BORDEN CREEK PROSPECT
BORD CLAIMS

ASSESSMENT REPORT

By:

R. E. Haverslew

090437

Ocean Home Exploration Co. Ltd.
P.O. Box 3174, Station B
Calgary, Alberta
T2M 4L7

This report has been examined by the Geological Evaluation Unit and recommended to the Commissioner to be considered as representation work in the amount of

$ 20,000.00

Assistant Geologist or
Supervising Engineer

Considered as representation work under Section 56 (4) Yukon Quartz Mining Act.

B. R. BAXTER
Supervising Mining Recorder

for Commissioner of Yukon Territory

SUMMARY

The Borden Creek prospect (BORD Claims) was staked in September 1977 as a result of a mineral exploration program in the western Yukon Crystalline Terrane of the Yukon Territory undertaken by Ocean Home Exploration Co. Ltd (formerly Moose Creek Exploration Ltd.). The exploration program was financed by American Copper and Nickel Company, Inc. The Borden Creek prospect is covered with 50 claims and shows promise for a volcanogenic massive sulphide environment. The area is designated on Figure 1 for convenience and reference to roads and other pertinent features.

This report is a compilation of data collected during the 1977 and 1978 field season. Geologists working on the property included myself, Harley Hoiles, Dr. Say Lee Kuo, Beth Haverslew, Dan Pritchard, and Ed Chipp. The geophysical crew consisted of Karl Olbrecht, Geoff Radford, and Bob Gerlock.

Rod E. Haverslew

OCEAN HOME EXPLORATION CO. LTD
Calgary, Alberta

December 8, 1978


Figure 1
Index map of the
AY Project - 1977
Scale 1:2,500,000
Ogilvie
Nation
Miller Camp
Eagle
Clinton Creek
Fortymile
PUB CLAIMS
Jack Wade
Chicken
Boundary
Sixtymile
Moosehide
Dawson
Bock Creek
North Fork Pass
Tombstone
DEMPSTER HIGHWAY
KLONDIKE HIGHWAY
BORD CLAIMS
Sulphur
Dominion
McQuesten
Elsa
Keno
Minto Bridge
Mayo
Gordon Landing
Stewart
Stewart Crossing
Thistle Creek
Kirkman Creek
Coffee Creek
Issac Creek
Pelly Crossing
McARTHUR GAME SANCTUARY
Fort Selkirk
Minto
Yukon Crossing
Tatchun Creek
Carmacks
Little Salmon
Faro
Big Salmon
Hootalinqua
Lower Laberge
Upper Laberge
Whitehorse
Marsh Lake
Tagish
Jakes Corner
Carcross
Champagne
Haines Junction
Destruction Bay
Burwash Landing
Koidern
Snag
Snag Junction
Beaver Creek
Tatlin Junction
Tatlin
Nabesna Village
Northway Junction
Northway
Chisana
Yakataga
Dalton Post
Klukshu
Chilkat Pass
Skagway
KLUANE GAME SANCTUARY
ALASKA
YUKON
TERRITORY
BRITISH COLUMBIA
MOUNTAINS
RANGE
HIGHWAY

TABLE OF CONTENTS

LIST OF FIGURES AND MAPS

BORDEN CREEK PROSPECT (BORD CLAIMS)

LOCATION AND ACCESS

The Borden Creek claim block is located in the Borden Creek Quadrangle between the North Ladue River and upper Matson Creek. Mercator coordinates for the southwest corner of the claim block (see Plate 3) are 140° 50' West Longitude and 63° 30' North Latitude. Dawson City, Yukon lies approximately 50 statute miles to the north ~~northwest~~ East, and Boundary, Alaska, the closest airstrip, lies 25 statute miles to the north.

INITIAL INTEREST

Massive rhyolite and felsic schists with pyrite were encountered on the ridge between Matson Creek and the North Ladue River, suggesting the proximity to a felsic volcanoclastic pile. Although only weakly disseminated mineralization was encountered, the favorable host rocks and several anomalous geochemical values prompted the staking of 50 claims to cover the prospect.

Work on this property during the field season was largely oriented toward prospecting, but included geologic mapping at 1 inch to 2000 feet and a soil grid over the claim block.

GEOMORPHOLOGY

Land forms at Borden Creek are characterized by broad dome-like hills with flat summits. The highest elevation in this area is about 5800 feet, with the ridge crest in the claim block peaking at 4100 feet. Drainages are broad and subdued; most trend southerly into the White and Stewart rivers.

Approximately 75 per cent of the area is covered by deep colluvium-alluvium along lower slopes and stream bottoms. Over 50 per cent of the 'exposed' area consists of broad, mass-wasting carpets with sufficient rock chips to at least enable an estimation of underlying bedrock type. Actual in-place outcrop is probably less than 10 per cent of the map area, with rubblecrop forming on dip slopes.

SPECIFIC GEOLOGY AND MINERALIZATION

The Borden Creek Prospect is situated in a belt of intercalated metavolcanic and metasedimentary rocks comprising the Klondike schist as mapped by Tempelman-Kluit (1974). The favorable lithologics present include pelitic metasediments with locally abundant ryholitic fragments, green schist mafic volcanics, metarhyolitic tuffs, and less schistose metarhyolitic sills. The rhyolitic tuffs are commonly metamorphosed to quartz muscovite, quartz sericite, or quartz paragonite schists, weathering to a white, buff, or grey rock. Hanging wall and footwall rocks include grey biotite quartz muscovite schists, calc-mica schists, chloritic green schists, greenstones, marble, and black graphitic schists with disseminated pyrite.

The intercalated metavolcanic amd metasedimentary rocks on the Borden Creek prospect dip moderately to the south and southwest, with the pervasive axial plan schistocity (S_2) generally trending east-west, with local re-orientations of the tectonic lineations due to local faulting. Internal crenulations and small conjugate folds forming a parisitic fold system are observed on a mesoscopic scale which is possibly second phase deformation. It is suspected that thrust contacts may also be present at Borden Creek, in particular between the phyllitic rocks and the overlying fragmental units.

Disseminated pyrite occurs in the rhyolitic tuffs, white

quartz muscovite sericite schist, metaquartzite, and the black graphitic phyllite schist. The most significant mineralization on the Borden Creek prospect appears in surface gossan fragments found on side slope rubblecrops. Goethite and jarosite fragments have a spongy texture, while the gossan after siderite is a pale, reddish-brown, washed-out color. The degree of oxidation appears to be substantial and most likely extends to considerable depth.

GEOCHEMISTRY

Analytical Techniques

All samples were sent into Fairbanks to be analyzed by standard geochemical analyses performed by Resource Associates of Alaska, Inc. Results were usually received back in the field within 1 or 2 weeks. Results were plotted on field base maps when they were received.

Stream sediment and soil samples were dried and sieved to minus 80 mesh. Rocks were crushed, ground, and split. Copper, lead, zinc, and silver (and where warranted, other element) analyses were performed on 2-gram samples weighed into 50 ml test tubes, and digested with 10 mls of concentrated aqua regia. Each sample was boiled down to about 1/2 the original acid volume, then made up to 20 mls with de-ionized water. Since the samples are boiled to a constant volume, the digestion time varys depending upon the composition of the sample. All geochem samples, whether they are rock, soil, or stream sediments, are subjected to the same digestion.

