840828

FIRST NUCLEAR CORPORATION

1980 SUMMARY REPORT

ON

PROJECT 11, SPILLIMACHEEN

82N/2,3

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LOCATION, ACCESS, AND INFRASTRUCTURE

The Deb Claim group is situated at 51°N and 117°W in the Purcell Mountains of southeastern British Columbia, N.T.S. 82K and 82N (Figs. 1 and 2).

The property is centered 25 kms. (16 miles) south of Golden and 30 kms. (19 miles) west of Parsons. Access to the property may be attained by helicopter from Golden or by logging road from Parsons. Both towns are located on the east bank of the Columbia River.

Golden (population 3,500) is a major logging centre at the junction of the Trans-Canada Highway and Highway 95. The main line of the Canadian Pacific Railway links Golden to Vancouver (850 kms., 530 miles) and Calgary (220 kms., 140 miles). Golden is a permanent base for helicopters operated by Okanagan Helicopters Ltd.

Parsons (population ~200) is a logging community on Highway 95. A spur branch of the Canadian Pacific Railway links Parsons to Golden (60 kms., 36 miles) and Kimberley (160 kms., 100 miles).

Ore from the Sullivan Mine near Kimberley is shipped 160 kms. (100 miles) southwest to the Cominco smelter at Trail. The distance from the Deb property to Trail is about 200 kms. (120 miles).

PHYSIOGRAPHY AND DRAINAGE

The Deb property is situated in the Purcell Mountains, a northwesterly trending upland area bounded to the N.E. by the Columbia River and to the S.W. by Duncan and Beaver Rivers (see Fig. 3). The property occupies the watersheds of McMurdo, Bobbie Burns, and Malachite Creeks. These creeks flow northeasterly and eventually drain via the Spillimacheen River into the Columbia River.

The terrain is rugged with maximum relief of 1,700 meters (5600'). The highest peak on the property is 2900 meters (9600') A.S.L., but a general accord of summits at the 2600 meter (8500') level suggests that the area may have been a plateau prior to dissection by alpine glaciation and mass wasting.

Valleys and slopes to an elevation of 2250 meters (7400') are thickly timbered with spruce, pine, fir and alder. Commercial stands of timber are presently being logged on the property by Crestwood Forest Industries.

