ASSESSMENT REPORTS

Dawson M.D.

MAP No. 115-O-11 & 14

TYPE OF WORK: Geochemical Survey (Soil)

REPORT FILED UNDER	Rio Tinto Canadian Ex. Ltd. 090332
DATE PERFORMED	June 1-August 3'77 DATE FILED: May 26, 1978
LOCATION - LAT.	63°45'N Indian River Area, Yukon
LONG.	139°06'W
CLAIM Nos.	SPIKE 1-24
	YA10268-291
$6,000.00	
WORK DONE BY	J. McClintock
WORK DONE FOR	Rio Tinto Canadian Ex. Ltd.
REMARKS	The area is underlain by schists and gneisses of the Indian River Group. Disseminated chalcopyrite similar to the southwest is present in the quartz-muscovite schist on the claim group. The soil survey for

(over)

STAR PRINTING, WHITEHORSE

Pb,Zn,Cu had inconclusive results, possibly due to a layer of fluvial gravel up to 10m thick which covers much of the claim group.



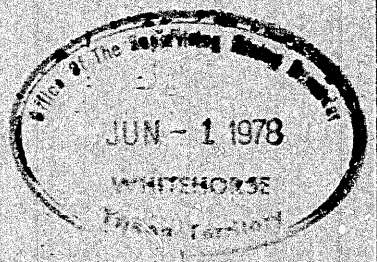
GEOCHEMICAL SURVEY

SPIKE CLAIMS

Latitude 63° 45' Longitude 139° 06'

J. McClintock June 1 to August 3, 1977

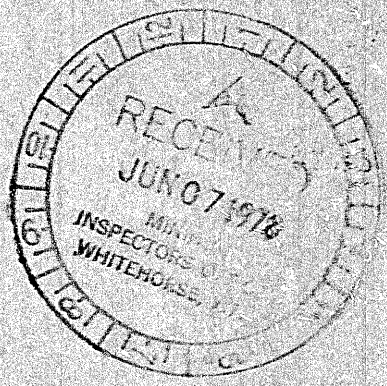
N.T.S. 115-O-11, 14



Complete List of Claims

Claims	Numbers	Due Date
Spike 1 to 24	YA10268 to YA10291	June 14, 1978

090332



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 6000.00

D. B. Craig

[illegible] or

~~[illegible]~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B. R. BAXTER

Supervising Mining Recorder

Commissioner of Yukon Territory

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	Illustration No.	Scale
LOCATION MAP	L-6524	1:50,000
SAMPLE LOCATION MAP	GC-7479	1:5,000
GEOCHEM MAP SHOWING Cu SOIL RESULTS IN PPM	GC-7480	1:5,000
GEOCHEM MAP SHOWING Pb SOIL RESULTS IN PPM	GC-7497	1:5,000
GEOCHEM MAP SHOWING Zn SOIL RESULTS IN PPM	GC-7498	1:5,000
LOCATION MAP PROPOSED GEOPHYSICAL SURVEY	L-6497	1:12,500

GEOCHEMICAL SURVEY
of the
SPIKE CLAIMS
QUARTZ CREEK AREA, Y.T.

1. INTRODUCTION

In the early summer of 1977 Rio Tinto Canadian Exploration staked a block of 24 mineral claims, the 'Spike' claims, located in the Dawson area, Yukon Territory.

The Spike claims were staked to cover a showing of disseminated chalcopyrite in muscovite-quartz schist which has been known since 1905. Reason for staking the Spike claims was because of similarities in the mode of mineralization at the Spike claims and that on the Lucky Joe claim block located 30 km to the southwest.

After staking of the Spike claims was complete, a soil sampling survey was carried out over the property by Riocanex. The purpose of the soil sampling was to determine if the extent of copper mineralization could be found using soil sampling techniques. This programme was carried out under the supervision of Mr. John McClintock.

