

MAP No.

ASSESSMENT REPORT
PROSPECTUS
CONFIDENTIAL
OPEN FILE



DOCUMENT NO.: 091954
MINING DISTRICT: WHITEHORSE
TYPE OF WORK: GEOLOGICAL, GEOCHEMICAL

115 I 9

REPORT FILED UNDER: Noranda Exploration Co. Ltd.

DATE PERFORMED: Sept. 17-20, 1987

DATE FILED: October 7, 1987

LOCATION	LAT.	62°34'N
	LONG.	136°05'W

AREA:

CLAIM NAME & NO.

MAIN 1-20 YA95621-640

VALUE \$ 4,000.00

WORK DONE BY:

H. Copland

WORK DONE FOR:

Noranda Exploration Co. Ltd.

REMARKS:

#115 MAIN

GEOLOGICAL & GEOCHEMICAL REPORT

on the

Main Claims

Whitehorse Mining District

Yukon

N.T.S. 1151/9

Latitude: 62°34'

Longitude: 136°05'

Hugh Copland

August 1987



091954

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
M. and is allowed as
reproduction work in the amount
of \$4000.00.

D.C. Ginnend
Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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CHAPTER ONE: INTRODUCTION

1-1: GENERAL STATEMENT

During the period of September 17, 1986 to September 20, 1986 a two man fly camp was established on Noranda's wholly owned Main Claims. The Main Claims were staked August 6, 1986 following the government geochem release. They were staked in order to cover the presumed source of an anomalous silt with the following values; 3.8 ppm Sb, 141 ppb Au, and 94 ppb Au on a rerun. No source for the anomalous silt could be found therefore a reconnaissance soil grid was established.

1-2: LOCATION & ACCESS

The Main Claims are located north of Carmacks and 40 km east of Mirto at 136 06' longitude and 62 34' latitude. Access for the 1986 program was by TNTA's 206 B based in Carmacks.

1-3: PHYSIOGRAPHY AND VEGETATION

The claims cover a flat lying area in which topographic relief is 100 ft. or less. Subsequently drainage development in the area is generally poor except for a few deeply incised gulleys in the southwest and northern portion of the claim block. Low lying areas are usually swamp or bog covered. The area is largely covered by an old burn which has seen very little regrowth of vegetation except in those areas of drainage accumulation.