FIG.1 GENERAL LOCATION MAP

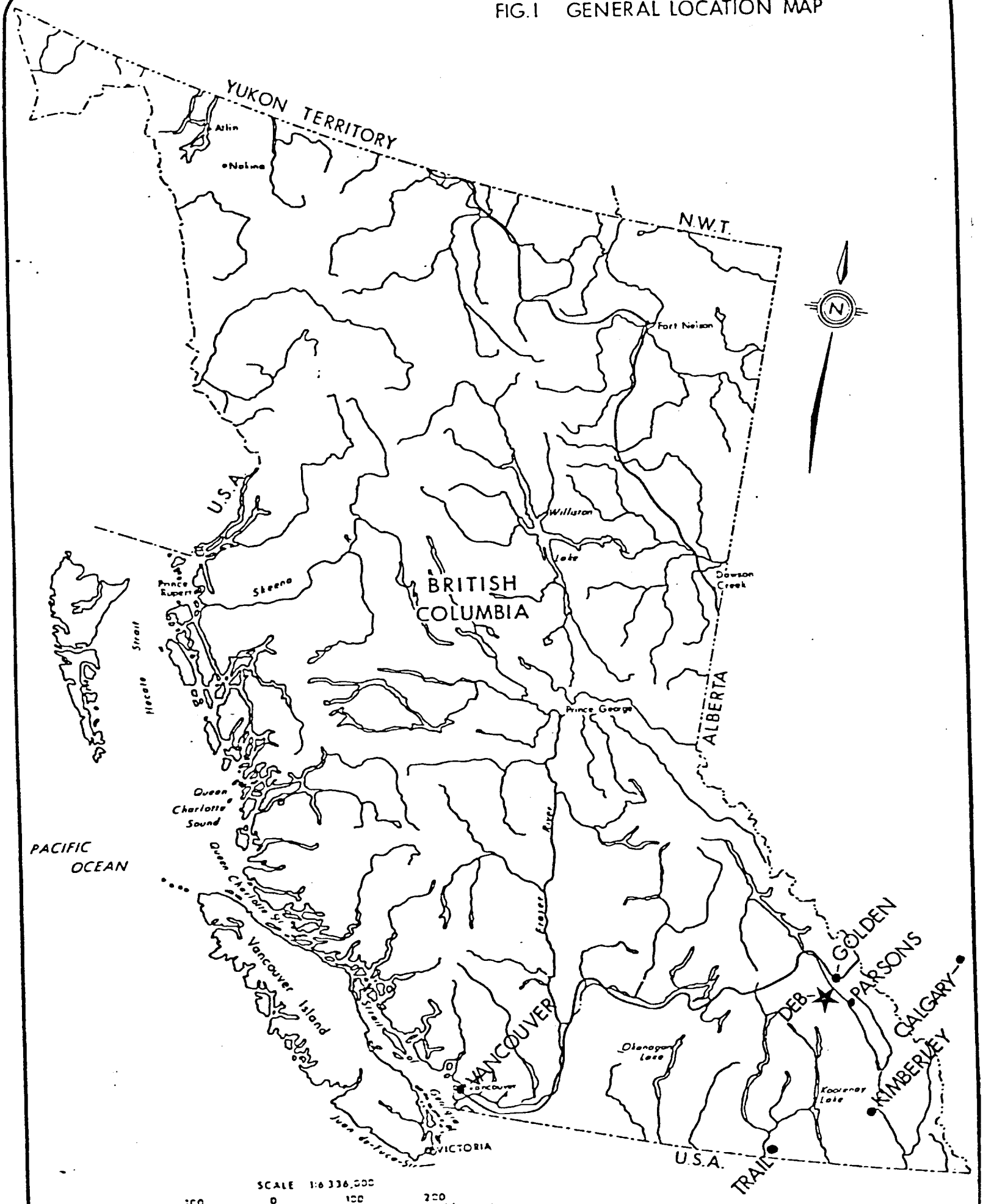


FIG. 2 - LOCATION AND ACCESS

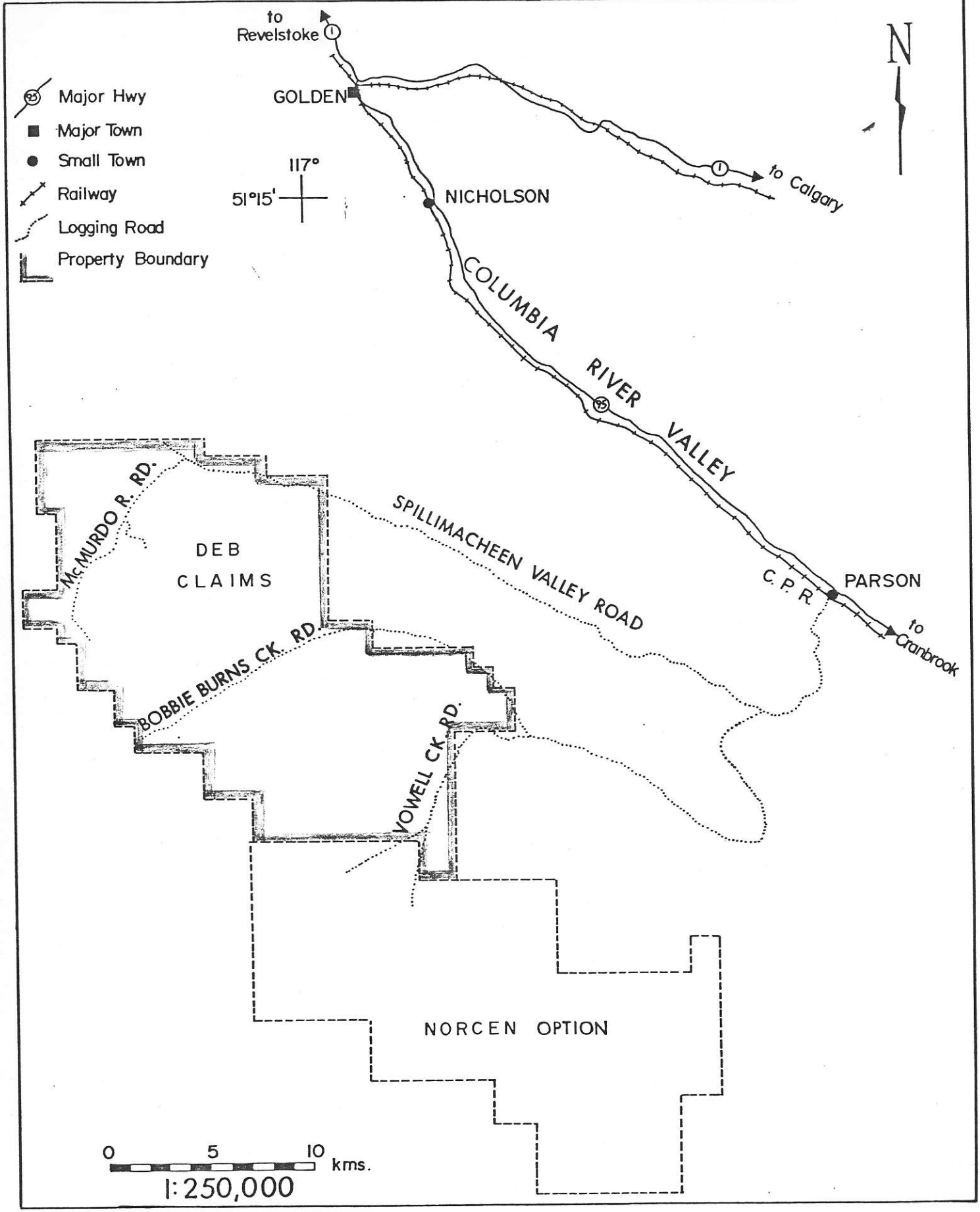
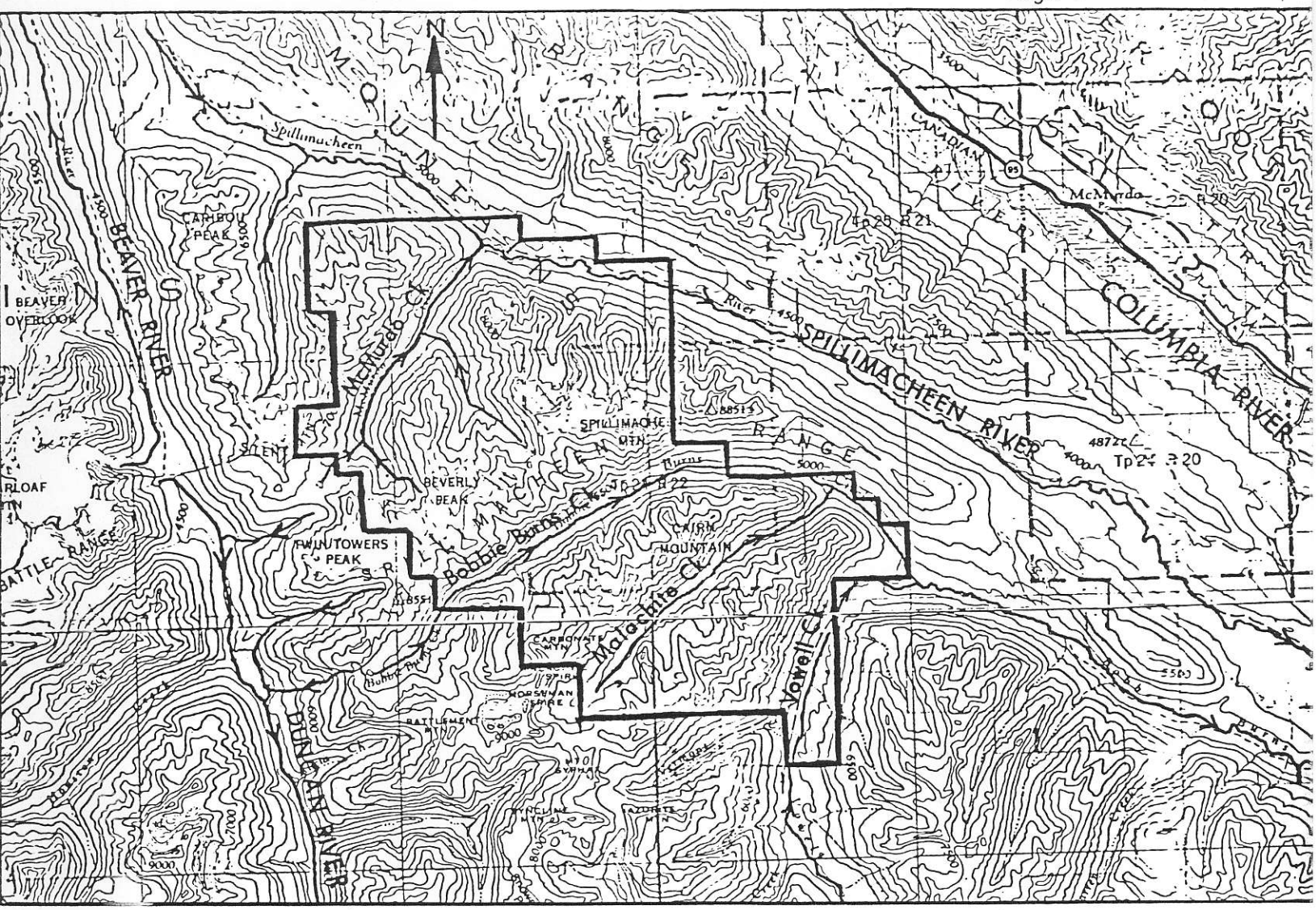


FIGURE 3, PHYSIOGRAPHY & DRAINAGE



CLIMATE

The climate of the area is moderate, and in the valleys the temperatures are not extreme. Annual precipitation varies from 15" (38 cms.) in the Columbia River valley to 50" (127 cms.) in the Purcell Mountains. The precipitation in the mountains occurs mainly as snow.