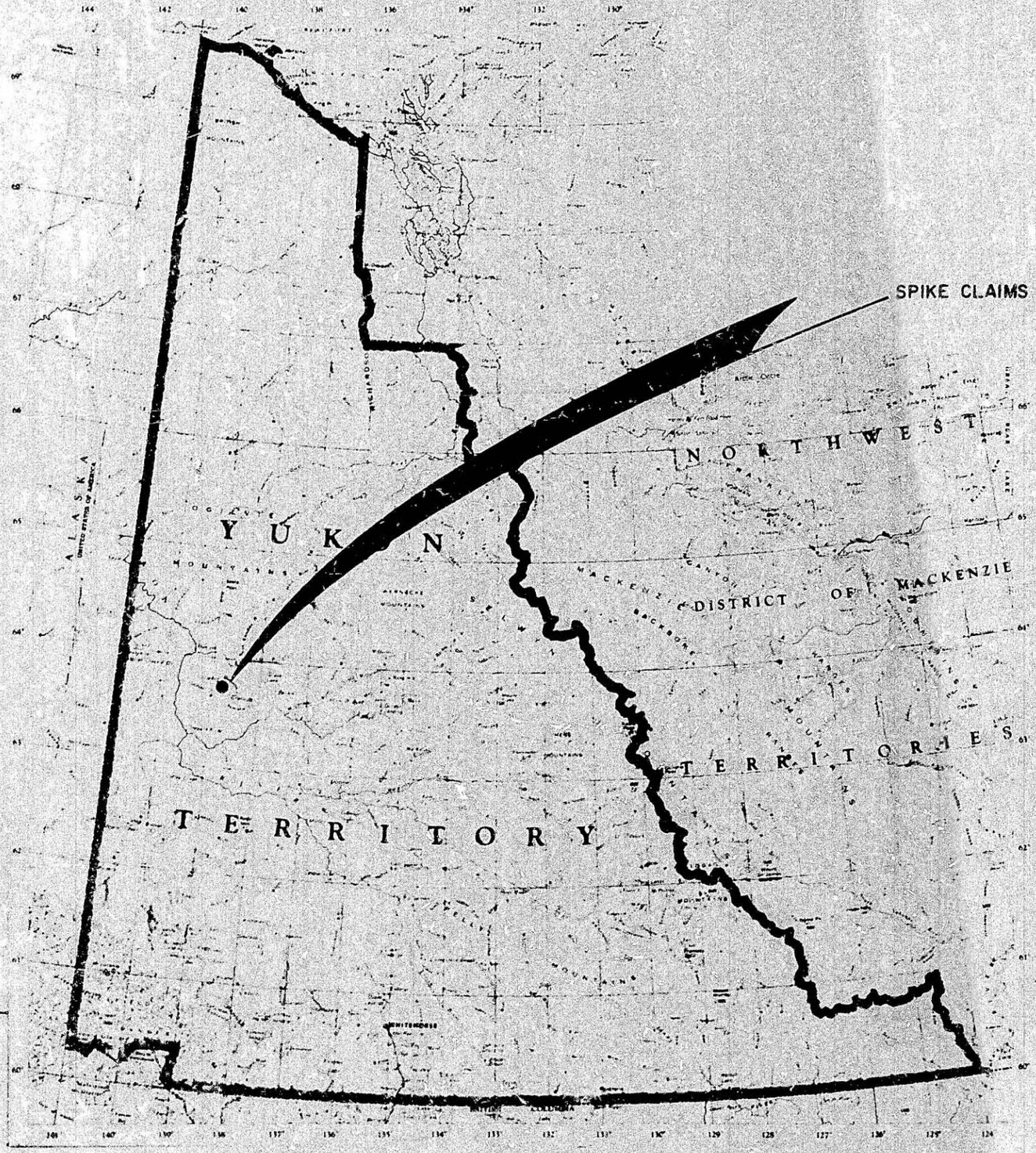
Results of the 1977 survey are discussed in the following report.

