GEOCHEMICAL SOIL SURVEY
ON THE
LOTUS GROUP OF CLAIMS
JULY 26 TO AUGUST 7, 1971
FOR
NITTETSU MINING COMPANY LIMITED

20 MILES S.E. OF DEASE LAKE, B.C.
Lat. 58°20', Long. 120°40'

BY:
BARRINGER RESEARCH LIMITED
1170 HORNBY ST.
VANCOUVER, B.C.

SEPTEMBER, 1971

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LIST OF DRAWINGS

DWG. NO.	TITLE	SCALE
4-152-1 #1	Locality Plan (follows page 1)	1" = 4m
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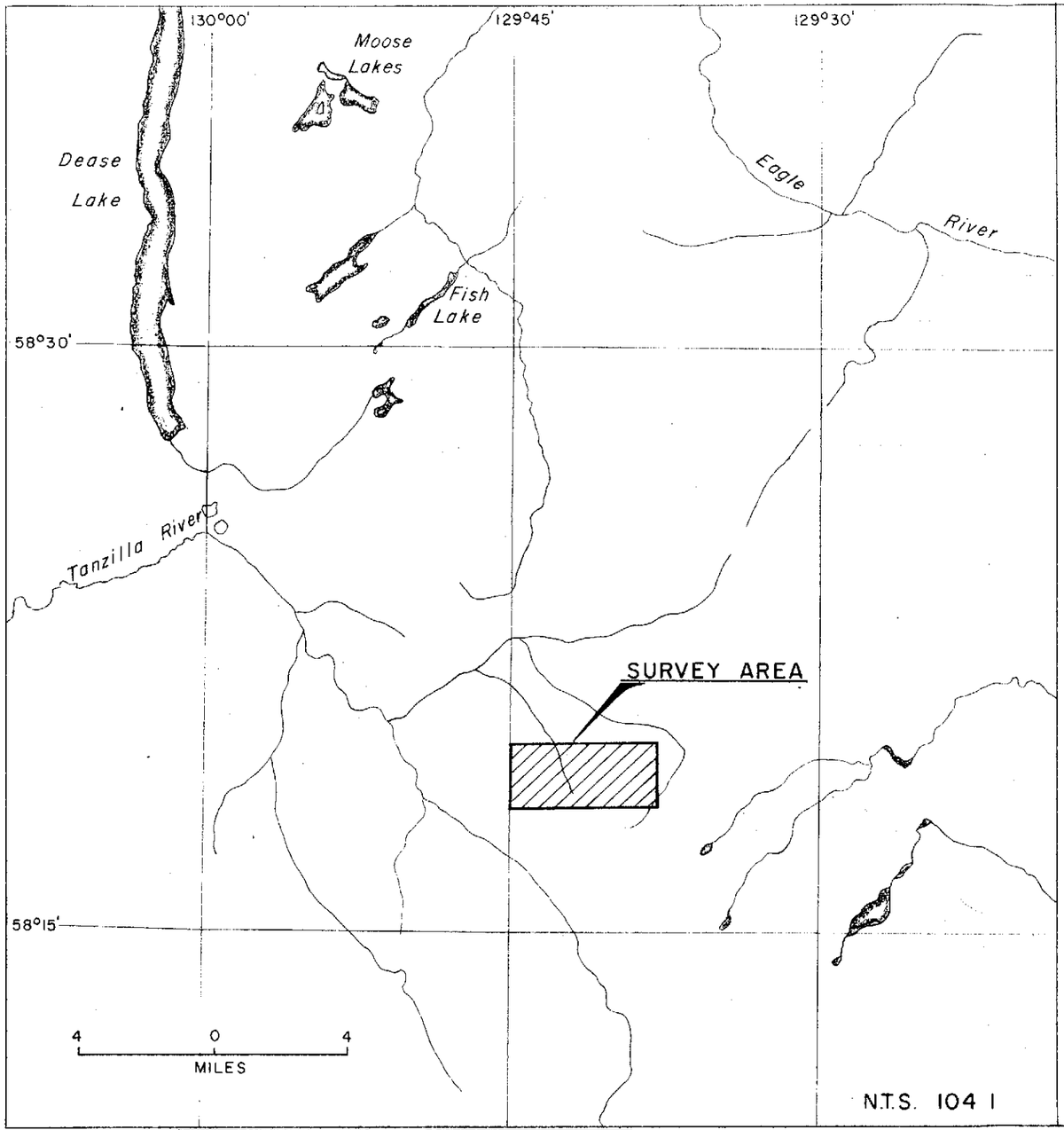
Fig. 1 2	Histogram of Perchloric acid soluble copper	follows page 4

