

3448

KENCO EXPLORATIONS, (WESTERN) LIMITED

Preliminary Geological and Geochemical

Report

on

Lime Claims, Alice Arm, B.C.

Situated on Mowhawk Mountain between Silurian
Chieftain and British Columbia Molybdenum Ltd.

Skeena Mining Division
British Columbia

55°26'N; 128°29'W

103 P / 6 A

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3448 MAP.....

By

Charles S. Ney, P. Eng.

November 23, 1971

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KENNCO EXPLORATIONS, (WESTERN) LIMITED

Preliminary Geological and Geochemical Report

Lime Claims, Alice Arm, B.C.

INTRODUCTION

The Lime Claims were located on Mohawk Mountain to cover ground between the properties of Sileurian Chieftain and British Columbia Molybdenum. Air photographs show that the structure of the bedded formations in this area is rather anomalous. Some weak stream geochemical anomalies in molybdenum had previously been found, quartz veining was conspicuous in one area, and Dr. N. Carter of B.C. Department of Mines had indicated in part of the area a localized development of biotite hornfels.

Claims were located in November 1970 with the object of studying the area geologically and geochemically. A very preliminary sort of investigation was made in June 1971.

FIELD WORK

During May and June 1971 geologic traverses were made over part of the area by C.S. Ney and R. Sebastian. Concurrently a grid of rock chip samples was taken, and this was continued by R. Sebastian and S. Earle over all of the claim area. Nominally the rock samples were to be on 1000 foot centres but they were taken randomly where there were suitable exposures. At each site about 5 - 8 pounds of chips were obtained from fresh rock over an area of 100 square feet. Quartz veins were omitted from the sample and taken as a separate sample where desirable.

GEOLOGY

Some preliminary geological mapping was accomplished during the rock sampling program. Strike and dip observations and rock types are shown on the accompanying geological map, but no attempt has been made to divide the rocks into mappable units.

The entire claim group is underlain by sedimentary rock of Bowser Group or Hazelton Group age. The principal rock type is graywacke, in beds 1- 10 metres thick with grain size up to three millimeters. Pebble conglomerate with rounded clasts up to one cm. is recorded at one point. Dark fine-grained graywacke passes into argillite or slate which locally has been described by Woodcock as micrograywacke because of its lack of maturity. Bedding planes at one to 10 cm. intervals are common in this rock, and fine laminations of a few mm. are less common in rocks that may be described as siltstones.

Cleavage has generally been imparted on the rocks to a faintly detectable degree, but it is moderately well developed in the northeast and sometimes makes a considerable angle with bedding. Rarely graywacke is sufficiently sheared to be called augon schist and finer grained rocks have moderately well developed slaty cleavage.

Two types of dyke were noted. One crossing Lime Creek east of the claims is a fine grained felspathic andesite. The other at the head of Grapefruit Creek is a dark pyroxene-biotite porphyry, or possibly lamprophyre.

Rocks were examined for possible hydrothermal alteration effects. In most cases they show no such effects, but they are well indurated and greywackes always break across their contained quartz grains. Only at two localities was the rock classed with assurance as hornfels, and they are in the southwest corner of the group. The presence of quartz veining was noted at several localities.

Despite the bedded nature of the rocks, accurate attitudes on bedding are difficult to determine except in canyons. They do show a broad trend at about 100° with dips $30-60^\circ$ either north or south. Local swings to a northeasterly trend can be noted, and those south of Lime Creek suggest that there may be a northeast break along this section of the creek. No consistent change of attitude along the northwesterly airphoto lineament through the summit area of the mountain, although a sharp change is apparent from air photographs. Actually no ground features other than topography could be directly associated with this lineament.

Schistosity is developed predominantly in a direction slightly east of north, except along Grapefruit Creek, where a northwesterly trend is evident.

ANALYSES

The rock samples were shipped to Kennco's Laboratory in North Vancouver. After washing lightly to remove loose organic material, the samples were crushed and fine-ground in a ceramic plate Raymond pulverizer. Ten gram pulps were taken down with nitric acid and perchloric acid mixture and from this filtrate analyses were made by atomic absorption for Cu, Zn, Pb, Mo, Ni, Mn, and Hg. Pulps were sent to Bonder-Clegg to be analyzed for F, W, and As.

RESULTS

Very little useful information was obtained from the rock samples, the results being generally too low to make satisfactory contours in the case of all elements except Mn, Zn, and F.

