

1982 HEAVY MINERAL SAMPLING
OF PART OF THE BUR PROPERTY
YUKON TERRITORY
091397



Claims JY 17, 25-27, 35-36, 41-42, 50,
DEN 7-8, EL 9-10

Whitehorse Mining District

Geographic Coordinates
61° 22'
139° 23'
NTS Sheet 115G/6

by

L.B. Halferdahl, Ph.D., P.Eng.

1982 10 12

Work on Property Conducted 1982 09 11 to 1982 09 19

Halferdahl & Associates Ltd.
18, 10509 - 81 Avenue
Edmonton, Alberta
T6E 1X7

1914

This report has been examined by
the Geolo. Ex. Department
under Section 50 of the Quartz
Mining Act and a certificate is
represented on file for an amount
of \$ 700

P. Walker
for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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SECTION 1.0

INTRODUCTION

Exploration of the Bur property continued in 1982 with the collection of nine panned concentrates from three of the pups tributary to Burwash Creek, not previously sampled. In addition three holes were diamond drilled, and an access trail part of the way to proposed drillsites was constructed. This report deals only with the panned heavy mineral samples; the other exploration is expected to be the subject of a subsequent submission. The geographic setting, previous work, and geology of the property have been fully covered in previous assessment reports, and so are not repeated in this report; information on these aspects is included in the reports listed in the references.

Many of the tributaries of Burwash and Tatamagouche Creeks have not been formally named. For convenience some of these tributaries or pups have been given informal names (Fig. 4.1, 4.2).

The work reported here was conducted by four people who formed part of a larger crew engaged in other work on the Bur property. Accommodation was in a temporary camp in the valley of Burwash Creek. A four-wheel-drive vehicle provided access along the road up Burwash Creek.

SECTION 2.0

RESULTS AND RECOMMENDATIONS

2.1 Results

1. Anomalous concentrations of gold are present in samples from the three creeks sampled: Mullere, Betz, and San.
2. Anomalous concentrations of lead, zinc, and copper are present in samples from Betz and San Creeks. They may be related to a zone near the base of the Hasen Creek Formation.

2.2 Recommendations

1. Collect heavy mineral samples from tributary creeks or pups not yet sampled.
2. Sample those with anomalous concentrations of gold, and possibly lead, zinc, and copper at closer intervals.



