SUMMARY REPORT

GRASSROOTS PROSPECTING
YMIP 98-008

AREA I	INDIGO LAKE	105G-04
AREA II	INGS RIVER	105G-07
AREA III	HOOLE RIVER	105G-12
AREA iV	KETZA-McNEIL	105F-08

WATSON LAKE MINING DISTRICT

Prepared by
James S. Dodge

June-October, 1998

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ILLUSTRATIONS

SUMMARY

YMIP 98-008

The majority of field activities in 1998 were directed toward the search for the bedrock source of the high-grade (17%) zinc stratiform metaquartzite boulder from the lower Hoole River bank (see YMIP 1996, 1997). Also, a one-day EM-16 reconnaissance was made of the terrane surrounding the Jumbo group of silver/lead claims on the divide between the Ketza-McNeil rivers.

Solo grassroots prospecting was carried out from helicopter 'set in' base camp sites chosen for accessibility to geological settings believed to be favourable for the occurrence of metquartzite. Focus was on favourable lithologic terrane rather than areas of elevated zinc values from open-file geochemical stream sediment reports. The paucity of pyrite in the Hoole boulder points up the probability that only very subtle iron gossance would develop on any sphalerite-rich outcrop. Whether this might also be reflected in lower-than-expected zinc in stream sediment samples is debatable. Thus, an unconventional ground prospecting strategy was dictated.

In Area I, where a weak zinc stream sediment geochemical anomaly had been detected, only one small outcrop of metaquartzite was found in mylonitized klippe southwest of the Tintina Fault. No significant bedrock zinc anomaly was detected in a suite of samples from the area.

In Area II, just northeast of the Tintina Fault, quartz-rich schists unconformably overlie orthogneiss. The discontinuous metaquartzite members in the schists were not over one metre thick, and there was no evidence of base metal mineralization.

In Area III the work plan was to return to the lower Hoole River drainage to undertake a meticulous boulder-bashing effort to geologically 'read' the up-ice lithology. Augen orthogneiss dominated the float from pebble to boulder sized pieces; followed by equal percentages of mafic to ultramafic rocks and porphyritic quartz monzonite. Several pyrite-vein-quartz boulders were turned up in front of the base camp. One specimen had elevated copper, zinc, and lead values. No metaquartzite boulders were located.

Area IV was outlined as being peripheral to the southern Jumbo group of claims where a high-grade silver/lead vein had been exposed by bulldozer and backhoe excavations in 1987-88 on the former Pescod claims. A Geonics EM-16 was used in a one-day VLF-EM reconnaissance investigation of potential conductors possibly extending beyond the boundary of the Jumbo claims.

Location of the two northwesterly trending faults, which had been mapped in 1988 were not confirmed as EM conductors. In any event, and contrary to significant mineralization in the northwest trending veins in the district, High grade silver/lead mineralization appears to be localized only along north/south shear zones.

From field evidence in 1996/97 and now from the results of the 1998 Program work, the metaquartzite members of Templeman Kluit and Mortensen , in the areas so far prospected, are too thin and of limited lateral extent to be the source for the large, glacially transported 'Hoole River Zinc Boulder.

It is recommended that there be no further grassroots prospecting for the source of the Hoole Zinc Boulder.

1.0 Introduction

1.1 Location and Access

Prospecting was conducted during June-October, 1998 in three principal areas and briefly in a fourth area in late June, namely: Area I Indigo Lake 105G-04; Area II Ings River 105G-07; Hoole River 105G-12; and Area IV McNeil River Headwaters 105F-09/09. Maps are enclosed which indicate the basecamp sites and the prospecting traversed areas covered from them.

Access to Areas I, II, and III was by helicopter set-in by Trans North Helicopters from its temporary base at ATNA Resources camp at the abandoned Ketza River Gold Mine. Access to Area IV was by back-packing the last 2.5 km from the site where 4x4 encountered impassable mud about 7.5 km from the Ketza Gold Mine road.

1.2 Terrain

Area I prospecting was carried out in a fan of traverses broadening in all directions from a base camp (Photo 1) at an altitude of 1480 m timberline and to areas ranging from 1400 m to 1810 m. Bedrock exposures were plentiful at and above timberline.

Area II prospecting extended primarily northwest and southeast of a valley base camp (Photo 10) at 1360 m. Several snow avalanche swaths through balsam fir forests offered ready access to timberline outcrop areas.

Area III prospecting covered up- and down-stream boulder and gravel bars along the left bank of the Hoole River from a base camp (Photo 12). Prospecting of orthogneiss outcrops was conducted at timberline adjacent to the Tintina Fault at 1580 m.

Area IV prospecting combined with reconnaissance VLF-EM survey was carried out over near-timberline rolling terrain covered by sparse brush and copses of balsam firm (Photo 13) at altitudes ranging 1200 m to 1600 m.

1.3 Claim Holdings

In Areas I, II, and III no claims are known to be in good standing. Area IV surrounds the Jumbo 1-4 claim group held by the writer, and also covers an area adjacent to the Lancer 1-8 claim group held by Dodgex Ltd. Dodge did not stake any claims during 1998.

1.4 Personnel

Prospecting was carried out solo by James S. Dodge in all areas with from 4 days in Area IV to 14-16 days each of Areas I, II, and III.

2.0 Areal Geology

2.1 Indigo Lake Area I

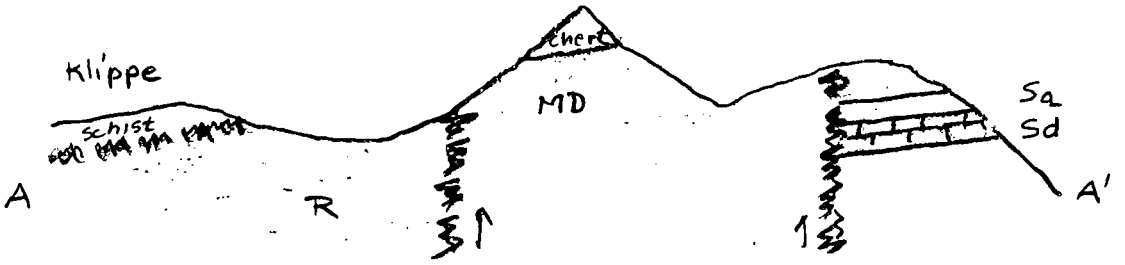
Indigo Lake at 61°13°N, 131°48'E and 35000E/67880N, although not within the strict prospecting area, is the most prominent geographical feature nearby. The prospecting premise was to determine if the oval-shaped thrust sheet, or klippe, had potential for the occurrence of metaquartzite of the style that could be considered a host rock source for the Hoole River Zinc boulder. As mapped by Templeman-Kluit OF 486, the klippe was designated as PPkl.

Inasmuch as the Hoole sphalerite boulder carried virtually no pyrite, a prominent gossan might not have been developed at its bedrock source. A weak geochemical signature might be the only indicator. A low zinc stream sediment geochem anomaly was indicated in the area north of the klippe, but underlying black shales are believed to have been the source.

Location of the base camp, set-in by helicopter, was chosen as a timberline site with apparent spring water for camp use from a fault zone (?). The camp was within reach of cliff-forming outcrops, adjacent to the weak geochem anomaly, and within 2 km of the cirques exposing the allochthonous klippe geology.

A sketch map of the area, based on daily prospecting traverses, coupled with a set of photographs, has been prepared using the claim map sheet 105G-04 as a base (Map).

A generalized stratigraphic cross-section follows:



The klippe comprises muscovite-chlorite-quartz schist with low angle southwesterly inclined foliation. Outcrops are rusty from weathering of very finely distributed pyrite. The one prominant brick-red gossan near the sole of the klippe (34450E/67865N)displays stratiform pyrite concentrations up to 8% iron and up to 160 ppm copper. The gossan is lensoid foliation-conformable up to 20 meters thick, 100 meters wide, and is distinguished by blocky weathering (Photo 6). Here schistosity becomes more nearly gneissic in lithology, perhaps as a result of mylonitization developed near the sole of the klippe. No quartzose horizons were seen.

At the crest of the 'main' cirque (34470E/67857N) (Photo 5) several thin pyritic schist zones are exposed, but samples were low in gold, silver, and all base metals. One metaquartzite tapering lens, up to 2 meters thick and 10 meters long, outcrops within pyritic chlorite-schist, but no sulfides were present.

A thin (0.3m) pyritic, weakly calcareous, schist outcrop on the cirque crest 120 meters west of the metaquartzite outcrop, was sampled (#21590) and gave an anomalously high arsenic (116 ppm) and exceptionally high strontium (1439 ppm); no economic significance is placed on these values.

2.2 Ings River Area II

This terrane at the headwaters of the Ings River, southwest of Grass Lakes and northeast of the Tintina Fault, was chosen for prospecting for metaquartaite in the continuing search for the bedrock source of the Hoole River stratiform zinc boulder.

It was believed that there was a geologic potential for the discovery of metaquartzite of adequate thickness and lateral extent, base on (a) Templeman-Kluit's Finlayson Lake geologic map PEsc formation, and Mortensen's micaceous quartzite 'lower' unit. Unfortunately I was unaware of

PHOTO 1 Campsite looking west toward 'cone' mountain made up of buff/green thin-bedded chert inclined at low angle to southwest. 34670E/67867N

PHOTO 2 Indigo Lake from high ridge east above basecamp with 'flock-of-sheep' boulders of impure dolomite on east facing slope.
34730 E/67869 N

PHOTO 3 Calcareous thick-bedded orthoquartzite (right) overlying sandy dolomite cliffs. Distant rusty mountain is another klippe terrane.
34702E/67877N

PHOTO 4 Cliff forming sandy dolomite extends to lower right of photo. Orthoquartzite caps nose of ridge at mid-distance.
34670E/67874N

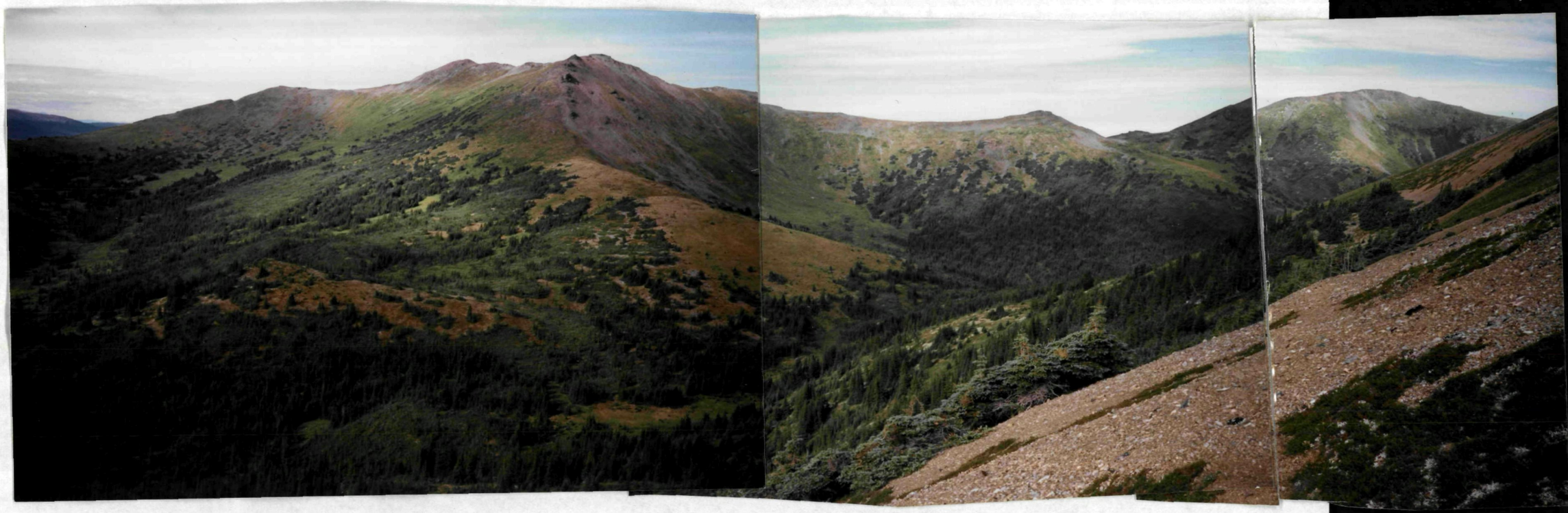


PHOTO 5 South viewing panorama of allochthonous klippe which is distinguished by rusty weathering pyritic quartz-chlorite-schists prominent in cirque headwalls and aretes. Orange weathering calcareous shale and limestone at and below timberline. Talus in right foreground is thin-bedded fuff/chartreuse/green chert from 'cone' mountain near the base camp.

Site of Photo 6 is just above timberline on west nose of central cirque and just above thrust sole of the klippe. Site of metaquartzite is on skyline at the point of matching of the left two photos. Amphibolite outcrops just above base of the klippe where prominent blocky arete meets younger grass-covered underlying calcareous shales center of view. 34620E/67867N

PHOTO 6 Looking northwest along strike of gently south-dipping stratiform pyrite in quartz-chlorite-schist which here is over 20 meters thick. Laterally the pyrite concentration thins out northwest and southeast over a 100 meter interval. Base of the allochthonous klippe is approximately 25 meters downslope. The blocky character of gossan material results from mylonitization, i.e. schist becoming gnessic. No anomalously high base metal values are reported from several gossan samples. 34450E/67865N

Murphy's mapping in the area (see his Unit 1 lqsl). Area II was selected bedause it was largely above timberline and, thereby, with good bedrock exposures. Further, there had been no claim staking in the area.

The absence of anomalous zinc values in the geochemical silt sampling (OF 1648) was not considered a negative factor, inasmuch as the Hoole Boulder with its 17% zinc was pyrite poor which could thereby result in only very weak development of a gossan and, debatagly, weak stream silt dispersion.

One one of the first traverses southeast of base camp, a quartz-muscovite-metaquartzite boulder (60cm x 30cm x 25cm Photo 7) was found on the valley floor near a rusty spring. The boulder was distinctive inasmuch as it held many thin (1-2cm) stratiform bands of pyrite in a tightly folded , low amplitude, quartsite host (sample accompanies this report). My hopes soared in anticipation that a bedrock source of this boulder would lead to a stratiform syngenetic sulfide horizon - with zinc - like the Hoole River boulder. After several days of painstaking prospecting, no further float was found and it began to look like again the same old Zn-boulder enigma!

Succeeding days of prospecting focused on the search for quartz-rich facies in the metaclastic schist unit. Only a few outcrops of metaquartzite were found, and these not over 2 metres thick and in lenses seldom over 25 metres long; none carried sulfides.