Copper:

Values are very low with a most frequently recurring value of about 22 - 24 and few values above 45 which is a background in many areas. Contours are drawn at 2, 30, 45, 67 but the pattern may be quite random.

Cobalt:

Bears no systematic relation to nickel but a slight one toward copper. Values are contoured on the copper map at 10,14,20,30 ppm.

Molybdenum:

In all but one case, values reported as 1 ppm. The anomalous value was 4 ppm from a site on the SE corner of Lime 8.

Zinc:

Zinc values show appreciable variations, scarcely anomalous in comparison with field data elsewhere. By choosing contours at 50, 70, and 100 there is some semblance of pattern, shown together with that of lead. There is a faint resemblance between Mn and Zn.

Lead:

Values are low at a background of about 11 ppm. Three sites only give values above 30 ppm. By drawing contours at 7, 10, 15, 22 and 30 ppm a pattern emerges which has little resemblance to any others.

Silver:

Silver values are nearly all about 1 ppm which is an instrumental value rather than a real background. A few anomalous sites are shown with Pb and Zn but data cannot be contoured. The low background was unexpected in an area where silver showings are rather common.

Arsenic:

Values for arsenic in rock samples range from 5 to 528 with a few selected samples running over 1000 ppm. Contouring appears rational using intervals of 20, 50, and 200. Comparison with other areas suggests that values over 20 are anomalous. Some northwest structural trend is suggested by the contours.

Fluorine:

Values, as reported by Bondar and Clegg are in the range of 100 - 600 ppm. Comparison with other areas indicates that values of 200-400 are not uncommon. So that we may not have a significant hydrothermally generated anomaly. Some northeasterly structure is suggested by the contours.

Tungsten:

In all but 11 sites, tungsten was less than 5 ppm and not determinable by Bondar and Clegg. The data are not contourable, but values of 5 and 8 ppm are shown on the map for arsenic and fluorine.

Manganese:

Values range from 250 to 2700 ppm with a mean of about 600. Contours at 300, 500, 1000, and 2000 ppm express the variations. The main obvious feature is a broad low on Lime 3, 5, 15, and 20 with a northwest trending high area southwest of it. Zinc is also shown with Mn for comparison.

Mercury:

Values are almost all 0.01 ppm except for 10 sites which are 0.05 - 0.08 ppm. Some contamination or instrumental error is suspected and the data cannot be contoured. Values which may be anomalous are spotted on the Mn-Zn map.

Nickel:

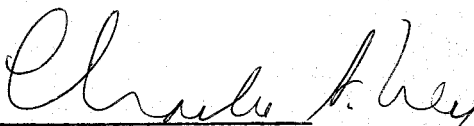
Values show a rather considerable range from 20 to 102 ppm but they are erratic and may be meaningless.

CONCLUSIONS

1. The Lime claims are underlain by slightly altered sedimentary rocks, mainly graywacke. Intrusive rocks are restricted to a few dykes, evidence of hydrothermal alteration is rare and local, and quartz veining is local.

2. The sedimentary rocks are folded to steep dips on east-west axes. A cleavage direction entirely incongruent with this folding has developed to varying degrees.

3. Rock geochemical patterns provide little real information that might lead to the discovery of mineralization. Only arsenic, zinc, manganese and possibly fluorine give significant patterns.


Charles S. Ney.