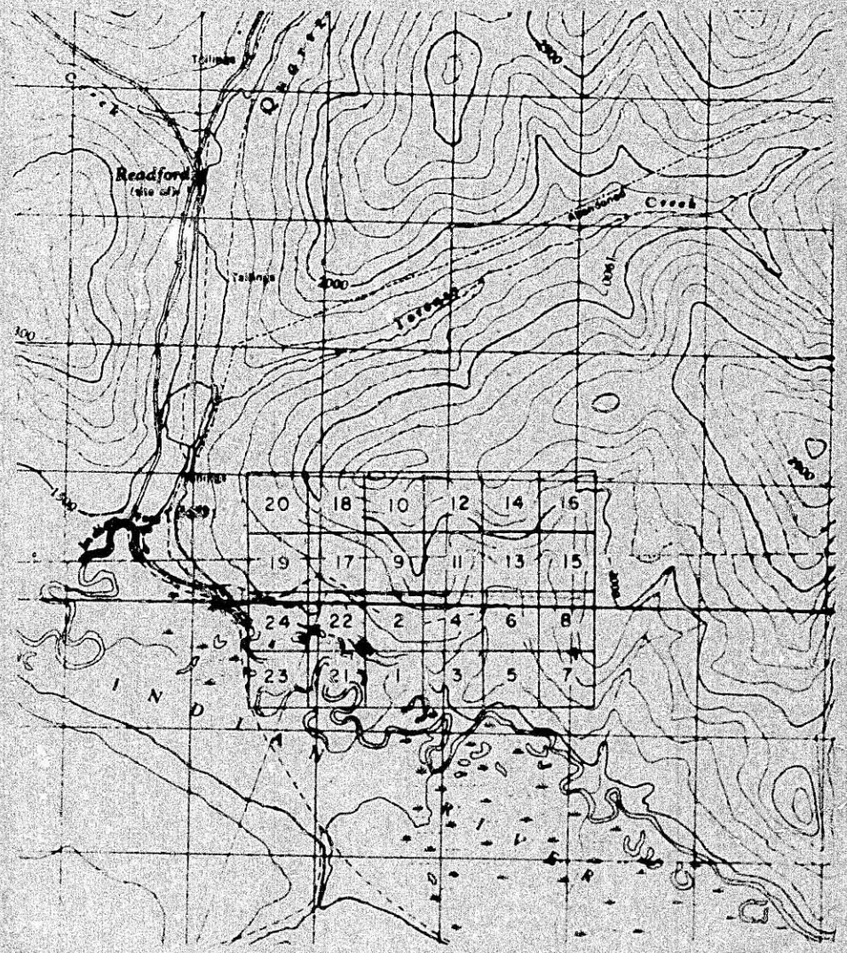
2. LOCATION AND ACCESS

The claim block is situated in west central Yukon within map sheets 115-O-11, and 115-O-14. The claims are located on the north bank of the Indian River one kilometre up stream from its confluence with Quartz Creek. Centre of the property occurs at Latitude 63°45' and Longitude 139°06'.

The claims are shown on the accompanying drawing L-6524 and are described in detail in the Schedule of Claims, Appendix I.

Currently, the property is accessible by truck from Dawson utilizing a series of gravel roads leading south along the Hunker Creek road from the Klondyke Highway.





SCALE 1:50,000

N.T.S. 115-0-14

RIO TINTO CANADIAN EXPLORATION LTD.

SPIKE CLAIMS

LOCATION

APRIL 78	J.M./y.m.	DWG. L-6524

3. GEOLOGICAL SETTING

The area was mapped at a scale of 1 inch to 2 miles by the G.S.C. in 1900 (G.S.C. Separate Report 687, R.G. McConnel) and by the G.S.C. in 1934 and 1935 (G.S.C. Map 711 A; Bostock, 1942) McConnel shows the property to be situated over quartzites, quartz-mica schists and gneisses of the Indian River Group, however, Bostock places the property within light coloured massive sericitic schists of the Klondyke schist.

Outcrop and float noted during the 1977 survey supports the conclusion of McConnel and the property is underlain by schists and gneisses of the Indian River group.

4. SAMPLING, SAMPLE PREPARATION AND ANALYTICAL PROCEDURE

The soil sampling was carried out by a crew which varied in size from two to three persons working from a camp located near the confluence of the Indian River and Quartz Creek. During the survey a total of 272 soil samples were collected.

Soil samples were collected at 100 metre intervals along 150 metre spaced north-south trending lines. Samples were taken from the 'B' soil horizon. Where 'B' horizon material could not be obtained no sample was collected.

All samples were placed in Kraft paper envelopes and shipped to the Riocanex laboratory in North Vancouver, B.C. Samples were oven dried at approximately 60°C. Dried samples were sieved through 80-mesh bolting cloth and oversized material discarded. Analyses was carried out on the minus-80 mesh fraction by atomic absorption spectrometer after digestion with hot nitric and perchloric acid. All samples were analysed for Cu, Pb, and Zn.

5. INTERPRETATION OF RESULTS

The results of the soil sampling programme are shown on the four accompanying drawings all at the scale of 1:5,000. Sample locations are shown on drawing GC-7479. The value in ppm obtained for the elements are shown on drawing GC-7480, GC-7497 and GC-7498.

Threshold and anomalous levels for each of the metals of interest have been derived and are shown in Table I. Previous work in this part of the Yukon has shown all of the elements of interest to show a log normal distribution. Therefore, statistical manipulations were carried out on the logs of the values. Threshold and anomalous levels were taken at the mean plus two standard deviations and the mean plus three standard deviations respectively for each of the metals investigated.