The disconformable contact between the orthogneiss and overlying schists is well exposed on the north-facing slope of the first mountain southeast of camp. Orthogneiss banding averages 25°-30°E while the foliation of the schist package averages 10°-15°E. Incidentally, this follows closely their relationship on the Maui claims of Dodgex Ltd. about 30km to the northwest.

One 10m x 10m brown rusty gossan in muscovite-chlorite-schist was sampled (Photo 8) but no anomalous precious or base metal values were reported out. The schist lies structurally up-section from the calcareous schists on that ridge of the first-southeast mountain from base camp.

A traverse was made of the steep northwest-facing, flat-topped mountain about 2.5km southeast of base camp. Outcrops in a tight ravine exposed gently dipping carbonaceous phyllite underlying serpentinized mafics. At the mouth of the ravine sever pieces of muscovite-chlorite-schist float were found suggesting that the schist may be correlative with similar rocks up-foliation in the first-southeast mountain from base camp.

PHOTO 7 Solitary boulder of muscovite meta-quartzite displaying stratiform pyrite in tight folds closely resembling the style of syngenetic mineralization of Hoole River Zn boulder. 39820E/67988N

PHOTO 8 Sampling of subcrop pyritic muscovite-chlorite-schist at timberline south of basecamp valley at 1520 m 39870E/67986N

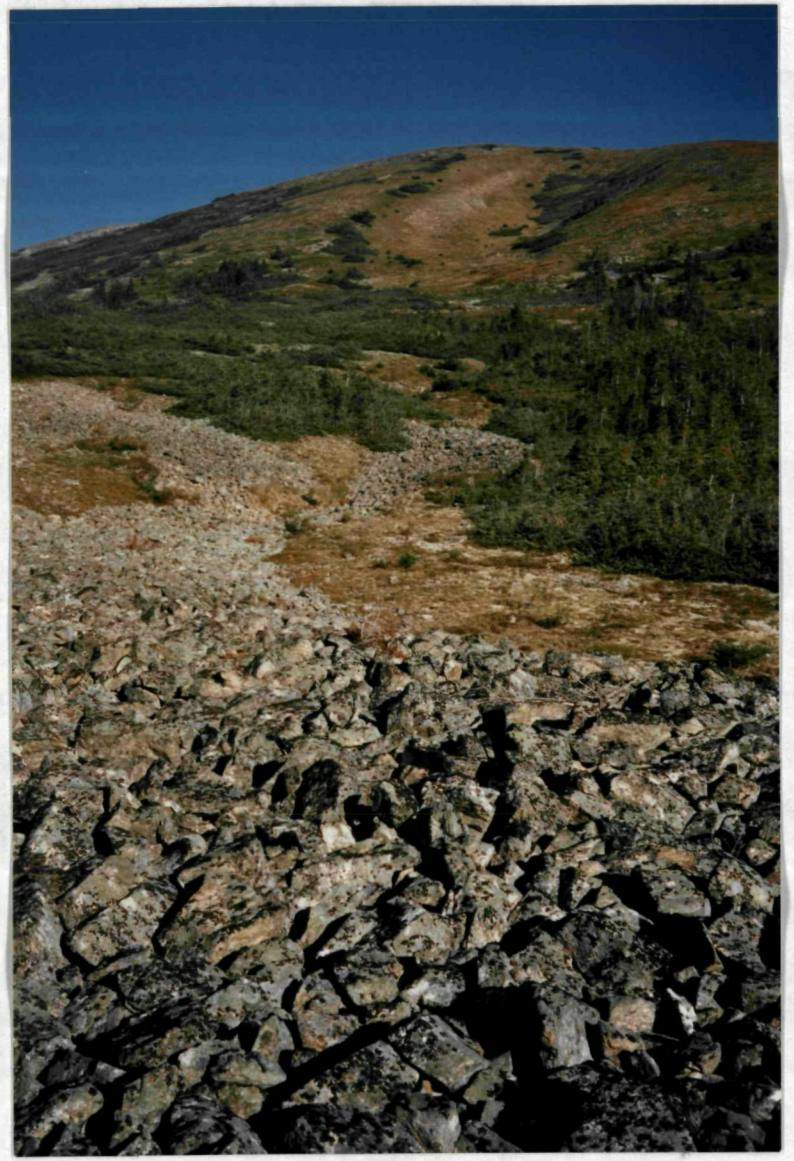


PHOTO 9 Rock glacier of 'size sorted' ortho-gneiss on northwest side of basecamp valley. No, I don't fully understand the mechanism of origin. 39720E/67983N

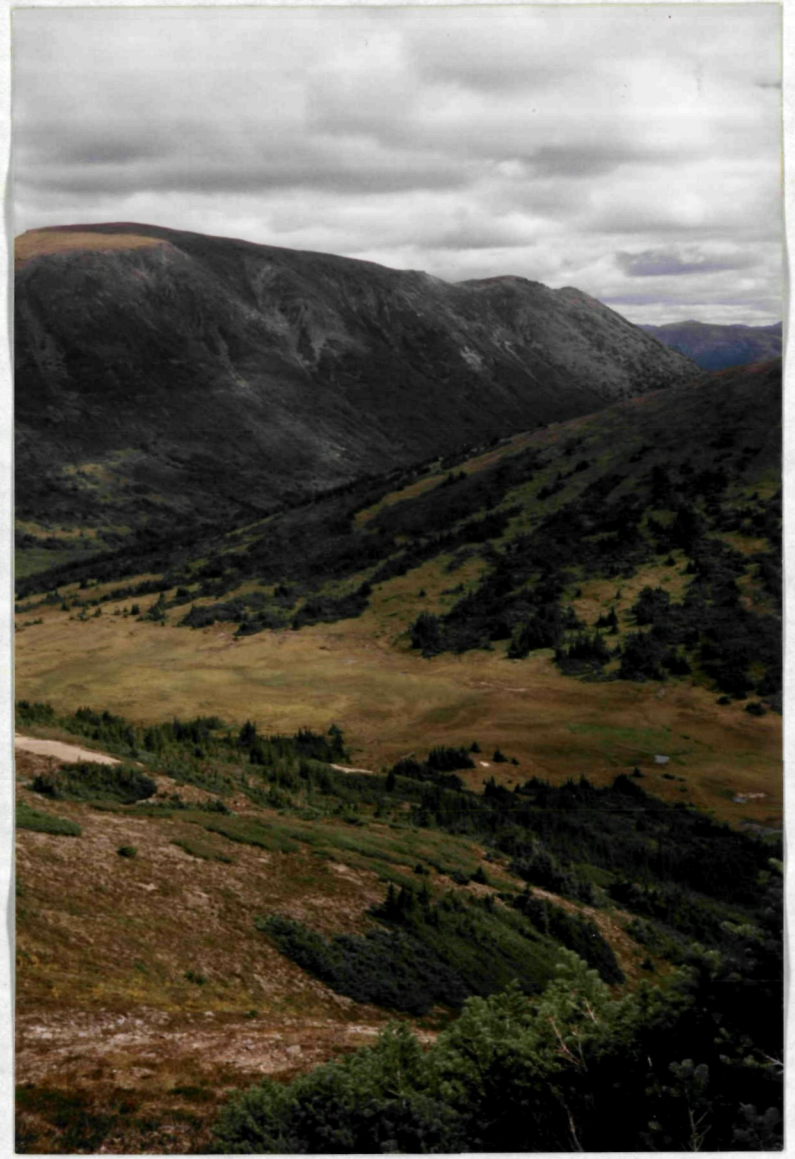


PHOTO 10 View southeasterly overlooking basecamp. Quartz-muscovite schist under foreground slope. Site of pyritic boulder is across grass valley centre photo. Distant mountain: serpentinized carbonatized mafics in high gully centre photo. 3972E/67983N

PHOTO 11 View southwesterly into 2-tarn cirque from arête at 1640 m. Cirque is carved from moderately east-inclined orthogneiss over 600 meters in thickness here. No quartzose or megaaugen lithologies were see on this traverse. 397400E/67964

2.3 Hoole River Area III

Camp was set-in by helicopter on a gravel/boulder bar on the left bank of the Hoole River (3560E/6830N Starr Creek 105G-12 1000m altitude) to serve as a base to carry out (a) detailed lithologic study of the gravel/boulder components of a series of bars over a 4km stretch of the river and (b) inspect the outcrops of gneiss (as mapped by Templeman-Kluit Pn) in the immediate vicinity of the Tintina Fault. Seasonally low water level exposed large areas of the river bars. Nevertheless, scrubbing of slime off rocks at waters edge became routine, but not entirely satisfactory.

Overall, augen gneiss contributed to about 50% of the lithologic types, followed by roughly equal amounts of porphyritic quartz monzonite, ultramafics (serpentinite, listwaenite, ankerite), carbonaceous phyllite, and white milky quartz. Only a few pieces were found of muscovite-metaquartzite and of massive, stratiform, pyrite/chalcopyrite. Samples for assay were taken from vein-type pyritic quartz boulders, but collective values were very low. One massive sulfide cobble (#21594) assayed 3.5ppm Ag, 6199ppm Cu, 624ppm Pb, and 3273ppm Zn.

The climb through dense stunted fir was made to 1400m elevations to inspect agove-timberline outcrops on a mountain 2.5km south of base camp which was indicated to be made up of Pn. The Tintina Fault trace passes just 500m to the southwest of the mountain. Orthogneiss outcrops above timberline and the attitude of the partings is virtually horizontal. No siliceous zones were seen and, thus, this site is not the source of the Hoole River zinc boulder. Cross off another possibility!

PHOTO 12 View north downstream Hoole River at base camp. Typical of low-water exposures of river bars. 3560E/6830N

PHOTO 13 View east from timberline at 1400m toward Hoole River valley. Foreground is outcropping orthogneiss about 300 meters northeast of trace of Tintina Fault. 3551E/68278N

2.4 Ketza-McNeil Divide Area IV

A reconnaissance EM survey of Area IV was undertaken immediately south of the Jumbo group of claims situated at the topographic divide between the Ketza and McNeil rivers. The purpose was to determine if EM conductors were present; i.e. other than the northwesterly striking fault zones presumed to underlie the two principal creeks draining the area. On the Jumbo claims the high grade silver/lead veins were hosted in a north-south striking shear zone - a prominent EM conductor.

This survey was conducted using a Geonic EM-16 instrument with the Seattle transmitter taking readings at stations roughly laid out by compass and pace every 100 meters on three lines each 225 meters apart - with lines oriented to 45°Az. No line or station markings were made and no record of EM-16 readings were made. A total of 53 stations were visited during a 5-hour period on 26 June, 1998.

Only very low-level conductor response was obtained, even over the two probable northwesterly fault zones. Perhaps the spacing of lines, and even station spread, were too great to have detected even a 10-metre wide super-conductor such as at the Jumbo claim shear zone.

No claims were staked.

PHOTO 14 View northeast across Area IV toward bulldozer excavations on mid-distant grassy ridge covered by Jumbo 1-4 group of claims. Access 4x4 road exits across left skyline north to the Ketza Gold Mine Road.

PHOTO 15 Mega-boulder of meta-mafic intrusive south of Jumbo 1 claim. Orange weathering xenolith is older calcareous chlorite phyllite.

PHOTO 16 Boulder of silvery-grey meta-mafic crosscutting banded orange weathering calcareous chlorite phyllite.

3.0 Conclusions

Results of 1998 grassroots prospecting provided a rather compelling conclusion that discovery of the bedrock source for the Hoole River Zinc boulder remains enigmatic. One, and only one, small boulder of muscovite-metaquartzite with stratiform bands of pyrite, in the Area II Ings River Unit I schist terrane, reaffirmed the possibility, however distal from the Boulder, of syngenetic zinc sulfide mineralization in the district.

4.0 Recommendations

Further grassroots prospecting specifically for the Hoole River Zinc Boulder cannot be recommended for the YMIP 1990.

Appended Footnote: A hand specimen of orthogneiss was obtained (972970 105G-07) for petrographic examination by Vancouver Petrographics. In the lower Hoole River area megacrystic orthogneiss river boulders are common, as contrasted with typical orthogneiss in Area II and the Maui property non-megacrystic.

It could be of value in exploration in the gneissic terrane (POGO gold) to know if the megacrystic gneiss protolith is the same as for non-megacrystic rocks. For instance, are the megacrysts essentially only slightly altered mega-phenocrysts in a porphyritic quartz monzonite pluton protolith? Or are they porphyroblasts resulting from crystal growth from feldspathic segregations during dynamic metamorphism of a modified protolith?

Might it be possible to differentiate between high- and low-level plutons amoung the protoliths? Or are we dealing with differences in crystal growth resulting from variations brought on by the structural localization of metamorphic fluids?

STATEMENT OF QUALIFICATIONS

I, James S. Dodge, of 14 MacDonald Road, Whitehorse, Yukon submit the following information which establishes some of the qualifications bearing on the necessary level of competence required to carry out the field work and preparation of this summary report on the YMIP 98-008 project.

Education

Missouri School of Mines, BS Mining Engineering, 1941
Princeton University, Field Geology, 1940
Stanford University, MS Economic Geology, 1951
Albert Ludwigs Universitaet(Germany), Economic Geology, 1952

Experience

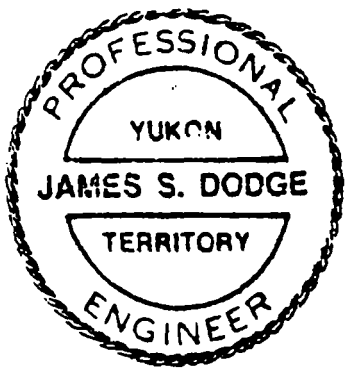
Active in mineral industry since 1941 (including U.S. Army Engineers) in North and South America, Asia and Africa as prospector, company geologist, mining engineer, mine operator, and consultant in ferrous, non-ferrous, and industrial minerals. Among the many organizations that I have been associated as an employee and consultant:

Anaconda, ESSO, Mitsui, USAEC, Ventures, DIAND, SCAP-Japan, Atlas, Glidden, Spartan/Nuspar, Hirst-chicagof, Floyd Odlum, Yukon Barite and numerous small mining ventures.

Experience in vein gold mines in Colorado and Alaska, in SEDEX/VMS deposits in Yukon and British Columbia and Japan, and in nephrite and chromite deposits in ophiolite terrane are specifically applicable to evaluation of grassroots prospecting under YMIP 98-008.

Professional Affiliations

Registered Professional Engineer (No. 311) by Association of Professional Engineers of the Yukon Territory
Senior Fellow of the Society of Economic Geologists
Senior Member of Society of Mining, Metallurgy and Exploration



James S. Dodge, P.Eng.

Vancouver Petrographics Ltd.