P. Long

November 23, 1971

TABLE OF ANALYTICAL RESULTS

Values in parts per million

	Cu	Co	Mo	Zn	Pb	Ag	Mn	Hg	As	F	W	Ni
3863	12	4	1	41	4	0.4	560	.05	5	190	x	8
3862	26	14	1	100	18	0.8	310	.08	15	380	x	65
3809	40	15	1	90	17	0.9	420	.01	15	400	x	90
3808	30	20	1	70	16	0.7	360	.01	45	290	x	120
3858	23	10	1	79	11	0.5	320	.08	10	360	x	56
3867	20	9	1	70	7	0.5	615	.01	8	280	x	16
3866	21	12	1	83	9	0.6	940	.01	10	300	x	24
3864	16	14	1	59	7	0.5	290	.05	5	310	x	86
3861	12	10	1	74	10	0.6	360	.05	15	270	5	34
3859	16	10	1	47	5	0.3	250	.08	8	180	x	52
3860	36	16	1	70	13	1.0	270	.05	528	320	5	103
3856	34	18	1	95	12	0.7	515	.08	8	280	x	124
3807	40	20	1	90	15	0.9	500	.01	20	310	x	115
3857	22	10	1	97	10	0.6	550	.08	5	430	x	36
3865	29	14	1	120	44	0.9	1450	.05	100	360	5	37
3886	20	10	1	64	9	0.5	300	.01				65
3810	15	15	1	55	15	0.6	270	.01	7	270	x	75
3803	45	20	1	105	15	1.1	430	.01	5	400	x	145
3802	45	20	1	115	15	1.1	500	.01	15	490	x	125
3801	60	25	1	110	16	1.0	410	.01	20	510	x	130
3887	32	20	1	77	15	0.8	550	.01	25	280	x	127
3806	40	25	1	75	14	1.0	400	.01	35	410	x	125
3868	19	9	1	74	10	0.7	320	.01	70	200	x	60
3869	22	12	1	87	11	0.6	295	.01	25	310	x	78
3804	25	20	1	65	16	1.0	820	.01	18	280	x	120
3921	53	12	1	66	16	0.9	270	.01	10	190	x	46
3888	22	12	1	58	11	0.6	465	.01	50	220	x	91
3812	25	15	1	90	13	0.7	900	.01	5	370	x	30
3895	29	11	1	105	9	0.9	1150	.01	x	310	x	29
3805	25	10	1	70	14	0.6	650	.01	5	220	5	30
3894	14	3	1	55	4	0.4	650	.01	x	230	x	10
3811	20	15	1	80	16	0.7	380	.01	30	320	x	80
3913	8	5	1	46	11	0.4	555	.01	20	270	5	7
3889	19	9	1	83	16	0.6	535	.01	30	270	x	18
3890	20	14	4	92	7	0.7	820	.01	5	400	x	20
3896	8	3	1	33	4	0.2	275	.01	x	110	5	9
3897	48	19	1	104	10	1.1	475	.01	60	630	x	129
3891	19	8	1	64	6	0.3	500	.01	8	160	x	17

Table of Analytical Results (Cont'd.)

	Cu	Co	Mo	Zn	Pb	Ag	Mn	Hg	As	F	W	Ni
3916	57	24	1	124	14	1.1	620	.05	40	290	x	132
3914	41	18	1	80	10	0.7	380	.01	20	250	x	122
3918	38	19	1	100	10	0.8	1400	.01	15	250	x	40
3919	28	17	1	69	8	0.6	420	.01	40	230	x	117
3892	36	15	1	81	9	0.7	425	.01	20	280	5	120
3898	27	14	1	99	32	0.8	1300	.01	15	215	x	37
3899	26	10	1	104	14	0.9	660	.01	18	325	x	42
3917	28	20	1	115	12	0.7	1100	.01	35	400	x	40
3910	53	23	1	120	13	1.1	1700	.01	4	360	x	35
3909	27	15	1	130	30	0.9	1250	.01	18	210	x	23
3903	47	18	1	98	10	0.9	380	.01	15	290	x	127
3908	27	12	1	80	10	1.3	450	.01	50	230	5	80
3900	25	16	1	75	10	1.0	545	.01	30	270	x	104
3911	40	18	1	120	10	0.9	1150	.01	5	250	x	36
3924									1000	200	x	
3925									180	310	x	
3920	24	12	1	87	6	0.6	685	.01	x	340	x	21
3904	40	20	1	98	14	1.5	1650	.01	18	280	x	44
3907	41	17	1	94	18	1.0	550	.01	100	170	5	110
3923									1000	600	x	
3901	29	16	1	75	12	1.0	650	.01	55	250	x	113
3912	24	12	1	70	6	0.6	450	.01	12	120	x	21
3915	56	20	1	108	15	1.2	390	.01	12	310	x	120
3905	67	30	1	140	16	1.5	2700	.01	5	420	x	36
3906	28	12	1	82	11	0.7	1500	.01	20	230	x	18
3922									1250	110	x	
3902	29	11	1	94	12	0.9	1300	.01	10	200	x	26

STATEMENT OF EXPENSES

Wages and Board Costs:

R. Sebastian - May 29-31; June 1, 4-7; 11-20 = 17 days @ \$21	\$ 357
S. Earle - June 1, 4-7; 11-20 = 15 days @ \$15	225
C. S. Ney - May 29,30 2 days @ \$50	100
Board expenses 34 days @ \$6.00	<u>204</u>
	\$ 886

Sampling and Analysis:

57 rock samples @ \$16/each	\$ 912
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Compilation of Data:

150

1062

TOTAL

\$1948

November 23, 1971



BONDAR-CLEGG & COMPANY LTD.

geochemists • assayers • analytical chemists

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.
PHONE: 988-5315

TELEX: 04-54554

January 11, 1972

Charles Ney, Esq.
Chief, Kennco Explorations
730 - 505 Burrard Street
Vancouver, B.C.

