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Isotope dating of lead-zinc occurrences in the Bonnet Plume area, Preliminary report

D. Héon



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Preface

Geological fieldwork was undertaken in 2000 by the Department of Economic Development to provide sample data for analysis to help classify Mississippi Valley Type, Vein, or Manto style lead-zinc mineral occurrences in the Bonnet Plume area.

The information is being released as originally prepared and may not conform to current Yukon Geological Survey publication standards. Please note that the report does not include information from any studies that may have been carried out in the area since the report was written.

Isotopic dating of lead-zinc occurrences in the Bonnet Plume area

Preliminary report

Danièle Héon
January 2001

Introduction

The Proterozoic to Cambrian carbonate rocks of the Bonnet Plume area are hosts to many lead-zinc occurrences. Some are classified as Mississippi-Valley-type deposits (MVTs) while others are thought to be veins. In either case, structural controls may be important but the MVTs generally display simple low-temperature mineralogy and stratigraphic control. Since the mineralization is thought to be controlled by diagenetic processes, the age of the mineralization should be close to the age of the host rocks, and the isotopic signature should reflect a sedimentary source for the lead. In the case of veins, the mineralization would be related to structural and/or igneous events that may not be related to the genesis of the host rocks. Manto-type replacement may be caused by very distal intrusions. In these cases, the isotopic signature may reflect an igneous source, and the age of the mineralization should be younger than the host rock.

Six of the showings were sampled during the summer of 2000 for isotopic age dating (Pb/Pb) in order to help clarify this classification and shed light on the timing of the different mineralization sources and processes.

Only assaying work has been done to date. Results from the isotopic analyses are still pending. Preliminary results show that some occurrences previously described as MVTs contain surprisingly high amounts of silver or antimony, elements usually indicative of higher temperatures than those usually associated with MVT deposits; while some evidence of stratigraphic replacement is observed in "vein" occurrences.

This short report summarizes the geological environment of each of the showings. Thin section work and other lithogeochemical analyses remain to be done.

Location and access

All showings are located on the Nadaleen River mapsheet (106C), and all but one are located between the Bonnet Plume and the Snake Rivers. Access was made possible by sharing transportation expenses with a team from Renewable Resources (YTG). Mobilization into the area was made by floatplane from Mayo to the Renewable Resources camp on Goz Lake; access to the showings was done by helicopter chartered to Renewable Resources. Camp moves were generally done at the end of the day, when the helicopter was not otherwise in use.

Workplan

A cursory compilation of the assessment reports for the different lead-zinc occurrences in the area led to a prioritization of the mineral occurrences to be visited.

The Goz occurrence was visited to get familiarized with what is thought to represent a "true" MVT type environment. The other occurrences were chosen for their high silver content, and whether or not they displayed sedimentary or structural controls. The amount and quality of information available and the accuracy of property location maps were significant factors in determining which occurrences would be sampled.

Time and weather were the major constraint affecting the fieldwork. Helicopter support out of Goz Lake was available for 9 days, two days were lost to weather.

Samples were sent for radiogenic dating from all showings except from the Goz, which already had been analyzed for radiogenic lead, and from the Iota claims since the mineralization there was unlike the other occurrences and displayed mineralogy and chemistry of definitely more high temperature environments.

Initial plans were to sample host rocks for litho-geochemical work at the occurrences and compare them with the same rock units distal to the mineralization. It became apparent that time at each occurrence did not allow for this type of sampling.

Goz (MINFILE 106C 020)

Samples 00DH-1 to -3.

This occurrence is recognized as an MVT deposit, reserves have been calculated at 1.4 Mtof 10% zinc oxide and 10% zinc sulphide. The mineralization is hosted in the upper Proterozoic Risky dolostone. Only a small part of the property was visited, two zones were documented, the HAB and DDH-8. The HAB zone consists in outcrop or subcrop of brecciated and silicified dolostone with pale beige, medium grained, sphalerite crystals and smithsonite as breccia matrix. Silica locally appears chalcedonic.

The zone surrounding DDH-8 consists exclusively of float. Dolostone is vuggy and strongly silicified, and is cut by quartz veinlets. Silica appears to replace primary features such as algal laminations; later brecciation confers to the rock a 'potato chip texture' (local descriptor). Very fine-grained red sphalerite is disseminated along the rims of vugs. Coarser sphalerite occurs in the quartz veinlets.

Although stratigraphic control is documented on the property and is inferred from the geometry of the deposit, only structurally controlled mineralization were observed in these two zones. The low silver values are consistent with an MVT setting, the high antimony values are somewhat surprising.

Profeit (MINFILE 106C 039)

Samples 00DH-4 to -9

This MINFILE occurrence consists of several lead-zinc showings, most of them distributed along linear structures. Drill core was kept on site. Three main types of mineralization were identified: podiform, vein and breccia, as well as replacement mineralization.

In core, galena was observed to occur as vein and fracture filling as well as in association with tetrahedrite and sparry dolomite in vugs. Pyrite locally lines fractures and vugs and also occurs in breccias.

- Showing no.2 (samples 00DH- 4) consists of a 4 m wide massive sulphide pod. A drill pad is located below the zone. Very coarse grained massive banded red to green sphalerite contains irregular rounded pods and bands of massive coarse-grained galena, tetrahedrite (-tennantite) and boulangerite, and some rounded pods of randomly oriented euhedral quartz and yellowish material (cervantite?) which may represent late-stage crystallization of the mineralizing fluid. The western contact with the host dolostone sharp; the eastern contact is wavy and irregular; it is marked by re-entrants of massive mineralization and fragments of dolostone in the massive sulphide. The zone generally trends north/south and dips steeply to the east. Our sampling returned values of up to 209 ppm Ag, 702 ppm Cd, 2.3% Pb, 2.4% Sb, 24.5% Zn and anomalous Au (279 ppb). Previous sampling gave even higher results.
- A zone of float (00DH-7) contains numerous examples of galena as vug filling with sparry dolomite.
- A 1m X 0.4m zone of vuggy and fractured dolostone contains galena as blebs (2-5%) and in vugs as well as on randomly oriented fractures (00DH-8).
- Showing no.1 (00DH-9) was located on a steep face in a gully. A drill pad is located slightly above the showing. The mineralization consists of float of massive of galena and sphalerite (00DH-9a). In outcrop, steep mineralized veins, 1-10cm thick, vary in orientation but are roughly perpendicular to the direction of the gully and therefore may be conjugate to the presumed fault. Veins consist of dolomite, sphalerite, galena, malachite and tetrahedrite. In subcrop, veins more concordant (?) with the presumed structure consist of coarse grained dolomite and galena veining. Irregular sulphide blebs are disseminated in the wall rock.
- Showing no. 5 (00DH-10), located on the steep western face at the top of the main ridge, consists of a sub-vertical, discordant and quartz-galena vein widening into an irregular pod containing bands or stringers of galena. The lower part of the exposure is marked by drusy quartz and open-space textures. The base of the exposure was masked by snow.

In float, several types of mineralization were observed: massive red-green sphalerite with thin galena seams; altered brecciated dolostone cut by quartz-sphalerite veinlets; rounded red sphalerite grains in dolostone fragment; and one sample of seams and clusters of medium grained sphalerite crystals disseminated along bedding and fracture planes.

- Showing no.8 was reported to host mineralization along bedding planes in the overlying Twitya Formation. We were unsuccessful in locating this showing.

In summary: galena, sphalerite, tetrahedrite and minor malachite and pyrite occur in vugs, pods and at core of dolomite veins, as fracture coatings, breccias and as replacement. High-grade zinc-lead mineralization is characterized by high silver and high

antimony, as well as some molybdenum. Fracture orientation near the mineralized zones is often sub parallel to the attitude of the mineralized zones. Both stratigraphic and structural controls constrain mineralization.

Cob (MINFILE 106C 023 b, c)

Samples 00DH-11 to -18, RZ- 2 to -4.

The Cob occurrence consists of three different showings; only two of them (106C 023b and c) were visited. These are hosted in the upper Proterozoic Profeit Formation.