8080 GLOVER ROAD, LANGLEY, B.C. V1M 3S3
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email: vanpetro@vancouver.net

Report for: James Dodge,
14 MacDonald Rd.,
WHITEHORSE, Yukon,
&1A 4L2

Job 980472

September 11, 1998

SAMPLE:

A rock sample, labelled CIBC 153, was submitted for petrographic examination. A typical portion was prepared as a polished thin section.

DESCRIPTION:

Estimated mode

Quartz	36
Plagioclase	20
K-feldspar	30
Muscovite	14
Pyrite)	trace
Limonite)	

This rock shows a prominent sinuous foliation or gneissosity, defined by parallel lenticular alternations, on a scale of 0.5 - 8 mm, of feldspathic and quartzose micaceous assemblages (see stained off-cut).

The thin section shows that the rock is of simple mineralogy, but is texturally heterogenous on the small scale.

The feldspar-rich bands and clumps consist essentially of intergrowths of perthitic orthoclase and plagioclase on a scale ranging from 0.5 - 5.0 mm or more. Quartz is a minor accessory in this assemblage, mainly concentrating as fine-grained strings in sinuous zones of microgranulation.

The texture in the thicker, more "knotty" feldspathic segregations has a distinctly igneous look, suggesting that these are remnants of a relatively unmodified protolith of monzonitic composition (rather than being porphyroblasts - which are centres of new mineral growth).

The igneous-textured remnants are separated by close-spaced, thin alternations of feldspathic and quartz/muscovite composition, which apparently represent recrystallized zones of intense shearing and

metamorphic segregation. The feldspars in the latter have a grain size of 0.05 - 0.5 mm, and often show strain polarization, twinning deformation and microgranulation.

The quartzose laminae show similar grain size, and consist of anhedral mosaics of more or less strongly flattened grains, with intergrown flakes of muscovite constituting sinuous, semi-continuous schlieren.

This rock is of notably leucocratic composition, the only mafic constituents being rare tiny specks of partially limonitized pyrite. A few of the muscovite flakes contain interlamellar micron-sized rutile, which may indicate that they are derived by modification of original biotite.

In summary, I would concur with the classification of this rock as an orthogneiss. It was most likely developed by dynamic metamorphism of a plutonic, leucocratic quartz monzonite protolith.

J.F. Harris Ph.D.

(929-5867)

II

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James Dodge

WO# 05587

AREA I
YMIP 98-008

Certified by

Sample #	Au ppb	
21580	<5	Limonitic quartz black shale terrane
21581	<5	
21582	6	
21583	<5	
21584	6	
21585	20	Loc. 445867 Red gossan
21586	5	
21587	22	
21588	67	Loc. 446875 Cirque ridge
21589	53	
21590	20	Loc. 446880 Cirque ridge

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CERTIFICA E OF ANALYSIS
iPL 98I0943

Client : Northern Analytical Laboratories
Project: W.O. # 5587

11 Samples
11=Pulp

AREA I YMIP 98-008

[094309:03:04:89091498]

Out: Sep 14, 1998
In : Sep 08, 1998

Sample Name			Ag	Cu	Pb	Zn	As	Sb	Hg	Mo	Tl	Bi	Cd	Co	Ni	Ba	W	Cr	V	Mn	La	Sr	Zr	Sc	Ti	Al	Ca	Fe	Mg	K	Na	P
NAL	Au		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%
21580	<5	P	<	11	<	12	<	<	<	2	<	<	0.7	7	30	4	<	71	6	88	36	5	2	1	<	0.23	0.26	0.80	0.18	0.04	0.01	0.08
21581	<5	P	<	42	8	8	<	<	<	1	<	<	1.3	6	11	4	<	50	5	116	34	3	1	1	<	0.26	0.09	2.13	0.08	0.04	<	0.07
21582	6	P	<	76	6	5	<	<	<	2	<	<	0.8	5	11	3	<	105	3	23	42	5	1	<	<	0.08	0.05	1.64	0.02	0.02	<	0.05
21583	<5	P	0.1	14	5	3	<	<	<	1	<	<	0.2	2	3	3	<	100	2	17	55	6	1	<	0.01	0.06	0.03	0.70	0.01	0.03	0.01	0.01
21584	6	P	<	28	<	8	<	<	<	1	<	<	0.5	6	16	8	<	136	3	176	18	4	1	1	<	0.15	0.09	1.04	0.04	0.02	<	0.03
21585	20	P	0.6	125	10	7	<	<	<	2	<	<	1.0	32	78	9	<	84	4	184	11	4	2	1	<	0.22	0.10	4.21	0.05	0.02	<	0.04
21586	5	P	<	109	3	6	<	<	<	1	<	<	0.7	15	24	5	<	176	2	71	<	2	<	<	<	0.09	0.01	1.76	0.02	0.03	<	<
21587	22	P	0.8	150	4	107	<	<	<	5	<	<	1.8	8	49	159	<	126	35	504	6	3	16	1	<	0.61	0.03	5.54	0.10	0.05	<	0.02
21588	67	P	0.8	67	18	50	<	<	<	1	<	<	0.9	3	22	136	<	121	15	73	3	2	9	1	<	0.15	<	3.33	0.02	0.06	<	0.02
21589	53	P	1.9	167	81	43	<	<	<	2	<	<	1.8	2	23	94	<	84	22	170	7	1	9	1	<	0.32	<	8.07	0.01	0.09	<	0.03
21590	20	P	0.2	55	11	281	116	18	<	12	<	<	4.8	10	69	301	<	111	31	227	4	1439	2	2	<	0.76	0.09	5.18	0.03	0.12	<	0.21
Min Limit			0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Max Reported*			99.9	20000	20000	20000	9999	999	9999	999	999	9999	99.9	9999	9999	9999	999	9999	9999	9999	9999	9999	9999	9999	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method			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

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

Northern Analytical Laboratories ltd.

105 Copper Road
Whitehorse, Yukon
Y1A 2Z7
Ph: (867) 668-4968
Fax: (867) 668-4890
E-mail: NAL@hypertech.yk.ca

22/09/98 Certificate of Analysis

James Dodge AREA III
YMIP 98-008 WO# 05613

Certified by

Sample #	Au ppb	
r 21591	43	
r 21592	125	
r 21593	5	
r 21594	17	Loc. 561298 (only sample hi base metals
r 21595	49	(All other samples at random Hoole River bars)
r 21596	6	
r 21597	<5	
r 21598	<5	
r 21599	164	
r 21600	<5	

INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbi eet
Vancouver, B.C
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

CERTIFICA OF ANALYSIS
iPL 98I1023

Client : Northern Analytical Laboratories
Project: WO# 5613

10 Samples
10=Pulp

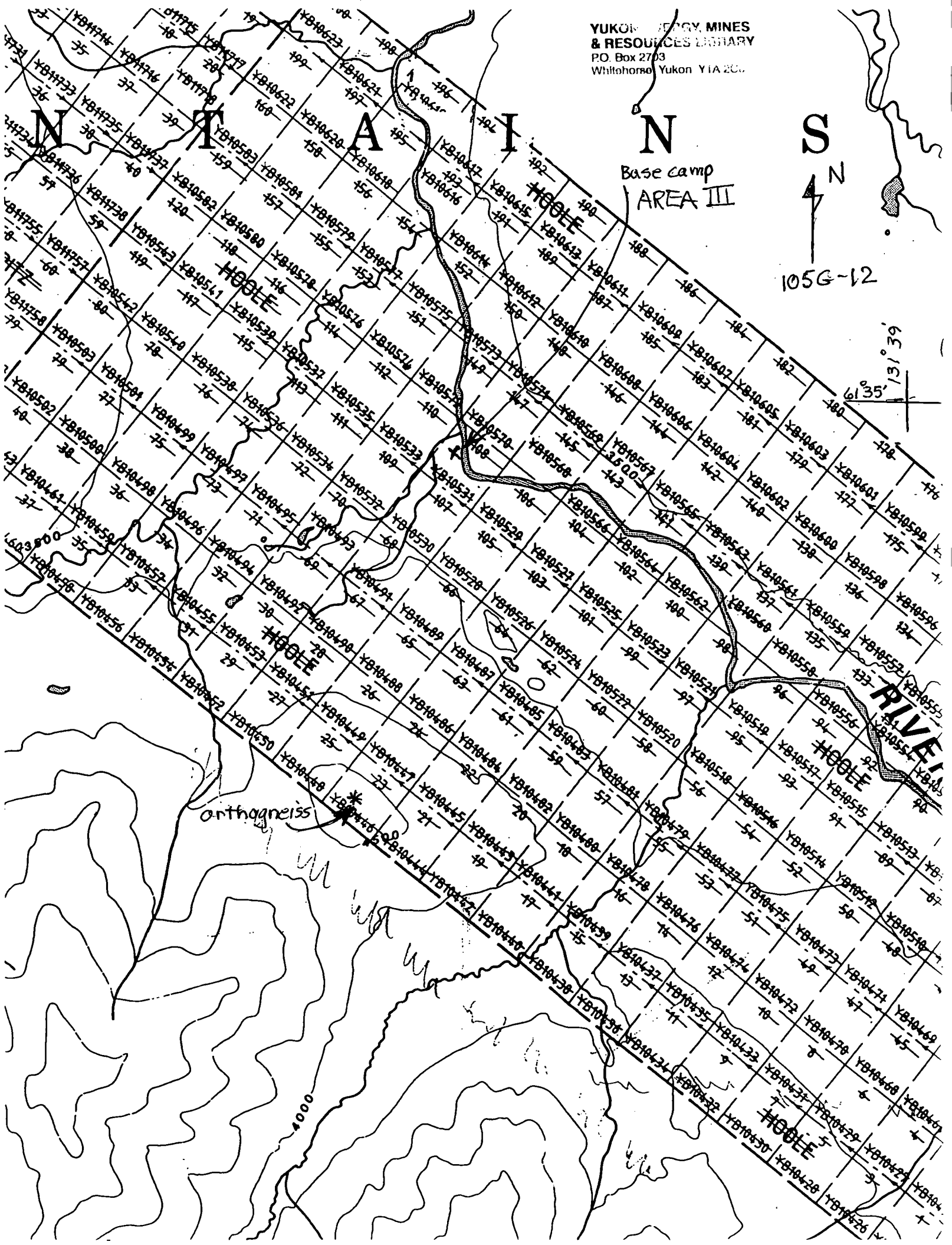
AREA III
YMIP 98-008

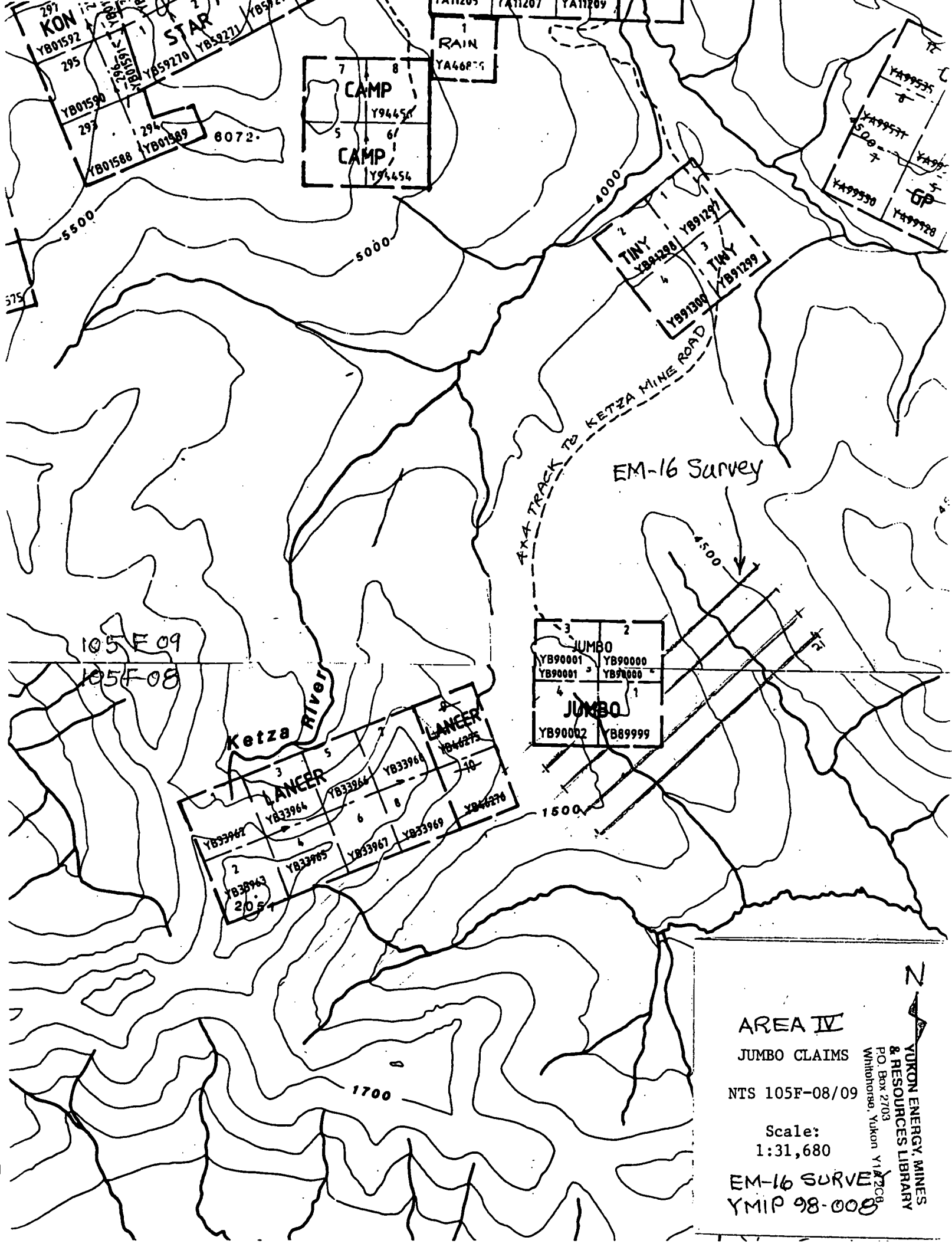
[102311:17:42:89092998]