Field work on the property may commence in early June, although activities at this time must be confined to valley floors and lower south and east facing slopes. The higher reaches are generally accessible from July through September, although snowfall can be anticipated at any time. From the latter part of September through to November, work must be conducted at progressively lower altitudes as permanent snows encroach valleywards from the mountains.

GENERAL GEOLOGY

The Purcell Mountains are largely underlain by Precambrian rocks of the Purcell (Helikian) and Windermere (Hadrynian) systems. These Proterozoic strata were intruded by granitoid batholiths during the Columbian (Cretaceous) orogeny. Formations of the Proterozoic are given in Table 1, and a generalized geological map of the central Purcell Mountains is presented in Figure 4.

The sedimentary rocks of the Purcell system are uniformly fine-grained and reflect shallow-water deposition in a slowly subsiding, but tectonically stable, trough or basin. The Purcell strata are separated from the overlying Windermere strata by an unconformity. The sedimentary rocks of the Windermere system are predominantly clastic and reflect relatively rapid deposition in a near-shore, deltaic environment.

Cretaceous quartz monzonite batholiths intrude the Proterozoic strata and superimpose contact metamorphic aureoles on rocks already regionally metamorphosed to lower greenschist facies.

Although some deformation is recognized from earlier orogenies, those structures resulting from the Columbian Orogeny are the most ubiquitous and intense. The Proterozoic strata were thrown into a broad, north-northwesterly trending arch known as the "Purcell Anticlinorium." The Purcell Anticlinorium is a fold belt dominated by open folds in competent strata and by more complex, tighter folds in less competent, thinner-bedded successions. The average plunge of the folds is a few degrees north or south. Folds may be modified by local faulting.

TABLE 1

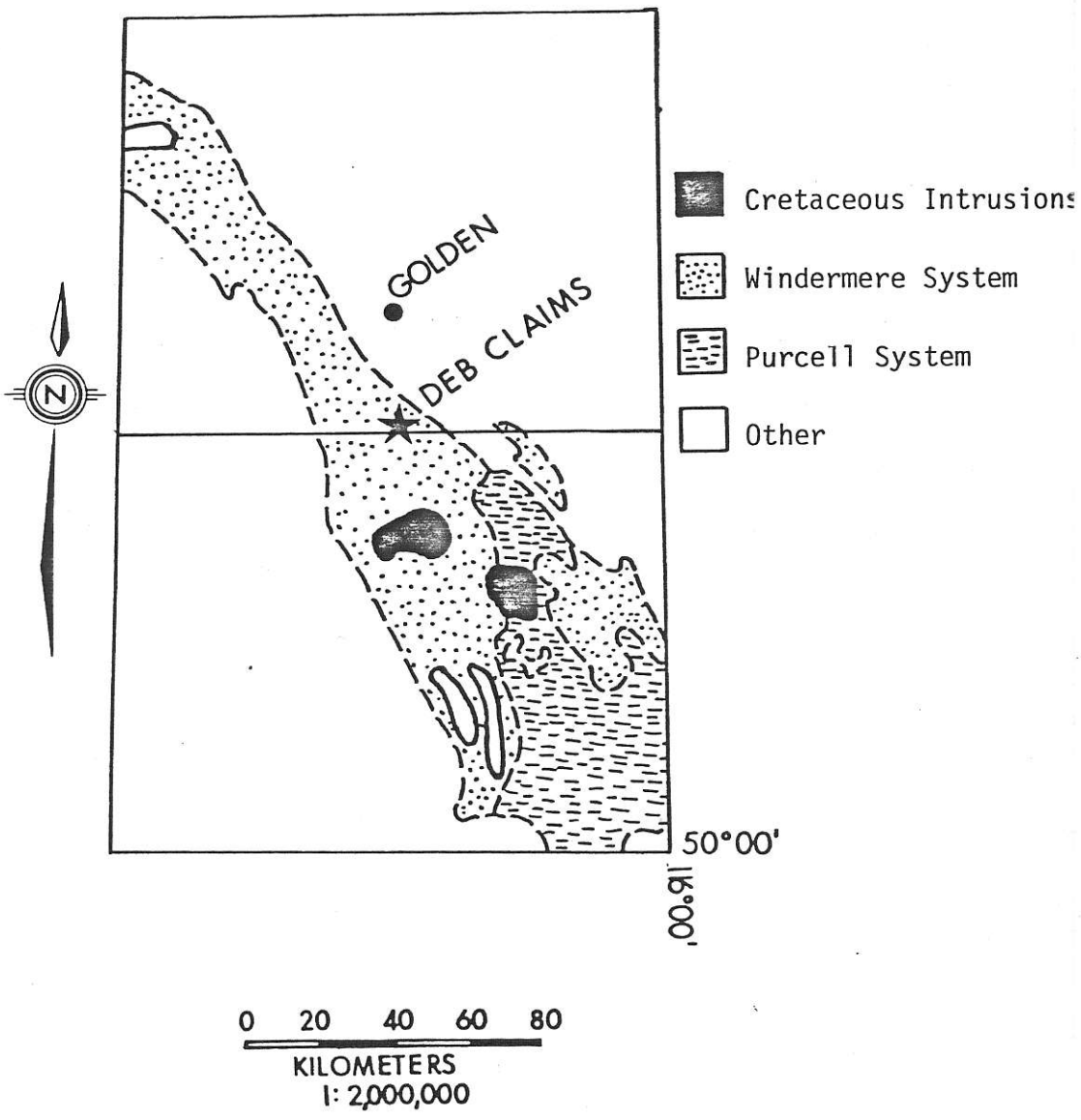
Table of Formations—Proterozoic

ERA	PERIOD OR EPOCH	GROUP OR FORMATION	LITHOLOGY	THICKNESS (feet)
PROTEROZOIC	WINDERMERE (HADRYNIAN)	HORSETHIEF CREEK GROUP	Varicoloured slate, argillite, and phyllite; quartzite, grit, and quartz-pebble conglomerate; minor limestone	3,000 to 8,000
		TOBY FORMATION	Polymictic conglomerate with pebbles, cobbles, and boulders of varied composition; matrix of impure limestone, shale, and quartzite	0–1,500
	UNCONFORMITY			
	PURCELL (HELIKIAN)	MOYIE INTRUSIONS	Metadiorite and meta-quartz diorite sills	
		INTRUSIVE		
		MOUNT NELSON FORMATION	Buff and grey dolomite and dolomitic limestone, slate, argillite, quartzite	~4,000
		DUTCH CREEK FORMATION	Varicoloured argillite and slate, quartzite, and some carbonate rocks	±4,000
		KITCHENER–SIYEH FORMATION	Very thinly bedded quartzite, black argillite, and some dolomite, sandy dolomite, and limy argillite	6,500
		CRESTON FORMATION	Green chloritic quartzite, grey quartzite with purple laminae, green and grey phyllite and argillite	8,000
		ALDRIDGE FORMATION	Upper division: Sericitic quartzite, argillite, thin-laminated argillite and quartzite	~9,500
			Lower division: Fine-grained quartzite	unknown
		Base not exposed		

From: Reesor, 1973

Figure 4

REGIONAL GEOLOGY, CENTRAL PURCELL MOUNTAINS



ECONOMIC GEOLOGY

Most of the properties in the vicinity of the Deb Claim group have been investigated for silver-lead-zinc, although a few copper prospects are found and a few quarries are operated for barite.