1. INTRODUCTION

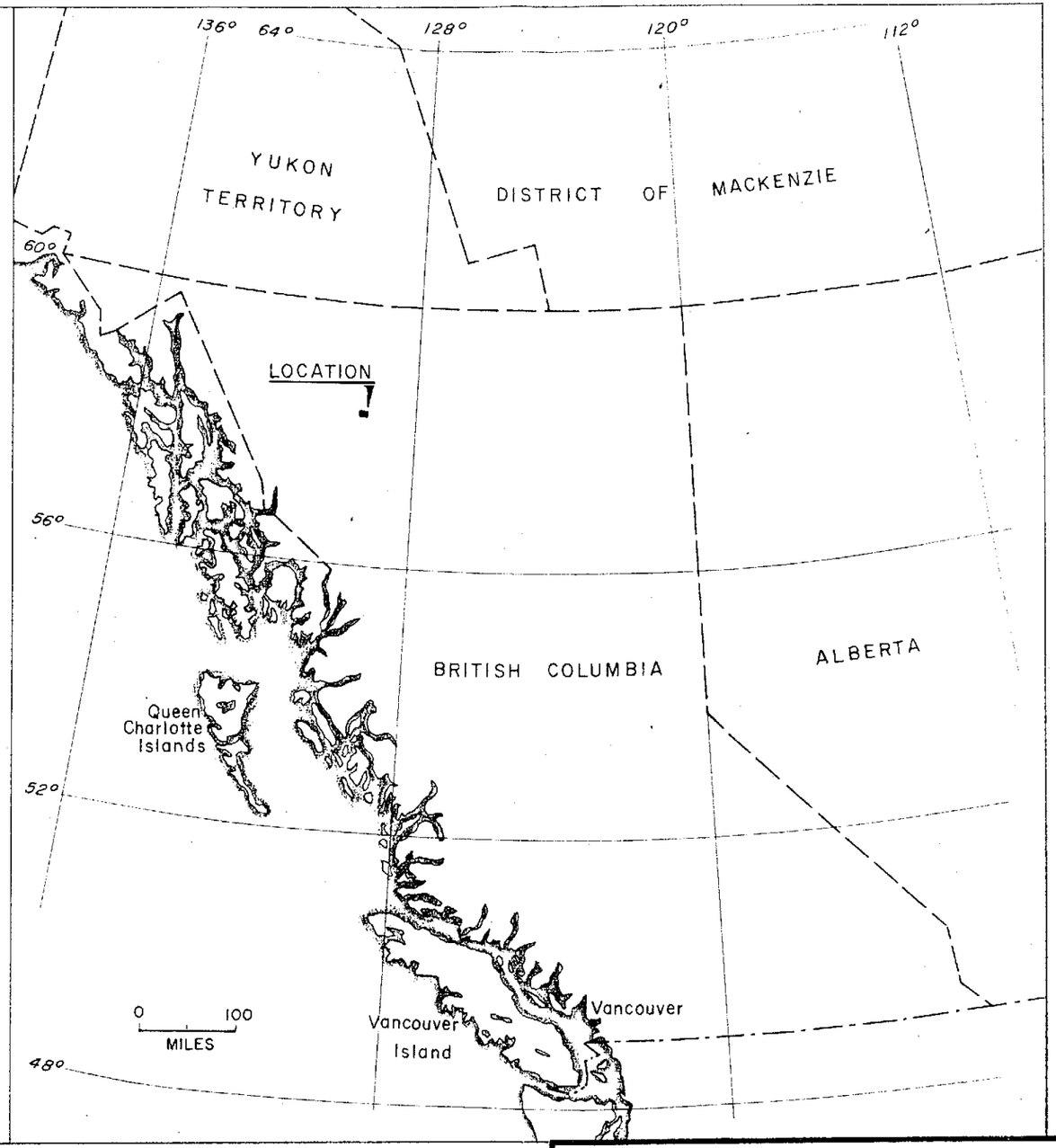
A geochemical soil survey was carried out on the Lotus 1-40 claims and the surrounding area by Barringer Research Limited during the period of July 26th to August 7th inclusive. A total of 816 samples were collected by I. McLeod of Vancouver, B.C., G. Bannman of Regina, Saskatchewan, and B. Ingles of Regina Saskatchewan. The project was supervised by B. W. Smee of Vancouver, B.C.

The purpose of the survey was to sample the soils, stream sediments and rocks on a reconnaissance basis in order to delineate broad geochemically high areas. These areas, if found, would be staked if not already and would be recommended for further geological study.

A base line was laid out in an east-west direction, with the zero point being the post for Lotus claims 15-16 and 17-18. The base line was flagged at 100 foot intervals with crosslines extending north-south every 800 feet. Samples were taken at 400 foot intervals on these crosslines. Stream sediments were sampled wherever a line crossed a creek, and where there was no soil, talus or rock samples were taken. The lines were placed by pace and compass, and the samples were taken with a grubhoe and placed in high strength kraft paper envelopes.



