BRUIN CREEK PROJECT

NTS 116C02

Kevin Chesney
91-022 TARGET

SUMMARY

The Bruin Creek Project was conducted during the summer of 1991 with the assistance of the Yukon Exploration Assistance Program. Basic prospecting and hardrock trench sampling were all undertaken. In addition, the infrastructure for a percussion and diamond drilling program are now in place.

The project was initiated to follow-up high gold value samples collected the previous year during a placer exploration program. A suite of samples collected over a wide area during 1991 returned more high values for gold and for copper, lead, zinc, silver and nickel. The immediate source of these anomalous results is not immediately obvious.

The type of deposit and geology remains to be determined. At a regional scale, the area is mapped as a undifferentiated suite of middle and upper Paleozoic metasedimentary rocks known as the Nasina Series. Rocks exposed during the trenching show extensive shearing and fracturing. Sulphide mineralization is located along fracture surfaces that are contemporaneous with or subsequent to the shearing event.

The evidence to date indicates the possible location of a polymetallic volcanic massive sulphide deposit (VMS). Several other polymetallic showing are located within the immediate area bounded by the Fortymile River to the north, the Top of the World highway to the south, the Clinton Creek road to the east and the Alaska border to the west.

Property mapping and further sampling are recommended for 1992 with the aim of spotting specific drill targets for a limited percussion and diamond drilling program.

LOCATION AND ACCESS

The claims are located on NTS 116C02. Bruin Creek is 70km WNW of Dawson City, Yukon. The north draining creek runs sources on a east-west trending ridge and drains into the Fortymile River. The Top of the World highway runs along the ridge to the south and an access trail has been constructed along the ridge to the west of Bruin Creek and down a spur to a camp on Bruin Creek.

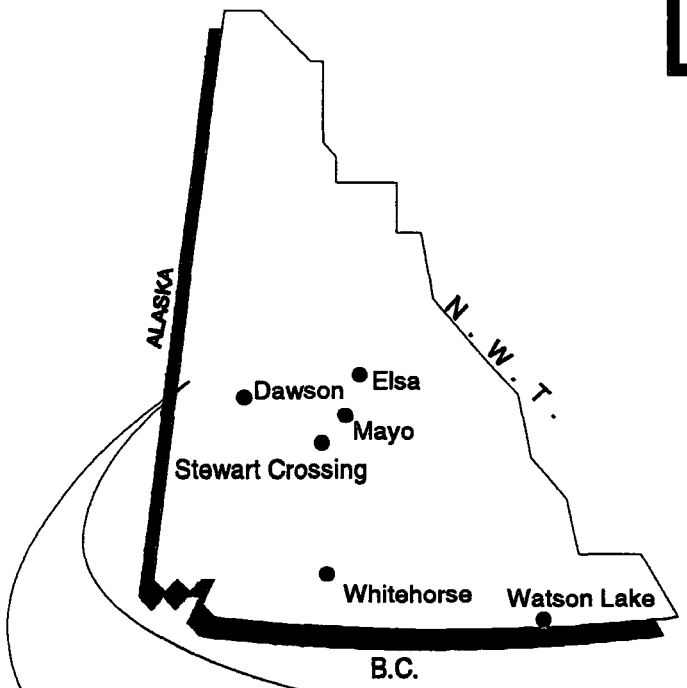
The map on the following page graphically illustrates the location. The access road is plotted on the larger scale, property sampling map found at the end of the report.