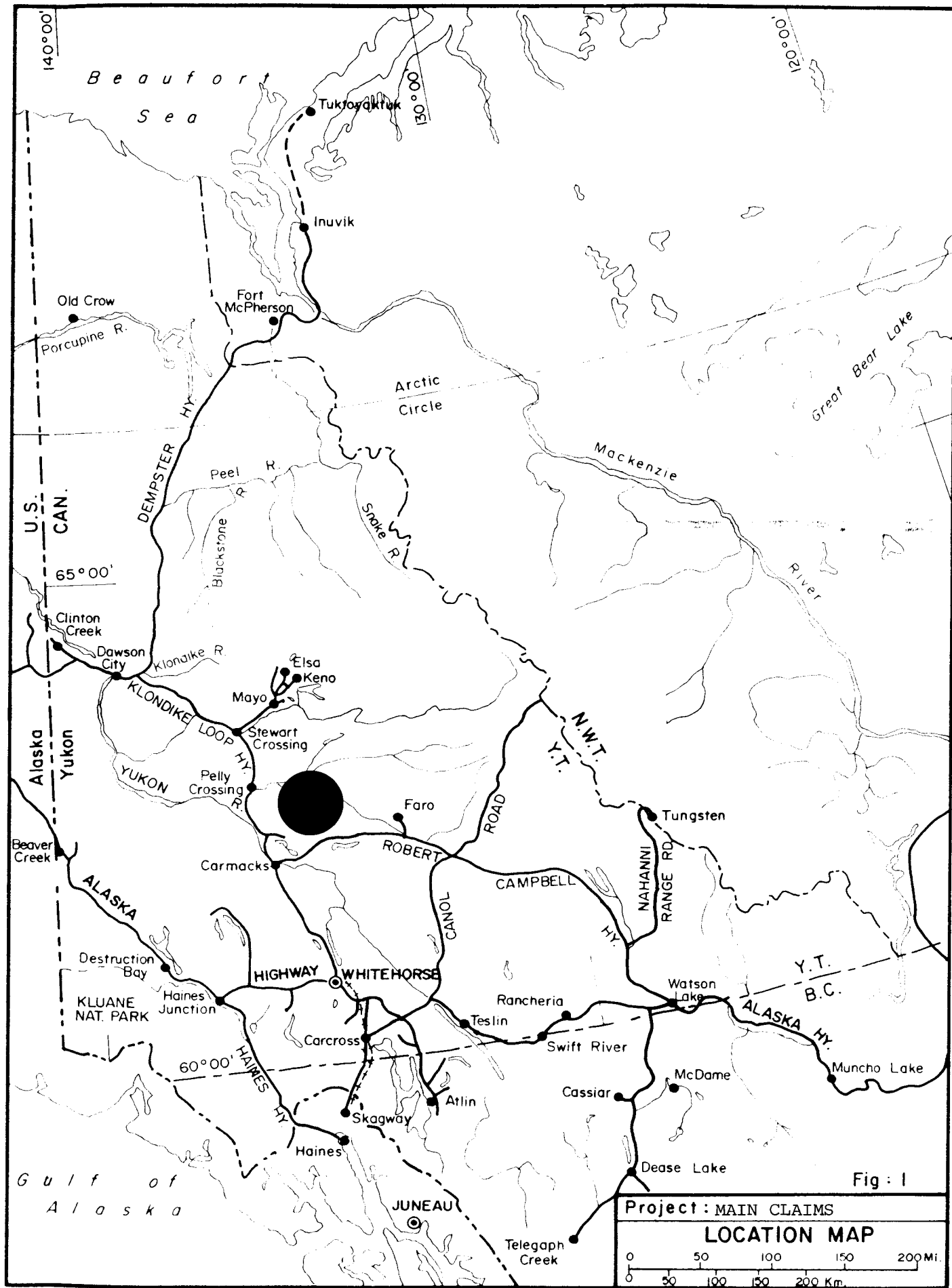


Fig: 1

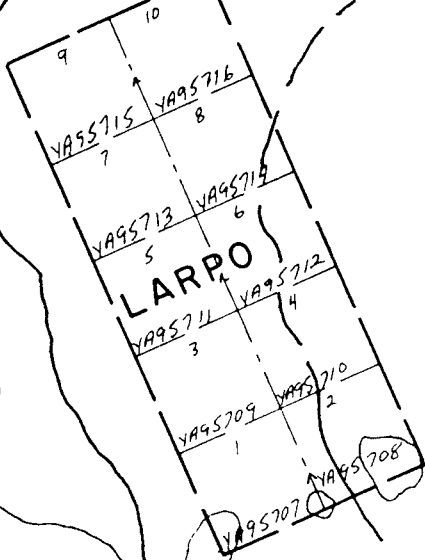
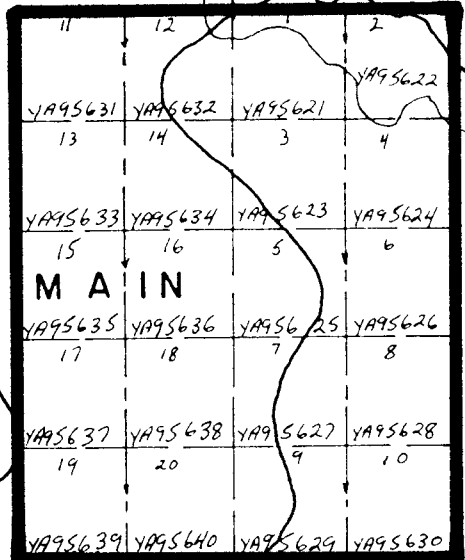
Project: MAIN CLAIMS

LOCATION MAP

0 50 100 150 200 Mi.

0 50 100 150 200 Km.

VANAL 1192/E



Yukon

FIGURE - 2 CLAIM MAP

MAIN CLAIMS

Whitehorse Mining Division
Yukon Territory

N.T.S. 115I/9

Scale: 1" - 1/2 mile

1-4: HISTORY OF THE CLAIMS

There is no record of any activity in the area prior to the August 6 staking of the Main Claims by Noranda and the Larpo Claims by Archer Cathro, the latter ajoin the Main group to the southwest.