N.T.S. 104 I



N

A

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3538 MAP #1

BW Smee

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

NITTETSU MINING CO. LTD.

LOTUS CLAIM GROUP, DEASE LAKE AREA, B.C.

LOCALITY PLAN

SEPT. 1971 | DWG. 4-152-1

2. GEOLOGY

The area is underlain by an intrusive stock which appears to be differentiated in part and has areas of brecciation near its perimeter. An extremely large gossan zone lies on the property and extends for approximately 10,000 feet in an east-west direction. To date, no copper mineralization has been found on the property, but pyrite is prevalent near the gossan zones. It appears that weathering in the gossan zone reaches to at least twenty feet, and the rock appears to be well fractured.

3. SOILS

The soil underlying the claims is very young and has been continuously reworked by frost action. There is very little if any glacial till except in the lower valleys. The flat portions of the property are covered by moss and grass. No trees or shrubs exist. The property is cut by large steep sided gulleys and high cliffs and talus exist to the south. The relief is approximately 2,000 feet.

4. GEOCHEMISTRY

4.1 ANALYSIS

The samples were sent to Barringer Research Laboratory in Vancouver where the soils and talus samples were analysed for perchloric acid soluble copper, and the stream sediment samples for hot 0.5 N HCl soluble copper. The samples were over dried, sieved to -80 mesh with nylon screening, and a 0.25 gram cut was taken. The cut was digested in acid and analysed by atomic absorption spectrophotometry. The analysis was performed by Mr. D. Koop on a Tectron AA-5 instrument.

4.2 RESULTS

The statistics for $HClO_4$ soluble copper appear in Table I and the histogram from copper is Fig. 1.