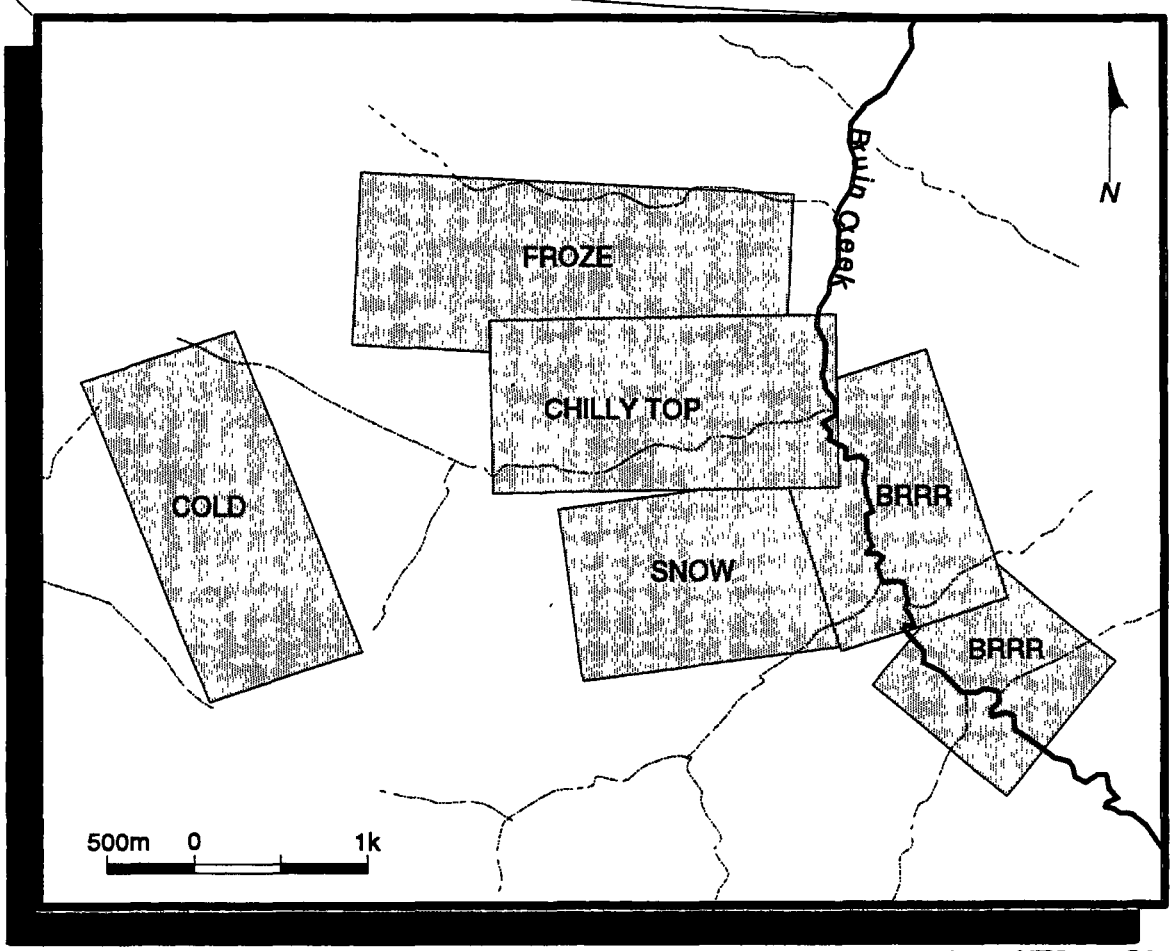
CLAIMS

NAME	GRANT NUMBERS	NUMBER
COLD	YB39239 - YB39246	8
FROZE	YB39255 - YB39264	10
CHILLY	YB39247 - YB39248	2
TOP	YB31333 - YB31336	6
SNOW	YB39249 - YB39254	6
BRRR	YB39265 -YB39273	9

The claim blocks are as indicated on both the location and sample maps.