The occurrence labeled 106C 023b (on John 7 claim) is described as a mineralized fault breccia and discontinuous veining grading up to 78.9g/t Ag, 2.6% Pb and 30.7% Zn. The occurrence was not located in outcrop during our investigation. What was found in float are several mineralized vein and breccia boulders and numerous examples of vuggy (fenestral) dolostone with vugs filled by sparry and banded dolomite and some sulphides. Galena also occurs as disseminations in fenestral dolostone and as fracture coatings.

Grey dolostone, locally recrystallized, is variably altered and brecciated; breccia fillings consist of locally sparry dolomite, fine to coarse-grained galena and quartz. Galena also occurs as disseminations, blebs, veinlets and fracture coatings. Locally, greenish brown sphalerite is present. Samples from the 2000 work returned values around 2% Pb, 2% Zn and 211 ppm Ag with 1021 ppm Sb.

Boulders found in float contained massive siderite, quartz, galena, and banded coarse sphalerite and carbonate. Unmineralized sparry dolomite and quartz veining was found in sandstone.

A coarse siliceous pyritic clastic rock, (conglomerate or sedimentary breccia?) commonly contains rounded clasts or nodules of rusty weathering pyrite, and angular dolomite fragments in a finer matrix of quartz grains with pyrite-silica cement. This rock is associated with elevated Sb values (00DH-11).

The occurrence labeled 106C 023c (on Barb 2 claim) is located on a steep hillside and consists of a very linear fault-breccia marked by intense limonitic staining. A drill pad marks the location of shallow drill holes. Highly oxidized brecciated dolostone fragments are rimmed by cm-thick fine grained pyrite ± galena (?), dolomite and trace sphalerite rims, and replaced by sulphide pods. The sulphide pods are in turn rimmed or cut by crystalline dolomite. Sample 00DH-18b is a rough chip sample across a sulphide-rich zone, which returned values of 1.1% Pb, 7.8% Zn and 174 ppm Sb.

The zone trends approximately east-west and can be followed for approximately 100m, till the ridge crest. It measures 1 to 3 m wide.

A very rusty soil sample was taken in the projected extension of this zone (00DH-17); it returned anomalous values in Ag, Au, Cu and Hg. This would indicate strike extent for this structure of at least 800 m.

Ping/ Corn (MINFILE 106C 019)

Samples 00DH-19 to -20

Classified as an MVT, this occurrence contains high-grade lead-zinc-silver mineralization. The property had been trenched and drilled; two of the zones were visited and sampled. According to regional mapping, the mineralization is hosted in mid- to upper- Proterozoic dolostone of the upper Pinguicula Formation or Hematite Creek Group.

Zone 2, Trench 4 (00DH-19)

A linear structure is outlined by a trench trending 045°. Mineralization grades from galena disseminated and as fracture coatings and cusped veinlets in wallrock of bleached and yellow-weathering altered dolostone, to galena and sphalerite as rim of fragments and matrix of dolomite breccia, to massive vein/pods.

Compositional zoning is evident where brecciated textures are prevalent. Dolostone fragments are rimmed by dolomite crystals, which are in turn coated with galena. Banded red and green sphalerite is generally interstitial to the fragments, and forms the core of massive mineralized pods. Galena also occurs within the massive sphalerite. Pyrite and malachite occur in trace amounts. Galena crystals often display strained cleavage planes wrapping around dolostone fragments. Dolostone below the showing is vuggy, above it is massive. Quartz is absent.

Zone 1, Trench 3. (00DH-20)

Both structural and stratigraphic controls are evident. Mineralization appears to follow a steep structure, and then preferentially replace a medium-bedded sub-horizontal dolostone bed (MVT? manto?) in an irregular distribution (pinch and swell?), in a sequence of otherwise thick-bedded dolostone. This stratigraphically controlled mineralization consists of galena as disseminations and veinlets to stockwork veins in altered dolostone, and probably grades laterally and thickens into a large pod of coarse-grained sphalerite and galena crystals or fragments, rimmed by dolomite. This texture has been interpreted as brecciated sphalerite and galena in a dolomite matrix, but many subhedral sphalerite faces suggest in situ crystallization. A zone of intense dolomite veining and brecciation with trace galena marks the top of the zone.

Summary: Mineralization observed at the Ping/Corn occurrence displays both structural and stratigraphic controls. High-grade lead-zinc mineralization is associated with high-grade silver (up to 150g/t Ag, see MINFILE report). No quartz was observed. Fenestral dolostone was documented between the two zones, but no "primary" porosity was observed in the dolostone near the mineralized zones.

Bob (MINFILE 106C 050)

Samples 00DH-21

This occurrence has been interpreted to consist of lead-zinc mineralization emplaced along or replacing algal laminations. It has been classified as MVT-style mineralization, hosted in lower Cambrian Sekwi dolostone.

The showing outcrops as an orange to rusty weathering cliff exposure in a stream. Cubes of galena, minor pyrite and trace sphalerite are disseminated along shallow to

moderately-dipping bedding or foliation planes. These thin laminae (0.5 to 1.5 cm thick) outline planes which are slightly steeper than the general wavy bedding; they may represent primary algal laminations and the slight discordance may be consistent with bioherm morphology, or they may represent a later foliation.

Large massive pyrite (or marcassite?)-limonite pods containing galena and trace sphalerite, with an intense limonitic halo, occur where the mineralized laminae intersect a steeply dipping fabric. Trace galena is also observed on randomly oriented fractures in non-laminated dolostone.

At the showing, the dolostone is finely crystalline (recrystallized?). Where the rock is not mineralized nor laminated, the dolostone is massive and fine-grained. Further downstream, fenestral texture is observed.

Previous exploration results reported values of 59% Pb, 3.8% Zn and 24g/t Ag. Our sampling returned values of 1.5% Pb and 3.2 to 5.2 % Zn.

Tetrahedrite Creek/ Iota (MINFILE 106C 014)

Samples 00DH-22 to -24, 00RZ-6.

Several types of mineralization occur in this area, many of them influenced by the dioritic bodies and the large body of Wernecke Breccia that occurs here. Our work was aimed at documenting the original showing in the area, a lead-zinc-silver vein (the Discovery Vein, type 2 vein, from previous property reports) that may have been similar to the occurrences sampled so far, and possibly unrelated to the mineralizing events associated with the breccia. Also, one assessment report mentioned the occurrence of 'silicified granodiorite' associated with high bismuth values in a trench. We were interested in documenting and confirming this occurrence since there has been no previous mention of siliceous magmatism in the area.

We think we located the original sample location of the Discovery Vein but could not find any material left to sample. Different types of mineralization were documented, but none hosting galena and sphalerite, none corresponding for the type 2 mineralization we were seeking. We did not see any silicified granodiorite; there were no trenches visible at the location outlined in the report. The property was characterized by the great amount of garbage left by the operators of the last exploration program.

We did sample small high-grade coarse-grained siderite-azurite-quartz-tetrahedrite veins hosted in Gillespie dolostone, which are associated with the Iota fault.

McIntyre Mines (Nadaleen Mountain) (MINFILE 106C 065)

Only one zone (Discovery zone) was visited briefly while demobilizing from the area. Although lead-zinc mineralization in breccias had been documented, very little was found in the short time spent on the property, the mineralization was probably defined by drill holes.

Table 1. Summary

Showing	Previous classification	Pb> Zn	Zn> Pb	High Ag	Other geochem. signature	Structural control	Stratigraphic control	Age of host rock	qtz
Goz	MVT		X		Sb	X	X	Upper Prot.	X
Profeit	vein	X	X	X	Sb, (Au)	X	X	Upper Prot.	x
Cob no.2	vein		X	X		X		Upper Prot.	X
Cob no.3	vein		X	x	Mo, Sb, (Au)	X		Upper Prot.	
Ping/ Corn	MVT	X	X	X	Hg	X	X	U Prot Hematite Ck	
Bob	MVT	X	X			X	X	Lower Cambrian	
Tetrahedrite Creek/ Iota	vein		X	X	Bi, Cu, As, Sb, Au.	X		Upper Prot.	X

Acknowledgements

Rick Zuran is thanked for his excellent help in preparing for this project on short notice and for his valuable contributions in the field. Mark O'Donoghue and his team at Goz Lake, by sharing the use of their helicopter, made this project possible, and provided welcome additions to our diet. Jock Mackay from Fireweed Helicopters is thanked for good flying, good humour and his persistence in providing excellent service despite adverse (winter) weather conditions.