ALASKA

YUKON
TERRITORY

NORTHWEST TERRITORIES

* BUR PROPERTY

● WHITEHORSE

YELLOWKNIFE

Great Slave Lake

Great Bear Lake

PACIFIC OCEAN

BRITISH COLUMBIA

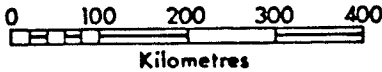
ALBERTA

● EDMONTON

● CALGARY

● VANCOUVER

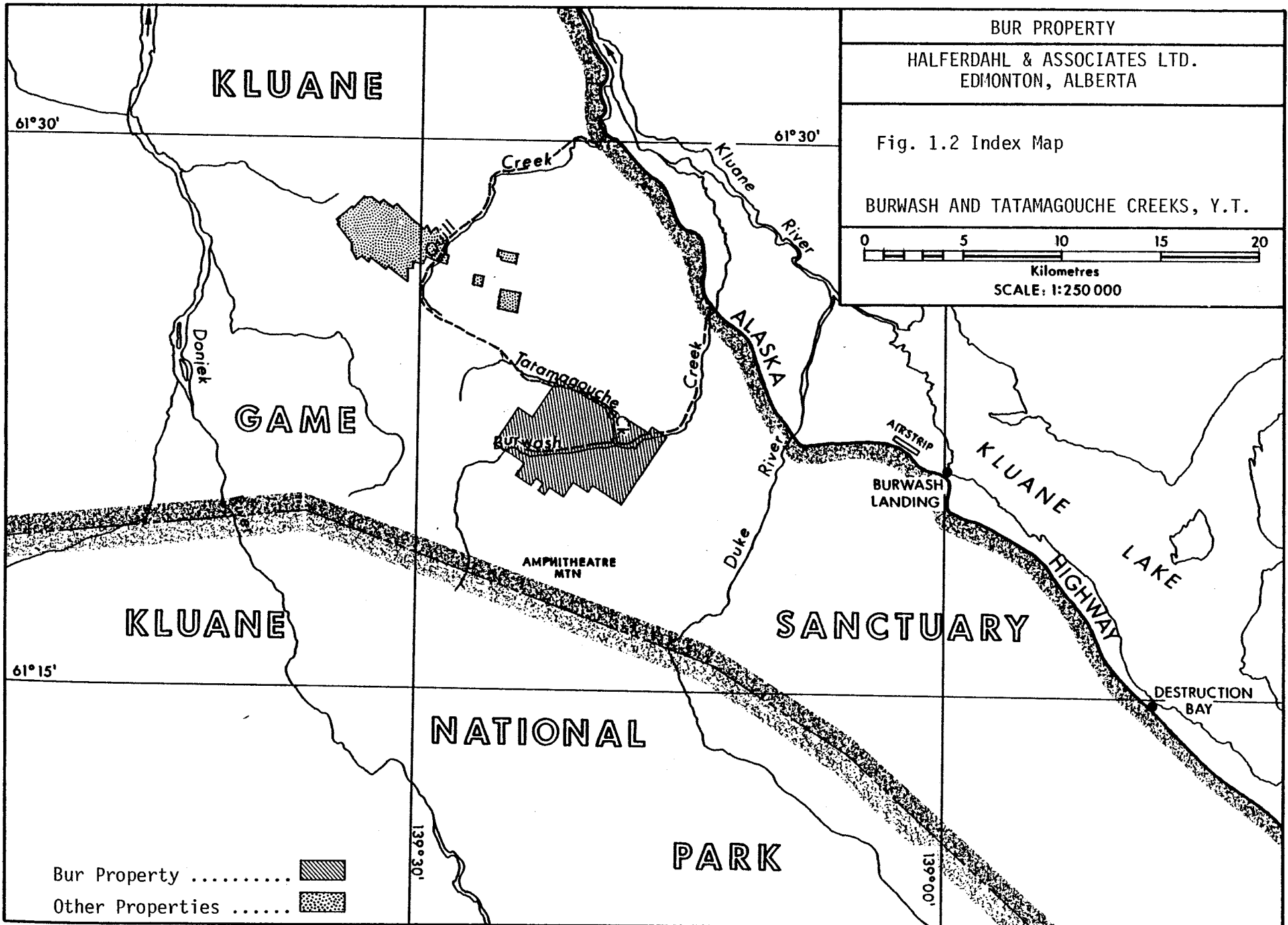
U.S.A.



Scale: 1:8 920 000 Approx.



Miles



SECTION 3.0

PROPERTY

The Bur property now consists of 261 quartz mineral claims along Burwash and Tatamagouche Creeks in the Whitehorse Mining District but only the 151 staked prior to 1982 are shown in Fig. 1.2. Only the six claims to which the work reported herein is to be applied are listed below.

<u>Claim</u>	<u>Grant Number</u>	<u>Record Date</u>	<u>Expiry Date</u>
JY 35-36	YA 52573-74	1980 10 16	1983 10 16
JY 41	YA 52579	1980 10 16	1982 10 16
JY 42	YA 52580	1980 10 16	1983 10 16
EL 9-10	YA 73861-62	1981 09 28	1982 09 28

The recorded holder of these claims is Laurence B. Halferdahl, for whom the work described in this report was conducted. This work is expected to fulfill representation work requirements so that on its approval, the expiry dates for the four JY claims above will be 1984 10 16, and for the two EL claims above, 1985 09 28. No work is to be applied to claims JY 30 and JY 55, grant numbers YA 52568 and YA 52593, so that they lapse on October 16, 1982.