BRUIN CREEK PROJECT
Location & Claim Map





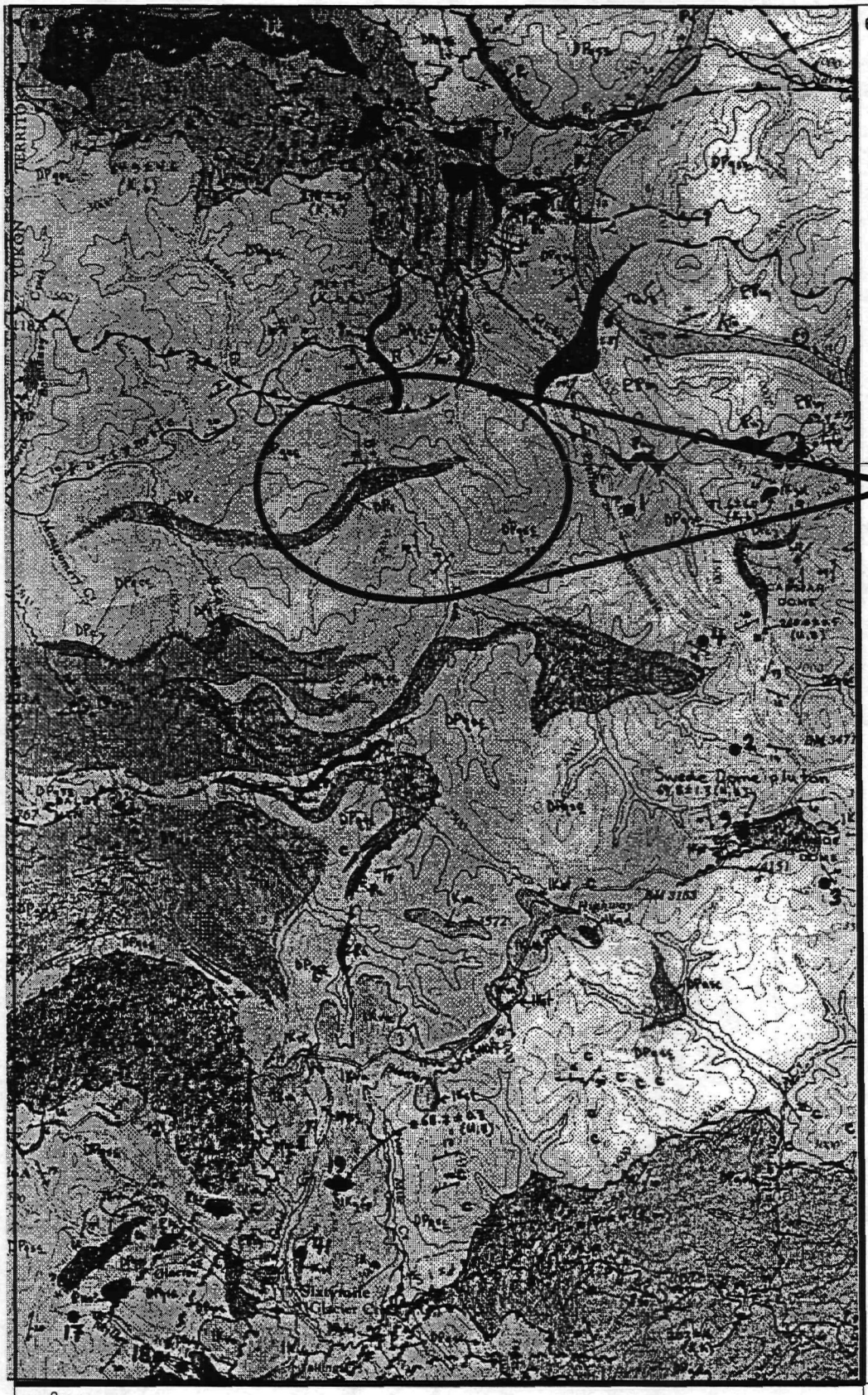
from NTS 116C2

REGIONAL GEOLOGY

Dawson map area (NTS 116 B,C) southwest of the Tintina Fault Zone (Mortensen, 1988) is underlain mainly by greenschist to lower amphibolite facies metamorphic rocks of the Yukon-Tanana Terrane (Monger and Berg, 1987). these rocks can be divided into two main assemblages: 1) schists and gneisses derived from a variety of sedimentary and igneous protoliths and displaying a penetrative ductile deformation fabric; and 2) massive to brittlely sheared greenstone, diabase and serpentinized harzburgite. Assemblage 1 corresponds generally to rocks originally included in Green's (1972) units A, B and D (Nasina Series, Klondike Schist and Pelly Gneiss, respectively), but here has been further subdivided based on compositional, textures and limited isotopic age criteria. Assemblage 2 corresponds to Green's units C (greenstone = unit Pv and E (ultramafic rocks = unit Pu). The two assemblages are now imbricated along low-angle brittle faults that may include thrust faults and tectonic slides along original stratigraphic contacts. These faults are rarely well exposed (e.g. in Clinton Creek mine open pit and at several localities along Yukon River between Dawson and Fortymile), but they can commonly be traced as lithological contacts marked by the discontinuous occurrence of massive to sheared greenstone and/or serpentinite in felsenmeer and float.

A limited amount of fossil and isotopic age data is available for rocks of Assemblages 1 and 2 in the study area. These data are summarized in Mortensen (1988). Together they indicate that the ductilely deformed metamorphic rocks of Assemblage 1 are largely of middle and late Paleozoic age. Orthogneiss of unit DMgdg from a locality 22 km south of the study area (Fiftymile Batholith) has yielded a Late Devonian early Mississippian U-Pb zircon age (Mortensen, 1986), Metaporphyry within Klondike schist units Pks and Psa) in the northern Sixtymile District and northern Klondike district have been dated at mid-Permian (U-Pb zircon ages), as has a sample of quartz augen schist (unit DPsa) within Nasina Series metasediments on the southwestern side of Cassiar Dome. Ductile