Analytical quality control is maintained by analyzing duplicate samples and standards. Geochem samples are analyzed in batches of 20, with every batch having 1 sample weighed in duplicate for a precision check on quality control. A standard sample is also

analyzed with every batch, but is used for quality control only. The standard sample used contains values in geochem ranges for many elements and has 1 high value which must be diluted to be readable. This yields a constant check on the diluting procedure. Chemical blanks and standards to calibrate the atomic absorption equipment are used regularly.

Procedures and Results

The large proportion of covered area at Borden Creek makes geochemical soil grid sampling an especially attractive exploration technique. Although down-slope transport of rubble is a substantial complicating factor in interpretation of the data, the soil sampling resulted in base metal values appreciably above background. Such results lend credibility to anomalies delineated with no obvious source bedrock.

The Borden Creek soil grid was laid out with lines running north-south every 1000 feet and a sample spacing every 200 feet. A total of 526 grid samples were collected and are plotted on Plate 2. In addition to the grid samples, random rock, stream sediment, and soil samples were collected earlier in the field season.

Ideally, samples were collected from the B horizon, but quite often soil profiles were not sufficiently developed to be recognized or differentiated.

Computerized histogram plots of the 526 samples were made for each of the 3 major elements: copper, lead, and zinc. Silver values were considered to be too erratic to be statistically meaningful. First, second, third, and fourth-order anomalies were determined for each element of the 526 soil samples. Statistical treatment of the geochem values from the soil grid in the Borden Creek claims is presented in Table 1.

Table 1 Borden Creek Geochem Soil Grid Results

Element	Order of Anomaly First	Second	Third	Fourth
Copper	≥ 140 ppm	100-140 ppm	79-99 ppm	47-69 ppm
Lead	≥ 450 ppm	300-449 ppm	150-300 ppm	80-149 ppm
Zinc	≥ 400 ppm	300-399 ppm	200-299 ppm	160-199 ppm
Silver	≥ 0.8 ppm	0-0.7 ppm		

Contouring of the results reveals a strong Pb-Zn anomaly in an en-ecolon east-west direction over approximately 3000 feet in strike length. The Pb-Zn soil results support the initial stream sediment sampling which yields results as high as 140 ppm Pb, 1630 ppm Zn, and 120 ppm Cu. Generally, the Cu results are lower at Borden Creek and may just be irregularities in the geochemical response.

GEOPHYSICS

The geophysical survey involving Turam techniques was conducted over approximately 8 miles of grid line on the Borden Creek prospect during July 1978.

The Turam method is the most commonly employed fixed source system with field strength ratios and phase differences measured between successive observation points. The normalized results from the Turam survey are presented in the form of profiles showing the variations of field strength ratios and phase differences, and are plotted on Map 2 along with the geochem results.

Results of the geophysical survey indicate a weak geophysical response with no significant anomalies being detected.

CONCLUSIONS AND RECOMMENDATIONS

Geological and geochemical results from the 1977 and 1978 field work in the Borden Creek area reveal a favorable environment for potential massive sulphide mineralization. Due to the limited outcrop and structural complexities, true stratigraphic thicknesses were not obtained.

Geochemistry suggests there may be at least 1 stratiform and mineralized zone within the felsic fragmental unit throughout most of the length of the claim block. Very limited soil geochemistry has been done beyond claim boundaries, and the favorable zone may continue further to the northwest. The geophysical results would indicate a disseminated nature to the sulphides.

The following is recommended for the Borden Creek prospect:

Geology. Detailed 1 inch to 200 feet scale mapping over the entire Borden Creek grid and adjacent areas. Urgency in getting a valid drilling target in the Borden Creek area is going to be dependent upon at least 75 per cent geological interpretation.

Geochemistry. Detailed soil sampling on lines every 500 feet with 200-foot centres should be completed early in the 1979 field season. The favorable horizon should be sampled along strike to the west and northwest where anomalous soil and stream geochemistry has indicated a possible extension.

Drilling. Contingent upon results from further geological and geochemical work, it is proposed to drill at least 2000 feet of core on the Borden prospect to check out existing anomalies.

PERTINENT REFERENCES

Anderson, C. A., 1969, Massive sulfide deposits and volcanism: Econ. Geol., v. 64, p. 129 - 146.

Archer, A. R., and Main, C. A., 1971, Casino, Yukon - A geochemical discovery of an unglaciated Arizona-type porphyry; C.I.M. Spec. v. 11, p. 67 - 77.

Asher, R.R., 1970 Geochemistry and geology of the Boundary Area, Fortymile District, Eagle A-1 Quadrangle, Alaska: Division of Mines and Geology, Geochemical Report no. 23, 35p.

Berg, H. C., and Cobb, E. H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bull. 1246, p. 210 - 212.

Berg, H. C., Jones, D. L., and Richter, D. H., 1972, Gravina-Nutzotin Belt, tectonic significance of an upper Mesozoic sedimentary and volcanic sequence in southern and southeastern Alaska: U.S. Geol. Survey Prof. Paper 800-D, p. D1-D24.

Blusson, S. L., 1976, Selwyn Basin, Yukon and District of Mackenzie; Report of Activities; Geol. Surv. Can., Paper 76-1 Part A, p. 131 - 132.

Bostock, H.S., 1934, The mining industry of Yukon, 1934, Geol. Surv. Can, Mem. 178.

_____, 1936a, Carmacks District, Yukon: Geol. Surv. Can., Mem. 193.

_____, 1936b, Mining industry of Yukon, 1935: Geol.Surv. Can., Mem. 193.

_____, 1937, Mining industry of Yukon, 1936: Geol. Surv. Can. Mem. 209.

_____, 1938, Mining industry of Yukon, 1937: Geol. Surv. Can.,Mem. 218

_____, 1939, Mining industry of Yukon, 1938: Geol. Surv. Can.,Mem. 220.

_____, 1941, Mining industry of Yukon, 1939: Geol. Surv. Can.,Mem. 234.

_____, 1942, Ogilvie map-area: Geol. Surv. Can., Map 711A.

_____, 1948, McQuesten, Yukon Territory: Geol. Surv. Can., Paper 48 - 25.

_____, 1957, Yukon Territory, selected Field Reports of the Geological Survey of Canada 1898 - 1933: Geol. Surv. Can., Mem. 284, 650 p.

Bostock, H. S., 1964, McQuesten map-area: Geol. Surv. Can., Map 1134A.

Bostock, H. S., and Lees, E. J., 1938, Laberge map-area, Yukon: Geol. Surv. Can., Mem. 217.

Boyle, R. W., 1965, Geology, geochemistry, and origin of the lead-zinc-silver deposits of the Keno Hill-Galena Hill area, Yukon Territory: Geol. Surv. Canada, Bull, 111.

Brabb, E. E., 1967, Stratigraphy of the Cambrian and Ordovician rocks of east central Alaska: U.S. Geol. Surv. Prof. Paper 559-A, p. A1 - A30.

