85-122-14222

GEOLOGICAL and GEOCHEMICAL REPORT

on the

SADDLE 1, SADDLE 2, SADDLE 3, SADDLE 4

MINERAL CLAIMS (KLEHINI RIVER PROPERTY)

Atlin Mining Division

N.T.S. 114 P/10E

Latitude 59°32'

Longitude 136°35'

Owner/Operator: Noranda Exploration Company, Limited
(No Personal Liability)

Author: Mike Savell

February 1985

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CHAPTER ONE: INTRODUCTION

1-1: GENERAL

This report describes the results of a geological and geochemical survey carried out during August, 1984 on the SADDLE 1 to 4 mineral claims (Klehini River Property), Atlin Mining Division, B.C.

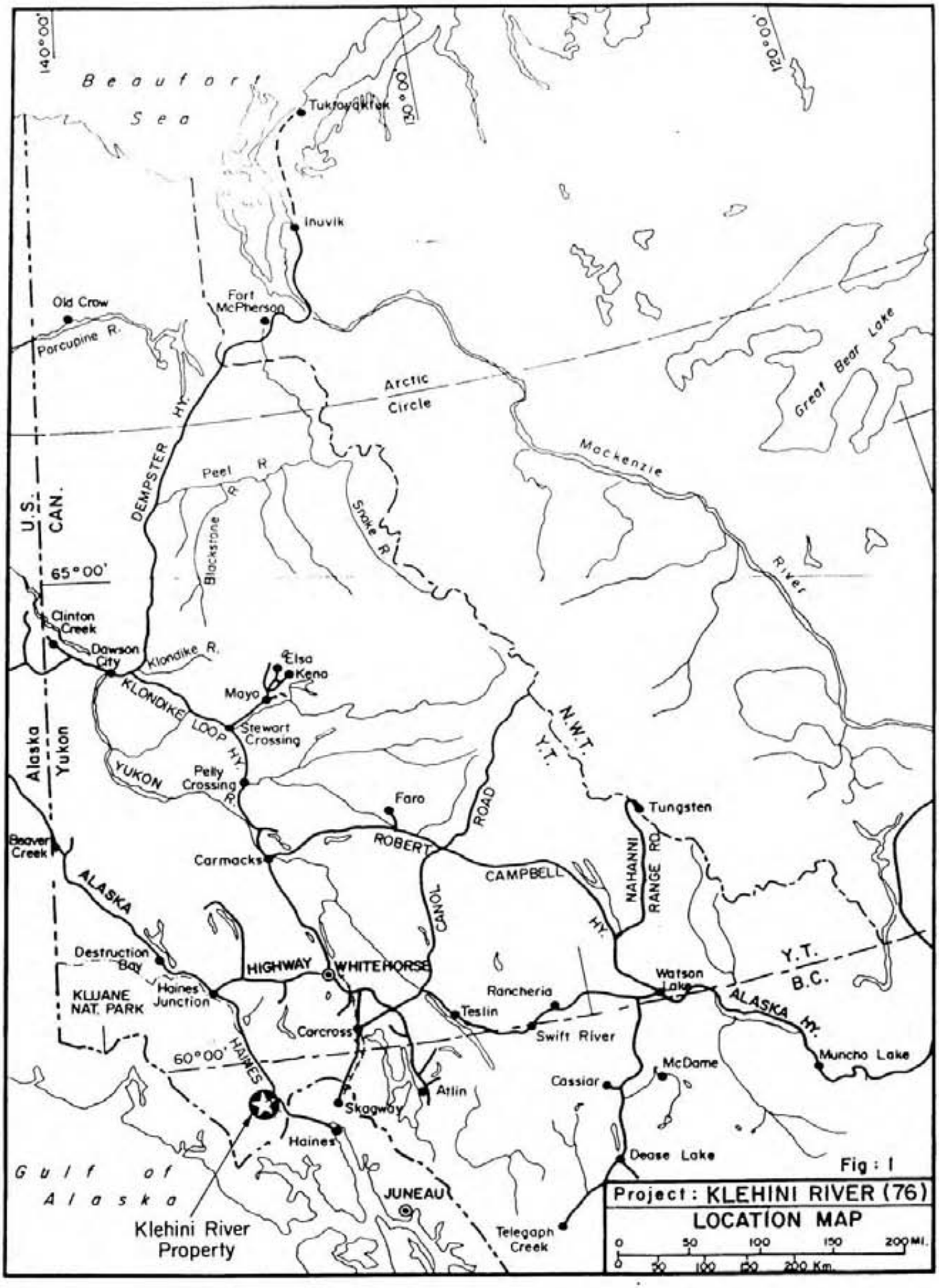
The claims were staked by Noranda to cover the presumed source area for a stream sediment gold anomaly obtained during a 1983 reconnaissance program.

The work described in this report was performed by employees of Noranda Exploration Company, Limited (see Appendix A).