deformation occurred between mid-Permian and latest Triassic time; however hornblende, biotite and muscovite from the metamorphic rocks yield K-Ar cooling ages as young as Late Jurassic. Greenstone and altered ultramafic rocks In the study area have not been directly dated. A Middle or Upper Triassic conodont age has been obtained from weakly deformed sediments of unit Trs that are associated with the greenstone and ultramafic rocks in the Clinton Creek open pit (Abbott, I983).

Several phases of undeformed intrusive rocks occur in the area. Granodioritic to quartz monzonitic plutons (unit lKgd) probably represent the intrusive equivalents of the andesitic volcanics (unit lKva) which underlie much of the Sixtymile District. One such pluton (Swede Dome pluton) has yielded a U-Pb zircon age of 69.8 + 1.3 Ma, and a quartz-feldspar porphyry plug (unit lKqfp) cutting the volcanics along Sixtymile Road has yielded a U-Pb Zircon age of 68.7 + 0.3 Ma. The volcanics and interbedded clastic sediments (unit lKst) are



NASINA SERIES

DPc - marble

DPqsc - undifferentiated grey to black graphitic quartzite and quartz-muscovite (± biotite) schist; locally garnetiferous

Scale 1:250,00

BRUIN CREEK PROJECT

Regional Geology Map

tentatively correlated on compositional and age grounds with the Carmacks Group in the Dawson Range farther to the south, and with similar strata on Indian River and lower Sixtymile River. Narrow undeformed granitic pegmatites crosscut amphibolite facies orthogenesis (unit DMgdg) along Sixtymile River and lower Miller Creek. Muscovite from one of the pegmatite bodies yields a K-Ar age of 180 Ma. A bimodal suite of mafic and quartz-feldspar porphyry dykes and small plugs (units eTdi and eTqfp) occur sporadically in a band within 10-20 km of the Tintina Fault Zone. Samples of unit eTqfp in northern Klondike District, lower Yukon River, and northeast of Cassiar Dome have yielded Eocene K-Ar, U-Pb and Rb-Sr ages. Along the Yukon River, 24 km downstream from Dawson, the quartz feldspar porphyry dikes cross-cut interlayered immature clastic sediments and mafic flows that are prohably related to fossiliferous Paleocene-Eocene siltstones, sandstones and conglomerates that occupy the Tintina Fault Zone itself (unit PEst).