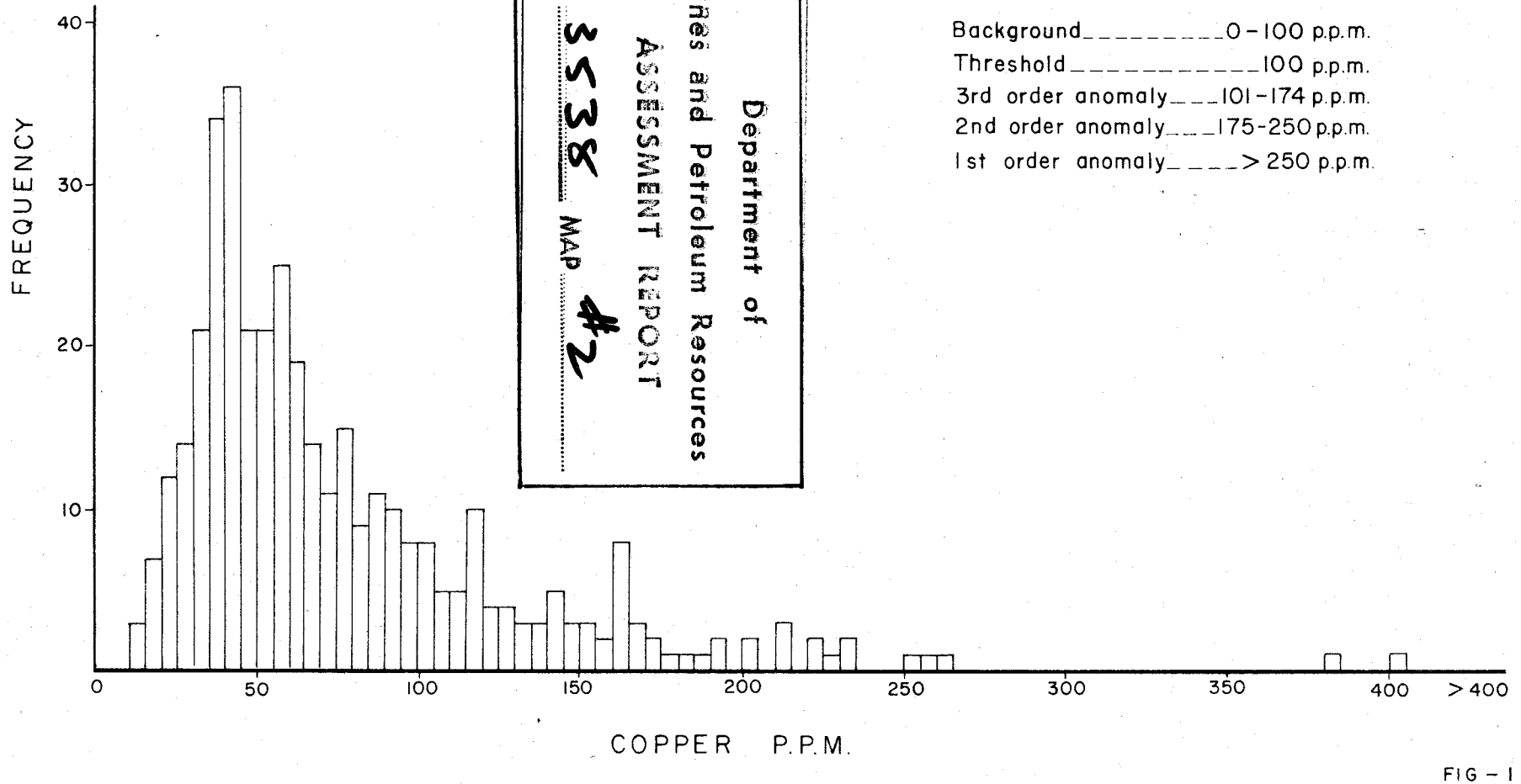
TABLE I

	ppm Cu
BACKGROUND	0 - 100
THRESHOLD	100
3RD ORDER ANOMALY	101 - 174
2ND ORDER ANOMALY	175 - 250
1ST ORDER ANOMALY	> 250

These figures are based on the first 400 samples, of which the majority did not overlie the gossan zone.

There are five main areas of geochemical anomalies that warrant further follow-up either by a geologist or by further detailed geochemistry. Area 1 lies

HISTOGRAM OF PERCHLORIC ACID SOLUBLE COPPER



Background_____0-100 p.p.m.
Threshold_____100 p.p.m.
3rd order anomaly___101-174 p.p.m.
2nd order anomaly___175-250 p.p.m.
1st order anomaly____> 250 p.p.m.

FIG - 1

on lines 8E and 16E at 28S, on the east side of the lake. The ground is relatively flat, but is cut by a gully. A rock sample from the area ran 155 ppm copper, and a stream sample ran 200 ppm, 0.5N Hcl soluble copper. This would suggest a zone of higher than normal copper which would be checked out by a geologist. Four lines of detailed soil geochemistry across the anomaly would show the actual width, as well as its length.

The second anomalous area lies on lines 24E and 32E at 40N. This anomaly falls on the slope of a large valley which trends NNW, and the slope coincides with the spot anomalies to the north and south of AREA 2. The highest values in this anomaly fall on a talus slope on the west side of the valley. Geological mapping of this area would probably show the anomaly source.

An extensive third order anomaly falls across almost the entire southern region of the property, and is carried into the valley of which AREA 2 is a part. This broad anomaly outlines a strong gossan which is prevalent in this area and is also along line 176E extending to the north. The pH in soil and draining streams may be fairly low, hence the mobility of copper in groundwaters would be higher than expected and the anomaly may be spread over a much larger area than is normal..Within this third order anomaly are first and second order anomalies of varying extent. The largest of these lies at AREA 3 centered on line 96E and is 5,600 feet long and up to 2,800 feet wide. The anomaly cuts over ridges and talus slopes, and is not confined to one drainage system. Detailed soil geochemistry is warranted in this area plus detail geological mapping.

A fourth area lies in this same gossan zone on lines 152E and 160E at 32S. This anomaly, although smaller in area, could be a continuation of the above anomaly. Further geological mapping and detailed geochemistry over this anomaly is warranted.

The fifth main area of anomalous copper values lies on lines 160E to 176E at 56N, and is open to the north. This anomaly should be checked immediately by further geochemistry and geology. The highs should be closed off to the north, and the ground should be staked if it is not already.

5. RECOMMENDATIONS AND CONCLUSIONS

1. There is a widespread copper anomaly on the LOTUS claim ground which is associated with an intense gossan. This large anomaly has areas of high copper values within, which may be caused by mineralization. A detailed geological map of the area should be constructed by a geologist well versed in porphyry copper situations, with special attention to the geochemically anomalous areas.

2. Molybdenum analysis on the samples which are high in copper should be done in order to further detail the anomalous areas.

3. A grid of 400 foot lines should be placed over AREAS 1, 3, 4 and 5 and soil samples should be taken at 100 foot intervals so as to detail the large anomalies. The existing grid should be extended to the north at AREA 5 if possible to close off that anomaly. The grid should also be extended to the south east of line 200E so as to further delineate that anomaly.

4. Lines 88E and 96E should be extended 1,000 feet to the south so as to close off the anomaly at AREA 3. This further sampling should be done under the guidance of the geologist and should be controlled by the geological environment found in that area.

5. Claims covering the areas of anomalous copper should be staked if they are not already. This should be done under the guidance of the property geologist.