Brabb, E. E., and Churkin, M. Jr., 1965, Preliminary geologic map of the Ealge D-1 quadrangle, east-central Alaska: U.S. Geol. Surv. Open-File Rept., 2 p.

_____, 1969, Geologic map of the Charley River quadrangle, east-central Alaska: U.S. Geol Surv. Misc. Geol. Inv. Map I-573.

Capps, S. R., 1912, The Bonnifield Region: U.S. Geol. Survey Bull. 501.

Christian, J. D., 1966, The development of the Clinton Creek asbestos deposit and its effects on the Yukon; paper presented to Northern Resources Conference, Whitehorse, Yukon Territory, 1966: Western Miner, April 1966, p. 216-220.

Churkin, Michael, Jr., and Brabb, E. E., 1965, Occurrence and stratigraphic significance of Oldhamia, a Cambrian trace fossil, in east-central Alaska, in Geological Survey research 1965: U.S. Geo.. Surv. Prof. Paper 525-D, p. D120 - D124.

Clark, S. H. B., et al, 1969, Geochemical data in the Sikonsina Pass Area; in Some Shorter Mineral Resource Investigations in Alaska: U.S. Geol. Surv. Circ. 615, p. 21 - 25.

Cobb, E. H., 1972, Metallic mineral resources map of the Mt. Hayes quadrangle, Alaska; U.S. Geol Survey Map. MF-414.

Colley, H., 1976, Classification and exploration guide for Kuroko-type deposits based on occurrences in Fiji: Instn. of Min. and Metall., (Sect. B: Appl. Earth Sci.) v. 95.

Cockfield, W. E., 1921, Sixtymile and Ladue Rivers area, Yukon: Can. Geol. Surv. Mem. 123, 60p.

Craig, D. B., and Laporte, P., 1972, Mineral industry of Yukon Territory and Southwestern District of Mackenzie, 1969 - 1970: Dept. of Ind. Aff. and North. Development, v. I.

Craig, D. B., and Milner, M. W., 1975, Mineral Industry Report, Yukon Territory, 1971 and 1972: Dept. Indian Aff. and North. Development. EGS 1975 - 1976.

Curtin, G. C., et al, 1976, Geochemical maps showing the distribution and abundance of copper in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-F.

_____, 1976, Geochemical maps showing the distribution and abundance of molybdenum in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-G.

_____, 1976, Geochemical maps showing the distribution and abundance of lead in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-H.

_____, 1976, Geochemical maps showing the distribution and abundance of zinc in the Tanacross quadrangle, Alaska: U.S. Geo. Survey MF-767-I.

_____, 1976, Geochemical maps showing the distribution and abundance of arsenic and mercury in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-J.

_____, 1976, Geochemical maps showing the distribution and abundance of tin in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-K.

_____, 1976, Geochemical maps showing the distribution and abundance of beryllium in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-L.

_____, 1976, Composite geochemical map of anomalous copper and molybdenum distribution in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-M.

_____, 1976, Composite geochemical map of anomalous lead and zinc distribution in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-N.

Dawson, K. M., 1975, Carbonate-hosted zinc-lead deposits of the Northern Canadian Cordillera: Geol. Surv. Can., Paper 75-1, Part A., p. 239 - 241.

Department of Indian and Northern Affairs, Mineral Industry Reports for 1971, 1972, 1973, and 1975, Whitehorse, Yukon.

Dusel, C. J., 1976, Status of land in the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-D.

Eakins, G. R., 1975, Investigations of Alaska's uranium potential: Alaska State Dept. of Natl. Resources, p. 336 - 334.

Eisbacher, G. H., 1975, Operation St. Elias, Yukon Territory: Dezadeash Group and Amphitheatre Formation: G.S.C. Paper 75-1, Part A., p.61 - 62.

Findlay, D. C., 1969, The Mineral industry of Yukon Territory and Southwestern District of Mackenzie: Geol. Survey Can., Paper 68 - 68, 114p.

_____, 1969a, The Mineral industry of Yukon Territory and Southwestern District of Mackenzie: Geol. Survey Can., Paper 69-55, 67 p.

Foster, H. L., 1967, Geology of the Mount Fairplay area, Alaska: U.S. Geol. Survey Bull, 1241-B, p. B1-B18.

_____, 1969a, Asbestos occurrence in the Eagle C-4, quadrangle, Alaska: U.S. Geol. Survey Circ. 611, 7 p.

_____, 1969b, Reconnaissance geology of the Eagle A-1 and A-2 quadrangles Alaska: U.S. Geol. Survey Bull. 1271-G, p. G1-G30.

_____, 1970, Reconnaissance Geologic Map of the Tanacross quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inc. Map 593, 1:250,000 scale.

Foster, H. L., and Keith, T. C., 1968, Preliminary geologic map of the Eagle B-1 and C01 quadrangles, Alaska: U.S. Geol. Survey Open-File Dept.

Foster, H. L., Weber, R.R., Forbes, R. B., and Brabb, E. E., 1973, Regional geology of Yukon-Tanana upland, Alaska, in Artic geology: Am. Assoc. Petroleum Geologists Mem. 19, v. 4, p. 388 - 395.

Gabrielse, H., 1967, Tectonic evolution of the Northern Canadian Cordillera: Canadian Jour. Earth Sci., v. 4, p. 271-298.

Gates, G. O., and Gryc, G., 1963, Structure and tectonic history of Alaska: in Backbone of the Americas, edited by Childs, O.E., and Beebe, B.W., Amer. Assoc, Petrol. Geol., p. 252 - 277.

Godwin, C. I., 1975, Alternative Interpretations for the Casino Complex and Klotassin Batholith in the Yukon Crystalline Terrane: Can. J. Earth Sci., v. 12, p. 1910 - 1916.

Green, L. H., 1965, The Mineral industry of Yukon Territory and Southwestern District of Mackenzie: Geol. Survey Can., Paper 65 - 19, 84 p.

_____, 1966, The Mineral industry of Yukon Territory and Southwestern District of Mackenzie: Geol. Survey of Can., Paper 66 - 31, 124 p.

Green L. H., and Roddick, J. A., 1962, Dawson, Larsen Creek, and Nash Creek map areas, Yukon Territory: Canada Geol. Survey Paper 62 - 7, 20 p.

Griscom, A., 1976, Aeromagnetic map interpretation of the Tanacross quadrangle, Alaska: U.S. Geol. Survey MF-767-A.

Holmes, G. W., 1965, Geologic reconnaissance along the Alaska Highway Delta River to Tok Junction, Alaska: U.S. Geol. Survey, Bull. 1181 - H, 19 p.

Holmes, G. W., and Pewe, T. L., 1965, Geology of the Mt. Hayes D-3 quadrangle, Alaska: U.S. Geol. Surv., Map GQ-366, 1:63,360 scale.

Holmes, G. W., and Goster, H. L., 1968, Geology of the Johnson River Area Alaska: U.S. Geol. Surv., Bull. 1968, 49 p.

Hopwood, T. P., 1976, "Quartz-Eye" bearing porphyroidal rocks and volcanogenic massive sulfide deposits: Econ. Geol., v. 71, p. 589 - 612.