PREVIOUS GEOLOGICAL MAPPING

The Deb property itself is entirely underlain by clastic rocks of the Precambrian Horsethief Creek Group, the upper formation of the Windermere System. The cited references pertain to published geological reports and/or maps which include parts of the property area.

1.	Mountjoy, E.W. et al 1979	McMurdo (west half), British Columbia Geological Survey of Canada Map 1502A (Geological Mapping at 1:50,000 scale, detailed only in Paleozoic outcrop areas, covers NTS 82N2 west).
2.	Reesor, J.E. 1973	Geology of the Lardeau Map area, east-half, British Columbia, GSC Memoir 369. (Geological report and geological mapping at a 1:250,000 scale covering NTS area 82K east).
3.	Wheeler, J.O. 1961	Rogers Pass Map-Area, British Columbia and Alberta, GSC Paper 62-32 (Geological report and geological mapping at a 1:250,000 scale covering NTS 82N west).
4.	Wheeler, J.O. et al 1978(?)	GSC Open File 432. (Geological notes and geological mapping covering NTS 82K west).

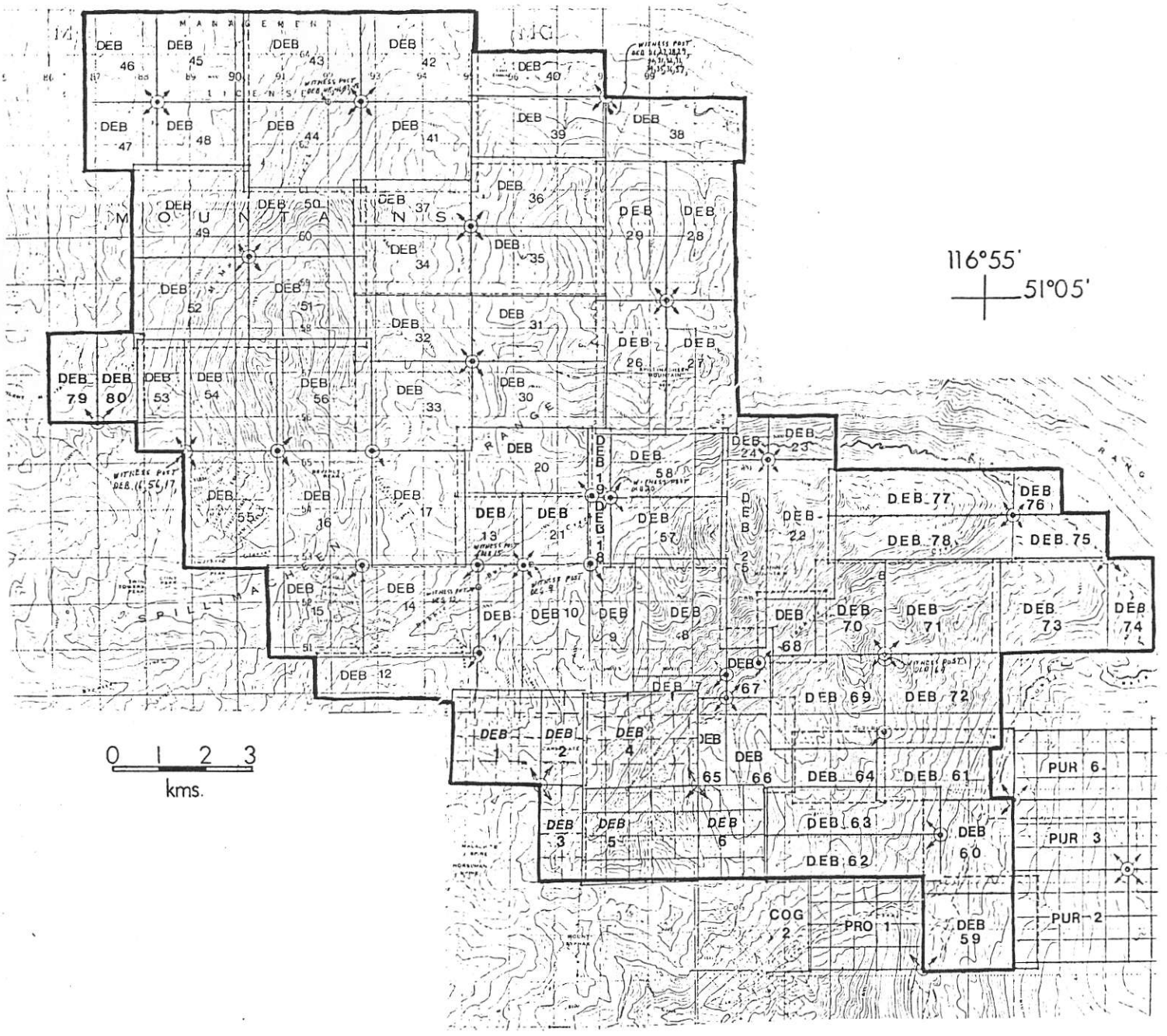
PROPERTY DEFINITION

The Deb property consists of 1,175 units, disposed in 80 claims, covering approximately 275 square kilometers (105 sq. miles) of mountainous terrain (Fig. 5). The property is 100% owned by First Nuclear Corporation (FNC) and was staked during the period September 1979 to March, 1980.

Shale/Carbonate-hosted silver, lead, and zinc mineralization is the principle exploration target on the property.

FIG. 5

CLAIM MAP, DEB PROPERTY



EARLY HISTORY

In the spring of 1979, Cochrane Oil and Gas reported the discovery of carbonate-hosted, base-metal and precious metal mineralization at Crystal Creek (Fig. 6). A hole drilled in 1977 was reported to have intersected 11 meters of stratabound sulfides and carbonates grading 5.5% combined Pb-Zn and 1.7 ounces Ag per ton (53 gms Ag/tonne). Two other mineralized zones, each approximately 3 meters thick, were reported to have been encountered in the same hole. On the merit of this discovery, Cochrane staked an additional ±1000 claim units in the area. The claims were subsequently optioned to Norcen Energy Resources Ltd. of Calgary.