TABLE 1

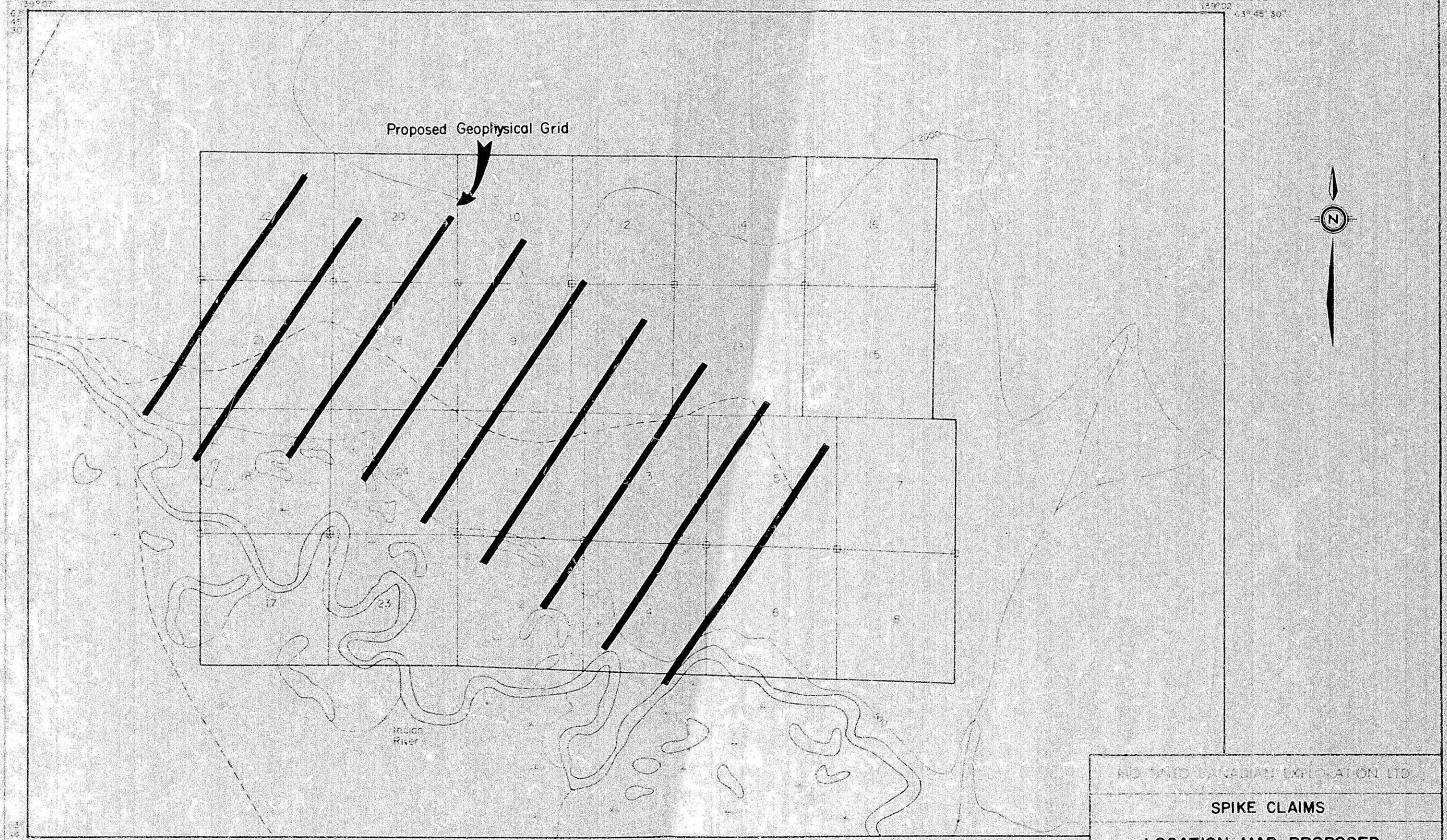
Threshold and Anomalous Metal Values in
'B' Horizon Soils - Spike Claims

Metal	Threshold Value	Anomalous Value
Cu	52 ppm	91 ppm
Pb	20 ppm	35 ppm
Zn	89 ppm	127 ppm

(Data on the minus 80-mesh fraction; analyses on the Atomic Absorption spectrometer after digestion with hot concentrated nitric and perchloric acid.)

Analyses of the soil samples were disappointing for all metals analysed. Only a few widely scattered samples contained anomalous values for copper, lead or zinc. These few anomalous samples were concentrated in the eastern portion of the claims.

While soil sampling was being conducted it was noted that the Spike claims, with the exception of the immediate banks of the Indian River, are covered by a thick bench of fluvial gravels. Test pits dug by placer miners, found at several locations, had reached depths of 4 metres without reaching bedrock. It is believed that the fluvial gravels may be as thick as 10 metres, and because they consist of transported material rather than in-site material, these gravels are probably acting as a barrier to the upward migration of metal ions from the bedrock.



Total line km = 9

SCALE 1:12,500

Metres 0 500 1000 Metres

NORTHLAND EXPLORATION LTD.

SPIKE CLAIMS

LOCATION MAP PROPOSED GEOPHYSICAL SURVEY

JAN. 78 J.Mc./y.m. L - 6497

6. CONCLUSIONS AND RECOMMENDATIONS

The recent soil survey has failed to locate any significant area of anomalous copper, lead or zinc in soil. Observations made during the soil sampling programme indicate that the majority of the claim block is covered by a thick blanket of transported material. This transported material is believed to be acting as a barrier to the upward migration of metal ions, thus rendering soil sampling an ineffective tool in determining the extent of mineralization on the Spike claims.

As geochemistry is an ineffective method for determining the extent of copper mineralization, it is recommended that a dipole-dipole induced polarization survey be carried out. This survey, consisting of 9 line kilometres, should be conducted along northeasterly trending lines spaced 200 metres apart so that the survey lines are perpendicular to the strike of the northwesterly striking copper-mineralized muscovite-quartz schist (Drawing L-6497).