At least four distinct phases of deformation are recognized in the metamorphic rocks in the study area; however, scarcity of outcrop precludes a detailed structural analysis. The penetrative ductile deformation fabrics present In Assemblage I rock units are not observed in Assemblage 2, indicating that this early tectonism pre-dated thrust faulting. At least one, and commonly two or more crenulation cleavages are present in both assemblages. Minor folds related to these cleavages locally appear to deform the thrust surfaces. Late, low-amplitude warping and small-scale steep faulting has affected all of the rock units in the area. Little evidence for large-scale normal or strike-slip fault structures in the study area (with the exception of Tintina Fault Zone) has been found either during field mapping or by aerial photograph and satellite imagery analysis. Some of the late folds and small-scale, northeast trending steep faults appear to be localized along the Tintina Fault Zone and may be genetically related to it.

ECONOMIC GEOLOGY

A great variety of styles of mineralization occur within the study area, including stratiform, porphyry, and skarn base metal occurrences, base and precious metal-bearing mesothermal and epithermal vein occurrences, and asbestos deposits in serpentinite. Also present are numerous lignite occurrences in Eocene Sediments of unit PEst along Tintina Fault Zone and in sediments of unit IKst in the Sixtymile District, as we as portions of the Klondike, Sixtymile and Fortymile placer gold districts. The large number and variety of known mineral occurrences, together with the relatively limited mineral exploration activity that the area has attracted and the presence of extensive placer gold deposits for which no lode sources have yet been discovered, all underscore the substantial remaining mineral potential of the area.