YUKON MINFILE
YUKON GEOLOGY PROGRAM
WHITEHORSE

NAME(S): Tetrahedrite Creek
MINFILE #: 106C 014
MAJOR COMMODITIES: Cu,Au,Ag
MINOR COMMODITIES: U,Pb,Zn
TECTONIC ELEMENT: Mackenzie Platform

NTS MAP SHEET: 106 C 14
LATITUDE: 64°56'16"N
LONGITUDE: 133°13'02"W
DEPOSIT TYPE: Wernecke Breccia, vein
STATUS: Showing

CLAIMS (PREVIOUS AND CURRENT)

MAMMOTH, WA, PETE, IOTA, RAM, RUBY.

WORK HISTORY

Discovered in 1967 by Nordex EL during exploration of the Mammoth cl (Y6719), which were mapped and sampled and transferred to a new company, Bonnet Plume River ML in 1968. Restaked as part of the WA cl (Y87980) in Apr/74 by D. Waugh; and as Pete cl (YA2024) in Sep/76 by Noranda ML following airborne radiometric and magnetic surveys.

Restaked as Iota cl (YA43419) in Jan/81 by Texaco Can Res L, which performed mapping, geochem sampling and hand trenching in 1981 and 1982 and trenching and VLF-EM surveys in 1983. Optioned in 1987 by Silverquest Res L, which performed mapping and sampling, and in 1988 by Cyprus Gold (Can) Ltd. In Jun/92 J. & D. Hajek staked Ram 1-22 cl (YB28509) along the southern boundary of the remaining Iota claims. Golden Unicorn Mining Corp. acquired an 85% interest in the Iota claims from Texaco in Jul/93.

In Oct/94 J & D Hajek restaked most of the original 22 Ram claims and added cl 23-40 (YB43540). During the same month the Hajeks staked the Ruby cl 1-54 (YB43658) on the east boundary of the Iota and Ram claims. J. Hajek also carried out hand trenching and sampling on Iota cl 1 (YA43419) in Oct/94. In Feb/95 Hajek transferred Iota and Ruby claims to Westlake Ltd.

GEOLOGY

A weak skarn has developed along the margin of a diorite sill associated with a Middle Proterozoic breccia body cutting Middle Proterozoic Quartet Group limy argillite and Gillespie Lake Group orange dolomite. Minor brannerite occurs in fractures cutting the breccia and altered wallrocks. A linear zone 3 to 12 m wide containing tetrahedrite veinlets extends for a length of about 100 m. A chip sample from the best portion assayed 0.24% Cu and 10.3 g/t Ag over 3.7 m.

Laznicka described six additional occurrences (12, 13, 37-40) in the vicinity. Occurrences 12 and 13 lie 1 and 2 km to the northwest and consist of chalcopyrite in a breccia matrix. Occurrences 38 to 40 are situated 2 km to the southwest and consist of chalcopyrite in a breccia matrix and tetrahedrite in veins which cut Middle Proterozoic dolomite. Laznicka's occurrence 37, 1 km to the south, consists of chalcopyrite in a weakly fractured zone within the same unit.

On the Iota group, Texaco discovered four gold- and/or silver-bearing veins along an east-trending fault. The veins are of two types: (1) tetrahedrite with pyrite and chalcopyrite in red weathering siderite; and, (2) tetrahedrite, sphalerite and/or galena in a quartz, calcite and dolomite gangue. The best assays were obtained from a 1.0 m wide quartz vein that was traced in trenches for 7 m along strike and contains native gold, galena, sphalerite and tetrahedrite. Selected specimens assayed up to 411.4 g/t Au, 82.3 g/t Ag, 5.9% Cu, 21.2% Pb and 5.5% Zn.

Assays by Texaco in 1981 and released in 1993 by Golden Unicorn Mining Corp. include 925 g/t Au and 101 g/t Ag from grab samples of vein material, and 443 g/t Au and 90 g/t Ag from veins in talus.

REFERENCES

BONNET PLUME RIVER MINES LTD, Sep/68. Prospectus Report by A.R. Archer.

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GEORGE CROSS NEWSLETTER, 91 Jul/93; 27 Jul/93.

YUKON EXPLORATION AND GEOLOGY 1981, p. 185-186; 1983, p. 228-229.

**YUKON MINFILE
YUKON GEOLOGY PROGRAM
WHITEHORSE**

NAME(S): Corn
MINFILE #: 106C 019
MAJOR COMMODITIES: Pb,Zn
MINOR COMMODITIES: Ag,Cu
TECTONIC ELEMENT: Mackenzie Platform
NTS MAP SHEET: 106 C 11
LATITUDE: 64°38'23"N
LONGITUDE: 133°14'20"W
DEPOSIT TYPE: Mississippi Valley
STATUS: Drilled Prospect

CLAIMS (PREVIOUS AND CURRENT)

PING, HW, CAN, NET, DJ, TET, STRATA, NIB

WORK HISTORY

Float from these showings was found in 1968 by Cyprus E Corp. L. It was first staked as PING cl (Y86146) in March/74 by Bow River Res L & Highhawk ML, which conducted mapping, hand trenching and geochemical surveys and acquired the adjoining HW and CAN cl (Y87798) from D. Waugh later in the year. Following hand trenching and an IP survey, Cominco optioned the property in Jul/75 and drilled 7 holes (525.5 m) later in the year. Adjoining claims staked in Mar/74 include NET cl (Y86400), of Grandora EL to the north and DJ cl (Y86690) of Cons. Standard ML and Yukon Gold Placer L to the southwest, both of which were explored in 1974 with mapping and geochemical sampling.

The option was transferred in 1976 to Coast Copper ML, which performed EM surveys and drilled 6 holes (465.6 m). In 1971, Grandora EL changed its name to Dora EL. In 1979, Highhawk changed its name to Newhawk Gold ML.

In Sept/95 P. Hajek staked Tet cl 1-2 (YB65010), Strata cl 7-8 (YB65012) and Nib cl 1-10 (YB65020) around the occurrence. In Oct/95 Hajek staked Strata cl 1-6 (YB65072).

GEOLOGY

On the PING and HW groups, three galena-sphalerite zones occur within a 320 m thick carbonate unit of Late Proterozoic age, overlain by shale and carbonate that consists of a lower dolomite-limestone-quartzite-siltstone unit and an upper dolomite-conglomerate unit, separated by an angular conformity.

The main showing (Zone 1), which lies 91 m above the base of the lower unit, consists of massive sulphide mineralization that has been brecciated and cemented with secondary dolomite. The zone is about 11 m thick and 38 m long, terminated at either end by minor faults. A chip sample assayed 24% Pb, 11.3% Zn and 150.9 g/t Ag. Five holes tested the zone, two of which intersected 10 m of 7.9% Pb, 14.8% Zn, 61.7 g/t Ag and 5.5 m of 13.9% Pb, 1.3% Zn, 68.6 g/t Ag. One of the other holes cut a 3 m section grading 3.9% Pb and 9.9% Zn, while the others were blank.

Zone 2 occurs 45 m stratigraphically above Zone 1 and consists of pods of massive sphalerite and disseminated galena in the matrix of a dolomite breccia. Its dimensions are uncertain because it occurs only as float, but a chip sample over a length of 15.2 m assayed 15.8% Pb, 4.7% Zn and 106.3 g/t Ag. Two drill holes cut only weak mineralization.

The third zone consists of massive sphalerite float stratigraphically above the other zones. Two holes were drilled in an IP anomaly and one of these returned 6.2% Pb and 5.7% Zn over 1.2 m. On the Net group, galena occurs in calcite veins cutting both the upper and lower units and weak sphalerite and galena are disseminated in dolomite float.

A quartz vein 2.1 m wide containing 2 to 3% Cu cuts black shale 1.6 to 4.8 km to the northeast.

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BOW RIVER RESOURCES LTD AND HIGHHAWK MINES LTD, Feb/75. Assessment Report #061490 by J.W. MacLeod.