J. McClintock BSc

H.W. Marsh Eng.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA H.W. MARSH

APPENDIX II

YUKON SCHIST 1977 GEOCHEMICAL RESULTS
RAVIN - SPIKE CLAIMS (AREA 4)

NUMBER	COPPER	LEAD	ZINC
7705000.0	15	7	44
7705001.0	18	6	50
7705002.0	19	5	38
7705003.0	20	1	135
7705004.0	19		68
7705005.0	30	7	58
7705006.0	21	7	52
7705007.0	37	6	56
7705008.0	25	1	19
7705009.0	59	6	72
7705010.0	12	5	42
7705011.0	15	7	40
7705012.0	7	3	28
7705013.0	15	6	30
7705014.0	8	3	28
7705015.0	20	5	28
7705016.0	23	1	20
7705017.0	31	3	40
7705018.0	25	8	56
7705019.0	12	7	27
7705021.0	20	5	69
7705 22.0	35	5	70
7705023.0	22	5	42
7705024.0	24	6	44
7705025.0	22	1	48
7705026.0	20	6	44
7705027.0	25	6	44
7705028.0	30	1	48
7705029.0	22	2	52
7705564.0	8	7	40
7705565.0	10	8	40
7705566.0	10	9	40
7705567.0	11	6	26
7705568.0	8	6	30
7705569.0	10	8	34
7705570.0	8	7	34
7705571.0	24	8	47
7705572.0	13	6	25
7705573.0	8	8	45
7705574.0	14	5	36
7705575.0	5	6	27
7705531.0	13	6	35
7705532.0	33	9	66
7705533.0	33	10	58
7705534.0	8	6	36
7705535.0	8	7	48
7705536.0	14	8	42
7705537.0	31	8	54

7705538.0	28	7	38
7705539.0	21	7	36
7705540.0	26	6	42
7705541.0	21	5	48
7705542.0	20	6	44
7705543.0	16	16	33
7705544.0	10	7	34
7705545.0	16	8	45
7705546.0	10	11	36
7705547.0	12	12	58
7705548.0	7	7	42
7705549.0	9	9	52
7705550.0	14	10	46
7705551.0	19	19	50
7705552.0	7	10	54
7705553.0	10	10	64
7705554.0	8	12	52
7705555.0	11	10	52
7705556.0	10	31	58
7705557.0	13	11	40
7705558.0	19	6	66
7705559.0	26	6	48
7705560.0	18	8	40
7705561.0	23	6	48
7705562.0	18	6	40
7705563.0	21	8	40
7705576.0	5	5	26
7705577.0	7	6	27
7705578.0	4	7	24
7705579.0	6	6	22
7705580.0	5	7	32
7705581.0	9	6	40
7705582.0	9	4	34
7705583.0	8	6	34
7705584.0	7	3	26
7705585.0	23	7	45
7705586.0	28	8	56
7705587.0	26	5	39
7705588.0	36	8	60
7705589.0	6	8	44
7705590.0	18	9	60
7705591.0	13	7	40
7705592.0	33	8	46
7705593.0	23	8	45
7705594.0	12	8	42
7705595.0	17	6	42
7705596.0	8	6	32
7705597.0	5	5	32
7705598.0	7	4	21
7705599.0	8	7	26
7705618.0	7	8	54
7705619.0	8	6	36
7705620.0	12	11	35
7705621.0	12	9	38