BARRINGER RESEARCH LIMITED

B. W. Smee
Geochemist

CERTIFICATE

I, BARRY W. SMEE, of the City of Vancouver in the Province of British Columbia hereby certify:

1. THAT I am a geochemist employed by Barringer Research Limited, 1170 Hornby Street, Vancouver, British Columbia.

2. THAT I am a gruaduate of the University of Alberta with the degree of BSc. in geology and chemistry.

3. THAT I am an Associate Member of the Society of Exploration Geochemists.

4. THAT I have held a responsible position in the field of geochemistry for at least two years.

DATED AT VANCOUVER, BRITISH COLUMBIA THIS 22 DAY OF November 1971

B. W. Smee

LABORATORY REPORTS

BARRINGER RESEARCH LIMITED

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CABLE: BARESEARCH

Geochemical Laboratory Report

DATE August 10, 1971.

NITTETSU PROJECT

Authority: B.W. Smee

REPORT NUMBER 141 B

Project #152.34

SAMPLE NUMBER	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm
00 B.L.	41		00 20S	25		8E 20S	26		8E 24N	46
4N	35		24S	64		24S	67		28N	38
8N	64		28S	64		28S	230		32N	26
12N	42		32S	52		32S	135		36N	40
16N	49		36S	41		36S	N.S.		40N	50
20N	31		40S	55		40S	N.S.		44N	40
24N	41		44S	44		44S	33		48N	140
28N	66		48S	49		48S	40		52N	115
32N	35		52S	64		52S	38		56N	39
36N	43		56S	47		56S	70		60N	61
40N	48		60S	57		60S	400		16E 00	40
44N	110		64S	88		64S	66		8S	40
48N	105		68S	29		68S	60		12S	37
52N	93		72S	25		72S	72		16S	69
56N	65		76S	22		76S	81		20S	100
00 60N	27		8E B.L.	51		8E 4N	40		24S	200
00 4S	20		4S	37		8N	37		28S	95
8S	35		8S	57		12N	51		32S	79
12S 12S +	25 89		12S	34		16N	33		36S	64
00 16S	29		16S	65		20N	57		40S	58

Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm
16E 44S	52		24E 28S	34		32E 12N	63		40E B.L.	115
48S	47		36S	78		16N	41		4N	38
52S	40		39S	95		20N	56		8N	100
56S	41		40S	N.S.		24N	225		12N	95
16E B.L.	35		44S	51		28N	160		16N	220
4N	38		48S	30		32N	260		24N	110
8N	35		52S	18		36N	140		28N	76
12N	36		56S	21		40N	100		32N	125
16N	33		B.L.	39		44N	17		36N	155
20N	45		4N	42		48N	37		40N	45
24N	44		8N	33		52N	17		44N	78
28N	42		12N	38		56N	22		48N	19
32N	N.S.		16N	80		32E BL +SS FT.	35		52N	19
16E 36N	250		20N	N.S.		4S	100		56N	18
40N	78		24N	N.S.		8S	55		40E 4S	115
44N	61		28N	N.S.		12S	62		8S	46
48N	N.S.		32N	N.S.		16S	42		12S	40
52N	46		36N	91		20S	160		16S	115
56N	100		40N	260		24S	110		20S	73
60N	84		44N	37		28S	67		24S	170
24E 4S	40		48N	160		36S	150		28S	87
4S	37		52N	190		40S	86		32S	115
8S	39		56N	22		44S	68		40S	87
12S	33		60N	210		48S	51		44S + 75	28
16S	41		32E B.L.	73		52S + 24S FT.	56		48S	46
20S	47		4N	36		56S	52		52S	76
24S	42		8N	38		32E 60S	38		56S	78

Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm
40E 60S	69		48E 48S	42		56E 40S	130		64E 32N	53
48E B.L.	120		52S	62		44S	N.S.		36N	57
4N	160		56S	N.S.		48S	N.S.		40N	76
8N	67		56E B.L.	95		52S	N.S.		44N	58
12N	105		4N	79		56S	N.S.		48N	135
16N	170		8N	180		64E B.L.	76		52N	64
20N	100		12N	160		4S	93		56N	52
24N	60		16N	150		4S	84		72E 4S	81
28N	47		20N	170		8S	90		8S	100
28N	40		24N	74		12S	130		16S	36
32N	73		28N	165		16S	105		20S	78
36N	38		32N	125		20S	160		24S	87
44N	30		36N	27		24S	N.S.		32S	190
48N	56		40N	36		28S	85		36S	70
52N	23		44N	23		32S	N.S.		40S	210
48E 56N	24		48N	30		36S	105		48S	120
48E 4S	125		52N	58		40S	175		52S	71
8S	145		56N	60		44S	185		56S	140
12S	165		56E 4S	115		48S	125		72E B.L.	61
16S	145		8S	73		56S	120		4N	41
20S	78		12S	33		64E 4N	87		8N	93
24S	130		16S	82		8N	43		12N	41
28S	87		20S	140		12N	80		16N	90
32S	140		24S	87		16N	75		20N	110
36S	200		28S	210		20N	43		24N	62
40S	N.S.		32S	115		24N	43		28N	76
44S	50		36S	N.S.		28N	57		32N	44

Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm			
72E 36N	67		8W 20S	60		16W 48N	45			
40N	90		24S	56		52N	53			
44N	63		28S	33		56N	48			
44N	64		32S	35		16W 4S	35			
48N	50		36S	58		8S	59			
52N	115		40S	56		8S	120			
56N	72		44S	95		12S	58			
8W B.L.	19		48S	82		16S	61			
4N	19		52S	115		20S	47			
8N	25		56S	38		28S	48			
12N	23		60S	380		32S	55			
16N	20		64S	54		36S	68			
20N	21		68S	28		40S	93			
24N	19		72S	80		44S	44			
28N	32		76S	90		48S	32			
32N	30		16W B.L.	50		52S	230			
36N	33		4N	47		56S	40			
40N	52		8N	50		ROCK 24E32S	42			
44N	33		12N	15		ROCK 64E 4S	145			
48N	42		16N	28		ROCK 64E52S	85			
52N+100	84		20N	42		ROCK 72E44S	74			
56N	57		24N	35		CRUSHED 16E24S	155			
8W 60N	34		28N	135		CRUSHED 64E12S	95			
8W 4S	40		32N	56		CRUSHED 64E20S	64			
8S	32		36N	54		CRUSHED 72E12S	58			
12S	20		40N	57		CRUSHED 72E48S	95			
16S	47		44N	46						

Sample Number	HCl Cu ppm		Sample Number	HCl Cu ppm						
SEDIMENTS			72E							
8E 20+120S	54		28S	60						
8E 24+380S	200		72E 36S	21						
8E 52+ 20N	50		72E16N +50	33						
16E 18S	52		72E44N +300	41						
16E 17+50N	83		B.L. + 9 SW	31						
40E 44N+50	110		16W SN	30						
32E 56N+150	53		8W 59-5N	31						
32E 2S	110		16W 25S	49						
32E 32S	41		16W 32S	51						
32E 52S+175	23		8W 48S	48						
40E 24S+360 YDS.	100		16W 43S	36						
40E 36S	44		16W 47N	48						
48E 18+35N	110									
40E 36N+320	69									
48E 47N	92									
48E 33+25N	115									
48E 33+25S	100									
56E 38+25N	36									
56E 32N (B)	105									
56E 7S	81									
56E 26+20S	150									
56E 25S	110									
56E 44+70S	130									
56E 17+75S	50									
56E 29+75S	140									
64E 20S	140									
64E 40N+25	51									

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Geochemical Laboratory Report

DATE August 18, 1971.

NITTETSU PROJECT #152.34

Authority: B.W. Smee

ymA.

REPORT NUMBER 156 B

SAMPLE NUMBER	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm
86E BL	N.S.		86E 24S	30		96E 48N	65		104E 12N	120
4N	340		28S	58		52N	72		16N	100
8N	160		32S	130		56N	79		20N	110
12N	75		36S	140		96E 4S	150		24N	56
16N	70		40S	150		8S	100		28N	75
20N	120		44S	180		12S	200		32N	60
24N	45		48S	130		16S	140		36N	100
28N	200		52S	100		24S	50		40N	53
32N	90		86E 56S	110		28S	480		44N	63
36N	48		96E 4N	77		32S	180		48N	140
40N	180		8N	77		36S	90		52N	44
44N	N.S.		ROCK 12N	78		40S	150		56N	29
48N	280		ROCK 16N	95		40S	100		104E 4S	60
52N	140		20N	79		44S	520		8S	57
56N	120		24N	35		48S	480		16S	70
86E 4S	150		28N	40		52S	540		20S	110
8S	170		32N	130		56S	140		24S	56
12S	210		36N	68		104E BL	67		28S	56
16S	130		40N	160		4N	100		32S	72
86E 20S	34		96E 44N	100		104E 8N	45		104E 36S	220