Out: Sep 29, 1998
In : Sep 23, 1998

Sample	Name		Ag	Cu	Pb	Zn	As	Sb	Hg	Mo	Tl	Bi	Cd	Co	Ni	Ba	W	Cr	V	Mn	La	Sr	Zr	Sc	Ti	Al	Ca	Fe	Mg	K	Na	P
NAL	Au		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%
21591	43	P	0.2	8	28	8	114	<	<	1	<	<	3.8	2	14	31	<	143	<	96	<	7	1	<	<	0.06	0.13	2.09	0.06	0.04	<	<
21592	125	P	3.3	10	1092	9	223	13	5	3	<	<	5.3	5	6	27	<	115	8	87	3	5	2	1	<	0.10	0.07	2.64	0.01	0.08	<	<
21593	5	P	0.3	88	128	19	<	<	<	1	<	<	25.9	30	34	14	<	161	14	301	<	38	4	1	<	0.05	0.93	12%	0.04	0.03	<	0.01
21594	17	P	3.5	6199	624	3273	<	<	<	2	<	<	50.3	118	232	14	10	73	24	278	<	6	6	<	<	0.41	0.50	18%	0.28	<	<	0.01
21595	49	P	0.6	367	182	89	170	<	<	2	<	<	14.7	81	145	11	<	172	10	107	2	5	2	<	<	0.47	0.08	7.34	0.24	0.04	<	0.03
21596	6	P	1.2	54	404	28	88	9	<	1	<	<	5.6	4	11	29	<	78	3	24	55	7	9	<	<	0.22	0.04	3.01	0.01	0.21	<	0.01
21597	<5	P	0.2	29	70	71	305	<	7	4	<	<	19.4	4	16	80	<	22	11	3113	5	862	2	5	<	0.27	22%	7.39	3.71	0.01	<	0.01
21598	<5	P	0.1	71	37	23	<	<	<	3	<	<	18.0	44	32	7	<	27	24	223	27	35	19	1	0.13	0.28	1.13	8.57	0.06	0.23	<	0.32
21599	164	P	2.3	15	48	25	08	21	<	2	<	<	8.6	78	1436	25	<	467	11	401	<	121	2	3	0.01	0.06	1.49	4.23	6.28	0.01	<	0.01
21600	<5	P	0.2	12	75	10	54	<	<	24	<	<	9.3	3	29	19	<	82	2	816	3	135	2	<	<	0.07	4.40	4.45	0.92	0.05	<	0.01
Min Limit			0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Max Reported*			99.9	20000	20000	20000	9999	999	9999	999	999	9999	99.9	9999	9999	9999	999	9999	9999	9999	9999	9999	9999	9999	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method			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

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp




KON
YB01592
295
STAR
YB59271
YB59270
YB01590
293
294
YB01589
YB01588
6072.
CAMP
Y94456
CAMP
Y94454
RAIN
5500
5000
4000
TINY
YB91298
TINY
YB91299
YB91300
4X4 TRACK TO KETZA MINE ROAD
EM-16 Survey
4500
105F 09
105F-08
Ketza River
LANCER
YB33964
YB33966
YB33968
YB33962
YB33965
YB33967
YB33969
YB38963
JUMBO
YB90001
YB90000
YB90002
YB89999
1500
1700
N
AREA IV
JUMBO CLAIMS
NTS 105F-08/09
Scale:
1:31,680
EM-16 SURVEY
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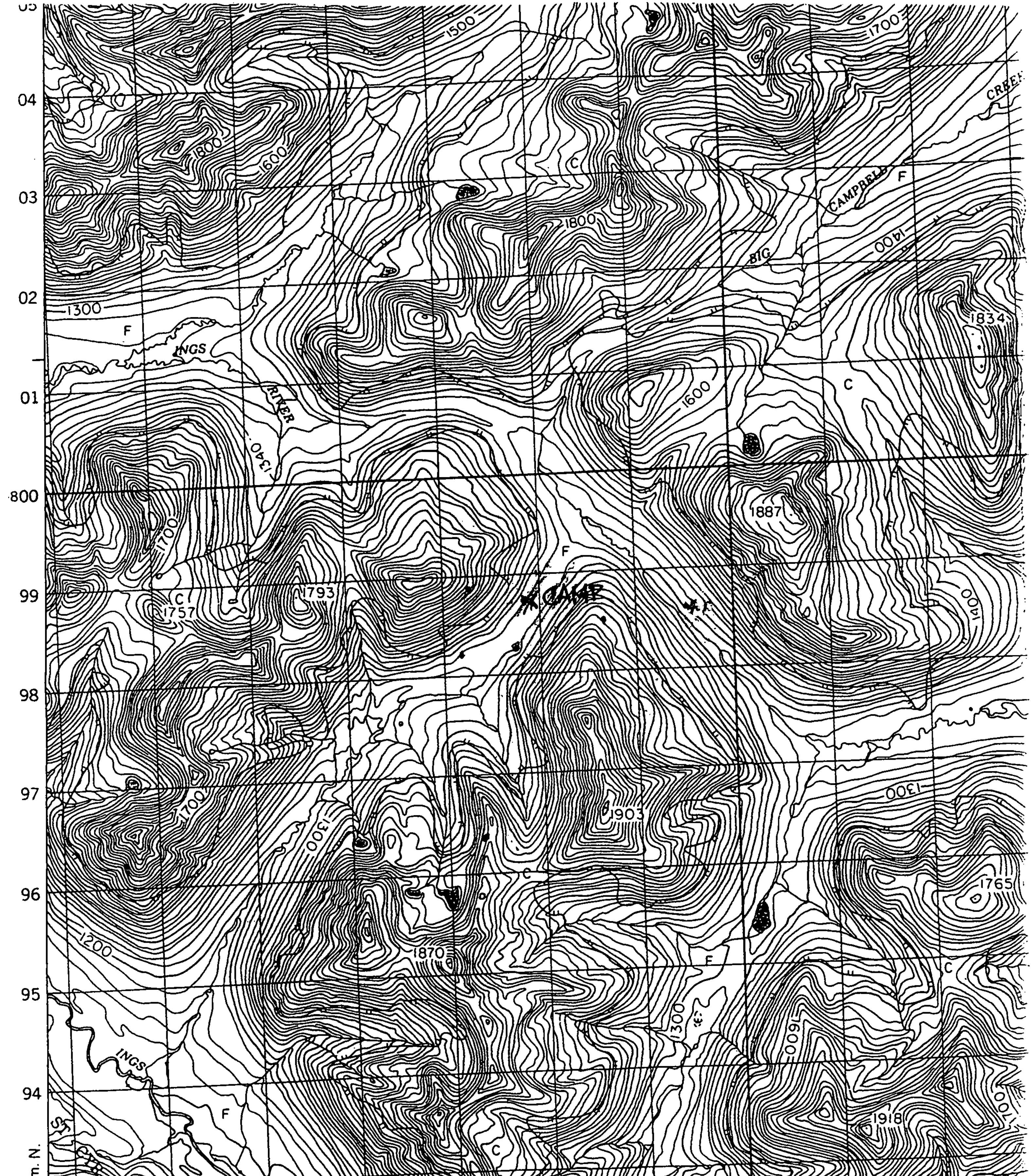
Whitehorse, Yukon Y1A 2C6



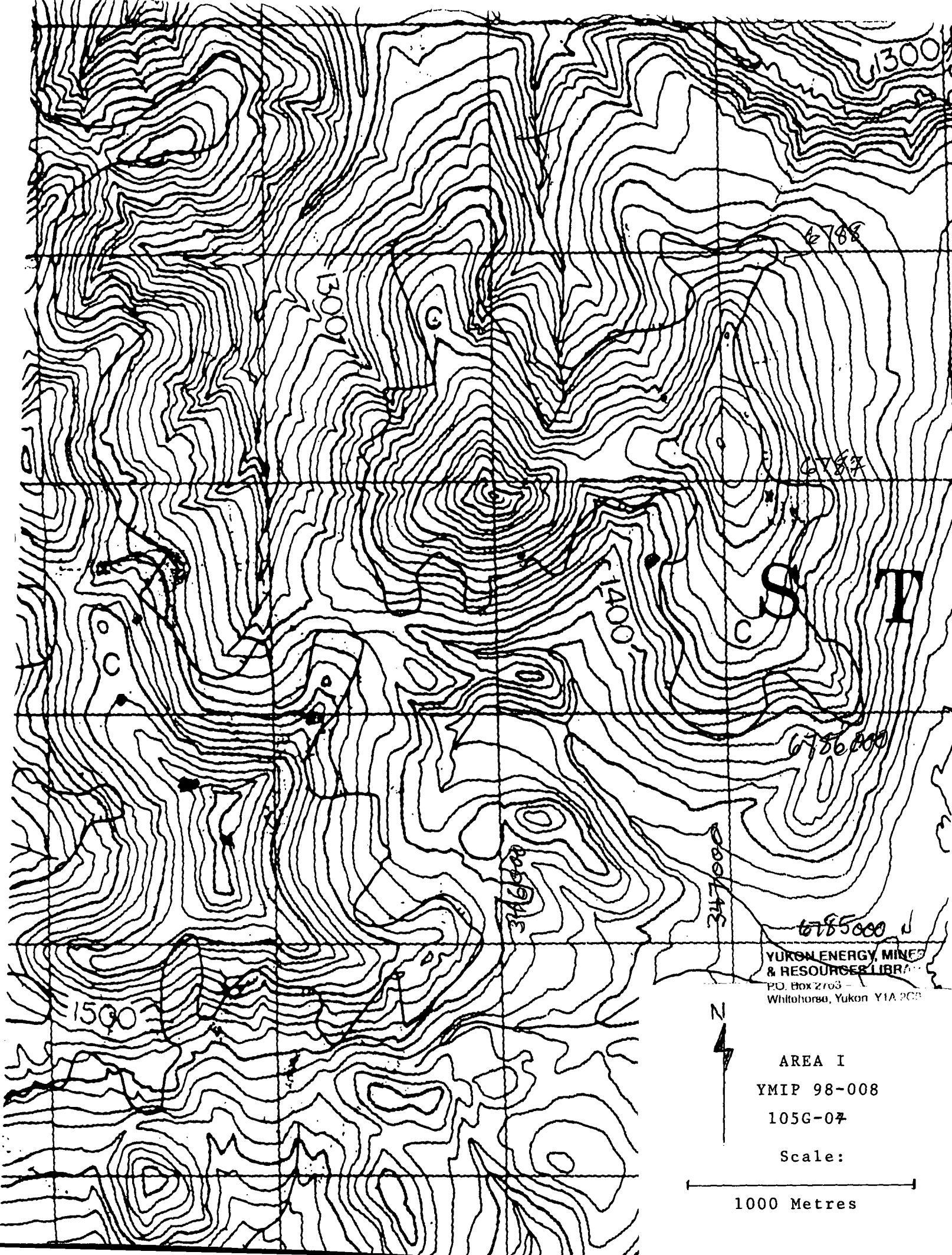
131°00′ 55′ 50′

105G-07

AREA II YMIP 98-008

PRODUCED BY THE SURVEYS AND MAPPING BRANCH

ELEVATIONS IN METRES ABOVE MEAN SEA LEVEL



WHITEHORSE

27 Sept. 13
14 Dec. 56

YMIP 98-008

AREA I

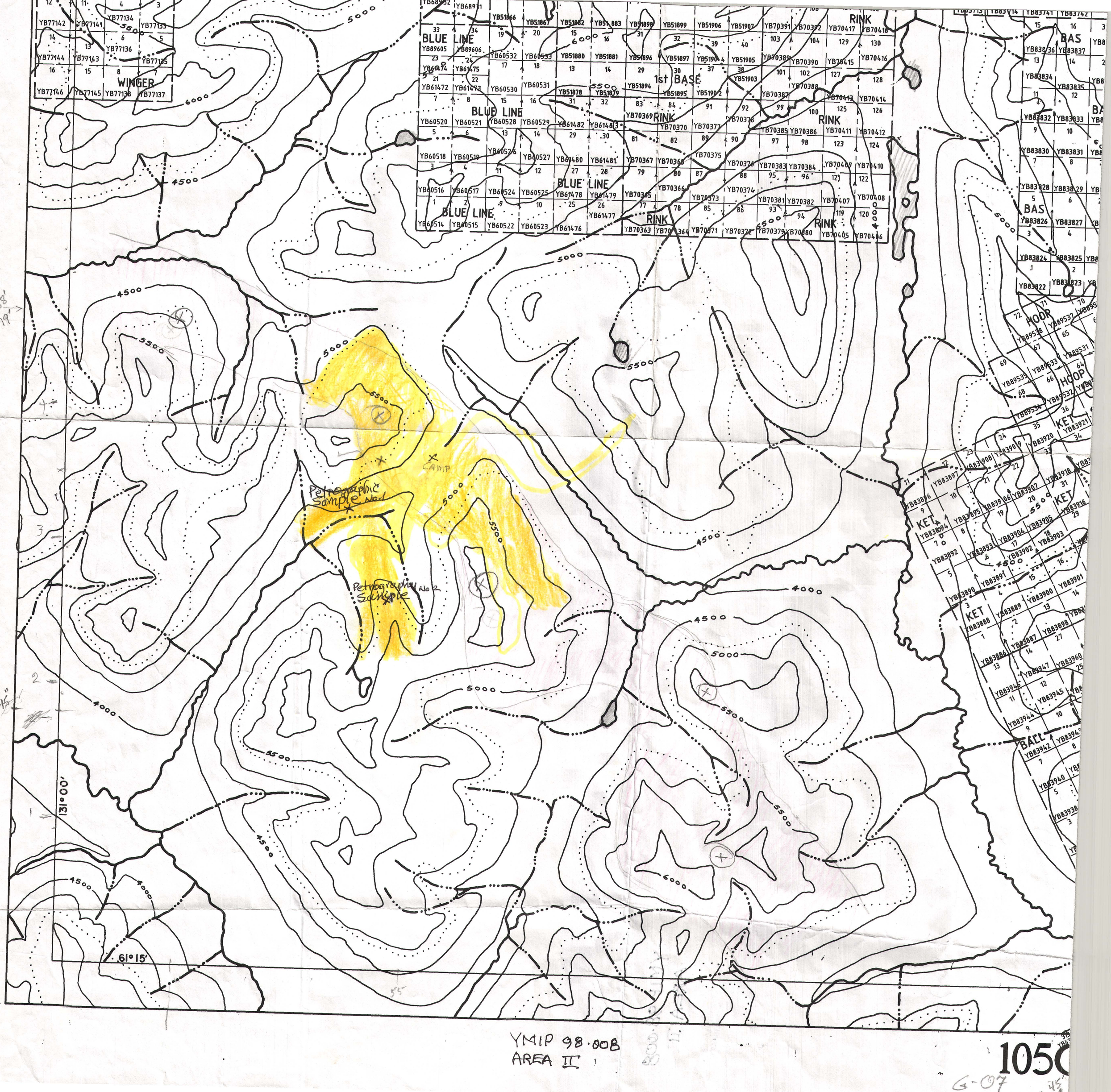
61° 15'

132° 00'

5000
5500
4000
4500
5000
5500
5000
5500
5000
4000
4600
5000
5500
5000
4000
3500
4500
4000
5000
5500
5000
4500