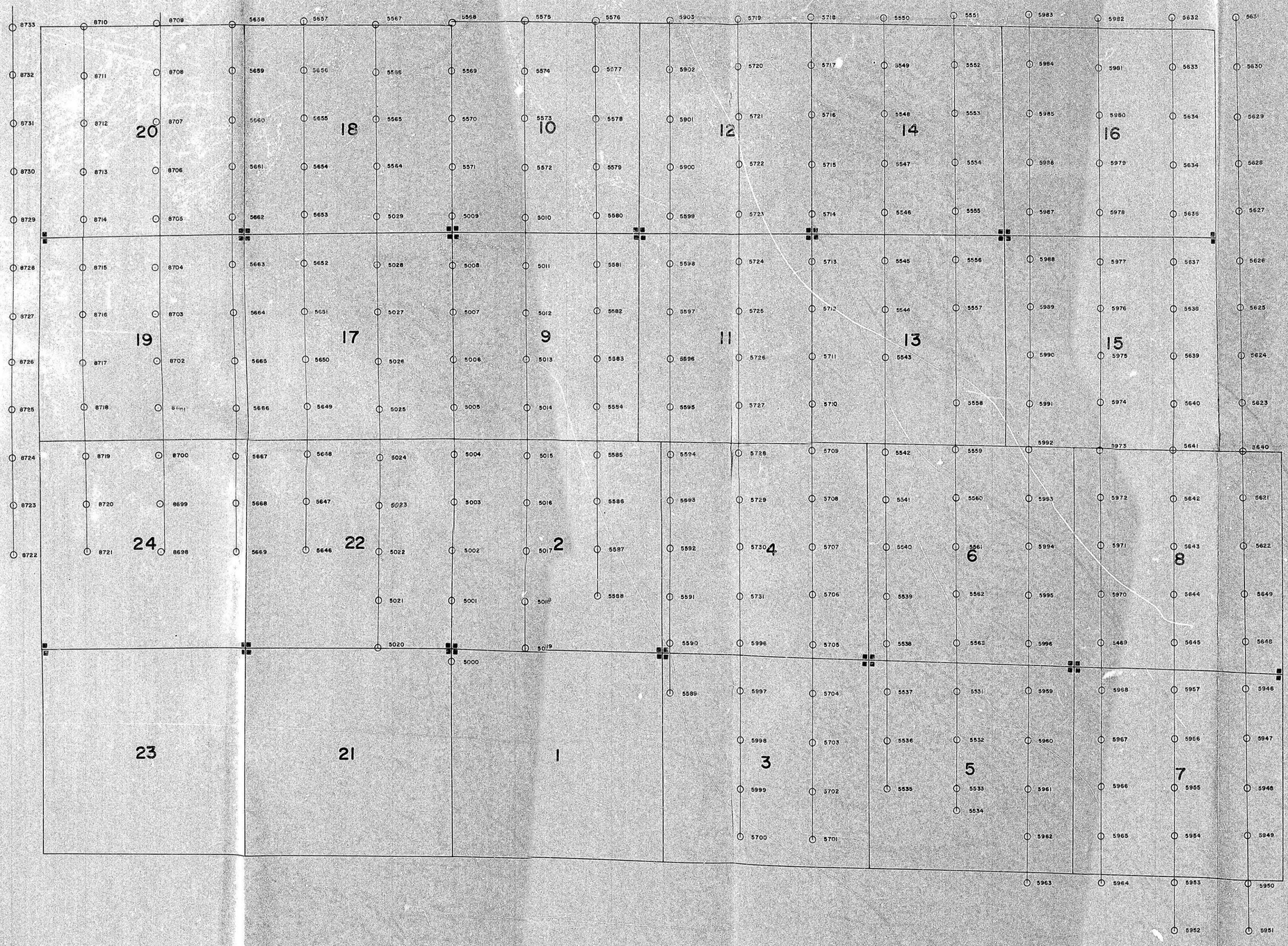
7705622.0	17	20	76
7705623.0	44	12	80
7705624.0	26	11	54
7705625.0	32	11	50
7705626.0	23	15	58
7705627.0	26	27	76
7705628.0	29	10	70
7705629.0	22	7	62
7705630.0	19	5	48
7705631.0	10	7	46
7705632.0	24	7	78
7705633.0	66	28	210
7705634.0	21	11	72
7705635.0	31	7	70
7705636.0	19	6	54
7705637.0	25	8	54
7705638.0	22	11	62
7705639.0	23	9	50
7705640.0	30	11	66
7705641.0	107	38	150
7705642.0	19	7	52
7705643.0	10	10	35
7705644.0	9	8	32
7705645.0	19	7	48
7705646.0	15	10	48
7705647.0	35	16	54
7705648.0	22	6	47
7705649.0	21	6	53
7705650.0	51	1	44
7705651.0	30	5	40
7705652.0	28	8	44
7705653.0	31	6	34
7705654.0	21	36	62
7705655.0	10	5	38
7705656.0	14	5	35
7705657.0	10	6	36
7705658.0	9	7	36
7705659.0	8	5	34
7705661.0	21	6	25
7705662.0	16	1	29
7705663.0	24	5	39
7705664.0	21	6	38
7705665.0	33	7	46
7705666.0	36	6	38
7705667.0	37	9	41
7705668.0	27	6	38
7705669.0	14	5	83
7705700.0	28	8	58
7705701.0	20	8	56
7705702.0	11	9	54
7705703.0	13	8	34
7705704.0	18	9	64
7705705.0	30	8	47
7705706.0	31	7	65

7705707.0	28	6	44
7705708.0	6	4	24
7705709.0	11	7	32
7705710.0	14	7	36
7705711.0	10	6	29
7705712.0	10	5	32
7705713.0	13	7	34
7705714.0	23	8	36
7705715.0	9	8	44
7705716.0	8	8	44
7705717.0	13	9	60
7705718.0	11	13	46
7705719.0	10	8	36
7705720.0	10	9	36
7705721.0	15	10	40
7705722.0	11	14	96
7705723.0	13	9	30
7705724.0	14	6	25
7705725.0	12	6	30
7705726.0	11	7	31
7705727.0	10	4	26
7705728.0	15	9	34
7705729.0	24	5	26
7705730.0	19	8	43
7705731.0	25	8	52
7705900.0	7	4	28
7705901.0	8	9	66
7705902.0	8	7	44
7705903.0	10	4	24
7705946.0	10	15	108
7705947.0	8	9	46
7705948.0	13	9	40
7705949.0	15	12	34
7705950.0	11	9	38
7705951.0	18	8	44
7705952.0	38	10	112
7705953.0	21	8	46
7705954.0	28	8	46
7705955.0	13	11	44
7705956.0	17	7	46
7705957.0	22	6	45
7705958.0	31	9	50
7705959.0	31	7	50
7705960.0	30	8	48
7705961.0	14	6	38
7705962.0	22	9	66
7705963.0	9	6	35
7705964.0	8	7	62
7705965.0	26	8	56
7705966.0	24	9	54
7705967.0	24	3	22
7705968.0	25	8	57
7705969.0	20	9	35
7705970.0	14	8	52