1-2: LOCATION and ACCESS

The property is located on N.T.S. mapsheet no. 114 P/10E, at 59 degrees 32' latitude and 136 degrees 35' longitude. This is about 2 kilometres southwest of the Rainy Hollow area in the extreme northwest of B.C. The nearest town is Haines, Alaska, some 70 kilometres to the south-southwest. Haines Junction, Yukon Territory, is about 145 kilometres to the north-northwest. (See Figure 1)

To date, access has been made by helicopter. The centre of the property lies about 5 kilometres from an unused portion of the Haines Highway, which is a paved, all season road leading to the port of Haines, some 73 kilometres by road. An



VANCAL 11926

access road could easily be constructed, however the elevation difference is about 450 metres. A permanent road would require a small bridge over the Klehini River.

1-3: PHYSIOGRAPHY and VEGETATION

The property lies near the eastern edge of the rugged St. Elias Mountains. Local elevations range from about 750 metres to 2050 metres. About 30% of the property is covered by glacial ice. The highest peaks on the property are very steep and rugged and are accessable only by technical climbing methods.

Most of the property is barren of vegetation. The lower elevations are covered by typical alpine tundra grasses, lichens, shrubs, and flowers. To the east of the property, the vegetation type abruptly changes with the decrease in elevation to a lush coastal rain forest.

1-4: HISTORY of the CLAIMS

The SADDLE claims were acquired by staking in 1984. The relevant details are listed below.

TABLE 1 - Claim Data

CLAIM NAME	NO. UNITS	RECORD NO.	RECORD DATE	EXPIRY DATE
Saddle 1	16	2276	April 4 1984	April 4 1987
Saddle 2	16	2277	"	"
Saddle 3	16	2278	"	"
Saddle 4	16	2279	"	"

All claims are owned by Noranda Exploration Company, Limited (No Personal Liability).

1-5: PREVIOUS WORK

There is no public record of any systematic exploration having been carried out on the property prior to that undertaken by Noranda in 1983.

This reconnaissance stream sediment sampling program resulted in locating two streams anomalous in Au. The first stream drains the north side of the property and flows northeasterly and had values of 15000 ppb Au in a panned concentrate and 220 ppb Au in a silt. The other stream drains the south half and flows easterly, and had values of 31000 ppb Au in a panned concentrate and 130 ppb in a silt sample. On the basis of these results, the SADDLE 1-4 claims were staked. The KR 1-11 claims (Figure 2) were staked to secure surrounding ground in October, 1984. This report deals only with the SADDLE claims.

1-6: 1984 WORK PROGRAM

It was decided that the initial exploration program should consist of detailed prospecting, preliminary geological mapping, and rock chip, stream sediment, and soil sampling where warranted. A total of 30 mandays were spent on the property and 87 geochem samples collected and analyzed, during the period from August 16 to August 28, 1984.

Helicopter support was provided on a casual basis by Quasar Helicopters of Abbottsford, B.C., from their temporary base near Pleasant Camp a few kilometres to the southeast.

CHAPTER TWO: GEOLOGY

2-1: REGIONAL GEOLOGY

A preliminary 1:125,000 scale geology map of the 114P mapsheet is now available (G.S.C. Open File Map No. 926). The area surrounding the Haines Road was previously mapped at a scale of 1 inch to 2 miles by K. Dep Watson (Bulletin No. 25, B.C.D.M., 1948). The Haines Road roughly follows the Dalton Trail, one of the routes used by prospectors enroute to the Klondyke gold fields at the turn of the century. These prospectors located many of the Cu-Zn-Pb-Ag skarn-type mineral showings known in the Rainy Hollow-Three Guardsmen Pass area. These are described in the B.C. Mineral Inventory (numbers 7-14, 17, 19, 20, 29).

The property lies within the Alexander Terrane of the Insular Belt, between the Hubbard Fault and Denali Fault System. This consists of complexly deformed, generally low grade metamorphosed, predominantly Paleozoic rocks. On the property these consist mainly of black laminated and grey massive limestones, black shales and argillites, and dark green chloritic volcanic flows.

These have been intruded by granodiorites and diorites of the Oligocene "Tkope River Intrusions". Similar rocks host the gold bearing "Gold Cord" quartz vein approximately 10 kilometres to the southwest (B.C. Mineral Inventory No. 15).

2-2: PROPERTY GEOLOGY

The property was mapped at a scale of 1:5,000 using blow-ups of air photographs and topographic maps for control. Distribution of exposed bedrock ranges from 100 per cent at higher, rugged elevations to zero on the lower ice, talus, moraine, and meadow covered areas. The very rugged areas at the extreme south and west of the property were not traversed. Here the geology was inferred by examining moraines.

The geological plan has been plotted on Figure 3. The correlation of individual units or sub-units over large areas was difficult due to lithological changes resulting from differing grades of thermal metamorphism and lack of exposure. The major contacts between intrusive and stratified rocks have been extrapolated. Note that the numerical position of Upper Paleozoic rocks in the legend may or may not correspond to their relative ages.

The sequence of Upper Paleozoic stratified rocks have been divided into five major units. Contacts all appear to be conformable:

Unit 5 - This consists of fine to coarse grained, schistose, and sometimes amphibolitic biotite schist and hornfels, which has resulted from the thermal metamorphism of Unit 4. Weathering of Fe-rich biotite and magnetite gives this unit a rusty red-brown colour. It is often found as small roof pendants on diorite of Unit 6. The contacts between Unit 5 and

6c are often gradational, indicating assimilation by the diorite intrusive.

Unit 4 - Black, slaty to fissile, laminated, and occasionally cherty to graphitic argillite and shale. This unit is often weakly hornfelsed, especially near intrusive contacts. Locally interbedded with Unit 3a.

Unit 3 - Volcanic rocks have been grouped in Unit 3. There are five sub-units. Unit 3a consists of an olive green, massive, schistose chlorite greenstone, produced from basaltic flows. These are locally weakly silicified near intrusive rocks. Thin, irregular bodies of massive, black, pyritic basalt (Unit 3b) may be intrusive in origin, and related to Unit 6c. Unit 3c is a coarse, volcanic breccia composed of angular fragments of an apparently intermediate composition. Unit 3d is a buff weathering, grey brown, finely porphyritic andesite. Unit 3e was observed at the extreme west of the property, and is a pale bluish-grey, highly siliceous rhyolite, with up to 5% disseminated pyrite. It is possible this unit may represent a siliceous chemical sediment rather than a volcanic. All these volcanic units are interbedded with sediment of Unit 1 and 2.

Unit 2 - Carbonate rocks have been grouped into this unit, in which there are 5 sub-units. Unit 2a is a grey to cream coloured, dioritic, massive limestone. It is recrystallized in the vicinity of intrusive contacts. Unit 2b is a grey to black, finely laminated silty, algal limestone. The coarse, sub-angular

breccia of grey, finely laminated limestone in a greyish carbonate matrix (Unit 2c) probably represents a debris flow. Units 2d and 2e are the thermally metamorphosed equivalents of the above units. Unit 2d is a well banded, grey and green, hard, weakly skarned and silicified silty limestone. Unit 2e is a more intensely skarned rock, hosting diopside-tremolite and occasionally garnet mineral assemblages.

Unit 1 - This was observed only at two localities. It consists of a pale tan to buff coloured, schistose sandstone or quartzite.

These stratified rocks have been intruded by rocks of the "Tkope River Intrusions" (Units 6 and 7):

Unit 7 - The northern section of the property is underlain by granites. Unit 7a is a light grey to pink, medium-grained equigranular granite. Within this were found quartz-feldspar-biotite porphyry phases, similar in colour and composition (Unit 7b). Unit 7c consists of dykes of feldspar porphyry, with a grey-green matrix. These were found cutting older sediments and the diorite.

Unit 6 - This is a more mafic phase of the "Tkope River Intrusions" and is believed to be older as evidenced by dykes of 7c found within it. Unit 6a is a fine to medium grained, equigranular, hornblende diorite with localized abundances of quartz and biotite. Unit 6b is similar but contains many large zenoliths of fine, mafic material (probably

recrystallized fragments of Units 4 and 5). Unit 6c is diorite that shows a well developed, wavy, gneissic or migmatitic texture, probably produced from assimilation of Unit 5. Unit 6d is a late stage, fine gabbroic dyke which cuts the diorite.

Quartz veins have also been included on the map, and are indicated by a thick line and the letters QV. They are almost all restricted to the diorite and probably formed from volatiles released at a later stage of intrusion, at moderate depths. They consist of white, massive quartz, which shows an inward growing, ribboned cockscomb texture indicating filling of open spaces. Disseminated pyrite is common. The veins are well defined, up to about 2 metres thick, continuous, linear, and are found in several orientations, at generally steep dips.

Prior to thermal metamorphism, the Upper Paleozoic rocks had been subjected to low grade regional metamorphism as evidenced by development of slaty cleavage in shales and a well developed schistosity in greenstones. Evidence of thermal metamorphism resulting from the Tertiary intrusions includes development of hornfels texture, silicification, skarn mineralogy and recrystallization as mentioned above.

In general, stratified rocks strike from 090 degrees to 135 degrees and have variable dips. The pattern of folding was not discernable. It is thought to be locally disrupted by the intrusions. A few minor faults were marked by linear depressions.

TABLE 2

TABLE OF FORMATIONS

UNIT #	NAME	AGE	LITHOLOGIES, SUB-UNITS
7	"Tkope River Intrusions"	Oligocene	Granite 7a - medium-grained, equigranular 7b - porphyritic 7c - porphyry dykes
6	"Tkope River Intrusions"	Oligocene	Diorite 6a - fine-medium grained, equigranular 6b - with abundant mafic zenoliths 6c - with gneissic or migmatitic texture 6d - gabbroic dykes
5		Upper Paleozoic	Biotite schist, hornfels
4		" "	Shale, argillite
3		" "	Volcanics 3a - massive schistose greenstone 3b - black, pyritic basalt 3c - breccia 3d - andesite 3e - rhyolite
2		" "	Limestone 2a - grey massive limestone 2b - grey to black laminated limestone 2c - breccia 2d - well banded, weakly skarned 2e - diopside-tremolite skarn
1		" "	Sandstone, Quartzite

CHAPTER THREE: GEOCHEMISTRY

3-1: STREAM SEDIMENTS and SOILS

A limited stream sediment sampling program was undertaken, mainly to cover areas not sampled in the 1983 reccy program and to check for repeatability of results. A total of 15 silt samples and 6 pan concentrate samples were collected and analyzed. The standard method of silt collection was employed. The pan concentrates are heavy mineral fractions from 9 litre sized gravel samples which were panned using conical pans. Analytical procedures and results are given in Appendix D and E respectively. As can be seen, results for the silt samples are negative. The pan concentrate results tended to confirm sampling performed in 1983. Sample numbers 45941 and 45942 ran 56000 and 1800 ppb Au respectively, and were collected on a stream from which a previous sample ran 15000 ppb Au. Samples 45945 and 45946 ran 5800 and 5300 ppb Au, and were collected on a stream from which a previous sample ran 31000 ppb Au. Results from two other major streams draining the property were negative.

In addition, 10 soil samples were collected from an overburden covered linear depression, possibly caused by preferential weathering of a mineralized fault or vein. Analytical procedures and results are given in Appendix D and E. From the results it would appear that no mineralization is present.

3-2: ROCKS

A total of 55 rock samples were collected and analyzed, primarily as an aid to prospecting. Of these, 40 samples were of bedrock or float and 15 were composite chip or talus fines collected from detritus at the base of steep exposures. Assays were performed on 11 samples, the remainder were geochemical analyses reported in ppm. Locations are plotted on Figure 3.

Analytical procedures, results, and rock sample descriptions are listed in Appendix D, E, and F, respectively.

None of the samples analyzed contained Au in significant amounts. However, of the 40 rock samples analyzed, 8 gave anomalous values in gold, ranging from 100 to 990 ppb or 0.0032 to 0.029 oz/ton. Of these, 5 were quartz veins in diorite (No.'s 45888, 89, 92, 93, 95) and 3 were pyritic hornfels or skarn samples (No.'s 45864, 66, 67). These last three samples also contained significant Cu and Ag values, ranging from 0.66% to 1.14% Cu and 10.0 g/T to 21.2 g/T Ag. These anomalous results are not confined to any one area but are scattered throughout the property. Results from the talus fine or chip rock samples were negative.

CHAPTER FOUR: CONCLUSIONS and RECOMMENDATIONS

Follow up work on a Au in panned concentrate anomaly has succeeded in locating Au mineralization, although of a low grade. The area was hydrothermally active at one time, as evidenced by skarn and quartz vein development, and these are weakly mineralized in Au, Ag, and Cu. The veins are well defined, continuous, and similar in appearance to the Au-mineralized "Gold Cord" vein to the southeast. The property is thought to have the potential to host a precious metal mesothermal vein or skarn deposit of significant tonnage.

In order to determine whether the veins carry any high grade shoots, further work should be done. The known veins should be systematically sampled in detail, and be traced using VLF-EM and grid soil surveys where the terrane permits. Mountaineering geologists should be contracted to prospect and sample rugged parts of the property not yet looked at.

APPENDIX A: PERSONNEL

Mike Savell 203-107 Main Street Whitehorse, Y.T.	Project Geologist
Mary Webster 203-107 Main Street Whitehorse, Y.T.	Geologist
Carl Glaser 11159 Braeside Dr. S.W. Calgary, Alberta	Geologist
Shawn Lillie 1050 Davie Street Vancouver, B.C.	Technician

APPENDIX B

STATEMENT OF QUALIFICATIONS

I, Michael Savell, of the City of Whitehorse, Yukon Territory, do hereby certify that:

1. I have been an employee of Noranda Exploration Company, Limited (No Personal Liability) since May 1980.
2. I am a graduate of Dalhousie University with a Bachelor of Science degree in Geology.
3. I am a member of the Geological Association of Canada, the Canadian Institute of Mining and Metallurgy, the Prospector's and Developers Association, and the B.C./Yukon Chamber of Mines.

Michael Savell
Project Geologist
Noranda Exploration Company, Limited
(No Personal Liability)

APPENDIX C

STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

DATE JANUARY 1985

PROJECT - Klehini River
TYPE OF REPORT Geology and Geochem

a) **Wages:**

No. of Days -	30 mandays	
Rate per Day -	$100.08	
Dates From -	August 1984	
Total Wages	30 X $100.08	$3,002.43

b) **Food and Accommodation:**

No. of Days -	30	
Rate per Day -	$22.71	
Dates From -	August 1984	
Total Cost -	30 X $22.71	$ 681.33

c) **Transportation:**

No. of Days -	30	
Rate per Day -	$195.80	
Dates From -	August 1984	
Total cost	30 X $195.80	$5,873.90

d) **Analysis** $1,232.40

e) **Cost of Preparation of Report**

Author	200.16
Drafting	100.08
Typing	50.04

f) **Other:**
Contractor

Total Cost $11,140.34

UNIT COSTS

Unit Costs for	**Geology**	
No. of Days -	20 mandays	
No. of Units -		
Unit Costs -	321.81 / manday	
Total cost	20 X 321.81	$6,436.21
Unit Costs for	**Geochem**	
No. of Days -		
No. of Units -	78 Samples	
Unit Costs -	60.31 / Sample	
Total Cost -	78 X 60.31	$4,704.13
Total Cost		$11,140.34

NORANDA EXPLORATION COMPANY, LIMITED

DETAILS OF ANALYSES COSTS

PROJECT: Klehini River

Element	No. of Determinations	Cost per Determination	Total
Cu	87	1.43	124.80
Zn	87	.54	46.80
Pb	87	.54	46.80
Mo	87	.54	46.80
Ag	87	.54	46.80
As	87	1.34	117.00
Ag	87	3.14	273.00
		TOTAL	$1,232.40

APPENDIX D

ANALYTICAL PROCEDURES

ANALYTICAL PROCEDURES

Stream Sediments and Soils:

The samples are first dried in a drying cabinet for a period of 24 to 48 hours. They are then screened and sifted to obtain a -80 mesh fraction.

To determine the amount of total extractable As, Ag, Cu, Zn, Pb, and Mo in each a sample, the following procedure is employed:

A small amount of -80 mesh material, 0.200 grams, is digested in 2 ml of $HClO_5$ and 0.5 ml HNO_3 for approximately four hours. Following digestion, each sample is diluted to 5 ml with demineralized H_2O. A Varian Techtron Model AA-5 atomic absorption spectrophotometer is used to ascertain the content, in parts per million, of each element.

To determine the amount of total extractable Au in each sample, the following procedure is employed:

Ten grams of the -80 mesh material (or less, if 10 grams not available) is roasted at 580 degrees C for 1.5 hours and then digested with aqua regia. Au is ascertained by diluting this solution to 200 ml with demineralized H_2O and extracting the Au with 10 ml of MIBK. An aliquot of this solution is then read on a Varian Techtron Model AA-5 atomic absorption spectrophotometer and a value in ppb is obtained. (Note that with the panned concentrates, the entire concentrate is digested.)

Rocks:

Rocks were shipped to the commercial labs of either Bondarr Clegg Co., Ltd., 130 Pemberton Avenue, North Vancouver, B.C. or Rossbacher Laboratory Ltd., 2225 S. Springer Avenue, Burnaby, B.C. Here, they crushed and pulverized to obtain a -100 mesh fraction. The total extractable As, Ag, Cu, Zn, Pb, and Mo for each sample is determined by digesting the sample in HCl and HNO_3 and analyzing on an atomic absorption spectrophotometer. Au is determined by digesting with regia and analysis by fire assay at Bondarr Clegg and atomic absorption spectrometer at Rossbacher Labs.

APPENDIX E

GEOCHEMICAL RESULTS

NORANDA GEOCHEM LABORATORY

LOCATION KLEHINE PROJECT 76 COLLECTOR MS DATE RECEIVED SEPT / 4 / 84 CODE 84-07-023 SHEET

MATERIAL SOIL - SILT DATE ANALYSED SEPT / 18 / 84 ANALYST RF

REMARKS

SAMPLE NO.		ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppm Mo	ppm As	ppb Au						
71912		24	46	2	0.2	< 2	< 2	10						
3		34	60	2	0.2	< 2	< 2	10						
4		44	56	2	0.2	< 2	< 2	10						
45917		36	94	2	0.2	< 2	< 2	10						
8		20	80	2	0.2	< 2	< 2	10						
9		18	78	2	0.2	2	< 2	10						
45920		28	80	2	0.2	< 2	2	10						
1		28	82	2	0.2	< 2	< 2	10						
2		24	84	2	0.2	< 2	< 2	10						
3		22	76	2	0.2	< 2	6	10						
4		20	76	2	0.2	< 2	2	10						
5		20	80	2	0.2	< 2	< 2	10						
45926		20	62	2	0.2	< 2	4	10						
45927		30	54	2	0.2	< 2	2	10						
45930		32	60	2	0.2	< 2	< 2	10						
35808		6	52	2	0.2	< 2	< 2	10						
9		2	24	2	0.2	< 2	< 2	10						
35810		4	22	2	0.2	< 2	< 2	10						
1		6	28	2	0.2	< 2	< 2	10						
2		4	20	2	0.2	< 2	< 2	10						
3		20	56	2	0.2	< 2	< 2	10						
35814		14	38	2	0.2	< 2	< 2	10						
35815		60	140	8	0.2	2	< 2	10						

NORANDA GEOCHEM LABORATORY

LOCATION Elephant Cr. PROJECT 76 COLLECTOR MS DATE RECEIVED Aug / 23 / 84 CODE 2402-139 SHEET

MATERIAL Silt DATE ANALYSED Aug / 31 / 84 ANALYST EJ

REMARKS Cu Zn Pb Ag, Mo As in ppm. Au in ppb.

T.T. NO.	SAMPLE NO.		ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppm Mo	ppm As				ppb Au			
1	35806		20	58	2	0.2	< 2	< 2				10			
2	45917		26	96	2	0.2	2	< 2				10			

E-2

E-2

NORANDA GEOCHEM LABORATORY

LOCATION Kl. 1142P/10 PROJECT 76 COLLECTOR MS. DATE RECEIVED / / CODE 8409-048 SHEET 1

MATERIAL PAN. (ACTIVE SAMPLES ANALYSED.) RST 11479 DATE ANALYSED Sept / 27 / 84 ANALYST

REMARKS Au in PPB Cu Zn Pb Ag in PPM.

1.0 ml Alig taken from Aqua-Regia

T.T. NO.	SAMPLE NO.		SAMPLE WT.(g)		ppb Au		ppm Cu	ppm Zn	ppm Pb	ppm Ag.					
	45941		69.2		56 000		400	370	550	8.2					
	42		112		1800		320	250	300	1.4					
	43		28.7		80		30	86	10	0.2					
	44		30.2		20		230	170	150	0.6					
	45		71.7		5800		58	42	2	0.2					
	45946		109		5300		92	40	2	0.2					

E-3

5/2/84

E3

Bondar Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R3
Phone: (604) 985-0681
Telex: 04-352667

BONDAR CLEGG

Geochemical Lab Report

KLEHINE P.S.

REPORT: 124-2823

PROJECT: 76 0409-023 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Ag PPM	As PPM	Au PPB	NOTES
R 35816		375	4	78	4	0.8	6	<5	
R 35817		173	4	113	2	<0.2	3	5	
R 35818		44	4	32	1	<0.2	3	<5	
R 35819		31	10	33	1	<0.2	3	<5	
R 35820		12	2	13	2	<0.2	3	5	
R 35821		102	2	68	1	<0.2	3	<5	
R 35822		80	<2	71	2	<0.2	3	<5	
R 35823		51	<2	51	2	<0.2	3	<5	
R 35824		98	3	45	1	<0.2	3	<5	
R 45899		80	<2	65	2	<0.2	3	<5	
R 45900		48	<2	95	2	<0.2	3	10	
R 45928		105	9	425	54	0.8	3	<5	
R 45931		63	2	46	2	0.2	3	<5	
R 45932		60	3	52	3	0.2	13	<5	
R 45933		54	2	21	5	0.4	3	<5	
R 45935		62	4	71	3	<0.2	3	<5	
R 45936		59	7	28	5	<0.2	3	<5	
R 45937		57	2	28	1	<0.2	3	<5	
R 45938		58	4	28	1	<0.2	3	<5	
R 45939		57	3	51	1	<0.2	3	<5	
R 45940		1180	5	40	1	0.7	3	<5	
R 45948		26	2	51	1	<0.2	3	<5	
R 45949		25	2	62	2	<0.2	3	<5	
R 72140		11	223	4960	6	1.6	240	45	
R 72142		56	123	99	7	0.4	205	40	

[illegible]
[illegible]
North Vancouver, B.C.
Canada [illegible]
Phone: (604) 983-0581
Telex: 04-352667

BONDAR CLEGG

Certificate of Analysis

KLEHINI Ag.

REPORT: 424-2823

PROJECT: 76 8409-023 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au GMT	Ag GMT	NOTES
R 45894		<0.07	0.7	
R 45895		0.99	3.1	
R 45896		0.07	1.0	
R 45898		<0.07	0.7	
R 45934		<0.07	0.7	
R 72141		<0.07	0.7	

E-5

Registered Assayer, Province of British Col[illegible]

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

TO : NORANDA EXPLORATION LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

PROJECT No. : 76 8408-089 KLEHINE CR.

CERTIFICATE No. : 84358 - 1
INVOICE No. : 4383
DATE ANALYSED : AUGUST 30,1984
FILE NAME : NOR358

PREFIX	SAMPLE NAME	PPM Mo	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	PPM As
A	45858	1	212	1.2	256	250	10	2
A	45860	1	8	0.4	56	36	10	2
A	45861	2	62	0.4	78	42	10	2
A	45863	1	4400	0.6	324	8	10	2
A	45864	5	10800	21.2	1140	6	100	2
A	45865	450	136	0.6	46	8	10	2
A	45866	6	11400	21.0	178	4	300	2
A	45867	1	6600	10.0	196	48	110	2
A	45884	1	156	0.6	94	6	10	2
A	45885	1	58	0.2	64	6	10	2
A	45886	1	136	0.6	54	8	10	2
A	45887	1	124	0.8	66	56	10	20
A	45889	1	10	0.4	12	6	110	2
A	45890	1	26	0.4	50	4	10	2
A	45891	1	4	0.2	20	2	10	2
A	45892	1	6	0.6	12	2	180	88
A	45918	1	110	1.0	520	2	10	80
A	45919	1	10	0.2	40	2	10	4
A	45920	1	26	0.2	32	4	10	6
A	71911	1	70	0.2	20	2	10	2

CERTIFIED BY : J. Rossbach

5/9/84

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

TO : NORANDA EXPLORATION LTD.
1050 DAVIE STREET
VANCOUVER, B.C.
PROJECT No. : 76 8408-87

CERTIFICATE No. : 84258.A - 1
INVOICE No. : 4387
DATE ANALYSED : SEP. 6, 1984
FILE NAME : NOR358.A

PREFIX	SAMPLE NAME	oz/t Au	oz/t Ag	% Cu	% Co	g/T Au	g/T Ag
A	35807	0.001	0.14	0.38	0.08	0.010	4.8
A	45859	0.001	0.02			0.010	0.7
A	45862	0.001	0.02			0.010	0.7
A	45888	0.007	0.04			0.240	1.4
A	45893	0.020	0.02			0.685	0.7

CERTIFIED BY : J. Rossbacher

APPENDIX F

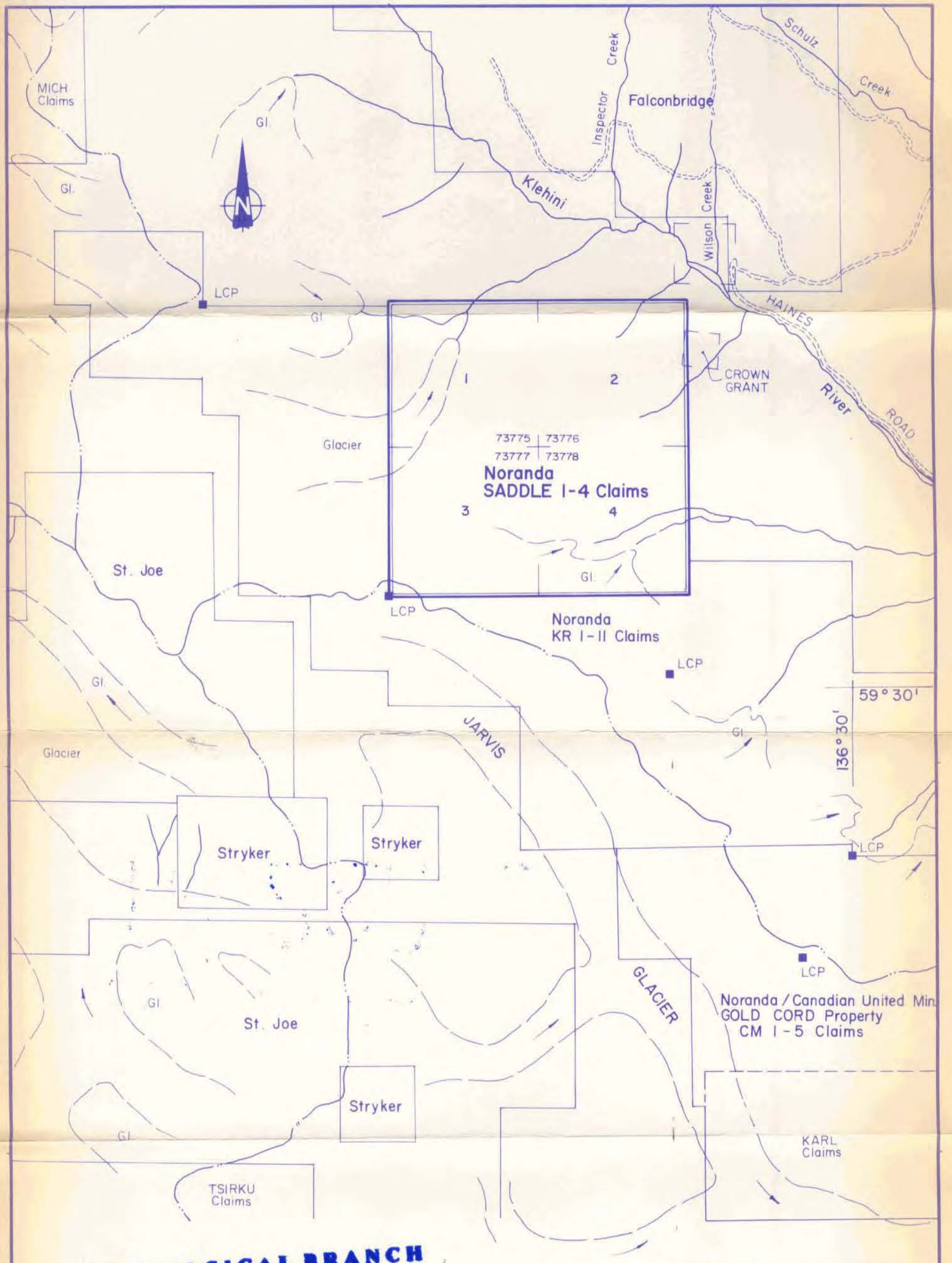
ROCK SAMPLE DESCRIPTIONS

ROCK SAMPLE DESCRIPTIONS

SAMPLE #	TYPE	WIDTH	DESCRIPTION
35807	float	-	Grey-green, very fine calc-silicates with about 10% pyrrhotite, 10% pyrite, minor chalcopyrite ½ m diameter boulder on medial moraine
35816	float	-	Chloritic basalt - with 2-3% pyrite, minor pyrrhotite, strongly oxidized
35820	chip	0.3 m	Quartz vein-in volcanic, minor pyrite. 2m long exposure at 020°/63°W
45858	grab	-	Hornfels-siliceous, with 1% dissem. pyrite
45859	chip	3 m	Vuggy quartz vein - minor pyrite at 130°/60° NE
45860	chip	1 m	From same vein as 45859, 100 to southeast
45861	chip	2 m	Rusty, siliceous zone in biotite schist, minor pyrite
45862	chip	1.5 m	Quartz vein - with minor malachite stain, thin chlorite ribbons
45863	chip	2 m	Biotite schist - with malachite stained fractures, rubbly "subcrop"
45864	chip	2.5 m	Similar to 45863, more malachite, minor chalcopyrite
45865	float	-	Fine, chalky white quartz - with minor dissem. molybdenite
45866	float	-	Pale grey, banded siltstone - with about 2% pyrite in laminations, malachite staining
45867	float	-	Dark green, siliceous calc-silicate skarn - with 3% pyrite, minor chalcopyrite in clots and fractures
45884	grab	-	Diorite - with mafic zenoliths, minor epidote stringers, 1-2% pyrite, 5-6% pyrrhotite
45885	chip	3 m	Silica pod - chlorite rich, 10% pyrite, 10m x 3m at 020°/31°E
45887	grab	-	Diorite-brecciated texture, chloritic alteration, 1-2% pyrite, slightly magnetic
45888	grab	-	Quartz vein - with massive to dissem. pyrite and arsenopyrite, up to ½m wide, at least 300m strike, at 114°/78°N
45889	chip	5 m	Quartz vein - taken along same vein as 45888
45890	grab	-	Diorite - brecciated texture, magnetic, minor pyrite, chlorite laths prominent
45891	grab	-	Quartz-carbonate vein - minor pyrite, chlorite rich
45892	chip	0.3 m	Quartz vein - oily lustre on fractures, clean contact to diorite host, at 115°/40°W

SAMPLE #	TYPE	WIDTH	DESCRIPTION
45893	float	-	Quartz vein - minor dissem. pyrite, vein visible 100 m above in cliff
45894	chip	0.5 m	Quartz vein - minor dissem. pyrite, chlorite
45895	chip	0.5 m	Quartz vein - minor malachite, pyrite, sheared chlorite margins, sample taken along vein at $062^{\circ}/67^{\circ}S$
45896	chip	0.3 m	Quartz vein - minor pyrite, at $152^{\circ}/90^{\circ}$
45898	grab	-	Quartz vein - minor pyrite, chalcopyrite, poor exposure, at $160^{\circ}/90^{\circ}$
45899	grab	-	Diorite - with 2% pyrite and pyrrhotite, disseminated and along fractures
45900	float	-	Diorite - brecciated, with pyrite veinlets up to ½ cm wide
45918	grab	-	Greenstone - chloritic, with minor rusty weathered pyrite
45919	grab	-	Sheared skarn(?) - green, siliceous, rusty weathered
45920	grab	-	As above
45928	grab	-	Shale - strongly foliated, with variable altitudes, 2-3% pyrite
45933	grab	-	Altered basalt - chlorite rich, up to 4% dissem. pyrite
45934	grab	-	Calc-silicate skarn - laminated, with 2% dissem. pyrite
45936	grab	-	Calc-silicate skarn - silicified, minor pyrite
45940	grab	-	Greenstone - narrow rusty zone, with minor pyrite, calcite
71911	grab	-	Skarn - green to white, minor garnets, amphibole, yellow-brown weathering
72140	chip	1 m	Rhyolite - white to blue-grey, very siliceous, dissem. pyrite
72141	chip	½ m	Quartz vein - cuts above rock, pyritic
72142	chip	1 m	Skarn - calc-silicates, green, with minor magnetite, pyrrhotite, adjacent to basaltic dyke

VANCAL 11926



GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,222

REVISED	KLEHINI RIVER PROPERTY
	SADDLE 1-4 Claims
	Claim Sketch
PROJ. No. 76	SURVEY BY: _____ DATE: FEB 85
N.T.S. 114P7/10	DRAWN BY: AI SCALE: 1:50,000
DWG. No.	**NORANDA EXPLORATION**
	OFFICE: Whitehorse

P14

Noranda SADDLE Claims
To Haines Junction
109 Km.
To Haines
44 Km.
Klehini River
Haines Road
136°35'
59°32'
Ice Front 1984
SADDLE 1
SADDLE 3
SADDLE 2
SADDLE 4
Legend
TERTIARY
7 a Light grey to pink, medium-grained, equigranular
7 b Quartz-feldspar-biotite porphyry
7 c Feldspar porphyry
DIORITE (possibly older)
6 a Fine-medium grained, equigranular, hornblende diorite
6 b As in 6 a, with abundant, large mafic xenoliths
6 c Shows a well developed gneissic or migmatitic texture
6 d Fine, gabbroic dyke
UPPER PALEOZOIC
5 Biotite schist and hornfels - rusty brown weathering, schistose, sometimes coarse grained and amphibolitic
4 Shale and Argillite - black, slaty, occasionally laminated or cherty, graphitic
VOLCANICS
3 a Olive green, massive, schistose chlorite
3 b Black, massive, pyritic basalt
3 c Breccia composed of coarse, angular
3 d Buff weathered
3 e Pale grey, siliceous, pyritic rhyolite
LIMESTONE
2 a Grey to cream coloured
2 b Grey to black, finely laminated
2 c Grey limestone breccia
2 d Weakly skarned, well banded
2 e Diopside-tremolite-skarn
SANDSTONE or QUARTZITE
1 Light buff coloured, schistose to silty
Symbols
Bedding or vein attitude
Schistosity
Limit of outcrop
Contact, defined
Contact, assumed
Fault
SAMPLE LOCATION & NO.
Rock
Silt
Pan concentrate
Talus Fine
Soil
Qv Quartz vein
GEOLOGICAL BRANCH
ASSESSMENT REPORT
14,222
Scale 1:5000
400 meters
Fig. : 3
REVISED
KLEHINI RIVER (SADDLE Claims)
Geology and
Sample Locations
PROJ. No. 76
N.T.S. 114 P 10
DWG. No.
SURVEY BY MS, MW, SA, CA
DRAWN BY AI
DATE AUG 84
SCALE 1 : 5 000
NORANDA EXPLORATION
OFFICE Whitehorse