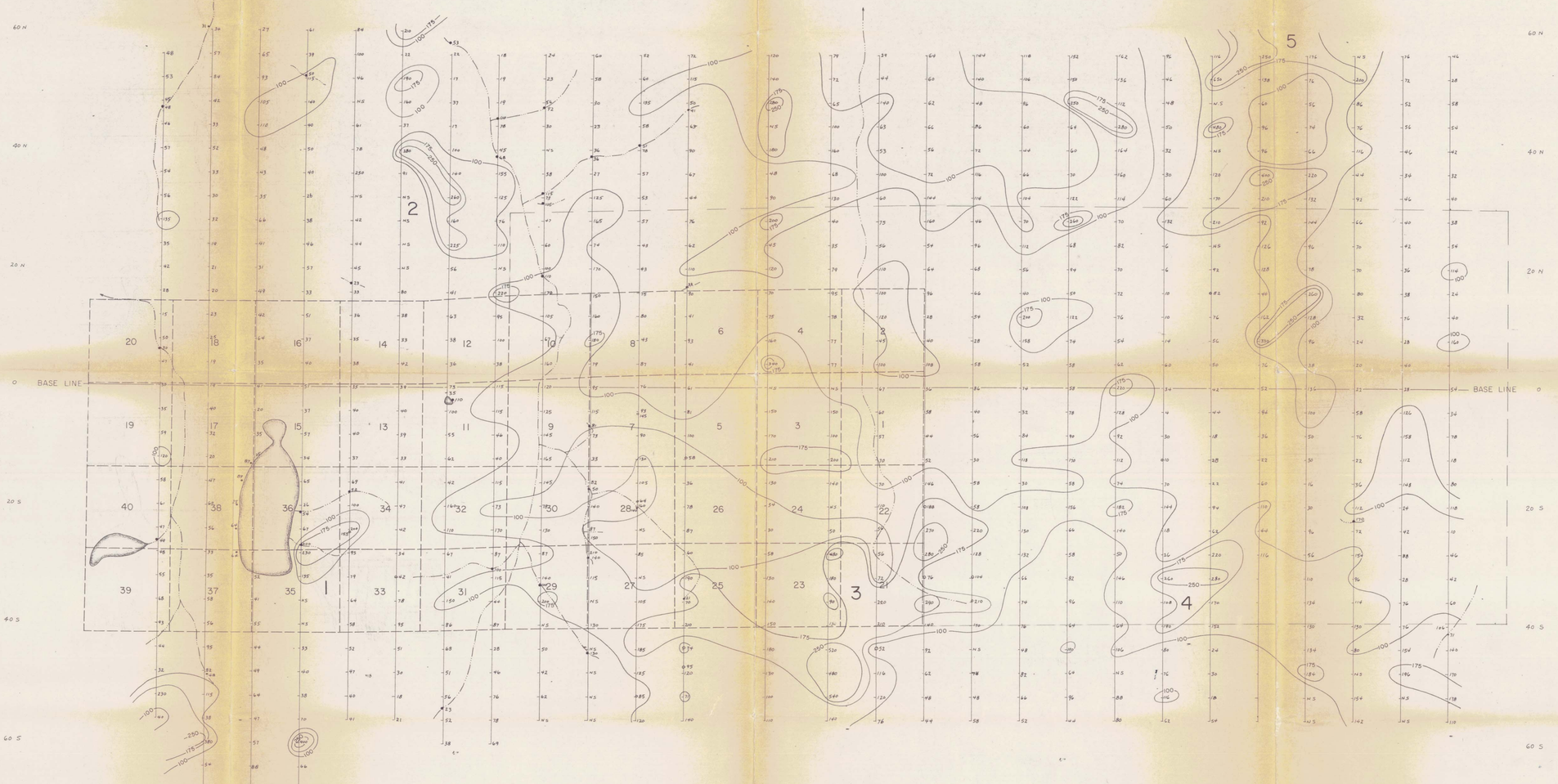
Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm
104E 40S	210		ROCK 32S	76		120E 24S	220		128E 16S	30
ROCK 44S	52		36S	290		28S	128		20S	108
48S	116		39S	140		ROCK 32S	104		24S	130
52S	120		44S	92		ROCK 36S	210		28S	132
56S	76		48S	62		40S	170		32S	66
112E BL	36		52S	48		44S	N.S.		36S	74
4N	108		112E 56S	44		48S	74		40S	76
8N	40		120E BL	86		52S	48		44S	48
12N	28		4N	58		120E 56S	58		48S	82
16N	96		8N	28		128E BL	74		52S	66
20N	64		12N	54		4N	52		56S	52
24N	54		16N	66		8N	158		136E BL	58
28N	160		20N	68		12N	200		4N	58
32N	144		24N	96		16N	40		8N	74
112E36N	72		28N	46		20N	56		12N	122
40N	56		32N	114		24N	112		16N	50
44N	66		36N	116		28N	70		20N	94
48N	62		40N	72		128E 32N	104		24N	68
52N	60		44N	86		36N	66		28N	260
56N	64		48N	48		40N	44		32N	122
112E 4S	58		52N	140		44N	60		36N	70
8S	44		56N	144		48N	96		40N	60
12S	52		120E 4S	40		52N	106		44N	64
16S	146		8S	56		56N	118		48N	250
ROCK20S	188		12S	30		128E 4S	32		52N	150
24S	270		16S	58		8S	84		56N	152
28S	280		20S	58		12S	118		136E 4S	78

Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm		Sample Number	$HClO_4$ Cu ppm
136E 8S	90		144E 52N	136		152E 44N	50		160E 40N	N.S.
12S	170		56N	162		48N	48		44N	480
16S	58		144E 4S	128		52N	46		48N	N.S.
20S	156		4S	148		56N	96		52N	650
24S	66		8S	92		152E 4S	4		56N	116
28S	58		12S	112		8S	30		160E 4S	44
32S	82		16S	74		ROCK 12S	10		8S	18
36S	96		20S	182		16S	70		12S	28
40S	64		24S	140		20S	144		16S	22
44S	100		28S	50		24S	18		20S	94
48S	64		32S	146		28S	26		24S	62
52S	96		36S	110		32S	260		28S	220
136E 56S	44		40S	64		36S	108		32S	280
144E BL	172		44S	106		40S	190		36S	170
BL	220		52S	88		44S	80		40S	152
4N	62		56S	80		48S	76		44S	24
8N	54		152E BL	34		52S	116		48S	30
12N	76		4N	60		152E 56S	62		52S	18
16N	72		8N	14		160E BL	42		160E 56S	54
20N	70		12N	10		4N	50		168E BL	52
24N	82		16N	10		8N	56		4N	76
28N	70		20N	6		12N	76		8N	330
32N	114		24N	6		ROCK 16N	82		12N	162
36N	160		28N	132		160E 20N	92		16N	40
40N	164		32N	60		28N	210		20N	128
44N	280		36N	30		32N	170		24N	126
144E 48N	112		152E 40N	32		160E 36N	120		28N	92

Sample Number	$HClO_4$ Cu ppm	Sample Number	$HClO_4$ Cu ppm	Sample Number	$HClO_4$ Cu ppm	Sample Number	$HClO_4$ Cu ppm
168E 32N	210	176E 52N	76	184E 44N	76	192E 36N	34
36N	400	56N	176	48N	86	40N	46
40N	96	176E 4S	100	48N	78	44N	56
44N	96	8S	50	52N	200	48N	52
ROCK 48N	60	12S	30	56N	N.S.	52N	72
52N	138	16S	16	184E 4S	58	56N	76
56N	250	20S	30	8S	76	192E 4S	126
168E 4S	94	24S	96	12S	22	8S	158
8S	36	28S	56	16S	36	12S	112
12S	22	32S	110	20S	112	16S	148
16S	60	36S	134	24S	72	20S	24
20S	110	40S	130	28S	154	24S	42
24S	44	44S	134	32S	96	28S	88
28S	116	48S	184	36S	114	32S	28
176E BL	136	52S	N.S.	40S	130	36S	76
4N	38	176E 56S	N.S.	44S	80	40S	76
8N	96	184E BL	22	52S	154	44S	154
12N	128	4N	20	184E 56S	142	48S	196
16N	260	8N	24	192E BL	28	52S	N.S.
20N	78	12N	32	4N	40	192E 56S	N.S.
24N	96	16N	80	8N	28	200E BL	54
28N	144	20N	70	12N	76	8N	160
32N	132	24N	70	16N	38	12N	40
36N	220	28N	66	20N	36	16N	24
40N	66	32N	92	24N	42	20N	114
44N	74	36N	44	28N	40	24N	54
176E 48N	56	184E 40N	116	192E 32N	46	200E 28N	38

Sample Number	$HClO_4$ Cu ppm									
200E 32N	40									
36N	32									
40N	42									
44N	54									
48N	58									
52N	28									
200E 56N	46									
200E 4S	34									
8S	78									
12S	18									
16S	80									
20S	118									
24S	10									
28S	46									
32S	42									
36S	60									
40S	106									
44S	140									
48S	170									
52S	178									
200E 56S	116									

Sample Number	HCl Cu ppm									
SEDIMENTS 104E 12S	70									
184E 22S	170									
200E 40S	71									



3538 M-3

LEGEND

- Copper, ppm, soil
- Copper, ppm, stream
- Copper, ppm, rock
- 0 – 99 ppm ____ Backgroud
- 100 ppm _____ Threshold
- 100–174 ppm ____ 3rd order anomolous
- 175–250 ppm ____ 2nd order anomolous
- > 250 ppm ____ 1st order anomolous

N

A

Work undertaken by
BARRINGER RESEARCH LTD, Toronto, Canada.

NITTETSU MINING CO. LTD.

LOTUS CLAIM GROUP, DEASE LAKE AREA, B.C.

GEOCHEMICAL SOIL SURVEY
TOTAL COPPER

SEPT. 1971 | SCALE: 1"=800' | DWG. 4-152-2