7705971.0	17	12	52
7705972.0	49	11	90
7705973.0	28	9	54
7705974.0	21	16	80
7705975.0	37	6	42
7705976.0	22	6	48
7705977.0	22	7	56
7705978.0	13	6	43
7705979.0	20	4	45
7705980.0	12	7	36
7705981.0	11	7	37
7705982.0	16	11	50
7705983.0	24	10	50
7705984.0	8	22	38
7705985.0	10	14	55
7705986.0	8	15	64
7705987.0	16	15	68
7705988.0	17	13	45
7705989.0	21	9	64
7705990.0	54	3	86
7705991.0	31	6	42
7705992.0	27	7	45
7705993.0	21	8	50
7705994.0	24	7	46
7705995.0	30	6	58
7705996.0	47	5	16
7705997.0	22	9	82
7705998.0	21	9	64
7708698.0	6	4	21
7708699.0	83	4	70
7708700.0	15	1	15
7708701.0	19	2	52
7708702.0	13	2	68
7708703.0	16		24
7708704.0	22	6	30
7708705.0	18	5	40
7708706.0	8	5	28
7708707.0	32	8	34
7708708.0	16	8	35
7708709.0	10	6	20
7708710.0	24	4	37
7708711.0	11	7	29
7708712.0	13	5	29
7708713.0	33	5	32
7708714.0	25	6	55
7708715.0	23	2	16
7708716.0	25	7	37
7708717.0	30	6	38
7708718.0	24	5	42
7708719.0	12	1	65
7708720.0	10	6	46
7708721.0	9	5	26
7708722.0	16	10	41
7708723.0	8	4	28

7708724.0	12	6	38
7708725.0	9	6	44
7708726.0	28	7	50
7708727.0	21	6	33
7708728.0	31	7	46
7708729.0	32	3	40
7708730.0	58	6	56
7708731.0	45	5	43
7708732.0	25	6	54
7708733.0	32	5	55

L. - 800 W. L. - 750 W. L. - 600 W L. - 450 W. L. - 300 W. L. - 150 W. L. - 00 L. - 150 E. L. - 300 E. L. - 450 E. L. - 600 E. L. - 750 E. L. - 900 E. L. - 1050 E. L. - 1200 E. L. - 1350 E. L. - 1500 E. L. - 1650 E.