Hughes, O. L., Campbell, R. B., Muller, J. E., and Wheller, J. O., 1969, Glacial limits and flow patterns, Yukon Territory, south of 65 degrees north latitude: Canada Geol. Survey Paper 68 - 34, 9 p.

Hutchinson, R. W., 1973, Volcanogenic sulfide deposits and their metallogenic significance: Econ. Geol., v. 68, p. 1223 - 1246.

Jensen, E. M., 1975, The Cash; a new copper-molybdenum porphyry target in the Dawson Range, Yukon Territory; unpub. B.A.Sc. thesis, University British Columbia

Johnston, J. R., 1937, Geology and mineral deposits of Freegold Mountain, Carmacks District, Yukon; Geol. Surv. Can., Mem. 214.

Jonasson, I. R., and Goodfellow, W. D., 1976, Uranium Reconnaissance Program: Orientation studies in Uranium Exploration in the Yukon: Part 1 and Part 2, Geol. Survey of Can., Open-File 388, 97 p.

Kindle, E. D., 1952, Dezadeash map-area, Yukon Territory, Can. Geol. Survey Mem. 268, 68 p.

Le Couteur, P. C., and Tempelman-Kluit, D. J., (in prep.) Rb-Sr ages and profile of initial 87Sr/86Sr ratios across the Yukon Crystalline Terrane, Can. J. Earth Sci.

Mertie, J. B., Jr., 1930, Geology of the Eagle-Circle district, Alaska: U.S. Geol. Survey Bull. 816, 168 p.

_____, 1937, The Yukon-Tanana region, Alaska: U.S. Geol. Survey Bull. 872, 276 p.

Moffit, Fred H., 1954, Geology of the eastern part of the Alaska Range and adjacent area: U.S. Geol. Surv., Bull. 989-D, 213 p.

Monger, J. W. H., Souther, J. G., and Gabrielse, H., 1972 Evolution of the Canadian cordillera-A plate-tectonic model: Am. Jour. Sci., v. 272, no. 7, p. 577 - 602.

_____, 1975, Correlation of Eugeosynclinal tectonostratigraphic belts in the North American Cordillera: Geoscience Canada, v. 2, no. 1, p. 4 - 10.

Morin, J. A., 1975, Preliminary report on the geology of the Ladue River area, 115 N 2; a paper presented at the 3rd Geoscience Forum, Dec. 2-3, 1975, Whitehorse , Yukon.

Muller, J. E., 1967, Kluane Lake map area, Yukon Territory: Canada Geol. Survey Mem. 340, 137 p.

Mulligan, R., 1963, Geology of Teslin map-area, Yukon Territory (105C): Canada Geol. Survey Mem.326, 96 p.

Pèwè, Troy L., and Holmes, G. William, 1964, Geology of the Mt. Hayes D-4 quadrangle, Alaska: U.S. Geol. Surv., Misc. Geol. Inv. Map I-394, 1:63,360 scale.

Phillips, M. P., and Godwin, C. I., 1970, Geology and rotary drilling at the Casino deposit, Yukon Territory: Western Miner, v. 43, no. 11, p. 43 - 49.

Prindle, L. M., 1905, The gold placers of the Forty-Mile, Birch Creek and Fairbanks region, Alaska: U.S. Geol. Survey Bull. 525, 220 p.

_____, 1913, A geologic reconnaissance of the Fairbanks quadrangle, Alaska: U.S. Geol. Survey Bull. 525, 220 p.

Ragan, D. M., and Hawkins, J. W., Jr., 1966, A polymetamorphic complex in the eastern Alaska Range: Geol. Soc. Am. Bull., v. 77, p. 597 - 604.

Read, P. B. , and Monger, J. W. H., 1975, Operation St. Ellias, Yukon Territory: The Mush Lake Group and Permo-Triassic rocks in the Kluane Ranges: Geol. Surv. Can., Paper 75-1 Part A., p. 55 - 59.

Richter, D. H., 1967, Geology of the Upper Slana-Mentasta Pass Area: Alaska Dept. of Natural Resources, Div. of Mines and Minerals, Geologic Report, no. 30, 24 p

_____, 1975a, Geologic map of the Nabesna quadrangle, Alaska: U.S. Geol. Survey Misc. Field Studies Map MF-655A, 1:250,000 scale.

_____, 1975b, Geologic map of the Nabesna quadrangle, Alaska: U.S. Geol. Survey Misc. Geol. Inv. Map I -932, 1:250,000 scale.

Richter, D. H., and Jones, D. I., 1973, Structure and stratigraphy of Eastern Alaska Range, Alaska, in Arctic Geology: Amer. Assoc. Pet. Geol., Mem. 19, p. 408 - 420.

Richter, D. H., and Schmoll, H. R., 1972, Reconnaissance geologic map and sections of the Nabesna C-5 quadrangle, Alaska: U,S. Geol. Survey Geol. Quad. Map GQ-1062, scale 1:63,360 (in press).

Richter, D. H., et al, 1975a, Alaska Mineral Resource Assessment Program background information to accompany folio of geologic and mineral resource maps of the Nabesna quadrangle, Alaska: U.S. Geol. Surv., Circ. 718, 6 p.

_____, 1975b, Mineral Resources Map of the Nabesna quadrangle, Alaska: U.S. Geol. Survey, Misc. Field Studies Map MF-755K, 1:250,000 scale.

Roddick, J. A., 1967, Tintina Trench: Jour. Geology, v. 75., p. 23 - 32.

Saunders, R. H., 1966, A geochemical investigation along the Taylor Highway, East-Central, Alaska: Division of Mines and Minerals, Geochemical Report no. 9 30p.

Saunders, R. H., 1967, Mineral occurrences in the Yukon-Tanana region, Alaska: Alaska State Dept. Natl. Resources Spec. rept. 2, p. 60.

Sinclair, W. D., Maloney, J. M., and Craig, D. B., 1975, Mineral Industry Report, Yukon Territory, 1974: Dept. Ind. and Northern Affairs, E.G.S. 1975 - 9.

Sinclair, W. D., Morin, J. A., Craig, D. B., and Marchand, M., 1976, Mineral Industry Report, 1975, Yukon Territory: Dept. of Indian and Northern Development, 192 p.

Sinclair, W. D. and Gilbert, G. W., 1975, Mineral Industry Report, Yukon Territory, 1973: Dept. Indian and Northern Affairs, E.G.S. 1975 -7.

Smith, J.G., and MacKevett, E. M., Jr., 1970, The Skolai Group in the McCarthy B-4, C-4, and C-5 quadrangles, Wrangell Mountains, Alaska: U.S. Geol. Survey Bull. 1274-Q, p. Q1-A26.

St. Amand, p., 1957, Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon Territory and Alaska: Geol. Soc. America Bull., v. 68, no. 10, p 1343 - 1370.

Stanton, R. L., 1960, General features of the conformable "pyritic" orebodies. Part 1-Field association; Part 2-Mineralogy: Can. Mining Metall. Bull., v. 53, no. 573, p. 24 - 29; no. 574, p. 66 - 74.

Stout, J. H. 1965, Bedrock geology between Rainy Creek and the Denali fault, Eastern Alaska Range, Alaska: M.S. Thesis, University of Alaska, 75 p.