In the summer of 1979, J. Stewart and William Bale of FNC examined the environs of the Ruth Vermont Mine, a former Ag-Pb-Zn producer located along strike and adjacent to the discovery at Crystal Creek (Fig. 6). The Ruth Vermont Mine is held under crown-granted claims by Ruth Vermont Mines Ltd. and is scheduled to resume operations in 1981.

The results of the reconnaissance by F.N.C. personnel suggested that the so-called carbonate "replacement" ore which comprises the bulk of the Ruth Vermont's reserves was probably stratabound and sygenetic in origin.

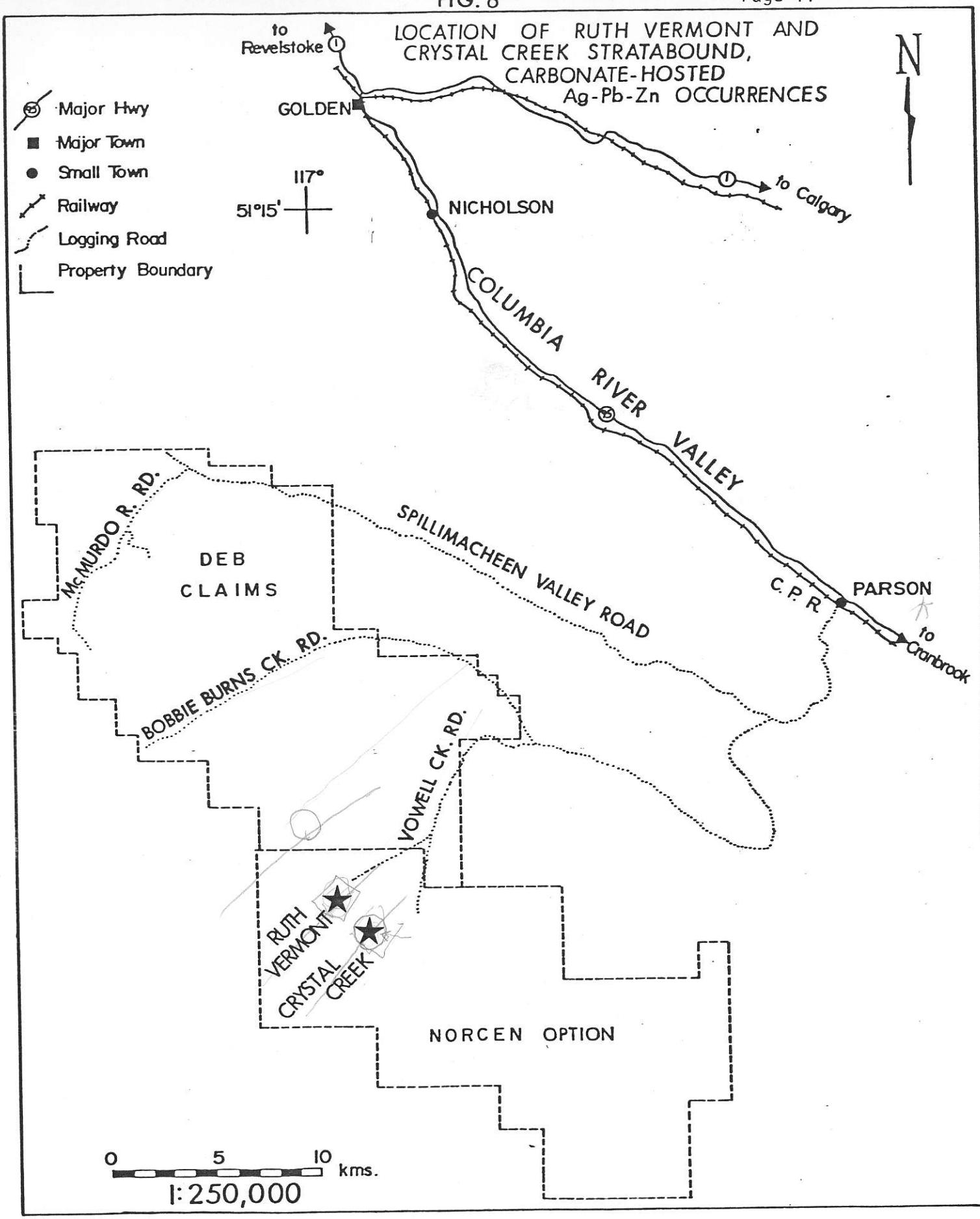
Recognizing the economic significance of the previously undocumented potential for shale/carbonate-hosted base metal mineralization in the region, further work was conducted in the autumn of 1979 to evaluate open ground to the north of Cochrane's claim group. This work consisted of a road-based soil and silt sampling program. Property acquisition was based upon a linear trend of Pb and Zn geochemical anomalies which appeared to represent an extension of the Crystal Creek - Ruth Vermont trend.

SUMMARY OF WORK DONE, 1980

Reconnaissance work conducted on the property by an exploration crew of 10 persons included geological mapping, prospecting, and multimedia geochemical sampling surveys. Work was carried out between May 15 and September 23, 1980.

The property was mapped at a 1:25,000 scale using airphotos and topographic maps for ground control. Mapping was restricted to areas of maximum exposure, i.e. cirques and valley floors.

FIG. 6


LOCATION OF RUTH VERMONT AND CRYSTAL CREEK STRATABOUND, CARBONATE-HOSTED Ag-Pb-Zn OCCURRENCES
N
to Revelstoke
GOLDEN
to Calgary
NICHOLSON
117°
51°15'
Major Hwy
Major Town
Small Town
Railway
Logging Road
Property Boundary
COLUMBIA RIVER VALLEY
McMURDO R. RD.
DEB CLAIMS
SPILLIMACHEEN VALLEY ROAD
C.P.R.
PARSON
to Cranbrook
BOBBIE BURNS CK. RD.
VOWELL CK. RD.
RUTH VERMONT
CRYSTAL CREEK
NORCEN OPTION
0 5 10 kms.
1:250,000

Approximately 4 stream sediment samples and 4 rock samples were collected per square kilometer on the property (total ≈2200 samples). All samples were analyzed for copper, lead, and zinc.

Prospecting carried out concomitant with the above surveys resulted in the discovery of 46 mineralized occurrences. These included 4 carbonate-hosted occurrences of lead-zinc mineralization (1 showing in outcrop), 6 carbonate-hosted occurrences of copper mineralization (4 showings in outcrop), and 36 vein-hosted occurrences of lead-zinc and/or copper mineralization (7 showings in outcrop). Over 200 mineralized rock samples were collected and analyzed for copper, lead, zinc, silver, and gold.

The base of operation for the summer program was a farm house near Parsons. Trucks were leased to transport personnel to the property. Work in the valleys was road-based, but rendezvous with the Golden-based Okanagan Helicopter was arranged for transportation of personnel to less accessible parts of the property.

The purpose of the summer program was to provide reconnaissance exploration coverage of the entire claim group in order to assess the economic potential primarily for shale/carbonate-hosted silver, lead, and zinc mineralization. Due to the large area to be covered and to the seasonal constraints of exploration, little or no detailed follow-up work could be conducted on the property in 1980.

