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MINERAL INDUSTRY REPORT 1978

YUKON TERRITORY

BY

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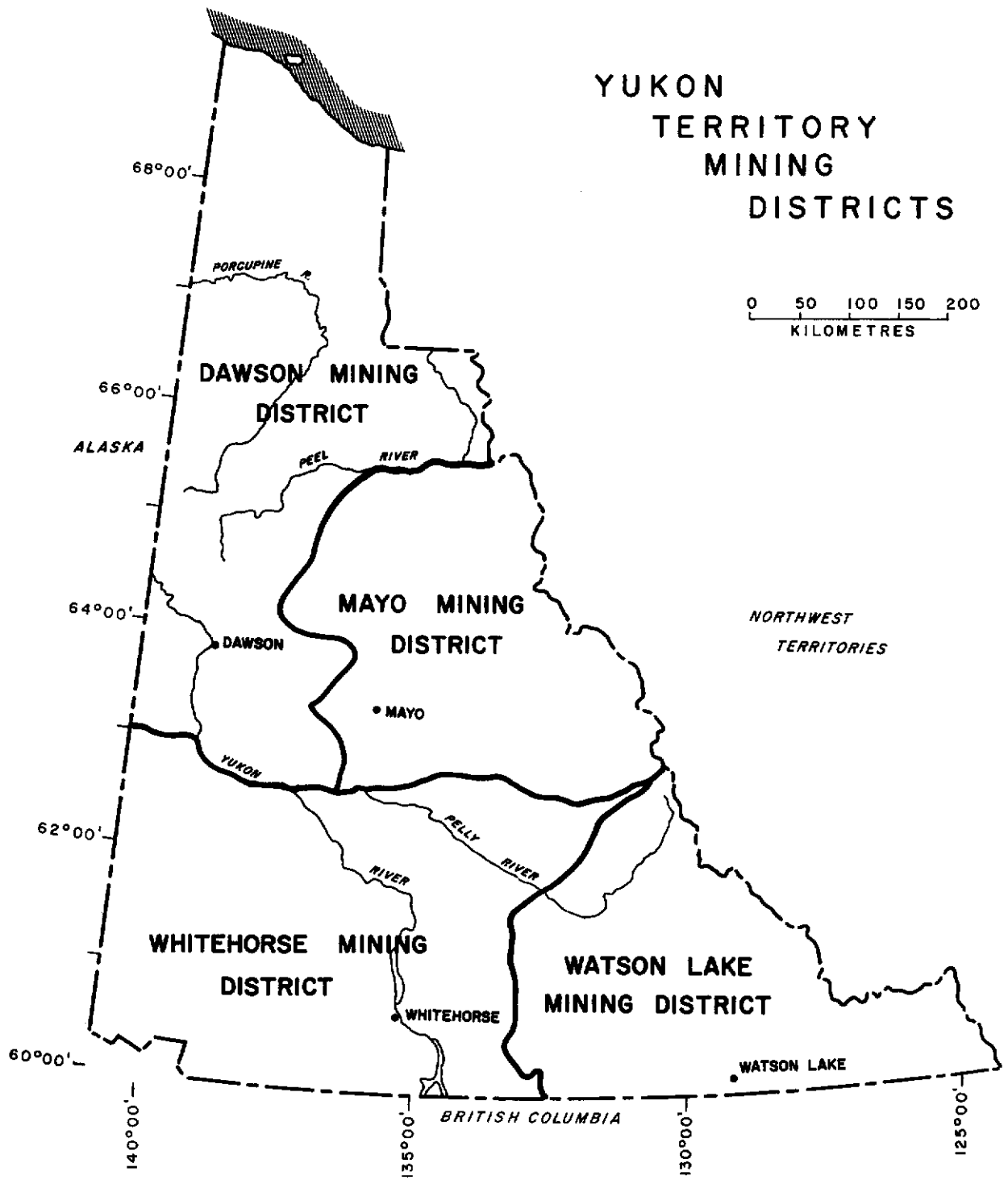
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INTRODUCTION

This report is a review of the Yukon mineral industry for 1978 by the Geology Section, Yukon, Northern Affairs Program, Department of Indian and Northern Affairs. It includes descriptions of work conducted on mineral claims by individuals and mineral exploration companies and operating summaries of the several producing mines in the Yukon. Earlier records of mineral industry activities are presented in the Annual and Summary Reports of the Geological Survey of Canada (1898 to 1933), Memoirs of the Geological Survey of Canada (1934 to 1940), Papers of the Geological Survey of Canada (1960 to 1968) and Mineral Industry Reports of the Department of Indian and Northern Affairs (1969 to 1977).

Information in this report was obtained largely from the geological, geochemical and geophysical reports accepted for credit as assessment work by the Department of Indian and Northern Affairs. In addition, it is based on visits to mineral properties, personal communication with individuals, technical reports, trade journals, newspapers, publications of the Geological Survey of Canada and the monthly reports of the District Mining Recorders. Information was also provided by exploration companies which completed and returned the questionnaires on each of the properties on which work was conducted. The cooperation of industry in this regard is gratefully acknowledged. A list of assessment reports, both confidential and those available for inspection, is included in the list of Technical Reports prepared by the Canada Center for Geoscience Data for the Department. These reports are listed by NTS locations and are produced annually. A bound edition of 'Index to Mining Assessment Reports' was produced in August of 1979. The assessment reports are currently released for public inspection six months after the claims (on which the work was carried out) have lapsed.

In this report, activities of the mineral industry are divided into lode mining and exploration and coal mining and exploration. Each of these sections is further subdivided into the separate mining districts in the Yukon (see the frontispiece). Individual properties in the various mining districts are then listed in order of their occurrence based on the National Topographic System. The location of each property is given by its National Topographic System designation of the 1:50,000 map-sheet in which the property lies and by the latitude and longitude of the centre of the property. In cases where a property involves a large number of claims or covers more than one NTS sheet, several latitudes and longitudes and more than one NTS designation are given. The name or names given to a property are generally the names of the claims that constitute the property. However, if there is a name by which a property was originally or formerly known and which is commonly used at present, then this name takes precedence. Company addresses have been consolidated and placed in a section at the end of this publication.

During 1978, M. Marchand carried out property examinations in the Whitehorse and Dawson Mining Districts. The study of the rock geochemistry of the Anvil District continued, as did research on the geochemistry and mineral chemistry of stratiform lead-zinc mineralization in the St. Cyr Range near Ross River. Dr. Marchand left the Section in February 1980. J.A. Morin continued geological mapping of the Mississippian volcanic belt south of Ross River. He made detailed examinations of several massive sulphide deposits hosted by Klondike schist and conducted property examinations of other mineral occurrences in the Mayo and Watson Lake Districts. D.B. Craig visited placer mining properties in the Yukon Territory, and lode mining and exploration properties in the Dawson Mining District. Dr. Craig left the Section in August, 1979. R.L. Debicki joined the Section in September, 1978. She compiled information for the annual index to Geoscience Data and the 1977 Mineral Industry Report, and undertook a variety of activities concerned with the H.S. Bostock Core Library. In addition she was active in geoscience education through school visits and evening prospecting courses. Dirk Tempelman-Kluit joined the Section in January, 1980, as Regional Geologist.

Geologists engaged in research activities wholly or partly supported by D.I.A.N.D. were as follows. Gary Delaney, a Ph.D. student, University of Western Ontario studied the stratigraphy of the lowest sequence of Proterozoic rocks exposed in the Yukon Territory, in the region between the Wind and Bonnet Plume Rivers. Felice Chronic, a M.Sc. student at the University of British Columbia, studied the geology and geochemistry of rare earth bearing skarns in the Seagull Creek area. Greg Morrison, a Ph.D. student at the University of Western Ontario continued work on the metallogeny of the Whitehorse Copper Belt. Pat Watson, a M.Sc. student at the University of British Columbia, examined the geology, geochemistry and geochronology of the RAM deposit in the Primrose Lake area.

Facilities of the Geology Section

The Geology Section sells topographic, geological, aeronautical, land-use, and Yukon land resource and inventory maps, as well as Geological Survey of Canada publications covering the Yukon and some adjacent parts of B.C. and the N.W.T. A library of government geological publications on Yukon and adjacent parts of British Columbia, Alaska and Northwest Territories, and other general geological books and journals is available for consultation. Some open file reports on the Yukon are also available for viewing. A sizeable collection (25,000) of air photos covering the Yukon from Latitude 60° to 65° is available for use in the office as is the latest catalogue of Yukon Air Photos from the National Air Photo Library. An updated computer list of good quality photos of the 1972-1979 satellite [LANDSAT] imagery of the Yukon is included in the Air Photo catalogue. A LANDSAT mosiac of the Cordillera and a collection of colour LANDSAT photos of the Yukon are available for consultation.

The H.S. Bostock Core Library, situated across the street from the Geology Section, contains drill core from various Yukon mining properties, some available for inspection and the remainder confidential. The core library also contains working quarters equipped with diamond saws, a core splitter, a vibrating polisher, rock staining facilities and fume hood. A petrographic microscope, with capabilities for both

transmitted and reflected light, and a binocular microscope are also situated in the core library. The Geology Section presently has the following technical equipment: McPhar Spectra 44 (four channel) gamma-ray spectrometer, ultraviolet lamps and two GR-101A scintillometers. The equipment and instruments are available for use by industry personnel on arrangement with the Regional Geologist. A Spillsbury and Tindall SBX-121 SSB Radiotelephone base station was installed in the office in 1979. Radio contact may be made on 4441 MHz at VGJ 391.

The office is staffed by three geologists who welcome visits by exploration personnel for exchanging information and arranging field visits of properties. The office is situated at 200 Range Rd. in the Takhini sub-division, about halfway between downtown Whitehorse and the airport, at the top of Two Mile Hill. The staff and their telephone extensions are listed below:

Dirk Tempelman-Kluit, Regional Geologist 136
Jim Morin, District Geologist 138
Ruth Debicki, Staff Geologist 139
Map Sales Office 140

Telephone - 403-668-5151 Telex - 036-8-342
Mailing Address:
Geology Section
Dept. of I.A.N.D.
200 Range Road
Whitehorse, Yukon
Y1A 3V1

MINERAL PRODUCTION OF YUKON

The value of mineral production in Yukon increased 4.0% from $219,460,113 in 1977 to $228,176,000 in 1978. The amount of gold, silver and lead produced increased, while the amount of zinc, copper, and asbestos produced decreased. The amount of cadmium produced in 1978 dropped sharply. The increase in the value of gold and silver produced reflects the 31% and 26% increases in the prices of the metals from 1977 to 1978, as well as increased production. Royalties were paid on 25,780 ounces (Troy) of placer gold valued at $5,747,298 in 1978, in addition to the mineral production reported in Table 1.

TABLE I

Mineral Production, Yukon Territory

		1977	1978
Gold*	$	4,656,118	7,354,000
	grams	921 907	1 026 000
	ounces (Troy)	29,640	32,987
Silver	$	20,154,760	29,405,000
	grams	127 415 000	148 000 000
	ounces (Troy)	4,096,550	4,758,383
Lead	$	47,627,667	65,466,000
	kg	68 621 900	80 643 000
	lb	150,968,180	177,412,400
Zinc	$	80,562,287	75,481,000
	kg	102 846 637	98 506 000
	lb	226,262,601	216,713,132
Cadmium	$	11,595	590
	kg	1 670	96
	lb	3,374	211
Copper	$	18,953,814	18,066,000
	kg	11 954 912	11 012 000
	lb	26,300,808	24,226,400
Asbestos	$	47,493,872	32,404,000
	tonnes	95 590	63 000
	short tons	105,369	69,445
Coal			
	tonnes	20 652	23 587
	short tons	22,765	26,000

*hard rock production only; placer excluded

Mineral Exploration Highlights, Yukon Territory, 1978

The number of quartz claims recorded in 1978 in the Yukon decreased by 20.6% to 9,740, while the claims in good standing increased by 7.1% to 41,967. Exploration expenditures were estimated at $18.0 million, approximately the same as spent in 1977.

TABLE II

Mineral Claims Recorded, Yukon Territory

Mining District	1974	1975	1976	1977	1978
Dawson	1,504	1,695	1,555	1,127	1,326
Mayo	6,038	2,086	4,390	2,749	2,777
Watson Lake	1,057	1,627	2,478	5,845	4,082
Whitehorse	4,867	3,454	1,934	2,545	1,555
Totals	13,466	8,559	10,357	12,266	9,740

TABLE III

Mineral Claims in Good Standing, Yukon Territory

Mining District	1974	1975	1976	1977	1978
Dawson	2,821	3,730	4,226	3,233	3,873
Mayo	11,305	9,764	11,701	12,209	12,755
Watson Lake	5,802	5,470	6,074	10,854	11,996
Whitehorse	16,724	16,735	12,969	13,502	13,343
Totals	36,652	35,699	34,970	39,798	41,967

Mineral exploration activity was strong in the Yukon in 1978. Quartz claims in good standing reached an all time high. Coal leases decreased slightly, from 36 in 1977 to 33 in 1978. A significant increase in regional exploration for tin, tungsten, molybdenum, gold, and uranium was noted in 1978. The level of exploration activity for zinc-lead deposits remained about the same as in 1977. Little effort was expended on exploration for copper.

In the Mayo area, CCH Resources conducted an extensive program of geological and geochemical exploration for tin. Cassiterite and scheelite mineralization have been discovered in stock works, fracture fillings and greisen bordering quartz veins in the Keno Hill Quartzite. In the Swift River area, considerable ground was staked in the early summer by Du Pont of Canada Explorations, with Duval as joint venture partner. D-C Syndicate, Amax and Welcome North Mines Limited were also active in claim staking and exploration in the area. Cassiterite has been found in greisen zones and breccia pipes within and peripheral to the Seagull Batholith.

Tungsten exploration was very active with several companies and joint ventures conducting regional programs in southeastern Yukon. The increased activity in tungsten exploration is probably due to the high price of tungsten and new models for the formation of tungsten deposits. North of Watson Lake, several new and old occurrences were examined. Placer Development and Essex Minerals had a major program of mapping, geophysics and 3 290 m of drilling on the CLEA-OMO property. In Dublin Gulch, northwest of Keno Hill, scheelite is found as a placer deposit in the stream channel; 4 535 kg of scheelite were produced in 1977. Canada Tungsten Mining conducted a churn drilling program on the gravels in 1978. West of Ross River, Risby Tungsten has conducted a program of trenching, geochemical and geological exploration on the CAB claims where scheelite is found in gneiss and calc-silicate horizons.

Amoco Canada Petroleum Limited had a major program of drilling for molybdenum on the BUG and GUB claims on Red Mountain. A quartz monzonite porphyry stock, intrusive into shale and quartzites, hosts mineralization in quartz vein stockworks and fractures. Five holes for a total depth of 1 920 m were drilled. An IP survey was also conducted over the claim groups. Amax continued drilling with two drills on the Logtung property on the Yukon-B.C. border, where they have outlined a large porphyry system containing molybdenum and scheelite in skarn and quartz vein stockwork.

Uranium exploration programs were carried out in several areas in 1978. In the Kiwi Lake area, Pan Ocean Oil Limited and Mountaineer Mines Limited conducted a drill program on the LOON and DEER claims. In the Tombstone Mountains, minor trenching and geological work were carried out by Urangesellschaft and Archer Cathro and Associates. Aquitaine Company of Canada continued work on their claim groups in the Blow River area. Some claims were staked south of Whitehorse by E & B Explorations and southwest of Dawson near the Alaska Border by Bethlehem Copper. Eldorado Nuclear worked on their claim groups near Isaac Creek, northwest of Carmacks. There was also a considerable amount of regional uranium exploration.

In the little exploration that was solely directed at copper mineralization, Whitehorse Copper Mines Limited continued work on their ACME-HOP group by drilling four holes and conducting 40 km of ground magnetometer surveys. In the Whitehorse Copper Belt they undertook a large program of IP and drilled 4 holes. Riocanex drilled 762 m on their LUCKY JOE prospect and 3 holes intersected low grade copper mineralization in quartz mica schist. IP and magnetic surveys were conducted by them on similar occurrences on the SPIKE and LIL claim groups. The Loon Lake Syndicate trenched on the LYNX claims where chalcopyrite and pyrite are found in quartzite adjacent to a quartzite-schist contact.

The Selwyn Basin continued to be the prime focus for lead-zinc-silver exploration in 1978. In the MacMillan Pass area, Hudson Bay Exploration and Development had a program on the TOM deposit consisting of gravity surveys and diamond drilling. The Ogilvie Joint Venture continued drilling the JASON property. These properties contain similar layered lead-zinc-silver-barite mineralization. Canadian Nickel Company drilled 8 holes on the HASTEN, BASIN and FETCH claims and Archer-Cathro drilled on the ESS group. Placer Development and Essex Minerals drilled 5 457 m on their ANNIV claims in the Howards Pass area. Cominco and Brinex were also active in the area. Utah Mines Limited carried out a major program of geological mapping and diamond drilling on the MAXI claims. Mineralization on the MAXI consists of concordant lenses and layers of galena-sphalerite within metamorphosed shale of the Road River Formation. In the same general area, Cominco staked claims and carried out geochemical and geophysical work. In the Pelly Banks area, there was also considerable activity. Kerr Addison Mines drilled several holes on their claims and the Pelly Banks Syndicate drilled 4 holes on the SHALE-RENO groups to test EM conductors. On the Al Carlos and Glen Harris EAGLE and FRED claims, a heli-borne EM-Mag survey and trenching were carried out. Du Pont of Canada Explorations had a drilling program of 305 m on the CZAR and LEACH groups and conducted a heli-borne EM-Mag survey over the LEACH-FAULT-CZAR-PATCHES and GAL groups. In addition, the sparse outcrops in this overburden covered area were mapped and a gravity survey was conducted. Du Pont continued the heli-borne surveys to include a portion of their groups situated closer to Ross River.

Across the Tintina Trench from Ross River, Welcome North Mines Limited continued work on their strata-bound zinc-lead showings in the St. Cyr Range. On the DEV claims, galena is found associated with iron and manganese rich sedimentary rocks. On the PMJ claims, the JA showing consists of layers of sphalerite within an argillaceous limestone and the SUNSET showing contains galena and sphalerite within an iron-manganese-rich bed. St. Joseph Explorations carried out some geological and geochemical surveys on the TOM and BOB claims in the Ross River area. In the central Pelly Mountains, exploration for sulphide deposits was carried out at a much reduced scale from the previous year. Newmont drilled 6 holes on the CYR group and 3 holes on the JOE group. In the Watson Lake area, St. Joseph Explorations drilled 7 holes for 1 050 m on the MEL lead-zinc-barite property. The ore reserves of the deposit were expanded to 4.8 million tonnes of 2.05% Pb, 5.61% Zn and 52.1% barite. The MEL is a horizon of coarse-grained galena-sphalerite-barite localized between Lower Cambrian limestone and Ordovician shale.

The Anvil area was quite busy in 1978. Cyprus Anvil Mining Corporation conducted an extensive program on their DY deposit by drilling 11 holes to the 550-600 metre depth. Cyprus Anvil geologists also continued their regional geological work in the district. On the north Anvil Range, Giant Yellowknife Mines drilled 4 holes on their KD group and Amax continued geological, geophysical and geochemical exploration on their claim groups in the Tay Mountain area. About 105 km northwest of Faro, Conwest Exploration drilled 17 holes for a total of 2 530 m on their SUE claims and intersected significant sulphide mineralization. Welcome North Mines and Getty Mines Limited conducted a small amount of geophysical and geological work on their claim groups in the Anvil Belt and Preussag Canada Limited drilled three holes on their CAT claims.

In the Kathleen Lakes area northeast of Mayo, dolomite breccia-hosted silver-lead-zinc mineralization was the target of several companies. Prism Resources discovered several new showings and Pan Acheron Mines retested already known showings with 22 drill holes totalling 1 555 m. In addition, Dejour Mines conducted a geochemical survey on the GLEN claims.

Several zinc-lead skarns were also investigated. Prospectors discovered a new showing near Becker Creek on the Wheaton River and United Keno Hill Mines discovered a similar type of skarn near Primrose Lake. It is open to question whether these are true skarns or whether the mineralization is an original constituent of the metamorphic schists in which they are found. D.C. Syndicate has outlined zinc bearing skarns on the GULL and SKARN claims and Welcome North Mines Limited have located several conformable calc-silicate skarn zones with sphalerite and galena mineralization on the MAY groups.

Exhaustion of ore reserves caused Cassiar Asbestos Corporation to close down the Clinton Creek asbestos mine in July 1978. Over its life from 1967 to 1978, the mine produced about 17 million tons of ore with an average grade of about 5.9% recoverable asbestos fibre.

Iona Silver Mines carried out work on two vein systems on their property located in the Ketza River Valley. A 3.7 m by 3.7 m vertical raise connecting the 700 and 800 foot levels was driven 6.4 m on the K-18 vein and a portal site was prepared at the 250 foot level with plans to drive in a 183 m cross-cut. In addition, 10 holes were drilled and some CEM horizontal shootback surveys were conducted.

The Pan Ocean Oil Limited and Mountaineeer Mines Limited joint venture had a 340,000 ha block of land in the Bonnet Plume Basin under coal leases. Coal seams were located at several places and 4 holes were drilled. The holes encountered coal at shallow depth ranging in thickness from 2.0 m to 8.8 m. Preliminary analysis of this coal showed it to be of low-ash thermal quality.

At the Tantalus Butte Coal Mine of Cyprus Anvil Mining Corporation, a fire necessitated the sealing of the mine and consequently, all underground operations were terminated. However, extraction from an open pit just north of the mine produced 19 050 tonnes of coal. In addition, some local exploration was carried out: 31 holes totalling 1 535 m were drilled with a rotary percussion drill and two bulldozer trenches were dug. Also searching for coal, Placer Development Limited conducted a drilling program in the Liard River Basin near Watson Lake.

Diamond drilling reports submitted for assessment credit during 1978 totalled 26 077 m, an increase of 16.4% over 1977. The reports of diamond drilling submitted to the various mining districts for 1976, 1977, 1978 and 1979 are summarized below. In many cases, they reflect work actually done the previous year.

TABLE IV
Diamond Drill Reports Submitted for Assessment Credit

Mining District	1976		1977		1978	
	holes	metres	holes	metres	holes	metres
Dawson	9	1 327	5	178	0	0
Mayo	122	7 444	54	7 106	77	6 329
Watson Lake	*	6 687	*	519	*	10 816
Whitehorse	*	14 287	*	9 312	73	8 932
Total		29 745		21 790		26 077

*number of holes not given in records.

MAYO MINING DISTRICT

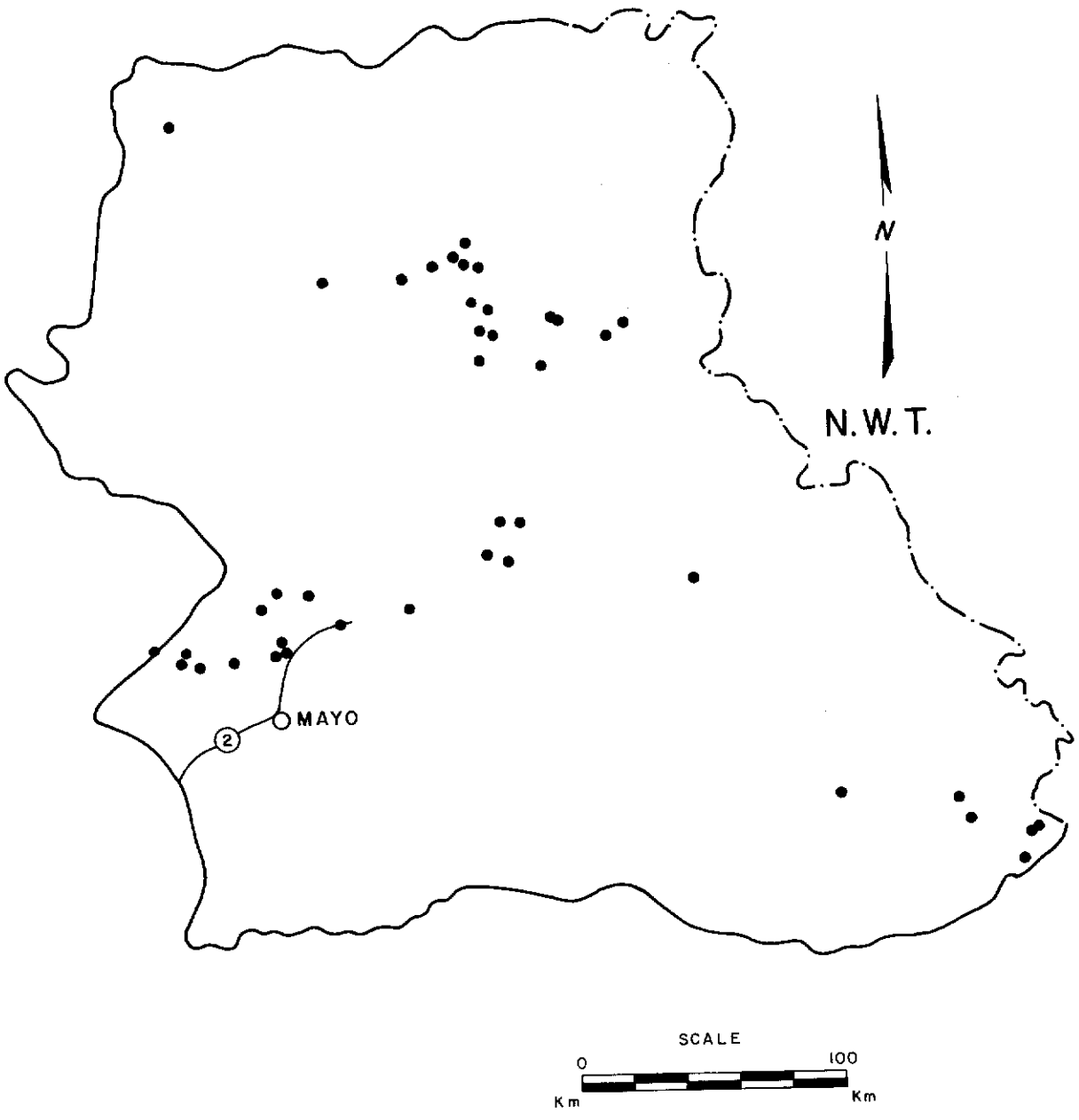

Figure 2: Active quartz claim properties in 1978, Mayo Mining District.

JOUMBIRA — Tin
CCH Resources Ltd. — 105 M 13 (63°51'N, 135°49'W)

References: Boyle (1965); Gleeson (1966 a,b,c, 1967 a,b); Morin et al (1979, p. 30).

Claims: JOUMBIRA 1-56

Location and Access:

The claims are located on the southeast slope of Mount Haldane, 30 km north of Mayo and 18 km southwest of Elsa.

History:

The claims JOUMBIRA 1 to 6 were staked in June 1977, 7 to 16 in July 1977 and 17-56 during June to September 1978. Work in 1977 consisted of prospecting and stream sediment geochemical sampling programs. Samples were analyzed for Cu, Pb, Mo, Ag, Zn, As, W and Sn and anomalous values in all these elements were reported.

Description:

The property is underlain by the Keno Hill Quartzite Formation which has been intruded by lenses and sills of mafic 'greenstone', thin granite and biotite-quartz porphyry dykes and numerous irregular quartz veins. Commonly, greisen occurs at the contacts of the quartz veins and intrusions with the quartzite country rock. Tin mineralization has been determined at two localities about 500 m apart. It consists of fine grained cassiterite and quartz distributed along thin fractures in quartzite. Tourmaline and chlorite are also present.

A K-Ar age of 89.0±2.6 m.y. has been determined for biotite from a biotite-quartz porphyry dyke at one of the showings (W.D. Sinclair, 1979, Personal Communication).

Current Work and Results:

During summer 1978, geological mapping (1:2,000), soil and rock geochemical sampling and hand trenching programs were conducted. About 1,500 soil samples and 86 rock samples (from trenches) were analyzed for Sn, W, Cu, Pb, Zn, Ag, Mo and As. Several anomalies were determined and Sn-W-Zn-Ag were found to be the most useful indicators of mineralization.

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Mount Haldane (Bighorn Gulch)
B. Way, H. Ewing — Silver, Lead; 105 M 13 (63°52'N, 135°52'W)

References: Boyle (1965); Findlay (1967).

Claims: PB 1-2; AG 1-14; JO, JOHN, MIDDLECOFF, LOWELL, GOPHER, WHISTLER, RICKY, DAWN, MIKE, ANDY

Location and Access:

The claims are located on the northwest side of Mount Haldane along Bighorn Gulch, about 30 km north of Mayo. Access is provided by road from the Halfway Lakes exit on the west side of the Mayo-Keno Hill road.

History:

The PB and AG claims are owned by B. Way and the JO, JOHN etc. claims by H. Ewing of Mayo. CCH Resources Limited conducted a reconnaissance investigation of the claims in 1978. The ground covered by the claims has an extensive background of mineral exploration and development related to silver-lead mineralization. Underground work was conducted in the period 1918-20 (Boyle, 1965, pp. 79-82) and 1966-67 (Findlay, 1967, pp. 23-24).

Description:

The property is underlain by the Keno Hill Quartzite Formation which has been extensively faulted and fractured. Mineralization consists of veins of argentiferous galena, sphalerite and siderite within the quartzite.

Current Work and Results:

During summer 1978, a reconnaissance soil geochemical sampling program was conducted. A total of 111 samples of fine scree material were collected at 50 m intervals along two lines across the claims. They were analyzed for Sn, W, Cu, Pb, Zn, Ag, Mo and As and several sporadic anomalies were determined.

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SUNDOWN — 105 M 13
C. Klippert — (63°50'N, 135°53'W)

Reference: Boyle (1965).

Claims: SUNDOWN 1-12

Location and Access:

The property is located on the southwest side of Mount Haldane, 30 km due north of Mayo. Access is by road from the South McQuesten Road(?) or by helicopter from Mayo.

History:

The claims were staked in 1970 and 1971. During summer 1978, the property was investigated by CCH Resources Ltd.

Description:

The property is underlain by sericite schist and a 4 m wide quartz-biotite porphyry dyke. The dyke has been much kaolinized and sericitized and is cut by chloritic (tourmaline-bearing?) veinlets. Mineralization consists of abundant arsenopyrite disseminated within the dyke.

Current Work and Results:

During summer 1978, preliminary grab sampling and geochemical soil sampling programs were conducted. No significant mineralization or anomalies were determined.

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United Keno Hill Mines Limited

Silver, Lead, Zinc, Cadmium
105 M 13, 14
(about 63°55'N, 135°29'W)

Selected References: Boyle (1957; 1965; 1968); Green and McTaggart (1960); Green (1966, pp. 10-17) Gleeson (1966 a,b,c; 1967 a,b); Findlay (1967, p. 18-21; 1969a, pp. 20-24; 1969b, pp. 10-12); Tempelman-Kluit (1970); Craig and Laporte (1972, pp. 11-13); Craig and Milner (1975, pp. 28-29); Sinclair and Gilbert (1975, pp. 9-11); Sinclair et al (1975, pp. 10-12; 1976, pp. 23-25); Morin et al (1977, pp. 108-110; 1979, p. 91); Blusson (1978).

Claims: 959 claims

Location and Access:

The properties situated mainly on Keno Hill and Galena Hill, are readily accessible by an all-weather road from Mayo, 52 km to the south. Ore concentrates are trucked 477 km to Whitehorse, then transferred to the White Pass and Yukon Route and shipped by rail to Skagway.

History:

Silver-bearing galena was first discovered on Galena Creek in 1906 and small tonnages of high-grade ore were shipped from 1913 to 1919. Following the discovery of the No. 9 vein by Louis Beauvette in 1919, which resulted in a stampede, numerous important prospects were located. Since then there has been almost continuous production from veins in the area, except for the period 1942 to 1946.

Description:

The area is underlain by graphitic and sericitic schist, phyllite and quartzite which have been divided into three units: a lower schist, a central quartzite, and an upper schist (Units 1, 2 and 3, Boyle, 1965). The age of the lower schist and central quartzite has been much debated. Formerly, they were considered to be Jurassic and Lower Cretaceous respectively, based on stratigraphic correlations (Tempelman-Kluit, 1970). However, recent work by Blusson (1978) demonstrates on the basis of lithological and structural similarities that the rocks are probably of Late Paleozoic age and may correlate with the Canol and Imperial Formations. The age of the upper schist is uncertain. Metadiorite and metagabbro, locally referred to as "greenstone", occurs as conformable lenses and sills in the lower schist and central quartzite. Granitic stocks of Cretaceous age outcrop northwest and southeast of Galena and Keno Hills and related quartz-feldspar porphyry dykes are present locally throughout the area.

The metasediments form the southern limb of a large, open anticline and dip gently to the southeast. There are two systems of steeply-dipping faults, one trending northeast and the other northwest.

The ore deposits consist of veins developed in dilatant zones in northeast-trending faults cutting thick-bedded quartzite and greenstone. The principal ore minerals are galena, sphalerite and freibergite. Gangue minerals include siderite and pyrite.

Current Work and Results:

In 1978, United Keno Hill Mines Limited operated six underground mines and one open pit mine in the Keno-Galena Hill area with a total production of 90,082 tons of ore averaging 35.7 ounces silver per ton, 5.5 per cent lead and 0.8 per cent zinc. Development work for 1978 is summarized below:

Mines	Production (tons)	Drifts & crosscuts*	Raises (ft)	Sub Drifts*	D.D. (ft)
Elsa	7,971	180	145	220	-----
Husky	32,439	881	181	602	2,291
No Cash	10,488	672	161	454	2,850
Dixie	2,378	327	41	---	-----
Keno	21,424	3,547	129	1,009	1,893
Ruby	3,489	2,535	106	---	-----
Totals	78,189	8,142	763	2,285	7,034

* (feet)

At the Dixie Mine, all accessible ore in operating stopes was mined out. Equipment was salvaged and the mine was sealed off. All other mines operated normally.

The Bermingham open pit produced 56,049 tons of ore of which 9,114 tons were milled. In addition, 1,491 tons of mill feed came from the Calumet dump and 1,041 tons of mill feed came from the Galkeno dump. Two hundred and forty-seven tons of low grade material were milled for Silver Spring Mines.

The overburden drilling program concentrated on several vein structures on Galena Hill. This work oulined extensive near surface mineralization which could be mined by small open cuts. Trenching on the Calumet 'C' structure exposed a 150 foot strike length of well mineralized vein.

SUMMARY OF OPERATIONS

	1978	1977	1976
Tons Milled	90,082	91,486	75,515
Daily Average (tons)	247	251	239*
Mill Heads:			
Silver (oz/ton)	35.7	35.5	35.5
Lead (%)	5.5	4.6	4.0
Zinc (%)	0.8	1.1	1.2
Metal Production:			
Silver (oz/ton)	2,917,456	2,914,406	2,369,770
Lead (lb)	7,603,472	6,274,592	4,909,101
Zinc (lb)	26,391	1,491,150	621,945
Cadmium (lb)	378	6,417	8,394
Metal Sales:	$18,162,909	$14,426,062	$12,070,299
Ore Reserves (tons)	109,698	125,953	100,977
Silver (oz/tons)	39.8	39.8	41.2
Lead (%)	4.9	4.8	4.8
Zinc (%)	0.9	1.1	1.3

*Adjusted for strike of 49 calendar days.

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HEART
G. McLeod

105 M 15
(63°59'N, 134°53'W)

References: Boyle (1965); Sinclair et al (1976, pp. 26-27).

Claims: HEART 1

Location and Access:

The property is located about 67 km northeast of Mayo on the southwest side of Mount Patterson and is accessible by helicopter.

History:

The property was originally staked in 1973 as the JACK claim and later in 1975 as the HEART. A property examination conducted in 1976 with a gamma ray spectrometer did not disclose any uranium mineralization.

Description:

The property is underlain by northerly trending rocks of Boyle's Unit 1 which dip gently to the east. They consist of interbedded massive dark grey amphibolite, biotite hornblende schist, phyllitic staurolite sericite schist and thinly layered micaceous sandstone.

Current Work and Results:

During summer 1978, a reconnaissance scintillometer survey and heavy mineral stream sediment survey were conducted. The higher radiation zones were ascribed to zones of increased potassium concentration and the two heavy mineral samples were found barren of any uranium minerals.

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JASON
Ogilvie Joint Venture

Zinc, Lead, Barite
105 O 1
(63°10'N, 130°10'W)

Reference: Blusson (1974a); Smith (1978); Carne (1976, 1979); Sinclair et al (1976, p. 28); Morin et al (1977, p. 114; 1979, p. 31).

Claims: JASON; MIKE; ACE: total of 234 claims

Location and Access:

The claims are located about 16 km southwest of Macmillan Pass, about 209 km east of Ross River along the North Canol Road. Access is by vehicle along the Canol Road or by wheeled fixed-wing aircraft to an airstrip immediately north of the claim group.

History:

The claims JASON 1-44 were recorded in August 1974 by Ogilvie Joint Venture, a consortium of Brinex, Mitsubishi and Ventures West. In July 1975, JASON 45-48 were recorded, as were also JASON 49-82, 84, 85-134, 141-160 in August 1975. JASON 135-136, 138-140 were recorded in March 1976; 161-176 in November 1975 and MIKE 1-2 in June 1976. Property work conducted in 1975 led to exploratory diamond drilling of seven holes for a total of 2,100 feet in October 1975 (Carne, 1976). In 1976, detailed geological mapping, geochemical soil sampling, geophysical and diamond drilling programs were conducted (total footage of 7,095 feet). In 1977, detailed geological mapping (1:3,000), gravity survey, diamond and rotary drilling programs were conducted.

Six diamond drill holes (HQ) totalled 4,609 feet and the 83 rotary drill holes 4,587 feet.

Description:

The property is underlain by argillite of the Ordovician-Silurian Road River Formation and argillite, conglomerate, black shale and siltstone of Devono-Mississippian age. A horizon consisting of bedded and spotty barite with associated lead-zinc mineralization occurs within the black shale unit at the same stratigraphic horizon as on the adjacent TOM property to the east. A more detailed account of the geology and mineralization is given in Carne (1979).

Current Work and Results:

In 1978, geological mapping, geophysics and diamond drilling programs were conducted. The property was remapped in detail at a scale of 1:5,000 and subjected to a facies analysis. A minor amount of gravity surveys was also conducted. Seventeen diamond drill holes (HQ) were bored for a total metreage of 3 082 m.

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FETCH, HASTEN, BASIN
Canadian Nickel Company Limited

105 O 1
(63°06'N, 130°12'W)

References: Blusson (1974a); Carne (1976, 1979); Morin et al (1979, p. 33).

Claims: FETCH 1-25; HASTEN 1-27, 28 Fr, 29-34; BASIN 1-26

Location and Access:

The claims are located in the Macmillan Pass area of the Selwyn Mountains, 168 km northeast of Ross River. Access is provided by way of the North Canol Road which transects the property and the Macmillan Pass airstrip is located 11 km north of the property. The claim group adjoins the south edge of the JASON property.

History:

Claims FETCH 1-20, HASTEN 1-24, BASIN 1-24 were staked in July 1976. Additional staking of FETCH 21-25, HASTEN 25-34 and BASIN 25-26 was carried out during June 1977. The earlier staked 68 claims were acquired under option by Canadian Nickel from Welcome North Mines in 1977, during which year geological mapping (1:2,400), geochemical soil sampling, magnetic and electromagnetic survey programs were conducted.

Description:

The property is underlain by the typical Devono-Mississippian sedimentary succession in the Macmillan Pass area (Carne, 1976, 1979):

Orange to buff weathering siltstone and fine-grained sandstone

Silvery weathering carbonaceous to siliceous shale, local barite horizons

Chert pebble conglomerate

Siliceous to carbonaceous shale and silty argillite.

Structure is complex and the rocks are faulted, isoclinally folded and intruded by a stock of horn-

blende biotite granodiorite. No mineralization other than barite was found on the claim group.