Tempelman-Kluit, D. J., 1972, Geology and origin of the Faro, Vangorda, and Swim concordant zinc-lead deposits, central Yukon Territory; Geol. Surv. Can. Bull. 208.

____, 1974a, Geology of Carmacks map-area: Geol. Surv. Can., Open-File Report 200.

____, 1974b, Reconnaissance geology of Aishihik Lake, Snag and part of Stewart River map-areas, west-central Yukon: Geol. Surv. Can., Paper 73 - 41.

____, 1976, The Yukon crystalline terrane: Enigma in the Canadian Cordillera: Geological Society of America Bull., v. 87, p. 1343.

____, 1977, Stratigraphic and Structural Relations between the Selwyn Basin, Pelly-Cassiar Platform, and Yukon Crystalline Terrane in the Pelly Mountains, Yukon: Report of Activities, Part A, Geological Survey of Canada, Paper 77-1A.

Wahrhaftig, C., 1968, Schists of the Alaska Range: U.S. Geol. Survey Bull. 1254-E, 22 p.

_____, 1970a, Geologic Map of the Healy D-2 Quadrangle, Alaska: U.S. Geol. Survey Map GQ-804, scale 1:63,360.

_____, 1970b, Geologic map of the Fairbanks A-1 quadrangle, Alaska: U.S. Geol. Survey Map. GQ-808, scale 1:63,360.

Wahrhaftig, C., et al., 1975, Nature and timing of movement on Hines Creek Strand of Denali Fault System, Alaska: Geology Magazine, August 1975, p. 463 - 466.

Wanless, R. K., and Tempelman-Kluit, D. J., (in prep.), Paleozoic zircon age for the Pelly Gneiss in the Yukon Crystalline Terrane: Can. J. Earth Sci.

Wasserburg, G. J., Eberlein, G. D., and Lanphere, M. A., 1963, Age of the Birch Creek Schist and some batholithic intrusions in Alaska (abs.): Geol. Soc. America Spec. Paper 73, p.258 - 259.

Weber, F. R., 1971, Preliminary engineering geologic maps of the proposed Trans-Alaska pipeline route - Mt. Hayes quadrangle: U.S. Geol. Survey O. F. 493.

Wheeler, J. O., 1961, Whitehorse Map-Area, Yukon TerritoryL Geol. Surv. Canada, Mem. 312, p. 1 -156.

____, 1963, Kaskawulsh Map-Area, Yukon Territory: Geol. Surv. Canada, Map 1134A.

2300

901 YA 10631	902 YA 10632	903 YA 10633	904 YA 10634	905 YA 10635	906 YA 10636	907 YA 10637	908 YA 10638	909 YA 10639	910 YA 10640
801 YA 10621	802 YA 10622	803 YA 10623	804 YA 10624	805 YA 10625	806 YA 10626	807 YA 10627	808 YA 10628	809 YA 10629	810 YA 10630
701 YA 10611	702 YA 10612	703 YA 10613	704 YA 10614	705 YA 10615	706 YA 10616	707 YA 10617	708 YA 10618	709 YA 10619	710 YA 10620
601 YA 10601	602 YA 10602	603 YA 10603	604 YA 10604	605 YA 10605	606 YA 10606	607 YA 10607	608 YA 10608	609 YA 10609	610 YA 10610
501 YA 10591	502 YA 10592	503 YA 10593	504 YA 10594	505 YA 10595	506 YA 10596	507 YA 10597	508 YA 10598	509 YA 10599	510 YA 10600

MATSON CREEK

3000

BORD CLAIM BLOCK

SCALE 1" = 1000'