LAKE
INDIGO LAKE

Pyrgossan
5500
Mylonite
A
5500
Um
15
A'
5000
Chert
5000
A'
Dol
Qtzite
BK shale
Ls silty
5500
5000
4500
4000



YMIP 98-008
AREA II

105C

G-07

"Rite in the Rain®"

ALL-WEATHER

FIELD

Notebook No. 351

J. S. DODGE

YMP 98-008

(23) 24-27 (31st) June

(11) 12-26 July (27)

23 June Tues Partly sunny, showers +13°

Drove Whs via Faro (for gas) to head of Ketza River 42,867 miles odom.

clear 7° am
Puffy clds pm

26 June Fri

VLF-EM EM-16 Seattle 155°Az
Grid N70W Veim ± 10°Az
290 Az 10m stations L00

L00 @ 110Az

-13 (-12)
40mN

-15 (-10)
30mN

-28 (-4)
20mN

-26 (-9)
10mN

Crack
5mN
+28 (+8)

+25 (+4)
0N/S

-25 (-1)
10mS

-36 (-10)
20mS

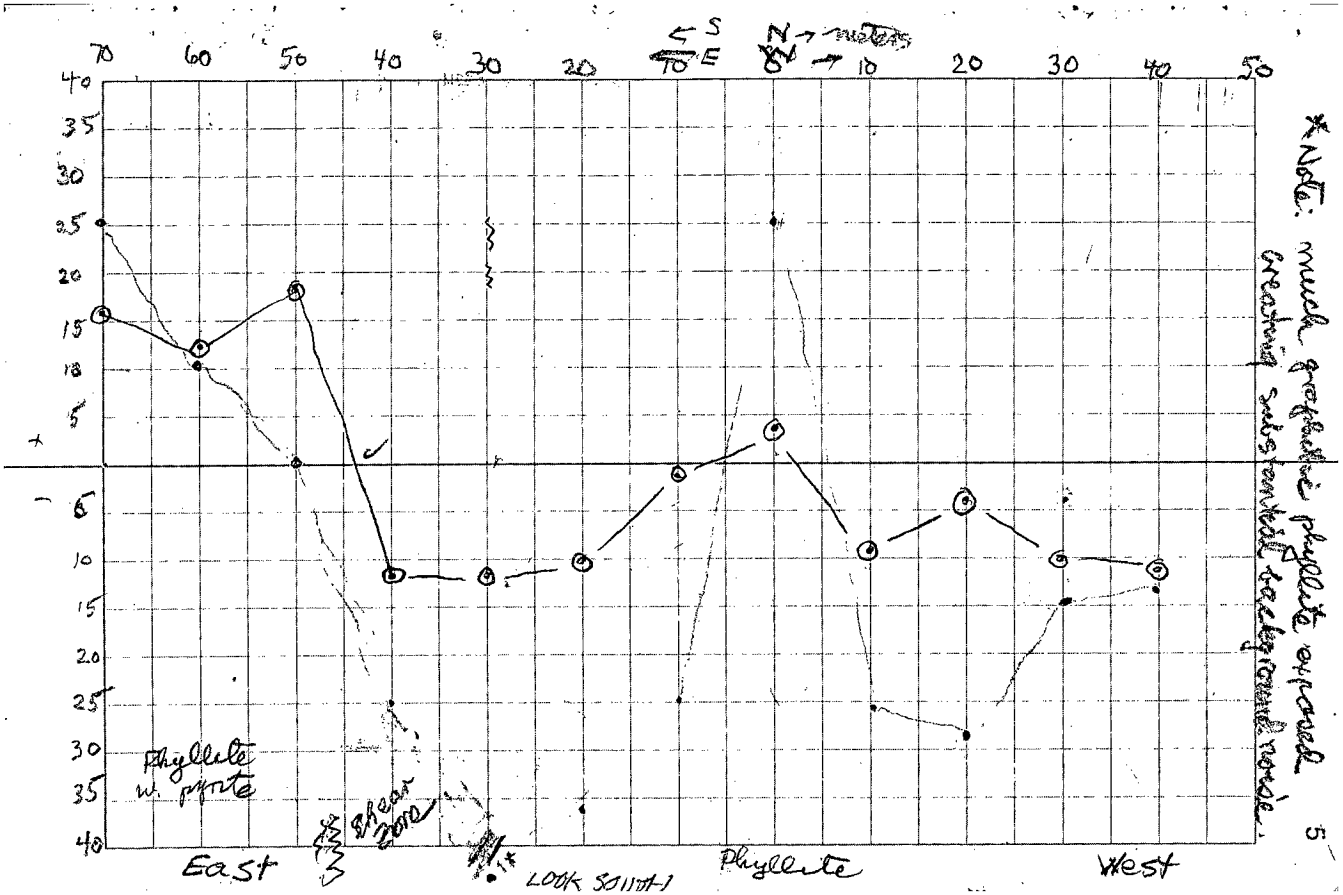
-45 (-12) (on veim)
30mS

-25 (-12)
40mS

0 (+18)
50mS

+10 (+12)
60mS

+25 (+16)
70mS



* Note: much graphitic phyllite exposed creating substantial caving issues.

5

GRID N 70 W L02

Run = 110° Az

10m Stations

20N° +38 (+10)

10N° +44 (+10)

Peak L02 photo 0° +18 (+10)

K -55 (-10)

10S -70 (-10)

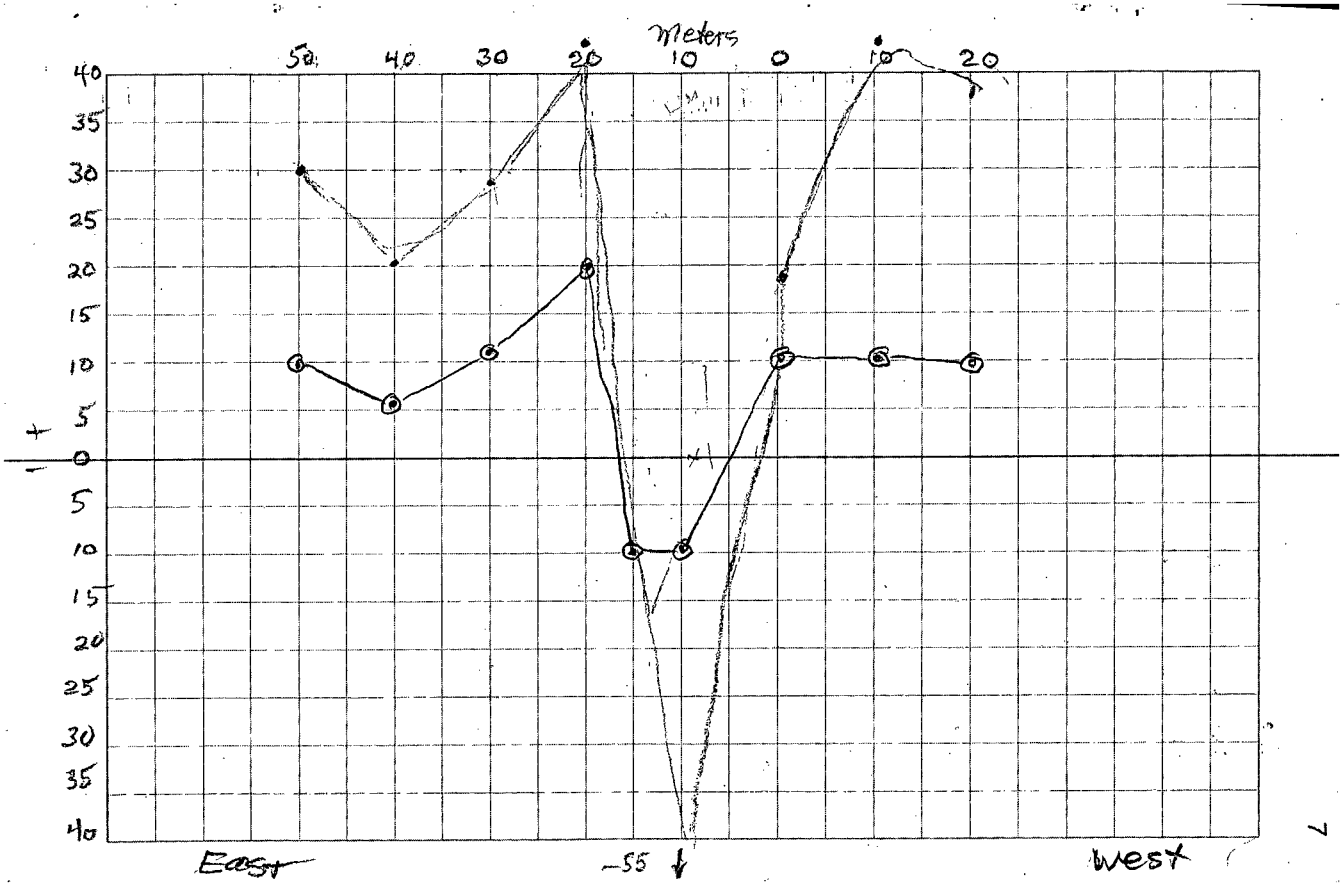
15S K -60 (-10)

20S +45 (+20)

30S +28 (+12)

40S +20 (+6)

50S +30 (+10)


Meters
50
40
30
20
10
0
10
20
40
35
30
25
20
15
10
5
0
5
10
15
20
25
30
35
40
+
-
East
-55
West

GRID N70W
RUN = 110°A3
10m Sta
L03 = 60m N of L02 with 00N/S =

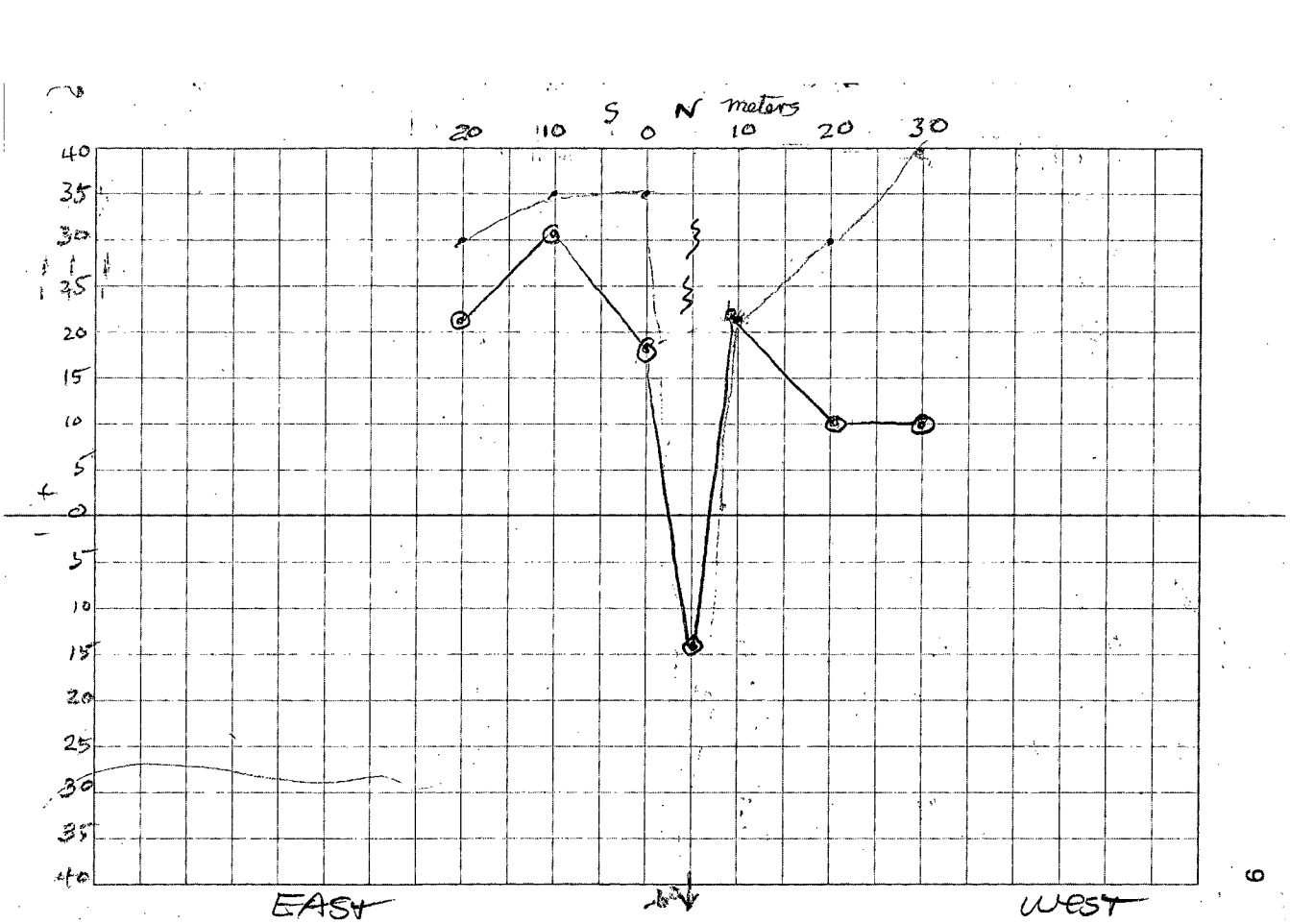
30N • +40 (+10)

20N • +30 (+10)

10N • +22 (+22)
X -60 (-14)
00 • +35 (+18)

10S • +35 (+32)

20S • +30 (+22)


S
N
meters
20
10
0
10
20
30
40
35
30
25
20
15
10
5
0
5
10
15
20
25
30
35
40
EAST
WEST

GRID N 70 W
RUN: 110 A3
10m Stations
L 04 (20m W of L 02

20N - ~~+26~~ (+10)

10N : +10 (+6)

00 : 0 (-10)

10S : -25 (-6)

20S : +25 (+8)

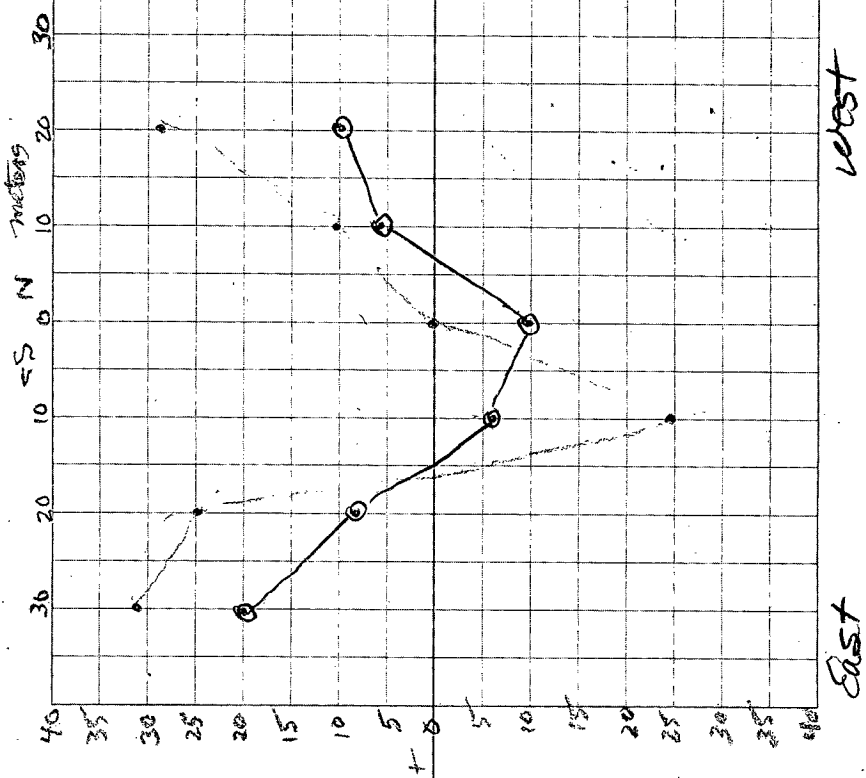
30S : +32 (+20)

117 m N/N10E from vein bench (above 2m wide higrade) to end Line 03.