The work reported here was performed in 1982 on the following claims:

JY 17	YA 51133
JY 25-27	YA 52563-65
JY 50	YA 52588
DEN 7-8	YA 23583-84
EL 9	YA 73861

SECTION 4.0

HEAVY MINERAL SAMPLES

4.1 Sampling and Analyses

Samples of heavy minerals were collected from Mullere Creek in the central part of the property (Fig. 4.1) and from Betz and San Creeks in the western part of the property (Fig. 4.2). Unlike that for the heavy mineral sampling in August 1981, in September 1982 water was present and flowing in the creeks sampled only in a few short stretches, so that the distances between sampling points are not uniform. They were dictated in part by the

availability of water at the sample locations. Some samples were carried from the sample location to a place where there was sufficient water for panning. As in 1981, the sample number corresponds to the number of metres up the creek from its confluence with Burwash Creek. Three samples were collected on each of the three creeks sampled.

<u>Creek</u>	<u>Sampled Length</u>	<u>Number of Samples</u>
Mullere	760 m	3
Betz	855	3
San	<u>760</u>	<u>3</u>
	2375 m	9

At each sample location gravel from the bed of the creek was shovelled into a five-gallon pail with the larger boulders omitted, so that at most sample locations, the boulders omitted from the samples will compensate for the swell of the disturbed gravel. The gravel in the pail was sieved wet with an 8-inch hand sieve and the -10 mesh material panned to about $\frac{1}{2}$ kg in the field and subsequently to less than 200 g in the office. These concentrates were later dried and the heavy minerals separated at a specific gravity of 2.96. A representative part of the heavy fraction was analyzed by standard atomic absorption techniques for copper, nickel, lead, and zinc, and by neutron activation techniques for gold.

4.2 Results

The analytical results are in appendix 1 and shown in Fig. 4.1 and 4.2. In addition to the results in appendix 1, visible colors of gold were present in two samples as follows:

<u>Sample</u>	<u>Number of Colors</u>	<u>Total Weight of Colors</u>	<u>Revised Gold Concentration in Panned Heavy Minerals</u>
Mullere 65	1	2.23 mg	66 830 ppb
Mullere 330	2	1.03	120 880

Addition of these gold colors to the results in appendix 1 indicates that the gold concentrations in the heavy minerals from the panned concentrates should be revised to the values above.

The nine samples collected in 1982 plus the 25 samples collected in 1981 are too few for statistical analyses, but inspection of the results indicates the following:

Gold is very highly anomalous at two locations along Mullere Creek, highly anomalous at one location along Betz Creek, and slightly anomalous at other locations along all three creeks.

Lead is highly anomalous at one location each along Betz and San Creeks, and slightly anomalous at all but two of the other sample locations.

Zinc is anomalous in Betz Creek, and possibly slightly anomalous in one sample from San Creek.

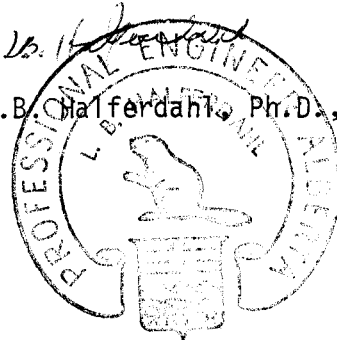
Copper is anomalous in Betz Creek, and slightly anomalous in San Creek.

Nickel may be slightly anomalous in two samples from Betz Creek.

Inspection of the available geological maps suggests that the anomalous concentrations of lead and zinc in samples from Betz and San creeks may be related to a zone near the base of the Hasen Creek Formation. The great decrease in gold concentrations from Mullere 330 to Mullere 760 may be due to the presence of thick glacial deposits at the location of Mullere 760.

Respectfully submitted,

L.B. Halferdahl
L.B. Halferdahl, Ph.D., P.Eng.