50′

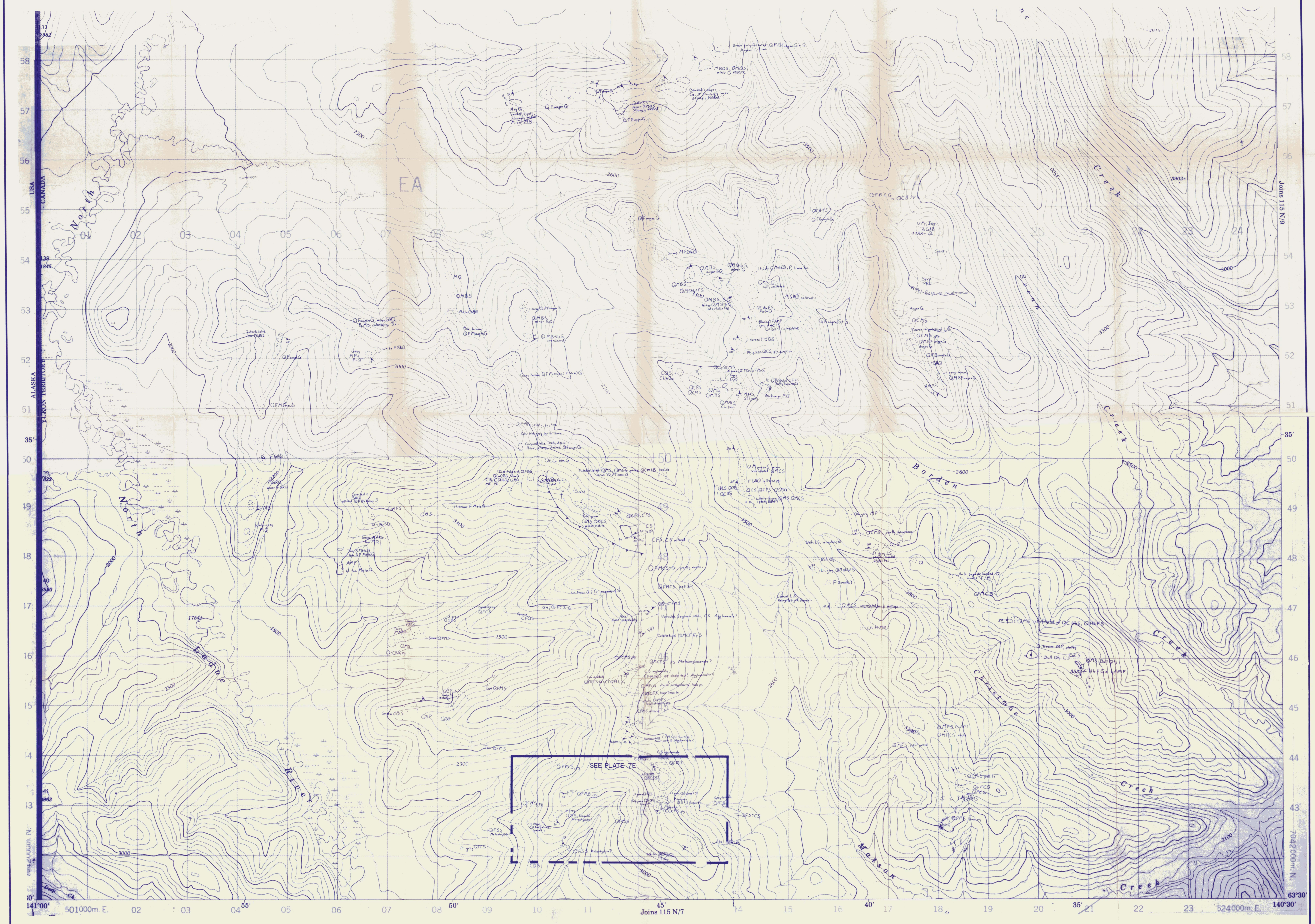
45′

Joins 115 N/7

115N 10

BORDEN CREEK

YUKON TERRITORY



EXPLANATION

KLONDIKE SCHIST

☐	QSS	Quartz Sericite Schist + limonite, pyrite
	QSCS	Quartz Sericite Chlorite Schist
	QMFS	Quartz Muscovite (Biotite) + Felspar Schist
	QMCFS	Quartz Muscovite (Biotite) Chlorite + Felspar Schist
	GS	Graphitic Schist
	SQ	Sericitic (Meta) Quartzite
☐	RT	(Meta) Rhyolite Tuff
☐	Q	(Meta) Quartzite
☐	BTS	Button Schist - Aphanatic groundmass of quartz, muscovite and felspar + chlorite with bluish K-felspar and blue quartz eyes (QFMS, QMCFS)
☐	QCS	Green Quartz Chlorite Schist
	QCMS	Quartz Chlorite + Mica Schist
	QCFS	Quartz Chlorite Felspar Schist
	QCBS	Quartz Chlorite Biotite Schist
☐	CS	Chlorite Schist (Green Schist)
	CQS	Chlorite Quartz Schist
	CHES	Chlorite Hornblende + Epidote Schist
	CGs	Massive Chloritic Greenstone
	AT	(Meta) Andesitic Tuff
☐	CaS	Calc Schist
	CaMS	Calc Mica Schist

NASINA SERIES

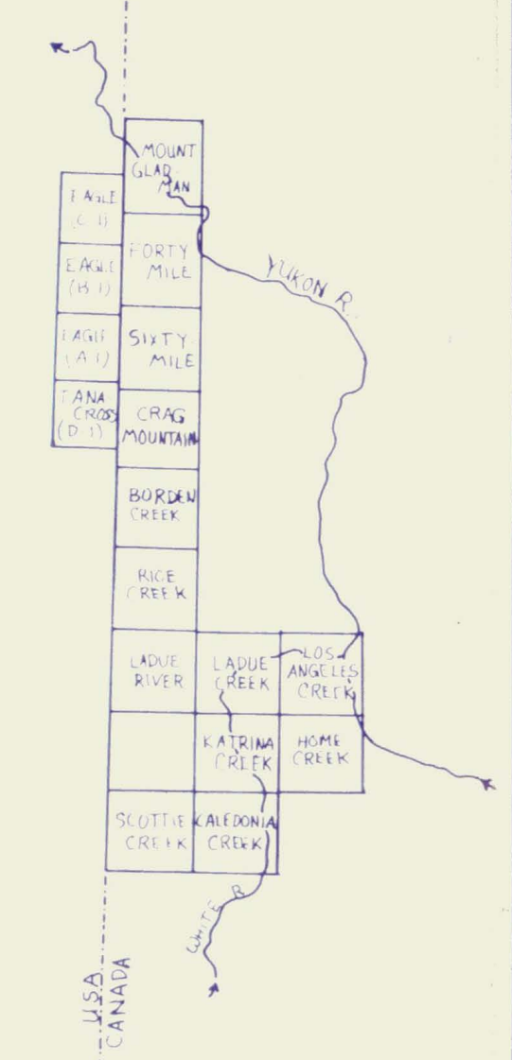
☐	MQ	Grey Micaceous (Phyllitic) Quartzite
	GrQ	Gritty Quartzite
	GQ	Graphitic Quartzite
	GP	Graphitic Phyllite
	ARC	(Meta) Argillite
	SLT	Slate
	P	Phyllite
	Q	Quartzite

PELLY GNEISS

☐	MCQFS	Mica + Chlorite Quartz Felspar (Augen) Schist or Gneiss
	MFQ	Micaceous Felspathic Quartzite
	FGk	Felspathic (Meta) Greywacke
☐	BS(G)	Biotite Schist and Semi Gneiss
	BMS	Biotite Muscovite Schist
☐	BQMG	Biotite Quartz Muscovite Gneiss
	QBFG	Quartz Biotite Felspar Gneiss

☐	AmP	Amphibolite, amphibolitized chloritic rock
☐	GBG	Mylonite, cataclasite, skarns
☐	UM	Ultra Mafics (Peridotite - PRD; Serpentinite - Serp)
		Basic Intrusives (Gabbro -GAB; Diorite-DI; Hornblendite-HBD)
		Intermediate Intrusives (Quartz Diorite-QDI; Monzonite-M)
		Felsic Intrusives (Granite-Gr; Granodiorite-Gd; Syenite-Sy; Quartz Monzonite-QM)
☐	IFV	Ignimbrite Felsic Volcanic Rocks (Rhyolitic to rhyodacitic composition - Carmacks Group)
		Dike Rocks (Aplite-A; Diabase-D; Dolerite-DL)
☐	Mb	Marble, recrystallized limestone, dolomite
☐	Horn	Hornfels (Biotite)
		Gossan; Ferricrete
		Massive Sulfides (Pyrite-PY; Pyrrhotite-PO; Chalcopyrite-CPY; Sphalerite-SP; Galena-PBS

60	Strike and Dip of Foliation; Dip in degrees
F2 → 15	11, 12, 13 Axes direction and plunge
	Outcrop Boundary
	Rubblecrop Area
	Contact between units
	Rock-unit series contacts
10	Anticline axis direction and plunge
15	Syncline axis direction and plunge
U D	Fault, movement may or may not be indicated
	Thrust, hatchures on overthrown block
	Dike