1-5: 1986 WORK PROGRAM

From September 17 to September 20 Noranda personnel Steve MacKay and Robert Copland conducted 8 man days of work on a Phase 1 exploration program consisting of stream silt and heavy sampling, prospecting and grid soil sampling. A total of 5 silts, 2 heavy, 1 rock and 84 soil samples were taken as well as the establishment of 5.5 km of grid. Exposures on the property are sparse therefore only 2 man days were spent on geological mapping, mainly in the south western and northern portion of the claim group.

CHAPTER TWO: GEOLOGY

2-1: Regional Geology

The property lies within the Yukon cataclastic terrane-Teslin suture zone as outlined by Templeman-Kluit (1979). This is comprised mainly of the Jurassic Tatchun batholith which is terminated to the south by the Teslin Fault. Overlying this batholith are remnants of several allochthonous assemblages. These assemblages occur to the west and along the north shore of Tatlain Lake. They consist of strongly sheared and foliated amphibolite and amphibolitic greenstone of the Anvil assemblage as well as mylonites and schists of the Nisutlin assemblage.

2-2: Property Geology

The Main Claims are almost entirely underlain by the Jurassic Tatchun Batholith. This is a recessive weathering K-feldspar porphyritic granodiorite. The unit is generally foliated and locally displays a distinct banding of the mafics. The average composition appears to be 30% K-feldspar as distinct phenocrysts up to 3 cm in size often displaying the same alignment, 30% plagioclase as fine grained matrix, 20% biotite as 1 mm size flakes, 15% hornblende as 1 to 2 mm laths, 5% quartz. The batholith is cut by several aplite dikes at various orientations, ranging from a few cm in thickness, to 1 m wide. The intrusion appears to be relatively dry as no quartz veins were seen in the outcrops examined. At the north end of the claim group the granodiorite is sheared displaying a distinct secondary foliation trending 140° and dipping 60° NE. This would appear to parallel the trend of several major structures which occur to the west of the property.

At two locations 250 m apart exposures of a dark green banded chlorite schist were observed. These had a trend of 60° to 80° and a dip of 60° to the north. They represent either remnants of one of the allochthonous assemblages or possibly a roof pendant of the Pelly Gneiss caught up in the intrusion.

Exposures on the property are few and are generally restricted to a few areas where the drainage has become incised into structures that were scraped out during glaciation.

TABLE 1
TABLE OF FORMATIONS

QUATERNARY

Selkirk Group:

- basalt, andesite

TERTIARY

Carmacks Group:

- andesite, basalt, conglomerate, sandstone,

Mount Nansen Group:

- acid-intermediate tuff, breccia

JURASSIC & CRETACEOUS

Dezadeash Group:

- argillite, greywacke, volcanic rocks

TANTALUS FM:

- conglomerate, siltstone, arkose, coal

JURASSIC

Laberge Group:

- greywacke, arkose, conglomerate

UPPER TRIASSIC

Lewes River Group:

- limestone

MESOZOIC (undivided)

- quartz monzonite, granodiorite, foliated granodiorite

PALEOZOIC (undivided)Felly Gneiss:

- foliated to gneissic granodiorite

CARBONIFEROUS & PERMIANBig Salmon Metamorphic Complex:

- schist, gneiss

HADRYNIAN & CAMBRIAN

- schist, gneiss, quartzite

CHAPTER THREE: GEOCHEMISTRY

3-1: Procedures

Streams in the area were silt sampled and pan sampled. Much of the drainage in the area is restricted to small channels within swampy areas therefore it was difficult to obtain good representative samples of the area. All samples are being analyzed for Cu, Pb, Zn, Ag, As, Au.

A reconnaissance soil grid was established on the property with the base line trending approximately parallel to the major structures in the area. The base line is 1.5 km long and has four 1 km cross lines at a 500 m spacing. Sample interval is 50 m.

Soil horizon development in the area is poor and consists of an overlying layer of moss and organics 5-20 cm thick, a layer of White River ash 15-20 cm thick, a layer of dark brown to black organics 2-4 cm thick and a underlying sequence of poor to well sorted glacial tills and fine sands. Soils have been analyzed for Cu, Pb, Zn, Ag, As, Au.

3-2: Results

Results were disappointing on these claims this may be due to the large amount of till and ash in the region. Only 3 samples were above background in gold the highest being 770 ppb @ 10000N 9900E in an area covered by extensive till. Results in all other elements were essentially dead.