Applying "RULE 1941" – maybe 100m down dip

$\frac{117}{m} \times 1.5_m \times \frac{100}{m} \times 3.8 = 67{,}000_{\text{£}}$ what avg grade?

VLF-EM does work if use close 10m map spacing!



Sunny a.m. 8° 6am
Clouds & Showers pm

24 June Wed

Reconnoitered geology outside the perimeter of the JUMBO claims - to determine if Hall's PESCOD geology could be extended and whether there would be advantage in staking additional claims.

Conclusion is that to the west the geology of increasing syenitic volcanics lowers the prospects for finding favourable host rocks for the Pb/Ag vein-type occurrences.

South and east more favourable settings, but no float, old diggings, etc. to warrant staking. Post-Hall '85 report, a bulldozed 4x4 trail had been built to test the broad geochem soil anomaly. Only a handful of low-grade qtz galena specimens on the Terminal quick dump (end of road) and just inside JUMBO claims south boundary.

24th June - cont'd.

To the north, continuation of strike extensions of Cambro-Ordovician calcareous pelagic phyllite and dark (graphitic) chlorite phyllite w. 'sweats' of qtz & qtz x-cutting veins - could be hosts for Pb/Ag veins as at the "Trenches" of Rescod report. However, no evident geologic reasons for added claims for "proterhan", since are dealing with disseminated vein-type (not stratiform) mineralization.

Clear a.m. rising from 7°
Heavy shower 4:30 - 5 pm

25 June Thursday

Packed in from truck to JUMBO (2.5 km) a Geonics M16 VLF-EM set to clarify the vagueries of geophysical results reported by Hall re DESCOD claims.

Was surprised that Seattle signal - if it could be called that (just 'noise') - compared to a signal (but very weak one from Maine) was obviously useless.

Then I referred to data sheet and noted that Seattle is down for maintance on Thursdays 1500 - 2300 UT (daylite savings time) - so what was that Yukon time? Then it occurred to me that @ 180° W Lat from Greenwich would be 12 hrs time difference - & 90° W Lat = 6 hrs. - extrapolating to 132° W Lat (Ketza-JUMBO) we should be ± 8½ hrs before UT. So - Seattle would be shut down from 7 am to 3 pm (maybe 8-4 instead) See you tomorrow fella!

Anyway, stashed M16 in a spruce tree (with fly sprayed to discourage varmits & blackbears) - in plastic - for tomorrow.

With Mike useless, decided to freshen up the vein outcrops by hand shovel - a waist trimmer as it turned out. Re-exposed the bold very higrade argentiferous galena outcrop exposed at north base edge of Trench 6. It is about 1.5m wide, stands exposed about 0.75m up from water in trench, and can be seen exposed for 2.5m of strike length. The footwall comprises blue crushed mud (fault gouge) with white qtz fragments. full width of footwall breccia not exposed along galena vein. However, a test dig or hole through trench slough to depth of 0.5m exposed same blue gouge about 2m vert above gouge exposed @ vein and estimated to make the gouge at least 2m wide and open to west toward the outcrop of the "up to now" main vein of lesser grade & more quartz, some 3 meters to the west.

A similar blue colour phyllite - but so far without qtz chips - occurs in contact with east side of main vein some 10m to north. Possible that the higherade vein tops off below this blue phyllite zone - only drilling

will confirm extent of the 70'S PG/70 opt. Ag high grade vein.

24 same - see pages in pencil behind

Partly cloudy am 8°C
Heavy rain shower 3 pm, then clearing by 9 pm

21 June Sat.

Carefully went over piles of overburden which had been dug by backhoe (1988-89?) about 4 short trenches near base of hillside slope — @ 50 to 100 m north of northernmost vein exposure. Several masses of hi-grade galena were found in 5 of the trenches — 6 samples to be assayed. This confirms presence of galena-rich vein material up-slope below O.B. — and undoubtedly confirms that the VLF-EM conductor on L02/03/04 is the north continuation of the main vein. A definite drill target is evident.

A review of Hall's assessment report on the PESCOD claims (1988) revealed the weakness of, rather the ineffective (even misleading), VLF-EM surveys ⓐ 90° off proper grid orientation ⓑ far too wide spaced lines and station intervals to detect the vein (with its strong conductor), except by chance — and the weak anomaly would not be definitive or interpretable as the main vein conductor.

Geology for assessment work - am to 5pm

28 June - Sunday

Left Kotza camp and got as far as high hill above Drury Creek settlement — backfire & engine shut down — coasted to rear entrance to campground. Battery boiling over, alternator burned inside. Had noted overcharging for about 1500 k and above was result.

Nobody had clue —

29 June Monday

Still no idea why no 'fire' to spark plugs — i.e. is that directly related to alternator/bat problem.

Called on SATCOM from YT Highway Camp - to Bud Koffel - who drove out from Whitehorse 275 km in evening with new battery, new alternator, & digital ohm/volt meter. After installation — still no spark to sparkplugs!

Looks like problem now is in distributor (electronic) since a hot wire exists between ignition switch and plug outside distributor.

30 June - Tuesday

Bud Kofoed drove out from Whse 6 Drury Creek W. Jeep Grandcherokee and W U-Haul tow bar — pulled GMC back to Whse @ 40K/hr — arrived 5 a.m 31st

Sat 11 July
Drove to Drury Creek - camped - Showers

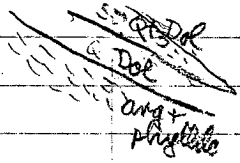
Rain - until 1 pm.

12 July Sun
Completed drive to Kelsa River Mine, met Peter de ___ Pres of Anna - discussed Anaconda experiences, many common friends
Flew Trans North Aero Section to
61° 11' 10"
131° 51' 05" 4900' alt. — 1490 m

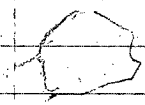
13 July Mon. Rain steady all day
Commencing 8 am → midnight
Stayed camp

Fog 5am – 7am 10°

14 July – Tues. Cumulus clouds – broken
Some sun getting through clouds
and heavy smoke from east.



Siliceous dolomite
calcareous qtzite
massive orthoqtzite
#1 Photo - banded qtzite
#2 Felsic intr. to north
E-W fault



Traversed SE across barren grass plateau with gulley exposures of black slate and lesser argillite. Sighted Indigo Lake 4 km to east. On east-facing slope c ca. 5000' dolomite float (50m) then white massive orthoquartzite float (150m). Apparent contact becomes siliceous dol and calcareous qtzite w. weak Felx. Traverse continuing N 5000'–5200' float now black shale & argillite, until reach topo N-trending arm of "camp" mountain. In gulley WNW trending 'fault'

with quartz-barite-argillite float, then good cliff exposures of dol on top of ortho-qtzite - moderately inclined 40° w Az strike 130°. Careful exam did not reveal the host rx am looking for, ie. metaqtzite, wk blk calcareous + muscovite.

Returned SW and S across BR shale and argillite to W facing cuesta of 'camp' mountain. Examined best outcrops of orthoqtzite extending from top of mtn 5500 down to 5100' in a fault (?) displaced strike slip. Qtz, 25 m thick 130° Az - 60° SW dip - clearly some unit source of qtzite float on E slope of mtn.

On checking w BF 486 - this qtzite could well be fm Sq on Templeton's map. The SW extension faulted off.

* Frost on frypan 0° 6 am

15 July Wed Sunny 10° high - windy.

Checked out SATPHONE - A-OK

Traversed around "CONE" mtn, W across valley from camp mtn. - along caribou trail @ 5200' S then W dropping down into valley and SW into cirque where the Zn geochem anomaly was drawn. 6.

Got on caribou trail @ 1565m base of "Cone" mtn @ 465871 crossing DM argillite and contouring until around 463868 where pink-weathering, white coated finely laminated dark grey chert float (Mc?) covered entire slope to peak @ 1760m.

Carried down slope to flat @ 455865 - drainage double. E to Prospect Creek into Liard - W to Nicutlin River. Entered cirque the drainage of which was site of Zn geochem. At about 1440 noticed a brick red large boulder-like mineralized near-bedrock and headed for it, passing qtz schist, metaquartzite, chl-qtz schist float on the way.

Reached outcrops @ 445867 and found pervasive FeOx coating folded stratiform pyritic chlorite qtz schist

folds appear plunging shallowly dark SW. Sediments appear nearly horizontal, but may also be dipping SW - more exposures needed. Pyritic horizon exposed for 20m thickness (could be more) and exposed discontinuously (masked by OB) for at least 100 m. Pyrite finely disseminated, no 'massive' sulfides. Sphalerite suspected, but very fine grained. Sulfides concentrated in troughs of prominent fold (2 m amplitude).

Need to return for detailed prospecting upslope and down trackwall to SW to search for extensions of stratiform sulfides.

This appears likely as a source of sulfides responsible for anomalous Zn in silt geochem on creek draining this circue.

Return west 2½ hours carrying samples.

7pm Called New Orleans on SATPHONE

15 July cont'd

So far, this does not resemble style of mineralization that are targeting, i.e. sphalerite stratiform in metaquartzite. But it does display stratiform sulfides — so perhaps distal facies change from chlorite-muscovite qtz to metaquartzite should be considered a possibility — especially as qtzite float seen on traverse across base of corgus.

5°am
Cool, Partly sunny
High SE winds

16 Jul Thurs.

Retraced route SW via "Cone-Chert" mountain — 1490 traverse — down to 1400 then up to 1660m.

at 1540m on NE slope Cirque headwall much pyritic grg schist (in place), horizontal
444 861

Took several samples w. fine gr pyrite — but not enthused by appearance.

Return was 2½ hrs.

17 July Friday 03°am – 8°pm Puffy Clouds.

Re-traced route to Brick Red outcrops upper wall of cirque 3 km to SE – 2 hrs.

Climbed across weakly rusty chlorite and muscovite qtz schist to cirque headwall – where above float outcrops.

Grassy terrain on the traverse SE where several 2-3 m thick outcrops of gossan comprising qtz muse schist – much FeOx, but no sulfide minerals.

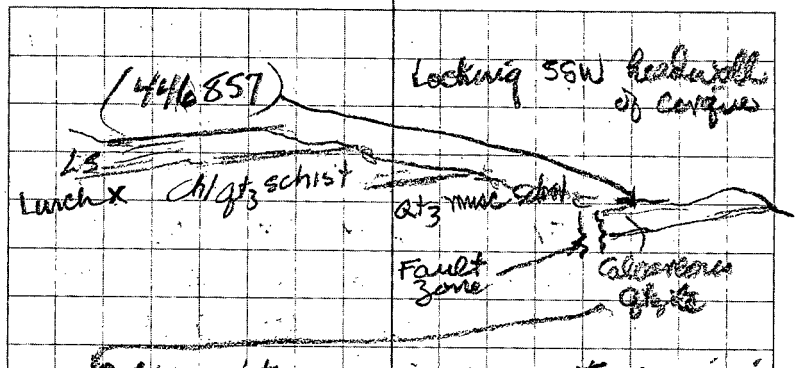
18 July - Sat 4° in am; Clear w. cirrus to SE

Carbon trail to Cerzine - East ridge

@ 5000' amphibolite - hbl++, Feldspar - some coarse xtline 6mm, also fine 1mm

@ 5400' lunch @ blocky chlorite limestone talus below cliffs @ crest of mtn. = 1600m 448855

@ 5425' Fault zone 125' wide (35m) 170° Az Blue schistose shale 3m wide with Fe& yellow/orange 30cm wide. Mass between is shattered w some Fe& on fractures. 447857 Only the edges of the fault zone appear to have had any sulfides introduced - and it appears that pyrite is the main, perhaps only sulfide mineral. This offers no hope for further work.



This unit now appears most promising as host for the Zn-stratiform sin looking for. Will return to track more outcrops in cirque headwall.

19 July - Sunday Cloudy, rain (drizzles) 60°

Cloudy 'til noon then sunny-warm 15°

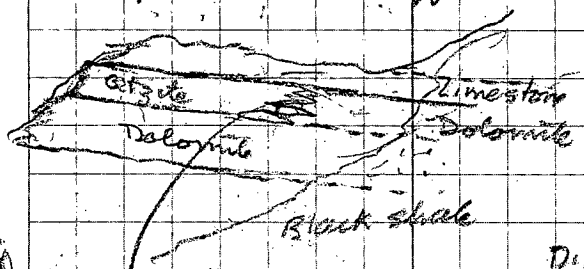
20 July Mon

Climbed traversing from camp across black shale (DM) north then west on caribou trail to flat @ 1560m 464871, thence contouring climbing around north slope of 'cone' peak on black, in places rusty argillite with progressively more apple green chert float from a formation (M€?) capping the mountain. Reached a site where could get best view to the east where prominent cliffs expose dolomite and orthoquartzite under a narrow ridge trending N/S - i.e. N/S along 470 875 878 or approx 300 meters strike distance.

Took photo to be used with overlay to describe the stratigraphic succession.

(Called Sarah - had another grandchild as of Sat! - Dylan)

In general the cliffs expose. Looking E



Dip is 20° ESE (110° AZ)

appears to be facies change where calcareous qtzite become siliceous dolomite.

all carbonate thick bedded 1.0 m. on average. This quartzite (Sq?) is clearly not the style of host rock we looking for, as unit for the Zn-stratiform sediment (Sft3) hosted exhalative deposit - this will be meta-quartzite, weakly calcareous with muscovite.

Much more likely to be found in the "allochthonous sheet of the "main" cirque that I have been prospecting,

qtzite thick to massive (3m) bedded.