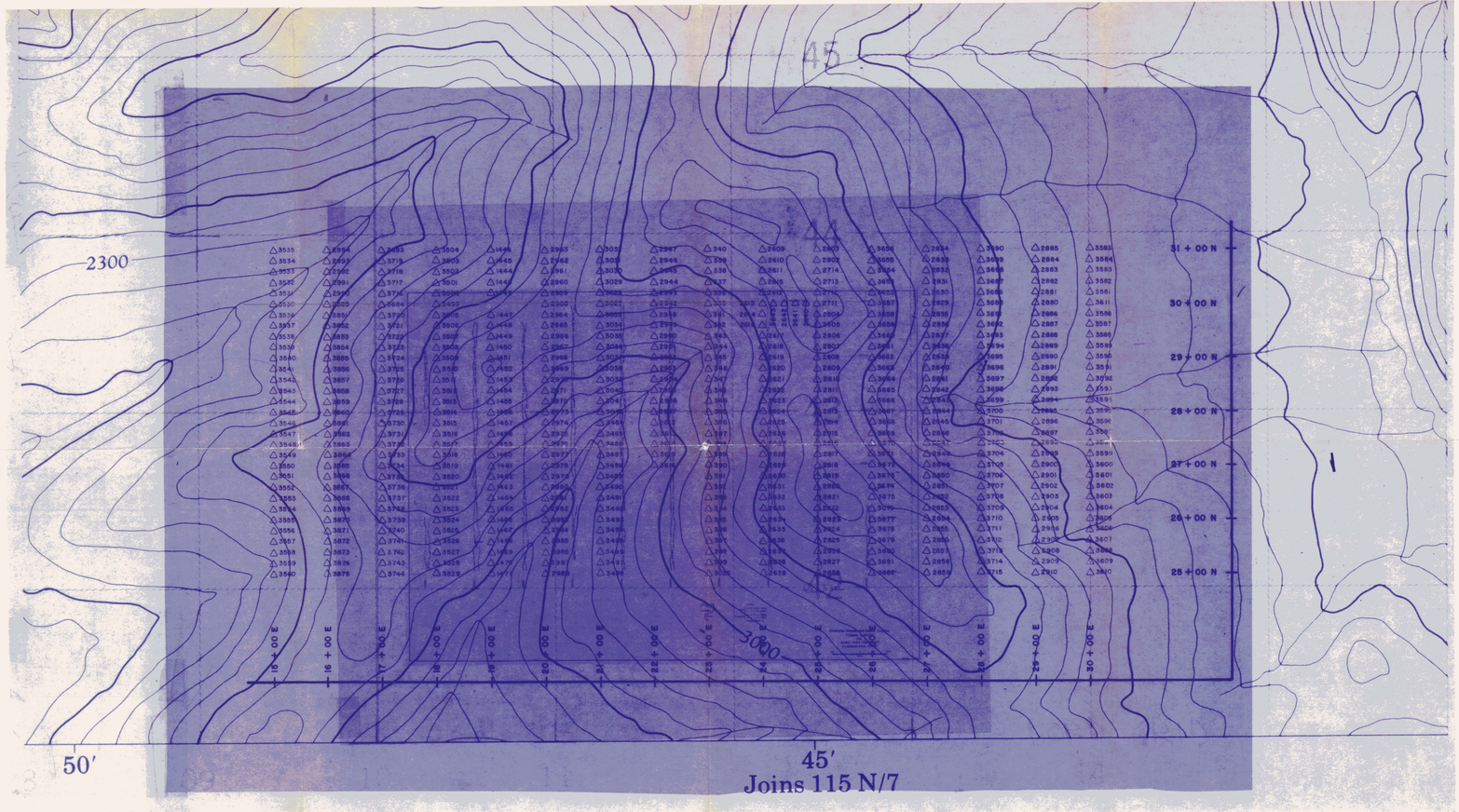
BORDEN CREEK

GEOLOGY

SCALE	PLATE
1" = 2000'	
DATE	
Dec. 1978	
DRAWN BY	

Ocean Home Exploration Co.

Box 3174 Stn B Calgary, Alberta T2M 4L7 276-4744



B

Sample No.	Cu	Pb	Zn	Ag
1535	70	33	290	0.3
1536	7	63	200	0.3
1537	7	61	150	0.3
1538	73	117	490	0.6
1539	60	98	440	0.6
1540	59	122	330	0.9
1541	35	53	190	0.2
1542	35	53	190	0.2
1543	20	27	90	0.3
1544	20	27	90	0.3
1545	36	13	44	0.2
1546	64	137	183	0.3
1547	24	48	150	0.3
1548	24	48	150	0.3
1549	21	52	197	0.3
1550	78	44	153	0.5
1551	78	44	153	0.5
1552	76	40	72	0.5
1553	76	40	72	0.5
1554	19	28	52	0.3
1555	19	260	156	0.5
1556	19	260	156	0.5
1557	61	145	360	0.2
1558	26	140	220	0.3
1559	26	140	220	0.3
1560	36	107	256	0.2
1561	27	92	102	0.3
1562	27	92	102	0.3
1563	14	67	82	0.3
1564	13	67	82	0.3
1565	75	260	174	0.4
1566	19	260	156	0.5
1567	19	260	156	0.5
1568	56	187	106	0.3
1569	80	220	124	0.2
1570	80	220	124	0.2
1571	52	170	102	0.4
1572	17	98	86	0.1
1573	17	98	86	0.1
1574	9	14	55	0.1
1575	9	14	55	0.1
1576	15	14	67	0.1
1577	15	14	67	0.1
1578	37	25	58	0.1
1579	21	14	79	0.2
1580	21	14	79	0.2
1581	11	48	117	0.1

Sample No.	Cu	Pb	Zn	Ag
1610	10	41	112	<0.1
1611	10	41	112	<0.1
1612	12	70	290	0.3
1613	41	190	91	0.1
1614	41	190	91	0.1
1615	19	202	114	0.4
1616	37	166	114	0.4
1617	37	270	84	0.5
1618	14	30	73	2.5
1619	13	25	61	2.0
1620	76	22	45	0.4
1621	10	67	240	<0.1
1622	10	67	240	<0.1
1623	21	130	280	<0.1
1624	14	46	78	<0.1
1625	14	46	78	<0.1
1626	23	44	74	<0.1
1627	23	44	74	<0.1
1628	15	38	52	<0.1
1629	15	38	52	<0.1
1630	15	166	96	<0.1
1631	21	85	52	<0.1
1632	21	85	52	<0.1
1633	15	166	96	<0.1
1634	52	97	163	0.3
1635	52	97	163	0.3
1636	19	78	173	0.3
1637	10	33	68	0.3
1638	10	33	68	0.3
1639	13	36	49	<0.1
1640	8	36	40	<0.1
1641	13	36	49	<0.1
1642	19	78	173	0.3
1643	12	17	63	<0.1
1644	29	70	146	<0.1
1645	29	70	146	<0.1
1646	58	122	230	0.3
1647	60	260	320	0.2
1648	60	260	320	0.2
1649	42	210	240	0.2
1650	66	270	360	0.2
1651	66	270	360	0.2
1652	14	46	78	<0.1
1653	32	102	67	<0.1
1654	32	102	67	<0.1
1655	17	84	168	0.3
1656	17	84	168	0.3
1657	46	146	87	<0.1
1658	19	56	73	<0.1
1659	19	56	73	<0.1
1660	24	68	200	<0.1
1661	24	68	200	<0.1
1662	46	146	87	<0.1
1663	79	260	290	0.3
1664	79	260	290	0.3
1665	22	166	200	0.3
1666	44	82	290	0.3
1667	44	82	290	0.3
1668	42	178	196	0.3
1669	87	510	240	0.3
1670	87	510	240	0.3
1671	6	42	50	<0.1