SUMMARY OF PROPERTY GEOLOGY (FIG. 7)

The property is entirely underlain by fine-clastic and coarse-clastic rocks of the Horsethief Creek group, the uppermost formation of the Hadrynian Windermere series. Coarse-clastic rocks include grit, quartz pebble conglomerate, and quartzite. Fine-clastic rocks include slate and minor argillite. Carbonate beds, normally 15 to 30 meters thick, are most commonly found in the thicker sequences of black, pyritic slate. The total thickness of Horsethief Creek strata represented on the property is probably in excess of 2,000 meters (6600').

Graded beds, rip-clasts, ripple marks and paleochannels observed at various localities suggest a fluvial and probably deltaic origin for most of the clastic rocks on the property. The preponderance of green and grey rock colours suggests very limited exposure to a sub-aerial environment.

A different environment is indicated for at least two thick sequences (>300 m, 1000') of slate on the property. The slate in

these sequences is characteristically black and pyritic. Varvy, undisturbed beds are evidenced by sharp but often subtle colour variations. An offshore, basinal, euxenic environment of deposition is postulated for these rocks.

The principle structures on the property are a western anticlinorium, an east-central synclinorium, and an eastern high-angle, reverse- or thrust-fault. The anticlinorium and synclinorium are broad, open, north-northwesterly trending structures with amplitudes in excess of 3000 meters (10,000'), although in detail their limbs are complicated by subsidiary folds and drag folds. The two thick sequences of slate previously mentioned are exposed in the core of the anticlinorium and in the core of the synclinorium where they represent respectively the eldest and youngest rock units mapped on the property. The bulk of the carbonate beds found on the property are intercalated within these two sequences.

Cleavage is well developed in most rocks on the property, ranging from paper-thin cleavage in the slates to fracture cleavage in the coarser grained assemblages. Bedding is evident as colour variations in fine-clastic sequences or as compositional variations in the coarse-grained rocks. Both bedding and cleavage generally trend north-northwesterly. Dips are most often moderate to steep.

SUMMARY OF EXPLORATION RESULTS

Introduction

Exploration highlights are depicted in Fig. 7 which shows the following information.

a) Generalized geology and location of major structures.

b) Location of all top 2½ percentile anomalies for Cu, Pb, and Zn in stream sediments.

c) Location of all top 2½ percentile anomalies for Cu, Pb, and Zn in carbonate and shale.

d) Location of all the important mineralized occurrences found on the property.

e) Location of all crown granted claims within the Deb property boundary.

Locations are referenced by Easting and Northing based on the simplified version of the UTM grid shown on the Figure. The information is shown on a drainage base map to give an impression of topography.

Evidence for Shale/Carbonate-hosted Stratabound Pb-Zn Mineralization

Figure 7 shows that the older slate belt exposed in the core of the anticlinorium is the major target to further explore for stratabound Pb-Zn mineralization.

At the south end of the slate belt on the property, a train of Pb/Zn-in-sediment anomalies persists over a distance of two kilometers and is spatially associated with a number of carbonate-hosted occurrences and rock geochemical anomalies. In the area designated as Zone 1 (E:98.8, N:47.5), twelve visibly-mineralized carbonate samples were collected within a strike interval of 500 meters. These contained from 0.33 to 8.5% combined Pb-Zn. Four of the samples analyzed for silver contained 0.38 to 1.43 ounces Ag/ton (11.9 to 44.7 gms. Ag/tonne).

One mineralized outcrop was found in Zone 1. The exposure was 2.4 meters wide and contained a visibly-mineralized horizon about 0.3 meters thick. A sample containing 7.6% combined Pb-Zn was examined in thin section and identified as a pyritic, silty, sericitic dolostone. Very fine-grained (10 to 100 micrometers) galena and sphalerite are disseminated in the matrix. Although galena is readily identified in a hand sample, the sphalerite is almost impossible to spot against the grey colour of the host rock.

Another mineralized carbonate sample was found in float about 1 kilometer SE of Zone 1 (Occurrence A2). It contained 0.4% combined lead and zinc.

Indications of stratabound mineralization reappear at the north end of the slate belt. A carbonate float sample containing visible galena was collected at E:86.8, N:57.8 (Occurrence A3). In thin section, fine-grained galena and sphalerite were observed to be concentrated at the contacts between thinly-interbedded dolostone and limestone. No assay is available as the entire sample was retained for petrographic work.

In the same general area, two samples of apparently unmineralized carbonate float were collected which contained anomolous lead and zinc values. The sample collected from felsenmeer at E:87.3, N:56.5 contained 0.18% Pb and 0.69% zinc. The other sample was collected at E:88.8, N:57.5 and contained 0.61% combined lead-zinc.

It is interesting to note that the favourable slate belt, if extended southwards along strike, would intersect both the Crystal Creek occurrence and the Ruth Vermont Mine. High grade, carbonate-hosted, stratabound Ag-Pb-Zn mineralization has been found at both these localities. The Crystal Creek occurrence is presently being explored by Norcen Energy Resources Ltd. The Ruth Vermont, after an operational hiatus of six years, is scheduled to resume production in 1981.

One carbonate-hosted occurrence of lead and zinc was found outside of the favourable slate belt. The occurrence is situated at a summit close to the reverse or thrust fault at E:05.0, N:51.1 (Occurrence A4). Carbonate samples containing up to 1.3% combined Pb-Zn were found in float but could not be traced to outcrop. In thin section, a mineralized sample was identified as a fine-grained, ferroan to nonferroan dolostone. Galena and sphalerite are disseminated finely in the matrix and appear to be concentrated in iron-rich portions of the dolostone.

Three kilometers north and along strike of Occurrence A4, a train of Pb/Zn-in-sediment anomalies drains from a forested depression marking the presumed trace of the fault on the opposite side of the valley. Partially due to heavy forest cover and partly to the lack of geochemical results, this area was not adequately prospected during the 1980 field season.

Although no occurrences of visibly-mineralized carbonates were found in the younger slate belt exposed in the core of the synclinorium, interesting geochemical indications were found at the north end of the belt near E:89.0, N:64.0. These include:

i) A coincident Cu-Pb-Zn anomaly in carbonate float.

ii) A nearby zinc anomaly in carbonate float.

iii) Two adjacent Pb anomalies in stream sediments.

Economic Potential

The economic potential indicated by the presence of stratabound Ag-Pb-Zn mineralization on the property can be estimated by considering the grades and tonnages of other lead-zinc deposits in similar geological environments worldwide. Table 2 lists 26 significant lead-zinc deposits of the shale-hosted type. On average, the deposits contain 64 million tonnes of ore grading 12% combined Pb-Zn and 57 gms. Ag/tonne (1.8 oz Ag/ton).

