite has high concentrations of rare earth elements.
13	MM-ARNOLD	Sphalerite, galena, pyrite, pyrrhotite and barite occur in layers conformable with Mississippian volcanic rocks and slate.
14	MOLLY	Skarn,derived from Silurian dolomitic siltstone and quartzite and invaded by mid-Cretaceous quartz monzonite contains molybdenite. Geochemically high values of uranium are associated with the skarn.
15	MOBS	Galena occurs in a quartz vein in metamorphic rocks.
16	GOPHER	Galena occurs in a quartz vein in metamorphic rocks.

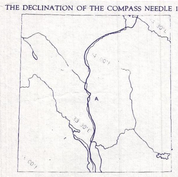
SHEET 1 of 3

O.F. 486

105 F — CANADA — EDITION 2 ~~FIRST EDITION~~ — 105 F



THE DECLINATION OF THE COMPASS NEEDLE 1950



The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the neighbouring red lines; thus at the place marked A the declination is between 24°30' and 24°00'E. The declination of the compass needle is decreasing 4 minutes annually.

Surveys in 1948 and compilation in 1950 by the Topographical Survey from air photographs taken in 1949. Lithographed and printed by the Army Survey Establishment, R.C.E., Department of National Defence, 1952.

Interim Corrections 1974

REFERENCE

Road, Hard Surface, All Weather	More than 2 Lanes	2 Lanes	Route No. ⑦ Less than 2 Lanes
Road, Loose Surface, All Weather	2 Lanes or More	Less than 2 Lanes	Dry Weather
Road, Special, etc	Snow Road, Pack Route	Cart Road	Portage or Trail
Boundary, International		Boundary Mon.	□
Boundary, Provincial		Survey Mon.	□
Boundary, County or District		Bench Mark	BM ▸ 1514
Boundary, Township, Seigniory or Parish		Triangulation Sta.	△
Boundary, Indian Reserves, Park		Spot Elevation (in feet)	.4590
Surveyed Line		Telephone, Trunk Route	
Railway, Standard Guage	Multiple Track / Station	Abandoned	Single Track / Shop

QUIET LAKE

YUKON TERRITORY

Scale 1:250,000 or 1 inch = 4 miles (approximately)

Miles 5 0 5 10 15 20 Miles

Kilometres 5 0 5 10 15 20 25 30 Kilometres

Copies may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, or your nearest map dealer.

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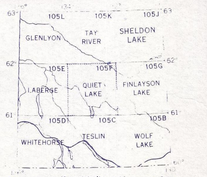
REFERENCE

Building	•	Fire Lookout Tower	Contours, Elevation
School	Sch	Wireless Station	Contours, Approximate
Post Office	P	Mine	Contours, Depression
Church	•	Cliff	Esker
Stream, Indefinite or Unsurveyed		Wooded Areas	
Stream, Intermittent		Navigable Canal	Navigable
Stream, in Dry River Bed		Rapids and Falls	R
Braided Stream		Ferry	F
Marsh or Swamp		Dam	
Marsh or Swamp, in water		Lighthouse	
Glacier or Snowfield		Aerodrome Elevation in feet	2156
Sand, Gravel or Mud	Sand, Gravel / Mud	Seaplane Anchorage	



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