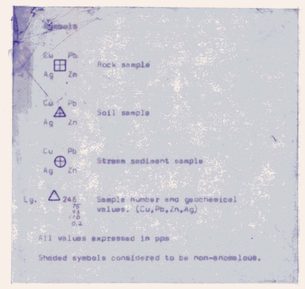
Sample No.	Cu	Pb	Zn	Ag
2961	52	62	23	<0.1
2962	69	85	230	<0.1
2963	23	29	61	<0.1
2964	23	29	61	<0.1
2965	14	26	40	<0.1
2966	13	26	40	<0.1
2967	13	26	40	<0.1
2968	11	45	9	0.4
2969	73	360	114	<0.1
2970	73	360	114	<0.1
2971	30	34	46	0.4
2972	15	68	89	<0.1
2973	15	68	89	<0.1
2974	14	28	44	<0.1
2975	14	28	44	<0.1
2976	11	26	44	<0.1
2977	11	26	44	<0.1
2978	33	440	93	0.3
2979	33	440	93	0.3
2980	11	14	56	<0.1
2981	11	14	56	<0.1
2982	25	67	36	<0.1
2983	25	67	36	<0.1
2984	46	146	172	0.3
2985	46	146	172	0.3
2986	23	134	120	<0.1
2987	23	134	120	<0.1
2988	11	14	56	<0.1
2989	11	14	56	<0.1
2990	11	14	56	<0.1
2991	11	14	56	<0.1
2992	14	17	23	<0.1
2993	14	17	23	<0.1
2994	11	14	56	<0.1
2995	11	14	56	<0.1
2996	11	14	56	<0.1
2997	11	14	56	<0.1
2998	14	17	23	<0.1
2999	14	17	23	<0.1
3000	14	17	23	<0.1
3001	14	17	23	<0.1
3002	14	17	23	<0.1
3003	14	17	23	<0.1
3004	14	17	23	<0.1
3005	14	17	23	<0.1
3006	28	51	50	<0.1
3007	28	51	50	<0.1
3008	38	58	114	0.2
3009	25	290	290	0.3
3010	25	290	290	0.3
3011	93	13	185	0.3
3012	59	44	168	0.3
3013	59	44	168	0.3
3014	21	42	61	<0.1
3015	21	32	53	<0.1
3016	21	32	53	<0.1
3017	14	44	53	0.3
3018	29	80	54	0.3
3019	106	51	154	<0.1
3020	19	46	58	<0.1
3021	19	46	58	<0.1
3042	40	21	85	0.3

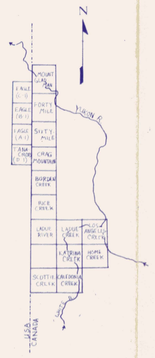
Sample No.	Cu	Pb	Zn	Ag
3043	22	41	92	<0.1
3044	22	41	92	<0.1
3045	94	122	197	<0.1
3046	94	122	197	<0.1
3047	14	26	60	<0.1
3048	29	27	54	<0.1
3049	29	27	54	<0.1
3050	22	25	44	<0.1
3051	22	25	44	<0.1
3052	22	25	44	<0.1
3053	22	25	44	<0.1
3054	28	61	60	<0.1
3055	28	61	60	<0.1
3056	13	20	36	<0.1
3057	57	91	69	<0.1
3058	57	91	69	<0.1
3059	11	26	29	<0.1
3060	11	26	29	<0.1
3061	13	20	36	<0.1
3062	13	20	36	<0.1
3063	24	25	61	<0.1
3064	24	25	61	<0.1
3065	75	69	102	<0.1
3066	75	69	102	<0.1
3067	6	32	36	<0.1
3068	6	32	36	<0.1
3069	23	36	54	<0.1
3070	23	36	54	<0.1
3071	26	141	225	<0.1
3072	26	141	225	<0.1
3073	19	460	240	0.6
3074	47	142	260	0.3
3075	47	142	260	0.3
3076	24	142	134	0.3
3077	24	142	134	0.3
3078	47	142	260	0.3
3079	47	142	260	0.3
3080	10	460	230	0.3
3081	10	59	74	0.3
3082	10	59	74	0.3
3083	18	111	53	0.2
3084	48	123	147	0.2
3085	19	21	89	<0.1

Sample No.	Cu	Pb	Zn	Ag
3086	28	59	77	<0.1
3087	25	43	60	<0.1
3088	25	43	60	<0.1
3089	40	65	127	<0.1
3090	20	23	47	<0.1
3091	20	23	47	<0.1
3092	14	44	105	<0.1
3093	22	25	63	<0.1
3094	22	25	63	<0.1
3095	23	31	76	<0.1
3096	58	14	39	<0.1
3097	58	14	39	<0.1
3098	24	33	64	<0.1
3099	24	33	64	<0.1
3100	23	31	76	<0.1
3101	23	29	61	<0.1
3102	240	170	440	<0.1
3103	240	170	440	<0.1
3104	170	200	420	0.3
3105	170	200	420	0.3
3106	20	43	127	<0.1
3107	28	63	155	<0.1
3108	28	63	155	<0.1
3109	14	34	105	<0.1
3110	53	46	236	<0.1
3111	25	58	97	<0.1
3112	25	58	97	<0.1
3113	23	44	58	<0.1
3114	23	44	58	<0.1
3115	29	36	57	<0.1
3116	39	109	92	0.3
3117	39	109	92	0.3
3118	29	128	95	0.3
3119	56	83	77	<0.1
3120	56	83	77	<0.1
3121	37	57	68	0.3
3122	25	67	99	<0.1
3123	25	67	99	<0.1
3124	34	84	162	<0.1
3125	34	84	162	<0.1
3126	47	140	195	<0.1
3127	57	90	230	0.3
3128	57	90	230	0.3
3129	23	111	53	0.2
3130	48	123	147	0.2
3131	19	21	89	<0.1

Sample No.	Cu	Pb	Zn	Ag
3731	29	53	58	<0.1
3732	25	580	29	2.9
3733	16	28	53	<0.1
3734	13	33	28	0.4
3735	13	33	28	0.4
3736	37	22	42	<0.1
3737	12	6	12	<0.1
3738	132	8	103	<0.1
3739	12	6	12	<0.1
3740	29	162	90	<0.1
3741	32	115	58	<0.1
3742	32	115	58	<0.1
3743	13	29	68	<0.1
3744	44	29	59	<0.1
3745	32	190	280	0.2
3746	32	190	280	0.2
3747	74	93	164	0.3
3748	74	93	164	0.3
3749	37	153	230	0.2
3750	67	190	280	0.2
3751	67	190	280	0.2
3752	53	46	236	<0.1
3753	53	46	236	<0.1
3754	29	58	77	<0.1
3755	29	58	77	<0.1
3756	61	430	89	0.3
3757	24	42	250	0.1
3758	24	42	250	0.1
3759	31	390	45	0.5
3760	31	390	45	0.5
3670	27	59	48	0.5
3671	27	59	48	0.5
3672	100	9	207	0.2
3673	120	25	180	0.2
3674	47	15	108	<0.1
3675	47	15	108	<0.1

EXPLANATION





BORDEN CREEK

GEOPHYSICS
GEOCHEMISTRY

SCALE	1" = 1000'
DATE	Dec. 1978
DRAWN BY	

PLATE

Ocean Home Exploration Co.

Box 3174 Stn B Calgary, Alberta T2M 4L7

APPENDIX 1: BORD CLAIMS

HOLDER OF THE CLAIMS: Ocean Home Exploration Co. Ltd.
Box 3174, Station B
Calgary, Alberta
T2M 4L7

CLAIM NAME	GRANT NUMBER
BORD 501 - 510	YA 10591 - YA 10600
BORD 601 - 610	YA 10601 - YA 10610
BORD 701 - 710	YA 10611 - YA 10620
BORD 801 - 810	YA 10621 - YA 10630
BORD 901 - 910	YA 10631 - YA 10640