Dear Sir:

re: Analysis of samples on our Report No. 21-698 -
Analytical Methods

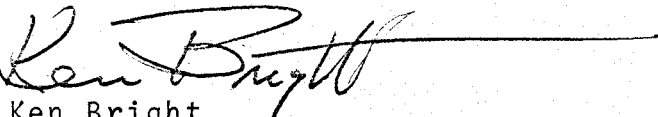
TUNGSTEN: Samples were weighed as received from Kennco (-80 m), fused in a basic flux and leached; tungsten present was complexed and determined colourimetrically in constant comparison with both synthetic and matrix standards.

FLUORINE: Samples were weighed as received from Kennco (-80 m), fused using a carbonate flux and leached. Fluorine present was measured by specific ion electrode.

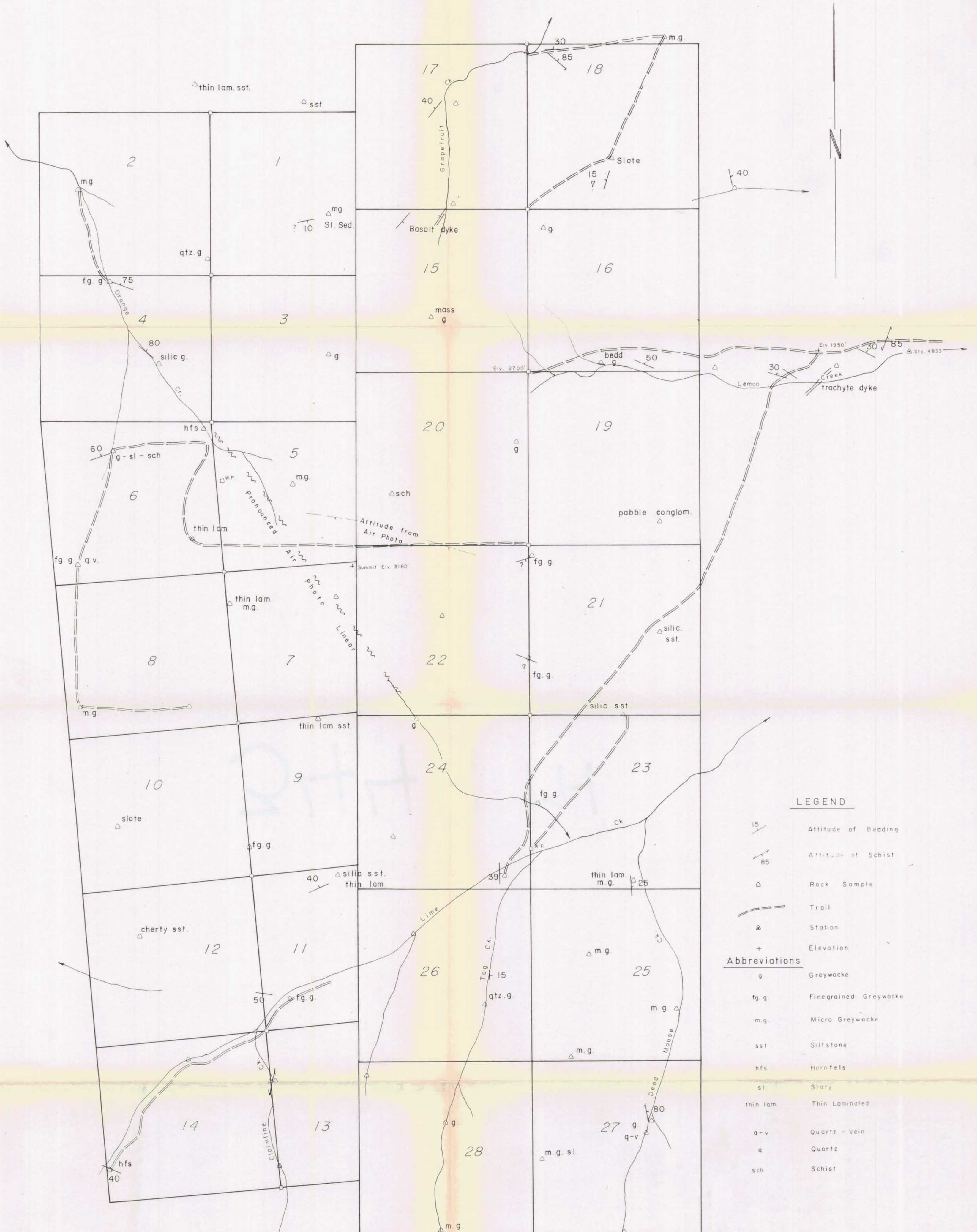
ARSENIC: Samples were weighed as received from Kennco (-80 m); arsenic present was extracted using nitric-perchloric acid, reduced, and evolved as arsine gas into a complexing reagent. The resultant arsenic complex was measured by colourimetric comparison with known standards.