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**YUKON MINFILE
YUKON GEOLOGY PROGRAM
WHITEHORSE**

NAME(S): Goz (Barrier Reef)	NTS MAP SHEET: 106 C 7
MINFILE #: 106C 020	LATITUDE: 64°25'44"N
MAJOR COMMODITIES: Zn	LONGITUDE: 132°32'40"W
MINOR COMMODITIES: Pb,Cd,Ag	DEPOSIT TYPE: Mississippi Valley
TECTONIC ELEMENT: Mackenzie Platform	STATUS: Deposit

CLAIMS (PREVIOUS AND CURRENT)

GOZ

WORK HISTORY

Staked as 192 Goz, etc cl (Y69432) in Jul-Sep/73 by Barrier Reef Res L, which carried out mapping and sampling in 1973. A major program in 1974 and 1975 was financed by Brinco and Conwest and consisted of 20 holes (2023.6 m) in the A and B Zones and additional mapping in 1974 and 35 holes (4208.4 m) in 1975, part of which tested the lower dolomite.

The property was transferred to MFC Mg Finance Corp and then to Fairfield MIs L in 1987.

GEOLOGY

Sphalerite, often totally oxidized to smithsonite, occurs with quartz, lesser amounts of galena and minor pyrite and boulangerite in a flat-lying, grey, thick bedded, porous, partly pisolitic and sandy dolomitized limestone unit 762 m thick that is assigned to the uppermost middle member of the Proterozoic Backbone Ranges Formation. The favourable unit can be traced for a length of 8 km and a width of up to 3.2 km.

Mineralization occurs as the matrix in silicified and brecciated beds, filling vugs and cross fractures, disseminated in coarsely crystalline horizons, and as the banded matrix of cross-bedded sandstone horizons, and displays both stratigraphic and tectonic controls. Mineralization was controlled initially by primary and secondary porosity, was later upgraded by tectonic brecciation and paleokarsting along faults with concomitant remobilization and was subsequently modified by supergene alteration during the Laramide uplift.

The principal showings occur over a length of 1340 m within an upper dolomite layer 107 m thick that dips 5-10° south. Other showings have been found at a second horizon 122 m lower in the section.

The 1974 drilling outlined about 1.4 million tonnes grading 10% Zn sulphide and 3.5% Zn oxide in a linear, steep-walled mass of collapse breccia about 30 m wide, with stratiform wings that average 6 m thick. The deposit is surrounded by irregular zones of lower grade disseminated mineralization. The sphalerite ranges from white to pale yellow (turkey fat ore) to honey brown to red. Metal ratios are about 2% Pb, 0.1% Cd and 0.1 to 17.1 g/t Ag with 20% zinc.

The 1975 work tested other zones and gave generally lower grades. The upper dolomite is considered to have a potential for 10.9 million tonnes grading 8% zinc.

REFERENCES

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BARRIER REEF RESOURCES LTD, Jan/75. Annual Report.

YUKON MINFILE
YUKON GEOLOGY PROGRAM
WHITEHORSE

NAME(S): Cob
MINFILE #: 106C 023
MAJOR COMMODITIES: Zn
MINOR COMMODITIES: Pb,Ag,Cd
TECTONIC ELEMENT: Mackenzie Platform

NTS MAP SHEET: 106 C 14
LATITUDE: 64°46'16"N
LONGITUDE: 133°01'46"W
DEPOSIT TYPE: Vein
STATUS: Drilled Prospect

CLAIMS (PREVIOUS AND CURRENT)

ROB, RAIN, RED

WORK HISTORY

Staked as Rob, etc cl (Y84848) in Aug/73 by Barrier Reef Res L, which conducted mapping and sampling later in the year and optioned the property in Mar/74 to Cons Coast Silver ML. The property was explored in 1974 with mapping, soil sampling and one x-ray hole (12 m).

The adjoining Rain cl (Y85462) to the east were staked in Sep/73 by Pine Lake Mg CL, which carried out geochem surveys and mapping in 1974, and changed its name to Marge Ent L in 1975. Coast Silver changed its name to New Coast Silver ML early in 1976.

Between Sept and Oct/95 the three occurrences were restaked as Red cl 1-20 (YB65052) by J. Hajek.

GEOLOGY

Three showings found over a length of 3700 m consist of sphalerite and galena in a quartz gangue with lesser amounts of pyrite and calcite and a trace of tetrahedrite. The mineralization fills vugs and veins and forms the matrix of fault breccia in grey Lower Cambrian(?) dolomite that strikes north and dips 25° east.

Showing No. 1 (on claim TG3) consists of sphalerite and galena in veins from 3 cm to 1.5 m wide and up to 100 m long. A sample across the best portion of a 1.5 m wide vein assayed 600.0 g/t Ag, 19.5% Pb, 41.8% Zn and 0.09% Cd.

Showing No. 2 (on claim John 7) consists of mineralized fault breccia and discontinuous veining within a 120 by 120 m area. A sample across the best part of a 3 m wide breccia zone assayed 78.9 g/t Ag, 2.6% Pb, 30.7% Zn and 0.06% Cd.

Showing No. 3 (on the Barb 2 claim) is a 3 m wide vein striking 295° and dipping 75° south that can be traced for a length of 60 m. A chip sample across the vein assayed 34.3 g/t Ag, 1.4% Pb, 8.1% Zn and 0.02% Cd. The drill hole tested Showing 3 and returned only traces of mineralization.

Pine Lake outlined a zinc anomaly 305 by 1828 m and a lead-zinc anomaly 152 m square.

REFERENCES

CONSOLIDATED COAST SILVER MINES LTD, Aug/74. Assessment Report by D.W. Tully.

GEORGE CROSS NEWSLETTER, 4 Dec/73; 25 Feb/74; 31 Jul/74.

MINERAL INDUSTRY REPORT 1973, p. 26; 1974, p. 59.

YUKON MINFILE
YUKON GEOLOGY PROGRAM
WHITEHORSE

NAME(S): Profeit
MINFILE #: 106C 039
MAJOR COMMODITIES: Pb,Zn,Ag
MINOR COMMODITIES: Cu
TECTONIC ELEMENT: Mackenzie Platform

NTS MAP SHEET: 106 C 14
LATITUDE: 64°49'09"N
LONGITUDE: 133°03'20"W
DEPOSIT TYPE: Vein
STATUS: Drilled Prospect

CLAIMS (PREVIOUS AND CURRENT)

DOC, ERIK

WORK HISTORY

Staked as 150 Doc cl (Y95359) in Aug/74 by Amax EL (Mt Emmons Mg C), which carried out mapping and geochem sampling in 1974, 1975 and 1978 and added more claims and drilled 5 holes (686 m) in 1981 in a joint venture with Procan EC. Amax transferred its interest to Canamax Res Inc in 1983.

In Sept/95 P. and J. Hajek staked Eric cl 1-12 (YB65032) 1 km to the north.

GEOLOGY

Small showings of galena, sphalerite, tetrahedrite, pyrite and marcasite are clustered in a zone 1220 m long within a 300 m section of Late Proterozoic vuggy dolomite. The various types of mineralization include massive pods, breccia and fracture fillings in shear and sheet-jointed zones; irregular replacement patches; vug fillings or linings; and stratabound bedding plane and fracture fillings. The mineralization occurs near a facies change to basinal clastics within the host unit.

The largest massive pod of galena, red-green sphalerite and tetrahedrite, 9.4 m long and 8.2 m wide, assayed 16.8% Zn, 47.2% Pb and 589.7 g/t Ag across 9.4 m. Another sample across a shear zone gave 6.6% Zn, 3.5% Pb and 68.6 g/t Ag across 6.4 m. The best drill intersection returned 9.9% Pb, 0.2% Zn and 143 g/t Ag over 2 m.

REFERENCES

MINERAL INDUSTRY REPORT 1974, p. 60-61.

MINERAL INDUSTRY REPORT 1975, p. 57-58.

YUKON EXPLORATION AND GEOLOGY 1981, p. 186.

YUKON MINFILE
YUKON GEOLOGY PROGRAM
WHITEHORSE

NAME(S): Bob	NTS MAP SHEET: 106 C 10
MINFILE #: 106C 050	LATITUDE: 64°34'29"N
MAJOR COMMODITIES: Pb,Zn	LONGITUDE: 132°58'49"W
MINOR COMMODITIES: Ag,Cu	DEPOSIT TYPE: Mississippi Valley
TECTONIC ELEMENT: Mackenzie Platform	STATUS: Prospect

CLAIMS (PREVIOUS AND CURRENT)

BOB

WORK HISTORY

Staked as Bob cl (Y96447) in Aug/74 by Cominco, which conducted mapping, geochem sampling and an IP survey and added more BOB cl (Y98110) in 1975.