TABLE 2 - SIGNIFICANT LEAD-ZINC DEPOSITS OF SHALE-HOSTED TYPE

Country and Deposit	Age of Host (m.y.B.P.)	Approximate Grade				Approx. Magnitude of Orebody Megatonnes	Surface Expression	Method Initial Discovery	Year of Discovery	Scatter
		% Pb	% Zn	% Cu	g/tonne Ag					
NORTH AMERICA										
Sullivan, B.C.	1500-1200	5.8	5.5	-	70	170	Ore outcrop	Prospector	1892	Isolated
Faro, Yukon	Cambrian	3.7	5.6	0.3	35	65	Geochem. anomaly	Geophysics, geochemistry	1965	Isolated
Vangorda, Yukon	Cambro-Ordovician	3.2	5.0	0.27	60	8.5	Geochem anomaly ore outcrop	Prospector, geophysics	1953	
Swim, Yukon	Cambro-Ordovician	4.0	6.0	-	45	5	Geochem. anomaly	Geophysics	1964	Same Province
Grum, Yukon	Cambro-Ordovician	4.1	6.4	-	60	25	Gravity and geochem. anomaly	Geology, geophysics	1974	
Tom, Yukon	Upper Devonian	8.2	8.4	-	95	10	Mineralized barite outcrop	Prospector, geology	1951	Isolated
Howard's Pass, Yukon	Mid-Ordovician	2.0	8.0	-	-	200+	Leached outcrop	Geology, geochemistry	1972	Cluster of deposits
Red Dog, Alaska	Mississippian	4.0	8.0	-	50	35	Iron stained outcrop	Prospecting, geology	1973	Isolated
AUSTRALIA										
Broken Hill, N.S.W.	1900-1800	10.0	12.0	0.1	75	200+	Gossan outcrop	Prospector	1883	Isolated
Mt. Isa, Queensland	1550-1400	7.0 -	5.0 -	- 3.0	150 -	(Pb-Zn)100 (Cu)200	Gossan outcrop	Prospector	1923	Same Province

TABLE 2 - CONTINUED

Country and Deposits	Age of Host (m.y.B.P.)	Approximate Grade				Approx. Magnitude Of Orebody Megatonnes	Surface Expression	Method Initial Discovery	Year Discovery	Scatter
		% Pb	% Zn	% Cu	g/tonne Ag					
Hilton, Queensland	1550-1400	7.7	9.6	-	180	40	No outcrop, pyritic gossan	Geology	1947	
Lady Loretta, Qld.	1550-1400	5.6	17.0	-	100	10	No outcrop, pyritic gossan	Geochemistry	1969	Isolated
Dugald River, Qld.	1550-1400	1.0	8.0	-	30	40	Gossan outcrop	Prospector	1881	Isolated
McArthur R., N.T.	1600-1400	4.1	9.5	-	44	200+	Leached outcrop	Geology, geochemistry	1955	Isolated
Cobar, N.S.W.	Mid-Late Silurian	0.8	2.2	2.0	25	30	Blind, near copper gossan	Geology	1871,1950	Same Province
Elura, N.S.W.	Mid-Late Silurian	5.8	8.4	-	135	30	No outcrop, leached	Geology, magnetics	1974	
SOUTH AFRICA										
Gamsberg, C.P.	Proterozoic ?1900	0.5	7.0	-	-	150	Hematite-barite outcrops		1974	
Broken Hill, C.P.	Proterozoic ?1900	4.2	2.3	0.4	50	80			1974	Same Province
Black Mtn., C.P.	Proterozoic ?1900	2.5	0.6	0.7	25	90			1974	
EUROPE										
Rammelsberg, Germany	Mid-Devonian	7.0	18.0	1.0	80	30	Gossan outcrop	Prospector	968	Isolated
Meggen, Germany	Mid-Devonian	1.5	10.0	-	-	60	Barite + Gossan outcrop	Prospector	1800's	Isolated

TABLE 2 - CONTINUED

Country and Deposits	Age of Host (m.y.B.P.)	Approximate Grade				Approx. Magnitude Of Orebody Megatonnes	Surface Expression	Method Initial Discovery	Year Discovery	Scatter
		% Pb	% Zn	% Cu	g/tonne Ag					
ASIA										
Roushk, Iran	Lower Cambrian	19.0	7.0	-	-	10	Pb-Zn carbonate outcrop	Prospector	Ancient	Isolated
Rajpura-Dariba, India	Lower Proterozoic	2.0	7.0	-	65	25+	Massive gossan	Prospector	400 B.C.	Isolated
Zawar, India		1.5	4.5		4	65				Cluster of deposits
USSR										
Zhairem	Upper Devonian						Entirely covered	Magnetics	1951	Isolated
Filizehai	Lower Jurassic						Outcrop			

The Mount Isa area in Australia typifies the geological setting and regional metallogenic trends often associated with such deposits. The Mount Isa Mine has produced an average of about 1 million tons of Ag-Pb-Zn ore a year since mining operations began in 1931. The average grade of ore has been 7.4% Pb, 5.8% Zn, and 5.7 ounces Ag per ton (178 g/tonne). The ore occurs in several horizons within the Middle Proterozoic "Urquhart Shale"; a thick (maximum 1000 meters, 3300 feet) succession of pyritic shale, dolomitic shale and siltstone.

The Hilton Mine is situated some 20 kilometers north of the Isa Mine. The Urquhart Shale is once again the host, although the succession in this area attains a maximum thickness of only 250 meters.

The occurrence of more than one stratabound deposit within a particular stratum is not unusual. Other examples include the Vangorda-Swim-Grum deposits in the Yukon and the Cobar-Elura deposits in Australia.

In the Deb property area, indications of stratabound mineralization extend over a strike interval of 25 kilometers, from the Crystal Creek discovery northwards to the northwest corner of the Deb Claim group. The potential for discovery of economic deposit(s) within this zone is considered excellent.

Other Occurrences

Other mineral occurrences worthy of note were located on the property.

To the west of Zone 1 at E:98.3, N:47.2 (Showing C1), a steeply dipping, mineralized quartz vein appears to be continuous for a distance of 500 meters along strike. The vein, which pinches, swells, and bifurcates along strike, varies in thickness from a few centimeters to 1.6 meters. The vein consists of the assemblage quartz, pyrite, arsenopyrite, sphalerite and galena. Thirty-six samples of vein material were collected and analyzed for Cu, Pb, Zn, Ag and Au. Only two samples contained greater than 1% combined Pb-Zn. The highest lead value was 0.45% and the highest zinc value was 20%. Silver and gold values are not available.

Two very high-grade float samples were found near the vein. One was a 30 kgm. boulder of 100% massive galena. It assayed 18.7 oz. Ag/Ton (584 gm/tonne). Another 3 kgm. boulder was found that contained 38% Pb, 6.4% Zn, and 17.5 oz Ag/ton (547 gm/tonne).

Since the vein itself does not contain much lead, it is evident that these boulders originated from another, as yet unlocated source.