Sincerely yours,

BONDAR-CLEGG & COMPANY LTD.


Ken Bright,
Geol. E.

mob



- LEGEND**
- 15 Attitude of Bedding
 - 85 Attitude of Schist
 - △ Rock Sample
 - Trail
 - △ Station
 - + Elevation
- Abbreviations**
- g Greywacke
 - fg.g. Finegrained Greywacke
 - m.g. Micro Greywacke
 - ssst Siltstone
 - hfs Hornfels
 - sl. Slaty
 - thin lam Thin Laminated
 - q-v Quartz - Vein
 - q Quartz
 - sch Schist

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3448 MAP #1

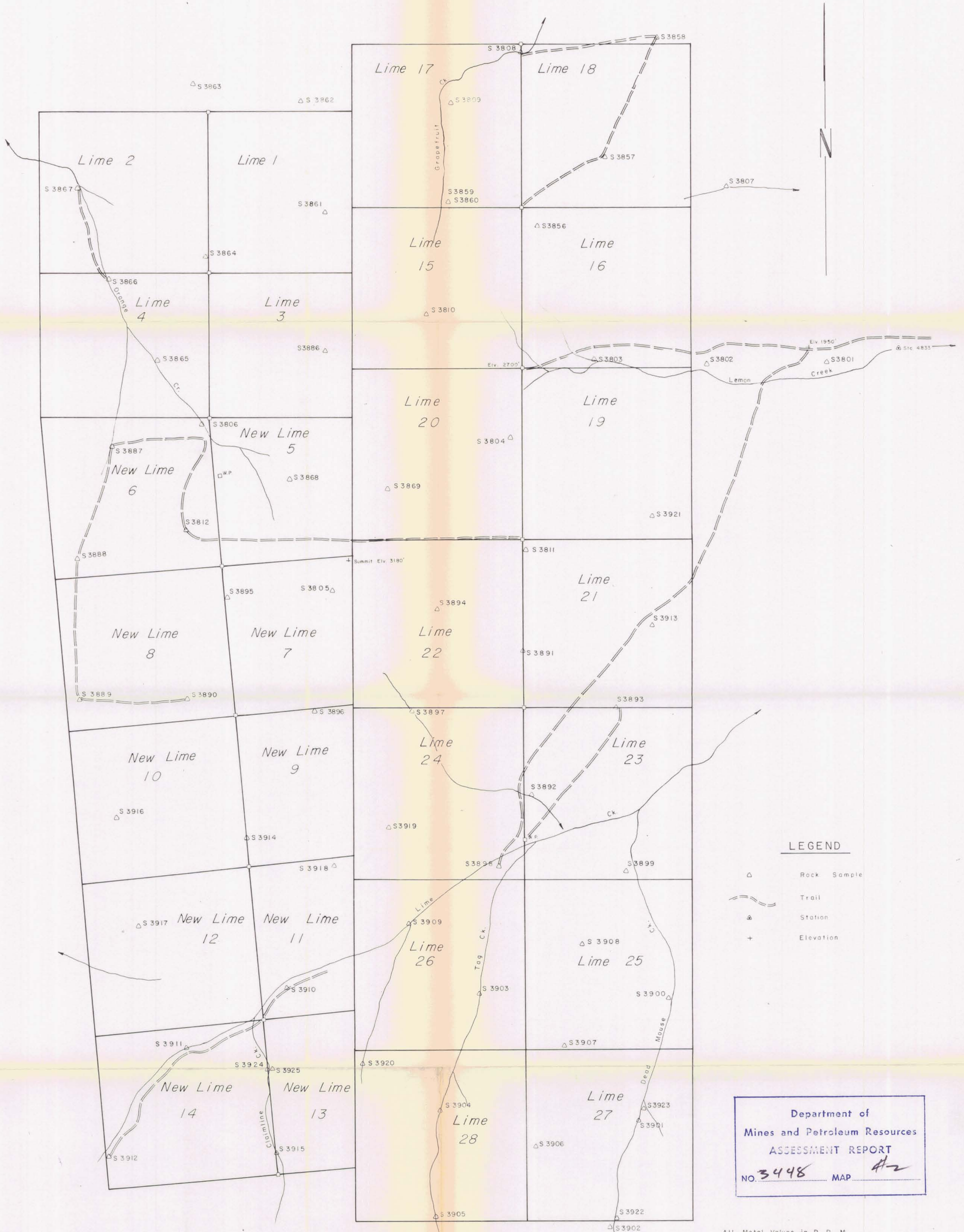
To Accompany Geological and Geochemical Report by C. S. Ney P. Eng.
on The Lime Claim Group, 4 1/2 Miles South of Alice Arm,
Skeena M.D., B.C. Nov. 23, 1971