Current Work and Results:

During summer 1978, geochemical soil sampling and diamond drilling programs were conducted. Soil samples were collected on the western half of the claim group, with sample sites every 200 feet along lines spaced 800 feet apart. Eight holes were drilled for a total footage of 1,913 feet of BQ and NQ core.

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ARGO
Yumack Syndicate

105 O 1
(63°10'N, 130°10'W)

References: Blusson (1974a); Carne (1976, 1979); Morin et al (1979, p. 33).

Claims: ARGO 1-66

Location and Access:

The property is located in the Macmillan Pass area of the Selwyn Mountains, immediately north of the Macmillan Pass airstrip. Access is provided by the North Canol Road which closely parallels the southeastern border of the claim group. Claim groups surrounding the ARGO claim group are the JASON to the south, NIDD to the west and TOM to the southeast.

History:

The claims were staked in July 1976 by the Yumack Syndicate (Giant Yellowknife Mines Limited, Highwood Resources, Nemco, Canada Southern, J.D. Murphy). In 1977, geological mapping and geochemical stream sediment sampling programs were conducted.

Description:

The property is underlain by grey- to orange-weathering black shale of the Road River Formation and chert pebble conglomerate and black shale from the lower portion of the Canol Formation, all of which are complexly folded about northeast trending axes.

Current Work and Results

During summer 1978, prospecting and geochemical sampling programs were carried out. A total of 192 samples was collected in the form of rock, soil, stream sediment and water and analyzed for Pb, Zn, Cu. A coincident water zinc anomaly and stream sediment lead-zinc-copper anomaly was determined in the western portion of the claim group.

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KOBUK, NIDD
Cominco Limited

Barite
105 O 2
(63°13'N, 130°34'W)

References: Blusson (1974a; 1976); Carne (1976, 1979): Morin et al (1979, p. 34).

Claims: KOBUK 1-8; NIDD 1-40, 47-51, 55-58, 63-66, 70-73, 76-79, 81-85, 88-93, 95-101, 104-110, 115-122, 130-136, 138, 140, 142, 144-158, 160-161, 163, 165, 167, 169, 171, 173-179, 182-195, 198-237, 240-260, 275-278, 283-284, 300-346

Location and Access:

The claims form a 23 km long east-west trending block located 5 to 27 km west of Macmillan Pass airstrip and access is provided by helicopter from the airstrip. The KOBUK claim group is situated west of the central portion of the long NIDD group.

History:

The KOBUK claims were staked in August 1976, the NIDD 1-315 in October 1976 and the NIDD 316-346 in July 1977. That year, programs of detailed geological mapping (1:10,000), geochemical soil sampling and prospecting were conducted. Several coincident lead-zinc-silver anomalies and two major barium anomalies were determined.

Description:

The property is underlain by the following sequence of rocks:

IMPERIAL GROUP

Shale and siltstone, grey-brown weathering, thickly laminated pyritic rhythmite

Canol Formation

Shale - black, carbonaceous, siliceous, partly pyritic and/or baritic; Barite - massive, buff weathering, light grey;

Shale - silty, grey brown weathering; minor intraformational chert pebble conglomerate; shaly, pyritic mudstone

Road River Formation

Dolostone - conglomeratic, orange weathering
Limestone - black, silty, dark grey weathering (tentaculites and crinoids)
Shale - black, siliceous (minor monograptus)

Within the black carbonaceous shale on the KOBUK claim group, a barite horizon up to 75 m thick occurs about 80 m below the base of the overlying shale-siltstone unit. Bedded pyrite mineralization was noted in the lower part of the barite horizon.

The structure of the area is complex and consists of a series of anticlines and synclines with sinuous but roughly east-west trending axial traces. Along trend, the folds vary in shape, changing from open to isoclinal and from upright to overturned. On the KOBUK claims the rocks occupy the north limb of a large east-plunging syncline overturned to the south, whose axial plane trends easterly and dips moderately to the south.

Current Work and Results:

During summer 1978, geophysical survey and further geological mapping and geochemical soil sampling programs were conducted.

******

MV
British Newfoundland
Exploration Limited

Zinc, Lead
105 O 5, 6
(63°20'N, 131°35'W)

Reference: Blusson (1974a).

Claims: MV 1-160

Location and Access:

The property is located in the Hess Mountains, on the north side of the Hess River, 75 km west of MacMillan Pass. Access is provided by fixed wing float equipped aircraft from Mayo (230 km west) or Ross River (156 km south-southwest) to Niddery Lake and then by helicopter the remaining 6.4 km northwest to the property. In addition, a winter road (constructed in 1973 by Atlas Exploration Limited) starts at the Canol Road, 64 km to the southeast, and runs across the southern portion of the claim group.

History:

The claims were staked in October, 1977.

Description:

The property is underlain by sedimentary rocks belonging to an Ordovician to Middle Devonian sequence of the Road River Formation and the Upper Devonian "Black Clastics" unit. Less than one per cent of the rocks outcrop. An upper black chert to cherty shale, a middle pyritic fissile shale and a lower calcareous unit of interbedded black chert, calcareous shale and limestone here constitute the Road River Formation. The "Black Clastics" unit has a contact to the north of undetermined nature with the Road River Formation and consists of sandstone, siltstone, calcareous arenite and minor limestone. Thin beds with fossil debris and wood fragments are also present within the "Black Clastics" unit. Northwest trending isoclinal folds have deformed the sequence.

Mineralization consists of hydrozincite and smithsonite surface coatings and tetrahedrite-bearing nodules within the calcareous unit of the Road River Formation.

Current Work and Results:

During summer 1978, geological mapping (1:10,000), prospecting and geochemical soil sampling programs were conducted. Soil samples were collected at 50 m intervals along 90 km of lines spaced 200 to 400 m apart and analyzed for Pb, Zn, Cu, Ag, Mo, Mn, Fe, Co and Ni. Several multi-element (Pb, Zn, Mo) soil geochemical anomalies were outlined over areas underlain by the calcareous unit of the Road River Formation.

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HESS
Cominco Limited

Barite
105 O 7
(63°17'N, 130°38'W)

References: Blusson (1974a); Morin et al (1979, p.34).

Claims: HESS 1-48

Location and Access:

The claims are located in the Hess Mountains, 175 km northeast of Ross River. Access is provided by helicopter from the airstrip at Macmillan Pass, 20 km to the southeast. The HESS claim group surrounds the FAT, CITY, KAM, LORRAINE claims and abut on the southeast to the CHAS and CATHY claims.

History:

Claims HESS 1-8 were staked in August 1976, 9-24 in November 1976 and 25-48 in June 1977. That year, geological mapping (1:10,000), prospecting and geochemical soil sampling programs were conducted. Several anomalous zones of copper, lead, zinc, silver and barium were determined.

Description:

The property is underlain by sedimentary rocks of Ordovician to Devono-Mississippian age:

	DEVONIAN to MISSISSIPPIAN
Canol Formation	Conglomerate, sandstone, carbonaceous shale
	Middle to Upper SILURIAN Carbonaceous shale and cherty siltstone barite
Road River Formation	Lower to Middle SILURIAN Flaggy mudstone and siltstone, chert, shale, dolomite, barite
	Upper ORDOVICIAN to Lower SULURIAN Graptolitic shale and siltstone
	Lower to Upper ORDOVICIAN Predominantly dolomitic siltstone and sandstone; minor limestone, chert and shale

The sedimentary rocks have been intensely deformed and intrusive to the sequence are dykes of porphyritic (quartz) rhyolite and basalt which have thicknesses in the order of 5 to 20 metres.

Mineralization consists of a barite-witherite bed interbedded with the Middle to Upper Silurian carbonaceous shale-siltstone horizon and several other barite beds lying at slightly lower stratigraphic horizons. Some pyrite, sphalerite and galena mineralization was found associated with two of the barite occurrences.

Current Work and Results:

During summer 1978, further geological mapping and geochemical soil sampling programs were conducted.

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GLEN
Dejour Mines Limited
Nova-Co Explorations

106 C 2
(64°05'N, 132°40'W)

Reference: Blusson (1978).

Claims: GLEN 1-32

Location and Access:

The property is situated in the Nadaleen Range, 10 km northeast of Ortell Lake and 3 km north of the Stewart River. Access is provided by helicopter from Mayo 165 km to the west-southwest.

History:

The claims were recorded in July 1977.

Description:

The property is mainly overburden covered but has been interpreted to be underlain by sedimentary rocks of the Proterozoic "Grit Unit" that have been thrust to the north over dolomite, shale and chert of Lower Paleozoic age (Blusson, 1978).

Current Work and Results:

During summer 1978, a geochemical sampling program for silver, lead, zinc was conducted over the north-central portion of the claim group. A total of 64 soil samples and 7 stream sediment samples was collected and one area was determined to have an anomalously high zinc content.

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TOW
Wernecke Joint Venture

106 C 13
(64°50'N, 133°49'W)

References: Blusson (1974b); Delaney (1978).

Claims: TOW 1-16

Location and Access:

The property is located in the Wernecke Mountains on the west side of the Bonnet Plume River opposite the mouth of Dolores Creek. Access is provided by helicopter from Mayo, 170 km to the southwest.

History:

The TOW claims were staked in May 1978 by the Wernecke Joint Venture of Chevron Canada Limited and Aquitaine Company of Canada Limited managed by Archer, Cathro and Associates.

Description:

The property is underlain by dolomite and fine grained clastics of the Gillespie Lake Group that have been intruded by a diatreme breccia body (Delaney, 1978).

Current Work and Results:

During summer 1978, geological prospecting and airborne radiometric survey programs were conducted.

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OTTER
Mountaineer Mines Limited
Pan Ocean Oil Limited

Cobalt, Copper, Uranium
106 C 13
(64°59'N, 133°47'W)

References: Blusson (1974a); Delaney (1978).

Claims: OTTER 1-4

Location and Access:

The property is situated on the northwest side of Fairchild Lake in the Bonnet Plume Range of the Wernecke Mountains. Access is provided by float equipped fixed wing aircraft to Fairchild Lake from Mayo, 185 km to the southwest.

History:

The OTTER 1-4 claims were staked in July 1977.

Description:

The property is underlain by sedimentary rocks of the Fairchild Lake Group of Proterozoic age (Delaney, 1978). Here, they include silstone, dolomite, sandstone and limestone, the siltstone being host to a small intrusive breccia body. Several types of mineralization are present. Two veins of cobaltite and secondary erythrite occur in dark grey siltstone, the largest vein over 300 metres long, from 2 cm to 6 cm thick and conformable to the layering. In addition, massive chalcopyrite and secondary malachite occur within several pinch and swell veins in the siltstone and minor brannerite occurs associated with the breccia body.

Current Work and Results:

During summer 1978, preliminary prospecting and geological evaluation were conducted. A grab sample of the main cobaltite vein is reported to assay 4.75% Cu, 0.20% Ni, 0.007% U_3O_8, 0.01 oz/ton Ag and 0.018 oz/ton Au.

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FAIR
Energex Minerals Limited

Uranium, Copper
106 C 13
(64°57'N, 133°45'W)

References: Blusson (1974a); Delaney (1978).

Claims: FAIR 1-8, 10-11, 13-34

Location and Access:

The claims are located in the Bonnet Plume Range of the Selwyn Mountains, at the south end of Fairchild Lake. Access is provided by float equipped fixed wing aircraft from Mayo, 184 km to the southwest. A short tote road connects the camp on Fairchild Lake to the property.

History:

The claims FAIR 10 and 11 were staked in May 1974 for C. Boitard of Vancouver. In 1974, while under option to Menika Mining Limited, an airborne magnetic and VLF-EM survey was carried out. In addition, two diamond drill holes were located on EM anomalies located by the survey (now stored in H.S. Bostock Core Library, Whitehorse). In the spring of 1978, Energex Minerals Limited acquired the two claims and in May 1978, staked the additional claims, FAIR 1-8 and 13-34.

Description:

The property is underlain by sedimentary rocks of the Proterozoic Fairchild Lake Group (Delaney, 1978). Here they consist dominantly of argillaceous limestone with interbedded siltstone, phyllite and banded limestone that have been intruded by a porphyritic mafic dyke (see Figure 3). The dyke is dark grey and contains feldspars, biotite, hornblende, magnetite and associated copper mineralization. Adjacent country rocks have been brecciated and altered to chlorite-magnetite. They have a matrix of quartz and chalcopyrite and are mineralized with veinlets of chalcopyrite-magnetite. A diatreme breccia occurs in the area of DDH 1 and 2 (determined in drill core only).

Numerous faults and limeaments cut across the property, especially in NW and NE directions. These have much disturbed the attitude of the rocks, which generally trend in an east-west direction and dip moderately to the north.

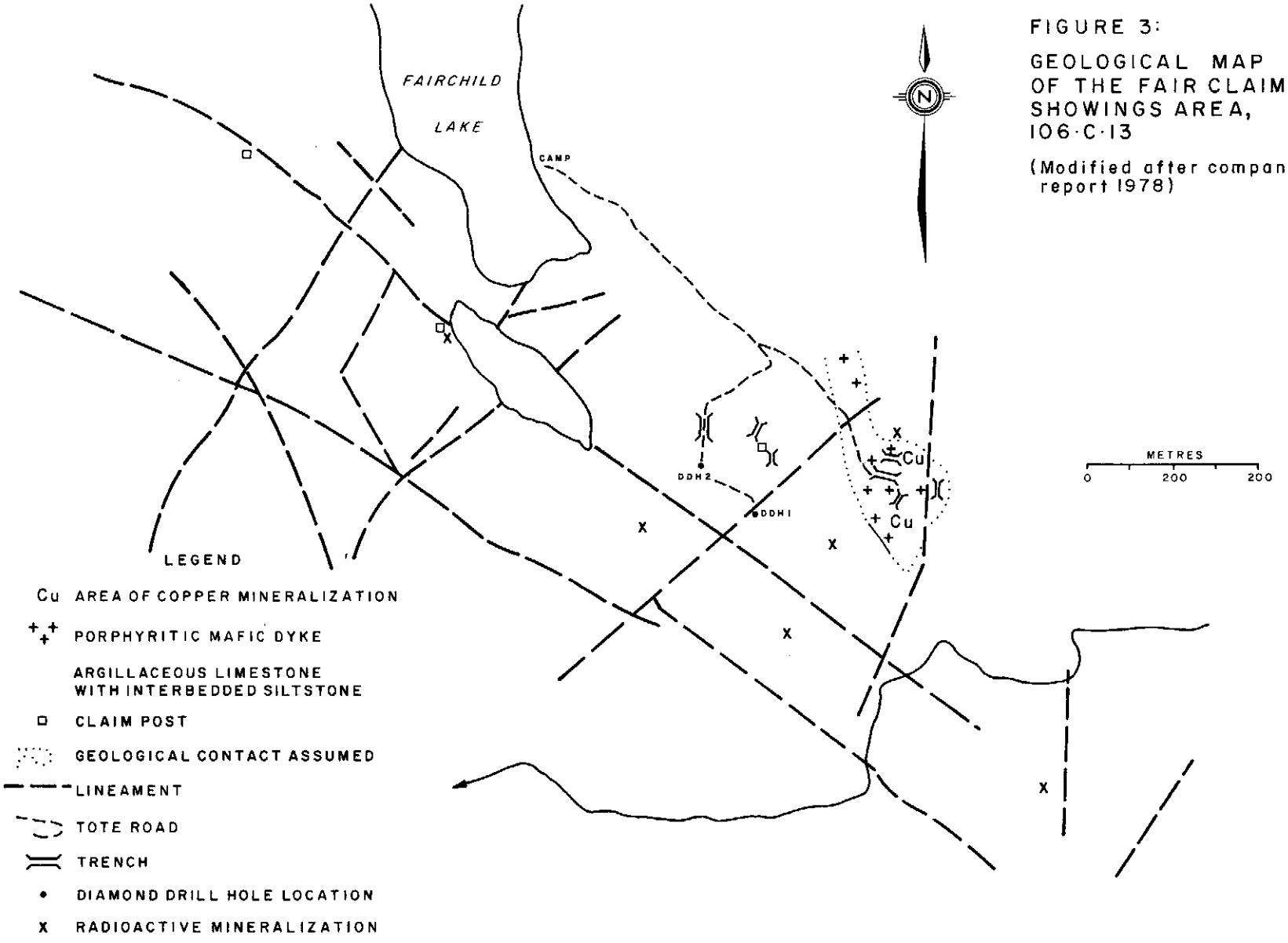

FIGURE 3:

GEOLOGICAL MAP OF THE FAIR CLAIMS SHOWINGS AREA, 106-C-13

(Modified after company report 1978)

Radioactive mineralization has been located in eight areas, generally in thickly bedded argillaceous limestone. The rock is highly feldspathized and hematized and is altered from its normal light grey colour to a salmon pink. Brannerite is the only uranium mineral identified to date. Adjacent to one radioactive showing, brannerite crystals up to 6 mm wide have been located in float.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), prospecting, chip sampling, geochemical soil sampling and ground spectrometer survey programs were conducted. The best reported chip sample is 0.061% U_3O_8 across a three foot interval. Soil samples were collected along two 40 m x 40 m grids and analyzed for uranium, with generally low results throughout. A northeasterly trending U/Th ratio anomaly was determined by the spectrometer survey on the eastern side of a similar trending lineament that passes through the collar site of DDH 1 (see Figure).

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RAM
Mountaineer Mines Limited
Pan Ocean Oil Limited

Uranium, Copper, Cobalt
106 C 14
(64°58'N, 133°11'W)

References: Blusson (1974a); Bell and Delaney (1977); Laznicka and Edwards (1979); Morin et al(1979, p.41).

Claims: RAM 1-48

Location and Access:

The claims are located in the Wernecke Mountains, 200 km northeast of Mayo and 25 km east of Fairchild Lake. Access is provided by fixed wing float plane to Fairchild Lake or by fixed wing wheeled craft to the Dolores Creek airstrip and from there, 8 km north to the property by helicopter.

History:

The claims were staked in November 1976, and during summer 1977, geological mapping, prospecting and preliminary water geochemical sampling programs were conducted.

Description:

The property is underlain by fine-grained clastics and carbonates of Proterozoic age that have been intruded by several breccia bodies. The older sedimentary rocks have been termed Units A, B, C by Bell and Delaney (1977) and Units Hs, Hsc by Blusson (1974a). Unconformably overlying these is younger Proterozoic green and maroon shale.

Numerous small and podiform zones of uranium mineralization occur. They consist of varying amounts of pitchblende, brannerite and secondary uranium minerals associated with the breccia bodies and adjacent altered rocks. Chalcopyrite, malachite and rarely cobaltite and erythrite occur associated with the uranium mineralization. A similar style of copper mineralization at the headwaters of Dolores Creek has been described by Laznicka (1979).

Current Work and Results:

During summer 1978, geological mapping (1 inch = 1/2 mile), prospecting, trenching, ground radiometric surveys and water, rock and soil geochemical sampling programs were conducted. Trenching on the main showing resulted in the removal of rock to a 1 m depth from a face 15.25 m long and 2 to 3 m high. The highest grab sample from mineralization newly exposed in the trench was 0.910% U_3O_8 and 0.38% Cu.

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ELK
Mountaineer Mines Limited
Pan Ocean Oil Limited

Uranium, Copper
106 C 14
(64°53'N, 133°20'W)

References: Blusson (1974b); Bell and Delaney (1977); Laznicka and Edwards (1979); Morin et al (1979, p. 41).

Claims: ELK 1-90

Location and Access:

The property straddles Dolores Creek in the Bonnet Plume Range, 190 km northeast of Mayo and 22 km southeast of Fairchild Lake. Access is provided by wheel equipped fixed wing aircraft to the Dolores Creek airstrip and then by helicopter or foot the remaining 4 km southwest to the property.

History:

The claims were staked in November 1976. During summer 1977, reconnaissance geological mapping (1: 50,000), prospecting and reconnaissance water geochemical sampling programs were undertaken.

Description:

The property is underlain by fine-grained clastics and carbonates of Proterozoic age termed Units A, B, C by Bell and Delaney (1977) and Hs, Hsc by Blusson (1974b). Unconformably overlying these rocks is a thick sequence of younger Proterozoic sedimentary rocks. Intrusive to the older rocks are several breccia bodies similar to the bodies described by Laznicka on the adjoining Bonnet Plume River Mines property to the north (Laznicka, 1979).

Mineralization consists of fine-grained chalcopyrite and brannerite disseminated throughout a small breccia body with siltstone and dolomite fragments.

Current Work and Results:

During summer 1978, geological mapping (1 inch = 1/2 mile), and water (21) and soil (32) geochemical sampling programs were conducted.

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BAG
Prism Resources Limited

Lead, Zinc
106 D 1
(64°10'N, 134°07'W)

References: Green (1972); Blusson (1978); Morin et al (1979, p. 42).

Claims: BAG 1-80

Location and Access:

The property is located in the Nadaleen Range south of the Rackla River 120 km northeast of Mayo and

6 km southeast of Kathleen Lakes. Access is provided by helicopter.

History:

The BAG 1-80 claims were staked in April 1977 and subsequent follow-up work in that year led to additional tie-on staking of the BAG 81-109 claims. Follow-up work on these additional claims produced negative results and they were allowed to lapse. Work in 1977 consisted of geological mapping, prospecting, geochemical soil sampling (Pb, Zn, Ag) and EM survey programs which resulted in the determination of several anomalous areas.

Description:

The property is underlain by an east-northeast trending sequence of sedimentary rocks. In the southeast portion of the claim group, rocks of the Upper Proterozoic "Grit Unit" are thrust to the north over younger rocks of the Paleozoic Canol and Road River Formations. The "Grit Unit" here consists of lithic sandstone, dark grey micritic limestone, quartzite, ankeritic and "zebra" textured dolomite and green and maroon shale. A body of fibrous serpentine occurs along the thrust contact. Black and carbonaceous shale with interbedded chert form the Canol and Road River Formations here and mineralization consists of several quartz veinlets with galena and sphalerite within black shale.

Current Work and Results:

During summer 1978, a detailed geochemical soil sampling program for lead, zinc and silver was conducted. A total of 294 samples was collected employing 50 m intervals along lines spaced 50 m apart. Several anomalies were determined.

******

KATHY — 106 D 1
Prism Resources Limited — (64°12'N, 134°19'W)

References: Green (1972); Blusson (1978).

Claims: KATHY 1-8

Location and Access:

The claims are located in the Ogilvie Mountains, 8 km south of Kathleen Lakes. Access is provided by float equipped fixed wing aircraft from Mayo, 110 km to the southwest, to Kathleen Lakes and from there by helicopter to the property.

History:

The claims were staked in July 1977 to cover a lead-zinc stream sediment geochemical anomaly associated with a large gossan.

Description:

The property is almost completely overburden covered and is believed to be underlain by fine grained clastics and carbonates of Ordovician to Mississippian age that are in thrust fault contact with rocks of the Proterozoic "Grit Unit" to the south (Blusson, 1978).

Current Work and Results:

During summer 1978, a geochemical soil sampling program for lead, zinc and silver was conducted. Samples were collected at 50 m intervals along lines spaced 150 m apart. Other than several high zinc values over the gossan, no anomalies were determined.

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PESO, REX — Silver, Lead, Antimony
Peso Silver Mines Limited — 106 D 4
(64°01'N, 135°58'W)

Reference: Green (1972, pp. 134-137).

Claims: REX 1-8; PESO 1, 2, 7, 8, 11, 12; MIC 1-4, 6-8

Location and Access:

The property is situated in the Ogilvie Mountains, 5 km northwest of Haggart Creek and 47 km north of Mayo. Access is provided by a tote trail leading off the Haggart Creek road near Dublin Gulch.

History:

The property has been explored intermittently since early in the century and is well documented in Green's memoir (1972).

Description:

The property is underlain by micaceous quartzite, phyllite and schist of Precambrian and/or Cambrian age (Green, 1972). Small porphyritic granitic sills are also present. Silver, lead and antimony mineralization occurs in two main vein zones, one each on the PESO and REX claim group.

Current Work and Results:

During fall 1977, two trenches were dug on the REX claims and ten trenches on the PESO claims. On the REX claims, one trench traced the vein zone for a length of 275 feet and the other cut across a projection of the vein trend. The latter trench encountered a possible faulted offset of the main vein zone, a grab sample from which was reported to assay 7.92 oz/ton Ag and 0.005 oz/ton Au. On the PESO claims, ten trenches were dug across a northeasterly trending fissure-vein zone south of the older main workings. The best chip sample reported was 0.42 oz/ton Ag and 0.003 oz/ton Au over 4.5 feet.

******

MAR — Tungsten, Tin
Queenstake Resources Limited — 106 D 4
(64°02'N, 135°43'W)

References: Little (1959); Craig and Laporte (1972); Craig and Milner (1975).

Claims: MAR 1-30; DG 1-56; R.D. ; JEFF 1-112; DAVE 1-24; SMOKY 1-82; BOB 1-73; ALEC 1-60: a total of 453 claims

Location and Access:

The property is situated along Ray Gulch of Lynx Creek on the south flank of Potato Hills in the McQuesten River area. Access is provided by a 3 km road from Dublin Gulch itself, 87 km north by road from Mayo.

History:

Considerable previous work has been performed on the property. Placer mining started in 1898 and sporadic lode investigations have been conducted by individuals and companies including Consolidated Mining and Smelting Company Limited (1945), Prospectors Airways (1960), Rio Plata Silver Mines Limited (1962) and Canex Placer (1970, 71).

The MAR 1-24 claims were staked in March 1977 and MAR 25-30 in September 1977 by Queenstake Resources over an area in which the Geological Survey of Canada had previously reported the presence of scheelite-bearing skarn (Little, 1959). Samples of a skarn zone discovered on the property in 1977 assayed up to 0.41% WO_3. During the spring of 1978, Canada Tungsten acquired the MAR claims from Queenstake Resources, the DG from Gordon Dickson, the R.D. from Ron Holoway and staked the additional JEFF, DAVE, SMOKY, BOB and ALEC claim groups.

Description:

The property is underlain by a granodiorite stock (Potato Hills Stock) that is intrusive to metasedimentary rocks - quartzite, phyllite, graphitic schist, limestone. Several types of mineralization occur on the property. A skarn zone in the order of 1,000 feet long and 25 to 30 feet average width occurs within the metasedimentary rocks. Its predominant minerals are diopside-amphibole-epidote and carbonate with minor scheelite and magnetite and no sulphides. A quartz vein scheelite-bearing stockwork occurs within the stock and a nearby small quartz monzonite plug. Gold mineralization is associated with a fault that is sub-parallel to the northwestern contact of the stock and biotite quartzites. Tin mineralization (cassiterite) is associated with tourmaline-quartz veins in phyllite in the Tin Dome area and also in a quartz vein stockwork in biotite quartzite peripheral to the quartz monzonite plug.

Current Work and Results:

During summer 1978, reconnaissance and detailed geological mapping, prospecting, soil, stream sediment and rock geochemical sampling, trenching and magnetometer survey programs were conducted. Geochemical samples were analyzed for tungsten, tin, gold and silver and a number of geochemical anomalies worthy of further study were identified.

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BUD, DAGO — Zinc, Silver, Lead
Pan Acheron Resources Limited — 106 D 8 (64°17'N, 134°10'W)

References: Green (1972); Morin et al (1979, p. 43).

Claims: BUD 1-28, 33-48; DAGO 3, 5; PAN 1-24

Location and Access:

The property is located in the Wernecke Mountains 115 km northeast of Mayo and 5 km north of Kathleen Lakes. Access is provided by helicopter from Mayo or by float plane to Kathleen Lakes and then by trail on foot.

History:

Since 1951, mineral showings on the property have received much exploration attention, including much bulldozer trenching and diamond drilling by three different companies (see Morin et al, 1979, p. 43). In 1977, hand trenching and geochemical soil sampling programs were conducted by Pan Acheron. Ten trenches showed the main zone to consist of about 1 to 6% Zn, 0.5% Pb and 0.3 oz Ag/ton across a 10 to 15 metre interval.

Description:

The property is underlain by a west-northwest trending sequence of orange weathering platy grey dolomite and dolomitic shale of Proterozoic age that is overlain by grey weathering, thick bedded limestone and dolomite of probable Ordovician age (Green, 1972).

Two mineralized zones have been determined in the orange weathering dolomite - the main zone which has been traced intermittently for at least 700 metres with an east-northeast trend and a steep dip to the south and a second sub-parallel zone about 400 m south of the main zone that has been traced by trenching for at least 500 metres. The main zone consists of fine-grained sphalerite and calcite in carbonate breccia with very minor galena.

Current Work and Results:

During summer 1978, geological mapping (1:2,000), geochemical soil sampling and diamond drilling programs were conducted. Soil samples were collected at 25 m intervals along lines spaced 50 m apart and analyzed for Pb, Zn, Ag on claims BUD 9-16, DAGO 3 and 5 and PAN 3-6. Twenty-two holes (BQ) were drilled for a total metreage of 1559 metres. The mineralized zone has been determined by drilling and trenching to trend N 65° E and is reported to be at least 1000 metres long. Collapse-type carbonate breccias with associated mineralization are irregularly distributed along this zone.

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ZAP — Silver, Lead, Zinc
Prism Resources Limited — 106 D 8, 106 C 5 (64°17'N, 134°02'W)

References: Green (1972); Blusson (1974b).

Claims: ZAP 1-16; ELITE 1-16; THRILL 1-8; TRUMPETER 1-8 and GRANDMA 1-16; a total of 64

Location and Access:

The property is located in the Wernecke Mountains, 6 km northeast of Kathleen Lakes. Access is provided by float equipped fixed wing aircraft to Kathleen Lakes from Mayo, 110 km to the southwest and from there by helicopter to the property.

History:

Claims ZAP 1-16 were staked in September 1977 and the remainder in October 1977. Work in 1977 consisted of geochemical soil sampling, chip sampling and geological mapping.

Description:

The property is underlain by sedimentary rocks of Late Proterozoic and Lower Paleozoic age (Blusson, 1979). The sedimentary rocks include quartzite, dolomite (orange, grey and black weathering varieties), brown weathering shale and a black carbonaceous shale.

Mineralization is reported to occur in four different styles: 1) tetrahedrite, barite and galena in brecciated portions of the carbonaceous shale; 2) sphalerite and galena in brecciated grey and orange dolomite; 3) veinlets of calcite-sphalerite-galena in brown weathering shale and 4) veinlets and veins up to 15 cm wide of massive galena and sphalerite.

Current Work and Results:

During summer 1978, geological mapping (1:10,000, 1:2,000), geochemical soil sampling, gravity survey, hand trenching, chip sampling, and diamond drill programs were conducted. A total of 1,505 soil samples was collected from two grids, sample intervals being 25 m or 50 m along lines spaced 25 m apart. Samples were analyzed for lead, zinc, silver and two major lead-zinc-silver anomalies were determined. Two positive gravity anomalies were determined, one of them coincident with a geochemical anomaly.

A total of 1,585 feet of BQ core was recovered from 1,730 feet of drilling in 5 holes on the central ZAP claim block.

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URSUS
Mountaineer Mines Limited
Pan Ocean Oil Limited

Uranium, Copper
106 D 16
(64°55'N, 134°15'W)

References: Green (1972); Bell and Delaney (1977); Morin et al (1977, pp. 101-107, 1979, p. 44).

Claims: URSUS 1-24

Location and Access:

The property is located in the Wernecke Mountains, 168 km north-northeast of Mayo. Access is provided by wheeled fixed wing aircraft to the Bear River airstrip, or by float equipped fixed wing aircraft to Quartet Lakes or Gillespie Lake, and then by helicopter the remaining respective 10 km to the north, 27 km to the south and 22 km to the north.

History:

The claims were staked in August 1976 for Mountaineer Mines Limited and majority interest in them was acquired by Pan Ocean Oil Limited in the fall of 1976. During 1977, geological mapping and prospecting programs were conducted.

Description:

The property is underlain by fine-grained clastics and carbonates of Proterozoic age termed Units 1 and 2 by Green (1972) and Units A and C by Bell and Delaney (1977). Several breccia bodies are intrusive to the sequence (Morin et al (1977, pp. 101-107).

Mineralization consists of chalcopyrite and brannerite disseminated within breccia matrix and adjacent altered country rock and also associated with quartz-feldspar veinlets in fractured country rock.

Current Work and Results:

During summer 1978, prospecting, chip sampling and geochemical soil, stream sediment, rock and water sampling programs were conducted. The best reported chip sample is 0.011% U_3O_8 across 3 feet of white silicified siltstone, the best grab sample being 0.212% U_3O_8 from brannerite-hematite mineralized breccia float in talus. Twenty seven water samples, 25 stream sediment samples, 140 soil samples and 24 rock samples were collected. Their uranium content had the following ranges respectively: 1.7 to 17.8 ppb, 2.0 to 7.0 ppm, 0.5 to 88 ppm and 0.5 to 3.0 ppm.

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ARCTOS
Mountaineer Mines Limited
Pan Ocean Oil Limited

Uranium, Copper, Cobalt, Barium
106 D 16
(64°56'N, 134°21'W)

References: Green (1972); Bell and Delaney (1977); Morin et al (1977, pp. 101-107; 1979, p. 44).

Claims: ARCTOS 1-16

Location and Access:

The property is situated in the Wernecke Mountains on a small tributary of the Bear River, 165 km northeast of Mayo. Access is provided by wheeled fixed wing aircraft to the Bear River airstrip or by float equipped fixed wing aircraft to Gillespie Lake or Quartet Lakes and then by helicopter the respective remaining 13 km south, 27 km north or 23 km south to the property.

History:

The claims were staked in September 1976. During 1977, geological mapping, prospecting and reconnaissance water geochemical sampling programs were conducted.

Description:

The property is underlain by fine-grained clastics and carbonates of Proterozoic age termed Units 1a, 2 by Green (1972) and Units B, C by Bell and Delaney (1977). Several breccia bodies are intrusive to the sequence that are probably responsible for much of the metasomatism that affects the black shale of Unit B.

Mineralization consists of several vein and pod-type occurrences of uranium, copper, cobalt and barium mineralization in the breccias and the Unit B metasiltstone. Copper occurs as disseminated and podiform chalcopyrite, disseminated bornite and secondary malachite, cobalt as finely disseminated cobaltite and secondary erythrite and barium as coarse crystalline barite. The uranium bearing mineral was not identified.

Current Work and Results:

During summer 1978, further geological mapping (1:12,000), prospecting and reconnaissance water geochemical sampling programs were conducted. The highest reported assay is 0.237% U_3O_8 from a chip sample across 60 cm of chert. In addition, one grab sample is reported to assay 0.080% U_3O_8, 0.79% Cu and 0.27% Co. Two trenches were dug into the main showing area. In one trench, copper-uranium mineralization was encountered in faulted and fractured shale.

FACE
Wernecke Joint Venture

Uranium
106 D 16
(64°52'N, 134°20'W)

References: Green (1972); Morin et al (1977, p. 103, 126).

Claims: FACE 1-8

Location and Access:

The property is located on the north side of the Bear River, 176 km northeast of Mayo. Access was provided by helicopter from Fairchild Lake, 31 km to the northeast.

History:

The claims were staked in July 1976 to cover an occurrence of uranium float discovered by Eldorado Nuclear Limited during regional exploration with Wernecke Joint Venture (managed by Archer, Cathro and Associates). Work in 1976 consisted of detailed prospecting, radiometric survey and geochemical (Cu, Mo, U) soil sampling programs.

Description:

The property is underlain by argillite and quartz--itic argillite of Helikian age (Unit 1, Green, 1972) that have been intruded by a breccia body. Both the breccia and some of the surrounding argillite have been highly carbonatized.

Mineralization consists of brannerite along fractures within a siliceous border phase of the breccia.

Current Work and Results:

During summer 1978, airborne radiometric and hand trenching programs were conducted.

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RAD
Mountaineer Mines Limited
Pan Ocean Oil Limited

Uranium, Copper
106 E 1, 106 D 16
(65°00'N, 134°20'W)

References: Green (1972); Norris (1975); Bell and Delaney (1977); Morin et al (1979, p. 48).

Claims: RAD 1-24; BREAK 1-32

Location and Access:

The claims are located in the Wernecke Mountains, on the west side of the Bonnet Plume River valley, 175 km northeast of Mayo. Access is provided by float plane to Quartet Lakes and from there by helicopter, 15 km south.

History:

The RAD claims were staked in August 1976 and the BREAK claims in September 1976. Together they form a claim block with the RAD claims forming the western half and the BREAK claims the eastern half. In 1977, preliminary geological mapping, prospecting and geochemical water sampling programs were conducted.

Description:

The property is underlain by fine-grained clastics of Proterozoic age that have been termed Unit HO by Norris (1975), Units 1a, 1 by Green (1972) and Units A, B, by Bell and Delaney (1977). For the most part they consist of slaty to phyllitic mudstone and siltstone locally interbedded with dolomite. Intrusive breccia bodies occur in the western part of the group. Uranium mineralization occurs on the RAD claims where it consists of minor disseminated brannerite associated with a felsic pegmatite dykelet swarm in dark green phyllitic mudstone and minor brannerite associated with a fault in light grey siltstone. A continuous chip sample across 1.2 m of the latter showing was reported to assay 0.256% U_3O_8.

Copper mineralization occurs on the BREAK claims where it consists of chalcopyrite, malachite and azurite in thin quartz-calcite-dolomite veins within heavily fractured argillite (west showing) and quartzite (east showing). A continuous rock chip sample across 1.5 m of sedimentary bedding at the west showing was reported to assay 0.90% Cu and a similar sample from the east showing 1.80% Cu across 2.3 metres.

Current Work and Results:

During summer 1978, detailed geological mapping (1:12,000), prospecting, sampling and reconnaissance stream water geochemical sampling programs were conducted.

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WERNECKE
Wernecke Joint Venture

Uranium
106 E 1
(65°08'N, 134°23'W)

References: Norris (1975); Sinclair et al (1976); Morin et al (1977, pp. 130-131).

Claims: WERNECKE 1-12, 21-32, 41-42, 43-52, 72, 74, 76, 78, 80, 82 - a total of 42

Location and Access:

The property is located on Quartet Mountain about 193 km northeast of Mayo and access is provided by helicopter from Kiwi Lake, 13 km to the northwest.

History:

The claims were staked in June (1-42) and September (43-82) 1975 by Wernecke Joint Venture (Standard Oil Company of B.C. Limited, Aquitaine Company of Canada Limited). During summer 1975, the property was subjected to programs of geological mapping, soil geochemistry, and airborne and ground radiometric surveys. In 1976, the property was optioned to Eldorado Nuclear Limited and further geological mapping and ground radiometric prospecting programs were conducted. Subsequently, the property reverted to Wernecke Joint Venture (Chevron Canada Limited, Aquitaine Company of Canada Limited).

Description:

The property is underlain by Lower Proterozoic argillite, quartzite and metavolcanics (Unit HO, Norris, 1975).

Intrusive to the sequence is a polymictic breccia body which occurs locally as a pipe or as pods and discontinuous lenses. Clast material consists of pale grey to cream chert, dark volcanics and argillite with minor jasper and carbonate. The matrix is fine grained, grey, calcareous and occasionally pitted with rhomb shaped vugs, probably after siderite. Toward the margins of the body, the matrix commonly is dark brown and cherty. Within the country rock and margin

of the breccia bodies, a dolomite alteration consisting of abundant magnetite and some biotite is common. The altered rock is pale grey to cream and weathers to a deep red-brown colour. The entire sequence is intruded by lamprophyre and other dykes of mafic affinities.

Mineralization is exposed in felsenmeer only and consists of disseminated fine- to coarse-grained brannerite.

Current Work and Results:

During summer in 1978, geological mapping, airborne and ground radiometric survey programs were conducted.

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OTIS — Uranium
Archer, Cathro and Associates Limited — 106 E 1 (65°02'N, 134°24'W)

References: Norris (1975); Sinclair et al (1976); Morin et al (1977, p. 103, 126); Delaney (1978).

Claims: OTIS 11-20

Location and Access:

The claims are located about 193 km northeast of Mayo and are accessible by helicopter from Kiwi Lake, 23 km to the northwest.