Edmonton, Alberta
1982 10 12

SECTION 5.0

REFERENCES

- Bissonnette, R. and Halferdahl, L.B. (1979) 1978 and 1979 exploration (geological, geochemical, geophysical, overburden drilling) of the Bur Property, Yukon Territory; Halferdahl & Associates Ltd., Edmonton, 29 p., 9 appendices, 33 fig., company report submitted for assessment work.
- Campbell, S.W. (1976) Nickel-copper sulphide deposits in the Kluane Ranges, Yukon Territory and Geology of the Quill Creek area; Indian and Northern Affairs, open file report EGS 1976-10, 17 p., 5 maps.
- Dodds, C.J. (1982) Geology S.W. Kluane Lake map area (115G & F(E $\frac{1}{2}$)); Geol. Surv. Can. Open file 829.
- Halferdahl, L.B. (1980) 1980 exploration (geological and overburden drilling) of the Bur property, Yukon Territory; Halferdahl & Associates Ltd., Edmonton, 14 p., 21 fig., 5 appendices, company report submitted for assessment work.
- _____ (1981a) 1980 geochemical and geological exploration of part of the Bur property, Yukon Territory; Halferdahl & Associates Ltd., Edmonton, 8 p., 10 fig., 6 appendices, company report submitted for assessment work.
- _____ (1981b) 1981 trenching, stripping, and drilling of the Bur property, Yukon Territory; Halferdahl & Associates Ltd., Edmonton, 2 p., 6 fig., 2 appendices, company report submitted for assessment work.
- Muller, J.E. (1967) Kluane Lake map-area, Yukon Territory (115G, 115F E $\frac{1}{2}$); Geol. Surv. Can. Mem. 340.
- Nelson, D.B. (1981) 1981 geological mapping and heavy mineral survey of part of the Bur property, Yukon Territory; Halferdahl & Associates Ltd., Edmonton, 11 p., 3 appendices, 8 fig., company report submitted for assessment work.
- Read, P.B. and Monger, J.W.H. (1976) Geology and mineral deposit maps of Kluane and Alsek Ranges, Yukon Territory (parts 115A, B, G), scale 1:50 000 and accompanying unedited report Pre-Cenozoic volcanic assemblages of the Kluane and Alsek Ranges, southwestern Yukon Territory; Geol. Surv. Can. Open file 381.



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- ANALYTICAL CHEMISTS

- GEOCHEMISTS

- REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : Halferdahl & Assoc. Ltd.,
 Dept. 18,
 10509 - 81st Ave.,
 Edmonton, Alta.
 T6E 1X7

CERT. # : A8213903-001-A
 INVOICE # : I8213903
 DATE : 28-OCT-82
 P.O. # : NONE

ATTN: L. B. HALFERDAHL

Sample description	Prep code	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Au NAA ppb	
MULLERE 65	213	45	5	54	41	30	--
MULLERE 330	213	91	17	68	46	1580	--
MULLERE 760	213	29	4	67	43	2	--
BETZ 80	213	350	26	425	122	1020	--
BETZ 465	213	285	1400	510	79	40	--
BETZ 855	213	295	49	520	134	18	--
SAN 50	213	190	2050	89	87	4	--
SAN 400	213	111	23	184	89	30	--
SAN 760	213	96	40	97	47	10	--



MEMBER
 CANADIAN TESTING
 ASSOCIATION

Certified by *Hart Bichler*

APPENDIX 2: FIELD AND OFFICE PERSONNEL

Field

M. Alexander, Geologist 83 Frontenac Crescent Deep River, Ontario K0J 1P0	5 days between September 11 and 19, 1982
L.B. Halferdahl, Engineer 11539 - 73 Avenue Edmonton, Alberta T6G 0E2	½ day on September 11, 1982
P. Krcmar, Cook 36 Teslin Road Whitehorse, Y.T. T1A 3M4	5 days between September 11 and 19, 1982
R. Martin, Assistant Apt. 5 27 South Bartlett Kingston, Ontario	5 days between September 11 and 19, 1982

Office

L.B. Halferdahl, Engineer address above	1 day in October 1982
W.D.K. McGuire, Draftsman 5307 - 145 Avenue Edmonton, Alberta T5A 4E9	5 h in October 1982

APPENDIX 3: QUALIFICATIONS

L.B. Halferdahl obtained degrees in geological engineering and geology from Queen's University and The John Hopkins University. He has had more than 25 years experience as a practising engineer and geologist in research and mining exploration, including consulting since 1969. He is a member of the Canadian Institute of Mining and Metallurgy, and is registered as P.Eng. and P. Geol. in the Association of Professional Engineers, Geologists, and Geophysicists of Alberta, and licensed as P.Eng. in the Association of Professional Engineers of British Columbia.