A steeply dipping, chalcopyrite-bearing quartz vein was found near E:98.1, N:55.7 (Showing D2). The vein is well exposed in an upper and lower outcropping for a probable minimum strike length of 150 meters. The vein in the lower outcropping is two meters wide and is exposed in a stream bed. The best assay from 5 selected samples of high grade material was 1.16% Cu. About 105 meters upslope, the vein outcrops for 34 meters and varies in width from 0.6 to 3.0 meters. Six select samples contained 1.1 to 12.0% Cu.

Another chalcopyrite-bearing quartz vein, exposed for 50 meters and averaging 0.9 meters in width, was found at E:95.4, N:58.6 (Showing D1). An assay of 7% Cu, 0.4% Pb, and 0.4 oz Ag/ton (12 gm/tonne) was obtained on a select sample. Further assays are expected.

Four occurrences of copper in limestone were found in outcrop on the property. Best assays were obtained from Shwoing B1 at E:04.5, N:49.1. Eight spot samples collected from the occurrence contained from 0.04% to 1.70% Cu (average 0.57% Cu). The copper-bearing limestone bed is about 15 meters thick. Malachite was the only copper mineral identified, although very fine grained sulfides were observed in some samples.

PROJECT EXPENSES TO OCTOBER 31, 1980

Instruments	567.90
Plant & Equipment	6,389.53
Photography	2,008.14
Consulting	674.00
Staking	41,187.45
Analytical	11,526.45
Construction	1,065.02
Vehicle Rental & Expenses	22,155.93
Equipment Rental	2,962.05
Other Rentals	560.00
Air Transportation	44,741.80
Legal/Insurance	678.49
Licenses/Fees	515.00
Travel/Accommodation/Subsistance	17,196.17
Business & Promotion	381.78
General	17,351.36
Communication	3,072.86
Salaries	89,598.10
Employers Share of Benefits	1,122.66
Geophysical Contracts	862.40
Sub-Total:	264,617.09
15% Administration	39,692.56
	$304,309.65

RECOMMENDATIONS & PROPOSED EXPENDITURES

On the basis of the highly encouraging results of the 1980 field season, the following work program is strongly recommended for the 1981 season:

i. Grid-based (1:1,000) geological mapping and rock sampling in the vicinity of Zone 1.

ii. Detailed (1:10,000) geological mapping and rock sampling of slate and carbonate units exposed in the core of the anticlinorium.

iii. Detailed soil sampling in areas of known potential that are covered by overburden.

iv. Detailed prospecting and rock sampling in the vicinity of other interesting occurrences not fully evaluated in the 1980 field season.

v. (Contingent) test drilling in the vicinity of Zone 1 or other developed prospect.

vi. (Contingent) geophysical method testing and surveys in the vicinity of Zone 1 or other developed prospect.

An estimate of the expenditures required to carry out the recommended program is given below:

i.	Salary, Benefits & Bonuses		$64,100
ii.	Geochemistry		
	Rock Geochemistry	6500 samples x $5.75/sample	37,375
		500 samples x 11.25/sample	5,625
	Soil Geochemistry	2000 samples x $3.70/sample	7,400
	Analytical testwork		5,000
	TOTAL:		55,400
iii.	Helicopter		
	100 hours x $420.00/hour		42,000
iv.	Truck Lease		
	2 x 3 mos. x $1300/mo.		7,800
v.	Fuel		
	For trucks and helicopters		5,000
vi.	Radio Lease		
	$500 mo. x 3 mos.		1,500
vii.	Camp Supplies		5,000
viii.	Geological Supplies		3,000
ix.	Office Supplies		1,000
x.	Sustenance		
	800 man/days x $15 per man/day		12,000

xi.	Mobilization, Demobilization, Travel	3,000
xii.	Maps, Airphotos, Reproduction	3,000
xiii.	Land Acquisition	
	Say 100 claim units @ $75/unit	7,500
xiv.	Contract Linecutting	
	Say 60 line kms. @ $150 per line/km.	9,000
xv.	Overhead and Contingency	10,000
	TOTAL:	$235,000
xvi.	Drilling (Contingent)	
	Say 1,000 m @ $120/m.	120,000
xvii.	Geophysical Survey (Contingent)	10,000
	TOTAL WITH CONTINGENCIES:	$365,800

A diamond drill program is recommended in the 1982 field season presupposing the successful location of drill targets in 1981. No estimate of such expenditure is made at this stage.

REFERENCES CITED IN TEXT

1. Mountjoy, E.W. et al 1979 — McMurdo (west half), British Columbia Geological Survey of Canada Map 1502A.

2. Reesor, J.E. 1973 — Geology of the Lardeau Map area, east-half, British Columbia, GSC Memoir 369.

3. Wheeler, J.O. 1961 — Rogers Pass Map-Area, British Columbia and Alberta, GSC Paper 62-32.

4. Wheeler, J.O. et al 1978 (?) — GSC Open File 432.

51° 08'

117° 00'

SPILLIMACHEEN RIVER

TRUE & GRID NORTH

Mag. N

21°

SLATE & CARBONATES

DOMINANTLY

DOMINANTLY SLATE SOME CARBONATES

DOMINANTLY SLATE SOME CARBONATES

A3

D1

D2

A4

B1

A1 (Zone 1)

C1

A2

Mc MURDO CREEK

L6651 to L6656

LJ1630 to LJ1635

L 114 L 115

L3954

L 776 to L 779

L 1982 L 1002 L 1091

L3950 to L3953

L 542 L 543

BOBBIE BURNS CREEK

L 5116

L 652

MALACHITE CREEK

VOWELL CREEK

SCALE: 1: 25,000

Kms 0 1 2 3 Kms

Miles 0 1 2 Miles

LEGEND

TOP 2 1/2%ile ANOMOLIES IN STREAM SEDIMENTS

- Cu ≥ 78 ppm
- Pb ≥ 112 ppm
- Zn ≥ 178 ppm

TOP 2 1/2%ile ANOMOLIES IN ROCK

IN CARBONATE

- Cu ≥ 105 ppm
- Pb ≥ 1600 ppm
- Zn ≥ 1500 ppm

IN SLATE

- Cu ≥ 158 ppm
- Pb ≥ 2400 ppm
- Zn ≥ 580 ppm

- MAIN MINERALIZED SHOWINGS (refer to report)
- OCCURRENCE OF Pb & Zn in CARBONATE (FLOAT)
- APPROXIMATE AXIS OF ANTICLINORIAL STRUCTURE
- APPROXIMATE AXIS OF SYNCLINORIAL STRUCTURE
- REVERSE OR THRUST FAULT (teeth in direction of dip)
- APPROXIMATE CONTACT OF SLATE BELTS
- L. 5116 CROWN GRANT CLAIM & LICENSE NUMBER

FIRST NUCLEAR CORPORATION

PROJECT: 2480 DEB CLAIM GROUP

Exploration Highlights Map

DWG. NO. 1

N.T.S. 82K 14E, 15W 82N 3E, 2W

SCALE: 1: 25,000

DATE: 12/80

DRAWN BY: pmv

CHECKED BY: jb