SAMPLING PROGRAM

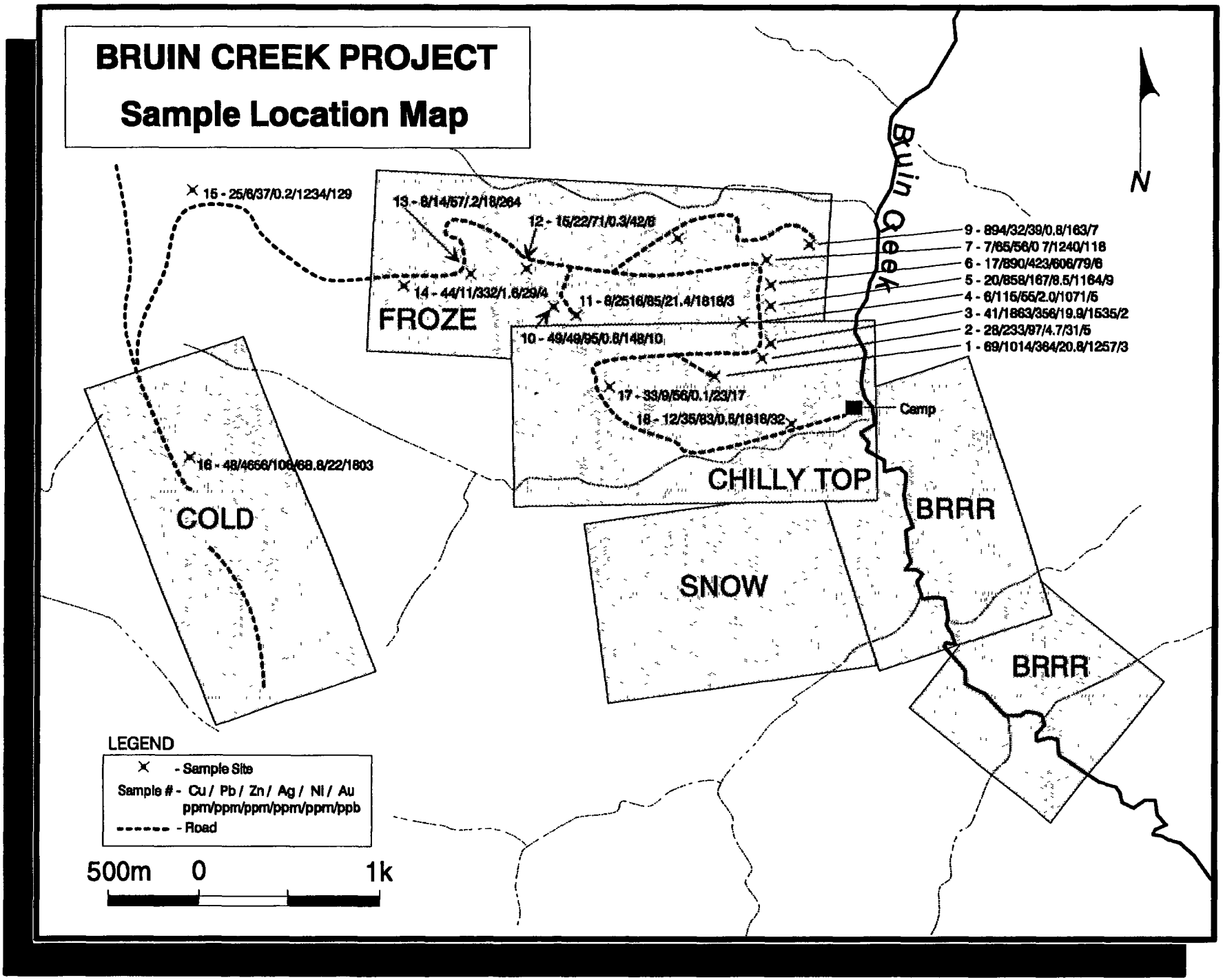
The area under exploration in unglaciated. The old topography although exhibiting extensive relief is covered with felsenmeer, frozen soil and often a thick blanket of moss and stunted spruce. Rock outcrop is limited and more importantly mineralized shear zones, being recessive ar never exposed. The orginal discovery was only made due to a shear zone exposed during trail construction.

As a result of the cover the exploration program had to rely on very careful, time consuming examination of the felsenmeer cover. Interesting targets then had to be exposed and sampled. The attached sampling map records both the sample locations and their base metal / precious metal content.

Further followup assay results a pending receipt from the assay lab. Appendix A contains the assay sheets for 34 elements. All elements except gold were determined using standard analytical techniques for ICP analysis. Gold values were determined by combined fire assay and ICP. Details of the analytical procedure are recorded on the assay sheets.

The samples show no immediate pattern as plotted. High and low values in the results also fail to show a pattern related to rock type. Visual examination indicates that sulphide mineralization is located along fracture surfaces in highly sheared and moderately altered rock.

Subsequent exploration must focus upon the parameters controlling mineralization. This work is proposed for 1992.



from NTS 116C2

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APPENDIX A

GEOCHEMICAL ASSAY RESULTS

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Northern Analytical Labs. Ltd. File # 92-0360 Page 1