GEOLOGY

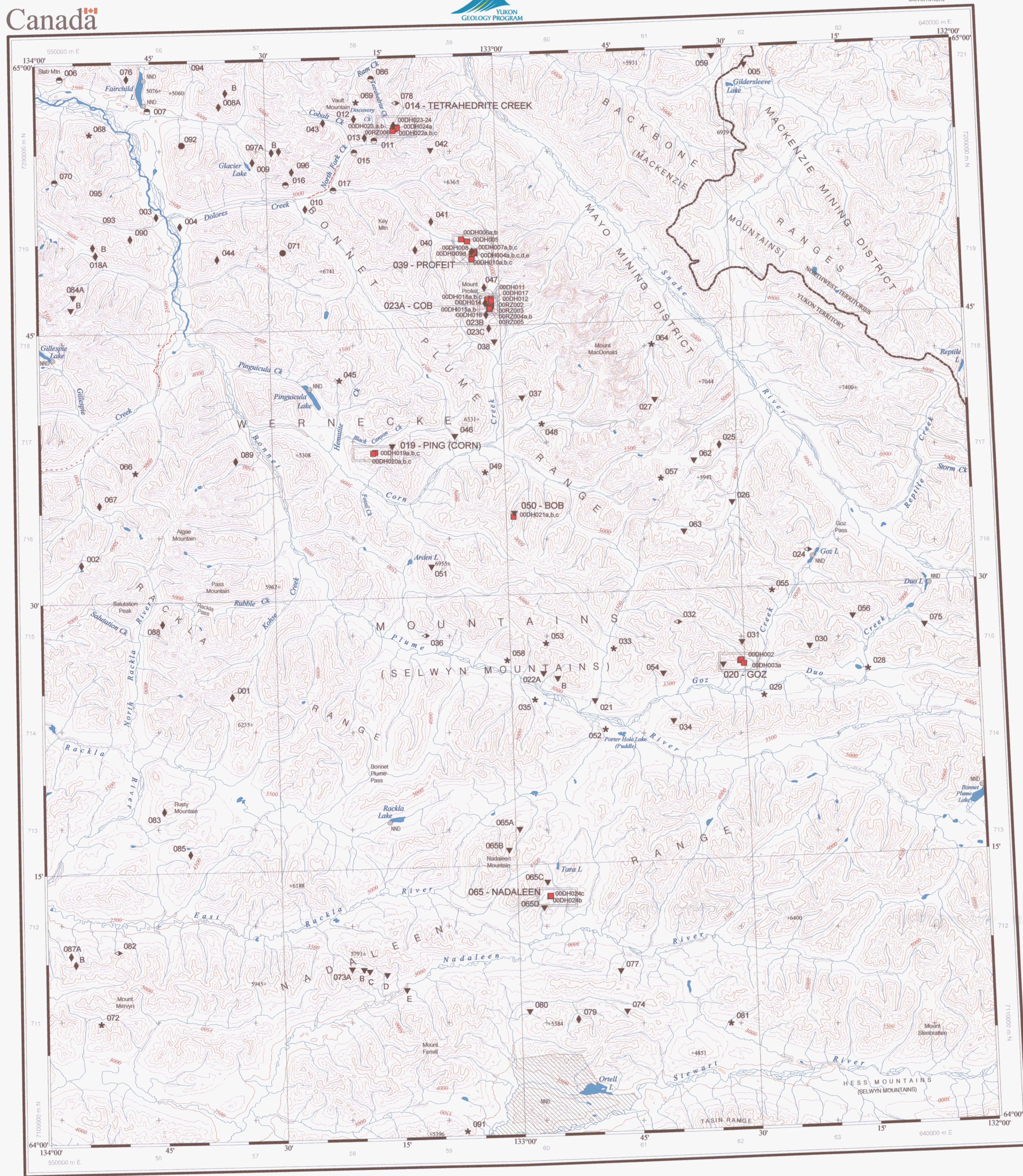
The main showing consists of coarse grained galena, sphalerite, pyrite and chalcopyrite in zebra-textured, brecciated orange to buff weathering Sekwi Formation dolomite of Lower Cambrian age. Sphalerite is either dark grey, red or honey coloured. The mineralization is localized within vugs along the algal lamination planes of small mound-like bioherms and also along bedding planes. It can be traced for 15 m along strike and intermittently for about 30 m downdip. Chip sampling of the main showing gave an average assay of 5.9% Pb, 3.8% Zn and 24.0 g/t Ag.

REFERENCES

MINERAL INDUSTRY REPORT 1975, p. 49.