FIELD EXPENSES 1982 09 11 to 1982 09 19

Personnel

M. Alexander, geologist	5 days @ \$160	\$ 800.00
L.B. Halferdahl, geological engineer	½ day @ \$350.00	175.00
R. Martin, assistant	4 days @ \$110.00	440.00
P. Krcmar, cook	5 days @ \$20.00	100.00
	(rate for cook prorated for part of crew)	
<u>Food and Accommodation</u>	10½ man-days @ \$17.02	178.71
<u>Transportation</u>	4x4 truck rental and gas	308.18

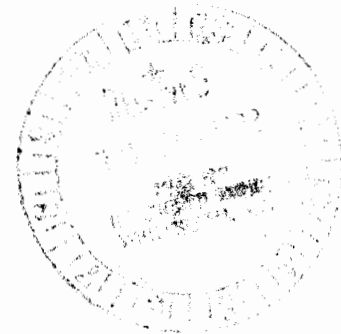
Analyses

9 samples - heavy minerals separated and analysed for Ni, Cu, Zn, Pb, Au @ \$24.00	216.00
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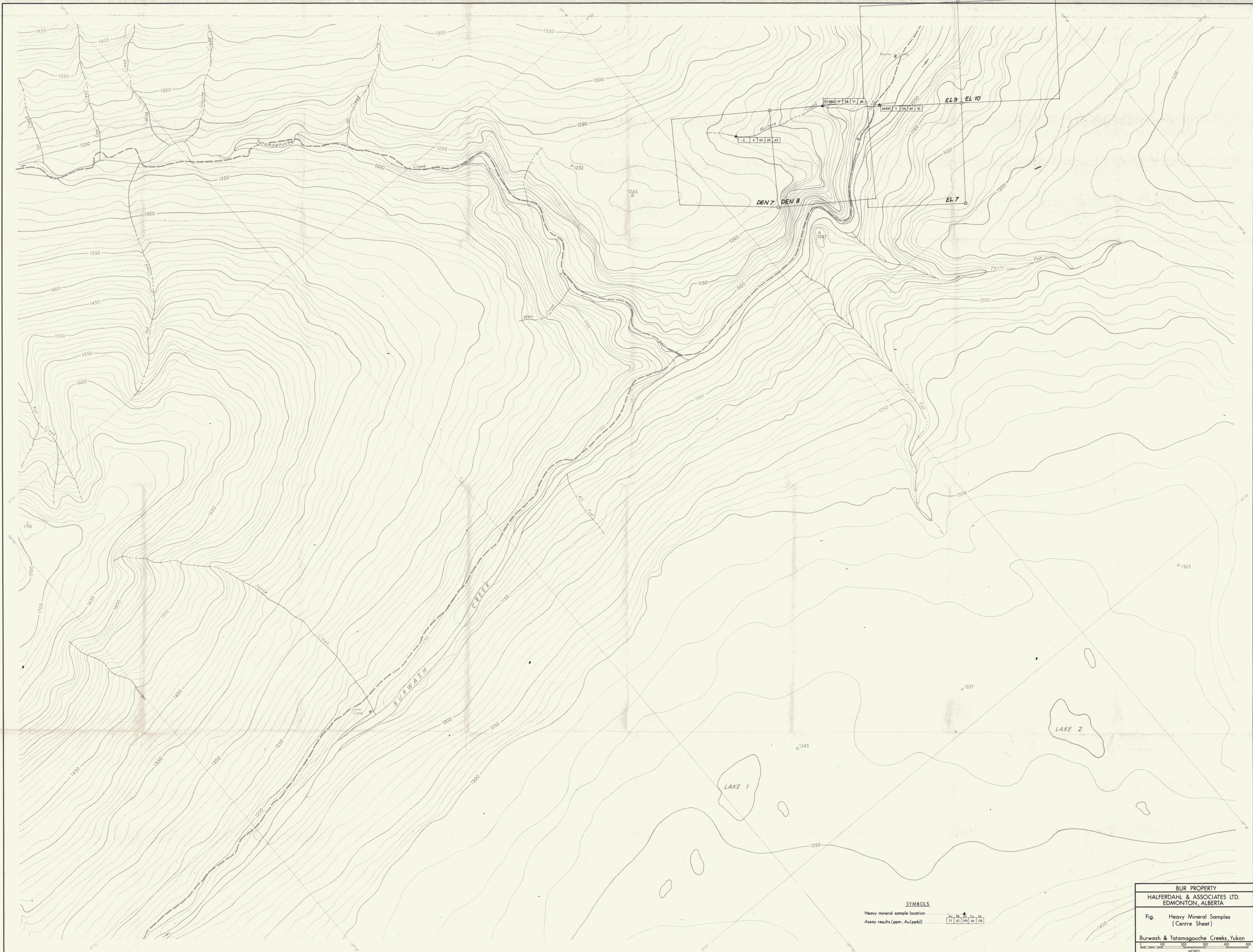
REPORT PREPARATION EXPENSES