History:

The claims were staked in June 1975 by Wernecke Joint Venture managed by Archer, Cathro and Associates Limited. During summer 1975, geological mapping (1 inch = 1/2 mile), soil geochemistry and radiometric survey programs were conducted and the property was optioned to Eldorado Nuclear Limited in 1976. In 1976, prospecting, minor trenching and detailed radiometric survey programs were conducted.

Description:

The area is underlain by rocks of Helikian age (Unit HO, Norris, 1975), and the property is mostly underlain by green metasedimentary rocks. This unit is in fault contact with a younger grey to black pyritic phyllite and argillite and both units have been intruded by a polymictic breccia containing fragments of chert, argillite and carbonate rocks set in a carbonate-rich matrix. Locally, some of the country rock has been altered to a grey-green to reddish calc-silicate. Two major faults (north trending and northwest trending) crosscut the property and along them, zones of brecciated country rocks occur that are cemented by quartz and chert with minor hematite and chlorite.

Mineralization consists of locally disseminated brannerite within the fault breccia zone and in small fractures associated with the fault. Two to 10 centimetre wide brick red haloes of hematite alteration commonly surround the brannerite.

Current Work and Results:

During summer 1978, an airborne radiometric survey was conducted. The survey was flown by a helicopter at a height of 50 m above ground level along elevation contours at intervals of 250 feet. Both the total count and uranium surveys showed good correlation to each other and exhibited anomalous response in areas of known mineralization. Thorium however, showed no specific pattern of response.

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RIN, KID, RIOX, MS
Rio Alto Exploration Limited — 106 E 1, 2 (65°10'N, 134°28'W)

Reference: Norris (1975); Morin et al (1979, p. 48).

Claims: RIN 1-24, KID 1-18, RIOX 1-30, MS 1-12

Location and Access:

The property is located 191 km north of Mayo and covers the northern half of Quartet Lakes. Access is provided by float equipped aircraft to Quartet Lakes.

History:

The KID, RIOX and MS claims were staked in February 1976 and the RIN claims in November 1976. Work in 1976 consisted of preliminary ground scintillometer survey and Track Etch cup placement programs. A radon anomaly was located by the latter program.

Description:

The property is mainly overburden covered but is indicated by Norris (1975) to be underlain by argillite of Lower Proterozoic Unit HO. A uranium mineralized breccia also occurs on the property.

Current Work and Results:

During summer 1978, prospecting, ground and airborne scintillometer, radon gas detection, detailed Track Etch and soil geochemical programs were conducted. The prospecting program discovered an outcrop of uranium mineralized breccia, a grab sample of which is reported to assay 0.07% U_3O_8. The scintillometer programs did not determine any anomalies and the radon detection survey was abandoned due to lack of consistency with previous Track Etch cup results. The 1978 Track Etch cup survey determined several erratic anomalies. Soil samples were analyzed for Cu, Mo, Fe and U with several non-coincident anomalies determined for U and Cu.

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Kiwi Lake — Uranium
Mountaineer Mines Limited
Pan Ocean Oil Limited — 106 E 1, 2 (65°12'N, 134°35'W)

References: Norris (1975); Bell and Delaney (1977); Morin et al (1977, pp. 101-107, 1979, pp. 47, 49); Archer and Schmidt(1978); Delaney (1978).

Claims: CLAM 1-54; DEER 1-36; FOX 1-36; FROG 1-14; 17-38; LOON 1-284; MOSQUITO 1-24; OWL 1-20; POOL 1-335; WOLF 1-60; a total of 885

Location and Access:

The property is located in the Wernecke Mountains between Illtyd Creek and the Bonnet Plume River. It forms a crude east-west trending block over 30 km long and up to 11 km wide centred about Kiwi Lake, a small locally named lake at 65°12'N, 134°35'W (see Figure 4).

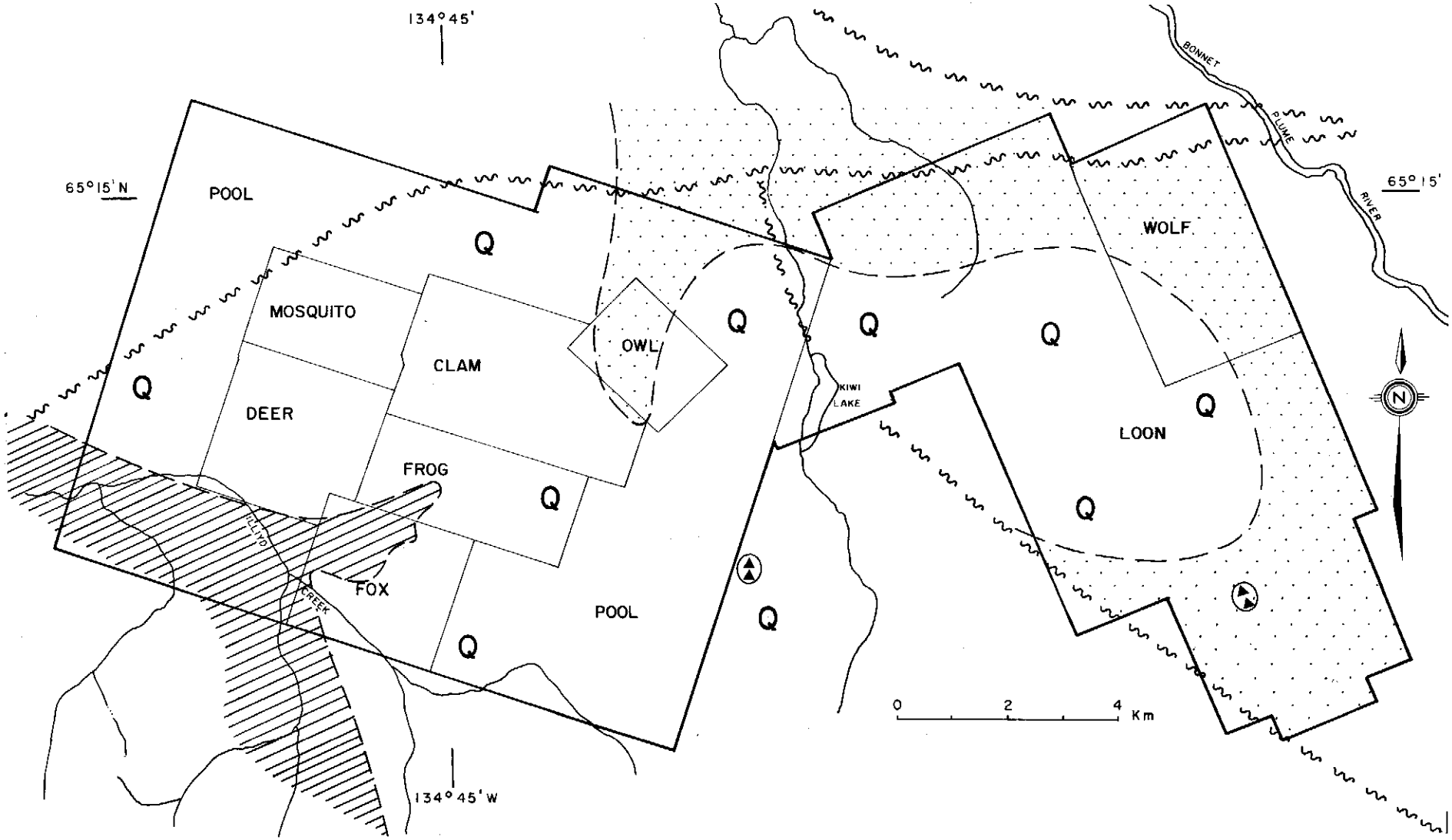

Figure 4: Claim Holdings and Geology of Pan Ocean - Mountaineer Mines in the Kiwi Lake Area, 106 E 1,2 (geology modified after Delaney, 1978)

Access is provided by float equipped fixed wing aircraft from Mayo to Kiwi Lake 191 km north-northeast and then by helicopter or foot to the property.

History:

Discovery of uranium mineralization in the Wind River-Bonnet Plume River area was made in the early 1970's by Archer, Cathro and Associates Limited. Subsequent prospecting by several interests resulted in the location of numerous uranium mineralized occurrences, mainly of brannerite and to a minor extent, pitchblende. Further showings were discovered as the result of a joint venture between Mountaineer Mines Limited and Pan Ocean Oil Limited that was operated in 1976, 1977 and 1978. A core group of 20 OWL, 36 FOX, 12 LOON and 60 WOLF claims was staked in late 1976 and to this, 757 claims were added in 1977 and 1978.

During summer 1977, geological mapping (1:12,000), prospecting, trenching and geochemical water, soil and stream sediment sampling programs were conducted. All flowing streams in the area were sediment sampled at 500 foot or 1,000 foot intervals (217 samples) and along with seepages and springs, were water sampled at reconnaissance intervals. Soil samples (512) were collected at approximately 200 foot intervals along reconnaissance style single line traverses.

Description:

The property is underlain by sedimentary rocks of Proterozoic age - the Fairchild Lake Group and Quartet Group (Delaney, 1978). A thick succession of moderately metamorphosed fine grained clastics with interbedded limestone constitutes the Fairchild Lake Group and a sequence of thinly interbedded slate and argillite with occasional quartzite beds forms the overlying Quartet Group. Erratically distributed throughout the sedimentary rocks are irregularly-shaped intrusive breccia bodies (Archer and Schmidt, 1978; Morin et al 1977, pp. 101-107).

Mineralization is of several types: 1) quartz-feldspar pegmatite dykes and stringers containing coarse crystals of brannerite on the LOON and DEER claims; 2) brannerite associated with chlorite, feldspar alteration along joint surfaces within silicified siltstone on the LOON claims; 3) secondary uranium mineralization within shear zones in chloritic siltstone on the DEER claims.

Current Work and Results:

During summer 1978, geological mapping (1:10,000), prospecting, geophysical survey, hand trenching, soil stream sediment and water geochemical sampling and diamond drilling programs were conducted. Two holes were drilled on the LOON claims (NQ core) for a total of 101.5 m and six holes on the DEER claims (HQ core) for a total of 544.7 metres.

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LOON, WOLF
Mountaineer Mines Limited
Pan Ocean Oil Limited

Uranium
106 E 1, E 8
(65°14'N, 134°28'W)

References: Norris (1975); Bell and Delaney (1977); Morin et al (1977, pp. 101-107, 1979, p. 47).

Claims: LOON 1-284; WOLF 1-60

Location and Access:

The property is located in the Wernecke Mountains, 195 km north-northeast of Mayo and 10 km north of Quartet Lakes. Access is provided by float plane to Quartet Lakes and then by helicopter to the property.

History:

The LOON claims were staked in September 1976 and the WOLF claims in November 1976. In 1977, geological mapping (1 inch to 1/2 mile), prospecting, trenching and reconnaissance geochemical stream water sampling programs were conducted. One trench was dug for a length of 82.5 feet and over 22 feet of this, uranium mineralization occurred sporadically.

Description:

The property is underlain by a succession of Proterozoic fine-grained clastics and carbonates termed Unit A by Bell and Delaney (1977) and Unit Ho by Norris (1975). Green chloritic phyllite with interbedded siltstone and dolomite and feldspathic quartzite are intruded by several small breccia bodies.

Mineralization on the LOON claims consists of brannerite associated with quartz-feldspar veins that are intrusive to the quartzite and green phyllite. The brannerite occurs in greatest concentration within the pink feldspathic contact alteration zone between the veins and the country rock. In addition, brannerite occurs as minor disseminated grains in feldspathic quartzite.

Current Work and Results:

During summer 1978, geological mapping (1:10,000), geochemical soil and reconnaissance stream water and sediment sampling, scintillometric, radon and magnetic survey, hand trenching and diamond drill programs were conducted. Two holes were drilled for a total footage of 333 feet.

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TAR
Archer, Cathro and Associates Limited

Uranium
106 E 2
(65°06'N, 135°00'W)

Reference: Norris (1975).

Claims: TAR 1-24

Location and Access:

The property is located in the Wernecke Mountains, on the north side of the Wind River and opposite Royal Mountain. Access is provided by float or ski-equipped fixed wing aircraft to Kiwi Lake, 190 km north-northeast of Mayo and from there by helicopter, 20 km southwest to the property.

History:

The TAR claims were staked in May 1978 to cover an area of anomalous uranium rock geochemistry.

Description:

The property is underlain by a lower Paleozoic sequence of shallow water carbonates with minor quartzite and slate interbeds (Norris, 1975):

Unit €Db (±2000m) - Ordovician to Silurian grey, massive and thick bedded dolomite.

Unit €ta (±100m) - Upper Cambrian thin bedded, argillaceous dolomite, commonly fractured with intraformational breccia, also contains minor thin beds of quartzite and/or maroon shale.

ANGULAR UNCONFORMITY

Unit €wr (800m+) - Middle Cambrian light grey, thick bedded, cherty dolomite

All units dip about 30° to the southwest and the unconformity between €ta and €wr increases in angularity from 10° at the TAR property to 30° southeast of the property.

No uranium mineralization has been identified but breccia zones within Unit €wr are radioactive. Breccia fragments exhibit a wide range in size, are usually angular to subrounded and are cemented by white calcite or less commonly white quartz. Minor pyrobitumen occurs in open vugs and traces of limonite commonly occur in the breccia matrix.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), prospecting, hand trenching, airborne and ground radiometric survey and geochemical soil sampling programs were conducted. The airborne survey consisted of a helicopter mounted spectrometer taking measurements along horizontal contours spaced at vertical elevation intervals of 150 m. Anomalous response from the total count and uranium channels was indicated over Unit €wr. The ground survey employed a scintillometer with measurements taken at 25 m intervals along lines spaced 100 m apart. Soil samples were collected at 100 m intervals along lines spaced 100 m apart, analyzed for uranium and several anomalies were determined over the lower portion of Unit €wr.

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PASS — Uranium
Archer, Cathro and Associates Limited — 106 E 2 (65°10'N, 134°45'W)

References: Norris (1975); Sinclair et al (1976, p. 68); Delaney (1978); Archer and Schmidt (1978).

Claims: PASS 1-24

Location and Access:

The property is located in the Wernecke Mountains near the headwaters of Illtyd Creek. Access is provided by helicopter from Mayo, 183 km to the south-southeast.

History:

Claims PASS 1-24 were staked in May 1978 and cover ground that was formerly held by Great Plains Development Company of Canada Limited as the YOGI claim group (Sinclair et al, 1976, p. 68). Work on YOGI in 1975 consisted of geological mapping and soil geochemical sampling for Pb, Zn, Cd. However, no significant anomalies were determined and the property was allowed to lapse.

Description:

The property is underlain by sedimentary rocks of Proterozoic age, the Quartet Group (Delaney, 1978), which here consists of interbedded black and green slate, argillite and quartzite. Discordant with the sequence are several elongate breccia bodies, which have locally bleached and altered the clastic sedimentarary country rocks.

Mineralization consists of patchy to disseminated brannerite within the breccias and their altered margins. The most interesting zone is a 400 m by 800 m area of weakly jointed and bleached shale lying between two breccia bodies.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), prospecting, airborne and ground radiometric survey, and geochemical soil sampling programs were conducted. The airborne spectrometric survey consisted of horizontal contour flights spaced at vertical elevation intervals of about 150 m. Several weak, poorly defined anomalies with twice background response were determined. The ground survey employed a scintillometer and measurements were taken at 50 m intervals along lines spaced 100 m apart. The anomalies were erratic and interpreted to be caused by isolated fragments of brannerite-rich float. A total of 471 soil samples were collected at the ground radiometric sites and analyzed for uranium. However, only a few weak anomalies were determined, possibly due to coarse grained brannerite not contributing to the minus 80 mesh size used for soil analysis.

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LWR — Silver, Zinc, Lead
Getty Mining Pacific Limited — 106 E 4 (65°05'N, 135°38'W)

References: Norris (1975); Lund et al (1977).

Claims: LWR 1-20, 33-46, 49-54, 67-80, 83-86, 88, 101-118, 131-145, 183-196, 199-202 - a total of 110 claims.

Location and Access:

The property is situated in the Wernecke Mountains and straddles a north-flowing tributary of the Little Wind River which lies 7 km north of the claim group. Access was provided in 1978 by float equipped fixed wing aircraft from Mayo 150 km north to Three Barrel Lake and from there by helicopter, the remaining 25 km northeast to the property.

History:

A total of 284 LWR claims were staked in August 1977 by Cordilleran Engineering on behalf of Getty Mining Pacific Limited, following evaluation of coincident Pb, Zn, Ag, Co and Ni geochemical anomalies published by the Geological Survey of Canada (Lund et al, 1977).

Description:

The property is underlain by sedimentary and volcanic rocks of Proterozoic age (Unit HO of Norris, 1975) that are overlain by Cambrian carbonates. The Proterozoic rocks consist of argillite with interbedded andesite, argillaceous dolomite and brown dolomite and the Cambrian rocks consist of limestone and dolomite.

Mineralization occurs within both the Proterozoic argillite and dolomite. In the argillite, clusters of 3 mm to 1 cm long ovoid blebs of sphalerite occur concentrated within thin horizons. Sphalerite also occurs in the argillite as fracture fillings and as fine disseminated grains along with minor galena and pyrite. Sphalerite colour ranges from red brown to dark brown to black and rarely yellow. In the dolomite, coarse grained galena and sphalerite occur within a locally fractured and brecciated zone. Lead isotope analysis of this galena indicates a model age of 1.15 b. yr. (W.D. Sinclair, G.S.C. Personal Communication, 1979).

Current Work and Results:

During the summers of 1977 and 1978, soil and stream sediment geochemical sampling, trenching, detailed and reconnaissance geological mapping and prospecting programs were conducted. Eleven trenches were dug on the showings, a total of 853 soil samples were collected along reconnaissance and detailed grids and analyzed for lead and zinc and detailed stratigraphic sections of the showings area were made. The stream sediment program agreed well with the anomalies determined by the earlier G.S.C. program (Lund et al, 1977).

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EPD — 115 P 9, 10, 15, 16
CCH Resources Ltd. — (63°45'N, 136°30'W)

Reference: Bostock (1964).

Claims: EPD 1-84

Location and Access:

The property is located on the southeast side of the McQuesten River and straddles Oliver Creek, opposite the mouth of Boulder Creek. Access is provided by helicopter from Mayo, 35 km southeast.

History:

The claims were staked in May and August, 1978 following the determination of high tin values in heavy mineral concentrates derived from stream sediments of Oliver Creek.

Description:

The property is underlain by metasedimentary rock of the "Yukon Group" (Bostock, 1964) - schist and interbedded marble and quartzite. These have been intruded by granite quartz-biotite porphyry and quartz veins (locally vuggy). Mineralized float includes breccia with values in Sn, Cu, Zn and Ag and quartz vein material with traces of galena.

Current Work and Results:

During summer 1978, reconnaissance and detail soil geochemical sampling programs were conducted. A total of 644 samples were analyzed for Sn, W, Cu, Pb, Zn, Ag, Mo and As. Several coincident anomalies were determined for Sn, Cu, Pb, Zn, Ag and As.

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SNARK — 115 P 15
CCH Resources Ltd. — (63°48'N, 136°39'W)

Reference: Bostock (1964).

Claims: SNARK 1-210

Location and Access:

The property is situated on the northwest side of McQuesten River and covers the drainage area of Boulder Creek from the East Ridge. Access is provided by helicopter from Mayo, 40 km southeast.

History:

The claims were staked in December 1977, following the determination of tin and tungsten-bearing heavy mineral concentrates from Boulder Creek.

Description:

The property is underlain by metasedimentary rocks of the "Yukon Group" (Bostock, 1964) which are extensively intruded by granitic stocks and dykes.

Current Work and Results:

During summer 1978, geological mapping (1:10,000) and soil and stream sediment geochemical sampling programs were conducted. A total of 970 soil and 81 stream sediment samples were analyzed for Sn, W, Cu, Pb, Zn, Ag, Mo and As. Several anomalous areas were determined.

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JABBERWOCK — 115 P 15
CCH Resources Ltd. — (63°48'N, 136°57'W)

Reference: Bostock (1964).

Claims: JABBERWOCK 1-24

Location and Access:

The property is located on the south side of West Ridge, east of Forty Mile Creek. Access is provided by helicopter from Mayo, 45 km southeast.

History:

The claims were staked in August 1978 following the discovery of high tin values in stream sediment samples taken at the head of Fortymile Creek. Abutting the claims to the northeast is the STERLING claim group owned by Silver Standard (10 claims).

Description:

The property is underlain by metasedimentary rocks of the "Yukon Group" (Bostock, 1964), here a monotonous pile of highly folded schist and interbedded quartzite and marble. Intrusive to these are several narrow granitic dykes which are locally brecciated, iron stained and accompanied by quartz veins.

Current Work and Results:

During summer 1978, reconnaissance soil (220) and stream sediment (4) geochemical sampling programs were conducted. Samples were analyzed for Sn, W, Cu, Pb, Zn, Ag, Mo, and As and anomalies for Sn, As, Zn and Ag were determined.

******

May Creek
J. Strebchuk

Silver, Lead
115 P 15
(63°46'N, 136°42'W)

References: Bostock (1964); National Mineral Inventory 506758

Claims: ORE 1-6

Location and Access:

The property is situated on East Ridge, 5 km northwest of the McQuesten River. Access is provided by helicopter from Mayo, 45 km to the east-southeast.

History:

Silver-lead mineralization was discovered on the property in 1931 and subsequent development work included trenches and a 40 foot adit (now caved in). The trenching in 1931 is reported to have exposed a vein zone six feet wide and 200 feet long, mineralized with argentiferous galena. Grab samples of material from a dump near the trenches and adit are reported to have assayed 2 to 25 oz/ton silver and 40 to 70% lead. The property is owned by J. Strebchuk of Vernon, British Columbia and was investigated by CCH Resources in 1978.

Description:

The property is underlain by quartzite and limestone that have been intruded by several granitic dykes. Mineralization consists of galena, malachite and smithsonite(?) in a massive vein and as matrix in a narrow breccia zone which occurs on either side of the vein. The vein is estimated by CCH Resources to be no more than 0.25 m in width.

Current Work and Results:

During summer 1978, detailed and reconnaissance geochemical soil sampling programs were conducted. Samples were analyzed for Sn, W, Cu, Pb, Zn, Ag, Mo and As.

******

Scheelite Dome
Cominco Limited

Tungsten
115 P 16
63°47'N, 136°15'W)

References: Bostock (1964); Green (1971); Craig and Milner (1975, p. 23).

Claims: SUN 1-112; GLOW 1-33 34, 36-58, 60-86, 88, 89 and 125

Location and Access:

The property is located on Scheelite Dome, 30 km northwest of Mayo. Access is provided by road from Mayo to the Highet Creek road, then along the Highet Creek road to the saddle between Highet and Johnson Creeks, and then along a 4-wheel drive tote trail which ends on a ridge 1.5 km west of Scheelite Dome.

History:

Scheelite Dome has seen a variety of exploration efforts since 1904, when scheelite and cassiterite were recognized in the placers of its drainage area. The SUN 1-112 claims were staked in May 1978 by Gordon Dickson and optioned to Cominco in July 1978. The GLOW claims were staked by Cominco in July and August 1978.

Description:

The property is underlain by metasedimentary rocks -quartzite interbedded with quartz-chlorite-muscovite schist, metachert and marble. Intrusive to this sequence are a stock and two plugs of quartz monzonite. Mineralization consists of disseminated pyrrhotite-scheelite-chalcopyrite in amphibolitic skarn horizons developed in massive marble.

Current Work and Results:

During summer 1978, geological mapping (1:10,000), bulldozer trenching, trench sampling and soil geochemical sampling programs were conducted. Three trenches were dug, accounting for the removal of 2660 cubic yards of material. They were mapped at 1:500 scale and thirty-five 5 m long continuous bedrock chip samples were taken and analyzed for Cu, Pb, Zn, Ag, Co, Ni, Cr, Au, Mo, As, Hg and W. A total of 485 soil samples were collected, mainly at 25 m intervals along lines spaced 100 m apart. They were analyzed for Cu, W and several anomalies were determined.

******

Secret Creek
Canada Tungsten Mining Corporation Limited

115 P 16,
105 M 13
(63°58'N, 136°01'W)

References: Bostock (1964); Boyle (1965).

Claims: SA 1-30; SWEDE 1-42

Location and Access:

The property is situated on the south flank of the Ogilvie Mountains, 32 km north of Mayo. Access is provided by an all weather road from Mayo to the South McQuesten River Bridge (50 km) and then by a four wheel drive vehicle tote road along Haggart Creek for 25 km to Swede Creek. The latter road was not passable in 1978, so a helicopter was used for access.

History:

The area has received intermittent exploration over the last 80 years. The claims lie southwest of the Peso lead-silver-antimony property (claims MIC 1-4, 6-8; H 1-6; REX 1-8) which has suffered much trenching and underground development work. The present SA 1-30 and SWEDE 1-42 claims were staked in May 1978.

Description:

The property is completely covered by overburden, but inspection of the nearby area between Secret Creek and Dublin Gulch indicates that it is probably underlain by muscovite-quartz schist, quartzite and metaconglomerate intruded by small granitic stocks. The mineralization on the Peso property occurs in veins belonging to a northeasterly trending fault system that may underlie the Secret Creek property.

Current Work and Results:

During summer 1978, aerial photography, prospecting, geochemical soil and stream sediment sampling programs were carried out. Stream sediment samples, a total of 211, were collected at 150 m intervals in most drainages within and surrounding the claim block. A total of 265 soil samples were collected from a grid with sample intervals every 150 m along lines spaced 455 metres apart. All geochemical samples were analyzed for tungsten, tin, gold and silver and in addition, six were analyzed for lead, zinc, titanium and zirconium. Several anomalies were identified - tungsten anomalies were interpreted to be related to skarn, silver anomalies to a northeasterly trending vein system, tin anomalies to a tin bearing intrusion and gold anomalies to auriferous quartz veins.

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REIN — Lead, Zinc
Union Miniere Explorations and Mining Corporation Limited — 116 B 9 (64°43'N, 138°11'W)

References: Green (1972); Morin et al (1979, p. 51).

Claims: REIN 40, 50, 59, 60, 61-68

Location and Access:

The property is located 95 km northeast of Dawson and 10 km east of the Dempster Highway. Access is provided by helicopter from Dawson.

History:

Claims REIN 7-50 were staked in June 1976 and REIN 51-60 in August 1976. In 1977, a geochemical soil sampling program for lead and electromagnetic surveys were conducted, Several areas of anomalous lead values and several electromagnetic conductors were determined. In situ and float vein mineralization with minor amounts of galena, sphalerite, pyrite and rare chalcopyrite in a quartz-barite-carbonate gangue was found in the vicinity of the strongest lead soil anomaly. The electromagnetic conductors were thought to be caused by graphitic shale, faults and conductive overburden.

Description:

The property is underlain by a thick, folded sequence of shale and argillite belonging to the Road River Formation and Middle Devonian to Carboniferous fine-grained clastic sedimentary rocks (Green, 1972). In the southern portion of the property, the older rocks are overthrust onto the younger rocks.

Current Work and Results:

During summer 1978, a geochemical soil sampling program for total barium was conducted. A total of 230 soil samples was collected with sample intervals every 100 or 200 feet along lines spaced 500 or 1,000 feet apart. Three areas of possibly anomalous and anomalous barium values were determined.

******

CYLINDER — 116 H 10
Archer, Cathro and Associates Limited — (65°36'N, 136°57'W)

References: Norris (1975); Sinclair et al (1975, p. 70).

Claims: CYLINDER 1-4

Location and Access:

The property is located in the Ogilvie Mountains, 5 km south of Mount Carter and west of Hart River. Access is provided by helicopter from Dawson, 210 km to the southwest.

History:

The CYLINDER claims were recorded in June 1978 over ground that had previously been held by Dynasty Explorations as the JUG 1-4 claims (Sinclair et al, 1975, p. 70). In 1974, work consisted of preliminary geological mapping, prospecting and geochemical soil sampling. Several soil samples were anomalous in lead and zinc.

Description:

The property is underlain by an almost flat lying sequence of sedimentary rocks consisting of interbedded limestone and shale of the Middle Devonian Ogilvie Formation that are disconformably overlain by fine grained clastics of the Upper Devonian to Mississippian (?) Canol Formation. Here, the Canol consists from base to top of black to blue-black weathering cherty argillite with carbonaceous partings, carbonaceous and moderately siliceous, non-calcareous grey weathering black shale and brown weathering, moderately siliceous, silty, non-calcareous black mudstone.

Two ferricrete gossans occur within the Canol Formation.

Current Work and Results:

During summer 1978, geological mapping (1 inch to 1/4 mile) and reconnaissance geochemical spring water sampling programs were conducted. Four water and residue samples were analyzed for pH, SO_4, Zn and Pb. Anomalously high values were determined for lead and zinc.

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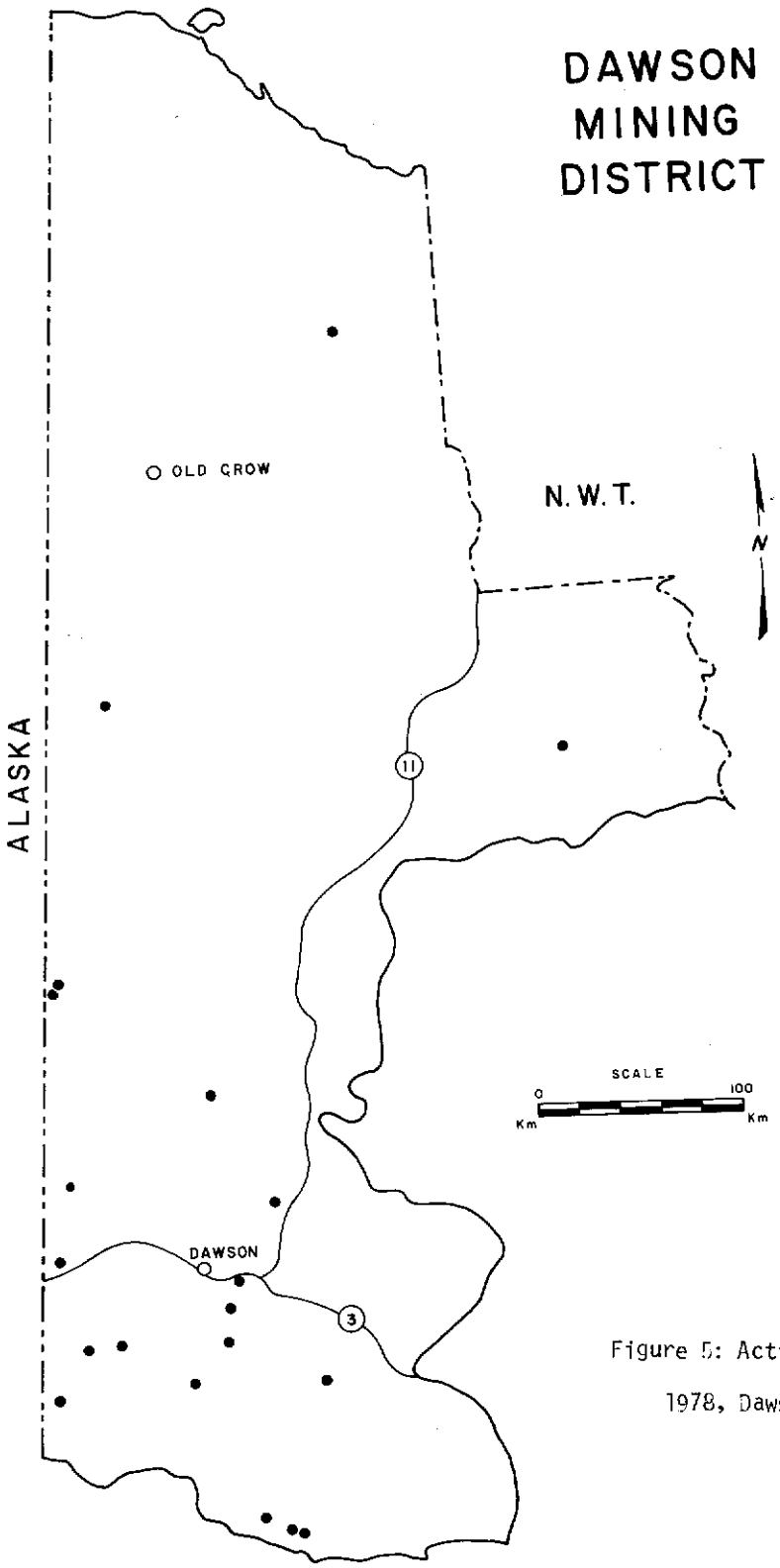

Figure 5: Active quartz claim properties in 1978, Dawson Mining District.

NOR
Getty Mines Limited

Uranium, Copper
106 L 3, 6
(66°16'N, 135°23'W)

Reference: Norris (1975).

Claims: NOR 1-24

Location and Access:

The claims are located 65 km east of the Eagle River lodge on the Dempster Highway. Access is by helicopter from the highway.

History:

The claims were staked in June 1977.

Description:

The claims are underlain by siltstones, sandstones, argillites, phyllites and silty limestone of Precambrian age. An area of diatreme breccia is found on the property.

Current Work and Results:

A total of 20 holes were drilled for a total depth of 571.2 m in the diatreme breccia. Hematitic alteration and specular hematite is common in the breccia.

******

3-2 MANY
Eldorado Nuclear Limited

Uranium
115 J 15
(62°54'N, 138°30'W)

Reference: Tempelman-Kluit (1974b).

Claims: 3-2 MANY 1-16

Location and Access:

The claims are located in the Dawson Range 12 km north of the junction of Issac Creek with the Yukon River. Access is by helicopter from Carmacks or by fixed wing aircraft to the Casino airstrip and then by helicopter to the claims.

History:

The claims were staked in June 1977 to cover a stream sediment anomaly.

Description:

The property is underlain by schists and gneisses of the Yukon Group which are intruded by a stock of Coffee Creek granite which is of probable Cretaceous age.

Current Work and Results:

Radiometric and soil geochemical surveys were conducted as well as a general geological investigation. The intrusive granite varies in composition between granite and quartz monzonite. Radiometric and geochemical anomalies were located but in situ uranium mineralization was not.

******

NEF
Eldorado Nuclear Limited

Uranium
115 J 15
(62°55'N, 138°34'W)

Reference: Tempelman-Kluit (1974b).

Claims: NEF 1-13, 15-34, 25 Fr

Location and Access:

The claims are located 8 km north of Issac Creek on the Yukon River. Access is by helicopter from Carmacks or Dawson.

History:

The claims were staked in 1978.

Description:

The claims are underlain by an Eocene granite and quartz monzonite stock of 'Coffee Creek Granite' (Unit Tg, Tempelman-Kluit, 1974b).

Current Work and Results:

Work consisted of rock, soil and water geochemical surveys for uranium, ground radiometric and geological surveys. The large extent of overburden made it necessary to examine rock chips from the soil sample sites. Several low-order radiometric and geochemical anomalies were located.

******

HASL
Eldorado Nuclear Limited

Uranium
115 J 15, 115 O 2
(62°58'N, 138°50'W)

Reference: Tempelman-Kluit (1974b).

Claims: HASL 1-118

Location and Access:

The claims are situated in the Dawson Range at the headwaters of Pedlar Creek, approximately 120 km south of Dawson. Access is by helicopter from Dawson or Carmacks.

History:

The first 88 claims were staked in 1977 and the remainder in 1978.

Description:

The property is underlain by quartz-mica schist, gneiss and a small body of Cretaceous Coffee Creek granite. The schist and gneiss of the Yukon Group are metamorphosed to upper greenschist facies.

Current Work and Results:

A scintillometer survey and a soil geochemical survey for uranium were carried out on the property. Many of the uranium anomalies are due to organic enrichment in the silts. Other geochemical anomalies are related to the contact zone between the granite and the Yukon Group.

A magnetic survey was carried out over a 6 claim area and outlined a magnetic anomaly. A geological map was contructed by examining rock chips obtained from the 'C' soil horizon.

******

JOVE
Eldorado Nuclear Limited

Uranium
115 N 9, 10
(63°43'N, 140°31'W)

Reference: Tempelman-Kluit (1974b).

Claims: JOVE 1-132

Location and Access:

The claims are situated approximately 70 km southwest of Dawson City in the Dawson Range at the headwaters of Glazy Creek. Access is by helicopter from Dawson.

History:

The original 16 claims were staked in 1977 and the remainder in 1978.

Description:

The claims are situated in an area mapped as Pelly gneiss (Tempelman-Kluit, 1974b).

Current Work and Results:

The claims were staked to cover an airborne radiometric anomaly. Subsequent ground radiometric and geochemical surveys confirmed the presence of radiometric/geochemical anomalies.

Due to lack of outcrop on the claim blocks, felsenmeer and rock chop on the 'C' horizon were used to prepare the geological map. The area mapped is underlain by granodiorite and a quartz-monzonite-granite complex.

******

Matson Creek
Bethlehem Copper Corporation

Uranium
115 N 9, 16
(63°44'N, 140°14'W)

Reference: Tempelman-Kluit (1974b).

Claims: HEC 1-40; TOR 1-154

Location and Access:

The claims are situated around the confluence of Matson Creek and the Sixtymile River, approximately 60 km southwest of Dawson. Access is by helicopter from Dawson.

History:

The claims were staked in 1978.

Description:

The claims are underlain by a sequence of conglomerates, shales, sandstones underlying and intercalated with a suite of volcanic rocks (Carmacks Group); this whole package is underlain by gneissic rocks.

Current Work and Results:

Preliminary mapping and stream and water sampling were conducted in 1978.

******

BORD
Ocean Home Exploration Company

115 N 10
(63°30'N, 140°50'W)

References: Green (1972); Tempelman-Kluit (1974b, 1975).

Claims: BORD 501-510, 601-610, 701-710, 801-810, 901-910

Location and Access:

The claims are located on the North Ladue River and upper Matson Creek, about 50 km south of Dawson City. Access is by helicopter.

History:

The claims were staked in 1977.

Description:

The claims are underlain by metasediments and metavolcanics of the Klondike Group.

Current Work and Results:

Prospecting, a reconnaissance geological survey, soil, rock and stream sediment geochemistry and a Turam EM survey were carried out. Copper, lead, zinc and silver were analysed. A 900 m lead-zinc anomaly was detected in the soil survey while no geophysical anomalies were located. A brown gossan and some disseminated pyrite was located in quartz muscovite sericite schist, graphitic phyllite and metaquartzite.

******

LIL
Rio Tinto Canadian Exploration Limited

115 O 9
(63°35'N, 138°12'W)

Reference: Bostock (1942).

Claims: LIL 1-50

Location and Access:

The claims are situated 4 km southwest of Australia Mountain, 80 km southwest of Dawson City. Access is by helicopter from Dawson.

History:

The claims were staked in August 1977.

Description:

The property is underlain by Yukon Group gneisses and schists.

Current Work and Results:

A soil survey was carried out on the claims. Samples were collected at 50 m intervals along northeast trending lines spaced 200 m apart. Samples were analyzed for copper, lead and zinc. An area anomalous in copper was outlined.

******

LUCKY JOE — Copper, Molybdenum
Rio Tinto Canadian Exploration Limited — 115 O 11, 12 (63°35'N, 139°30'W)

References: Bostock (1942); Sinclair et al (1975, pp. 80-81); Morin et al (1977, p. 139; 1979, p. 53).

Claims: B 1-18; SUNEP 1-34; BJB 1-17; ASH 1-44; PAX 1-10; TAR 1-6; MAD DOG 1-12; EXTRACT 1-8; BUSHED 1-12

Location and Access:

The property, situated near the headwaters of Lucky Joe Creek, 8 km east of the Yukon River and roughly 48 km south of Dawson City. Access is by helicopter from Dawson. A 36 km long winter road extends from near the mouth of Quartz Creek, up McKinnon Creek and southwest past Haystack Mountain and Reindeer Mountain to the claims.