Silt sampling in the GSC anomalous creek produced no anomalies of any kind.

The original anomaly (141 ppb Au) could not be reproduced.

CHAPTER FOUR: CONCLUSIONS & RECOMMENDATIONS

Due to poor results, lack of outcrop, and inability to reproduce the anomalous silt sample, no further action is recommended on these claims.

Respectfully submitted

A handwritten signature in cursive script, appearing to read "H. Copland".

Hugh Copland

Project Geologist

STATEMENT OF QUALIFICATIONS

I, Hugh Copland of the City of Whitehorse, Yukon, do hereby certify that:

1. I have been an employee of Noranda Exploration Company Limited (NPL) in Whitehorse since May, 1985.
2. I am a graduate of the University of British Columbia with a B.Sc. in Geology and of McMaster University, Hamilton, Ontario with a B.Eng..
3. I am a member of the Yukon Professional Geoscientists Society, and the Geological Association of Canada.
4. I supervised work on the Main Claims during September 1986.



Hugh Copland
Geologist

REFERENCES

Tempelman-Kluit, D.J., 1981. Geology and Mineral Deposits of Southern Yukon in Yukon Geology and Exploration, 1979-80, D.I.A.N.D. publication, pp. 7-31.

Tempelman-Kluit, D.J., 1985. Geological Map of Carmacks Map Sheet. G.S.C. Open File 1101.

STATEMENT OF COSTS

PROJECT: Main Claims

Labour:	8 man days @ \$100.00/day	\$ 800.00
Food & Accommodation:	8 man days @ \$25.00/day	200.00
Transportation:	helicopter (Carmacks-property)	1,860.00
	3.0 hrs. @ \$620.00/hr.	
	Truck Fuel & Oil	50.00
	(Whitehorse-Carmacks)	
	Rental	100.00
Analysis:	84 samples (Cu, Pb, Zn, Ag,	840.00
	As, Au)	
	+ preparation: \$10.00/sample	
Report Preparation:	author 1 day @ \$100.00/day	100.00
	typing 3 hrs. @ \$12.00/hr.	36.00
	drafting 1 day @ \$150.00/day	150.00
Total Cost:		<u>\$4,136.00</u>

NORANDA VANCOUVER LABORATORY

PROPERTY/LOCATION: MAIN-YUK. GEN.

CODE : 8609-120

Project No. : 394 Sheet: 1 of 2 Date rec'd: SEP. 22
 Material : SILT, SOIL, RX Geol. : S. Mc. Date compl: SEP. 26
 Remarks : & PAN.

Values in PPM, except where noted.

T. T. No.	SAMPLE No.		Cu	Zn	Pb	Ag	As	Sb	PPB Au
104	11000N-9500E	SOIL	28	48	10	0.2	20	-	10
105	9550		14	30	4	0.2	6	-	10
106	9600		16	40	4	0.2	4	-	10
107	9650		14	32	4	0.2	6	-	10
108	9700		14	40	4	0.2	10	-	10
109	9750		18	38	4	0.2	10	-	10
110	9850		18	46	4	0.2	8	-	10
111	9900		12	38	6	0.2	1	-	10
112	9950		10	58	8	0.2	1	-	10
113	10050		22	34	6	0.2	1	-	10
114	10100		16	44	6	0.2	1	-	10
115	10300		18	40	6	0.2	1	-	10
116	10350		12	38	8	0.2	1	-	10
117	10400		22	40	8	0.2	10	-	10
118	10450		14	54	6	0.2	1	-	10
9	11000N-10500E		16	46	8	0.2	1	-	10
120	10500N-9500E		24	40	6	0.2	1	-	10
121	9550		18	30	6	0.2	8	-	10
122	9600		16	46	8	0.2	8	-	<u>90</u>
123	9650		<u>68</u>	38	8	<u>1.8</u>	8	-	10
124	9700		18	48	8	0.2	10	-	10
125	9750		20	48	8	0.2	12	-	10
126	9800		22	46	6	0.2	8	-	10
127	9850		12	38	6	0.2	2	-	10
128	9900		14	50	8	0.2	8	-	10
129	10050		20	98	8	0.4	4	-	10
130	10100		42	50	6	0.2	6	-	10
131	10300		14	40	6	0.2	24	-	10
132	10350		14	40	6	0.2	16	-	10
133	10400		16	32	6	0.2	12	-	10
134	10450		26	40	6	0.2	12	-	10
135	10500N-10500E		14	40	6	0.2	12	-	10
136	10000N-9550E		28	48	6	0.2	20	-	10
137	9600		30	76	8	0.2	14	-	<u>70</u>
138	9650		24	38	6	0.2	14	-	10
139	9700		40	46	10	0.2	18	-	10
140	9800		24	46	10	0.2	24	-	10
141	9850		22	68	6	0.2	16	-	10
142	9900		18	42	6	0.2	<u>20</u>	-	<u>770</u>
143	9950		22	44	6	0.2	12	-	10
144	10050		16	24	4	0.2	12	-	10
145	10250		14	56	8	0.2	18	-	10
146	10300		14	66	8	0.2	18	-	10
147	10350		12	44	8	0.2	16	-	10
148	10400		12	30	8	0.2	12	-	10
149	10450		18	46	6	0.2	20	-	10
2	10000N-10500E		12	36	4	0.2	1	-	10
3	9500N-9500E		20	72	6	0.2	4	-	10