Personnel

L.B. Halferdahl, geological engineer	1 day @ \$350.00	350.00
W. McGuire, draftsman	5 h @ \$18.00	90.00
Typing, reproduction, assembly		60.00
TOTAL		<u>\$2717.89</u>



091207



SYMBOLS
 Heavy mineral sample location
 Assay results (ppm; Au(ppb)) 15 16 17 18 19 20 21 22 23 24 25 26

BUR PROPERTY
 HALFERDAHL & ASSOCIATES LTD.
 EDMONTON, ALBERTA

Fig. Heavy Mineral Samples
 (Centre Sheet)

Burwash & Tatamagouche Creeks, Yukon

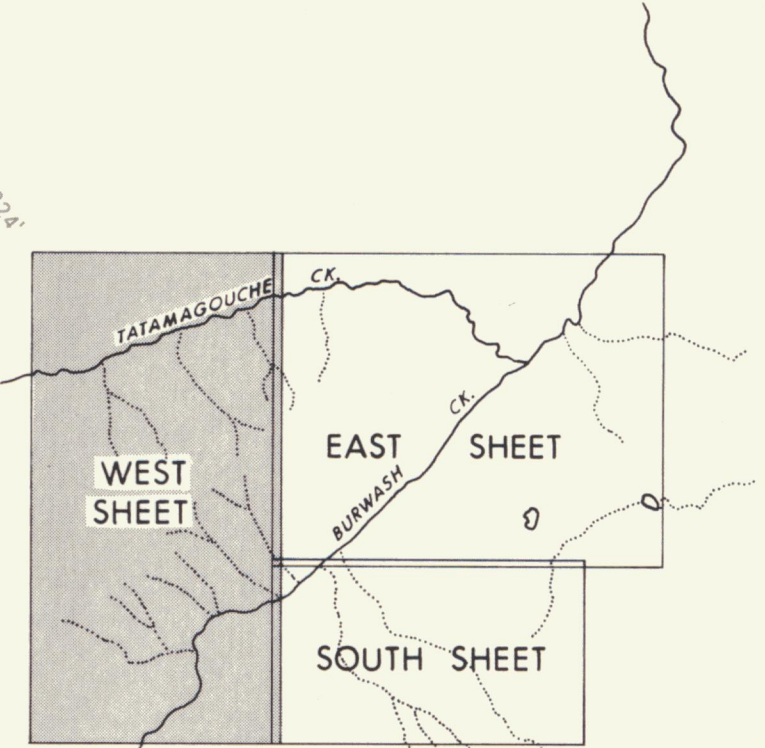
0 100 200 300 400 500
 METRES

MA 1982.10

091397



SYMBOLS
 Heavy mineral sample location Δ
 Assay results (ppm; Au (ppb))
 * denotes Au < 2 ppb



REVISIONS					
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
MA	1982.10				

BUR PROPERTY
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Fig. 4.2 Heavy Mineral Survey
 (West Sheet)

BURWASH & TATAMAGOUCHE CREEKS, Y. T.

DBN SCALE 1:5000 1981.10