History:

The B claims were staked in the summer of 1970 over a copper showing by Silver Standard Mines Limited who carried out soil sampling, geological mapping and trenching that year. In 1971 Silver Standard diamond drilled 3 AX holes totalling 140 m. After optioning the property in 1975 Rio Tinto Canadian Exploration Limited staked an additional 101 claims peripheral to the B group. During 1975 the company completed further geological mapping, soil sampling and geophysical surveys as well as 425 m diamond drilling in two holes. The 1976 program consisted of 1 219 m diamond drilling on Claims B 1 and B 2 in five holes.

Description:

The property is underlain by Yukon Group metasediments which here consist of biotite schist, quartz-muscovite schist and amphibolite (Unit E, Bostock, 1942). These metasediments are flanked to the east and west by bodies of gneissic granite (Unit A, op. cit.) which is exposed on the west and northwest portions of the claim groups. Chalcopyrite and pyrite with minor amounts of molybdenite occur as disseminations and in fractures paralleling foliation in biotite and quartz-muscovite schists below an amphibolite horizon.

Current Work and Results:

A geochemical soil survey for Cu, Pb and Zn was continued on the property. One copper anomaly from the 1977 survey was closed off and a couple of others were detected. Three holes totalling 762 m intersected low grade copper in quartz-mica schist.

******

SPIKE — 115 O 11, 14
Rio Tinto Canadian Exploration Limited — (63°45'N, 139°06'W)

References: Bostock (1942); McConnell (1903).

Claims: SPIKE 1-24

Location and Access:

The claims are situated on the north bank of the Indian River one kilometre up stream from its confluence with Quartz Creek. Access is by truck from Dawson by gravel roads leading south along Hunker Creek road.

History:

The claims were staked in June 1977 to cover an occurrence of chalcopyrite that had been known since 1905.

Description:

The property is underlain by quartzites, quartz-mica schists and gneisses of the Indian River Group (McConnel, 1900).

Current Work and Results:

A soil geochemical survey was conducted on the claims. Samples were analyzed for copper, lead and zinc. Results were disappointing. It was noticed however that the claims were underlain by a 10 m thick layer of fluvial gravels that have probably acted as a barrier to the upward migration of metals ions from bedrock.

******

RON — Gold
G.J. McGinn — 115 O 14
Klon Exploration Company Limited — (63°54'N, 139°38'W)

Reference: Bostock (1942).

Claims: RON 1-40

Location and Access:

The claims are located along Eldorado Creek, 40 km southeast of Dawson. Access is by road along Bonanza Creek.

History:

The claims were staked in July 1977.

Description:

The claims are underlain by the Klondike Schist unit which here consists of a metasedimentary sequence of quartz-eye schist, sericite, chlorite and graphite schists and quartzite. Faulting is evident on the claims.

Current Work and Results:

A program of prospecting, geochemical soil and rock sampling and magnetometer surveys was carried out.

******

SURPRISE — 115 O 14
Archer, Cathro and Associates Limited — 116 B 3 (64°01'N, 139°04'W)

Reference: Green (1972).

Claims: SURPRISE 1-219

Location and Access:

The claims are located 29 km east of Dawson on Australian Hill. The Hunker Creek Road crosses the south end of the claim group.

History:

The claims were staked in October 1976 and in 1977.

Description:

The claim group is underlain by a previously unmapped Eocene (?) porphyry stock 6 km long by 3 km wide. The porphyry contains rounded smoky quartz eyes and a few subhedral to euhedral feldspar phenocrysts up to 1 mm long in an aphanitic white to buff groundmass. Purple fluorite, topaz and miarolitic zeolites occur as accessory minerals. The eastern side of the stock contains areas of strong brecciation and intense argillic alteration. It intrudes Klondike Schist and Nasina quartzite. Most outcrops of the metasediments consist of chlorite schist with black carbonaceous phyllites, minor marble and foliated greenstone.

Current Work and Results:

Work in 1978 consisted of geological mapping, water, stream sediment, and soil geochemical surveys, ground radiometric and magnetometer surveys, soil radon gas surveys, trenching, diamond drilling and down-hole radiometric surveys. A total of 9 holes of NQ size were drilled for a total of (1,349 feet) 411 m. Anomalies were located by surface exploration on south-facing slopes, either within the area of the porphyry or near the contact.

******

TING, NOTING, PROSPECTING — Uranium
Archer, Cathro and Associates Limited — 116 B 7 (64°23'N, 138°38'W)

References: Cockfield (1920); Tempelman-Kluit (1970); Green (1972); Goodfellow and Jonasson (1977); Morin et al (1977, p. 140; 1979, p. 53).

Claims: TING 1-50, 91-94, 95-101 Fr; NOTING 51-76; PROSPECTING 77-84

Location and Access:

The claims are located 51 km northeast of Dawson. Access was by helicopter from Dawson.

History:

The claims were staked in the spring and summer of 1976 for the Ukon Joint Venture, managed by Archer, Cathro and Associates Limited.

Description:

The TING, NOTING and PPROSPECTING claims are located on the Tombstone Stock. The stock is composed of coarse-grained alkaline plutonic rocks of Lower Cretaceous age, ranging from alkali syenite, tinguaite, nepheline syenite and monzonite to silica-saturated rocks of granodioritic and quartz dioritic composition. The major minerals observed are orthoclase, plagioclase, nepheline, cancrinite, calcite, biotite, hornblende pyroxene and quartz. Accessory minerals identified so far include sphene, zircon, apatite, melanite garnet, fluorite, apatite and opaques. Trachytic dykes are found in the area of the stocks cutting the country rocks. Radioactivity is associated with the tinguaite and dykes at the eastern margin of the stock near Mt. Monolith. The stock is intrusive into orthoquartzite, (Keno Hill Quartzite) and diabase and xenoliths of the country rocks are common in the stock.

Current Work and Results:

Geological mapping was carried out and indicated that the tinguaite phase to be the earliest phase of the alkaline magma. Three varieties of tinguaite were identified; (1) subhedral to euhedral pseudoleucite tinguaite, (2) sheared or foliated tinguaite and (3) a fine grained to aphanitic tinguaite. Uranium mineralization is associated with the tinguaite phase of the intrusive.

A grid radiometric survey and magnetometer survey were carried out in the Spotted Fawn Creek valley. The magnetometer survey was useful in outlining the contact between tinguaite and the more magnetic syenite.

******

ROB — Copper, Uranium
Union Miniere Explorations and Mining Corporation
Shell Canada Resources Limited — 116 B 14, (64°51'N, 139°17'W)

References: Green (1972); Morin et al (1979, p. 56).

Claims: ROB 1-12

Location and Access:

The claims are situated approximately 16 km west of Kit Lake. Access is by helicopter from the Dempster Highway, 45 km to the east.

History:

The claims were staked in June 1977.

Description:

Mineralization occurs as sparse chalcopyrite and traces of uraninite in thin (6-30 cm) quartz-ankerite veins within a series of Unit 1 (Green, 1972).

Current Work and Results:

A soil geochemical survey for copper was conducted on the claims. Several +400 ppm copper anomalous areas were defined. Thin, low grade chalcopyrite-bearing quartz-ankerite veins present in situ and as float are directly associated with the anomalies.

******

PUB — 116 C 2
Ocean Home Exploration Company — (64°07'N, 140°56'W)

References: Green (1972); Tempelman-Kluit (1974b, 1975).

Claims: PUB 544-553, 644-653, 744-753, 844-853

Location and Access:

The claims are located north and adjoining the Dawson-Boundary Highway approximately 20 km east of the Alaska border. Access is by road to the edge of the claims.

History:

The claims were staked in September 1977.

Description:

The claims are underlain by metamorphic rocks of the Nasina Series and Klondike Schists. These include

quartz-sericite schist, quartz chlorite mica schists, chlorite quartz feldspar schists and chloritic greenstones and amphibolite. In the eastern margin of the area an unmetamorphosed series of Tertiary(?) volcanic and intrusive rocks.

Current Work and Results:

Prospecting, soil and stream sediment geochemistry and a TURAM EM survey was carried out on the claims. Laminations of stratiform pyrite-sphalerite-chalcopyrite were located within quartz sericite and quartz chlorite sericite schists. Most of the outcrop have been intensely oxidized and leached. However, anomalous values of lead, zinc and copper were detected.

******

CLINTON CREEK MINE — Asbestos
Cassiar Asbestos Corporation Limited — 116 C 7 (64°27'N, 140°42'W)

References: Green and Godwin (1964, pp. 19-21); Green (1965, pp.25-27; 1966, pp. 25-26); Christian (1966); Findlay (1967, pp. 27-29; 1969a, pp. 31-32; 1969b, pp. 18-20); Craig and Laporte (1972, pp. 30-31); Green (1972, pp. 143-144); Craig and Milner (1975, pp. 14-15); Sinclair and Gilbert (1975, pp. 29-30); Sinclair et al (1975, pp. 72-73); Morin et al (1979, p. 57); Htoon (1975, 1979).

Claims: 147 claims

Location and Access:

The Clinton Creek Mine is 81 km northwest of Dawson and can be reached by a 42-km, all-weather road from Mile 33 of the Sixtymile-Boundary Road. Asbestos fibre is shipped by truck to Whitehorse, a distance of 631 km, and then by rail to the port of Skagway.

History:

The property was staked in 1957 and brought into production 1967.

Description:

The Clinton Creek asbestos deposits occur in serpentinized ultrabasic rocks (Unit E, Green, 1972) associated with metamorphic rocks of the Nasina series (Unit A, op. cit.), and its geology is well described in Htoon (1979). The asbestos fibre occurs almost entirely as cross-fibre veinlets, one quarter inch or less in width.

Current Work and Results:

The Clinton Creek mine closed in August 1978. The mineable reserves of the orebodies were exhausted and 318,019 tons were unavailable because of pit wall instability.

OPERATING SUMMARY

	1978	1977
Ore Mined, tons	778,499	1,978,318
Fibre Produced, tons	57,655	105,224
Waste Removed, cubic yards	274,986	778,484

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TIN — Uranium
WGM Inc.
Union Carbide Canada Limited — 116 F 7 (65°17'N, 140°55'W)

Reference: Norris (1967).

Claims TIN 1-58, 62-64

Location and Access:

The claims are adjacent to the Yukon/Alaska border approximately 160 km northwest of Dawson and 70 km north of Eagle. Access is by helicopter from Dawson.

History:

The claims were staked in November 1977 to cover some airborne anomalies.

Description:

The region is underlain by Upper Precambrian to Lower Ordovician sedimentary rocks that have been thrust upon Paleozoic and Mesozoic sedimentary rocks. The claims are underlain by a thick sequence of Cambro-Ordovician dolomites which trend east-west and dip 5-20° to the north. The lower portion of the 770 m of exposed section consists of massive to finely laminated partially silicified dolomite which correlates with the Funnel Creek Formation in Alaska. The upper sequence of dolomite is distinguished by an abundance of chert lenses and laminae, intraformational breccias and conglomerates.

Current Work and Results:

Airborne radiometric and ground scintillometer surveys were unsuccessful in re-locating the airborne anomaly from 1977. Rock samples were collected and analysed for Cu, Pb, Zn, Ag, U and P_2O_5.

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PL — Zinc, Lead
BP Minerals Limited
Union Carbide Canada Limited — 116 F 7 (65°21'N, 140°52'W)

Reference: Morin et al (1979, p. 57).

Claims: PL 1-28

Location and Access:

The claims are located on the west side of Ettrain Creek, 4.8 km east of the Yukon-Alaska border. Access is by helicopter from Dawson City, 128 km to the southwest.

History:

The claims were staked in July 1976.

Description:

Pre-Cambrian quartzites, in places interbedded with silty and micaceous shales, form the upper plate of a thrust which overlies Devonian carbonates. These consist of grey to light grey limestones and dolomites. A narrow, northwest trending zone of fracturing, parallel to the thrust, contains silicified and vuggy sections, including "two hole" crinoids and therefore suggests that the carbonates may be equivalent to the Mid Devonian Ogilvie Formation.

Current Work and Results:

Geological examination, chip sampling and construction of small pits on geochemical anomalies was the work carried out in 1977. Minor occurrences of sphalerite and galena as fracture fillings in dolomite were noted.

******

ELBOW, BUTTE, HIP, TOE
Baltic Drilling Limited

Barite
116 G 1
(65°14'N, 138°20'W)

Reference: Green (1972).

Claims: ELBOW 1-8; BUTTE 1-8; HIP 1-4; TOE 1-4

Location and Access:

The claims are situated on a hillside straddling the Dempster Highway between Mile 111-112, approximately 13.3 km south of the Ogilvie River. The claims are 180 km by road from the Klondike River settlement on the Klondike Highway. Access is by foot from the highway.

History:

The claims were staked in August 1977.

Description:

The claims are underlain by limestone of the Devonian Ogilvie Formation.

Current Work and Results:

The claims and surrounding region were examined geologically. Barite is found within the limestone as small (3-8 cm) pods adjacent to chert nodules; as fracture and vein fillings from several cm up to a metre wide; and as patches up to 1.5 m wide in pods and veins of recrystallized calcite. The barite is usually coarsely crystalline. Barite float is common in the area.

A regional soil sampling survey was conducted in the general region outside the claim boundaries.

******

RUSTY SPRINGS PROSPECT
Rio Alto Exploration Limited

Lead, Zinc, Silver, Copper
116 K 8, 9
(66°30'N, 140°22'W)

Reference: Norris et al (1963); Norris (1977).

Claims: RIO 1-104; NATE 3-14, CARB 1-16; HG 1-146; JP 1-54; MOOSE 1-48

Location And Access:

The property is in northwestern Yukon 8 km south of the Arctic Circle, 35 km east of the Alaska border and 112 km south of the Village of Old Crow. Usual access is by helicopter from Dawson City 280 km to the south. Fuel and equipment are trucked to a convenient point on the Dempster Highway 160 km southeast of the property and taken in from there by helicopter.

History:

The claims were staked in 1975.

Description:

The area is underlain by dolomite and shale of Devonian age (Morin et al, 1979, p. 57, 58). Lead-zinc-silver-copper mineralization occurs within silicified and brecciated dolomite. Eight localities of mineralized float have been located.

Current Work And Results:

Geological mapping was continued on the property. The Rusty Springs Anticline is now thought to be only a dome with a major north trending low angle thrust (?) fault bisecting it. On the west side of the dome reef-building fossils have been discovered though no reefs have been located. Minor evaporites have been identified.

In 1978, an additional 800 soil geochemical samples were analysed for lead, zinc, copper and silver. Thirty diamond drill holes were completed for a total of 1 840 m with Hydra-Wink drills. Poor core recovery was a major problem in the program. Two bulk samples were collected for metallurgical tests and assaying. One sample was galena-tetrahedrite float which assayed from 18 to 33 oz/ton silver. The other sample was of oxidized material which was composed of various oxides and finely divided tetrahedrite. Cyanide leaching test of the oxidized material returned poor results for silver recovery. Drilling intersected sufficient mineralization to explain the geochemical anomalies but the source of the high grade float was not detected. In one hole a mineralized fault zone was intersected. In general, mineralization is thought to be of the " Mississippi Valley" type.

******

LIN
Aquitaine Company of Canada Limited

Uranium
117 A 2
(68°10'N, 137°38'W)

References: Norris et al (1963); Norris (1977).

Claims: LIN 1-12

Location and Access:

The claims are situated about 10 km south of Bonnet Lake which is situated about 170 km southwest of Inuvik. Access is by float plane from Inuvik to Bonnet Lake and thence by helicopter.

History:

The claims were staked in May 1977.

Description:

The claims are underlain by clastic rocks, mainly black shale and minor quartzite.

Current Work and Results:

The claims were worked on in 1978.

******

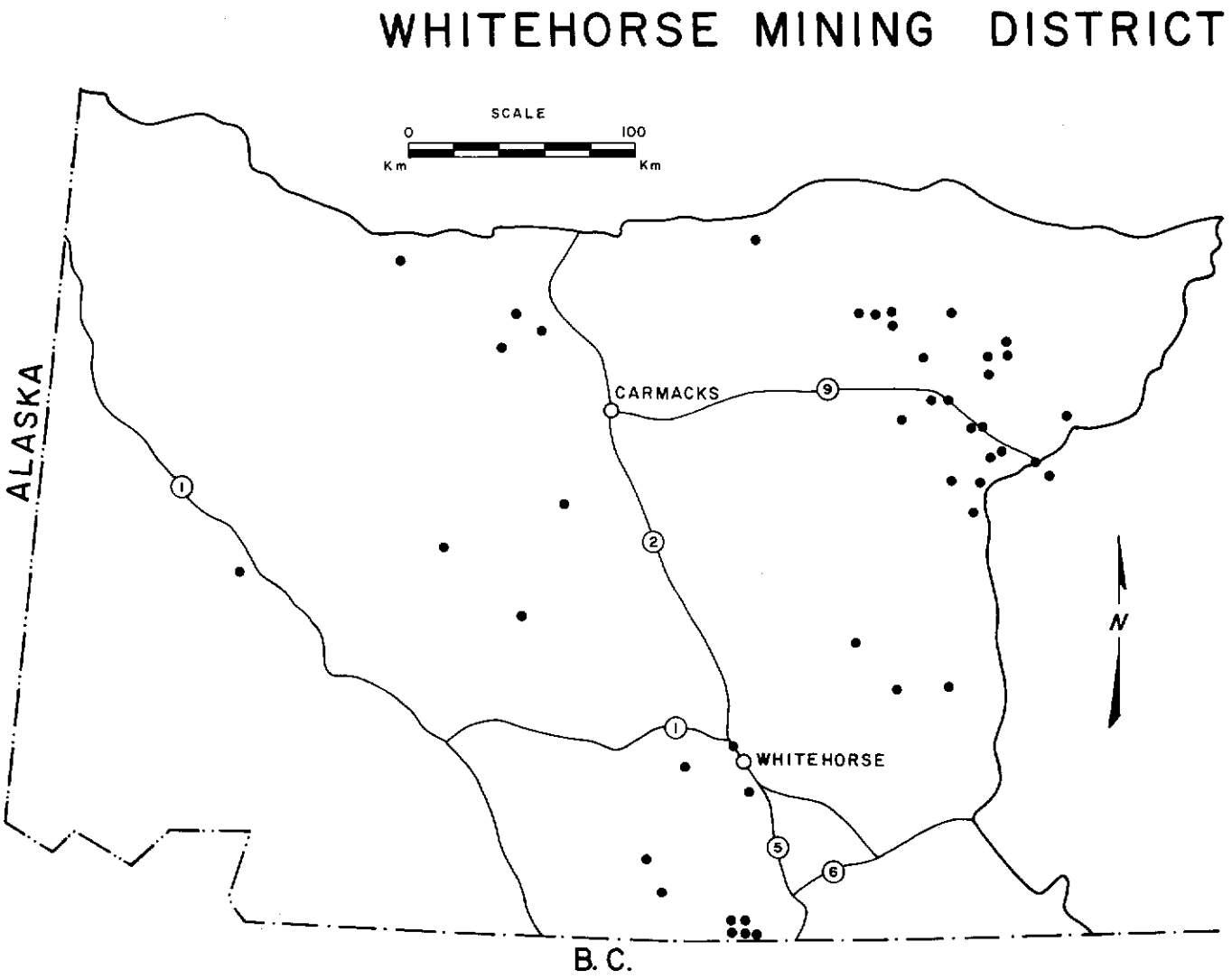

Figure 6: Active quartz claim properties in 1978, Whitehorse Mining District.

MURPHY
Archer, Cathro and Associates Limited

Uranium
105 C 13, 105 F 4
(61°00'N, 133°25'W)

References: Mulligan (1963); Tempelman-Kluit (1977b).

Claims: MURPHY 1-24

Location and Access:

The claims are situated on Mt. Murphy 85 km northeast of Whitehorse. Access is by helicopter from Whitehorse.

History:

The claims were staked in April 1976 to cover a silt geochemical anomaly.

Description:

The claims are underlain by a Cretaceous granite and granodiorite batholith. The claims are centered on a 800 m wide gossan caused by weathering of disseminated pyrite in a quartz-rich coarse-grained phase of the intrusion.

Current Work and Results:

A program of grid radiometrics, soil sampling and prospecting was carried out on the claims. Two radioactive zones were explored by two hand trenches. Radioactivity was found to be related to biotite-rich patches of the granite. Radioactive zones are weakly leached and exhibit traces of yellow secondary oxides. The strongly radioactive specimens returned assays in the 0.05 to 0.23% U_3O_8 range, suggesting that much of the radioacitivity is caused by thorium.

******

Red Mountain
Amoco Canada Petroleum Limited

Molybdenum
105 C 13; 105 F 4
(61°00'N, 133°49'W)

References: Mulligan (1963); Craig and Laporte (1972, p. 121).

Claims: BUG 1-90; GUB 1-84

Location and Access:

The property is located approximately 80 km east of Whitehorse on Red Mountain. Access is by helicopter from Whitehorse.

History:

The claims cover the old Boswell River Mines property (Craig and Laporte, 1972). In 1977 the claims were re-staked for Tintina Silver Mines Limited and optioned to Amoco Canada Petroleum who started work on the property in 1978. The property is known as Red Mountain because of the prominent red gossan covering the entire east side of the mountain.

Description:

The property is underlain by a quartz monzonite porphyry stock that is intrusive into shales and quartzite of the Big Salmon Complex. Molybdenite occurs in quartz vein stockworks and fractures in the intrusive and hornfels.

Current Work and Results:

In 1978 the BUG 1-16 claims were mapped geologically, a soil geochemical survey was run on lines spaced 125 m apart and samples taken every 30 metres. An IP dipole-dipole survey was conducted with a 90 m electrode interval on lines 250 m apart while the magnetometer survey was run on lines 125 m apart.

Five holes for a total depth of 1 922 m were drilled with BQ and NQ core on the BUG claims. Widespread molybdenum mineralization in the intrusive and surrounding hornfels was outlined. Most holes averaged 0.05-0.10% MoS_2 with some sections of higher grade material.

******

CRO
E & B Explorations Limited
Malabar Mines Limited

Uranium
105 D 3
(60°05'N, 135°14'W)

References: Wheeler (1961); Morrison (1979).

Claims: CRO 1-8

Location and Access:

The claims are located 35 km southwest of Carcross. Access is by helicopter from Whitehorse.

History:

The claims were staked in 1978.

Description:

The claims are underlain by felsic intrusive rocks. Medium-grained granodiorite, brecciated quartz monzonite and a rusty weathering rhyolite dyke have been mapped.

Current Work and Results:

Geological mapping, geochemical sampling and radiometric surveys were carried out. No significant anomalies were detected.

******

BEN
E & B Explorations Limited
Welcome North Mines Limited

Uranium
105 D 2
(60°01'N, 134°58'W)

Reference: Wheeler (1961).

Claims: BEN 1-16

Location and Access:

The claims are located on the east side of Munroe Lake, 22 km southwest of Carcross. Access is by helicopter or float plane.

History:

The claims were staked in July 1977 based on anomalous geochemical results obtained from sample pulps acquired from Kennco Explorations obtained in an earlier regional stream sediment geochemical survey.

Description:

The claims are underlain by metamorphic rocks of the Yukon Group and by later granitic rocks, a fine-grained quartz monzonite and a medium-grained biotite quartz monzonite grading into a porphyritic horn-

blende-biotite quartz monzonite. These intrude into a massive dark green magnetite-rich amphibolite of the Yukon Group(?).

Current Work and Results:

Geological mapping, detailed geochemical sampling and intensive prospecting with hand held scintillometer failed to detect any worthwhile radioactive mineralization.

******

MUN
E & B Explorations Limited

Uranium
105 D 3
(60°02'N, 135°02'W)

Reference: Wheeler (1961).

Claims: MUN 1-20

Location and Access:

The claims are located on the west side of Munroe Lake, 22 km southwest of Carcross. Access is by float plane or helicopter from Whitehorse.

History:

The claims were staked in 1978.

Description:

The property is underlain by intrusive rocks consisting of two main units: (1) equigranular biotite quartz monzonite and (2) aplite.

Current Work and Results:

Geological and geochemical surveys were conducted over the property. Rocks and soils were analysed by low energy gamma-ray spectrometry for uranium, lead-214, radium-226 and thorium. Several anomalies for uranium associated with low oranic content and molybdenum values were located.

******

PART
E & B Explorations Limited

Uranium
105 D 3
(60°02'N, 135°12'W)

References: Wheeler (1961); Morrison (1979).

Claims: PART 1-32

Location and Access:

The claims are located 30 km southwest of Carcross between the west arm of Bennett Lake and Partridge Lake. Access is by helicopter from Whitehorse.

History:

The claims were staked in 1978.

Description:

The property is underlain by two major rock types; a shattered pink quartz monzonite underlying rhyodacite ash flow tuff. In some locations along the contact between the two units a conglomerate unit, up to 40 m thick, is found. The conglomerate is composed of unsorted and unoriented, 0.5-15 cm wide, angular to sub-rounded pebbles and cobbles set at a green well-indurated matrix. Fragments are predominately of the underlying quartz monzonite but Yukon Group quartzite and gneiss cobbles are common.

Current Work and Results:

Geological and geochemical surveys were conducted on the claims. Scattered occurrences of malachite, chalcopyrite, pyrite and galena occur within the ignimbrite unit, associated with narrow fracture zones.

Low energy gamma-ray spectrometry was used for the uranium, lead, radium and thorium determinations. Anomalous uranium values were detected.

******

WEST
E & B Explorations Limited

Uranium
105 D 3
(60°04'N, 135°07'W)

Reference: Wheeler (1961).

Claims: WEST 1-12

Location and Access:

The claims are located on the north side of the west arm of Bennett Lake, about 3 km from its western end. Access is by helicopter, float plane or boat from Carcross, 25 km to the northeast.

History:

The claims were staked in 1977.

Description:

The property is covered largely by glacial drift or colluvium. The only outcrop on the property is a knoll occurring between the 2,700 and 3,200 foot elevation. Three types of intrusive rocks are identified: (1) fine-grained biotite quartz monzonite, (2) coarse-grained biotite-hornblende granodiorite and (3) fine-grained granodiorite.

Current Work and Results:

Geological and geochemcial surveys were conducted on the property. Uranium was found to be accumulating in the swamp area (up to 858 ppm). Power augering confirmed the presence of high values. Samples of rock, stream, sediments, soils and bogs were analysed by low energy gamma-ray spectrometry.

******

RAM
United Keno Hill Mines Limited

Copper, Molybdenum
105 D 4
(60°12'N, 135°44'W)

References: Cairnes (1910; 1916); Wheeler (1961).

Claims RAM 1-44

Location and Access:

The claims are located 67 km southwest of Whitehorse and 3.2 km northeast of Primrose Lake. Access is by helicopter from Whitehorse.

History:

RAM 1-7 was staked in 1976 by Irwin Kreft who discovered sphalerite mineralization in 1976 and optioned the claims to United Keno Hill Mines Limited. The remaining claims were staked in 1978.

Description:

The claims straddle the contact between granodiorite of the Coast Range Intrusives and metasedi-

ments of the Yukon Group. These metasediments consist of quartzite, quartz-sericite and graphite schists, and coarse-grained crystalline limestone.

Current Work and Results:

Geological mapping outlined several zones of sphalerite mineralization in a greenish-grey fine grained siliceous rock at the contact of coarse grained marble and green quartzite. Malachite and tenorite(?) were found in an outcrop of rusty weathering felsite, which is cut by a network of quartz veins in places. Some soil samples anomalous in molybdenum were obtained in this area. Lead and zinc soil geochemistry has outlined several anomalies. Soils from the area of rusty felsite returned anomalous values of silver, copper and molybdenum.

In 1978 an IP and resistivity survey was conducted on the RAM 9, 10. A total of 4.1 km of survey was run. A strong IP anomaly was detected which coincided with exposures of graphite schist.

******

DEB
United Keno Hill Mines Limited

Lead-Zinc
105 D 5
(60°21'N, 135°51'W)

References: Cairnes (1910, 1916); Wheeler (1961); Morrison (1979).

Claims: DEB 1-28

Location and Access:

The claims are located approximately 65 km southwest of Whitehorse and 2 km west of Rose Lake. Access is by helicopter from Whitehorse.

History:

The claims were staked in 1978.

Description:

The claim group is within a narrow band of northwest trending Yukon Group metasediments. The edges of the claim block are within granodiorite of the Jurassic Coast Intrusives.

The Yukon Group rocks consist of interbedded schist, quartzite, gneiss, limestone and amphibolite. The rocks have been deformed by north-west trending folds overturned to both the northwest and southwest.

Current Work and Results:

Geological mapping and soil geochemistry was conducted over the northwest half of the property and an EM-16 survey was carried out over the central four claims which contain the main mineral occurrences.

Six separate occurrences of galena and sphalerite over a distance of 640 m were found within limestone skarn zones of the Yukon Group. Associated with the mineralization is silicified limestone skarn containing coarse-grained diopside and garnet. A 3 metre (10 foot) chip sample from the main showing, consisting of sphalerite and galena in siliceous limestone returned an assay of 14.99% Pb, 5.3% Zn, and 4.94 oz/ton silver. A 0.6 m chip sample from a showing 640 m northwest of the first returned values of 3.35% Pb, 17.12% Zn and 0.53 oz/ton silver.

The soil geochemical survey consisted of 940 soil samples collected on a 100 by 300 foot spacing and analysed for lead, zinc and copper. The EM-16 survey outlined a strong northwest crossover which is interpreted as being a fault zone.

******

Whitehorse Copper
Mines Limited

Copper, Gold, Silver
105 D 10, 11, 14
(60°33'N to 60°45'N,
134°53'W to 135°10'W)

References: Kindle (1964); Green and Godwin (1964, pp. 33-39); Green (1965, pp. 40-41; 1966, pp. 50-51); Findlay (1967, pp. 41-43; 1969a, pp. 49-54); Hilker (1967); Craig and Laporte (1972, pp. 110-111); Sinclair and Gilbert (1975, pp. 74-76); Sinclair et al (1975, pp. 142-143; 1976, pp. 99-101); Morin et al (1977, p. 150; 1979, p. 60); Morrison (1979).

Claims: Approximately 714 claims in the Whitehorse Copper Belt

Location and Access:

The properties are located along a north- to northwest-trending belt, up to four miles (7 km) wide and 20 miles (35 km) long, lying west of Whitehorse. Access to the property is provided by various mine roads connected to the Alaska Highway. Copper concentrates are shipped by rail to Skagway.

History:

Copper showings in the Whitehorse area were known at least as early as 1897 and most of the known occurrences were staked in the period 1898 to 1899 by miners enroute to the Klondike. Some production took place up to 1920 and subsequent exploration on the Copper Belt included diamond drilling by Richmond Yukon Company Limited in 1927 and Noranda Exploration Company Limited in 1947 and 1948.

In 1955, Imperial Mines and Metals commenced exploration in the area and started drilling on the Best Chance prospect in 1956. In 1957, the company was renamed New Imperial Mines Limited. By 1965, the company had outlined roughly 4.6 million tons of ore grading 1.17 per cent copper and milling began in 1967. Since then, there has been production from six open pits: Little Chief, Arctic Chief East and West, Black Cub, Keewenaw and War Eagle.

Production was suspended in June 1971 due to low metal prices and was resumed in December 1972 from underground mining of the Little Chief ore body. The company was renamed Whitehorse Copper Mines Limited in September 1971.

Description:

Copper occurrences of the Whitehorse Copper Belt are in calc-silicate-magnetite skarns developed along the irregular contact between Triassic Lewes River sediments (Unit 3c, Wheeler, 1961) and Cretaceous granodioritic to dioritic intrusions of the Coast Intrusions (Unit 8, op. cit.). The skarns are best developed in massive limestone of the Lewes River Group and consist of varying amounts of diopside,

epidote, tremolite-actinolite, garnet, serpentinite, magnetite and/or hematite and, occassionally, asbestos. The primary ore minerals are bornite and chalcopyrite with minor amounts of chalcocite and native copper. Valleriite, a relatively rare copper sulphide, is locally abundant but mill recovery is poor because of its physical properties.

Current Work and Results:

Geophysical survys consisting of 88.5 km of IP were conducted on the ACE, MO, JIM, SUE, SNELL, SIMMONS and WE claims while 24 km of magnetic surveys were run on SUE and JIM claims. Two drill holes for a total depth of 301 m were drilled on SUE 3 and 4; low grade intersections were encountered.

OPERATING SUMMARY, 1974-1978

	1978	1977	1976	1975	1974
Ore Milled (tons)	863,092	901,459	800,836	738,062	626,541
Cu Produced (lbs.)	20,923,048	26,340,682	34,364,262	20,062,161	20,810,768
Gold Produced (oz)	17,420	24,058	18,550	18,630	17,731
Silver Produced (oz)	177,634	249,672	241,159	217,397	209,512
Grade (% Cu)	1.40	1.65	1.77	1.83	1.84
Ore Reserves (tons)	2,631,699	3,189,847	2,727,913	3,145,330	3,610,571

****

RAM
E & B Explorations Limited
Malabar Mines Limited

Uranium
105 D 12
(60°41'N, 135°35'W)

References: Wheeler (1961); Tempelman-Kluit (1974b); Morrison (1979).

Claims: RAM 1-48

Location and Access:

The claims are situated 5 km southeast of Mt. Ingram, 30 km west of Whitehorse.

History:

The claims were staked in April 1978.

Description:

The claims are underlain by three main rock types. A conglomerate unit, considered by Wheeler (1961) to be part of the Laberge Group, is composed of 60% cobbles and pebbles of volcanic, granitic and meta-sedimentary origin in a grit matrix of similar lithologies. Clasts are sub-rounded to rounded, and poorly sorted. The rock is very well indurated. Bordering the conglomerate on the west is a medium grained equigranular biotite quartz monzonite. Thin aplite dykes and wider (up to 3 m) rhyodacite dykes cut the quartz monzonite. In contact with the quartz monzonite on the west is a recessive unit of brown weathering 'rotten' leucocratic granite containing up to 5% miarolitic cavities. This granite is probably the Tgal unit described by Tempelman-Kluit (1974b) on the Aishihik Map Sheet.

Current Work and Results:

Prospecting and a stream sediment survey of 31 samples failed to detect any anomalous samples. The miarolitic granite has smoky quartz crystals within the cavities and has a higher radioactivity than the other units on the property.

******

OJ
Whitehorse Copper Mines Limited

Copper
105 D 14
(60°46'30"'N, 135°10'30"W)

References: Wheeler (1961); Morrison (1979).

Claims: OJ 1-4 fr

Location and Access:

The claims are located adjacent to the Alaska Highway near Crestview, a suburb to the north of Whitehorse.

History:

The claims were optioned by Whitehorse Copper Mines from Jean Sauve in 1978.

Description:

The claims are situated at the northern end of the Whitehorse Copper Belt. Claims are covered by overburden.

Current Work and Results:

Two diamond drill holes, for a total of 74 m were drilled on OJ 1 fr to test a magnetic anomaly. The anomaly was caused by magnetic bands in pyritic argillite which probably belongs to the Upper Triassic Lewes River Group. The option was subsequently dropped.

******

LYNX
Loon Lake Syndicate

Copper, Gold
105 E 1
(61°12'N, 134°11'W)

References: Bostock and Lees (1938); Craig and Laporte (1972, pp. 119-120); Sinclair et al (1975, p. 148); Sinclair et al (1976, p. 109).

Claims: LYNX 1-16

Location and Access:

The claims lie immediately northwest of Upper Loon Lake, roughly 72 km northeast of Whitehorse. Elevations on the property range from 3,300 to 4,400 feet. Access is by fixed wing aircraft from Whitehorse to Loon Lake or by helicopter.

History:

Copper showings on the property were known prior to 1900 and some development work was carried out in the early 1900's. The property was restaked as the BEAVER and MINK claims in 1969 and as the LYNX claims in December 1972 and May 1974.

Description:

The LYNX claims are underlain by sericite-chlorite schist and cherty quartzite dipping 55° and 75° to the southwest and northwest. Copper showings consist of disseminated chalcopyrite and minor pyrite in quartzite, crudely banded, patchy chalcopyrite and pyrite in schist, and specks of chalcopyrite in quartz veinlets.

Current Work and Results:

In 1978 trenching was carried out on the claims to expose 5 fresh faces. Average assay values gave 0.83% copper and 0.06 oz/ton gold.

******

LAP
Utah Mines Limited

Copper
105 F 11
(61°39'N, 133°10'W)

References: Gabrielse (1963); Tempelman-kluit (1977b); Morin et al (1979, p. 61).

Claims: LAP 1-24

Location and Access:

The claims are situated 5.5 km west of Lapie Lakes on the South Canol Road. Access is by helicopter from the road.

History:

The claims were staked in 1977.

Description:

The western part of the claims are underlain by biotite and quartz biotite schists with thin interbeds of skarn, marble and quartzite of probable Proterozoic age. Locally, granitic units conformable with the schist are abundant. A dolomitic limestone of lower Cambrian age in the central part of the claim group appears to be separated from the schists by a thrust fault. The eastern part of the claims is underlain by calcareous phyllitic siltstones of Lower Cambrian age.

Current Work and Results:

Work in 1978 consisted of geological mapping, prospecting, EM surveys and geochemical soil surveys.

A total of 173 soil samples were collected on an 8.5 km extension to the 1977 grid. Samples were analyzed for silver, copper, lead and zinc.

A shootback EM survey was conducted using a CEM unit for a total length of 22.1 km. Several poorly-defined anomalies were located.

The geological mapping outlined several types of minor discordant mineralization. Some scheelite mineralization was located in the calc-silicate units throughout the property. It seems to be associated with quartz-garnet-diopside-pyrrhotite skarns in places. In other localities, minor chalcopyrite is associated with pyrrhotite pods in quartz-chlorite-actinolite skarns.

******

PIM
Welcome North Mines Limited

105 F 14
(61°49'N, 133°06'W)

References: Gabrielse (1963); Tempelman-Kluit et al (1976); Tempelman-Kluit (1977a, b).

Claims: PIM 1-16, 41-56

Location and Access:

The claims are situated in the St. Cyr Range of the Pelly Mountains, approximately 41 km south of Ross River. Access is by helicopter from Ross River.

History:

The claims were staked in 1977.

Description:

The property is underlain by a Proterozoic to Lower Cambrian sequence of marbles, phyllites and calc-silicates, Silurian dolomite and dolomitic sandstone, and the Bacon Creek quartz monzonite stock.

Current Work and Results:

Line cutting of a grid and rock sampling was carried out. Geochemical analyses were carried out on numerous samples collected from mineralized outcrops and float samples. Copper-bearing veins and tungsten skarns were identified.

******

Risby Tungsten
Risby Tungsten Mines Limited

Tungsten
105 F 14
(61°52'N, 133°22'W)

References: Craig and Laporte, (1972, p. 125); Tempelman-Kluit (1977b).

Claims: CAB 1-40, 49, 51, 59, 60, 73, 74, 79, 80, 89-94, 95-100, 105, 106

Location and Access:

The claims are 58 km southeast of Ross River. Access is by helicopter from Ross River.

History:

The original claims were staked by Peter Risby in 1968 and optioned to Atlas Exploration in 1968. Atlas carried out geological mapping, geochemical soil sampling and sampling of the mineralized zones. In 1969 they carried out detailed plane table mapping of the #1 and #2 showings.

In 1971 the Caltar Syndicate drilled 8 holes from 4 drill sites for a total depth of 3,563 feet on #2 showing. Three of the other holes were drilled from the top of the ridge adjacent to the showing and one was drilled from the valley to the east. The best intersections were 0.63% WO_3 over a true width of 4.2 m and 1.07% WO_3 over 3.0 metres.

Description:

The area is underlain by a metasedimentary sequence of rocks approximately 305 m thick of lower Cambrian calcareous argillite, limestone and calcareous siltstone. These units have been locally metamorphosed to calcareous biotite schist and thinly banded quartz tremolite diopside skarn. These sedimentary units have been uplifted on the west by a Cretaceous quartz monzonite batholith.

Scheelite mineralization is associated with both pyrrhotite-bearing and pyrrhotite-free green skarn bands containing garnet-diopside.