KENCO EXPLORATIONS (WESTERN) LIMITED

Mohawk Mountain
Lime Claim Group
Skeena M. D., B. C.
Geology

DATA BY: C.S.N., R.S.	N.T.S. 103P-6	PL. NO.: 1
DRAWN BY:	DATE:	SCALE: 1" = 500'
TRACED BY: J.Q.L.	DATE: 16/11/71	
REVISIONS:	FILE:	

3448 M-1
Charles J. Ney P. Eng.



LEGEND

- △ Rock Sample
- Trail
- ⊙ Station
- + Elevation

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 ASSESSMENT REPORT
 NO. **3448** MAP **A-2**

All Metal Values in P. P. M.

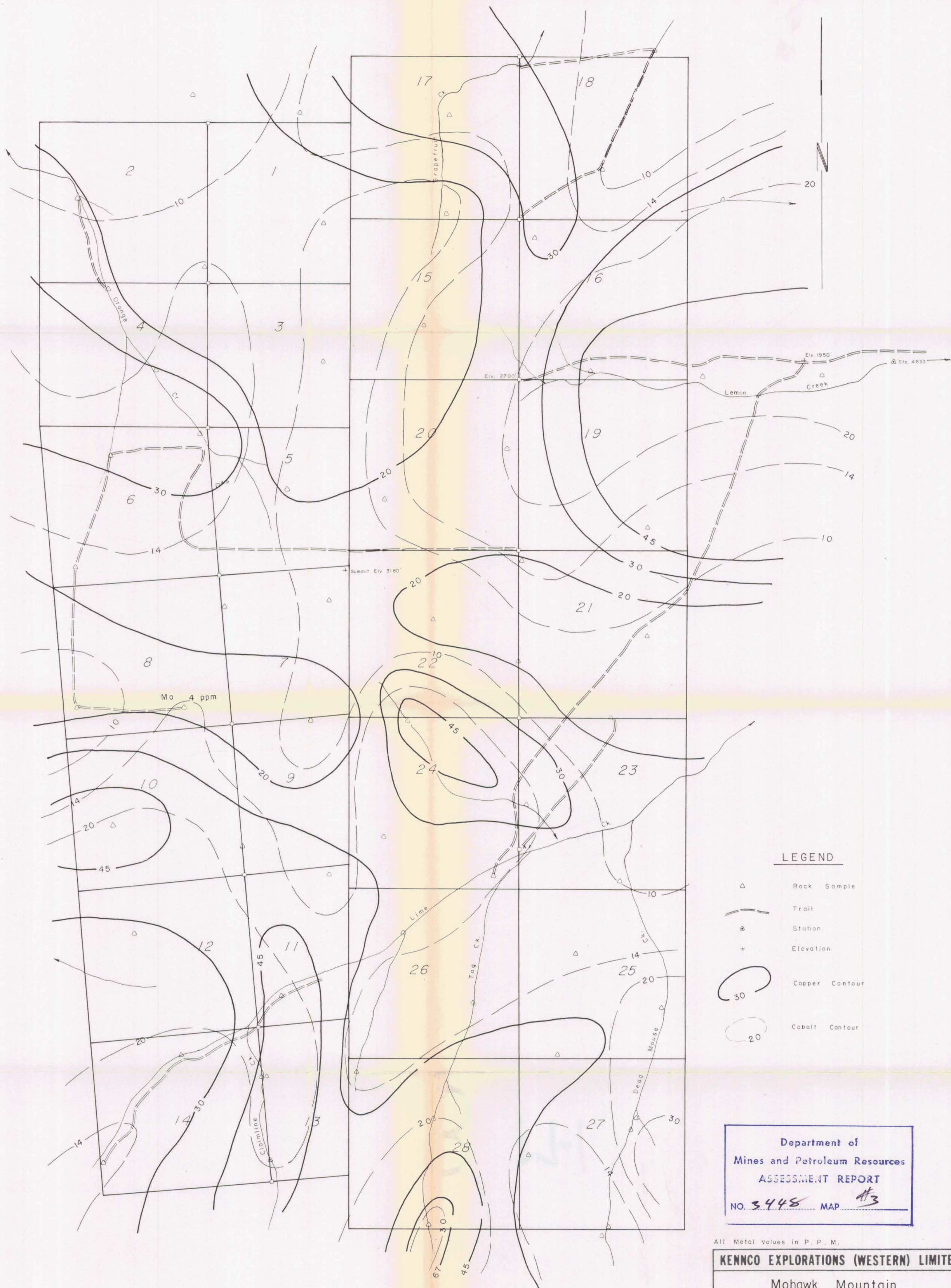
KENCO EXPLORATIONS (WESTERN) LIMITED

Mohawk Mountain
 Lime Claim Group
 Skeena M. D., B. C.
 Rock Sample Sites

DATA BY: C.S.N., R.S.	N.T.S. 103 P-6	PL. NO.: 2
DRAWN BY:	DATE:	SCALE: 1" = 500'
TRACED BY: J.Q.L.	DATE: 16/11/71	
REVISIONS:	FILE:	

To Accompany Geological and Geochemical Report by C. S. Ney P. Eng. on The Lime Claim Group, 4 1/2 Miles South of Alice Arm, Skeena M. D., B. C. Dated Nov. 23, 1971

Chas. A. Long P. Eng.



LEGEND

- △ Rock Sample
- Trail
- Station
- + Elevation
- 30 Copper Contour
- 20 Cobalt Contour

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3448 MAP #3

All Metal Values in P. P. M.

KENNCO EXPLORATIONS (WESTERN) LIMITED			
Mohawk Mountain Lime Claim Group Skeena M. D., B. C. Cu & Co in Rock (Anomalous Mo Noted)			
DATA BY: C.S.N., R.S.	N.T.S. 103P-6	PL. NO.: 3	
DRAWN BY:	DATE:	SCALE:	1" = 500'
TRACED BY: J.Q.L.	DATE: 16/11/71		
REVISIONS:		FILE:	

To Accompany Geological and Geochemical Report by C. S. Ney P. Eng on The Lime Claim Group, 4 1/2 Miles South of Alice Arm, Skeena M. D., B. C. Dated Nov 23, 1971

Charles H. P. Eng



LEGEND

- △ Rock Sample
- Trail
- ⊕ Station
- + Elevation
- ₇₀ Zinc Contour
- ₁₅ Lead Contour