Sample No.	Showing	Ag ppm	Al % ppm	As ppb	Au** ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm		
00DH-1b	Goz	< .1	0.01	241	27	< 2	< 1	8	< .5	0.14	831.5	< 1	28	5	0.29	1	438	< .01	1	0.06	26	1.2	0.004	< 1	0.006	3591	9.75	360.8	0.1	1	< 1	< .001	1	1	1	< 1	32.47%
00DH-1d	Goz	2.3	0.01	104	19	< 2	< 1	4	< .5	0.09	843.6	< 1	27	14	0.35	< 1	497	< .01	1	0.04	19	1.3	0.006	5	0.002	8495	7.51	1817.7	0.1	1	< 1	< .001	< 1	1	< 1	< 1	31.06%
00DH-3a	Goz	2	0.02	277	39	< 2	< 1	10	< .5	0.06	252	< 1	35	8	0.53	< 1	75	< .01	1	0.01	34	4.7	0.002	4	0.023	23889	1.62	14224	0.2	1	1	< .001	< 1	1	< 1	24390	
00DH-4a	Profeit	209.5	< .01	54	17	< 2	< 1	9	< .5	0.11	702.3	< 1	5	680	0.28	8	690	< .01	< 1	0.05	41	< .2	0.002	1	0.004	20102	12.41	3667	0.1	1	< 1	< .001	2	1	< 1	< 1	24.55%
00DH-4d	Profeit	209.9	< .01	27	279	< 2	< 1	5	< .5	1.34	659.1	< 1	8	62	0.56	5	569	< .01	2	0.71	580	0.5	0.005	5	0.004	20339	8.75	17120.8	0.3	30	< 1	< .001	1	1	1	< 1	18.27%
00DH-4e	Profeit	36.5	0.01	88	241	< 2	< 1	9	< .5	0.17	461	< 1	18	237	0.6	1	121	< .01	1	0.03	84	1.3	0.005	6	0.014	23356	2.44	24697.9	0.1	3	< 1	< .001	2	9	1	< 1	54869
00DH-6a	Profeit	1.2	1.42	10	< 2	< 2	27	40	0.8	12.21	1.4	9	14	26	1.69	4	1	0.71	8	6.64	469	0.6	0.018	15	0.054	624	0.07	84.9	8.6	43	3	0.005	< 1	< 1	22	< 1	213
00DH-6b	Profeit	0.5	0.32	8	3	< 2	24	27	0.8	17.26	2.1	1	3	11	0.99	2	1	0.19	7	7.6	580	0.9	0.031	5	0.048	657	0.16	235.1	3.7	90	1	0.001	< 1	< 1	6	< 1	221
00DH-7b	Profeit	11.6	0.02	3	2	< 2	2	5	0.9	21.88	0.8	< 1	< 1	1	0.18	1	1	0.02	< 1	11.2	475	0.8	0.028	< 1	0.013	4149	< .01	24.2	0.9	29	< 1	< .001	< 1	< 1	2	< 1	237
00DH-7c	Profeit	135.4	0.01	32	12	< 2	< 1	7	0.6	13.98	2.7	< 1	5	70	0.35	1	2	< .01	< 1	7.4	565	1.6	0.011	1	0.009	18827	1	512.8	0.7	90	< 1	< .001	1	1	6	1	467
00DH-8	Profeit	46	0.01	32	< 2	< 2	< 1	8	0.8	20.52	3.6	< 1	1	141	0.21	1	3	< .01	< 1	10.52	515	1.1	0.022	< 1	0.008	17649	0.19	334	0.8	55	< 1	< .001	< 1	< 1	5	< 1	708
00DH-9a	Profeit	100.1	0.01	134	14	< 2	< 1	4	< .5	16.81	519.2	< 1	< 1	2738	0.73	5	605	< .01	< 1	8.94	1370	0.7	0.014	1	0.019	17991	5.33	5930.1	0.8	74	< 1	< .001	2	< 1	27	< 1	18.40%
00DH-9b	Profeit	113.3	0.01	26	6	< 2	< 1	8	0.5	18.85	169.7	< 1	< 1	326	0.77	2	204	< .01	< 1	9.81	1652	1.5	0.014	1	0.027	17098	2.63	657.2	0.8	71	< 1	< .001	1	< 1	28	< 1	50131
00DH-11	Cob	3.2	0.17	41	5	< 2	3	15	< .5	0.21	6.3	1	26	34	2.18	< 1	14	0.1	4	0.09	38	5.4	0.002	4	0.088	1945	1.24	82.6	0.4	9	2	< .001	< 1	1	4	3	3058
00DH-14	Cob b	45.4	0.05	49	< 2	< 2	< 1	4	< .5	0.79	3.9	< 1	23	25	0.39	< 1	6	0.02	2	0.41	209	4.1	0.001	6	0.031	20411	0.41	80.2	0.3	4	< 1	< .001	< 1	1	< 1	1	1083
RE 00DH-14	Cob b	51.8	0.05	50	2	< 2	< 1	4	< .5	0.81	4	< 1	25	19	0.42	< 1	6	0.02	2	0.42	219	4.2	0.002	6	0.033	21264	0.43	83	0.4	4	< 1	< .001	< 1	1	2	1	1114
00DH-15a	Cob b	211.3	0.01	120	31	< 2	< 1	12	< .5	3.97	57.2	< 1	17	57	1.73	< 1	67	< .01	2	2.03	1776	3.8	0.004	1	0.013	21075	4.59	1021.6	0.5	14	< 1	< .001	< 1	1	1	< 1	19695
00DH-17 soil	Cob	723	0.33	56.9	0.3	4	29	0.13	0.3	0.43	5.7	18	115.69	31.15	5.4	1742	0.07	1	0.12	131	3.31	0.001	11.4	0.221	131.23	0.53	2.77	13.8	5.8	16.3	0.002	0.42	0.8	66	< 2	386.4	
RE 00DH-17	Cob	684	0.33	36.5	0.3	4	27.4	0.11	0.33	0.36	5.3	17.9	118.11	30.74	4.8	1561	0.07	1	0.09	140	2.9	0.001	11.3	0.194	146.53	0.49	2.69	11.3	5.4	13.7	0.003	0.39	0.7	69	< 2	391.6	
00DH-18b	Cob c	83.6	0.01	397	2	< 2	< 1	4	< .5	6.38	153.7	< 1	< 1	98	22.71	< 1	199	< .01	1	5.78	1183	29	0.006	6	0.006	11781	22	174.3	0.1	17	1	< .001	11	2	5	< 1	78521
00DH-18c	Cob c	42.9	0.01	307	4	< 2	< 1	4	< .5	6.58	87.7	< 1	< 1	88	18.63	1	105	< .01	1	6.51	1134	15.3	0.004	4	0.008	8059	16	107.5	0.1	15	1	< .001	8	3	7	< 1	37675
00DH-19b	Ping	185.1	0.01	35	5	< 2	2	10	0.8	12.1	148.4	< 1	< 1	214	0.7	3	16	< .01	2	6.54	383	1.8	0.006	1	0.003	16824	5.55	697.3	2.6	79	< 1	< .001	< 1	2	13	< 1	15370
00DH-20a	Ping	53.9	0.01	67	6	< 2	< 1	15	< .5	10.69	1158.3	< 1	< 1	155	1.15	34	3650	< .01	1	7.21	399	2.4	0.01	< 1	0.022	15510	12	152.8	1.1	50	< 1	< .001	< 1	< 1	1	< 1	28.29%
00DH-20b	Ping	54	0.01	47	< 2	< 2	< 1	57	0.7	17.26	65.2	1	< 1	27	0.73	1	103	< .01	< 1	8.96	520	4	0.012	2	0.022	17253	3.07	71.1	2.3	78	< 1	< .001	1	< 1	3	< 1	14581
00DH-21b	Bob	1.1	0.01	44	4	< 2	1	3	0.7	16.68	1662.9	1	< 1	38	5.32	2	9	< .01	1	9.51	1477	1.3	0.011	9	0.002	15646	5.99	11	0.8	40	< 1	< .001	4	1	8	< 1	52586
00DH-21c	Bob	2.2	0.03	172	< 2	< 2	2	5	< .5	0.41	165.9	15	3	56	32.31	< 1	2	< .01	< 1	0.16	35	6.6	0.003	32	0.004	1517	34	1.9	< .1	3	1	0.001	41	11	6	< 1	32414
00DH-22a	lota	5.1	0.09	387	899	< 2	< 1	8	131.8	0.09	61.1	2	25	10210	4.8	< 1	13	0.06	2	1.81	2157	5.7	0.002	26	< .001	21884	1.29	17063.3	1.8	3	< 1	< .001	3	1	4	< 1	9756
00DH-22b	lota	1.3	0.35	400	12	< 2	5	22	< .5	1.64	0.3	55	116	365	6.81	2	1	0.24	11	6.76	1033	0.6	0.003	299	0.091	92	0.4	45.1	15.6	15	1	0.001	< 1	1	47	< 1	206
00DH-23b	lota	155.6	< .01	6055	7700	9	2	10	60.1	0.05	44	10	6	11.56%	30.55	< 1	154	< .01	< 1	0.1	684	< .2	0.002	45	0.009	144	22	17228.1	1.5	3	1	< .001	6	1	< 1	< 1	8798
00DH-23-24	lota	119.2	0.03	3246	5190	6	5	13	168.3	19	39.3	21	5	39860	2.51	1	358	0.01	< 1	9.2	1935	0.2	0.014	63	< .001	76	1.51	24420.4	1.8	59	< 1	< .001	1	1	5	< 1	6939
00DH-24a	lota	34.3	0.01	702	170	< 2	6	10	1943	19.08	1	1	47	3067	9.5	2	8	< .01	1	8.93	11913	< .2	0.015	5	< .001	127	0.1	822	1	103	< 1	< .001	1	1	7	< 1	247
00DH-24b	lota	1.3	0.05	33	37	< 2	< 1	18	0.5	0.33	34.9	< 1	< 1	435	44.46	1	2	0.01	1	0.22	405	< .2	0.001	< 1	0.031	13244	0.42	136.3	< .1	3	1	< .001	9	4	6	< 1	27430
00DH-24c	McIntyre	0.8	0.02	10	11	< 2	3	9	24.5	20.84	28.9	< 1	< 1	73	0.2	1	1	< .01	< 1	10.23	865	1	0.01	< 1	0.018	58	0.14	18.2	0.9	45	< 1	< .001	1	< 1	1	< 1	8198
00RZ-2	Cob	62.9	0.09	32	< 2	5	< 1	9	< .5	19.83	29.5	< 1	< 1	4	1.14	1	24	0.05	< 1	9.39	1750	0.9	0.013	3	0.034	16260	0.8	79.9	2.7	58	< 1	< .001	1	1	8	< 1	9815
00RZ-4a	Cob	7.9	0.04	22	< 2	6	< 1	5	< .5	6.17	239.1	< 1	< 1	18	0.8	1	289	0.02	< 1	3.79	1126	3.1	0.008	5	0.004	1039	3.7	19.3	0.8	21	< 1	< .001	< 1	< 1	2	90	78249
00RZ-4b	Cob	104.8	< .01	58	< 2	15	< 1	< 1	< .5	0.39	57.6	< 1	< 1	386	0.2	< 1	41	< .01	2	0.2	159	0.6	< .001	1	< .001	18008	11	4595.4	0.2	2	< 1	< .001	< 1	2	1	8	17003
00RZ-6	lota	306.3	0.01	7578	9	832	3	9	3442	0.18	21.2	1	81	38883	29.15	< 1	167	< .01	< 1	7.24	12982	15.9	0.002	17	< .001	805	1.14	11281.8	1.3	6	1	< .001	4	2	6	1	3341
00DH-1b	Goz	HAB zone; massive coarse grained beige sphalerite and smithsonite breccia with dolomite in vugs. s/c.																																			
00DH-1d																																					