21 July - Tues. Low clouds, weak from S - intermittent rain around 10.

QB

Very Heavy rain

22 July Wed 5 am → 8 pm
Only a few 20 min breaks
In dense fog 8 am - 11 am

23 July Thurs Cloudy, barometer still falling 8°C

Retraced carriers route contour around 'Cone' mountain @ ca. 1560 m then down to 1400 m at drainage divide, then due S up ridge forming E arm of cirque to general area where had found several pieces of amphibolite earlier (452860). Considerable (dominant) float seen over a 80 m distance on W facing slope. Coarse grained 5 mm hbl, bio, felds to south where abrupt float change to rusty 100% musc g/s schist in float. Increasing fmen grained then to calcareous black with interbedded amphib. Interpretation is that the amphibolite occurs sill-like underlying the thick succession of schists of the cirque. Topography suggests the sill may be in the order of 10-15 m thick. Increasing i.e. near base or sole & thrust plane.

Serpentinization of amphibolite occurs at its lower contact with altered limestone. Absence of garnet indicates probability of upper greenschist metamorphism. The amphibolite most likely part of the allochthonous terrane - quite different than the garnet amphibolite of the Pltqs of the MAUI claims of last summer in autochthonous setting.

Bright metallic mineral (?) in fine grain seen in several pieces of float which appear to be medium grained, cream-weathering monzonite - their float seen only from near uppermost zone of the main amphibolite. Not at all certain of the significance of this, but obviously no economic importance implied.

Heavy rain showers chased me back the 2-hr return route to camp by 3:30 pm Really rain so hard - ate in tent. Still raining @ 9 pm when dozed off.

Dull, cloudy am - PC.
barometer just beginning to rise a bit

24 July Friday

Then it poured on/off 20 min intervals - wind picking up so perhaps the front will survive a bit tonight.

25 July - Sat still raining
Barometer low - rising only slightly

Climbed back-of-camp hill traversing NE until crossed bold white orthoquartzite @ 5360' alt. Interestingly, the strike (overlain by argillite) trends 070° 30N and is notable by the vuggy, qtzite breccia, heavily impregnated with FeOx - (some pyrite crystal casts but verdant) making up a 25-35 cm zone on bounding wall - some of clasts are ±10% argillite.

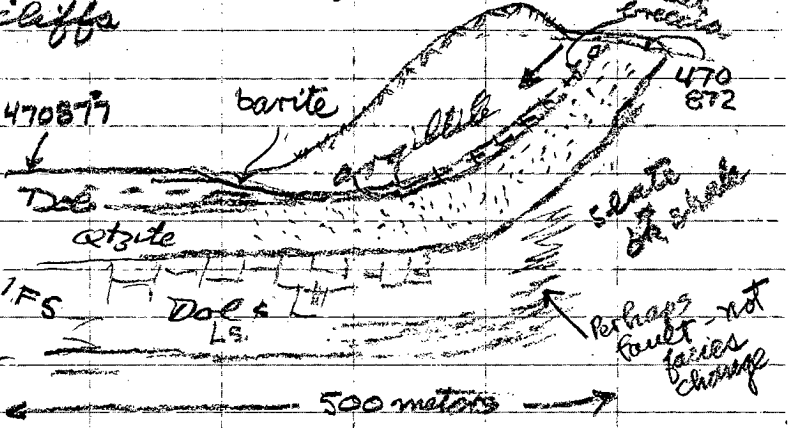
A few sites in the quartzite are calcareous.

(more)

pointing in qtzite is 160° 80E with maximum dip readings approaching hanging wall of unit.

The qtzite is fault displaced a around '5-100' left throw and terminates abruptly a about 4900' - possibly by a prominent 20°-30° AE fault.

The elec kurvidas on hanging wall of qtzite suggests a listric style of faulting down throwing northerly and flattening out matching up with top of Dol-Qtzite cliffs



26 July. — Partly cloudy 8°C Lt SW wind

CONCLUSION RE THIS AREA:

1. Only in the Klippe terrane was any metagreywacke seen.

2. The qtz-chlorite-schists (in places are virtually gneiss) may have undergone dynamic meta- i.e mylonitization.

3. Stratiform pyrite in schist occurs as prominent (read - tantalizing) brick red gossan near base of klippe.

4 Pyritic qtz-chlorite schists with only 2-3 metaquartzite bands, dominate lithology of klippe.

5. Source of weak Zn geochem anomaly may well be related to pervasive sulfide-schist terrane — but sphalerite not seen.

6. No further prospecting of the swarm of klippe planned — for stratiform Zn.

26 July - cont'd -

Trans North helicopter heavy with ATNA drilling & recon support - not picked up until 6 pm.

However, Betty had held a dinner for me when reached the Fatga River Gold Mine camp of ATNA.

Began the drive back and camped @ 10:30 p at Ross River

27 July - Cloudy 10°

TD drove Ross River to Whitehorse 230 mi 5½ hrs '68 4x4 pickup

117 × 1.5 = 585
117 × 1755 = 205335

1755 × 3.8 = 6669.00
1400 + 5265 = 6669.00

67,000 t

Outcrops + EM = 117m
Highest grade - lowest exposure
Galena float burries itself in creep OB.
Good to hi grade float (backhoe cuts north end)
confirms grade of EM Conductor (vein).

1485 × 328 = 487080
11880 + 2970 + 4455 = 487080

1900 × 33 = 62700
57 × 57 = 3249
62700 + 3249 = 65949

1680 × 338 = 567840
13440 + 3040 + 5040 = 21520
567840 + 21520 = 589360

"Rite in the Rain®"

ALL-WEATHER

FIELD

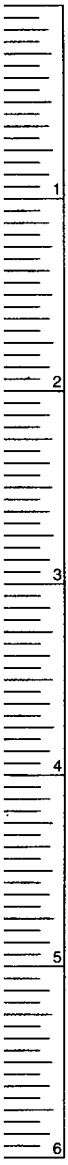
Notebook No. 351

J.S. DODGE

YMIP 98-008

(04) 05 – 20 (21) Aug

01 – 16 (17) Sept



Name _____

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Address _____

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Phone _____

Project _____

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Yellow Polyethylene Protective Slipcovers (Item #31) are available for this style of notebook. Helps protect your notebook from wear & tear. Contact your dealer or the J. L. Darling Corporation.

04 Aug 98 Tues

Lv Whse 4x4 2pm
Ar. Lt. Salmon LK campground 7pm

met Herr Zink auf Munich

05 Aug - Wed.
Lv. Lt. Salmon LK.
Arr Ketza River Mine

Flew out via Trans North Helepter
John Waitham - 61°18'44"
130°54'21"

Base camp @ 1350m (4428')
north edge of valley floor - on
moose trail. Noted rusty springs
surfacing below terrane believed to
be PEQs as mapped by Klint + Mortenson.

Scheduld base camp heli-move for:
evening 13 Aug.
one 15cm frostheaved cobble near tent
is target host rx - metagrit w. sericite
+ Felic stain

+5
+10 Sunny w smoke
S wind

06 Aug Thur

Prospecting north side of valley - attention to float exposed in series of openings just at base of timbered slope

- Mostly white to creamy, massive, meta-qtzite w. some FeOx stain.

- Amphibolite schist.

+ 5% pyrite

- Amphibolite, qtz, red garnets 1-2 mm - schist

- muscovite, meta garnets orange 5-6 mm schist

All in all float points to the meta qtzite host that am looking for

- A fifth type of float is musc, bio, albite, schist weakly CaCO3.

1 caribou crossing the divide

Satphone "blinded" by hi peaks.

0°C am ice in pail
Cloudy w/ several short sunny periods, sprinkles.

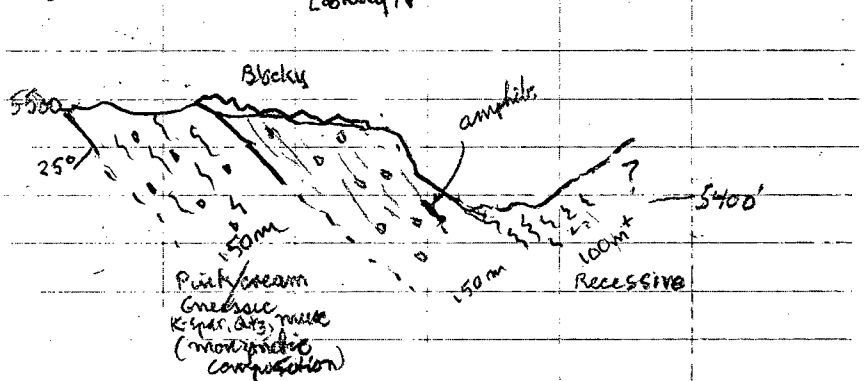
©7 Aug Fri

Moose trail 175 m SW of camp then up a snow avalanche chute to game trail up to 5000' elt where muscovite qtz schist - some with macro-garnets 3-6 mm diameter. Unit 15Az 25E

Climbing on to 5600' in schist with an amphibolite 1 m // to foliation of schist.

Contoured SW @ 550 - schist est. 100 m thick - (from snow chute). Footwall blocky weathering laminated qtz/feldspar schist with porphyroblasts of qtz up to 1 cm long. This unit est. 150 m thick

Next underlying is muscovite schist - 50 m thick followed under by blocky laminated qtz/feld. porphyroblastic schist - 150 m — stopped traverse, as not sure if still in Pcqs formation as mapped by Klein & by Montana.



08 Aug Sat 9°C Cloudy early, then rain, at times very heavy until 6 pm.

Prospected along moose trail for ½ hr several times between downpours. westerly sparse float at two spurings - confirm dominance of "invisible" unit/above).

IMSAT crowded - 8pm connected 3 channel.

0°C at 6am
Sunny until noon
then rain - very heavy

09 Aug Sun 2-4pm

Examined rocks in spring outwashes along SE side of valley. Mostly musc-qtz. thinly bedded schist - colour weathering.

Exception was one block 10×15×30 cm endorsing differential weathering - quartzite w musc. wavy foliation with grey quartz - recessive weathering layers - white qtz w. nonspecacious pyrite - rich. This is very much the target host for SEDEX sphalerite

XX

orange garnets ?

At 5400' alt on NE spur of south mountain tumbled up typical massive sulfide setting in muscovite qtz schist. Much float along a 25 meter dip slope of heavily Fe 0x massive w. some visible pyrite and chalcopyrite w. barite. Where quartz layers present some tourmaline is present. Ground mass is fine grained almost black - w. white specks (anhydrite ?)

attitude of bedding 165° 25E
Apparent thickness of sulfide zone
is 2m // to foliation of schist.

Will have to check out lower slopes.

10 Aug Mon During night - high winds, rain - SNOW covers everything above 5300 - 0°C 9am

Started out to check below-snowline areas, soaked by rain after 3 hrs.

4° in am.
Cloudy

11 Aug Tues

Rain began 2 pm and continued — even though barometer had risen appreciably

Only spent 3½ hours extending zone of quartzite — W. muse — float at base of 5 mountain. Several more pieces of very very tough laminated qtzite w. pyrite stratiform — the formation which so far closely resembles the target (sphalerite boulder SEDEX ?).

Looks like will have to postpone my planned heli-move — need a week's more time, since rain/snow have limited my prospecting to date.

8°C
Partly sunny - then clear sky 7pm

12 Aug - Wed

Climbed to 5800' on south mountain. In traversing westerly along N-facing slope @ 5400 examined bedrock exposures of muscovite+, qtz, de- ± garnets with foliation 070°Az 25E — and then good exposure of porphyroblastic monzonitic schist - blocky - 170°Az 45E - quite clear contrast in lithology and foliation inclination.

Most likely this is contact area between Schuiteman's quartzite and the PK4.

Traversed east slope of mountain along 5600-5800a contour range and noted muscovite++, quartz schist bedrock outcrops for over 1 km. One exposure of marble 1m thick over 20 m within schist.

No exposures or float of the quartzite with

pyrite along laminations - like the 2 pcs of float found in spring outwash at N base of mtn SE of camp.

Best to postpone planned camp move tomorrow because rain/snow has not allowed enough time to prospect area.

Called Trans North on the MSAT phone and changed scheduled pickup to 20th. Here MSAT will have saved approx $900 in aborting an extra helicopter camp return flight.

0°C → 15°C

13 Aug Thurs Sunny ALL day
+ Cardbore

Prospected the east-flowing brook to ascertain, from the abundant coarse cobbles/boulders, nature of bedrock in drainage area.

Most float was muscovite qtz schist, followed by biotite musc qtz schist. No pieces of the laminated (pyrite in laminations) muscovite quartz schist with its ~~XXX~~ folds — a disappointment.

Two cobbles were laminated qtz and fine biotite ~~XXX~~ with irregular masses of rusty quartz — much pyrite throughout — a hint to presence of a massive sulfide occurrence?

*Assays

One large cobble of quartzose matrix with clasts 5-10 mm of biotite chlorite schist. I suspect this came from contact zone between EPK4 and the schists gently dipping PLE$_{sc}$ panel.

0°C → 22° pm

14 Aug Fri. Smoke - sunny
Bull Moore - Bar falling

climbed to 5500' level on the east to northeast facing slopes of N mountain

Bulk of scree on steep slopes comprises bio^{+} musc qtz$^{=}$ schist with (at least) one prominent creek-bed exposure of amphibolite (no garnets) with adjacent 1 m thick, white quartz zone - apparently conformable to foliation which averages 170° Az 30E

Qtz^{+} musc schist (the "metaqtzite") outcrops as resistant hillock on NE trending shoulder of mountain. Carbonate laminations - very much like Harris described as being weakly carbonate-bearing, muscovite, metaquartzite.

13th Cont'd.
One large felt-stained cobble in main S-flowing creek - mainly carbonate (very tough & crystalline up to 6mm - with disseminated pyrite - could be a metasomatized ls from KGM about 5 km north. Better check for gold

14 Aug (cont'd)

This metaquartzite is exposed over a true width of 10m and, based on float to the north, at least 300m in lateral extent. No sulfides were seen in any of the samples - a disappointment inasmuch as the host metaqtzite "fits the bill". Carry on!

Troublesome aspect so far has been that all of the outcrops of metaqtzite in this area - and float therefrom, do not reveal a sufficiently competent rock to be the source of the Hoole R. "Zn boulder" over 80 km away.

The one piece of float - w pyrite in partings of ptygmatically folded metaqtzite - found on 09 Aug - was the largest so far (and that is 1/4 size of the Hoole boulder). Am becoming convinced that this "metaqtzite" horizon may not be the source of the boulder - perhaps another metaqtzite altogether. But where?

+5C → 24° 15

15 AUG 98 Sat.

Bar still falling
Heat wave —
smoke blown away.