Current Work and Results:

During 1978 a program of mapping, a magnetometer survey, hand trenching, drilling and blasting was undertaken on #2 showing and on strike to the northwest. Continuity of mineralization was determined by surface trenching and a reinterpretation of the structure from former drill results by company geologists, resulted in blocking out an area containing "possible" reserves of 341,000 tonnes with an average grade of 1.02% WO_3.

The geological mapping and geochemical survey resulted in discovery of scheelite in the "gulch" area to the northwest of the #2 zone with grab samples reported assaying as high as 2.65% WO_3.

	60	62
SiO_2	41.6	46.0
Al_2O_3	9.37	25.20
TiO_2	0.31	0.79
FeO	8.58	3.86
MnO	0.87	0.15
MgO	3.57	2.65
CaO	27.20	17.00
Na_2O	0.36	0.45
K_2O	0.04	0.14
P_2O_5	0.04	0.13
LOI	3.96	1.42
TOTAL	96.90	98.20
Cu	16	53
Pb	X	5
Zn	350	120
Ag	X	X
Sb	1	X
As	X	X
Bi	340	20
Au ppb	260	16
Hg ppb	20	40
Mo	3	2200
W	520	20
Cr	100	160
Co	20	X
Ni	9	15
Nb	X	X
Zr	50	190
Y	10	30

Samples of skarn rocks adjacent to scheelite mineralization but not including significant scheelite Sample 62 has visible molybdenite.
X - indicates: less than 5 ppm Pb; 1 ppm Ag; 1 ppm Sb; 5 ppm As; 5 ppm Co; 20 ppm Nb.
Analyses by X-Ray Assay Laboratories, Toronto.

******

GK — Barite
Welcome North Mines Limited — 105 F 14, 15
Getty Mining Pacific Limited — (61°55'N, 133°00'W)

References: Tempelman-Kluit (1977a, b).

Claims: GK 1-32

Location and Access:

The property is located in the St. Cyr Range of the Pelly Mountains, approximately 32 km west of Ross River. Access is by helicopter from Ross River.

History:

The claims were staked in July 1977.

Description:

The property is underlain by Devono-Mississippian black shale, chert and volcanic rocks. Two barite horizons are found within this unit separated by a thin band of cherty shale with a total thickness of between 15-30 metres. The beds have been traced for approximately 8 km along strike.

Current Work and Results:

Work consisted of mapping, stream sediment, and soil geochemical surveys, and prospecting. Mapping and sampling the barite horizon in Mississippian shales indicated almost direct milling grade barite (90.4% $BaSo_4$ SG=4.12) over a thickness of at least 18 m and beneficiate grade barite (73.28% $BaSo_4$ SG=3.76) over a thickness of 66 m.

******

ANGIE — Zinc
Welcome North Mines Limited — 105 F 15, 16
Getty Mining Pacific Limited — (61°50'N, 132°30'W)

Reference: Tempelman-Kluit (1977b).

Claims: ANGIE 1-216, 219-314, 357, 358, 363, 364, 500, 501, 676, 677

Location and Access:

The claims are located approximately 16 km south of Ross River. Access is by helicopter from Ross River.

History:

The claims were staked in June 1977.

Description:

The claims are underlain by a sequence of shales, limestones and argillites which form part of the Pelly-Cassiar Platform. The following six units have been identified and assigned the rock units of Tempelman-Kluit (1977b):

8) Csl - limestone, calcareous siltstone
7) Mt - chert
6) uDMs - shale
5) Dvc - limestone, siltstone, tuff, shale
4) SDsq - quartzite, siltstone, limestone, shale
3) OSslc - sooty shale, siltstone
2) OSslq - shale and phyllite
1) €Ocsl - siltstone, shale.

Current Work and Results:

In 1977, the claims were mapped and the units above were sub-divided according to lithology. Structure is complex and along with soft sediment features and rapid facies changes has made fold determinations difficult.

The main zinc occurrence is located near the base of Dvc in a limestone-shale unit. Sphalerite, smithsonite and native silver occurs in silty limestone and sooty-weathering calcareous siltstones. Other occurrences have been found within SDsq siltstones over a strike length of 10 km. The most interesting of these occur at Mt. Ross and consist of smithsonite, hydrozincite and sphalerite in shaly argillites and limestone.

Trenching was carried out on the main showing to expose mineralization over 280 m along strike up to 3.2 m thick. At Mt. Ross, trenching revealed over 15 m of mineralization for a strike length of greater than 100 m. A soil geochemical survey was conducted for zinc, lead and silver. It outlined several large areas of anomalously high zinc and silver.

In 1978, further geological mapping, soil geochemical surveys, ground magnetometer surveys and cat trenching were carried out. Geochemical soil surveys for lead, zinc and silver were carried out over various portions of the claim group; 3,700 samples were collected over 102.4 line-kilometres. Reconnaissance magnetometer surveys indicated good response to possible pyrrhotite-bearing black shale.

The ANGIE showing itself received a large amount of the work during 1978. Zinc-silver mineralization occurs as pelatoid disseminations concentrated in bands parallel to bedding and in secondary veinlets. Trenching indicated the mineralization to be lenticular and stratiform but stratigraphically transgressive and variable in width along strike. The mineralized zone is 280 m long, at the base of limestone of unit Dvc and the best assay results were 5.8% zinc and 3.58 oz/ton silver over 3.2 metres. Higher grades over shorter distances have also been obtained.

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BOB 105 F 15
St. Joseph Exploration Limited (61°54'N, 132°39'W)

References: Campbell (1967); Tempelman-Kluit (1977b).

Claims: BOB 1-17

Location and Access:

The claims are located 12 km southwest of Ross River. Access is by helicopter from Ross River or by the South Canol Road which passes 2.5 km east of the claims.

History:

The claims were staked in March 1978.

Description:

The claims are underlain by schist, phyllite, calcareous phyllite, limestone and slate of Cambrian to Silurian age. The Cambrian phyllites do not outcrop.

Current Work and Results:

Soil samples, analysed for Pb and Zn, were taken at 50 m intervals along lines 400 m apart. One linear zinc anomaly outlined a limestone horizon.

Geological mapping outlined an Ordovician-Silurian sequence. The lowest unit consists of a black to rusty, locally graphitic and pyrite-bearing, slate which underlies a medium to dark grey, thin bedded limestone. Both units are cut by white quartz veins containing minor chrome mica and copper minerals.

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GREW 105 F 15
Amax Potash Limited (61°56'N, 132°55'W)

References: Campbell (1967); Tempelman-Kluit (1977b).

Claims: GREW 1-25

Location and Access:

The claims are located 25.6 km southwest of Ross River in the St. Cyr Range of the Pelly Mountains. Access is by helicopter from Ross River.

History:

The claims were staked in 1977. Bulldozer trenches are present in the volcanic unit on the southeast part of the property.

Description:

The property is underlain by a series of Upper Devonian to Mississippian argillaceous sedimentary and felsic volcanic rocks. Massive bedded barite beds interbedded with limestone units are present on the western portion of the property. Minor volcanic interbeds are also present within the sedimentary rocks. The volcanic units, found in the central portion of the claim block consist of dacite to rhyolitic flows, tuffs and breccias containing 2-10% pyrrhotite. Two small biotite quartz monzonite plutons are found near the central portion of the property.

Current Work and Results:

Geological mapping and geochemical sampling were carried out on the property. Soil and rock samples were analysed for Mo, Cu, Ni, Mn, Fe, Ag, Zn, Pb and Bi. A Pb-Zn anomaly was identified.

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T, MAT, BAR, TENAS
WOP, BELL
DuPont of Canada
Exploration Limited

105 K 1, 105 G 13,
105 F 16
(62°03'N, 132°21'W)

References: Roddick and Green (1961a); Tempelman-Kluit (1972, 1977b); Morin et al (1979, pp. 62-63).

Claims: T 1-290, 300-327, 350-357, 401-826; BAR 1-18; MAT 1-44; TENAS 1-41; WOP 1-66; WOP 500-501 Fr; TENAS 100-101 Fr; BELL 15, 16 Fr

Location and Access:

The claims straddle the North Canol Road approximately 10 km north of Ross River. Access is by road or by helicopter from Ross River.

History:

The MAT, BAR and TENAS blocks were staked in 1974 by Welcome North Mines and subsequently optioned to Boliden-Preussag Explorations Limited in 1975. The T claims were staked by DuPont in late 1976 and early 1977. The present project is operated by DuPont under agreements with Welcome North Mines Limited, Teck Mining Corporation, R.E. Chaplin, and Western Mines Limited.

Description:

The claims are underlain by a sequence of volcanics, greywackes, and argillaceous phyllites (Morin et al, 1979 pp. 62-62). These rocks may be a part of Unit 3 (Tempelman-Kluit, 1972) and/or of unit PPk (the phyllites) and unit CP_{AV} (the volcanics).

Current Work and Results:

A heliborne EM and magnetic survey of 650 line-kilometres was flown along lines spacings 400 m apart at an altitude of 65 m. A Geonics 33-1 EM unit and a Barringer AM-104 total field nuclear precession magnetometer was utilized in the survey. Data was recorded on magnetic tape for computer processing. The data was displayed as maps showing profiles of in-phase and quadrature EM response along the flight lines. Results of the magnetic survey were displayed as contours of the total field and as contours of a modified second derivative of the data (filtered magnetics). The volcanic rocks produced a strong magnetic signature and the EM outlined conductive zones in the phyllitic unit.

A gravity survey was conducted on the T 401-T 826 claims with readings taken every 60 metres. Elevations were determined by levelling in each station with a relative accuracy of ± 0.03 metres between stations. The grid was tied into the 1977 TENAS grid. The andesite unit outlined in the previous year by a gravity high was traced further in this survey.

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ANVIL MINE
Cyprus Anvil Mining
Corporation

Lead, Zinc, Silver
105 K 2, 3, 6, 7
(62°21'N, 133°22'W)

References: Chisholm (1957); Roddick and Green (1961a); Green and Godwin (1964, pp. 31-32); Green (1965, pp. 36-37; 1966, pp. 47-50); Findlay (1967, pp. 35-39; 1969a, pp. 43-45; 1969b, pp. 29-30); Tempelman-Kluit (1972); Craig and Laporte (1972, pp. 94-96); Brock (1973); Sinclair and Gilbert (1975, pp. 50-52); Sinclair et al (1975, pp. 128-129; 1976, pp. 115-116); Morin et al (1977, pp. 156-157; 1979, p. 64).

Claims: FARO, GAL, ED, SUN, RICH, DY, GALE, DEA, LEA, PEA, SEA, SB, DP, KAY, MOR, SINK, LO, TIE, ROCK, BILL, CAPA, DELTA, ECHO, JANICE, KIT: approximately 1,600 claims

Location and Access:

The Anvil Mine is situated 230 km northeast of Whitehorse in the Anvil Range. Ore concentrates are trucked to Whitehorse via roughly 402 km of all-weather roads and then transferred to the White Pass and Yukon Route for shipment by rail to Skagway.

History:

The mine was brought into production late in 1969 and, except for brief shutdowns due to labour problems, has been in continuous production since. In 1975, Anvil merged with Dynasty Explorations Limited to form Cyprus Anvil Mining Corporation.

Description:

The host rocks on the property consist of pelitic schist which are overlain by calc-silicate phyllite (Unit 2, Tempelman-Kluit, 1972). The regional trend of the schist and phyllite is to the northwest, with dips averaging 20° to the southwest. Locally, the structure is complex, with at least five stages of deformation recognized by company geologists. The ore occurs in a series of massive sulphide zones along a 6,600 foot strike length. The ore zones are tabular in longtitudinal section and lenticular in cross section and are generally conformable to the enclosing schist and phyllite host rocks. Galena and sphalerite, associated with pyrite and pyrrhotite, are the principal sulphide minerals.

The new DY deposit discovered in 1976, (Morin et al, 1979) is a multi-horizon massive sulphide deposit at 549-610 metres depth near the base of the calcareous phyllite unit.

Current Work and Results:

Further drilling continued on the DY deposit and continued to return encouraging results. In addition to the 11 holes drilled in 1976-77, 11 additional holes of NQ core for a total depth of 8 540 metres were drilled. Four holes intersected high grade mineralization, ranging from 2.8 to 13.7 metres in thickness and showing grades from 14-22% combined lead-zinc and 80-150 grams/tonne silver. Three other holes intersected minable thickness in excess of 10% combined lead-zinc with 50-70 grams/tonne silver. Another hole returned marginal grades of 7-8% combined lead-zinc while the three remaining holes on the northeastern margin of the deposit failed to intersect significant mineralization.

On the KIT claims a Turam survey was carried out as was reprocessing of the gravity data for terrain effects.

OPERATING SUMMARY 1974-1978

	1978	1977	1976	1975	1974
Ore milled -					
Dry tonnes (000s)	3,280	3,116	1,520	2,926	2,654
Daily Rate - tonnes	8,986	8,535	-	8,148	8,041
Mill Heads;					
Lead	3.17	2.74	2.66	4.03	4.51
Zinc	5.14	4.88	5.48	5.41	5.60
Ore reserves (million tonnes)	34.2	37.5	40.5	42.1	45.1

Average silver grades are reported to be approximately 1 oz/ton or 34.3 grams/tonne.
1978 Annual Report

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SUNSET — Zinc, Lead
Welcome North Mines Limited — 105 K 3
Getty Mining Pacific Limited — (62°03'N, 133°04'W)

References: Tempelman-Kluit (1977b; 1978); Morin et al (1979, p. 64).

Claims: PMJ 1-70; MONI 1-65; AL 1-4; KIRK 1-2; RIM 1-6

Location and Access:

The claims are located in the Pelly Mountains approximately 26 km southeast of Faro. Access is by helicopter.

History:

These claims were staked in 1977 and cover an old showing consisting of the former claims AL, KIRK and FARGO that were evaluated by the Sunset Mining Corporation in 1968-69. Some geological mapping, and geochemical soil sampling and trenching carried out at that time outlined lead-zinc mineralization in discordant vein structures. It should be pointed out that the report by P.H. Sevensma did mention a possibility of concordant stratabound mineralization at that time. In 1967 Archer, Cathro and Associates examined the property for Munster Mines and also in 1967 Ace R. Parker and Associates conducted a geochemical soil survey.

Description:

The SUNSET grid is underlain primarily by metamorphosed (€Ocsl) Cambro-Ordovician argillaceous limestone, siltstone and minor sandstone and by (OSslq) Ordovician-Silurian silty argillite and phyllite with minor limestone. The extreme northern portion of the area is underlain by Cretaceous quartz monzonite. There has been considerable folding on the property with evidence of transposed bedding occurring due to the folding. Two types of mineralization have been identified; bands of fine- to coarse-grained sphalerite and galena, and as fine-grained sphalerite and galena in a metamorphosed iron formation consisting of spessartine garnet, ankerite, ilmenite, magnetite, tremolite and graphite.

Current Work and Results:

In November-December 1977, two diamond drill holes were drilled for a total depth of 237.6 m. Drilling in one of the holes intersected some anomalous lead values but the mineralization was not extensive.

In 1978, a continuing program of geological mapping, soil geochemistry and ground geophysics was carried out.

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Sir John A — Zinc, Lead
Welcome North Mines Limited — 105 K 3
Getty Mining Pacific Limited — (62°04'N, 133°09'W)

References: Tempelman-Kluit (1977a; 1978); Morin et al (1979, p. 65).

Claims: MONI 11-22, 33-44, 55-60; TELE 1-4, 13-16

Location and Access:

The claims are located in the Pelly Mountains approximately 19 km southeast of Faro. Access is by helicopter.

History:

The claims were staked in 1977.

Description:

Mineralization occurs in thinly laminated, calcareous, phyllite (calcareous siltstone) and schist of probable Cambro-Ordovician age. It is conformable with the lamination and occurs as sphalerite-rich laminae between others that are barren. The sulphide laminae are composed almost entirely of sphalerite with minor galena, biotite and quartz. Thickness of the laminae range from a few millimetres to several centimetres and individual laminae can be traced for many metres along strike (Tempelman-Kluit, 1978). Mineralized and unmineralized laminae alternate irregularly over nearly a hundred metres of stratigraphic-structural section (Tempelman-Kluit, 1978). Metamorphism of the units is at upper greenschist facies.

Current Work and Results:

In 1978, a continuing program of geological mapping, soil geochemistry and ground geophysics was carried out.

******

LOU — Zinc, Lead
Welcome North Mines Limited — 105 K 3
Getty Mining Pacific Limited — (62°10'N, 133°20'W)

References: Tempelman-Kluit (1977a, b).

Claims: LOU 1-115

Location and access:

The claims are situated 4.8 km south of the Robert Campbell Highway junction for Faro. Access is by helicopter from Faro.

History:

The claims were staked in October 1977 to cover an area of numerous geochemical anomalies obtained in regional reconnaissance mapping.

Description:

The area is covered by extensive overburden but the following units were identified and assigned to units defined in Tempelman-Kluit (1977b):

- €Ocsl - brown-weathering, thinly bedded shale, calcareous siltstones and argillaceous limestone.
- OSslq - Black graphitic siliceous and pyritic shale.
- Dvc - Crinoidal calcarenite; crinoidal lime stone; calcareous brown-weathering slate.

Current Work and Results

Soil samples were taken at 50 m intervals along flagged lines 400 to 800 m apart. Samples were analyzed for Pb, Zn and Ag. Two extensive geochemical anomalies were outlined.

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DEV — Zinc, Lead
Welcome North Mines Limited — 105 K 3, 4
Getty Mining Pacific — (62°10'N, 133°30'W)

Reference: Tempelman-Kluit (1977a, b).

Claims: DEV 1-83

Location and Access:

The DEV claims are situated 10 km southwest of the town of Faro straddling the Magundy River. The Robert Campbell Highway traverses the claim block at the northwestern extremity but prime access is by helicopter from Faro or Ross River.

History:

The claims were staked in August 1977.

Description:

The claims are located southwest of the Tintina Fault and are underlain by, Devono-Mississippian calcareous phyllite, siltstones, orthoquartzite, limestone, tuff and breccia. Outcrops of the units have been traced for 118 km along the front ranges of the St. Cyr Range. The area has been divided up into fault panels formed by numerous thrust faults.

Current Work and Results:

Geological mapping has identified the following stratigraphic units: (1) Devonian (Dvc), equivalent to the upper Road River, consisting of limestone, a Pb-Zn bearing siderite bed, black chert and cherty argillite and sooty black shale and limestone, (2) Devonian (Dcv), upper Road River equivalent, brown weathering, fissile, thin laminated, dark grey phyllitic shales and limestones with minor but often thick sills(?) of quartz monzonite and minor thin lenses of siderite, (3) upper Devonian-Mississippian (uDMs) - black clastic equivalent, sooty black to rusty weathering, fissile, epsomite-graphite-shales, (4) Mississippian (Mt), black clastic equivalent, rusty brown weathering, highly fractured, grey to black chert and argillite and possibly very minor trachyte volcanics, (5) Carboniferous (Csl), brown weathering, massive, grey, sandy limestones and (6) Upper Triassic (uTrsc), a massive, rusty, buff weathering dark-grey, weakly calcareous, 'dirty' siltstone.

Mineralization was found at two locations on the claims, named the WET and MAG showings. Mineralization consists of accessory sphalerite, galena, pyrite and chalcopyrite occurring within a siderite bed that may be up to 7.6 m thick that occurs in a unit of cherty and ferruginous argillite that is up to 61 m thick.

The MAG showing consists of galena and sphalerite in irregular veinlets and disseminations with stringers of quartz-calcite in massive siderite. Mineralization is irregular but siderite outcrops are always veined with quartz-carbonate. The cherty argillite which envelopes the siderite horizon contains 2.5-7.5 cm thick beds of siderite which are mineralized with siderite. The WET showing occurs within a buff weathering, shaly phyllite containing boudins, lenses, and bands of siderite hosting sphalerite and galena mineralization. Mineralization tends to be low grade but best assay obtained was 11% Zn.

Other work included a soil geochemical survey for lead and zinc, and trenching. Two zinc anomalies were outlined by the geochemical survey.

******

MAY — Zinc
Welcome North Mines Limited — 105 K 4
Getty Mining Pacific Limited — (62°05'N, 133°45'W)

References: Roddick and Green (1961a); Tempelman-Kluit (1977a, b).

Claims: MAY 1-144

Location and Access:

The MAY claims are situated in the St. Cyr Mountains approximately 32 km west of Faro. Access to the claims is by helicopter from Faro or Ross River.

History:

The claims were staked in August 1977. It is thought that Atlas Explorations held a sphalerite skarn property in the vicinity of the claims in 1969.

Description:

The claims are underlain by highly metamorphosed rocks that were presumably pelitic and carbonaceous sediments of Proterozoic and Cambrian age. These rocks have been intruded by Cretaceous granitic rocks.

Current Work and Results:

In 1977, prospecting and reconnaissance geological mapping have identified numerous en-echelon sheet-like sphalerite-rich diopside bands conformable to the skarn zone. Width varies from a few cms to a maximum of 10 metres. Most of the mineral occurrences are located within a migmatitic aureole around the intrusives (Unit A, Roddick and Green, 1961a). Minor tungsten has been found associated with the skarn zones on the property.

In 1978, detailed mapping, soil geochemistry and chip sampling was conducted on some of the sphalerite-bearing skarn zones. The geochemical survey consisted of 560 soil samples taken along grid lines spaced 150 m apart and at 50 m intervals. Soils were analysed for lead, zinc and silver. The rock samples were assayed for lead, zinc, silver, tungsten and tin. All

the showings examined were small in extent but some of the skarn zones indicated anomalous tin values of greater than 100 ppm.

******

URN — Barite
Cyprus Anvil Mining Corporation — 105 K 5, 6 (62°20'N, 133°32'W)

Reference: Tempelman-Kluit (1972).

Claims: URN 1-131

Location and Access:

The claims are situated on the east flank of Rose Mountain, 7 km west of the Faro open pit. Access is by helicopter from the mine road.

History:

The claims were staked in 1977.

Description:

The claims are underlain in part by the Lower Devonian to Mississippian Earn Group. Barite is restricted to the Earn Group and is found as two or possibly three horizons. The barite horizons have been seen to grade laterally into phyllitic chert.

Current Work and Results:

Two main horizons of barite have been observed. The lower horizon has a potential strike length of 3.7 km but it is most likely not continuous over this distance. Sampling at one site gave 63% $BaSO_4$ over 10 m and 48% $BaSO_4$ over 4 m. Top and bottom of the barite horizon were not found at this site but the topography indicates a true thickness not exceeding 15-20 metres. The upper horizon is 300 m up section and is continuously exposed over 1.2 km of strike length. True thickness of this horizon is approximately 10-12 m. Moderate dips of 25°-55° into a rugged hillside would not allow construction of an open pit.

The barite horizon with best economic potential may correlate with either barite horizons or may form a third horizon. It is underlain by shale and overlain by a conglomerate. It has a projected strike length of 4.3 km. One sampling site in a topographically favourable position for a quarry site returned an assay of 90% $BaSO_4$ over 3 m.

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EVA — 105 K 5
Welcome North Mines Limited — (62°26'N, 133°48'W)
Getty Mining Pacific Limited

References: Roddick and Green (1961); Tempelman-Kluit (1972); Sinclair et al (1976, p. 116); Morin et al (1977, p. 158).

Claims: EVA 1-82

Location and Access:

The claims are located 21 km northwest of Faro. Access is by helicopter from Faro.

History:

The EVA 1-49 claims were staked in 1975. In 1976 the EVA 49-82 claims were staked.

Description:

The claims are heavily covered with overburden and outcrops of rocks other than those of the Anvil Batholith occur only in the far west end of the property. Quartz-feldspar-biotite-muscovite schists, carbonaceous biotite-muscovite-andalusite schist, calc-silicate gneiss and metabasite are found in the far western portion of the property as outcrop or subcrops.

Current Work and Results:

Geological mapping and a soil geochemical survey for lead, zinc and silver was carried out over EVA 49-82 claims. It is thought that the favourably stratigraphic horizons for massive sulphide deposits are located in the western part of EVA 49-82. One significant geochemical anomaly was outlined.

******

LU — 105 K 5, 12
AMAX Potash limited — (62°30'N, 133°50'W)

References: Campbell (1967); Tempelman-Kluit (1972).

Claims: LU 1-100

Location and Access:

The claims are located north of Anvil Creek approximately 38 km northwest of Faro. Access is by helicopter.

History:

The claims were staked in 1977 based on results from regional geochem, geology and an airborne EM survey.

Description:

The claim block is divided into two portions by a SW-NE trending fault zone or unexposed intrusion. North of the discontinuity quartz-biotite-sericite andalusite schist, calc-silicate, and graphitic schists dip moderately to the northeast. South of the break, quartz-biotite schists, and calc-silicate layers rapidly grade upwards into cherty calc-silicate rocks capped by a thick section of interbedded chlorite phyllite and amphibolite.

Current Work and Results:

Geological, and soil and silt geochemical surveys were conducted on the property. Rock chip samples from outcrops of graphitic phyllite were also analyzed. All surveys analyzed the following elements: Mo, Cu, Ni, Co, Mn, Fe, Ag, Zn, Pb. Only scattered low-order anomalies were detected by the soil survey. Some silt anomalies were detected and some of the graphitic rock units were only slightly anomalous in Pb and Zn.

A MAX-MIN II EM survey using frequences of 444 Hz and 1777 Hz, a station separation of 180 m and a reading interval of 30 m was conducted on the western half of the claim group. A magnetic survey was also conducted. Numerous weak EM conductors consistent with the pattern of the earlier Airborne EM survey were detected. The magnetic survey outlined only minor anomalies.

A gravity survey with stations at 60 m intervals spaced 240 m apart was conducted on the grid on the western half of the claim block. Four gravity anomalies were outlined.

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TAY
AMAX Potash Limited

105 K 5, 12
105 L 8
(62°30'N, 133°58'W)

References: Campbell (1967); Tempelman-Kluit (1972).

Claims: TAY 1-166

Location and Access:

The claims are accessible by helicopter from Faro, 43 km to the south.

History:

The TAY 1-96 claims were staked in the summer of 1977 and TAY 97-166 in the summer of 1978 to cover airborne EM anomalies and graphitic horizons.

Description:

The property is underlain by a sequence of Lower Cambrian two mica-quartz schists and calc-silicate horizons with overlying calcareous chlorite phyllites. The units have a northwesterly strike with gentle northeast dips.

Stratigraphically the lowest unit exposed on the property is a calc-silicate unit which grades upwards into the quartz-mica schist. This unit consists of quartz-biotite-sericite ± andalusite schist and its facies equivalent, a quartz-sericite schist/phyllite. Cherty and/or sericitic graphitic horizons which vary in length from 600 to several thousand metres, are scattered throughout this unit.

Current Work and Results:

Geological mapping, a geochemical survey of soils, silts and rocks, a MAX-MIN II EM survey, a magnetometer survey, a gravity survey, and a limited VLF-EM survey were conducted over portions of the property.

The MAX-MIN II survey used frequencies of 444 and 1777 Hz, station separation of 180 m and a reading interval of 30 m. Conductors outlined generally corresponded to those detected during the earlier airborne EM survey. These anomalies are likely due to graphitic horizons.

The gravity survey outlined six anomalies of probable significance.

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NORTH ANVIL RANGE
Cyprus Anvil
Mining Corporation
Metallgesellschaft
Canada Limited
Cream Silver Mines Limited

Lead, Zinc, Silver
105 K 6, 7
(62°20'N, 133°00'W)

References: Tempelman-Kluit (1972); Morin et al (1977, p. 162; 1979, p. 67).

Claims: AM, FAT, FIN, JET, LISA, MX, SARK, TAF, TIM, ZAN, MYE: A total of 400 claims

Location and Access:

The claims are situated north of the Anvil Batholith about 13 km from the Anvil Mine. Access is by helicopter from Faro.

Description:

The claims are underlain by a variety of rock types which include, from oldest to youngest, a high grade metamorphic schist of siliceous to pelitic compostion lying adjacent to the Anvil Batholith, the Faro sequence, a calc-silicate unit, and pelitic phyllites with marked graphitic horizons. Overlying this sequence of rocks is the KD volcanic package of rocks.

Current Work and Results:

Horizontal Loop EM surveys were conducted on the ROG, MING, AM, TIM claims. Four diamond drill holes for a total depth of 747.9 m were drilled on FIN 9, 28, AM 2 and IRMA 9. The exploration work failed to detect any new mineralization.

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KD
Giant Yellowknife
Mines Limited

Zinc, Lead, Copper
105 K 6
(62°30'N, 133°10'W)

References: Tempelman-Kluit (1972); Craig and Milner (1975, p. 93); Morin et al (1979, p. 67).

Claims: KD 1-26

Location and Access:

The claims are located north of Mt. Mye about 25 km north of the town of Faro. Access is by helicopter from Faro.

History:

The claim group has an extensive history going back to 1966. (See Craig and Milner, 1975, p. 93). In 1970 Kangaroo Exploration Corporation optioned the claims and in 1971 drilled four holes totalling 2,064 feet (629 m).

Description:

The claims are partially underlain by a late Silurian (?) package of volcanics that lie unconformably (?) on schists, calc-silicate gneisses and phyllites. This volcanic package contains pillowed and fragmental volcanics with some interbedded tuffs and sediments. One hole gave over 61 metres of 2.28% zinc in the volcanics. Mineralization is probably of the volcanogenic type.

Current Work and Results:

In 1978 diamond drilling on claims KD 3, 11, 12 and 24 obtained a total of 609 m of BQ core.

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CAT
Preussag Canada Limited

105 K 7
(62°15'N, 133°00'W)

References: Tempelman-Kluit (1972); Morin et al (1979, p. 68).

Claims: CAT 1-64; PUSS 1-8 Fr

Location and Access:

The claims are located on Blind Creek about 14.5 km above its confluence with the Pelly River. Access is by helicopter from Faro, 19 km to the west.

History:

In the 1964-65 staking rush in the Anvil District the area of the CAT claims was covered by the LUK group. Airborne magnetic and EM surveys were carried out in 1966. The present claims were staked in 1974 for Norex Developments Limited (NPL) and limited line-cutting and trenching was carried out in 1975. In 1975 the claims were optioned to Afrex Gas and Oil Limited who re-optioned the claims to Preussag Canada Limited.

Description:

Glacially-derived material covers most of the claim block except for some ridges and steep hillsides. The claims are underlain by the Anvil series of schists and phyllites with the contact between the biotite schist unit and chlorite phyllite unit transecting the claim group. The valley of Blind Creek follows the trace of a normal fault.

Current Work and Results:

Two diamond drill holes on claims 24 and 26 for a total depth of 339.9 m were drilled in 1978.

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DOT
Welcome North Mines Limited
Getty Mining Pacific Limited

105 K 7
(62°22'N, 132°47'W)

References: Tempelman-Kluit (1972); Morin et al (1979, p. 68).

Claims: DOT 1-42

Location and Access:

The claims are located west of Blind Creek near its headwaters north of the old ACE airstrip. Access is by helicopter, winter tote road up Blind Creek or by fixed wing aircraft to the old airstrip.

History:

The claims were staked in August 1976 and cover the old TEL showing.

Description:

The property is underlain by Cambro-Ordovician phyllite of Unit 3 and in the northeast by rusty black chert of Unit 7 (Tempelman-Kluit, 1972).

Current Work and Results:

A gravity survey of the eastern portion of the claim group was conducted. A small residual gravity high was outlined at the location of drill hole VDI-77 which had not indicated any significant mineralization.

******

AM, PM
AMAX Potash Limited

Lead, Zinc
105 L 8, 9
(62°31'N, 134°05'W)

References: Campbell (1967); Morin et al (1979, pp. 68-69).

Claims: AM 1-176; PM 1-8 Fr; BM 1-48

Location and Access:

The claims are situated on the southwest flank of Tay Mountain on the north side of the Pelly River. Access is by helicopter from Faro, 50 km to the southeast.

History:

The claims were staked in June 1976 and are known as the Fishook Creek Property.

Description:

The claims are underlain by northwest striking Cambro-Ordovician phyllites and metabasites. The phyllites dip to the southwest off the flanks of a Cretaceous quartz monzonite. The youngest units on the property are massive metabasites associated with calc-silicate layers exposed along southern portion of AM claims. Chloritic and calcareous phyllites underlie the metabasites along a possible thrust fault contact. The northeastern portion of the claim blocks is underlain by sericitic phyllite containing quartz-graphite and sericite-graphite members containing very minor pyrite and pyrrhotite.

Current Work and Results:

VLF-EM, magnetometer and horizontal loop MAX-MIN EM surveys at 444 and 1777 Hz were conducted over portions of the property. Several conductors were outlined.

The gravity survey of the previous year was reprocessed to calculate terrain effects, to calculate a complete Bouguer map using Anvil Range phyllite densities and to calculate a regional-residual anomaly seperation using a non-linear elevation factor. This has eliminated many of the Bouguer anomalies due to topographic effects allowing the remaining anomalies to be evaluated for potential massive sulphide deposits.

******

SUE
MacMillan Joint Venture

Zinc. Lead, Silver
105 L 10, 14, 15
(62°48'N, 135°00'W)

References: Campbell (1967); Findlay (1967, p. 34); Sinclair et al (1976); Morin et al (1977, p. 164; 1979, p. 69).

Claims: SUE - a total of 688 claims

Location and Access:

The claims form a single west-northwest trending block between the Pelly and MacMillan rivers. Access in 1978 was by fixed wing aircraft to Oz Lake from Whitehorse, 238 km to the south, or from Mayo, 96.5 km to the northwest. A winter tote road connects the property to Pelly Crossing. In 1979, an airstrip suitable for ski- or wheel-equipped aircraft was constructed.

History:

Parts of the current property were staked by Conwest Exploration Company Limited in 1966 following the Anvil discovery. Work in 1966-1967 consisted of airborne magnetic and electromagnetic surveys followed up by ground magnetic and electromagnetic surveys and some diamond drilling. The property was restaked by Conwest in August 1974 as the SUE claims. The claims are currently held by the MacMillan Joint Venture, a consortium between Conwest and Essex Minerals Company Limited. Extensive ground electromagnetic, magnetic, gravity, seismic and geochemical surveys were conducted during the period 1975-1977.

Description:

Outcrop on the property is scarce and geological data is generally lacking. According to Campbell (1967) the property straddles the Tintina Fault which strikes roughly northwest. Northeast of the fault the property is underlain by volcanics and sediments of the Proterozoic to Paleozoic Anvil Range Group (Unit 15, Campbell, 1967). Silurian (?) and Devonian (?) sediments (Unit 15, op. cit.) occur southwest of the fault on the southwestern boundary of the property. Although occurrences of copper mineralization have been reported from the general area, no showings have been described on the property itself.

Current Work and Results:

In 1978, 17 diamond drill holes for a total of 2 531 m (8,300 feet) were drilled to test geophysical anomalies. Low grade lead-zinc mineralization associated with massive pyrite was intersected in one anomaly (Northern Miner, June 14, 1979).

******

SUE, KAT, EL, JO, NAN, JAN, DEN, WEN, AND, JY
Halferdahl and Associates Ltd.

Platinum, Nickel, Copper
115 G 6
(61°23'N, 139°19'W)

Reference: Read and Monger (1976).

Claims: AND 1-8; JY 1-8; EL 1-8; JO 1-8; SUE 1-8; KAT 1-8; NAN 1-8; JAN 1-8; DEN 1-8; WEN 1-8

Location and Access:

The claims straddle Burwash Creek and are accessible by a road along Burwash Creek that meets the Alaska Highway north of the town of Burwash.

Description:

The claims are underlain by the following units taken from Read and Monger (1976):

(3) Ub - mid Triassic peridotite
(2) Psp - Permian - argillite - Hazen Creek Formation
(1) Psv - Permian - meta-volcanics - Station Creek Formation

Current Work and Results:

Parts of the claim groups were mapped and 359 soil samples on seven lines were taken.

******

Hopkins Lake
Whitehorse Copper Mines Limited

Copper, Gold, Silver
115 H 7
(61°16'N, 136°55'W)

References: Tempelman-Kluit (1974b); Morin et al (1979, p. 69).

Claims: ACME 1-11; HOP 1-69

Location and Access:

Access is by a 1.6 km 4-wheel drive road from km 53 of the Aishihik Road.

History:

The HOP claims were staked in 1977.

Description:

A magnetite, pyrrhotite, diopside, tremolite, garnet skarn containing chalcopyrite occurs on the contact of quartz mica schist and marble of the Yukon Group metasediments. Mineralization is conformable to the dip of the sediments which strike northwesterly with dips of approximately 10° to the northeast. The skarn zone is within 610 metres of a Cretaceous (?) granite intrusion to the north.

Current Work and Results:

Forty kilometres of ground magnetic surveys were run on the claims. A test IP survey was tried on HOP 2 and 3 claims. Four diamond drill holes for a total depth of 698.7 metres were drilled on HOP 2, 3 and ACME 13 claims. Two of the holes intersected the favourable horizon which was only weakly mineralized, a third hole was abandoned in a dyke and the fourth hole drilled 90 m past the projection of the horizon without intersecting it.

Black Serpentine

SiO_2	36.10
Al_2O_3	0.11
TiO_2	0.02
FeO	10.1
MnO	0.27
MgO	42.10
CaO	0.20
Na_2O	0.00
K_2O	0.00
P_2O_5	0.04
LOI	10.05
TOTAL	100.10

Cr 80 ppm Ni less than 1 ppm

Massive black serpentine from the skarn zone has low nickel and chromium values, indicating that the serpentine is of metamorphic origin and formed in a reaction during the skarn-forming event.

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TOSH
Noranda Exploration Company Limited

115 H 10
(61°42'N, 136°37'W)

Reference: Tempelman-Kluit (1974b).

Claims: TOSH 1-36

Location and Access:

The claims are located approximately 13 km south of Little Buffalo Lake and 45 km southwest of Carmacks. Access is by helicopter from Carmacks.

History:

The claims were staked in August 1977.

Description:

The claims are probably underlain by Unit Mqmp, porphyritic quartz monzonite (Tempelman-Kluit, 1974b).

Current Work and Results:

A soil geochemical survey for Pb, Zn, Cu and Mo was conducted. Samples were taken 100 m apart along lines spaced 200 m apart.

******

SEK
Noranda Exploration Company Limited

115 H 12
(61°32'N, 137°33'W)

Reference: Tempelman-Kluit (1974b).

Claims: SEK 1-8

Location and Access:

The claims were located near the north end on the east side of Sekulmun Lake, 87 km north of Haines Junction. Access is by float plane from Whitehorse.

History:

The claims were staked in August 1977 by Noranda. Eleven holes were drilled in 1970 and 1971 by M. Nichiporick and the core is stored in the DIAND core library in Whitehorse.

Description:

The claims are underlain by quartz-chlorite-biotite schist and quartzite of the Yukon Group (PPbq) and by fine- to medium-grained quartz monzonite (Tgal) and quartz-feldspar porphyry dykes (Tfp). Some skarn and hornfels has developed in the schists at the margins of the intrusive. Minor disseminated pyrrhotite and small galena-filled quartz fractures are present.

Current Work and Results:

Magnetometer and geological surveys were conducted on the property. Very little magnetic relief was observed.

******

Revenue Creek
Yukon Revenue Mines Limited

Gold, Tungsten, Copper
115 I 6
(62°21'N, 137°12'W)

References: Green and Godwin (1964, p. 29); Green (1966, pp. 31-33); Findlay (1969a, pp. 38-39; 1969b, p. 26); Craig and Laporte (1972, pp. 79-82); Sinclair et al (1975, p. 114).

Claims: REVENUE COPPER, REVENUE, REV, ADD, HOMESTAKE, ADDITION, AU, INCA: total of 46 claims

Locations and Access:

The property is situated on Revenue Creek, on the south side of the valley of Big Creek, 56 km northwest of Carmacks. The property can be reached by an 13 km tote road which connects with the Carmacks-Freegold Road. An airstrip on Big Creek Flats near the mouth of Revenue Creek can be used by Beaver and smaller aircraft.