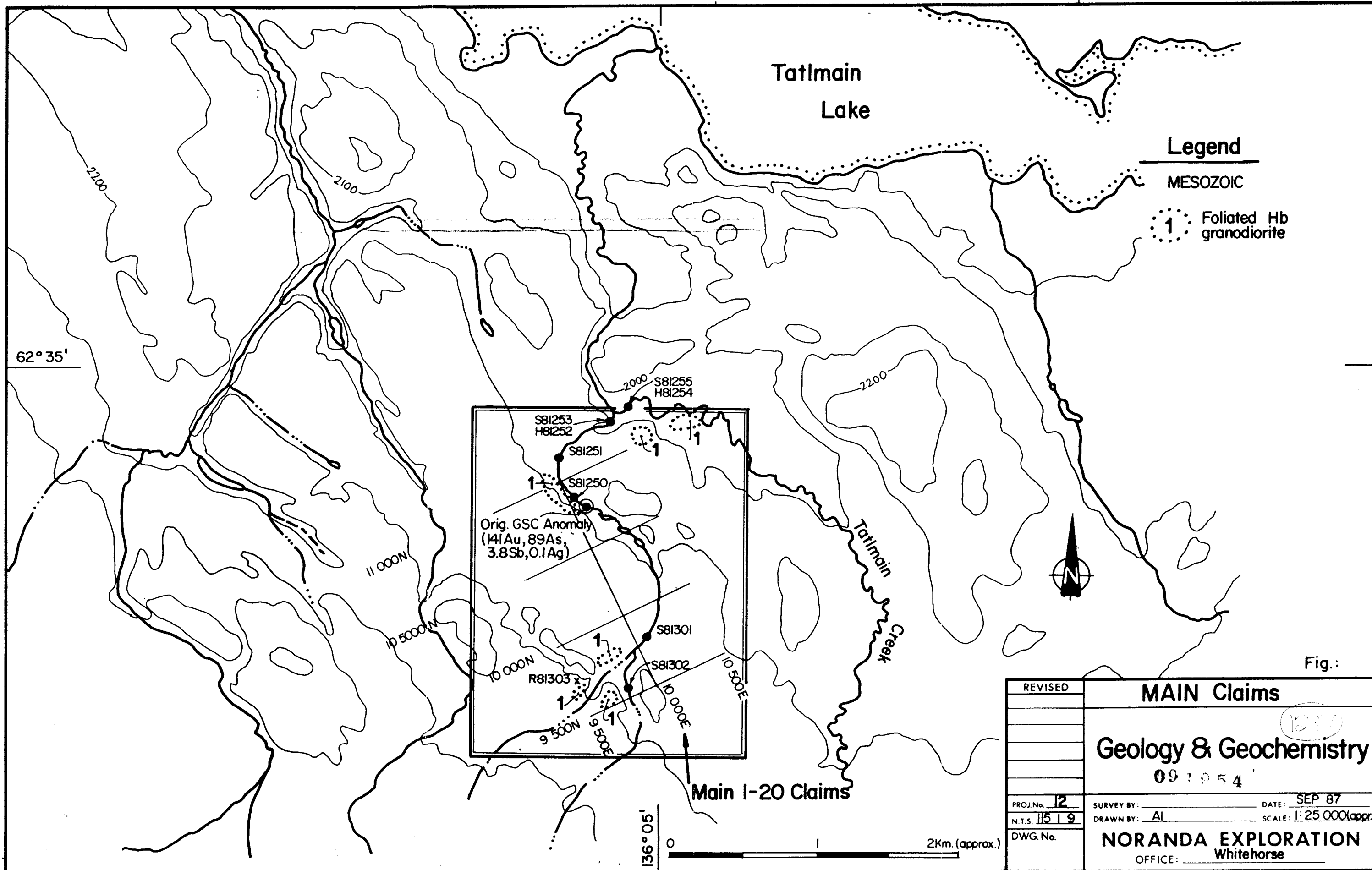
SMC

T. T. No.	SAMPLE No.	Cu	Zn	Pb	Ag	As	Sb	PPB 8609-120	
								Au	Pg. 2 of 2
4	9500N-9550E	12	54	6	0.2	2	-	10	
5	9650	12	52	8	0.2	4	-	10	
6	9700	16	42	6	0.2	10	-	10	
7	9750	14	42	8	0.2	10	-	10	
8	9800	18	36	6	0.2	12	-	10	
9	9850	16	34	6	0.2	10	-	10	
10	9900	14	48	8	0.2	14	-	10	
11	9950	18	32	8	0.2	1	-	10	
12	10050	20	40	6	0.2	14	-	10	
13	10100	20	46	8	0.2	1	-	10	
14	10150	16	36	8	0.2	8	-	10	
15	10200	18	42	6	0.2	1	-	10	
16	10250	14	40	8	0.2	8	-	10	
17	10300	16	48	6	0.2	6	-	10	
18	10350	16	40	8	0.2	8	-	10	
19	10400	20	34	8	0.2	6	-	10	
20	10450	18	54	8	0.2	10	-	10	
21	9500N-10500E	12	98	8	0.2	1	-	10	
22	10000E-9500N	12	62	8	0.2	10	-	10	
23	9550	24	42	6	0.2	10	-	10	
24	9600	18	38	8	0.2	6	-	10	
25	9650	12	60	8	0.2	6	-	10	
26	9700	16	32	4	0.2	2	-	10	
27	10000	16	40	6	0.2	6	-	10	
28	10050	16	42	8	0.2	6	-	10	
29	10100	22	44	8	0.2	8	-	10	
30	10150	14	42	8	0.2	8	-	10	
31	10200	14	52	8	0.2	6	-	10	
32	10250	18	62	8	0.2	6	-	10	
33	10300	14	44	8	0.2	12	-	10	
34	10350	12	40	8	0.2	10	-	10	
35	10400	12	46	8	0.2	10	-	10	
36	10450	22	48	6	0.2	8	-	10	
37	10500	16	52	8	0.2	8	-	10	
38	10550	22	36	8	0.2	8	-	10	
39	10000E-10600N SOIL	24	46	8	0.2	20	-	10	
40	81251 SILT	12	32	4	0.2	12	1	10	
41	81253	16	32	6	0.2	1	2	10	
42	81255	6	30	1	0.2	6	2	10	
43	81301	24	40	1	0.2	1	4	10	
44	81302 SILT	8	44	1	0.2	2	2	10	
104	81303 RX	12	56	1	0.4	2	-	10	

T. T. No.	SAMPLE No.	Sample wt. (g)	PPB Au	Cu	Zn	Pb	Ag
	81252	27.7	10	18	560	10	0.2
47	81254	58.1	<u>1600</u>	8	42	1	0.2

N. B. Pan-con: entire sample used for Au determination.

*Cu, Zn, Pb, Ag values obtained from Aqua Regia sol'n.



Legend

MESOZOIC

1 Foliated Hb granodiorite

62° 35'

S81253
H81252

S81251

S81250

Orig. GSC Anomaly
(141Au, 89As,
3.8Sb, 0.1Ag)

S81255
H81254

S81301

S81302

R81303

Main 1-20 Claims



Fig.:

REVISED	MAIN Claims	
	1230	
	Geology & Geochemistry	
	091054	
PROJ. No. 12	SURVEY BY: _____	DATE: SEP 87
N.T.S. 11519	DRAWN BY: AI	SCALE: 1:25 000(appr.)
DWG. No.	NORANDA EXPLORATION	
	OFFICE: Whitehorse	