Goal today was to examine the buff — weathering strata, resistant forming cliffs on west facing slope of mountain to east of camp.

Ended up in dense spruce stunted growth owing to perennial "trimming" by snow avalanches — place no outcrops or talus boulders visible. Finally reached treeline @ 401 991. 1640m (5350').

Beside an active seep / spring was a large (2m × 1m × 1m) boulder of rusty, tan colour which turned out to be typical silicated ultramafic — green splotches, some white carbonate, qtz matrix. This clearly had shed from the light coloured outcrops seen from camp, lying above the buff cliffs and underlying greenish strata (cPaul?).

In creek 20 m to north of the boulder,

→

Brotite, chlorite schist - blocky weathering, is well exposed - with a 5° ± E-W foliation. This is the buff weathering strata.

No further prospect for Zn-metagabbite in this traverse. Found tiresome route returning to valley floor.

In main valley creek broke open one Fe$_2$$^{++}$ quartz mass with much pyrite - will go for assay.

Front Heat 22°C
Bar steady; west wind persistent

16 Aug 95 ~ Discovery Day?
Sunday Cirrus clouds

Following up my comments of 14th re a reconsideration of the Pltsc as the probable source host of the Hoole Zn boulder, have decided that Pg should be given some attention. Notwithstanding its dominant quartzose content, I should consider the possibility of muscovite schist facies which in a quartzose gneiss might be a resistant host which could have permitted the Zn boulder to have 'survived' glaciation — far more likely than any of the qtz ("qtzite") schists that I've been flogging.

The area west of camp (underlying the qtz schists), where I have noted large coarse bouldery scree trains, is good starting test of the above consideration.

called S-A-OK - 36°C

11 to Cont'd, 5cr

Took moose trail west along N side of valley just at lower line of trees in order to access several of the boulder rock avalanches.

The three sites examined over the 2 km traverse held quite similar blocky (avg. 50 cm across), sharp edged, black lichen + white weathering feldspars, with some muscovite sheen — mostly gneiss with a qtz-monzonite composition. Some boulders were augen gneiss, but none of the qtz schist like outcrops above camp.

At skyline noted bedrock outcrops with gneissic layering inclined 45° E.

0° → 15°C
Very high W winds
Clouds down to 6000?
until 11 am - then
partly Sunny

17 Aug Mon

As weather not very friendly, chose to carefully scout south side of West flowing brook valley - focusing on float emergencing from talus-ladden springs.

Although predominantly muscovite-gt schist at first, soon going westerly, increasing amounts of gneiss appeared - even several very rusty masses of gneiss; rusty on fractures but with extremely fine pyrite dissemenations 0.3mm.

Owing to the east inclined gneissosity evidenced (45°E -) in the cliffs 300' higher on this South Mountain - perhaps it would be worthwhile to plan prospecting the next westerly ridge to see if up-inclination bedrock is present - it might be right here, but overburden/trees cover everything.

Read up RE

18 Aug Tues. 6°C – 8°C Cloudy – rain in a.m. – poured 2-4 pm

Had planned climbing the mountain to the west of South Mountain (see notes from yesterday), but weather was threatening and I wanted sun (at least mostly sunny) for best hand lens viewing of the rusty gneiss – if it is up there?

Grad Student Rooms

0° →

Sunny a.m/p.m

19 Aug. Wed. Frosty., Hi Baro?

Traversed west first on N side, then finally on south side - climbing steadily on a talus apron leading to a narrow ridge N/S up to 1640 m (5400') trending - finally at a second saddle @ 978960.

Leuco gneiss with laminations of quartz with muscovite - however excess of feldspar are prominent in some thin units. The inclination of gneissosity 20° Az 35° E.

Beginning at the 5250' alt. the gneiss begins to be increasingly (upwards) limonite burnt-red colour with limonite casts of former pyrite. This disseminated and fracture coated FeOx was something new in the lithology of the prospecting area. Nonetheless, the weathered surface invariably was white with black lichen. Rusty gneiss still @ 5400' alt.

Across and above the vertical cirque wall whose talus dumps into the longer of the two cirque tarns - rusty exposures would appear to be the up-inclination of the gneiss where I stand. See photographs. No economic potential suggested.

20 Aug — -1°C 5mm ice in pail
Sunny, clear to noon, then puffy summer clouds 15°C

Trans North Helicopters — pick up ~7 pm — as 2 had drill move to make for ATNA. Dinner w. ATNA.

Drove from Ketza Gold Mine to Ross River — 11 30 pm.

21 Aug —
Continued on to Whitehorse — no truck trouble!

CONCLUSIONS - 05-20 August.

1. Low potential for locating source of the Hoole Zn boulder -
   a) The Rese is mostly quartzite in so far as there is dominant qtz-muscovite schist, but massive, blocky weathering meta-qtzite - i.e. the Hoole boulder is 60cm across, does have some muscovite on with the zinc lamination - and survived glacial and stream rounding.

   b) The grassiness of this area do not carry enough qtz-facies to be an inducement for further prospecting - and the distance from Zn boulder site could be too far -

2. This area was chosen primarily in hoping for exposures of the Rese unit - since my previous prospecting of this

unit was in very poorly exposed areas NE of Hoole/Trench - and I still thought the reference to 'meta-quartzite in literature might have meant relatively massive weathering metachert - i.e. a possible host rock for the Hoole Zn boulder.

At this writing, I am inclined to return to extending my earlier river-boulder search up stream/up-ice from the previous prospecting of the Hoole River. I would stay on SW side of river in order to also check out the float rocks from NE flowing creeks. Much of the Terrane within the course of the Hoole is Pn - gneiss - we'll see!

Clear w few puffies

01 Sept 98 Tues 9° pm

Drove from Whitehorse to Ross River
Odometer in miles '68 4x4 pickup

Trans North Helicopter & RR set me in on gravel bar west bank of Hook River @ 560299 (105G12) 78 km north of Argus Claims of ATNA. Perfect position, it turns out for strength 26 with clear access to MSAT satellite.

Altitude of camp 3210' (STARR CREEK Topo)

After supper began breaking likely looking cobbles & small boulders - surprise to find a 40cm across boulder loaded with quite unusual fracfillings, smears, and ultra finely (0.1 mm) disseim of what might be termed 'necklaces' of brassy pyrite crystals in a grey ~~siliceous~~ quartz fractured matrix

1) List likely boulder is from a vein - to be assayed

02 Sept Wed Frost a.m 10° pm Sunny
Ideal weather

With "fine tooth pick" scoured the river bar at campsite - 90m × 10m turning up & breaking all rusty, contorted, selective weathering, laminated, or greenish cobbles + small boulders.

Found only one cobble having sulfides (Py + Chalc$^{(-)}$) in hbl warped band in bull white quartz.

Several pcs of chlorite-biotite-qtz schist very fine grained with poorly expressed chlorite on partings - dissem. Pyrite.

3-4 cobbles of porphyritic QM - with macro feldspar phenocrysts up to 7cm long. Unusual in that in the fine to med grained matrix - the quartz is distinctly violet - perhaps amethystine.

Only 3-4 cobbles of serpentinized

03 Sept. Thurs

Very heavy frost -2° am
10° pm Sunny.

In a.m. gave thought as to why the augen gneiss takes on such prominent reddish-orange weathering color — especially so when wet. No pyrite for most part — occassionally an isolated 0.1 mm Py grain. Nothing (sulfide) to account for color.

Then it became apparent when dil HCl gave impressive reaction for as much as half of the gneiss — ankerite - siderite - a creamy color contrasted with bands of white quartz. Began to note relicts of chlorite as protolith of siderite — perhaps chlorite after hornblende. The orangish color so like many of the limestones in the area! But I shall have to get better understanding of the meta-process responsible in the augen gneiss terrane.

In p.m. worked south ½ of the next bar to the north (approx 500m) — found nothing of interest beyond that of the camp bar. Again augen gneiss contributing about 90% of cobbles.

ma + 7 + pa ducks floating downstream

Sunny -1°am 15°pm

04 Sept. Friday Smoke from fire @ 568328 across Hook R.

Reached southern 1/2 of a long bar @ 560314 and found very few ~~rx~~ of interest i.e concentrating on metaquartzite. One cobble of rhyolite porphyry – very similar to the porphyry exposed on east cliffside of Hook at 562333. One of 3 with hornblend cobble with considerable pyrite only in ~~ma~~ mafics.

Noted significant increase (to 20% of total bar) in ultramafic + serpentinized Um cobbles. This site is roughly 8 km north of the nearest Um bedrock – south of the Argus claims airstrip.

Also noted was an increase to about 5% of bar in porphyritic QM – most with lavender quartz.

Several ~~cay~~ Covey of yellow warblers flitting through leaves of poplar in best autumn colors.

Survey. -2° am
15° pm

05 Sep Sat — Ideal weather
Barometer Falling

Moose barged thru camp last night and stoped into food cache dugout.

Returned to examine north ½ of the long bar @ 559314.

Again much cobbles and boulders of peridotite and serpentenite. One outstanding small 25cm boulder of silicified listwanite - much transfucent mariposite - with considerable fine (0.2 mm) pyrite especially in sites in mafic remnants. Need assay to be better appraised of gold potential of the Um area.

* One 30cm boulder of bio-chl-qtz gneiss with thin 3-5mm laminations of chlorite - this could be ~~mostly~~ considered a fairly favorable host terrane for my Hoole Zn Boulder (HZB). No sulfides, however.

Again say, 5% porphyritic QM with crowded (at times) feldspar mega-phenocrysts to 7cm long. Lavender qtz in groundmass. Nearest mapped QM is near/on MAUI cls. - but not amygdaloidal

06 Sep Sunday — 5°C am rain showers, then steady rain in P.m. Barometer rising. 10°C

Went over for second time 2 bars to the north in a.m. before steady rain set in & returned to camp.

Too rainy @ 7pm for MSAT stand-by.

Rain - heavy during nite and a.m. — "wet" oatmeal w. raisins - 8°C

07 Sept. Monday

Surprised at this period of rain - considering all the relatively dry summer - gave up using Coleman cook stove in rain - should have put up the big tarp with cat poles - guess getting lazy - no?

Hoole River level up by 10cm by 9 pm.

+5° Cloudy wind from SW

08 Sept. - Tuesday showers 6 am - 10 am

Carried on south along Hoole to examine a bar @ 558314 then 150 m farther at mouth of prominent ~~~~ creek coming in from southwest.

Turned up 2 cobble-sized pieces of schistose, siliceous (grey), pyrite and (?) sulfide rock - almost 'massive' in content of much disseminated sulfide and in vague banding. Could be a silicic volcanic protolith.

Otherwise, none of the quartzite like the HZB farther downstream.

Walked 100 m up the abovementioned creek, but float similar to Hoole River - most float sourced from glacial terrace material at least 100 m higher than the river/creek valley floor.

Will have to set out for the bedrock outcrops @ 4500' top of hill SW of camp - mapped as being on NE side of Tintina Fault.

Partly cloudy +2 ass
Bar steady rain 8° pm

09 Sep Wed.

Hode up about 5cm result of rain last few days working its way down tributaries - and todays addition will further raise water level & thereby shrink "size" of the river bore for prospecting.

-5°C am very heavy frost
Sunny a.m. +10°C
Cloudy p.m.

10 Sep. Thur

River down 10cm

Worked way up to 2nd terrace 50m above Hoole R. - then south for 100m to pass above the steep, diamictin slope @ 90° bend in the Hoole.

At first bar encountered, came up with two promising specimens - cobble size -

1) Steely to Brown 34 pyrite (25%) laced throughout a grey chert-like host

2) Fine ~~brassy~~ steely pyrite + chalcopyrite (40%) as dense medium with minor quartz - faint stratification suggests (esp. Cp & Sph?) VMS source.

Examined a very extensive cobble/boulder bar 569297 to 573294 - dominant 80% qtz-sulf + Calc$_3$ and augen gneiss - with 10% ultramafics remainder for am.

+3°C cany cloudy w. rain showers

11 Sep. Fri

In spite of frequent showers, decided to climb over the landslide area to the south and re-examine the narrow bars looking for more of the dense sulfide (pyrite +) float. However, nothing new turned up — collected a kg or so remaining pcs of the chalcopyrite-bearing boulder found yesterday.

+3°C am
Rain & clouds all day
+10°C pm

12 Sept. - Sat.

River up 8 cm

Retraced examinations of the 4 bars downstream (N) Hoole River — and after 2 hrs had not turned up any rock type already noted — nor any vein or VMS style of sulfidization.

0° @ 16K feet.
+5 rest of day
Partly sunny.

13 Sept Sun

As prelude to climbing all way to tumbleline to check out orthogneiss (?) near Tintina Fault — prospected the set of 3 benches — each laterally N and S for about 300 m each. Expected no outcrops, but was reminded of the bedrock exposures here & there on the former MIDAS claims — so kept looking up to 3700' (1130 m) altitude — at that point was due south of base camp 2-2½ km. NO bedrock exposures.

Evening clouds were retreating — harbingering a good day for big climb tomorrow.

Heavy frost -3^{0}
Cloudy am 5^{0}
Sunny pm $+8^{0}$
Rain shower $3^{30}-5^{30}$ pm

14 Sept Mon

Climbed from camp @ 3200 up to timberline outcrops @ 4500 @ 561278 of mtn. that T-K limit mapped as Pn just at northeast edge of Tintina Fault zone.

Reasoning was that this promised to provide outcrops (where much of Pn in this area does not) which could indicate a gneissic terrane with silicous layering & possibly, hostwise a favorable source of the tantalizing HZB.

Found the tangled stunted spruce/fir harder going than expected. Left camp @ 11 am (after melting frost etc) and didn't reach timberline until 15:00

Here Pn is augen gneiss - so typical of much of the cobbles boulders on Hoole bars

+2° am
Snow 12^30 – 14^30 pm
+3° late pm
Rain – 15:00 on

15 Sep Tues

Packed bags of specimens, labelled etc. Unable to get clothes/gear dried out from wet bush soaking on return from yesterday's climb. Finally built fire which helped that problem.

16 Sep.

−11°C @ 8am

Trans North Helicopter arrived "on the dot" 9.15 am

Unable to brush off thick frost – just bunched everything into helicopter.

3.28 3780 4430
328
420
328
92

1350 m
328
1080
270
405
44280

164
328
1312
328
492
5379 ?

7 ducks
moose print
Bk Bear/wolf tks
fire

24 = 1500 Augen gneiss
19.5 1200 Laminated gneiss

1 pc of amphib. garnet

09 Sep - talked w. S.

(11 Sep - S. re flood & no call back)

c/o
augen g.
white pt3 massive
Bk aphanite
Um ? alkaline products serp.
Qm - lavender pt3