History:

Massive chalcopyrite was discovered on Revenue Creek in 1950 by P.F. Guder of Carmacks. In 1951, Conwest optioned the property and drove a short adit in addition to conducting E.M. and resistivity surveys. Teck Corporation drilled five holes near the adit in 1954 and 1955; and Asbestos Corporation carried out silt and soil geochemical surveys in 1959. In 1964 and 1965 Canex conducted a soil survey and drilled three holes near the adit, which encountered some disseminated copper sulphides. General Enterprises Limited of Whitehorse optioned the property in 1967, and in 1968 Yukon Revenue Mines Limited was formed to continue exploration. In 1968 and 1969, work by Yukon Revenue included an I.P. survey and diamond drilling. One hole cut a 140-foot section assaying 0.12 per cent copper and 0.03 per cent molybdenum sulphide. In 1970, Kaiser Resources took over exploration under a joint agreement and carried out geological and geochemical surveys and a drilling program which included 6,074 feet of diamond drilling in 13 holes and 7,365 feet of percussion drilling in 25 holes. The drilling indicated only low grade copper of the same order as that found in the 1968-1969 program. In 1974 further bulldozer trenching was done.

Description:

The property is underlain by schist and gneiss of Proterozoic and/or Paleozoic age which have been intruded by a quartz monzonite plug in which several phases have been recognized including hornblende monzonite, biotite monzonite and low-mafic quartz monzonite. An altered breccia of granitic fragments in an aphanitic ground mass cuts across the complex of monzonitic rocks in an irregular, east-trending belt. Alteration is widespread in the igneous rocks and argillic, phyllic and propylitic zones have been recognized. Massive chalcopyrite and pyrite of the original discovery occur as a pod in the centre of the altered breccia although most of the copper in the monzonite and breccia phases occurs as disseminated chalcopyrite. Molybdenite is rare and occurs only in quartz veins cutting the monzonite. Malachite and azurite are present in the top 100 feet of bedrock.

Current Work and Results:

Bulldozer trenching utilizing a D-7 with ripper moved approximately 3,000 cubic yards of rock. The area worked was along both sides of the south contact of a zone of "tuffaceous breccia" with a biotite quartz monzonite. The highest assay of a 3.4 metre wide zone in a trench ran 0.67 oz/ton gold, 3.43 oz/ton silver and 1.33% copper. Continuous grab samples across 26.3 metres in the biotite quartz monzonite at the south contact of the breccia assayed 0.30% WO_3.

******

HI
United Keno Hill
Mines Limited

Copper
115 I 6
(62°29'N, 137°03'W)

References: Tempelman-Kluit (1974a); Morin et al 1979, p. 71).

Claims: HI 1-78

Location and Access:

The HI claims are located on the west side of Big Creek 15 km southwest of Minto and 224 km north of Whitehorse. Access is by helicopter.

History:

The claims were staked in 1976.

Description:

The property is underlain primarily by the Triassic Klotassin Batholith. These rocks are of granodioritic composition with some smaller areas of diorite. In a few restricted areas biotite and quartzo-feldspathic gneisses belonging to the Yukon Group are found.

Current Work and Results:

An IP and resistivity survey was conducted along two lines. No significant anomalies were located.

******

STU
United Keno Hill
Mines Limited

Copper
115 I 7
(62°25'N, 136°50'W)

References: Tempelman-Kluit (1974a, b); Morin et al (1979, pp. 71-72).

Claims: STU 1-122

Location and Access:

The claims are located 47 km north of Carmacks along Hoochekoo Creek. Access is by helicopter from Carmacks.

History:

The claims were staked in January 1977 to cover anomalies obtained in a 1976 geochemical reconnaissance program.

Description:

Most of the claim block is underlain by intrusive rocks. These include a medium- to coarse-grained porphyritic granodiorite and a foliated variety of the granodiorite which may be somewhat richer in mafic minerals. Other units include the copper-bearing quartz-feldspar-biotite gneiss unit, fine- to medium-grained, exhibiting a range of biotite content from 0 to 50 per cent; a fine- to medium-grained gabbro and diorite unit; the Carmacks Group volcanics, which are found in a few outcrops of flows and tuff breccias; and a group of aplitic, micro-granite and pegmatite dykes.

Current Work and Results:

An IP and resistivity surveys were conducted. Some weak and poorly defined anomalies were located but little correlation with the geochemical anomalies was noted.

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SAM
Anglo American Corporation
of Canada Exploration, Limited

Copper, Gold
115 J 9
(62°39'N, 138°05'W)

References: Bostock (1944); Tempelman-Kluit (1974b); Sinclair et al (1975, pp. 95-96); Morin et al (1977, pp. 178-179; 1979, p. 72).

Claims: SAM 1-98; SWEDE 1-6

Location and Access:

The claims are situated in the Dawson Range 65 miles (105 km) northwest of Carmacks. They are bordered by Hayes Creek to the north and east and by Butterworth Gulch to the south. Elevations on the property range from 2,000 to 3,500 feet. Access to the property is normally by helicopter.

History:

Placer gold was discovered in Klines Gulch as early as 1898 and placer mining has been carried out intermittently since then. Quartz veins were discovered around Klines Gulch in 1899 and an 80-foot adit was driven in the early 1900's. The area was staked as the HAYES claims in 1965 by Coranex Limited and subsequently as the DP claims in 1969 by Dawson Range Joint Venture and the NADA claims by D.C. Syndicate in 1974. Anglo American Corporation of Canada Exploration, Limited staked the SAM claims in October 1975.

Description:

The property is underlain primarily by metamorphic rocks of the Yukon Group which are intruded to the southwest by Triassic granodiorite of the Klotassin Batholith (Tempelman-Kluit, 1974b). Trace amounts of chalcopyrite and molybdenite are associated with disseminated pyrite and pyrrhotite in a small quartz monzonite stock intruding Yukon Group rocks. Traces of chalcopyrite and molybdenite also occur with disseminated pyrite in the bleached, quartz-veined contact zone within the Yukon Group rocks.

Rock units recognized by company mapping in 1977 are (1) 'Coffee Creek' granite, (2) a rhyolite porphyry intrusive, (3) the Yukon Group metamorphics.

Current Work and Results:

During 1978, eighteen bulldozer trenches, 600 soil samples and eleven BQ diamond drill holes were put down for a total of 490 metres. Minor gold-silver values are associated boulangerite and bournonite occurring with pyrite in quartz-calcite veins within northwest trending shear zones in a rhyolite porphyry.

The trenches are found on the SAM 25, 88-90, 92, 96 and SWEDE 1-4 claims. The diamond drilling holes are located on SAM 89, 90, 92, 95 and 96 claims.

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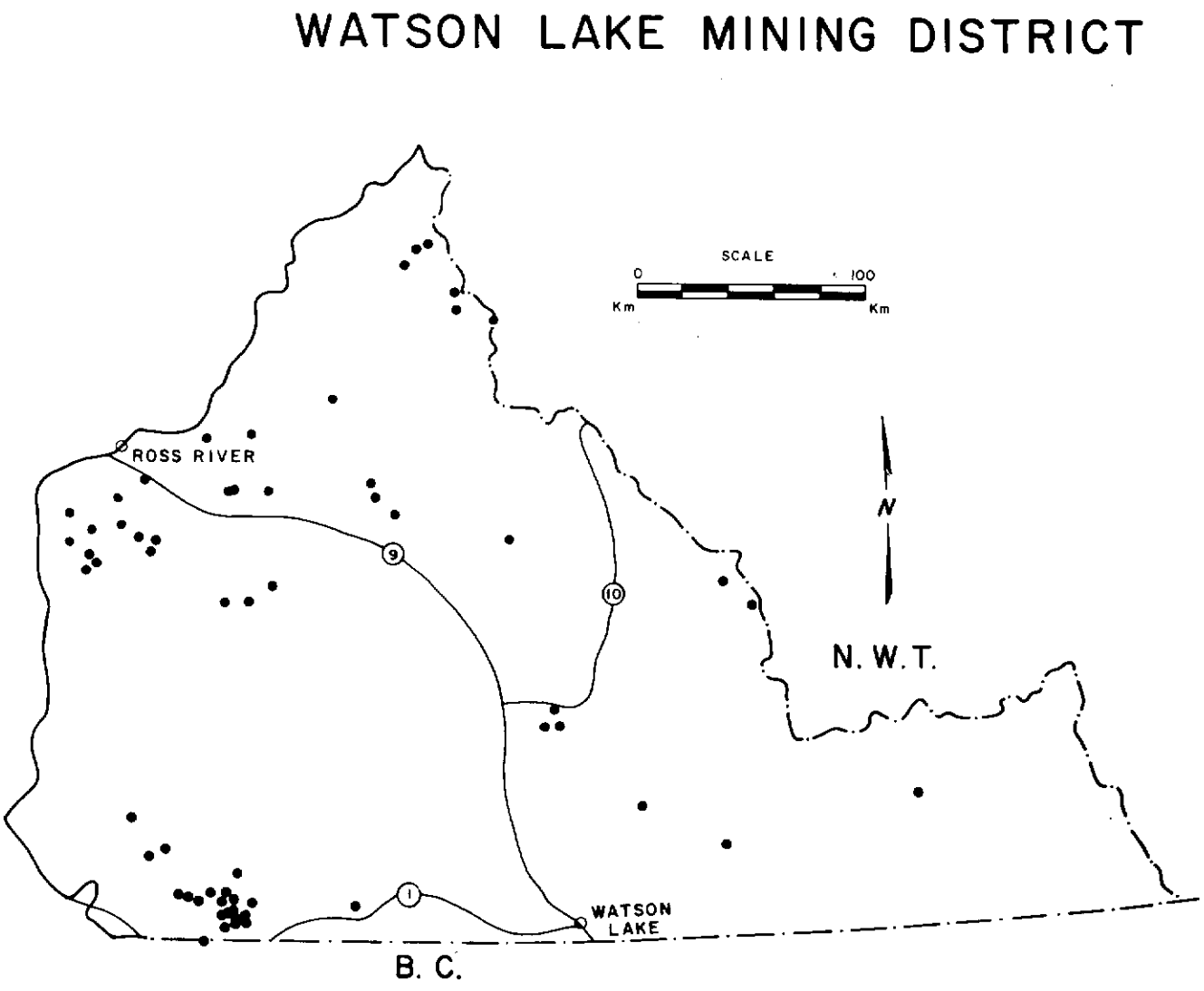

Figure 7: Active quartz claim properties in 1978, Watson Lake Mining District.

TING
St. Joseph Explorations Limited

Lead, Molybdenum, Zinc
95 C 12
(60°31'N, 125°53'W)

Reference: Douglas (1976).

Claims: TING 1-21

Location and Access:

The claims are situated about 20 km northeast of Toobally Lakes. Access is provided by helicopter from Watson Lake, 165 km west-southwest.

History:

The TING claims were staked in July 1978 following the recognition of stream sediment geochemical anomalies associated with a small previously unknown alkalic intrusion.

Description:

The property is underlain by Lower to Upper Paleozoic sedimentary rocks (shales and carbonates) that have been intruded by a syenite plug. The plug is cone shaped and highly fractionated, having both intrusive and extrusive phases. Mineralization consists of lead, molybdenum and zinc-bearing veins hosted in the contact zone of the intrusion and the nearby country rocks.

Current Work and Results:

During summer 1978, geological mapping (1;5,000), prospecting, soil and rock geochemical sampling and ground scintillometer survey programs were conducted. Soil samples were collected and scintillometer measurements made at 50 m intervals along lines spaced 400 m apart. The 264 soil samples and several rock samples were analyzed for Pb, Zn, Mo, U, F, and several high lead and zinc anomalies were determined. The scintillometric anomalies corresponded to variations in rock types and not uranium mineralization.

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MEL
St. Joseph Explorations Limited

Lead, Zinc, Barite
95 D 6
(60°21'N, 127°24'W)

References: Gabrielse and Blusson (1969); Sinclair and Gilbert (1975, pp. 82-83); Sinclair et al (1975, pp. 152-153); Carne (1976); Morin et al (1979, p. 74); Miller (1979).

Claims: JEAN 1-21; MEL 11-16; WET 1-16, 25-32

Location and Access:

The property is located in the Hyland Plateau, 80.5 km east-northeast of Watson Lake and access is provided by STOL float equipped aircraft to Otter Lake (2.8 km north) or by helicopter from Watson Lake. A winter tote road, 46 km in length, connects the property with the Alaska Highway.

History:

The property was originally staked by J. Melynchuk and T. Flint in 1967 and since then has been optioned to several companies in succession who have done varying amounts of work, including trenching and diamond drilling. In 1976, R.C. Carne mapped and reported on the property for the Department of Indian and Northern Affairs. During the winter of 1976/77, St. Joseph Explorations Limited entered an agreement with Granby Mining Corporation Limited and Sovereign Metals Corporation Limited to conduct further exploration work on the property. In 1977, further geological mapping (1:5,000), geochemical soil and stream sediment sampling, gravity and induced polarization survey programs were conducted. Three lead-zinc anomalies were determined, one of which lies south of the main mineralized zone and is nearly coincident over a 600 metre length with induced polarization and gravity anomalies.

Description:

The property is underlain by Cambro-Ordovician carbonates and argillaceous sediments which form the overturned west limb of a broad syncline. The west part of the property is underlain by massive grey limestone with interbedded shale bands of Lower Cambrian age (Unit 5, Gabrielse and Blusson, 1969). To the east, the property is underlain by calcareous brown phyllite and silty, wavy banded limestone of Ordovician age (Unit 8, op. cit.). The contact between the Lower Cambrian and Ordovician sediments appears to be conformable, striking roughly north and dipping steeply to the west.

Drilling to date has indicated a mineralized zone 10 to 40 feet wide located at the contact of massive grey limestone on the hanging wall and limy, pyritic phyllite on the footwall. The mineralized zone consists of disseminated sphalerite and galena within baritic host rocks. Host rocks consist of white coarse-grained barite with clasts and thin beds of pale brown shale (mudstone) and some grey chert. Drilling has shown the deposit is thickest in the centre and decreases in thickness both north and south where grey chert becomes predominant and barite content is low. Pale grey chert, up to 8 feet thick, was also intersected in several drill holes at the stratigraphic top of the zone. Drill hole intersections (1974-75) average 7.3% combined Pb-Zn and 56% barite over a strike length of about 2,600 feet.

Current Work and Results:

During summer 1978, a diamond drill program consisting of 7 holes totalling 3,446 feet of BQ core was conducted. The drilling along strike south of the deposit had negative results, but deeper drilling near the centre of the deposit expanded previous ore reserves. Drill indicated reserves (includes 1979 data) are 4.8 million tonnes of 52.1% $BaSO_4$, 2.05% Pb and 5.61% Zn (Miller, 1979).

******

NEIL, FOX
La Teko Resources Limited

Copper, Lead, Silver
95 E 6
(61°17'N, 127°03'W)

Reference: Gabrielse et al (1973); Morin et al (1979, pp. 75-77).

Claims: NEIL 1-8, 10-15; FOX 1-16

Location and Access:

The property is located in the Selwyn Mountains, 160 km north-northeast of Watson Lake, immediately west of the Yukon-NWT border. Access is provided by float equipped fixed wing aircraft to the northern lake of Twin Lakes, and from there 8 km north to the property by helicopter.

History:

The NEIL claims were staked in June 1976 and the FOX claims in November 1976. They cover ground that had been held under several different claim names since the late 1950's: RAM, DELL, SUNSET. An airborne magnetic survey was conducted in 1968 and a 900 m long magnetic anomaly was determined 150-300 m east of the main showing and parallel to the argillite-dolomite contact. Work in 1977 consisted of further prospecting, geological mapping, trenching and sampling.

Description:

The property is underlain by north-south trending argillite, quartzite and slate of the Upper Proterozoic 'Phyllite Unit' and buff dolomite and grey limestone of the Lower Cambrian Sekwi Formation. Small, sill-like bodies of medium-grained gabbro are intrusive to the 'Phyllite Unit' (see map). On the property, the rocks are folded into an antiform and synform.

Mineralization consists of copper and silver-lead-zinc showings located in proximity of the contact between the buff dolomite unit and the structurally overlying Phyllite Unit.

Most of the mineralization is reported to be associated with vertical to steeply dipping fracture systems having trends nearly perpendicular to the trend of the units. A minor amount appears to be controlled by primary layering. Numerous showings occur sporadically along a 4+ kilometre distance within the buff dolomite. The main showing is made up of chalcopyrite, bornite and very minor pyrite and galena in brecciated and silicified dolomite. A chip channel sample accross 5.4 metres assayed 2.13 oz Ag/ton, 4.41% Cu, 0.004 oz Au/ton. Several showings in the southern portion of the trend consist of galena veinlets 1 to 3 cm wide in brecciated and intensely silicified dolomite. A grab sample from the latter assayed 5.04 oz Ag/ton, 7.87% Pb, 0.21% Zn over 0.65 metres.

Current Work and Results:

During summer 1978, prospecting, soil geochemical sampling (Cu, Pb, Zn), electromagnetic and magnetic survey programs were conducted. The prospecting program discovered further copper and lead mineralization in float and in fractured and silicified dolomite at the north end of the property (see map p. 76 in Morin et al, 1979) and two localities of copper mineralized float in the clastic rocks of the 'Phyllite Unit'. A total of 73 soil samples was collected along elevation contour lines with sample sites every 100 metres. No significant anomalies were determined by the geochemical and geophysical surveys.

******

ROSE — 95 E 6
Noranda Exploration Company Limited — (61°26'N, 127°23'W)

Reference: Gabrielse et al (1973).

Claims: ROSE 1-40

Location and Access:

The property is located in the Logan Mountains near the headwaters of the Coal River, 168 km north-northeast of Watson Lake. Access is provided by helicopter from Watson Lake.

History:

The claims were staked in October 1977.

Description:

The property is underlain by a batholith of biotite quartz monzonite that is intrusive into sedimentary rocks of the Road River and Rabbitkettle Formations (Gabrielse et al, 1973).

The Road River consists here of thin bedded, black shale and fine grained, cherty, grey-green hornfels with up to 15% disseminated pyrrhotite. The Rabbitkettle Formation consists of limestone locally altered to garnet-diopside-calcite-wollastonite-magnetite skarn and silty limestone altered to siliceous zones. Mineralization consists of diopside-rich skarn float with minor scheelite.

Current Work and Results:

During summer 1978, reconnaissance geological and geochemical soil sampling programs were conducted. A total of 60 samples were collected and analyzed for copper, zinc and tungsten. Several soil anomalies were obtained.

******

GUM, BEE — 105 A 9
Hudson Bay Exploration and Development Company Limited — (60°32'N, 128°05'W)

Reference: Gabrielse (1966).

Claims: GUM 1-48; BEE 1-23

Location and Access:

The claims are located on the east side of the Hyland River, 63 km northeast of Watson Lake.

History:

The claims were staked in June 1978.

Description:

The property is underlain by sedimentary rocks of Ordovician to Silurian age - shale, chert, limestone, phyllite and dolomite.

Current Work and Results:

During summer 1978, geological mapping (1:10,000) and geochemical stream sediment and soil sampling programs were conducted. Several areas having anomalously high zinc values were determined in the graphitic shales.

******

RAY — 105 A 15
Canada Tungsten Mining Corporation Limited — (60°52'N, 128°45'W)

Reference: Gabrielse (1966).

Claims: RAY 1-80

Location and Access:

The property is situated in the southwest portion of the Logan Mountains, 15 km east of the Frances River. Access is provided by helicopter from Watson Lake, 90 km to the south. However, the Nahanni Ridge (Cantung) Road passes to within 6 km of the north edge of the property and in 1978, camp mobilization and

service were conducted by helicopter from Mile 22 at the Dolly Varden Creek crossing on the Road.

The BAILEY tungsten deposit occurs 10 km south of the property.

History:

Claims RAY 1-80 were staked in September 1977 as part of a follow-up on a reconnaissance geochemical stream sediment sampling program conducted by J.C. Stephen Explorations Limited for Canada Tungsten Mining Corporation Limited.

Description:

The property is underlain by a Cretaceous biotite-hornblende granodiorite batholith that has an intrusive contact with Devonian and/or Mississippian sedimentary rocks (Gabrielse, 1966). Greywacke, red shale, grey quartzite and black pyritic shale constitute the sedimentary rocks, the general attitutde of which is a moderate dip to the southwest. Folding is tight and its intensity increases toward the granite contact.

Current Work and Results:

During summer 1978, geological mapping (1:6,000), prospecting, geochemical soil sampling and magnetometer survey programs were conducted. The soil sampling was conducted over glacially derived till and samples were taken from the bottom of pits. Samples were collected at 800 foot intervals along lines spaced 800 feet apart and analyzed for copper, molybdenum and tungsten. Though several anomalous tungsten values were determined, there were no copper or molybdenum anomalies. The magnetometer survey determined a positive magnetic anomaly near the granodiorite contact.

******

EMILY
Canada Tungsten Mining Corporation Limited

105 A 15
(60°54'N, 128°46'W)

Reference: Gabrielse (1966).

Claims: EMILY 1-8

Location and Access:

The claims are located on the northwest flank of Mount Murray, 5 km south of the Nahanni Ridge Road and 93 km north of Watson Lake. Access is by helicopter from Watson Lake.

History:

The claims were recorded in September 1978 and property work conducted by J.C. Stephen Explorations Limited.

Description:

The claims straddle part of the eastern contact of the Mt. Murray-Mt. Billings batholith with fine grained clastic and carbonate rocks of Devonian and/or Mississippian age (Gabrielse, 1966). Coarse to medium grained biotite granodiorite to granite constitutes the Cretaceous batholith. Veins of aplite and quartz are also present, intrusive to both the batholith and the country rock.

The country rocks consist of a conformable sequence of siltstone, shale, limestone and dolomite. Some of the limestones have been altered to a pale green calc-silicate skarn. Garnet-diopside skarn locally occurs as xenoliths in the batholith.

Current Work and Results:

During fall 1978, geological mapping (1:2,400), geochemical soil sampling (Mo, Zn, W) and ground magnetometer survey programs were conducted. A total of 89 soil samples was collected, with sample intervals every 200 feet along lines spaced 400 feet apart. No anomalous concentrations were determined. Magnetic readings were taken at 100 foot intervals along the grid lines and two positive anomalies were determined - one corresponding to siltstone and skarn with disseminated pyrrhotite and the other to a small zone of massive pyrrhotite in granite.

******

MARK
J.C. Stephen Explorations Limited

Tungsten
105 A 15
(60°52'N, 128°48'W)

Reference: Gabrielse (1966).

Claims: MARK 1-12

Location and Access:

The property is located six kilometres south of the Nahanni Ridge Road on the south side of Mt. Murray, and 85 km north of Watson Lake. The Bailey Tungsten prospect is located 10 km south.

History:

The claims were staked in July and August 1978 and were allowed to lapse in 1979.

Description:

The property is apparently entirely underlain by phases of the Mt. Murray Batholith. North striking shear and fracture zones are mineralized with pyrite and some scheelite along quartz filled fractures.

Current Work and Results:

During summer 1978, geological mapping and geochemical sampling programs were conducted. Assay results over any appreciable width were extremely low.

******

A & B
Serem Limited

Lead, Zinc, Silver, Tungsten
105 B 1
(60°07'N, 130°27'W)

References: Little (1959, p. 37); Poole et al (1960); Green and Godwin (1963, pp. 31-32); Green (1966, pp. 80-82); Craig and Laporte (1972, pp. 134-137); Craig and Milner (1975, p. 106); Sinclair et al (1975, p. 159); Morin et al (1979, p. 77).

Claims: A & B 1-4, 7,-32, Fr 3, Fr 4; BUG 5-8; BNA 1-6

Location and Access:

The claims are situated in the Cassiar Mountains 98 km west of Watson Lake. They straddle the main branch of Boulder Creek, approximately 5 km from its

junction with the Rancheria River at Mile 701.6 on the Alaska Highway. Access is provided by a 4 km gravel road from the Alaska Highway.

History:

The property was first explored for tungsten in 1943 and has been explored several times since, but little work has been done on the showings since 1962. A more detailed account is available in Craig and Laporte (1972) and Craig and Milner (1975) under the LUCK group. In 1975, geochemical soil sampling and trenching programs were conducted. A 10 foot chip sample assayed 3.06% Zn, 0.29% Pb. 0.64 oz Ag/ton. Subsequently, the property was optioned by Serem Limited from Delphi Resources. Work in 1977 consisted of detailed geological mapping (1:6,000) and gravity survey programs.

Description:

The property is underlain by Post Lower Cambrian recrystallized and altered limestone and limy phyllite. Mineralization consists of calcite, dolomite and quartz veins with accompanying galena, sphalerite and pyrite.

Current Work and Results:

During summer 1978, nine diamond drill holes (BQ core) were drilled on claims A & B 1-4 for a total footage of 1,960 feet.

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MW
D.C. Syndicate

Lead, Zinc, Silver, Tin
105 B 3
(60°03'N, 131°28'W)

Reference: Poole et al (1960).

Claims: MW 1-28, 31-48

Location and Access:

The claims are located in the Cassiar Mountains about 16 km WNW of Swift River on the Alaska Highway. They cover the cirque headwaters of a creek draining into Cabin Lake. Access during 1978 was provided by helicopter from the Pine Lake airstrip.

History:

Lead-zinc-silver showings on the property were discovered by Alan and Harold Musselwhite in 1964. J.C. Stephens was given access to the information in 1978 and in June 1978, the MW 1-8 and 11-14 claims were staked and recorded. Subsequently, the MW 9, 10, 15-28 and 31-48 claims were recorded in July 1978.

Description:

The property is underlain by sedimentary and volcanic rocks of Middle to Upper Paleozoic age that have been intruded by the Seagull Batholith. A sequence of quartzite, siltstone, argillite, andesite and andesitic lapilli tuff, limestone, dolomitic limestone and conglomerate constitute the Upper Devonian to Lower Mississippian rocks and biotite quartz monzonite the Batholith.

Three mineralized showings have been located. The No. 1 showing consists of pyrite, sphalerite and galena as irregular disseminations and fracture fillings in quartzose sandstone and siltstone. A lens of white massive barite, 0.6 m thick, occurs within the siltstone. A 12 foot chip sample from Trench No. 1 across the showing gave the following results: 1.46% Pb, 2.38% Zn and 0.57 oz/ton Ag. The No. 2 showing is a small sphalerite-galena bearing skarn zone. The No. 3 showing consists of narrow skarn zones up to four feet thick that are conformably lying within thin bedded limestone. They consist mainly of arsenopyrite with minor amounts of stannite, nordenskioldine ($CaSnB_2O_6$), sphalerite, native bismuth, bornite and chalcopyrite. Chip sampling of two trenches located 400 feet apart gave the following results:

	Interval	Cu(%)	WO_3(%)	Sn(%)
No. 1 Trench (east)	2.5 ft.	0.06	0.01	4.20
No. 2 Trench (west)	3.5 ft.	0.11	0.01	4.88

Current Work and Results:

During summer 1978, geological mapping (1:4,800), trenching, geochemical stream sediment (30), soil and talus (160) sampling programs were conducted. The stream sediment samples were analyzed for Pb, Zn, W and no prominent anomalies were determined. Soil and talus samples were taken along lines near the No. 1 and No. 3 showings and analyzed for Pb, Zn, W, Sn and several anomalies were determined.

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SKIN
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 3
(60°04'N, 131°17'W)

References: Poole et al (1960); Mulligan (1975).

Claims: SKIN 1-56

Location and Access:

The claims are located near the head of Goddart Creek. Access is by helicopter from Swift River, 9 km to the southeast.

History:

The claims were staked in June 1978 to cover prominent gossans which are the probable source of two anomalous tin values in Goddart and Partridge creeks.

Description:

The claims are underlain by rocks of the Seagull Batholith.

Current Work and Results:

Geological mapping outlined two varieties of Seagull Batholith; an equigranular K-feldspar and albite quartz-rich rock with minor biotite and a "crowded porphyry" of medium- to coarse-grained feldspars and quartz (10-20% of rock volume) in a groundmass of fine-grained feldspars and quartz. Two alteration zones were identified. One consists of a pipe-like body with fluorite, uranium, arsenopyrite, lepidomelane and quartz/clay alteration. The other is a quartz-tourmaline greisen zone.

A total of 172 soil samples taken at the "break of slope" were analysed for tin and tungsten. Anomalous values are associated with the gossans.

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SLOUCE
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 3
(60°04'N, 131°23'W)

References: Poole et al (1960); Mulligan (1975).

Claims: SLOUCE 1-64, 59-138, 139-142 - a total of 148 claims

Location and Access:

The claims are located approximately 13 km northwest of Swift River. Access is by helicopter from Swift River.

History:

The claims were staked in June, July and August 1978 to cover anomalous tin and tungsten values obtained in a regional geochemistry survey.

Description:

The claims are underlain by arenaceous limestone and chert of the Sylvester Group and granite of the Cretaceous Seagull Batholith.

Current Work and Results:

Some geological mapping outlined the major rock units and alteration zones. A total of 279 soil samples were collected for tin and tungsten geochemistry. No significant anomalies were outlined. Some rock samples assayed up to 0.90% Sn.

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VAL (A)
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 3
(60°06'N, 131°15'W)

References: Poole et al (1960); Mulligan (1975).

Claims: VAL 1-30

Location and Access:

The claims are located between Goddart and Seagull Creeks. Access is by helicopter from Swift River, 12 km to the southeast.

History:

These claims cover an occurrence of tin mineralization in float reported by the Geological Survey of Canada. The claims were staked in June 1978.

Description:

The claims cover a small roof pendent of crystalline limestone in the quartz monzonite of the Seagull Batholith. A diopside-magnetite skarn has developed along the contact of the two rocks. The northern portion of the claims contains Devono-Mississippian argillites.

Current Work and Results:

Geological mapping was conducted over part of the claims. Seventy-nine geochemical soil samples were collected. Assay values for tin were obtained from some of the skarn samples.

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VAL (B)
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 3
(60°06'N, 131°22'W)

References: Poole et al (1960); Mulligan (1975).

Claims: VAL 31-69, 71-106, 108, 110-127

Location and Access:

The claims are located in the Englishman's Range, about 15 km northwest of Swift River. Access is by helicopter from Swift River.

History:

The claims were staked in June 1978 to cover tin and tungsten geochemical anomalies.

Description:

Rocks on the claim group include the middle and basal portions of the Sylvester Group metasediments and various phases of the Seagull Batholith, including a mafic roof of pyroxenite, peridotite, gabbro and diorite.

Current Work and Results:

A soil geochemical survey for tin and tungsten resulted in 302 samples being collected at 'break in slope' locations. Major areas of anomalous tin were located.

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VH
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 3
(60°06'N, 131°29'W)

References: Poole et al (1960); Mulligan (1975).

Claims: VH 1-28

Location and Access:

Access is by helicopter from Swift River, 19 km southeast of the claims.

History:

The claims were staked in July 1978 to cover the source of tungsten stream geochemical anomalies.

Description:

Most of the claims are underlain by quartz monzonite to granite of the Cretaceous Seagull Batholith. The southern portion of the claims is underlain by Sylvester Group sediments, principally arenites, limestone and volcanic-wackes.

Current Work and Results:

Geological mapping and prospecting was carried out. Side-hill soil sampling detected no anomalous tin or tungsten values in the 48 samples collected. Scheelite-bearing skarn was located in float.

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SIN
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 3
(60°07'N, 131°26'W)

References: Poole et al (1960); Mulligan (1975).

Claims: SIN 1-116

Location and Access:

The claims are located approximately 19 km northwest of Swift River. Access is by helicopter from Swift River.

History:

The claims were staked in June 1978 for Welcome North Mines Limited and McCrory Holdings (Yukon) Limited and later optioned to the Du Pont-Duval Joint Venture.

Description:

The claims cover the contact of Cretaceous Seagull Batholith with the Devono-Mississippian Sylvester Group. Sediments in the contact area vary from limestone to chert/argillite and skarns are developed to variable degrees.

Current Work and Results:

A total of 180 geochemical soil and rock samples were analysed for tin and tungsten. Several anomalies were located.

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MUN
D.C. Syndicate

Tungsten, Zinc, Tin
105 B 3
(60°08'N, 131°21'W)

Reference: Poole et al (1960); Morin et al (1979, p. 77).

Claims: MUN 1-80

Location and Access:

The property is located on the south side of Munson Lake in the Dorsey Range of the Cassiar Mountains, 215 km east-southeast of Whitehorse, 145 km west of Watson Lake and 15 km northwest of Swift River on the Alaska Highway. Access is provided by helicopter.

History:

The claims were staked in March 1977, during which year programs of geological mapping, prospecting, soil, rock and talus geochemical sampling were conducted. Several tungsten, zinc and tin anomalies were determined and an assay across four feet of sphalerite-garnet-diopside skarn gave 6.52% Zn and 0.04% WO_3.

Description:

The property is underlain by a sequence of siltstone, limestone, tuffaceous sediments and tuff intruded by a granitic body of Cretaceous age, the Seagull Batholith. Small zones of limy sediments have been altered to calc-silicate skarns, some of which contain one or more of pyrrhotite, sphalerite, scheelite and malayaite.

Current Work and Results:

During summer 1978, prospecting, soil, talus and rock geochemical sampling programs were conducted. A total of 336 soil and talus samples were analyzed for Zn, W, Sn, Pb and 20 rock samples for Sn and occasional other elements including Zn, W, Cu, Pb, Ag, Au, Nb, Ta and U.

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STQ
AMAX Potash Limited

Tungsten, Tin
105 B 3
(60°10'N, 131°14'W)

Reference: Poole et al (1960).

Claims: STQ 1-116

Location and Access:

The property is located in the Cassiar Mountains on the southeast side of Munson Lake, about 18 km north of Swift River. Access is provided by 4-wheel drive vehicle along an old tote trail extending from the Pine Lake airstrip on the Alaska Highway.

History:

STQ 1-32 claims were staked in July 1977, the additional claims added in June and July 1978. They were optioned from Bath Investments Limited by AMAX Potash Limited in March 1978.

Description:

The property is underlain in part by a belt of northwest trending metasedimentary rocks of Upper Devonian to Lower Mississippian age and in part by the Seagull Batholith and peripheral stocks and plugs of Cretaceous age.

Tin and tungsten mineralization occurs in stockwork zones in and adjacent to quartz monzonite plugs and silver-zinc-lead mineralization occurs in skarn zones associated with limestone horizons.

Current Work and Results:

During summer 1978, geological mapping (1:5,000, 1:10,000), talus fine and soil geochemical sampling, magnetometer and induced polarization survey and diamond drilling programs were conducted. One diamond drill hole, collared on claim STQ 15, recovered a total of 247 metres of BQ core.

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PONT (A)
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 3
(60°10'N, 131°29'W)

References: Poole et al (1960); Mulligan (1975).

Claims: PONT 113-136

Location and Access:

The claims are located 8 km east of Dorsey Lake and 23 km northwest of Swift River. Access is by helicopter from Swift River.

History:

The claims were staked in June 1978 to cover the possible source of two tin anomalies in creeks to the east and west.

Description:

The oldest units on the claims are the Devono-Mississippian volcano-wacke, chert, argillite and arenaceous limestone. Cretaceous monzonite and biotite granite of the Seagull Batholith intrudes the Devono-Mississippian and skarns are formed along the contact.

Current Work and Results:

Geological mapping was done and 130 soil samples were collected and analysed for tin and tungsten. Several anomalies were outlined.

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PONT (B) — Tin, Tungsten
Du Pont of Canada Exploration — 105 B 3
Duval International Corporation — (60°11'N, 131°20'W)

References: Poole et al (1969); Mulligan (1975).

Claims: PONT 1-112, 137-152

Location and Access:

The claims are located north of Munson Lake and are accessible by helicopter from Swift River, 23 km southeast.

History:

The claims were staked in June 1978.

Description:

The northern portion of the claims are underlain by (Jura-Cretaceous ?) quartz monzonite in contact with sediments of the Devono-Mississippian Sylvester group. Most of the sedimentary unit is a hornfelsed argillite. The southern portion of the claims are underlain by the Sylvester Group in contact on the south by a small substock of the Seagull Batholith, composed of Cretaceous granite to quartz monzonite. Between the two intrusives skarn formation is common. Quartz veining and dyking are common throughout the sediments.

Current Work and Results:

The claims were staked to cover a cluster of anomalous tin values discovered in stream and side-hill samples. After staking some geological mapping and sampling was done and additional side-hill geochemical samples were collected.

******

GULL — Zinc, Silver
D.C. Syndicate — 105 B 3
(60°13'N, 131°27'W)

Reference: Poole et al (1960).

Claims: GULL 1-21

Location and Access:

The property is located in the Dorsey Range of the Cassiar Mountains, about 7 km northeast of Dorsey Lake. Access is provided by helicopter from Watson Lake, 160 km east.

History:

The GULL claims were staked in June 1978 as a result of a follow up on a tungsten stream sediment anomaly.

Description:

The property covers the contact between limestone and fine grained clastics of Upper Devonian and Lower Mississippian age (Unit 8, Poole et al, 1960) and the intrusive granitic Seagull Batholith.

Mineralization consists of a sphalerite-bearing skarn zone, from which a grab sample is reported to assay 9.76% Zn, 0.08% Pb and 0.26 oz/ton Ag.

Current Work and Results:

Work in 1978 consisted of prospecting and limited check stream sediment geochemical sampling. No significant tungsten or tin mineralization was determined.

******

LOGTUNG — Tungsten, Molybdenum
Amax Potash Limited — 105 B 4
(60°00'N, 131°36'W)

References: Poole et al (1960); Morin et al (1979, p. 78).

Claims: LOG 1-19, 21, 23, 25, 44-47, 52-72, 81-89, 91, 93-132, 134-138, 153-156, 165-167

Location and Access:

The property is located in the Cassiar Mountains along the B.C.-Yukon border, 50 km east of Teslin Lake. Access is provided by road, 13 km north of KM 1213 on the Alaska Highway.

History:

The LOG claims were staked in September and October 1976 on behalf of a prospecting syndicate headed by W.J. Coulter. Amax Potash Limited optioned the property in March 1977 and ownership was transferred from the prospecting syndicate to Logtung Resources Limited. In 1977, detailed geological mapping (1:5,000), geochemical soil sampling and magnetometer survey and diamond drilling programs were conducted. Ten holes were drilled for a total length of 2 365 metres.

Description:

The property is underlain by late Paleozoic fine-grained clastic and carbonate metasediments which are flanked to the east and west by northerly elongate diorite bodies. A nearby younger quartz monzonite stock, 2 km by 800 m has related off-shoot dykes of granite porphyry. Sedimentary rocks have been altered to hornfels, light or dark green skarn or calc-silicate near the quartz monzonite and granite porphyry. Scheelite and molybdenite occur in quartz vein stockwork in and near granite porphyry dykes and the contact of the quartz monzonite stock. Minor disseminated scheelite is locally associated with discontinuous beds of skarn. Fluorite, beryl, sphalerite, galena, rare chalcopyrite, wolframite and cosalite occur as accessory vein minerals.

Current Work and Results:

In 1978, I.P. survey and diamond drilling programs were conducted. Fourteen claims were covered by the I.P. survey - LOG 2-8, 10, 12, 28-31, 46. Nineteen holes were drilled on claims LOG 4-7 and 10, 4064 metres of NQ core and 112 metres of BQ core.

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J.C.
D.C. Syndicate

Tin, Tungsten, Copper, Zinc
105 B 4
(60°11'N, 131°41'W)

Reference: Poole et al (1960).

Claims: J.C. 1-82

Location and Access:

The property is located in the Cassiar Mountains, 5 km north of Cabin Lake and 40 km south of Wolf Lake. Access is provided by helicopter from the Pine Lake airstrip, 42 km to the east-southeast. An old tote trail connects the claims to Mile 755 on the Alaska Highway, but this trail is not passable by 4-wheel drive vehicle at present.

History:

The ground has been worked on several times in the past for copper, zinc and silver. In 1967, it was staked as the VIOLA group and a trenching program was carried out in 1968. It was allowed to lapse and was restaked as the FXE in 1972, during which year further sampling took place. The claims lapsed again and were restaked in 1974 as the FIS claims, in which two shallow holes were drilled. The J.C. 1-8 claims were staked in August 1977 following the discovery of scheelite and malayaite mineralization. During summer 1977, prospecting, geological mapping (1:1,200) and minor stream sediment and rock geocehmical sampling progams were conducted. Fringe claims were added in 1978, J.C. 9-76 in June and J.C. 77-82 in July.

Description:

The property is underlain by sedimentary rocks of Upper Devonian to Lower Mississippian age that are in intrusive contact with quartz monzonite of the Seagull Batholith. Three major units constitute the sedimentary rocks - 1) a relatively monotonous sequence of argillite, quartzite, greywacke and minor chert, with minor interbedded carbonate horizons; 2) white crystalline limestone, either interbedded with or as lenses within the latter unit or thicker beds of silicified limestone; 3) white to light grey or green silicified limestone with interbedded lenses of argillite, skarn and limestone.

Carbonate rocks have been altered to skarn in the vicinity of the Batholith. Dark green hedenbergite-diopside skarn with variable proportions of epidote, actinolite, garnet and calcite forms the greater part of the skarn horizons. Accompanying mineralization includes sphalerite, chalcopyrite, arsenopyrite, magnetite and scheelite and locally, axinite, beryl, fluorite and apatite. An apparently pipelike lens of breccia with axinite-fluorite mineralization is associated with the skarn. Calc-silicate skarn is of more limited extent and is buff to tan coloured with disseminated reddish brown garnets. Tin mineralization is associated with all skarn types and consists of malayaite, stannite, stanniferous tetrahedrite and cassiterite.

Current Work and Results:

During summer 1978, geological mapping (1:1,200, 1:6,000), prospecting, trenching, geochemical soil and stream sediment sampling, stream sediment panning and magnetometer survey programs were conducted. The tin mineralized skarn horizon was determined to be in excess of 3,000 feet long and south dipping. A series of 18 rock trenches were cut across skarn outcrops and chip samples were assayed for Cu, Zn, W and Sn. The best assay was over a diopside skarn horizon with abundant magnetite, chalcopyrite and arsenopyrite and a true thickness of 8.5 feet -0.38% Cu, 0.04% Zn, <0.01% WO_3 and 1.26% Sn. A total of 896 soil samples was collected on a 200 foot by 100 foot grid along the main skarn horizon in addition to 72 stream sediment samples. Samples were analyzed for Sn, W, Cu and Zn and several anomalies were determined. The magnetometer survey was run on the same grid as outlined above and several positive magnetic anomalies were determined.

******

SWIFT, SLIP
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 4
(60°12'N, 131°45'W)

References: Poole et al (1960); Mulligan (1975).

Claims: MC 1-32, 50, 52, 54, 56-105, 107, 109-118; SLIDE 1-24; SWIFT 1-8, 29-54, 57, 59, 61-78, 83, 85-100; JILL 1-11; SLIP 1-16

Location and Access:

The claims are located 6 km northwest of Swift River. Access is by helicopter from Swift River.

History:

The SLIP claims staked in 1978, are the property of the Du Pont-Duval Joint Venture. The other claims were staked in June, July and August by Welcome North Mines Limited and McCrory Holdings (Yukon) Limited. These claims were optioned to the Du Pont-Duval Joint Venture in September 1978.

Description:

Sediments of the "middle" portion of the Devono-Mississippian Sylvester Group have been identified. These include argillite, limestone, arenites, mafic tuffs, sulphide schists and thin sulphide lenses. Hornblende porphyry diorite dykes intrude the metasediments.

Current Work and Results:

Geological mapping has outlined a prominent east-west vein swarm of quartz with sulphides, fluorite and cassiterite cores. Geochemical sampling resulted in 247 samples being analysed for tin and tungsten. Significant tin anomalies were outlined. Topaz has been identified in thin section associated with alteration zones. Chip sampling of a greisen zone returned significant tin values from cassiterite mineralization.

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PLUG
D.C. Syndicate

105 B 4
(60°12'N, 131°46'W)

Reference: Poole et al (1960).

Claims: PLUG 1-12

Location and Access:

The claims are located in the Dorsey Range of the Cassiar Mountains, east of the Morley River. Access is provided by helicopter from Swift River 40 km southeast.

History:

The claims were staked in June 1978.

Description:

The property is underlain by limestone and fine grained clastics of Upper Devonian and Lower Mississippian age (Unit 8, Poole et al, 1960) that have been intruded by an offshoot plug of the Seagull Batholith.

Current Work and Results:

During summer 1978, geological mapping and geochemical sampling programs were conducted.

******

ZINC
D.C. Syndicate

105 B 4
(60°13'N, 131°39'W)

Reference: Poole et al (1960).

Claims: ZINC 1-16

Location and Access:

The property is situated in the Dorsey Range of the Cassiar Mountains, 7 km north of Dorsey Lake and 166 km west of Watson Lake. Access is provided by helicopter.

History:

The ZINC claims were staked in June 1978 following the determination of high tin and zinc values in stream sediment samples taken from creeks in the area.

Description:

The property is underlain by argillite, siltstone, limestone and volcanic rocks of Upper Devonian to Lower Mississippian age that have been intruded by the Cretaceous Seagull Batholith. Quartz monzonite (both equigranular and sub porphyritic), aplite, pegmatite and intrusive breccia constitute the Batholith in this area. No in situ mineralization was determined, but sphalerite-galena-chalcopyrite-fluorite-axinite-bearing talus was located.

Current Work and Results:

During summer 1978, geological mapping (1:9,600), prospecting and soil and talus geochemical sampling programs were conducted. Soil and talus samples (229) were collected at 60 m intervals along lines spaced 120 m apart and analyzed for zinc, tungsten and tin. Anomalously high zinc values were determined over an area of intermediate volcanic rocks and tin over an area of granitic rocks. The few tungsten anomalies determined were erratic in distribution.

******

CAN
D.C. Syndicate

Tungsten, Zinc, Tin
105 B 4
(60°13'N, 131°32'W)

References: Poole et al (1960); Morin et al (1979, p. 78).

Claims: CAN 1-56

Location and Access:

The property is situated in the Cassiar Mountains, 27 km northwest of Swift River on the Alaska Highway. Access is provided by helicopter.

History:

The claims were staked in June 1977 following discovery of a scheelite bearing skarn as part of a stream sediment tungsten anomaly followup. Work in 1977 included geological mapping (1:6,000), prospecting and geochemical stream sediment sampling (Cu, Zn, W and limited analyses for Sn).

Description:

The property is underlain by quartz monzonite of the Cretaceous Seagull Batholith that is intrusive to sedimentary and volcaniclastic rocks of Upper Devonian and Lower Mississippian age - limestone, cherty argillite and lapilli tuff. Mineralization consists of several bodies (undetermined size) of skarnified limestone containing variable amounts of magnetite, scheelite, bornite, chalcopyrite, fluorite, sphalerite, calc-silicate minerals and an undetermined tin mineral.

Current Work and Results:

During summer 1978, localized geological mapping (1:6,000), geochemical soil and rock sampling and magnetometer survey programs were conducted. Stream sediments were panned and the concentrates were visually examined for cassiterite and scheelite and analyzed for Cu, Zn, W and Zn. Iron-rich skarns at the west end of the claim group were determined to host tin mineralization and to be the source of tin geochemical anomalies in the nearby creeks.

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DU
Dupont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 B 4, 5
(60°12'N, 131°35'W)

References: Poole et al (1969); Mulligan, (1975).

Claims: DU 1-208, 210, 215-225, 232-239

Location and Access:

The claims are located north of Dorsey Lake and are accessible by helicopter from Swift River, 35 km to the southeast.

History:

The claims were staked in June 1978.

Description:

The claims are underlain by argillites, quartzites and limestones of the Devono-Mississippian Sylvester Group, and phases of the Cretaceous granitic Seagull Batholith. Areas of skarn, veining, greisens and alteration are common.

Current Work and Results:

Reconnaissance geological mapping, rock sampling and petrographic examination was undertaken. Side-hill soil samples were taken for geochemical analyses. Tin anomalies were located. Cassiterite crystals have been recovered from quartz veins and greisen zones in the granite.

******

ANNI, MLS
Du Pont of Canada Exploration Limited

105 B 5
(60°22'N, 131°58'W
60°25'N, 131°50'W)

Reference: Poole et al (1960).

Claims: ANNI 1-16; MLS 1-36

Location and Access:

The property consists of two claim groups on either side of Hake Creek, 16 km and 32 km southwest of Morris Lake in the Swift River area. Access is provided by helicopter from Watson Lake, 180 km east-southeast.

History:

The claims were staked in July 1978.

Description:

The property is underlain by Mississippian sedimentary rocks that have been intruded by the Hake Batholith of quartz monzonite to granite composition.

Current Work and Results:

During summer 1978, reconnaissance geological mapping, geochemical soil sampling, scintillometer and spectrometer survey programs were conducted.

******

HL
Swift River Resources Limited

Tungsten
105 B 6
(60°17'N, 131°20'W)

Reference: Poole et al (1960).

Claims: HL 1-52

Location and Access:

The claims are located in the Dorsey Range of the Cassiar Mountain, 35 km north of Swift River and 22 km southeast of Morris Lake. Access is provided by helicopter from Watson Lake, 150 km east-southeast or from Whitehorse, 205 km to the west-northwest.

History:

Claims HL 1-48 were staked in June 1978 and 49-52 in September 1978. The 1978 program was conducted by Cordilleran Engineering for Swift River Resources Limited.

Description:

The property is underlain by Lower Cambrian and earlier (?) metasedimentary rocks that have been intruded by the Cassiar Batholith of Cretaceous age. Limestone, andalusite-plagioclase schist, quartz pebble conglomerate and amphibolite are present. In addition, minor skarn occurs at the contact of the limestone with the granitic batholith. The batholith is here made up of coarse grained biotite quartz monzonite with a leucocratic porphyritic border phase and a quartz porphyry dyke. Mineralization consists of scheelite disseminated in biotite-muscovite-quartz-plagioclase schist and scheelite in quartz veins and fractures within skarn.

The metasedimentary rocks have been folded into a northwesterly trending syncline on the southwest side of the batholith.

Current Work and Results:

During summer 1979, geological mapping (1:5,000), prospecting, sampling and reconnaissance soil geochemical programs were conducted. A total of 2,262 soil samples were collected at 50 m intervals along 100 km of grid lines. They were analyzed for tungsten and disclosed several anomalous areas coincident with scheelite-mineralized float. Assay results of grab samples from mineralized float range from 0.08 to 3.07% WO_3.

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DB
Du Pont of Canada Exploration Limited
Duval International Corporation

Tin, Tungsten
105 C 6
(60°22'N, 132°05'W)

References: Poole et al (1969); Mulligan (1963, 1975).

Claims: DB 1-36

Location and Access:

The claims are located at the headwaters of English Creek, 63 km northwest of Swift River. Access is by helicopter from Swift River.

History:

The claims were staked in July and August 1978.

Description:

The claims are underlain by Devono-Mississippian (Unit 3c, Mulligan, 1963) units - argillite, arenite and cherty limestone. Skarn is developed locally along the contact of these rocks with granite of the Hake Batholith.

Current Work and Results:

There was some geological mapping conducted and 109 soil samples were collected. Some tungsten mineralization is associated with the skarn.

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BAR
D.C. Syndicate

Barite, Lead
105 C 8, 9
(60°30'N, 132°14'W)

References: Mulligan (1963); Morin et al (1977, p. 189).

Claims: BAR 1-20

Location and Access:

The property is located east of Wolf River, 45 km northwest of Teslin. Access to the property is by helicopter from Teslin or by a 56 km winter road from Hays Creek at Km 1272 on the Alaska Highway.

History:

The BAR 1-8 claims were recorded in June 1976 and BAR 9-20 in September 1976. Portions of the property had been staked in the past as the following claim groups: SMEG (1971), KEY (1969), SUPERIOR (1957) and as RED TOP and AMBER SPRING (1956). Work in 1976 consisted of detailed geological mapping (1:2,400), geochemical soil sampling, trenching and induced polarization survey programs. In general, lead, silver and induced polarization anomalies coincided with the barite-pyrite horizon and its possible extension.

Description:

The property is underlain by northerly trending clastic and carbonate rocks of probable Devono-Mississippian age (Units 2, 3, of Mulligan, 1963). A barite horizon is situated between a unit of grey chert pebble conglomerate and a unit of grey green chert. It is made up of massive to disseminated white barite with a considerable amount of associated white quartz. Major amounts of pyrite as fine disseminations, streaks and small lenses and very minor fine-grained galena as fracture fillings are reported to occur within the barite horizon. Mineralized float consisting of poorly banded massive pyrite in grey green chert was also found on the property. Several spring produced limonite deposits also occur. They are associated with ground seeps and consist of gravel, talus and organic matter enclosed in limonite.

Current Work and Results:

During summer 1978, further geophysics and trenching programs were conducted.

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GRAY — 105 F 7
Nithex Exploration Limited — (61°29'N, 132°34'W)

Reference: Tempelman-Kluit (1977b).

Claims: GRAY 1-24

Location and Access:

The property is located in the Pelly Mountains south of Grayling Lake, between Seagull Creek and McConnell River. Access to the area just north of the claim group is provided by tote trail from the South Canol Road-Groundhog Creek junction or by helicopter from Ross River, 64 km to the north.

History:

The claims were recorded in August 1976.

Description:

The property is underlain by limestone, quartzite and phyllite of Lower Paleozoic age and coarse mafic volcaniclastic rocks of Mississippian age. Mineralization consists of minor pyrrhotite, pyrite, chalcopyrite and galena in float boulders of quartzite along the south side of Grayling Lake.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), prospecting and ground scintillometer survey programs were conducted and a consulting geologist recommended further work to consist of a trenching program.

MM — Zinc, Lead, Silver, Copper
Cyprus Anvil Mining Corporation
Hudson's Bay Oil and Gas Company Limited — 105 F 7 (61°27'N, 132°40'W)

References: Sinclair et al (1975, p. 159); Tempelman-Kluit (1977b); Morin et al (1977, pp. 83-97, 1979, p. 79).

Claims: MM (76); JJ (81); DD (32) - a total of 189

Location and Access:

The property is located in the Pelly Mountains on the west side of Seagull Creek. Access is provided by helicopter from Ross River, 60 km to the north.

History:

The MM and JJ claims were staked in 1973 on ground that previously had been staked as the ARNOLD and ZINC claims. The DD claims were subsequently staked in August 1976. Property work including geological mapping, geochemical soil and stream sediment sampling, a gravity survey and diamond drilling was carried out from 1973 to 1977. The drilling program involved two holes in 1973 (805 feet), two holes in 1974 (2,010 feet) and seven holes in 1976 (5,505 feet). In 1977, further geochemical soil sampling, ground magnetic and electromagnetic survey and diamond drilling programs were conducted. Four diamond drill holes (BQ) were drilled for a total footage of 5,388 feet and several narrow zones of sulphide mineralization were encountered.

Description:

The property is underlain by a reversed sequence of metamorphosed Mississippian volcanic, volcaniclastic and exhalative rocks overlain by equally metamorphosed Siluro-Devonian quartzite, dolomite and graphitic schist and Lower Cambrian calc-silicate schist and phyllite. The Mississippian rocks are isoclinally folded and have suffered extensive deformation.

Mineralization consists of three separate lenses of baritic quartzite with associated horizons of massive sulphide material (mainly pyrite with subordinate sphalerite, galena and chalcopyrite). These lenses are each in the order of several tens of metres long and several metres thick and probably coalesce below surface to form one horizon (see Morin et al, 1977 for more detail).

Current Work and Results:

During summer 1978, further geological mapping (1:4,800), geochemical soil sampling and geophysical survey programs were conducted.

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TREE
Utah Mines Limited

Lead-Zinc
105 F 9
(61°38'N, 132°25'W)

References: Tempelman-Kluit (1977b); Morin et al (1977, pp. 83-97, 1979, p. 81).

Claims: TREE 1-8, 17-40

Location and Access:

The claims are located in the Pelly Mountains on the west side of Cloutier Creek. Access is provided by helicopter from Ross River, 39 km north.

History:

The claims TREE 1-40 were staked in 1977 during which year geological mapping, prospecting and soil and rock geochemical sampling programs were conducted. Subsequently, claims TREE 9 to 16 were allowed to lapse.

Description:

The property is underlain by an interbedded sequence of felsic to andesitic volcanic and volcaniclastic rocks and black shale, all of Devono-Mississippian age.

Several types of mineralization occur: a) minor veinlets of sphalerite and/or galena, and/or barite in rhyodacitic lapilli tuff; b) disseminated pyrite in chert and trachyte; c) minor massive pyrite with calcite, barite and/or anhydrite in rhyodacitic lapilli tuff.

Current Work and Results:

During summer 1978, further geological mapping (1:5,000), prospecting, soil geochemical sampling and reconnaissance shootback EM survey programs were conducted. A total of 105 soil samples was collected and analyzed for Ag, Cu, Pb, Zn and several anomalies were determined. A total of nine lines covering 7.4 km was surveyed in the geophysical program.

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Iona Silver (Ketza River) Property
Iona Silver Mines Limited

Silver, Lead
105 F 9
(61°32'N, 132°10'W)

References: Skinner (1961); Green (1966); Findlay (1967, 1969a, b).

Claims: CAMP 1-16; DUB 1-8; GEM 1-6; A 1-8; B 1-8, 9 Fr, 10 Fr; C 1-8; D 1-4; HOPE 1-6, 7 Fr, 8 Fr; PETE 1-3; OK 1-11

Location and Access:

The property is located in the Pelly Mountains along the Ketza River, 45 km south of Ross River. Access is also provided by a 4-wheel drive vehicle road starting from the Robert Campbell Highway.

History:

Silver-lead showings were discovered in the Ketza River area in 1947 by Hudson Bay Exploration and Development Company Limited. Subsequent work by several companies and prospectors resulted in the discovery of numerous silver-lead showings (Green, 1966). The most explored to date are the K-18B and A-1 veins, both of which have received underground development.

Description:

The property is underlain by gently folded sedimentary and volcanic rocks ranging from Cambrian to Mississippian in age.

Numerous mineralized veins occur on the property, but there are two of main interest - the K-18B and A-1. The K-18B vein is 4,500 feet southeast of the A-1 vein. Data in the table below is extracted from a public progress report of Iona Silver Mines.

Underground Sampling Results - K-18B and A-1 Veins

K-18B	Length (feet)	Width (feet)	Pb(%)	Ag(oz/ton)
Upper Level	104	5.4	12.4	20.2
Lower Level	82	4.8	not assayed	14.4
A-1				
Drift Level	192	4.0	19.3	15.3

Current Work and Results:

During 1978, detailed geological mapping (1:4,800), CEM Horizontal Shootback survey, underground development and diamond drilling programs were conducted. The underground work consisted of a 50 foot high 12 foot x 12 foot square set raise from the upper 800 foot level of the K-18B vein. Assays reported from the lower 21 feet of the raise gave values of 15.70 oz/ton Ag, 12.40% Pb across a width of 7.8 feet. Ten diamond drill holes (BQ core) were drilled on claims GEM 4, DUB 3 and CAMP 2 for a total footage of 2,034 feet. Minor mineralization was intersected in the drilling near the Canyon vein (GEM 4).

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IGLE
Cyprus Anvil Mining Corporation
Hudson's Bay Oil and Gas Company Limited

Lead, Zinc
105 F 9
(61°37'N, 132°13'W)

Reference: Tempelman-Kluit (1977b).

Claims: IGLE 1-16

Location and Access:

The claims are located in the Pelly Mountains, 40 km south of Ross River. Access is by helicopter.

History:

The claims were staked in August 1977.

Description:

The property is underlain by galena-sphalerite bearing sandstone of Silurian and Devonian age.

Current Work and Results:

During summer 1978, geological mapping (1 inch to 1/4 mile) and geochemical soil sampling programs were conducted.

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HOWRU — Lead, Zinc, Silver
Cyprus Anvil Mining Corporation — 105 F 9, G 12 (61°35'N, 132°05'W)

Reference: Tempelman-Kluit (1977b); Morin et al (1979, p. 81).

Claims: HOWRU 1-88

Location and Access:

The property is situated in the Pelly Mountains, 5 km east of the Ketza River and 20 km south of Tintina Trench. Access is provided by helicopter from Ross River, 48 km to the northwest.

History:

Claims HOWRU 1-40 were recorded in July 1977, 41-48 in September 1977 and 49-88 in August 1977. During 1977, prospecting, geochemical sampling and reconnaissance geological mapping programs were carried out.

Description:

The property is underlain by shale, sandstone and carbonates of Upper Cambrian to Triassic age (Tempelman-Kluit, 1977b).

Mineralization is of three types: 1) small copper-bearing sphalerite-galena veins; 2) disseminated galena in quartzose sandstone and 3) stratiform pyrite with traces of galena and sphalerite in Mississippian shale.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), detailed prospecting and geochemical soil and rock sampling programs were conducted. For the most part, the soil samples were collected from areas not covered by the 1977 soil sampling program. Rock chip samples were taken from 7 mineralized outcrops - 4 within the sandstone and 3 within pyritic shale. The sandstone hosted mineralization proved to have an overall grade of less than 1% combined Pb-Zn over stratigraphic intervals up to 46 metres thick. In contrast, the pyritic shale had only minor amounts of lead and zinc that were much less than those in the sandstone.

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RAM — 105 F 10
Utah Mines Limited — (61°41'N, 132°38'W)

References: Tempelman-Kluit (1977b); Morin et al (1977, pp. 83-97, 1979, p. 83).

Claims: RAM 1-48

Location and Access:

The claims are located in the Pelly Mountains, 35 km south of Ross River. Access is provided by helicopter from Ross River.

History:

The claims were staked in June 1977, during which year, detailed geological mapping (1:5,000), prospecting and geochemical soil (51) and stream sediment (48) sampling programs were conducted. Several anomalies were determined, most of them related to known mineral occurrences.

Description:

The property is underlain by a sequence of felsic to andesitic volcanic flows, volcaniclastics, black and grey shale, limestone and dolomite, all of Devonian to Mississippian age. The rocks have been gently folded into northwest trending anticlines and synclines and are also displaced by several vertical faults.

Mineralization is minor and consists of small lenses of massive pyrrhotite and pyrite with blebs of chalcopyrite within the carbonate unit and disseminated fine-grained pyrite in rhyolite. In addition, hydrozincite occurs sporadically in black shale near the contact with the carbonate unit.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), geochemical talus fine and soil sampling and reconnaissance electromagnetic survey programs were conducted. No significant mineralization was found on the property.

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SEATU — 105 F 10
Nevin, Sadlier-Brown, Goodbrand Limited; Seatu Exploration Limited — (61°31'N, 132°38'W)

References: Tempelman-Kluit (1977 b).

Claims: SEATU 1-20

Location and Access:

The property is situated within the Pelly Mountains along Seagull Creek, 55 km south of Ross River. It is accessible by helicopter or by a tote trail along Groundhog Creek from the Canol Road.

History:

The claims were staked in August 1976.

Description:

Most of the property is covered by glaciofluvial overburden. The geology consists of Proterozoic and Lower Cambrian rocks to the west in fault contact with Mississippian volcanic rocks to the east.

Current Work and Results:

In January and February 1978, ground magnetic and electromagnetic surveys were conducted over a portion of the claims. Several magnetic anomalies and EM conductors were determined, including one coincident magnetic-EM response and one EM conductor adjacent to a magnetic anomaly.

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PEAK
Noranda Exploration
Company Limited

Lead
105 F 10
(61°37'N, 132°48'W)

References: Tempelman-Kluit (1977b); Morin et al (1977, p. 196, 1979, p.89).

Claims: PEAK 1-16

Location and Access:

The claims are located in the St. Cyr Range of the Pelly Mountains, 45 km south-southwest of Ross River and 13 km east of the South Canol Road. Access is provided by helicopter, though a tote road from the South Canol Road along Groundhog Creek passes 1.6 km north of the property.

History:

Claims PEAK 1-8 were staked in August 1976 and PEAK 9-16 in May 1977. Preliminary reconnaissance geological mapping, soil and stream sediment geochemical sampling and an EM survey were conducted in 1976. In 1977, further detailed geological mapping (1:4,800), geochemical soil sampling and ground electomagnetic survey programs were conducted. Several Cu-Mo and Zn anomalies were located in addition to a coincident Zn-Pb anomaly probably related to a dolomite-shale contact.

Description:

The property is underlain by an autochthonous assemblage of Upper Cambrian to Mississippian carbonate, shale and phyllite forming part of the Pelly Cassiar Platform and flanking Selwyn Basin (Tempelman-Kluit, 1977b).

The following sequence is exposed on the property:

Mississippian	uDMs	'Black Clastic' unit - slate, shale, chert pebble conglomerate and sandstone;
Silurian, Devonian	SDd	Medium grey to buff dolomite;
	SDc	Medium grey limestone
	Sq	Light grey to buff quartzite
	UNCONFORMITY	
Silurian, Ordovician, Upper Cambrian	OSsl	Graptolitic black slate and phyllite with minor intercalated lenses of andesite and sericite phyllite
	uEOslv	Greenish-grey chlorite-muscovite-quartz phyllite and greenstone lenses

Structure is fairly complex and consists of low angle thrusts in the competent dolomite and quartzite and foliation, transposition layering and recumbent folds in the incompetent shaley and phyllitic units. High angle faulting occurs in the northwest portion of the claim group.

Mineralization consists of minor galena disseminated in dolomite breccia at the 5,800 foot elevation level near the boundary of PEAK 3 and PEAK 5 claims. In addition, a boulder of massive galena and several boulders of arsenopyrite, pyrite and quartz were found on the property.

Current Work and Results:

During summer 1978, a diamond drilling program was conducted. Three holes were drilled (EX core size) for a total footage of 300 feet on claim PEAK #4.

******

TAKU, SEQUOIA
Noranda Exploration
Company Limited

Lead, Zinc
105 F 10
(61°38'N, 132°38'W)

Reference: Tempelman-Kluit (1977b).

Claims: TAKU 1-58; SEQUOIA 1-8

Location and Access:

The property is located in the St. Cyr Range of the Pelly Mountains, between Seagull Creek and McConnell River. Access is provided by helicopter from Ross River, 36 km north.

History:

The claims TAKU 1-44 and SEQUOIA 1-8 were staked in October 1977 and TAKU 45-58 in August 1978.

Description:

The property is underlain by felsic volcanic flows and volcaniclastic rocks, with minor intercalated shale and chert, all of Mississippian age. These rocks have been intruded by coeval plugs and dykes of syenite. Minor galena and sphalerite mineralization has been located on the property.

Current Work and Results:

During summer 1978, a geochemical soil sampling program for Cu, Mo, Zn, Pb, Ag was conducted. A total of 374 samples was collected with sample intervals every 100 m along lines spaced 200 or 400 m apart. Several anomalies were determined, the most notable being a linear zinc anomaly 900 m long and several hundred metres wide.

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TOM
St. Joseph Explorations Limited

Zinc, Copper
105 F 15, 16
(61°45'N, 132°25'W)

Reference: Tempelman-Kluit (1977b).

Claims: TOM 1, 3, 5-22, 35-38, 43, 45-48, 53-60, 63-135, 137, 145-276: a total of 243 claims

Location and Access:

The property consists of two main claim blocks located along the north side of the St. Cyr Range in the Pelly Mountains. Access is provided by helicopter from Ross River, 15 km to the north. The northeastern edge of the claim group lies parallel to the Robert Campbell Highway, 3 km north.

History:

Most of the TOM claims were staked in September 1977 and TOM 99-104, 221-276 in October 1977.

Description:

The property is underlain by Cambrian to Mississippian sedimentary and volcanic rocks which occur along the southwest side of the Tintina Fault. Rock types include the following: biotite schist and phyllite in the Cambro-Ordovician; limestone, quartzite and slate in the Ordo-Silurian; phyllite, limestone, quartzite, calcareous and graphitic slate in the Siluro-Devonian and felsic to mafic volcaniclastics and flows in the Devono-Mississippian. Northwest trending folds have resulted in a sequence which strikes northwest and dips moderately to the northeast and southwest.

Mineralization consists of minor hydrozincite along fractures within a light to medium grey, thin banded, laminated and locally dolomitic limestone of Ordo-Silurian age. In addition, minor chalcocite, chrome diopside and muscovite occur in white quartz veins within the limestone.

Current Work and Results:

During summer 1978, geological mapping (1;12, 500), prospecting, geochemical soil, stream sediment and rock sampling programs were conducted. Totals of 1,348 soil samples, 140 stream sediment samples and 25 rocks were collected and analyzed for copper, lead and zinc.

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SU, HIGH, WAY, CALGAL
Welcome North Mines Limited
Silver Standard Mines Limited

105 F 16
(61°51'N, 132°12'W)

References: Wheeler et al (1960); Tempelman-Kluit (1977b); Morin et al (1977, pp. 197-198).

Claims: HIGH 1-10; WAY 1-10; SU 1-38; CALGAL 1-16

Location and Access:

The property is located north of the Robert Campbell Highway and Bruce Lake. Access is by road from Ross River, 25 km to the north.

History:

The CALGAL, HIGH and WAY claims were staked in August 1975 for Welcome North and Mackir Mines Limited and the SU claims were staked by Silver Standard Mines Limited in September 1974. In November 1975, an agreement was entered into such that Welcome North, Mackir Mines and Malabar Silver Mines could acquire interest in the SU claims by completion of certain work commitments. In 1975, a 548 foot diamond drill hole was drilled over a gravity anomaly on the CALGAL property adjacent to the SU-7 claim. No mineralization was encountered.

Description:

The claims are underlain by Precambrian phyllitic rocks which are locally altered to sericite and limonite.

Current Work and Results:

In 1978, two diamond drill holes (BQ) totalling 500 feet were drilled on the SU-6 and 13.

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CYR
Newmont Exploration of Canada Limited

Lead, Zinc
105 G 6
(61°22'N, 131°19'W)

References: Tempelman-Kluit (1977b).

Claims: CYR 1-40

Location and Access:

The property is situated in the St. Cyr Range of the Pelly Mountains, on the south side of the Hoole River. Access is provided by helicopter from Ross River, 90 km northwest of the property.

History:

The claims were staked in August 1977.

Description:

The property is underlain by Cambrian to Devonian sedimentary rocks - siltstone, slate, quartzite and limestone. They are isoclinally folded and trend northwesterly with steep to moderate dips generally southward.

Mineralization consists of galena, sphalerite and pyrite as veinlets and disseminations within a quartzite lens enclosed in slate.

Current Work and Results:

During summer 1978, geological mapping (1:2,500), geochemical soil sampling, CEM shootback survey and diamond drilling programs were conducted. A total of 6 holes (BQ) were drilled for a metreage of 1005.4 m.

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JOE
Newmont Exploration of Canada Limited

Zinc, Copper
105 G 6
(61°20'N, 131°30'W)

References: Tempelman-Kluit (1977b); Morin et al (1977, p. 96, 1979, p. 86).

Claims: JOE 1-18, 19F, 20, 21, 22F, 23-42

Location and Access:

The claims are located in the St. Cyr Range of the Pelly Mountains, 85 km southeast of Ross River and 18 km east of McNeil Lake. Access is provided by float equipped fixed wing aircraft to McNeil Lake and from there by helicopter to the property.

History:

The JOE 1-10 claims were staked in August 1976, JOE 11-34 in July 1977 and JOE 35-42 in August 1977. Previously, the area of the JOE claims had been staked in 1966 by Newmont as the FH claim group (Morin et al, 1977, p. 96). During summer 1977, trenching, geochemical soil sampling, electromagnetic and magnetic survey programs were conducted. Several lead and zinc anomalies were determined over a pyritic felsic tuff.

Description:

The property is underlain by Mississippian felsic volcanic rocks, predominantly trachytic flows and volcaniclastics with some intercalated andesite flows and minor tuff. Mineralization consists of two massive sulphide horizons located within andesitic tuff near an underlying contact with pyritic felsic tuff. The layered massive sulphide horizons (pyrite,

sphalerite, galena, pyrrhotite, chalcopyrite) are separated from each other by 2-3 m of andesitic tuff, range from 0.3 m to 1.3 m thick and can be traced for over a 100 metre distance. On trend with the mineralization about 750 metres to the southeast and several tens of metres stratigraphically below it, is a massive to poorly layered barite horizon with minor disseminated galena and pyrite.

Current Work and Results:

During summer 1978, bulldozer trenching (5,745 cubic yards) and diamond drilling programs were conducted. Three holes (BQ) were drilled for a total metrage of 525.6 m. No significant mineralization was encountered.

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BOOT, MARMOT
Archer, Cathro and Associates Limited

Tungsten
105 G 6
(61°26'N, 131°10'W)

Reference: Tempelman-Kluit (1977b); Morin et al (1979, p. 86).

Claims: BOOT 1-284; MARMOT 1-24

Location and Access:

The claims are located in the Pelly Mountains, north of the Hoole River and west of Grass Lakes. Access is provided by float equipped fixed wing aircraft from Ross River to a small unnamed lake 9 km northwest of Grass Lakes and 100 km southeast of Ross River. A 45 km long winter tote trail from the Campbell Highway passes within 8 km of the property on the north end of the lake.

History:

A core group of 61 claims was staked in 1977 and an additional 247 claims were added in 1978. During late summer 1977, geological mapping (1 inch to 1/2 mile), prospecting, geochemical soil sampling, and chip sampling programs were conducted on portions of the claim group. Work in 1978 was conducted as the Grass Project with the same funder and manager as in 1977.

Description:

The property is underlain by metasedimentary and metavolcanic rocks that have been intruded by a Cretaceous quartz monzonite. The metamorphic rocks are part of Tempelman-Kluit's (1977b) Klondike Schist Unit and the two most common subunits encountered are chloritic muscovite-biotite quartzofeldspathic gneiss (Unit P Pk4) and muscovite schist, marble and dark phyllite (Unit P Pk2). Foliation of the metamorphic rocks is random and dips gently to moderately.

Tungsten mineralization has been found in several different host rocks or settings. It occurs primarily as scheelite, although wolframite has been recognized in one area. Pyrrhotite, pyrite, galena, arsenopyrite and molybdenite have been found in minor or trace amounts but all show only a minor affinity to tungsten mineralization.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), geochemical soil sampling, soil panning, ground radiometric survey and limited hand trenching programs were conducted on portions of the claim group. Soil samples were collected at varying intervals ranging from 100 m to 25 m along lines spaced 100 m apart and analyzed for tungsten and tin. Panned soil samples were collected at 100 m intervals on every second line (200 m apart) and their scheelite grain concentration determined by counting. The ground radiometric survey was carried out to differentiate between augen gneiss and schist on the basis of potassium variations.

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TIL
Mountaineer Mines Limited

Zinc
105 G 9
(61°42'N, 130°05'W)

References: Tempelman-Kluit (1977b); Morin et al (1977, p. 204, 1979, p. 87).

Claims: TIL 1-24

Location and Access:

The property is situated in the Pelly Plateau, 125 km east-southeast of Ross River and 13 km south of McEvoy Lake. Access is provided by truck along the Campbell Highway to Finlayson Lake, and from there by helicopter, the remaining 10 km north to the property.

History:

The claims were staked in March 1975 and acquired by Mountaineer Mines in August 1976. In 1976, preliminary geological mapping and geochemical soil sampling programs were conducted which located a large anomalous area of coincident high Pb-Zn values in soil overlying limestone. In 1977, further geochemical soil sampling determined the anomaly dimensions to be 2,800 feet by 1,600 feet.

In 1978 the property was optioned by Serem Limited from Mountaineer Mines Limited.

Description:

The property is underlain by sedimentary rocks of the Nasina Facies (Tempelman-Kluit, 1977b) of Siluro-Devonian age that have been intruded by a granodiorite stock of Cretaceous age. The sedimentary rocks are largely overburden covered and consist of black graphitic shale, light grey and rusty weathering quartzite, interbedded shale and dolomite, and massive light grey weathering limestone. The only exposed mineralization consists of a minor secondary zinc mineral (hydrozincite?) disseminated along fractures in limestone.

Current Work and Results:

During summer 1978, detailed geological mapping (1:6,000), prospecting and geochemical soil sampling were conducted. A total of 330 soil samples was collected and analyzed for silver, lead and zinc. Sample intervals were every 200 feet along lines spaced 250 feet apart. Coincident silver, lead and zinc anomalies occurred over the mineralized zone within the grey and buff limestone.

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FRED, EAGLE
A. Carlos
F. Harris

Lead, Zinc,
105 G 14
(61°46'N, 131°15'W)

Reference: Tempelman-Kluit (1977b).

Claims: FRED 5-58; EAGLE 1-70

Location and Access:

The property is located 3 km north of the Campbell Highway at the confluence of Pelly River and Big Campbell Creek. Access is from Campbell Highway or by helicopter from Ross River.

History:

The claims were staked in 1977.

Description:

The property is underlain by an east-west trending unit mapped as Klondike schist (PPk3) by Tempelman-Kluit (1977b). This unit consists of pale green muscovite chlorite quartz phyllite and medium green amphibole chlorite phyllite. It also includes minor black marble and is generally strongly sheared with a well developed, slightly recrystallized, cataclastic texture.

Current Work and Results:

Prospecting was carried out on the FRED and parts of EAGLE groups. The area is heavily covered with overburden but some isolated outcrops were located. Rock units identified include chlorite phyllites, quartz chlorite phyllite, volcanics, and non-calcareous grey phyllite. One outcrop of quartz-chlorite phyllite on the EAGLE group contained pyrite, sphalerite and galena in bands associated with quartz (see analyses below).

A horizontal loop EM-17 survey outlined four conductive zones which are probably due to graphitic ± sulphide horizons and shear zones. A gravity and magnetic survey were also conducted on the western portion of the claims. Three gravity highs in the residual field and one magnetic high were located.

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SHALE, FRED, RENO
Pelly Banks Syndicate

105 G 14
(61°47'N, 131°10'W)

References: Tempelman-Kluit (1977b); Morin et al (1979, p. 88).

Claims: SHALE 1-82; RENO 1-66; FRED 1-4

Location and Access:

The property is located 3 km north of the Campbell Highway at the confluence of Pelly River and Big Campbell Creek. Access is by helicopter from Ross River or by road along the Campbell Highway.

History:

Claims SHALE 1-32, 41-48 were staked in January 1977, 33-40 in November 1976, 49-64 in March 1977 and 65-70 in April 1977, 71-84 in 1978. FRED was staked in September 1977.

Description:

The property is underlain by an east-west trending unit mapped as Klondike schist (PPk3) by Tempelman-Kluit (1977b). This unit consists of pale green muscovite chlorite quartz phyllite and medium green amphibole chlorite phyllite. It also includes minor black marble and is generally strongly sheared with a well developed, slightly recrystallized, cataclastic texture.

Mineralization located in 1977 consisted of a large boulder of sphalerite and galena within gravel along a creek. Assays are reported to be up to 30% combined lead-zinc and 3 oz silver per ton.

Current Work and Results:

A horizontal loop EM-17 survey was conducted over a portion of the property. In addition, four holes were drilled for a total depth of 1,400 feet (427 m).

A heliborne EM and magnetic survey was flown over the property. A total of 62 line kilometres were flown in a NW-SW direction along 10 lines spaced 400 m apart. A Geonics 33-1 EM unit and a Barringer Am-104, total field nuclear precession magnetometer were used for the survey. Data was recorded on magnetic tape and computer processed to produce maps showing profiles of in-phase and quadrature EM response along the flight lines. The magnetic data was displayed using contours of the total field strength and of a modified second derivitive operator (filtered magnetics). A kilometre wide zone of conductive rocks was identified and is interpreted as being due to graphitic metasediments. Two areas of increased conductivity were located within this conductive zone. Areas of probable volcanic rocks were identified by their magnetic signature.

Chemical Analyses of Rocks, EAGLE Claims

	YA-78-74	YA-78-75	YA-78-76	YA-78-79
SiO_2	34.70	30.40	29.50	43.80
Al_2O_3	5.79	2.23	2.47	17.10
TiO_2	0.54	0.17	0.22	1.31
FeO	10.50	8.90	8.54	13.60
MnO	0.23	0.55	0.33	0.13
MgO	10.60	9.03	9.17	10.20
CaO	13.60	19.00	20.10	2.73
Na_2O	0.00	0.11	0.02	0.77
K_2O	0.00	0.17	0.52	0.28
P_2O_5	0.04	0.01	0.02	0.09
LOI	22.15	28.17	29.50	9.72
TOTAL	99.40	99.70	101.30	101.30
Cu	230	54	210	220
Pb	X	10	5	X
Zn	180	60	48	80
Ag	X	X	X	X
Sb	250	8	3	1
As	540	540	90	110
Bi	X	X	X	X
Au ppb	1	17	X	6
Hg ppb	20	110	20	80
Mo	X	3	X	X
W	X	20	X	X
Cr	1600	660	620	990
Co	80	30	20	80
Ni	960	150	50	210
Nb	X	X	X	X
Zr	40	20	20	60
Y	10	10	20	20

All samples taken from one outcrop on EAGLE 63-64

74 - medium green chlorite schist
75 - light brown, feldspathic phase

76 - medium green chlorite schist, with abundant pyrite
79 - dark green chlorite schist, with light brown spots

Analyses by X-Ray Assay Laboratories, Limited Toronto.
X - less than 5 ppm Pb, 1 ppm Ag, 20 ppm Bi, 1 ppb Au, 3 ppm Mo, 20 ppm W, 20 ppm Nb

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LEACH, FAULT, CZAR, GAL
DuPont of Canada Exploration Limited
105 G 14
(61°47'N, 131°29'W)

References: Tempelman-Kluit (1972, 1977b); Stammers (1977); Morin et al (1979, p. 89).

Claims: LEACH 1, 15, 17, 19, 21, 23-96; FAULT 1, 3, 5, 7, 9, 11; CZAR 1-8; GAL 1-16

Location and Access:

The claims are located about 55 km southeast of Ross River and 5 km north of the Campbell Highway. Access is by helicopter from Ross River.

History:

The claims were staked in 1976 by Allen Carlos. Previously in 1966, Kerr Addison Mines located a geochemical anomaly to the northwest of the claim block. DuPont optioned the claims in 1978 from Allen Carlos.

Description:

The property is heavily covered by overburden. Quartz-muscovite-biotite schists of probable metasedimentary origin trend across the property with a northwest strike and northeast dips. According to Tempelman-Kluit (1977b) the area has been mapped as Unit PPk^3 (Klondike-schist) consisting of phyllites and minor black marble which have a well developed cataclastic texture. The northwestern portion of the claims are possibly underlain by volcanic units of the Anvil-Campbell Allocthon (CP_{AV}).

Current Work and Results:

A gravity and horizontal loop EM survey were conducted on the LEACH 17-18, 57-63 and CZAR 3-8 claims. Readings were taken at 30 and 60 m intervals along lines spaced 150 m apart. Four gravity highs were outlined and the area as a whole is conductive.

Five diamond drill holes totalling 305 m were drilled through phyllite and graphitic phyllite with minor breccia and quartz veining. Analyses up to 2.5% Zn were obtained across 1.5 m.

A heliborne EM and magnetic survey was flown over the property. A total of 90 linear kilometres were flown in a NE-SW direction at an altitude of 65 m and a line spacing of 400 m. A Geonics 33-1 EM unit and a Barringer AM-104 total field nuclear precession magnetometer were utilized in the survey. Data was recorded on magnetic tape and computer processed to produce maps showing profiles of in-phase and quadrature EM response along the flight lines. The magnetic data was displayed using contours of the total field and of a modified second derivitive operator (filtered magnetics). Conductive zones were identified in areas that are probably underlain by Unit PPk^3 but few magnetic features were identified there. A magnetic high in the northwest portion of the claim block probably identifies volcanics of unit CP_{AV}.

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IRENE
Mountaineer Mines Limited
Lead, Zinc
105 G 16
(61°46'N, 130°15'W)

References: Tempelman-Kluit (1977b); Morin et al (1977, pp. 206-207, 1979 p. 89).

Claims: IRENE 1-108

Location and Access:

The property is located three km south of McEvoy Lake and 16 km north of the Robert Campbell Highway. Access is provided by float plane to McEvoy Lake from Ross River, 153 km to the southeast.

History:

Claims IRENE 1-24 were staked in August 1972, by A. Harman and were later acquired and worked on by Vestor Explorations in 1973 and by Mountaineer Mines Limited in August 1976. Further claims were added and work in 1976 and 1977 resulted in the delineation of two east-west trending coincident zinc-lead anomalies. In 1978, the property was optioned from Mountaineer Mines Limited by Serem Limited.

Description:

The property is underlain by sedimentary rocks of Silurian and Lower Devonian age that have been intruded by a granodiorite stock to the south. They have been termed the Nasina Facies by Tempelman-Kluit (1977b) and consist of recessive, dark grey to black weathering, thin bedded and platy, calcareous and dolomitic graphitic siltstone with minor black graphitic slate. These rocks are gradational with and contain lenses of limestone and dolomite, both light and dark grey coloured.

Mineralization consists of traces of sphalerite and secondary zinc minerals within a buff weathering white limestone in the southeast portion of the claim group.

Current Work and Results:

During summer 1978, geological mapping (1:6,000), prospecting and geochemical soil sampling programs were conducted. A total of 404 soils samples was collected with sample intervals ranging from 50 to 200 feet along lines spaced 400 feet apart. The lead and zinc analyses disclosed a lead-zinc anomaly close to sulphide mineralization within dolomite and limestone.

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MAXI
Utah Mines Limited
Zinc, Lead, Silver
105 H 11
(61°38'N, 129°10'W)

References: Blusson (1978); Morin et al (1979, p. 90); Dawson (1979).

Claims: AK 1-227; BARK 1-115; MAXI 1-351; MIDI 1-120. PARK 1-68; MURPHY 1-8: a total of 889

Location and Access:

The property is located in the Logan Mountains, about 20 km northeast of Frances Lake and 90 km south

of Howards Pass. Access is provided by fixed wing aircraft from Ross River (173 km to the east) or Watson Lake (180 km to the south) to a lake situated between the Thomas River and Anderson Creek and from there by foot, 1 km to the showing area.

History:

Most of the claims were staked by Welcome North Mines Limited in September and October 1977, following the discovery of several showings of lead-zinc mineralization in the area. Preliminary geological mapping, prospecting, geochemical and showing sampling programs were conducted during the fall 1977. Subsequently, the property was optioned by Utah Mines Limited from Welcome North Mines Limited.

Description:

The property is underlain by sedimentary rocks ranging from Proterozoic to Mississippian in age. They consist of the following: Proterozoic - schist, gneiss, quartzite and marble of the 'Grit Unit'; Cambro-Ordovician - 'Wavy Banded Limestone', made up of argillaceous limestone rythmically interbedded with calcareous shale and siltstone; Ordovician-Silurian - black graphitic phyllite and phyllitic shale with minor argillaceous limestone and calcareous shale interbeds; Silurian - chert and siliceous argillite; Silurian-Devonian - grey calcareous siltstone, shale and argillaceous limestone; Devonian-Mississippian - black, graphitic, non-calcareous shale.

A large batholith and several porphyritic dykes of Cretaceous age are in intrusive contact with the sedimentary rocks. The batholith is granodiorite and the dykes range from diorite to quartz monzonite in composition. Extensive folding and faulting has deformed the sedimentary sequence into a horseshoe-shaped package of rocks that plunges and opens toward the west.

Mineralization consists mainly of quartz and reddish brown sphalerite with lesser amounts of galena and rare chalcopyrite. These occur along the foliation, in minor fold crests and in joint intersections within the black graphitic phyllite of Ordovician-Silurian age. The mineralized bands are very narrow and individual bands seldom exceed several centimetres in thickness. Locally, a concentration of these bands may be found in specific zones for up to ten metres across strike.

Current Work and Results:

During spring and summer 1978, detailed geological mapping (1:10,000, 1:1,250), prospecting, geochemical soil sampling, geophysical survey and diamond drilling programs were conducted. A total of 5,237 soil samples for lead and zinc analysis was collected with sample intervals every 100 metres along lines spaced 300 metres apart. The geophysical surveys included 428 line-kilometres of EM, 6.25 line-kilometres of IP, 405 line-kilometres of ground magnetics and three gravity profiles totalling 6.8 line-kilometres. Five diamond drill holes were completed for a total metreage of 636.8 metres of NQ wireline drilling.

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WOAH, TAI — Tungsten
Welcome North Mines Limited — 105 H 14, 15 (61°50'N, 129°10'W)

References: Roots et al (1966); Dawson and Dick (1978).

Claims: WOAH 1-56; TAI 1-20

Location and Access:

The property is situated in the Logan Mountains, 8 km northeast of Tillei Lake. Access is provided by helicopter from Ross River, 176 km to the west or from Watson Lake, 190 km to the south.

History:

The claims were recorded in September 1977.

Description:

The property is underlain by a granodiorite batholith of Cretaceous age that is in intrusive contact with marble and clastic metasedimentary rocks of Lower Cambrian and/or Proterozoic age. General trend of the intrusive contact is east-southeast and along or near 13 km of it, scheelite-bearing skarn bodies have been located. Skarns in screens and xenoliths consist of coarse grained, brown-weathering, foliated assemblages of garnet-quartz-pyroxene-scheelite and locally actinolite, epidote, wollastonite and vesuvianite. Sulphide content is generally low, although several occurrences of pyroxene-pyrrhotite-pyrite-chalcopyrite-sphalerite are present. The main A showing on the WOAH claims is a skarn xenolith body in which scheelite is evenly disseminated. In addition, several base metal skarns occur as concordant bodies adjacent to conformable granitic boudins and sills, semi-concordant bodies at or near intrusive contacts and discordant bodies adjacent to dykes. The skarns contain varying proportions of pyrrhotite, sphalerite, galena, magnetite and chalcopyrite in fine grained pyroxene-garnet-amphibole-epidote skarn.

Current Work and Results:

During fall 1977, preliminary geological mapping (1 inch to 1/2 mile), prospecting and sampling were conducted. Chip sampling of the A showing indicated an average of 0.40% WO_3.

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RITZ — 105 I 5, 12
Cominco Limited — (62°31'N, 129°32'W)

References: Green et al (1967); Morin et al (1979, p. 91).

Claims: RITZ 1-80

Location and Access:

The property is located in the Logan Mountains, 23 km west-northwest of the Howards Pass deposit and 160 km northeast of Ross River. Access is provided by helicopter.

History:

The claims were staked in July 1977, during which year geological mapping (1:12,000), geochemical soil sampling and test geophysical surveys were conducted. Two weak VLF conductors were determined which were coincident with Pb-Zn geochemical anomalies but no magnetic anomalies were determined.

Description:

The property is covered by much overburden, but the few exposed outcrops indicate it to be underlain by calcareous shale, carbonaceous shale and black chert of the Road River Formation that are intruded by aplite dykes of Cretaceous age. Mineralization consists of disseminated pyrite in shale and minor barite. In addition a float boulder of layered sphalerite and galena was found on the property.

Current Work and Results:

During summer 1978, geochemical and geophysical surveys were conducted.

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HOWARDS PASS
Placer Development Limited
Essex Minerals Limited

Lead, Zinc
105 I 6, 11, 12
(62°27'N, 129°11'W)

References: Green et al (1967); Blusson (1968); Gabrielse et al (1973); Craig and Milner (1975, p. 124); Sinclair and Gilbert (1975, pp. 85-90); Ludvigsen (1975); Sinclair et al (1975, pp. 159-160, 1976, pp. 168-169); Morin et al (1977, pp. 211-212, 1979 p. 91); Gordey (1978, 1979).

Claims: X; DON; ANNIV; R; PAR; OP; KNAP; D: a total of 608 claims

Location and Access:

The property is situated in the Selwyn Mountains along the Yukon-Northwest Territories border, 161 km east-northeast of Ross River and 260 km north of Watson Lake. The main showings on the property are at elevations of 1,500 to 1,800 metres. Access in 1977 was primarily by fixed wing aircraft from either Ross River or Watson Lake to a 545 metre airstrip on the property. Heavy equipment can be brought to the property via a winter tote road which leaves the Nahanni Range Road at Mile 101 (Km 162.5).

History:

High grade showings of lead and zinc were discovered by Canex Placer following geochemical surveys carried out in 1968 and 1971. From 1973 to 1976, the company carried out extensive surface exploration including 121 diamond drill holes totalling over 64,000 feet. From 1973 to 1977, the company carried out extensive surface exploration including 134 diamond drill holes totalling about 80,000 feet.

Description:

The property is underlain by Paleozoic sediments consisting of, from oldest to youngest: Upper Cambrian and (?) Ordovician limestone, locally referred to as the "wavy-banded" limestone, (Unit 7b, Green et al, 1967); up to 300 metres of black, carbonaceous and graptolitic shales of the Ordovician Road River Formation (Unit 10, op. cit.); and over 900 metres of siliceous shale, sandstone and chert-pebble conglomerate of Devono-Mississippian age (Unit 18, op. cit.). Extremely fine-grained galena and sphalerite occur in thin, conformable laminae in a black, carbonaceous horizon in the Road River Formation, roughly 60 metres above the lower contacts with the "wavy-banded" limestone. Secondary lead-zinc minerals such as smithsonite, cerussite and particularly hydrozincite have been observed in surface showings.

Current Work and Results:

During 1978, geochemical soil sampling, Crone electromagnetic survey, trenching and diamond drilling programs were conducted. The soil sampling and geophysics were conducted over the same 4 line miles on claims DON 74, 79, 157, 159, 161 and 162 and the trenching on claims OP 7-11, a total of 150,000 cubic feet. Nineteen diamond drill holes were drilled for a total footage of 17,905 feet on claims X-17, OP 7-11, R-19, 40, 38, 51, 33, 32, 159, 160, DON-74, 79, 157, 159, 161 and 162. The drilling concentrated on the ANNIV area of the Howards Pass claim block and in this region, an extension to the previously known mineralization was found.

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OHNO
Itsi Joint Venture
(Archer, Cathro & Associates Limited)

105 I 12
(62°36'N, 129°35'W)

Reference: Green et al (1967); Morin et al (1979, p. 91).

Claims: OHNO 1-24

Location and Access:

The property is located in the Selwyn Mountains, immediately west of the Yukon-N.W.T. border and 165 km east-northeast of Ross River. Access is provided by float plane from Ross River to a small lake unofficially known as Wishbone or Wise Lake that is situated at 62°37'N, 129°28'W, and from there by helicopter the remaining 6 km west.

History:

The claims were staked in August 1977 and partially cover ground previously staked in 1972 as the NOR group of Vestor Exploration Limited. In 1977, preliminary geological mapping, prospecting and geochemical soil and silt sampling programs were conducted, but no geochemical anomalies were determined.

Description:

The property is largely overburden covered and the few outcrops available indicate that black shale, mudstone and cherty argillite of the Road River Formation underlie it. These rocks form a northwest trending belt and are interpreted to occur either within the core of a syncline or as part of a tilted fault block. The southeast end of this belt lies within 3 km of the ANNIV deposit.

Current Work and Results:

During summer 1978, a Maxmin II electromagnetic survey was conducted. The horizontal coplanar loop mode was utilized with frequencies of 888 HZ and 222 HZ and a coil separation of 100 metres. Survey stations were established at 25 metre intervals along three lines. The survey outlined several conductors that were interpreted to be within Road River shale.

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ROOK
Cominco Limited

105 I 13
(62°45'N, 129°55'W)

Reference: Green et al (1967); Morin et al (1979, p. 92).

Claims: ROOK 1-27, 29-52

Location and Access:

The claims are located in the Logan Mountains, 157 km northeast of Ross River and 48 km south of Macmillan Pass. Access is provided by float equipped fixed wing aircraft to Fuller Lake and from there by helicopter, 26 km southeast to the property.

History:

The ROOK 1-27 claims were staked in August 1976 and work during summer 1977 consisted of geological mapping (1 inch to 1/4 mile), prospecting and geochemical soil and stream sediment sampling programs. Analyses were made for Cu, Pb. Zn, Ag and Ba and several geochemical anomalies were determined for zinc and barium (Morin et al, 1979, p. 92). Claims ROOK 29-52 were added in July 1978 to expand the entire claim group to the southwest.

Description:

The property is underlain by sedimentary rocks of Upper Cambrian to Silurian age:

---	Light grey siliceous siltstone, streaky texture and pyrite balls, buff to orange weathering;
Road River Formation	Medium grey to rusty weathering hornfels, black, carbonaceous, siliceous mudstone and black cherty mudstone; pyrite nodules towards top of bed and calc-silicate (tremolite) beds (0.3-1.0 m) near base of unit, disseminated pyrite throughout;
	Siliceous and tremolitic mudstone with disseminated pyrite towards top of unit, dark grey weathering (Lower Ordovician);

Upper Cambrian	Light grey to white weathering calc-silicate (tremolite), and light grey weathering silty limestone (Upper Cambrian);

Isoclinal folding, normal and thrust faulting have deformed the sequence. No outcropping mineralization was noted on the property.

Current Work and Results:

During summer 1978, geological mapping (1 inch to 1/4 mile) and geochemical soil sampling programs were conducted. Approximately 200 soil samples were collected at 50 m intervals along lines spaced 100 m apart and analyzed for W, Cu, Zn. Anomalies were determined for each metal.

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CLEA
Placer Development Limited
Essex Minerals Limited

Tungsten, Copper, Zinc
105 I 13
(62°46'N, 129°52'W)

References: Green et al (1967); Morin et al (1979, pp. 92-93).

Claims: CLEA and OMO - a total of 182

Location and Access:

The property is located in the Logan Mountains, within the headwaters of the Pelly and Prevost Rivers, 160 km northeast of Ross River, 50 km south of Macmillan Pass and 47 km north-northwest of Howard's Pass. Access to the property during summer 1977 was provided by truck to Kilometre 161 on the North Canol Road and then by helicopter 35 km to the southeast.

History:

In 1976, during a reconnaissance program oriented towards finding lead-zinc mineralization, a Canex Placer geologist discovered scheelite mineralization in skarn float on the present CLEA claims. Shortly thereafter, claims CLEA 1-46 were staked in August 1976, and the remainder staked during March 1977 to November 1977. Claims OMO 3 and 4 were purchased in July 1977 and the remainder in 1977 and 1978. In 1977, geological mapping (1:10,000; 1:2,500), prospecting, trenching and chip sampling programs were conducted.

Description:

The property is underlain by pelitic and carbonate rocks of Lower Silurian age and younger. These rocks have all undergone intense contact metamorphism which formed a large metamorphic aureole around a small quartz-monzonite plug. Within the aureole, the rocks have been altered to black hornfels, meta-argillite, light grey hornfels, and a calc-silicate unit made up of marble, siliceous calc-silicate and skarn.

Three main types of skarn are present: tremolite-actinolite-garnet skarn, quartz-biotite-diopside-garnet skarn, and quartz-biotite-diopside-garnet-pyrrhotite-chalcopyrite-scheelite skarn which occurs in a roof pendant configuration.

The intrusive rocks consist of equigranular quartz monzonite as plug and dyke rock and quartz monzonite porphyry (40% phenocrysts) as a minor phase of the plug.

The structure is very complex with at least four synform-antiform sets of isoclinal folds causing repetition of the major 50 metre thick calc-silicate unit at least eight times. Axial planes trend 120°-140° and dip 40°-60° to the southwest and the fold axes plunge 30° to the northwest.

Mineralization consists of disseminated scheelite in skarn. Of the two tungsten bearing skarns, the dark green quartz-biotite-diopside-garnet-scheelite skarn is the lower in grade and the less common quartz-biotite-diopside-garnet-pyrrhotite-scheelite-chalcopyrite skarn higher in grade.

Current Work and Results:

During summer 1978, further detailed geological mapping, magnetometer survey, trenching and diamond drilling programs were conducted. The magnetometer survey was conducted over claims CLEA 41-44, 84, 101 Fr, 102 Fr, 103 and OMO 3 and 4 and the trenching on claims OMO 3 and 4 and CLEA 101 Fr, 102 cubic metres of material being excavated. Seven diamond drill holes (BQ) were drilled for a total of 10,800 feet on claims CLEA 3, 4, 6, 68 Fr, 84 and 43.

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PIKE — Copper, Silver
Craigmont Mines Limited — 105 J 2
Atsui Mining Corporation Limited — (62°10'N, 130°40'W)

Reference: Roddick and Green (1961).

Claims: PIKE 7, 9, 13-22, 37-40

Location and Access:

The claims are located 16 km north of Fortin Lake and 6 km west of the Pelly River. Access is provided by helicopter from Ross River, 90 km to the west.

History:

The claims were staked approximately 10 years ago. Subsequently, they were optioned by Craigmont Mines from Atsui.

Description:

The property is underlain by volcanic rocks of Tertiary age (Units 13 and 14, Roddick and Green, 1961). Company geologists report copper-silver and minor lead-zinc mineralization near the top of a steeply dipping coarse rhyolite ignimbrite sheet about 100 m thick. Tuff, dacite and andesite overlie the ignimbrite.

Current Work and Results:

During summer 1978, a geological mapping (1:5,000) program was conducted. Economic potential was deemed too low to warrant additional expenditures and the option was dropped.

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HENCH — Lead, Zinc, Silver
St. Joseph Explorations Limited — 105 J 3
(62°02'N, 131°22'W)

References: Roddick and Green (1961); Tempelman-Kluit (1977b).

Claims: HENCH 1-48

Location and Access:

The claims are located in the Pelly Plateau, 60 km east of Ross River. Access is provided by helicopter.

History:

The claims were recorded in August 1978.

Description:

The property is underlain by less than one per cent of outcropping sedimentary rocks of Paleozoic age that are in intrusive contact with Cretaceous (?) granitic rocks and diorite dykes. Calcareous light grey phyllite and pelitic and micaceous schist (Unit OSDqc, Tempelman-Kluit, 1977b) constitute the older sedimentary rocks and chert pebble conglomerate with interbedded arkose, mudstone and slate the younger (Unit UDMfcg). Granitic rocks are quartz monzonite, porphyritic quartz monzonite and feldspar porphyry.

Mineralization consists of thin (less than 15 cm) quartz veinlets bearing sphalerite, galena and minor chalcopyrite. The veinlets occur within calcareous phyllite, altered porphyritic diorite and calc-silicate schist.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), prospecting and geochemical soil and stream sediment sampling (Cu, Pb, Zn, Fe, ±Ag) programs were conducted. Prospecting yielded two outcrop occurrences of mineralization. The best reported assay is of a 15 cm thick vein - 18.8% Pb, 14.8% Zn, 2.36 oz/ton Ag and 0.06% Cu. Soil samples (467) were generally collected at 50 m intervals along lines spaced 400 m apart and 43 stream sediment samples were collected from streams draining the area. Several anomalies were determined.

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BOJO — 105 J 4, G 13
Cyprus Anvil Mining Corporation — (62°00'N, 131°42'W)

Reference: Tempelman-Kluit (1977).

Claims: BOJO 9-78, 105-136, 143-174

Location and Access:

The property is situated in the Ross River valley 38 km east of Ross River. Access is provided by helicopter from Ross River.

History:

The claims were staked to cover three coincident airborne electromagnetic-magnetic responses outlined by an Input survey flown over a 100 square mile area in the Ross River valley. BOJO claims 9-78, 105-130, 133-136, 143-174 were staked in June 1977 and 131-132 in September 1977.

Description:

Most of the property is covered by glacio-fluvial overburden. However, north of the claim group occur limestone and black calcareous shale of Paleozoic age and south of the property occur metamorphic rocks similar to the Anvil Range assemblage of rocks, ie two mica schist, calc-silicates, black to grey phyllite and associated interbeds of metabasites.

Current Work and Results:

During spring 1978, ground magnetic and electromagnetic surveys were conducted. Two coincident magnetic-electromagnetic anomalies were determined.

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ABBEY
Itsi Joint Venture

105 J 9, I 12
(62°42'N, 130°00'W)

References: Green et al (1967); Blusson (1974a). Morin et al (1979, pp. 93-94).

Claims: ABBEY 1-216

Location and Access:

The claims are located in the Selwyn Mountains near the headwaters of the Prevost River, 170 km northeast of Ross River. Access is provided by float plane from Ross River to Cominco Lake (62°39'N, 129°52'W) at the southeast end of the property or by helicopter.

History:

Claims ABBEY 1-200 were staked in June 1977 and ABBEY 201-216 in July 1977 by Itsi Joint Venture. The Venture consists of Union Oil Company of Canada Limited, Aquitaine Company of Canada Limited and St. Joseph Exploration Limited and is managed by Archer, Cathro and Associates Limited. The southeast end of the property was previously staked in 1973 as the LAD group of Serem Limited and the DOG group of Sonesta Resources Limited. In 1977, geological mapping, prospecting and geochemical soil, stream sediment and water sampling programs were conducted. Several stream sediment anomalies in zinc and one lead soil anomaly were located.

Description:

The property covers the northwestern extension of the Road River shale belt that is currently under exploration on the Placer Development-Essex Minerals property. The ABBEY group is underlain by a conformable Lower to Middle Paleozoic sequence of wavy banded limestone of the Rabbitkettle Formation; shale and chert of the Road River Formation; and shale, cherty argillite, chert pebble conglomerate and bedded barite of the Canol Formation. These rocks trend in a northwest direction and dip generally to the southwest. No mineralization has been observed on the property.

Current Work and Results:

During summer 1978, 7.1 km of Maxmin II survey was conducted over a weak lead anomaly and limited magnetic surveys, geochemical sampling and hand pitting were also performed. The EM survey defined a strong conductor in Road River shale that lies near and parallels the lower contact with the Rabbitkettle limestone. The anomaly is overburden covered and is coincident with the weak lead anomaly. Soil sampling in a hand pit to a depth of 1.2 m gave lead assays between 58 and 94 ppm and zinc assays of 3,000 to 3,250 ppm. Local soil background is 10 ppm Pb and 700 ppm Zn.

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TOM
Hudson Bay Exploration and Development Company Limited

Lead, Zinc, Silver, Barite
105 O 1
(63°10'N, 130°10'W)

References: Blusson (1974a); Carne (1976, 1979).

Claims: TOM 1-144

Location and Access:

The claims are located in the Macmillan Pass area of the Selwyn Mountains. They lie on the south side of the Canol Road and are accessible by road from Ross River, 160 km southwest. A 3 km road to the underground workings leaves the Canol Road at Km 440. A gravel surfaced airstrip is located beside the Canol Road on the north part of the property. The JASON claims adjoin the property to the west.

History:

Mineralization on the TOM claims was discovered in 1951 by Hudson Bay Exploration and Development Company Limited prospectors working off the Canol Road. Subsequent diamond drilling and underground development work resulted in a reserve estimate of about 8.645 million tons grading 2.75 oz/ton Ag, 8.4% Zn and 8.1% Pb. A comprehensive work summary and description of the deposit is given in Carne (1979).

Description:

The property is underlain by fine to coarse grained clastic sedimentary rocks of Lower to Middle Paleozoic age. From oldest to youngest, they are black, carbonaceous shale of the Road River Formation, black pyritic shale, cherty argillite, siltstone and limestone of the Canol Formation and orange weathering siltstone and sandstone of the Imperial Formation (Carne, 1979).

Mineralization consists of two lenses (East Zone, West Zone) of stratiform massive and layered sulphides and barite near the base of the black carbonaceous shale of the Canol Formation. Layers of barite, argillite, chert, sphalerite, galena and pyrite characterize the Main or West Zone.

Current Work and Results:

During summer 1978, geological mapping (1:5,000), geochemical soil sampling(373 samples), gravity survey (16.6 line km), bulldozer trenching on TOM 11, 12, 24 (5 trenches) and diamond drilling programs were conducted. Five holes totalling 1,925 feet were drilled on TOM 5 and 7 to test gravity anomalies and a possible extension of the East Zone.

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Watson Lake Area
Placer Development Limited

Coal
60°08' N, 129°15' W
105 A 2, 3, 6

References: Gabrielse (1966); Campbell (1967).

Coal Exploration Licences: a total of eight

Location and Access:

The area of the licences is west and northwest of Watson Lake and is traversed by the Alaska and Campbell Highways. A logging road crosses the middle of the licence area.

History:

Coal in the Watson Lake area was first noted by G.M. Dawson (1898). However, no systematic prospecting was conducted until 1976, when Placer Development initiated a program involving extensive prospecting and mapping along river valleys with followup sampling and analyses of coal exposures.

Description:

The area is underlain by a trough elongated in a general northwest direction parallel to the Tintina Fault and along the Liard River. Filling the basin are fine to coarse grained clastic sediments and lignite of Lower Tertiary age.

Current Work and Results:

During November-December, 1977 and March-April, 1978, four trenches were dug near coal outcrops and a variety of coal seams was exposed. In addition, three diamond drill holes totalling 416 m were bored. Coal seams intersected in the diamond drilling are tabulated below:

Hole	Coal Intersections	Thickness of Coal Seam
LC#2	56.2 to 73.8	16.6 m thick seam with seven partitions ranging from 0.2 to 1.1 m
	91.0 to 129.7 m	four seams ranging from 1.3 to 2.2 m
LC#1	30.0 to 37.7 m	7.7 m of coal and clay, 50% recovery
LC#3	50.9 to 53 m	2.1 m
	75.6 to 76.8 m	1.2 m
	94.0 to 100.9 m	6.9 m

Ash content of the coal is reported to range from 8 to 48% with low sulphur content from 0.1 to 0.4% and calorific values from 5600 to 10,700 BTU/lb (dry basis).

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Bonnet Plume Basin
Pan Ocean Oil Limited

Coal
106 E
(65°15'N, 135°W)

References: Norris and Hopkins (1977).

Coal Exploration Licences: Nos. 77-92, 94-98

Location and Access:

The property is located within the Bonnet Plume Basin, a topographically depressed area situated between the Richardson and Wernecke Mountains. Access is provided by float plane from Mayo, 210 km to the south. In addition, a 165 km winter road runs from Keno Hill to the property.

History:

Following the discovery of coal in 1977 along the Wind River and Illtyd Creek, Pan Ocean Oil Limited acquired 21 Coal Exploration Licences over the Bonnet Plume Basin.

Description:

The property is underlain by fine to coarse grained clastics of Cretaceous age that have been divided into the Upper and Lower Bonnet Plume Formations. Conglomerate, sandstone, mudstone, shale and coal seams consititute the Lower Formation which rests unconformably on a basement of Permian or older age rocks within the Basin.

Current Work and Results:

During the 1978 field season, programs involving geological mapping, measurement of stratigraphic sections and diamond drilling were conducted. Three drill holes totalling 102.4 m were bored to investigate two gently dipping major coal seams. Thickness of the upper or No. 1 seam averaged 7.10 m and the lower or No. 2 seam, 6.79 metres. In addition, numerous coal occurrences were located by the geological mapping program. Together, the surface exploration and diamond drilling results obtained in 1978 are reported to infer approximately 45,000,000 metric tonnes of mined-clean high volatile C bituminous coal. The inferred coal sales product is reported to have the following qualities:

Inherent Moisture	5.6%
Ash	13.5%
Volatile	35.1%
Fixed Carbon	45.8%
BTUs/lb	10.130
Sulphur	<0.5%
Ash Fusion Temperature	>2400°F

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TANTALUS BUTTE MINE
Cyprus Anvil Mining Corporation

Coal
115 I 1
(62°08'N, 136°15'W)

References: Bostock (1936a, pp. 59-62); Green (1966, pp. 121-124); Findlay (1967, p. 88; 1969a, p. 15; 1969b, pp. 66-67); Craig and Laporte (1972, pp. 155-156); Sinclair and Gilbert (1975, pp. 121-122); Sinclair et al (1975, p. 168; 1976, p. 172); Morin et al (1977, p. 218); Marchand et al (1979, p. 73).

Lots and Leases: 2959; Lot 23

Location and Access:

The mine is situated on the north bank of the Yukon River, 6.4 km north of Carmacks and 1 km from the Whitehorse-Mayo Road.

History:

The Tantalus Butte Mine began operation in 1923, supplying coal to Carmacks and Dawson and later the mill at United Keno Hill Mines, Elsa, until 1967. In 1969, the mine began supplying coal to the Anvil Mine where it is used for plant heating and concentrate drying. In 1978 an underground fire started and all underground operations were terminated.

Description:

The coal occurs in the Tantalus Formation of Upper Jurassic (?) and/or Lower Cretaceous age, consisting of conglomerate with lesser amounts of sandstone, shale and a few coal seams. The main seam ranges up to 14 feet thick, strikes north and dips 45° to 70° west. The seam is displaced by steeply-dipping, northeast- to northwest-trending faults. Although fault displacement is often only in the order of a few feet, mining is rendered difficult. The coal is a high volatile, bituminous coal with calorific value averaging about 12,500 BTU/lb. (a.d.b.). The coal is agglomerating with a swelling index of 1 (ASTM) but is not suitable for metallurgical grade coke (Green, 1966, p. 124). There is also another coal horizon near the top of the Laberge Group (Lower to Middle Jurassic).

Current Work and Results:

Two bulldozer trenches with an area of approximately 743 square metres and 31 holes (14 cm diameter) of rotary percussion (DTH hammer) drilling for a total depth of 932 m outlined further reserves. Coal production was obtained from the open pit and consisted of 23,587 short tons of coal.

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COMPANY	PROPERTY	N.T.S.	No. of HOLES	REMARKS
Gataga Joint Venture (Archer, Cathro)	Driftpile Creek	94-K	9	C
Sovereign Metals Ltd.	Mel	95-D-6	8	C
Archer Cathro Hyland Joint Venture	Porker Claims	95-D-5, 12	4	C
Asarco Exploration Co. of Canada Limited	Pic-Whi-QTZ	95-D-5, 12	32	C
Noranda Exploration Co. Ltd.	Pic-Whi-QTZ	95-5, 12	2	C
Serem Ltd.	A&B	105-B-1	9	C
Archer Cathro	Nite Claims	105-B-7	6	C
Hudson Bay Exploration and Development Ltd.	Rancheria Angie Claims	105-B-11	7	
Boswell River Mines	Boswell River	105-C-13	parts of 11 holes other unid'd core	
Joe Lindsay	Quiet Lake	105-C-14	3	C
Arctic Gold & Silver Mines Limited	Arctic Mine	105-D-2	15	C
International Mine Services	Peerless Claims Arctic Mine Area	105-D-2	14	C
Venus Mines	Montana Mt.	105-D-2	64	C
M. Nichiporich	Polar	105-D-9	2	C
Whitehorse Copper	Valerie	105-D-10, 11	1	C
United Keno Hill	King Lake	105-D-14	1	C
Archer Cathro & Assoc.	Hidden	105-F-6	8	C
Marvin Sherman (Dupont of Canada Expl. Co. Ltd.)	Mat (Seagull Creek)	105-F-7, 10	5	C
Atlas Exploration	Dub	105-G-2	3	
Cassiar Asbestos	Dub	105-G-2	1	
Newmont Exploration of Canada Ltd.	Joe	105-G-5	3	C
Newmont Exploration of Canada Ltd.	Cyr	105-G-6	6	C
Archer Cathro & Assoc.	Boot	105-G-6	10	C
Conwest Exploration	Pack	105-G-7	2	
Finlayson Joint Venture-Archer Cathro	Fetish	105-G-8	4	C

COMPANY	PROPERTY	N.T.S.	No. of HOLES	REMARKS
Hudson Bay Exploration and Development Ltd.	Bev	105-G-11	12	C
Du Pont of Canada Exploration Ltd.	Leach-Fault-Czar	105-G-14	5	C
Pelly Banks Syndicate	Shale-Reno-Fred	105-G-14	4	C
Du Pont of Canada Exploration Ltd.	Tenas	105-K-1 105-F-16 105-G-13	20	C
Cyprus Explorations	Lyn	105-K-3	4	
John Graham	Pug	105-K-3	1	C
Welcome North Mines Limited	Sunset (PMJ)	105-K-3	1	C
Cyprus Anvil	Rose Creek	105-K-6	11	C
Northern Homestake	Hal Claims	105-K-11	2	C
Archer Cathro & Assoc.	Eagle	105-M-14	parts of 6 holes	C
Inco Metals Co.	Hasten, Basin, Fetch	105-O-1	6	C
Archer Cathro and Associates Ltd.	Ess	105-O-1	2	C
Hudson Bay	Tom	105-O-8	61	C
McIntyre Mines	Tom	106-B-4	1	C
Barrier Reef Resources	Goz Creek	106-C-7	5	C
Norcen Energy Res. (Great Plains)	Harrison Creek	106-C-7	3	C
Magni Management Company Limited	Fair	106-C-13	2	C
Bonnet Plume River Mines	Dolores Creek (Mammoth)	106-C13-14	3	C
Archer Cathro Ogilvie Joint Venture	Pterd	106-C-14	5	C
Welcome North Mines Limited	Cab	106-C-16	3	C
Archer Cathro and Associates Ltd.	Bond	106-D-10	3	C
Eldorado Nuclear Ltd.	Bond	106-D-10	10	C
Pacific Giant Steel		106-D-16	1	C
Archer Cathro & Assoc.	Otis	106-E-1	1	C
Archer Cathro Ogilvie Joint Venture	Flunk	106-E-2	3	C

COMPANY	PROPERTY	N.T.S.	No. of HOLES	REMARKS
Archer Cathro & Assoc.	Igor	106-E-2	5	C
Archer Cathro Ogilvie Joint Venture	M.S.T.	106-E-3	3	C
Canex Placer	Panther Claims B.C.	114	6	C
Jackpot Copper	Tatshenshini	115-A-3	4	
Phelps Dodge	Green Eagle, Joy	115-A-8	1	
Canalask Nickel Syndicate	Micro	115-F-15, 16	9	C
Hudson Bay	Quill Creek	115-G-5	46	C
Hudson-Yukon Mining Company Limited	Wellgreen	115-G-5	65	C
Imperial Oil	Cork	115-G-6	10	
M. Nichiporich	Sekulman (CAD)	115-H-5-12	11	
Teslin Expl. Ltd.	Teslin	115-H-8	1	C
Arjay Kirker Resources Ltd. (Archer Cathro)	Division Mtn.	115-H-8	6	C
Archer Cathro and Assoc.	Lion (Bun)	115-H-8	7	C
Arsenault/Versluce	Mack's Copper	115-H-9	1	
Tantalus Butte Mine Anvil Mining Corp.	Tantalus Butte	115-I-1	5	C
Cyprus Explorations	Mt. Nansen	115-I-3	10	C
Area Explorations	Mt. Nansen	115-I-3	2	C
Cyprus Explorations	Mt. Nansen	115-I-3	3	C
Kangaroo (Cyprus)	Mt. Nansen	115-I-3	5	C
Archer Cathro	Cash (Fox, Bear, Car)	115-I-5, 6	20	C
Rayrock Mines	Laforma Property	115-I-6	2	C
Dawson Range Joint Venture (Archer Cathro)	Williams Creek (Boy)	115-I-7	18	C
Canex Aerial Expl.	March (Granite Mtn)	115-I-7	7	C
Dawson Range Joint Venture (Archer Cathro)	Possibly Ben, Pal Kap, Neb	115-I-11	10	C
United Keno Hill	Minto	115-I-11	1	C
Kerr Addison	Won	115-I-13	6	C

COMPANY	PROPERTY	N.T.S.	No. of HOLES	REMARKS
Occidental Petroleum	Pelly & Dary	115-I-14	3	C
McKinnon Rand Resources	Mac, Fox	115-O-11	2	C
Ukon Joint Venture (Archer Cathro)	Surprise	115-O-14, 15	9	C
Beach Gold Mines	Ura	115-P-13, 14	4	
Archer Cathro & Assoc.	Ting	116-B-7	14	C
Chevron Standard Ltd.	Rackla (A, AB, B, Wad)	116-B-11	6	C
UMEX	Od	116-B-13	4	
UMEX	Lala	116-B-14	2	C
Clinton Creek Asbestos	Mine	116-C-7	1	C

C in Remarks indicates that core is confidential and permission of company is required for viewing.

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