BONNET PLUME 2000				
STATION	EASTING	NORTHING	SHEET	AREA
00DH001a	620012.54	7147316.054	106 C/7	Goz
00DH001b	620012.54	7147316.054	106 C/7	Goz
00DH001c	620012.54	7147316.054	106 C/7	Goz
00DH001d	620012.54	7147316.054	106 C/7	Goz
00DH001e	620012.54	7147316.054	106 C/7	Goz
00DH002	620124.11	7147412.413	106 C/7	Goz
00DH003a	620400.2	7147044.882	106 C/7	Goz
00DH004a	592624.76	7189303.146	106 C/14	Mt Profeit
00DH004b	592624.76	7189303.146	106 C/14	Mt Profeit
00DH004c	592624.76	7189303.146	106 C/14	Mt Profeit
00DH004d	592624.76	7189303.146	106 C/14	Mt Profeit
00DH004e	592624.76	7189303.146	106 C/14	Mt Profeit
00DH005	591856.9	7190539.428	106 C/14	Mt Profeit
00DH006a	591249.96	7190740.455	106 C/14	Mt Profeit
00DH006b	591249.96	7190740.455	106 C/14	Mt Profeit
00DH007a	592609.37	7189510.332	106 C/14	Mt Profeit
00DH007b	592609.37	7189510.332	106 C/14	Mt Profeit
00DH007c	592609.37	7189510.332	106 C/14	Mt Profeit
00DH008	592512.2	7189352.358	106 C/14	Mt Profeit
00DH009a	592337.85	7189284.472	106 C/14	Mt Profeit
00DH009b	592337.85	7189284.472	106 C/14	Mt Profeit
00DH009d	592337.85	7189284.472	106 C/14	Mt Profeit
00DH010a	592325.42	7188698.902	106 C/14	Mt Profeit
00DH010b	592325.42	7188698.902	106 C/14	Mt Profeit
00DH010c	592325.42	7188698.902	106 C/14	Mt Profeit
00DH011	594325.18	7184641.856	106 C/14	Mt Profeit-COB
00DH012	594352.84	7183971.146	106 C/14	Mt Profeit-COB
00DH014	594205.13	7183803.582	106 C/14	Mt Profeit-COB
00DH015a	594142.35	7183678.797	106 C/14	Mt Profeit-COB
00DH015b	594142.35	7183678.797	106 C/14	Mt Profeit-COB
00DH016	594170.5	7183572.803	106 C/14	Mt Profeit-COB
00DH017	594337.51	7184448.574	106 C/14	Mt Profeit-COB
00DH018a	593938.27	7184574.725	106 C/14	Mt Profeit-COB
00DH018b	593938.27	7184574.725	106 C/14	Mt Profeit-COB
00DH018c	593938.27	7184574.725	106 C/14	Mt Profeit-COB
00DH019a	582414.23	7168659.521	106 C/11	Ping
00DH019b	582414.23	7168659.521	106 C/11	Ping
00DH019c	582414.23	7168659.521	106 C/11	Ping
00DH020a	582202.83	7168563.837	106 C/11	Ping
00DH020b	582202.83	7168563.837	106 C/11	Ping
00DH020c	582202.83	7168563.837	106 C/11	Ping
00DH021a	596672.54	7162065.272	106C/10	Bob
00DH021b	596672.54	7162065.272	106C/10	Bob
00DH021c	596672.54	7162065.272	106C/10	Bob
00DH022a	584407.76	7202098.825	106 C/14	Tetrahedrite
00DH022b	584407.76	7202098.825	106 C/14	Tetrahedrite
00DH022c	584407.76	7202098.825	106 C/14	Tetrahedrite
00DH023	584255.28	7202135.997	106 C/14	Tetrahedrite
00DH023-24	584593.04	7202297.805	106 C/14	Tetrahedrite
00DH024a	584646.28	7202218.955	106 C/14	Tetrahedrite
00DH024b	600450	7122975	106 C/2	Discovery
00DH024c	600500	7123025	106 C/2	Discovery
00RZ001	620012.54	7147316.054	106 C/7	Goz
00RZ002	594293.19	7183909.91	106 C/14	Mt Profeit-COB
00RZ003	594284.47	7183771.962	106 C/14	Mt Profeit-COB
00RZ004a	594168.47	7183642.425	106 C/14	Mt Profeit-COB
00RZ004b	594168.47	7183642.425	106 C/14	Mt Profeit-COB
00RZ005	594206.54	7183603.988	106 C/14	Mt Profeit-COB
00RZ006	584207.66	7201915.421	106 C/14	Tetrahedrite



BASEMAP FEATURES:

- Sample Locations
UTM Grid Marks (10 km Spacing)
Inset Map Outline
Winter Trail
Other
Territorial Boundary

FIRST NATIONS SETTLEMENT LANDS:

- Category A Lands (First Nation has ownership of surface and subsurface)
Category B Lands or Fee Simple (First Nation has ownership of surface only)
Site Specific Settlement Lands - area too small to be shown at this scale.

TRADITIONAL TERRITORIES:

NND First Nation of Nacho Nyak Dun

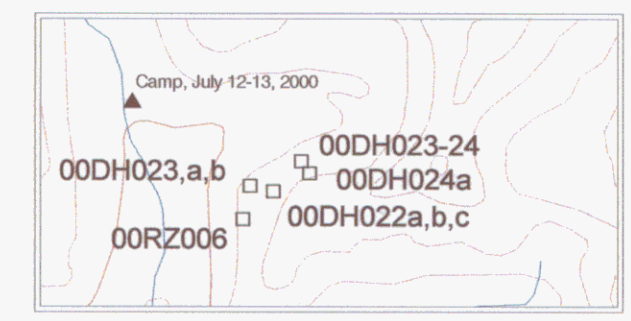
MINFILE OCCURRENCES:

- DEPOSIT TYPE:
Sedex
Mississippi Valley Type
Vein
Breccia
Wernecke Breccia
Unknown

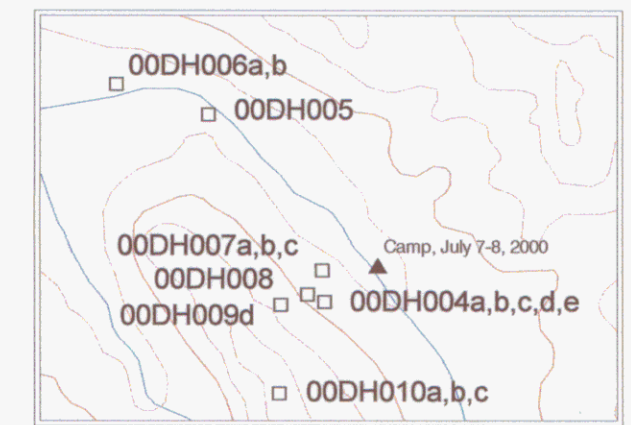
MINFILE NAME (Major Commodities - Deposit Type):