105 Copper Road, Whitehorse YT Y1A 2Z7

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** ppb
13538 BC91001	1	69	1014	364	20.8	1257	63	999	2.96	10	7	ND	1	721	2.5	27	2	19	13.89	.007	2	792	5.29	101	.01	7	.38	.01	.01	4	3
13538 BC91002	8	28	233	97	4.7	31	8	323	2.23	2	5	ND	12	11	.4	2	2	21	.25	.053	30	99	.24	91	.02	5	.84	.01	.23	1	5
13538 BC91003	1	41	1863	356	19.9	1535	82	811	4.01	5	5	ND	1	76	2.0	9	2	22	1.69	.004	2	896	10.10	55	.01	12	.40	.01	.01	1	2
13538 BC91004	1	6	115	55	2.0	1071	61	506	3.47	2	6	ND	1	174	.4	8	2	25	5.80	.010	2	1143	4.40	9	.01	3	.32	.01	.01	2	5
13538 BC91005	1	20	858	167	8.5	1164	64	699	3.65	5	5	ND	1	88	1.4	10	2	25	5.08	.007	2	943	7.37	47	.01	3	.30	.01	.01	1	9
13538 BC91006	2	17	890	423	6.6	79	6	243	.47	8	5	ND	1	133	3.8	6	2	6	24.70	.019	4	82	.98	50	.01	2	.17	.01	.02	1	6
13538 BC91007	1	7	65	56	.7	1240	67	544	3.82	2	5	ND	1	183	.5	5	2	26	5.93	.005	2	964	7.91	216	.01	6	.35	.01	.01	3	118
13538 BC91008	1	28	46	64	.4	1785	89	783	4.23	3	5	ND	1	13	.2	2	2	22	1.28	.005	2	899	12.83	66	.01	12	.38	.01	.01	1	7
13538 BC91009	1	894	32	39	.8	163	17	234	1.43	2	5	ND	1	7	.4	2	2	21	.54	.001	2	477	.56	128	.02	2	.16	.06	.01	1	7
13538 BC91010	5	49	49	95	.6	148	17	261	3.10	2	5	ND	13	44	.2	2	2	33	.93	.033	25	183	1.31	234	.05	2	1.63	.02	.35	1	10
13538 BC91011	1	8	2516	85	21.4	1818	101	677	4.58	3	5	ND	1	66	.7	3	2	16	3.39	.004	2	873	14.99	85	.01	14	.52	.01	.01	1	3
RE 13538 BC91007	1	5	61	55	.7	1188	64	521	3.65	2	8	ND	1	176	.3	5	2	25	5.58	.004	2	933	7.62	208	.01	6	.34	.01	.01	2	60
13538 BC91012	7	15	22	71	.3	42	6	371	2.96	2	5	ND	8	30	.2	2	2	14	.57	.032	17	106	1.39	221	.13	2	2.39	.08	.84	1	8
13538 BC91013	1	8	14	57	.2	18	2	150	.21	7	5	ND	1	164	.9	2	2	4	32.09	.018	6	23	.76	83	.01	2	.14	.01	.07	1	264
13538 BC91014	39	44	11	332	1.6	29	2	51	4.51	4	5	ND	5	16	1.0	8	2	78	.40	.073	13	67	.07	359	.01	2	.48	.01	.17	1	4
13538 BC91015	1	25	6	37	.2	1234	64	680	3.16	3	6	ND	1	563	.3	5	2	22	11.02	.005	2	852	6.23	45	.01	3	.33	.01	.01	4	129
13538 BC91016	15	48	4656	106	68.8	22	5	290	1.37	17	5	2	2	10	1.2	33	2	7	.12	.020	3	143	.24	30	.01	2	.42	.01	.03	1	1803
13538 BC91017	5	33	9	56	.1	23	9	292	2.37	2	5	ND	15	26	.2	2	2	19	.64	.030	30	68	.83	113	.15	2	1.26	.03	.56	1	17
13538 BC91018	32	12	35	83	.5	1818	126	1692	6.40	9	6	ND	1	492	.5	6	2	33	11.74	.008	2	1630	7.33	534	.01	2	.67	.01	.01	4	32
STANDARD C/AU-R	20	62	38	135	7.3	72	32	1146	3.99	41	24	7	41	47	18.0	14	19	60	.50	.093	40	61	.92	186	.10	34	1.86	.07	.16	11	461

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK PULP AU** ANALYSIS BY FA/ICP FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: FEB 19 1992 **DATE REPORT MAILED:** Feb 24/92 **SIGNED BY.....** D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS