

REPORT ON
AIRBORNE GEOPHYSICAL SURVEY
On The
BM 1,2,3,4,5,6,7,8 and Nook 1 and Nook 2
MINERAL CLAIMS
And Adjacent Area
NEWHYKULSTON CREEK AREA
51°18'N 120°05'W

J.T. Walker
NORANDA EXPLORATION COMPANY, LIMITED
KAMLOOPS MINING DIVISION

May 17 - May 19, 1979

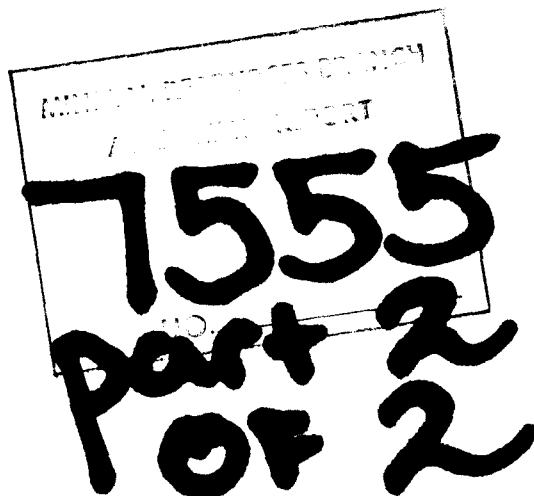


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	2 - B 1:10,000	" " " "

INTRODUCTION

The airborne magnetometer and VLF-EM survey was flown over the BM 1 - 8 mineral claims and adjacent area for a total of approximately 20 square kilometers. The index map Figure A shows the location of the survey area, located due north of Barriere, British Columbia, a distance of 14 kilometers.

The airborne geophysical survey was flown during the period May 17-19, 1979, utilizing a Bell 206B helicopter owned by Highland Helicopters and based at Kamloops, British Columbia.

Twenty lines were flown for a total of 85 kilometers. Flight lines 1 - 5 were flown in a north-south direction, and lines 6 - 20 were flown in an east - west direction.

SURVEY PERSONNEL

Pilot: J. Franklin
Navigator: L. Reinertson
Operator: J.T. Walker
Data Reduction: T. Walker, L. Bradish
Drafting: L. Bradish

All personnel are Noranda Exploration Company, Limited employees except J. Franklin of Highland Helicopters.

SURVEY PROCEDURE

A 1:50,000 scale National Topographic Series contour map was used on a base map for the survey. Flight lines and topographically located control points were plotted prior to flying the survey. During the course of the survey, flight line corrections were recorded and re-plotted by the navigator. All in flight conversations and comments by the pilot, navigator and operator were recorded on magnetic tape.

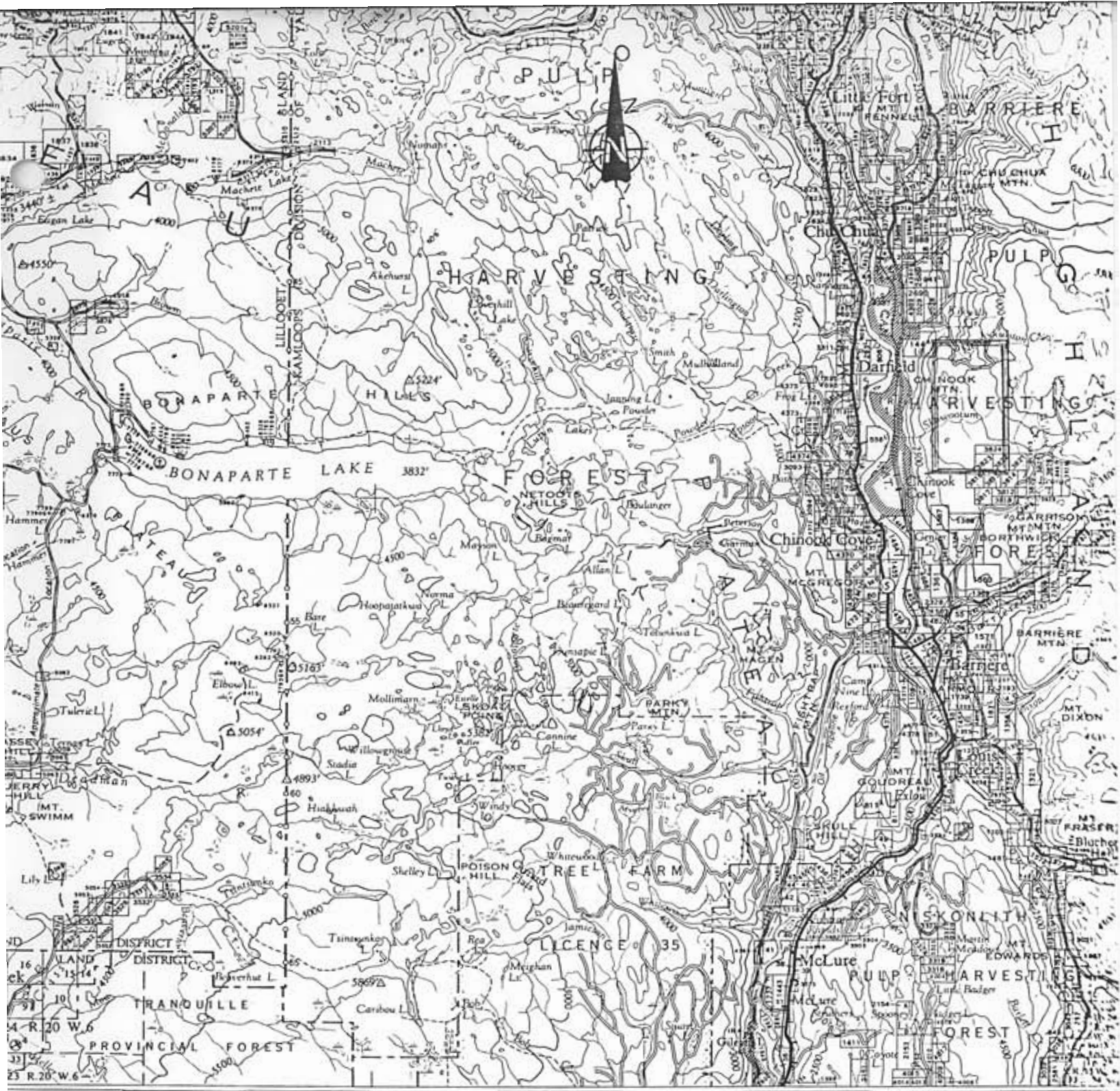
A helicopter air speed of 60 m.p.h. was maintained with a terrain clearance of 60 meters.

INSTRUMENTATION

The following equipment was utilized for measurement and recording of data during the survey.

a) Proton Magnetometer

The magnetometer was manufactured by Sabre Electronic Instruments Ltd., Burnaby, B.C. The total magnetic field was measured using a 1.2 second cycle period. The magnetometer detector coil was installed in a fibreglass "bird" towed 50 feet below the helicopter.



INDEX MAP
 Showing the Location of
 AIRBORNE GEOPHYSICAL SURVEY
 and General Location of
 BM 1 - 8 and Nook 1 and 2 Mineral Claims
 NEWHYKULSTON CREEK AREA, B.C.
 Noranda Exploration Company, Limited

Figure A

J. J. Walker

Kamloops Mining Division
 August 15 1979

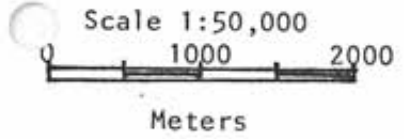
Scale 1:250,000
 0 5 10
 kilometers



Figure B

OUTLINE
 Showing Area Of Airborne Geophysical Survey
 NEWHYKULSTON CREEK AREA, B.C.
 Noranda Exploration Company, Limited

J. J. Walker
 Kamloops Mining Division
 August 15 1979



b) Airborne VLF-EM

The VLF-EM receiver and detecting coil assemblies were manufactured by Sabre Electronic Instruments Ltd., Burnaby, B.C.

The amplitude of the horizontal component of the electromagnetic field is measured by the detector coil assemblies mounted in the fibreglass bird. During this survey, the electromagnetic fields produced by the VLF Transmitter near Seattle, Washington and Annapolis, Maryland were measured simultaneously at frequencies of 18.6 kilohertz and 21.4 kilohertz respectively. The amplitudes are measured continuously and displayed as relative field strength measurements. An analog output is provided for recording the field strength at each frequency.

c) Recording System

The recording system consists of a Frequency Modulator and stereo cassette tape recorder.

The analog outputs of the magnetometer and electromagnetic receivers are connected to three frequency varying audio signals by the modulator and recorded on the "left" channel of the stereo cassette tape recorder. All in-flight conversation and flight line information is simultaneously recorded on the "right" channel. Flight line control points are recorded as a 1,000 Hz Tone burst, operated by the navigator, to correlate recorded data and flight line location.

d) Playback System

The retrieval system consists of a frequency demodulator, stereo cassette tape player, and strip chart recorder. The frequency modulator and demodulator were manufactured by Sabre Electronic Instruments Ltd., the cassette tape recorders were manufactured by Sony Model TC 124C, and the chart recorder was manufactured by M.F.E., Model M-26 CA. HA.

Tape playback reproduces the original analog data as continuous profiles on the multi-pen strip chart recorder. The playback is in real time and all voice information and control point locations are written on the chart during playback.

DATA REDUCTION AND PRESENTATION

The magnetometer and VLF-EM survey data are presented on plan maps at a scale of 1:10,000 prepared by enlarging the original topographic map (1:50,000) showing the corrected flight lines. Newhykulston Creek and a bend in the Thompson River are shown to enable correlation with the 1:50,000 topographic map on which the survey area is outlined. Figure B.

a) Aeromagnetic Data

The results of the magnetometer survey are plotted in contour form showing the total magnetic field above a datum of 57,200 gammas. The contour interval is 100 gammas.

b) VLF-EM Data

The VLF-EM horizontal component field strength anomalies are indicated on the flight line plan maps using rectangular and triangular symbols. The symbol width represents the width of the anomaly at the half height as depicted on the chart profiles. The included number represents the percentage increase of the relative field strength. The triangular symbol indicates the anomalous field strengths from Transmitter-Seattle and the rectangular symbol indicates anomalous field strengths from Transmitter-Annopolis.

DISCUSSION OF RESULTS

a) Aeromagnetic Survey

Results of the aeromagnetic survey shows the total magnetic field to range between 800 gammas and 1,000 gammas above the total field datum of 57,200 gammas. A 100 gamma increase in background is evident in the north and corner of the survey area.

A narrow magnetic "high" of 200 gammas extends from line 13 to 16 crossing Skowotoom Creek near the western boundary of the survey area.

A second small "high" (200 gammas) is indicated on line 19 approximately 150 meters west of control point 51.

b) Airborne VLF-EM Survey

Results of the Airborne VLF-EM survey indicate eight modest anomalies, all but one anomaly on the east - west lines.

Three of the anomalies show a response from both Seattle and Annopolis transmitter fields.

The anomalies on flight lines 9 and 11 are on strike and south of a reported shear containing a narrow sulfide showing.

Cause of the weak anomalies trending south-east between flight lines 16 and 20 is unknown.

The anomaly on flight line 6 is located on the west flank of a 50 gamma magnetic "low".

The intensity of the VLF-EM field strength anomalies is weak to moderate suggesting further investigation of these anomalous areas to be unwarranted.

August 15, 1979



J.T. Walker

APPENDIX I
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, James T. Walker of the City of Vancouver, Province of British Columbia do certify that:

1. I have been an employee of Noranda Exploration Company, Limited since May, 1958.
2. I have held the position of Geophysicist for Noranda Exploration Company, Limited, British Columbia since June, 1965.
3. I am a member of the Canadian Institute of Mining and Metallurgy.
4. I am a member of the Canadian Exploration Geophysical Society.
5. I am a member of the British Columbia Geophysical Society.



J. T. Walker
Geophysicist
Noranda Exploration Company, Limited

APPENDIX II
STATEMENT OF COST

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT Newhykulston - Fennell Option DATE July 1979
TYPE OF REPORT Combined Geology, Geophysics and Geochem

a) Wages:

No. of Days 238
Rate per Day \$ 73,228655
Dates: from Nov. 28, 1978 to June 30, 1979
Total Wages 238 x \$ 73,227655 17,428.42

b) Food and Accomodation:

No of days 238
Rate per day \$ 17.316302
Dates: from Nov. 28, 1978 to June 30, 1979
Total Cost 238 x \$ 17.316302 4,121.28

c) Transportation:

No of days 238
Rate per day \$ 9.6663865
Dates: from Nov. 20, 1978 to June 30, 1979
Total Cost 238 x \$ 9.6663865 2,300.60

d) Instrument Rental:

Type of Instrument EM
No of days 28
Rate per day \$ 8.00
Dates: from Nov. 20, 1978 to June 30, 1979
Total Cost 28 x \$ 8.00 224.00

Type of Instrument Mag
No of days 7
Rate per day \$ 5.00
Dates: from Nov. 20, 1978 to June 30, 1979
Total Cost 7 X \$ 5.00 35.00

Type of System Airborne
No. of days 20
Rate per day \$35.00
Total Cost 20 x 35.00 700.00

f) Analysis (See attached schedule)		3,016.30
g) Cost of preparation of Report		
Author 7 MD	737.44	
Drafting 9	1,523.80	
Typing 4 @ 100	400.00	2,661.24
h) Other:		
B.C. Tel	107.07	
Supervision: R.C. Heim PhD, P.Eng. 44 days @ 226	9,944.00	10,051.07

Total Cost

40,537.91

e) Unit costs for Geology

No of days 94 Dates: from Nov. 20. 1978 to June 30, 1979

No of units 94 MD

Unit costs \$153.2057 / MD

Total Cost 94 x \$153.2057

N.A. at this time

14,401.34

Unit Cost for EM Survey

No. of Units 48 Km.

Unit Costs \$94.6222/Km.

Total Cost 48 x \$94,6222

4,541.87

Unit Cost for Mag Survey

No. of units 40.3 Km.

Unit Cost \$30.6441/Km

Total Cost 40.3 x \$30.6441

1,234.96

Unit Cost for	Airborne Survey	
No. of Units	85.4 Km.	
Unit Cost	48.68138 / Km.	
Total Cost	85.4 x \$48.68138	\$ 4,157.39

Unit Cost for	Geochem Survey	
No. of Units	1021 Samples	
Unit Costs	\$7.420195 / Sample	
Total Cost	1021 x \$7.420195	7,576.02

Unit Cost for	Line Preparation	
No. of Units	53.9 Km.	
Unit Costs	\$160.0432 / Km.	
Total Cost	53.9 x \$160.0432	<u>8,626.33</u>
		<u>\$40,537.91</u>

NORANDA EXPLORATION COMPANY, LIMITED
(WESTERN DIVISION)

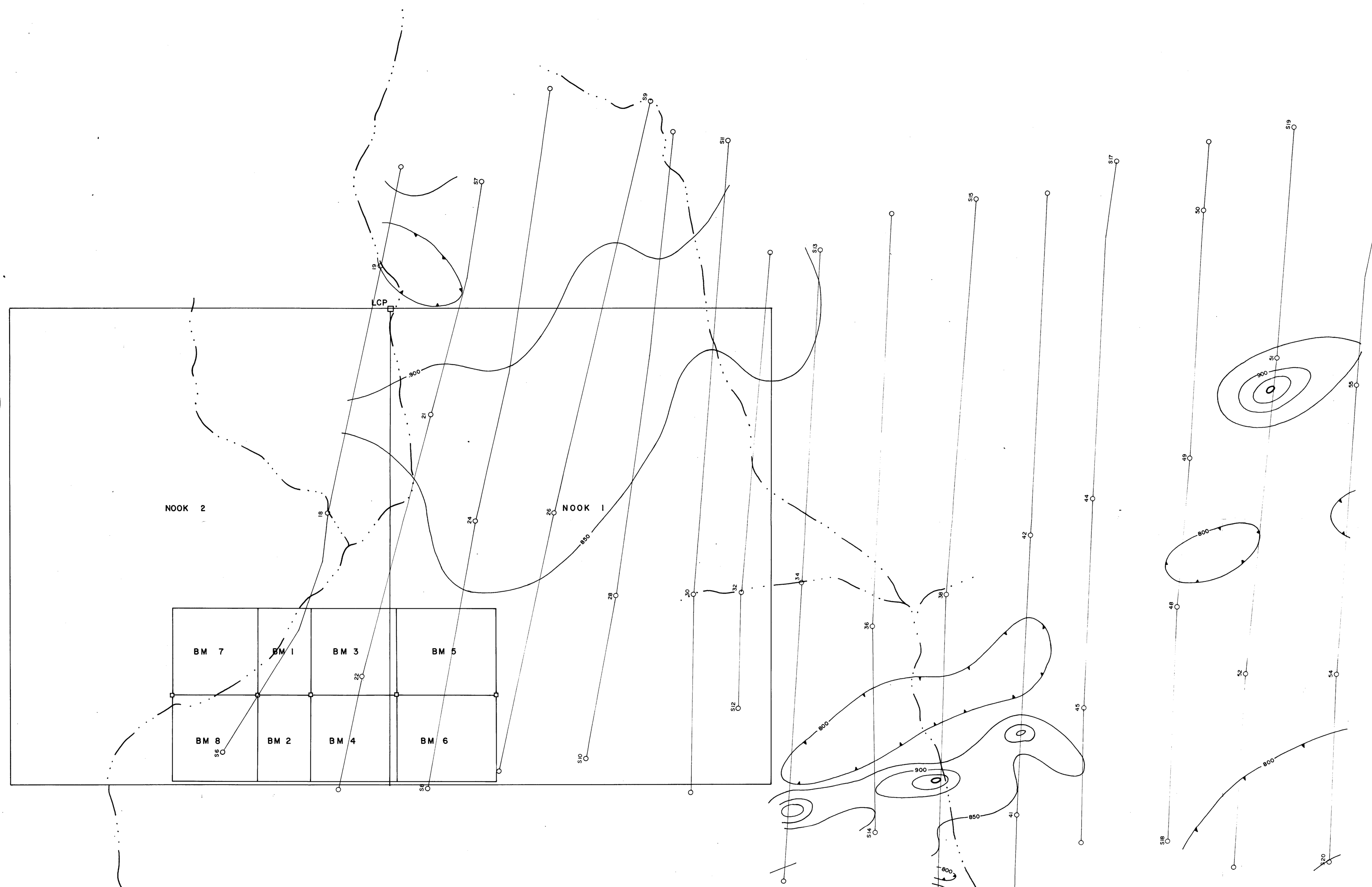
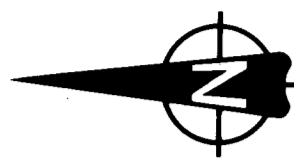
DETAILS OF ANALYSES COSTS

PROJECT: Newhykulston - Fennell Option

July 1979

<u>ELEMENT</u>	<u>NO. OF DETERMINATIONS</u>	<u>COST PER DETERMINATION</u>	<u>TOTAL</u>
Cu	1021	1.00	1,021.00
Zn	1021	.60	612.60
Pb	1021	.60	612.60
Mo	1021	.60	612.60
Au	11	2.50	27.50
Assays			
Au	7	8.50	59.50
Ag			
Cu	7	4.50	31.50
Mo	1	6.00	6.00
Pb	6	5.50	33.00

3,016.30



NEWHYKULSTON CK.

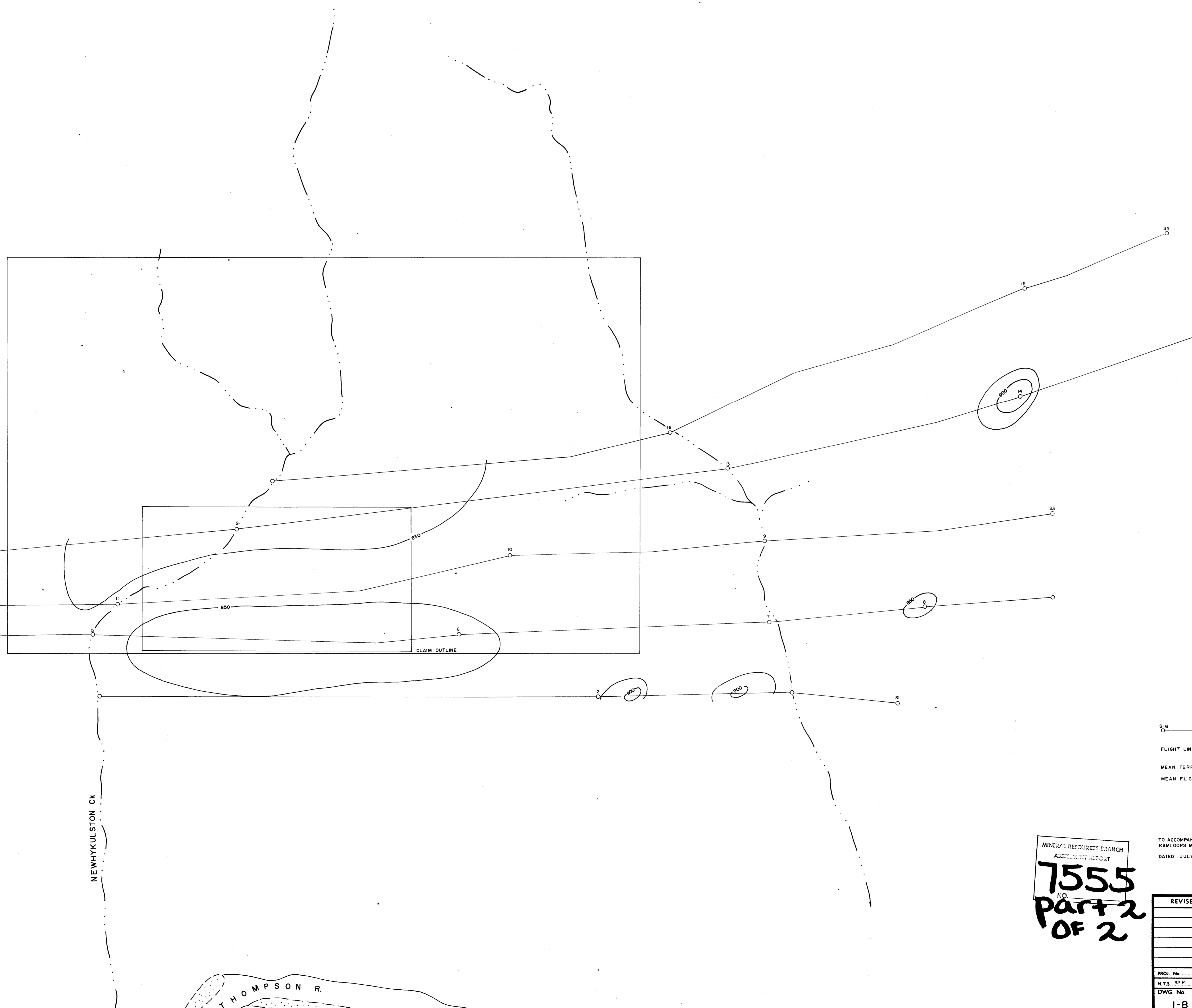
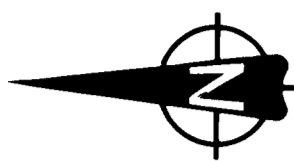
THOMPSON R.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7555
Part 2
OF 2

516 41 — FLIGHT LINE NUMBER, FLIGHT LINE AND NUMBERED CONTROL POINT.
FLIGHT LINE DIRECTION: ODD NUMBERED LINES FLOWN NORTH AND WEST
EVEN NUMBERED LINES FLOWN SOUTH AND EAST
MEAN TERRAIN CLEARANCE (HELICOPTER) 60 METERS
MEAN FLIGHT LINE SPACING 400 METERS

TO ACCOMPANY AIRBORNE GEOPHYSICAL REPORT ON THE BM1-8, NOOK 2 M.C.
KAMLOOPS M.D. BC. BY J.T. MILNER
DATED: JULY 1979 August 15 1979 J.J. Walker

REVISED	NEWHYKULSTON CK.	
	AIRBORNE MAGNETOMETER SURVEY	
	TOTAL FIELD DATUM: 57200'	
	CONTOUR INTERVAL: 50'	
PROJ. No.	SURVEY BY: T.W., L.R., L.B.	DATE: MAY 1979
N.T.S. 32 P.	DRAWN BY: L. BRADISH	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
I-A	OFFICE: VANCOUVER, B.C.	

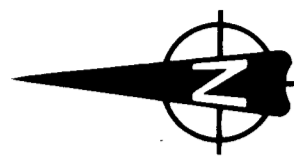


516 — 41 — FLIGHT LINE NUMBER, FLIGHT LINE AND NUMBERED CONTROL POINT
 FLIGHT LINE DIRECTION: ODD NUMBERED LINES FLOW NORTH AND WEST
 EVEN NUMBERED LINES FLOW SOUTH AND EAST
 MEAN TERRAIN CLEARANCE (HELICOPTER): 60 METERS
 MEAN FLIGHT LINE SPACING: 400 METERS

TO ACCOMPANY AIRBORNE GEOPHYSICAL REPORT ON THE BM 1-B, NOOK 1, 2 M.C.,
 KAMLOOPS M.D. B.C. BY J.T. WALKER.
 DATED: JULY 1979 *August 15 1979*
J.J. Walker

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
7555
 Part 2
 OF 2

REVISED	NEWHYKULSTON CK.	
	AIRBORNE MAGNETOMETER SURVEY	
	TOTAL FIELD DATUM: 57,200 f	
	CONTOUR INTERVAL: 50 f	
PROJ. No.	SURVEY BY: T.W., L.R., L.B.	DATE: MAY 1979
N.T.S. 32 P.	DRAWN BY: L. BRADSHAW	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
I-B	OFFICE: VANCOUVER, B.C.	



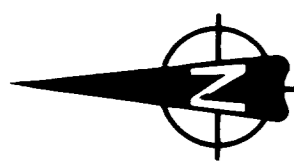
S16 41 FLIGHT LINE NUMBER, FLIGHT LINE AND NUMBERED CONTROL POINT
 FLIGHT LINE DIRECTION : ODD NUMBERED LINES FLOWN NORTH AND WEST
 EVEN NUMBERED LINES FLOWN SOUTH AND EAST
 MEAN TERRAIN CLEARANCE (HELICOPTER) : 60 METERS
 MEAN FLIGHT LINE SPACING : 400 METERS

TO ACCOMPANY AIRBORNE GEOPHYSICAL REPORT ON THE BM 1-8, NOOK 12
 M.C. KAMLOOPS M.D., B.C. BY J.T. WALKER
 DATED JULY 1979 *August 15 1979*

Tx - Seattle 1/4 Increase of Field Strength
 Tx - Annapolis

MINERAL RESOURCES BRANCH
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7555
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REVISED	NEWHYKULSTON CK.	
	AIRBORNE VLF-EM SURVEY	
	HORIZONTAL FIELD STRENGTH ANOMALIES	
PROJ. No.	SURVEY BY: T.W., L.R., L.B.	DATE: MAY 1979
N.T.S. 50 P.	DRAWN BY: L. BRADISH	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
2-A	OFFICE: VANCOUVER, B.C.	



S 16 41 FLIGHT LINE NUMBER, FLIGHT LINE AND NUMBERED CONTROL POINT
 FLIGHT LINE DIRECTION: ODD NUMBERED LINES FLOWN NORTH AND WEST
 EVEN NUMBERED LINES FLOWN SOUTH AND EAST
 MEAN TERRAIN CLEARANCE (HELICOPTER): 60 METERS
 MEAN FLIGHT LINE SPACING: 400 METERS

TO ACCOMPANY AIRBORNE GEOPHYSICAL REPORT ON THE BMI-8, NODK 1, 2 M.C.
 KAMLOOPS M.D. B.C., BY J.T. WALKER
 DATED: JULY 1979 August 15 1979
J.T. Walker

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
7555
Part 2
OF 2

Tx - Seattle 1/4 increase of Field Strength
 Tx - Annapolis

REVISED	NEWHYKULSTON CK.	
	AIRBORNE VLF-EM SURVEY	
	HORIZONTAL FIELD STRENGTH ANOMALIES	
PROJ. No.	SURVEY BY: J.W., L.R., L.B.	DATE: MAY 1979
N.T.S. 32 P.	DRAWN BY: L. BRADSHAW	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
2-B	OFFICE: VANCOUVER, B.C.	