LEGEND

■ · · · · · · Claim Post

○ 5002 · · · · · · Soil Sample Location Numbers

N.T.S 115 - O - 14

SCALE 1 : 5000

Metres 100 50 0 100 200 300 400 500 Metres

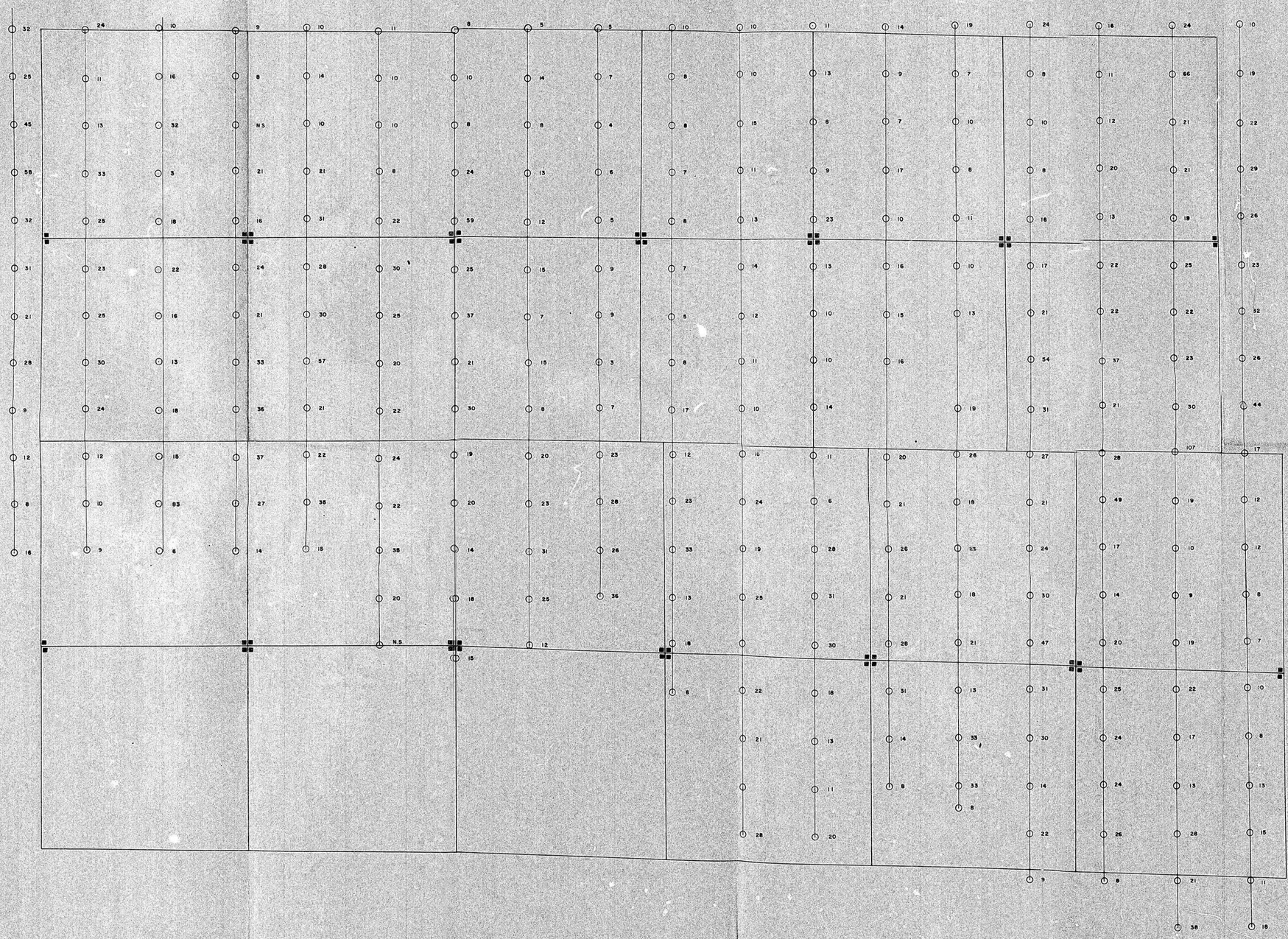
RIO TINTO CANADIAN EXPLORATION LIMITED

SPIKE CLAIMS

SOIL SAMPLE LOCATION NUMBERS

JAN. 1978 | J. Mc. / y. m. | DWG. G.C. - 7479

L. - 800 W. L. - 750 W. L. - 600 W L. - 450 W L. - 300 W. L. - 150 W. L. - 00 L. - 150 E L. - 300 E. L. - 450 E L. - 600 E. L. - 750 E L. - 900 E. L. - 1050 E. L. - 1200 E L. - 1350 E L. - 1500 E. L. - 1650 E



LEGEND

■ Claim Post

○6 Soil Sampling Results in p.p.m Cu

N.T.S 115-0-14

SCALE 1:5000

Metres 100 50 0 100 200 300 400 500 Metres

RIO TINTO CANADIAN EXPLORATION LIMITED

SPIKE CLAIMS

SOIL SAMPLING RESULTS

P.P.M. CU

JAN 1978 | J. Mc./y.m. | DWG. G.C. - 7480

L. - 800 W. L. - 750 W. L. - 600 W L. - 450 W L. - 300 W. L. - 150 W. L - 00 L. - 150 E. L. - 300 E. L. - 450 E. L. - 600 E. L. - 750 E. L. - 900 E. L. - 1050 E. L. - 1200 E L. - 1350 E. L. - 1500 E. L. - 1650 E.

20 18 10 12 14 16

19 17 9 11 13 15

24 22 2 4 6 8

23 21 1 3 5 7

LEGEND

■ Claim Post

8 Pb ppm

N.T.S. 115 - O - 14

SCALE 1:5000

Metres 100 50 0 100 200 300 400 500 Metres

RIO TINTO CANADIAN EXPLORATION LIMITED

SPIKE CLAIMS

Pb PPM

JAN. 1978 | J.Mc./y.m. | DWG. G.C. - 7497

L. - 800 W. L. - 750 W. L. - 600 W L. - 450 W L. - 300 W. L. - 150 W. L. - 00 L. - 150 E L. - 300 E. L. - 450 E L. - 600 E. L. - 750 E L. - 900 E. L. - 1050 E. L. - 1200 E. L. - 1350 E. L. - 1500 E. L. - 1650 E.

20 18 10 12 14 16

19 17 9 11 13 15

24 22 2 4 6 8

23 21 1 3 5 7

LEGEND

■ Claim Post

C 48 Zn ppm

N.T.S 115 - O - 14

SCALE 1 5000

Metres 100 50 0 100 200 300 400 500 Metres

RIO TINTO CANADIAN EXPLORATION LIMITED

SPIKE CLAIMS

Zn PPM

JAN 1978 | J. Mc./y.m. | DWG. G C - 7498