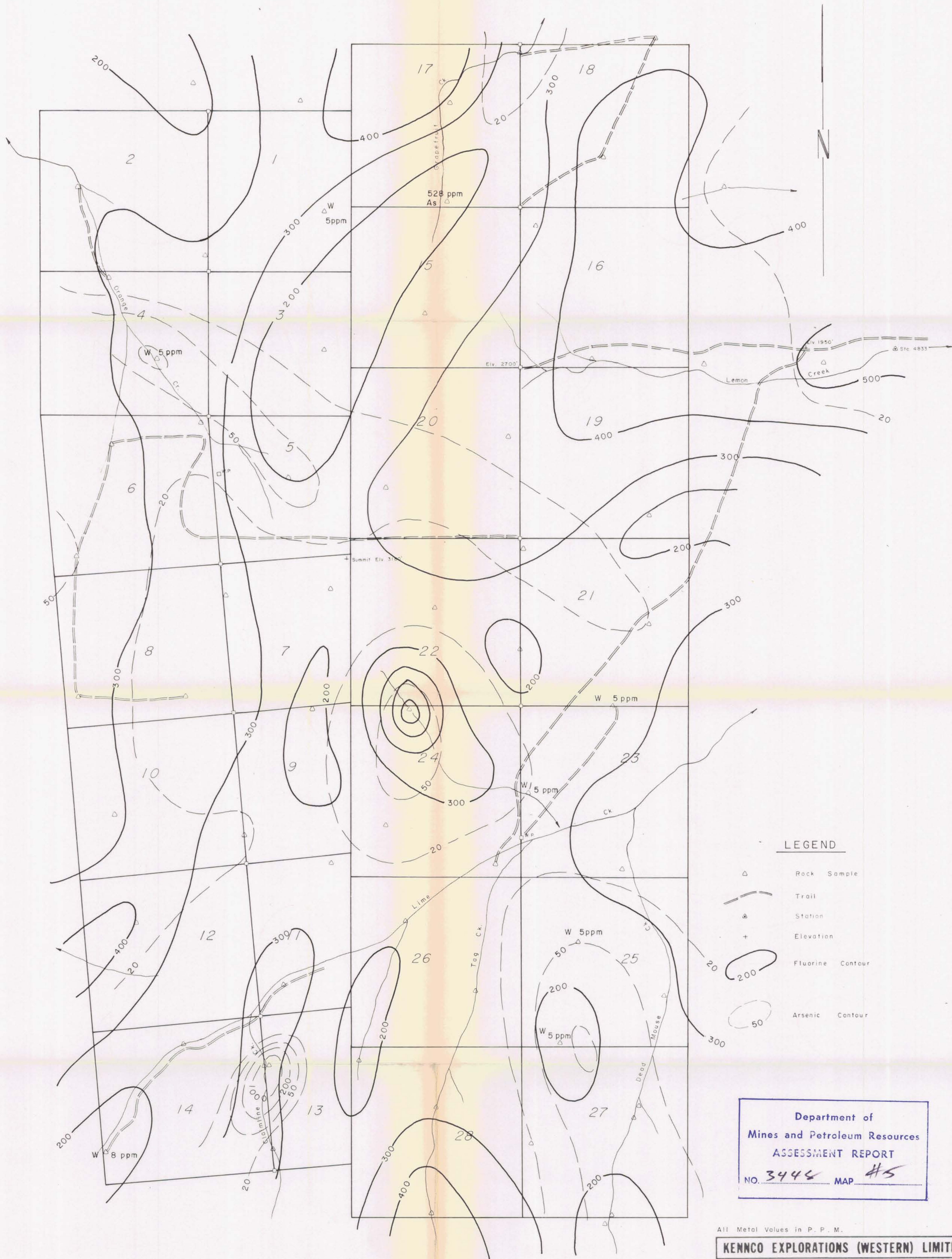
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3448 MAP #4

All Metal Values in P. P. M.

KENCO EXPLORATIONS (WESTERN) LIMITED			
Mohawk Mountain Lime Claim Group			
Skeena M. D., B. C.			
Zn & Pb in Rock (Anomalous Ag Noted)			
DATA BY: C.S.N., R.S.		N.T.S. 103P-6	PL. NO.: 4
DRAWN BY:	DATE:	SCALE:	1" = 500'
TRACED BY: J.Q.L.	DATE: 6/11/71		
REVISIONS:		FILE:	

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on The Lime Claim Group, 4 1/2 Miles South of Alice Arm,
Skeena M. D., B. C. Dated Nov. 23, 1971.

Charles S. Ney P. Eng.



LEGEND

- △ Rock Sample
- - - Trail
- ⊙ Station
- + Elevation
- Fluorine Contour
- Arsenic Contour

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
 NO. 3444 MAP #5

All Metal Values in P. P. M.

KENCO EXPLORATIONS (WESTERN) LIMITED		
Mohawk Mountain Lime Claim Group Skeena M. D., B. C. F & As in Rock (Anomalous W Noted)		
DATA BY: C.S.N., R.S.	N.T.S. 103P-6	PL. NO.: 5
DRAWN BY:	DATE:	SCALE: 1" = 500'
TRACED BY: J. Q. L.	DATE: 16/11/71	
REVISIONS:		FILE:

To Accompany Geological and Geochemical Report by C. S. Ney P. Eng on The Lime Claim Group, 4 1/2 Miles South of Alice Arm, Skeena M. D., B. C. Dated Nov. 23, 1971.

C. S. Ney P. Eng.



LEGEND

- Δ Rock Sample
- \ominus Trail
- \bullet Station
- +
- Elevation
- 500 Manganese Contour
- 70 Zinc Contour
- x Anomalous Mercury

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3448 MAP #6

All Metal Values in P. P. M.

KENCO EXPLORATIONS (WESTERN) LIMITED

Mohawk Mountain
Lime Claim Group
Skeena M. D., B. C.
Mn & Zn in Rock
(Anomalous Hg Noted)

DATA BY: C.S.N., R.S.	N.T.S. 103P-6	PL. NO.: 6
DRAWN BY:	DATE:	SCALE: 1" = 500'
TRACED BY: J.Q.L.	DATE: 6/11/71	
REVISIONS:		FILE:

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C. S. Ney, P. Eng