- 001 KOHSE (Cu - vein)
002 SALUTATION (Cu - vein)
003 GILLESPIE (Pb, Zn - vein)
004 GEORDIE (Pb, Zn - vein)
005 GILDERSLEEVE (Zn - mississippi vt)
006 PLUME (U, Cu - wernecke breccia)
007 FAIRCHILD (Cu, U - wernecke breccia)
008 BIBBER (Cu - vein)
009 DOLORES (Au, Cu, Pb, Zn - vein)
010 KEY MOUNTAIN (Cu - vein)
011 MAMMOTH (Cu - vein)
012 CIRQUE (Cu, Co - vein)
013 PORPHYRY (Cu, Ag - wernecke breccia)
014 TETRAHEDRITE CREEK (Cu, Au, Ag - vein)
015 AIRSTRIP (Cu - wernecke breccia)
016 MUELLER (Cu - wernecke breccia)
017 DOBBY (Cu, U - wernecke breccia)
018 KIDNEY (Cu - vein)
019 CORN (Pb, Zn - mississippi vt)
020 GOZ (Zn - mississippi vt)
021 HARRISON (Zn - mississippi vt)
022 CYPRESS (Zn - mississippi vt)
023 COB (Zn - vein)
024 ZOG (Zn - sedex)
025 GOODMAN (Zn, Pb - vein)
026 NEST (Zn - mississippi vt)
027 TOPOROWSKI (Zn, Pb - mississippi vt)
028 ANGLIO (Zn - unknown)
029 PLU (unknown)
030 GUS (Zn - mississippi vt)
031 GENTRY (Zn - mississippi vt)
032 CADET (Zn - sedex)
033 CARDIGAN (unknown)
034 LOG (Zn - mississippi vt)
035 KENDAL (unknown)
036 MOUSE (Pb, Zn - sedex)
037 FRIGSTAD (Zn, Pb, Ag - mississippi vt)
038 SPECTRAIR (Pb, Zn - mississippi vt)
039 PROFEIT (Pb, Zn, Ag - vein)
040 POO (Pb, Zn - vein)
041 CARNIE (Zn - vein)
042 DAN (Pb, Zn, Cu - mississippi vt)
043 DOWSER (Cu - vein)
044 LEARY (Zn - vein)
045 PINGUICULA (unknown)
046 CANVEX (Pb, Zn - mississippi vt)
047 COAST (Pb, Zn - vein)
048 BLEILER (unknown)
049 ARDEN (unknown)
050 BOB (Pb, Zn - mississippi vt)
051 BRANDON (Zn - mississippi vt)
052 FUDDLE (unknown)
053 OLYMPIAN (unknown)
054 GAL (Zn, Pb - mississippi vt)
055 FRINGE (unknown)
056 ENVOY (Pb, Zn - mississippi vt)
057 SPIRIT (unknown)
058 TAPIN (Zn - unknown)
059 CAB (Zn - mississippi vt)
062 DUNE (Zn - mississippi vt)
063 SNAKE (Pb, Zn - mississippi vt)
064 TOPPER (unknown)
065 MCKELVEY (Zn, Pb - mississippi vt)
066 MARSHALL (Cu - unknown)
067 ALGAE (Cu - vein)
068 LAW (unknown)
069 PTERD (U - unknown)
070 NORANDA (U - wernecke breccia)
071 PIKA (breccia)
072 LINDBERG (unknown)
073 CRAIG (Zn, Pb, Ag - mississippi vt)
074 SIAM (Zn - mississippi vt)
075 REPTILE (Zn - mississippi vt)
076 OTTER (Co, Cu - vein)
077 JAM (Zn, Pb, Ag - mississippi vt)
078 BLUSSON (Cu - sedex)
079 HIGHHAWK (Hg - vein)
080 LEAH (Zn, Pb, Ag - mississippi vt)
081 EIRA (unknown)
082 EDINA (Pb, Zn, Ag - sedex)
083 VERA (Ag, Pb, Zn - vein)
084 GOODFELLOW (Zn, Cu, Pb - mississippi vt)
085 VAL (Ag, Pb - vein)
086 ANOKI (U - wernecke breccia)
087 ROD (Pb, Zn, Ag - vein)
088 SUPERDAVE (Ag, Cu - vein)
089 CHOM (Ag, Cu - vein)
090 TOW (U - vein)
091 TELL (unknown)
092 WHALE (breccia)
093 ATHENS ()
094 CAROL ()
095 OLYMPIC ()
096 JULIE (vein)
097 BEL (vein)

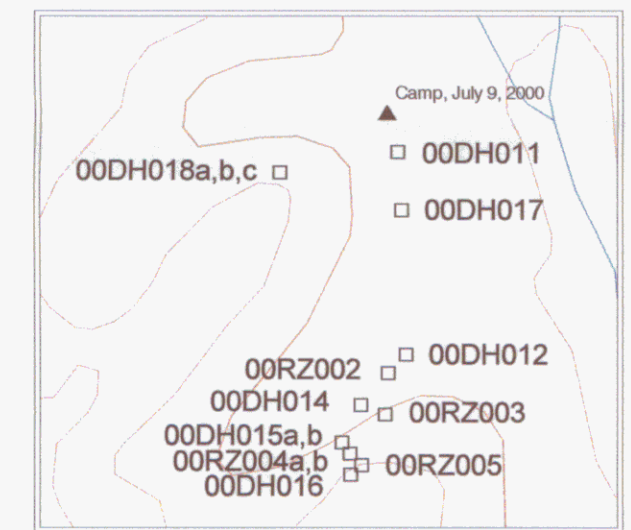
LARGE SCALE INSET MAPS:



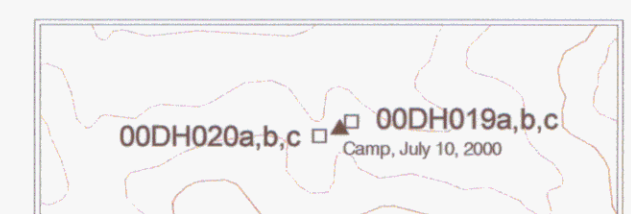
TETRAHEDRITE CREEK (1: 50 000)



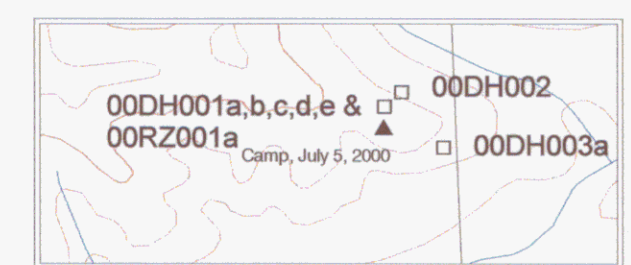
PROFEIT (1: 50 000)



COB (1: 25 000)



PING (1: 50 000)



GOZ (1:50 000)



NADALEEN (1:50 000)

RECOMMENDED CITATION:

Bonnet Plume Sample Location Map, NTS Sheet 106 C, Yukon Territory (1: 250 000 scale), 2001. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada.

Digital cartography and drafting by P.S. Lipovsky, Yukon Geology Program.

Any revisions or additional information known to the user would be welcomed by the Yukon Geology Program.

ACKNOWLEDGEMENTS AND DATA SOURCES:

MINFILE: Yukon Minfile Database, 2000. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada.

GEOLOGY: Gorday, S.P. and Makepeace, A.J. (comp.), 1999. Yukon digital geology. Geological Survey of Canada Open File D3826 and Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-1(D).

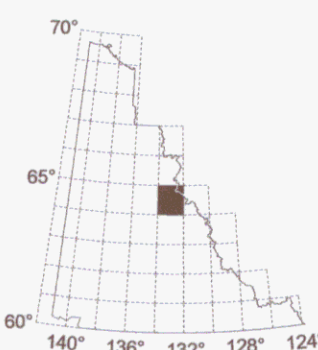
FIRST NATIONS SETTLEMENT LANDS: Land Status Implementation, Land Resources, Yukon, Indian and Northern Affairs Canada; and Renewable Resources, Yukon Government.

HERITAGE SITES: Heritage Branch, Yukon Government; and Forest Resources, Yukon, Indian and Northern Affairs Canada.

TOPOGRAPHIC BASE: Surveys and Mapping Branch, Department of Energy, Mines and Resources; Renewable Resources, Yukon Government; and Land Information Management System.

BONNET PLUME SAMPLE LOCATION MAP NTS SHEET 106 C, YUKON TERRITORY

Scale 1: 250 000



CONTOUR INTERVAL 500 FEET Elevations in Feet above Mean Sea Level North American Datum 1983 Transverse Mercator Projection Ten Thousand Metre Universal Transverse Mercator Grid ZONE 8

Magnetic declination 1972 varies from 34°55' easterly at centre of west edge to 35°32' easterly at centre of east edge. Mean annual change decreasing 5.0'.

BONNET PLUME SAMPLE LOCATION MAP NTS SHEET 106 C, YUKON TERRITORY

Indian and Northern Affairs Canada Exploration and Geological Services Division Yukon Region

by Danièle Heon Yukon Geology Program Geoscience Office

January, 2001

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