

1983 ASSESSMENT REPORT ON
GEOCHEMICAL SURVEYS

by

Ian G. Sutherland

on the

KRAB CLAIM

situated northeast of Black Lake
in the Omineca Mining Division

57°15', 127°01'

NTS 94E/2W, 3E, 6E, 7W

owned by

KIDD CREEK MINES LTD.

work by

KIDD CREEK MINES LTD.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,547

October, 1983

Vancouver, B.C.

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4	Rock Geochemistry-Au, Ag	1:5,000	pocket
5	Rock Geochemistry-Cu, Pb, Zn	1:5,000	pocket
6	Soil Geochemistry-Au, Ag, Hg	1:5,000	pocket
7	Soil Geochemistry-Cu, Pb, Zn	1:5,000	pocket

INTRODUCTION

Location, Access and Terrain

The Krab claim is situated approximately 7 km NE of Sturdee Valley airstrip in the Toadoggone River area of north-central British Columbia (Figure 1).

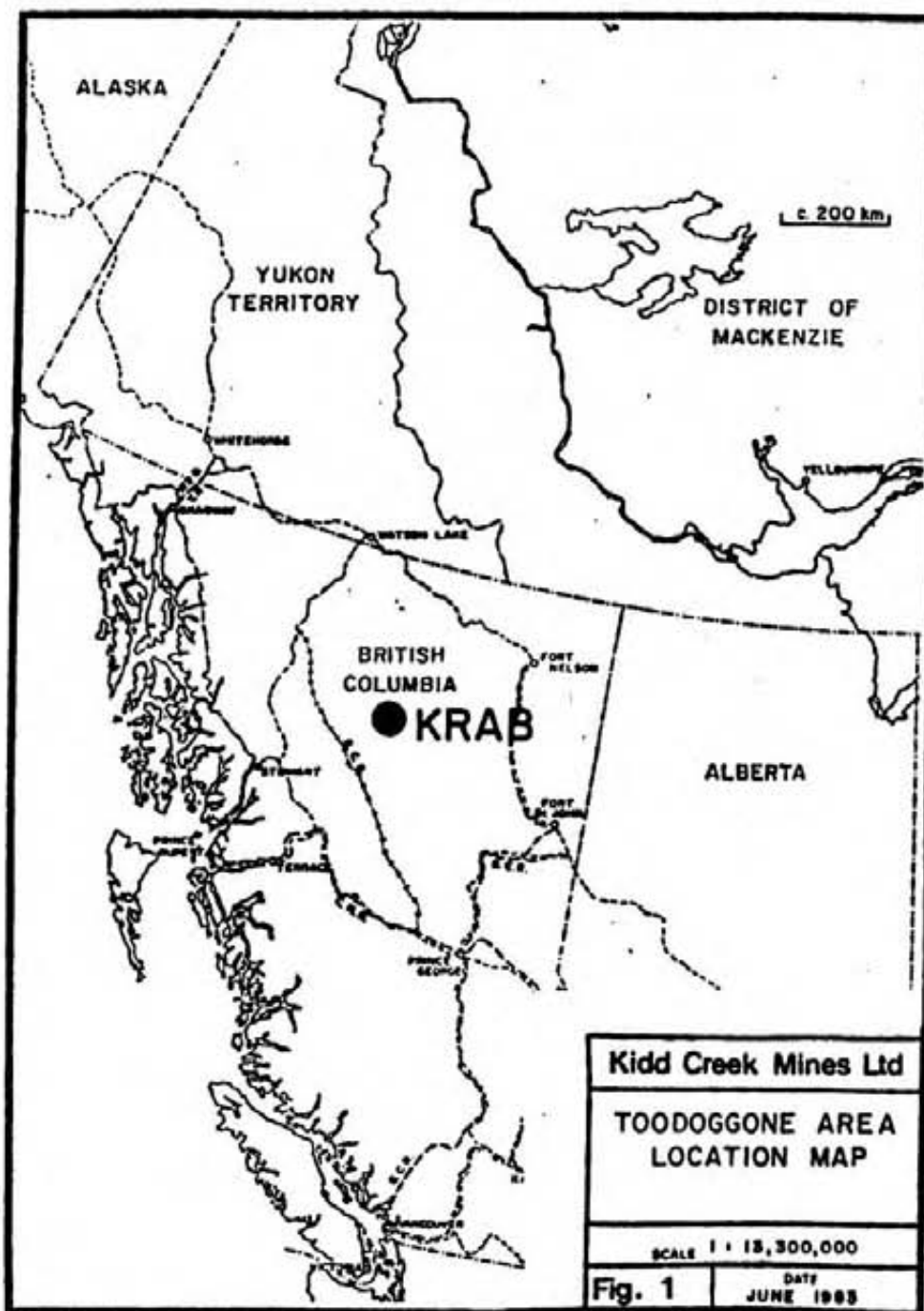
Access to the claim is by a combination of fixed-wing aircraft from Smithers or Watson Lake to the Sturdee Valley airstrip or a smaller airstrip NE of Black Lake. From the Sturdee Valley airstrip, helicopter transport is required. From the latter airstrip a 2-4 km trail rises approximately 250 m above the lake to the claim.

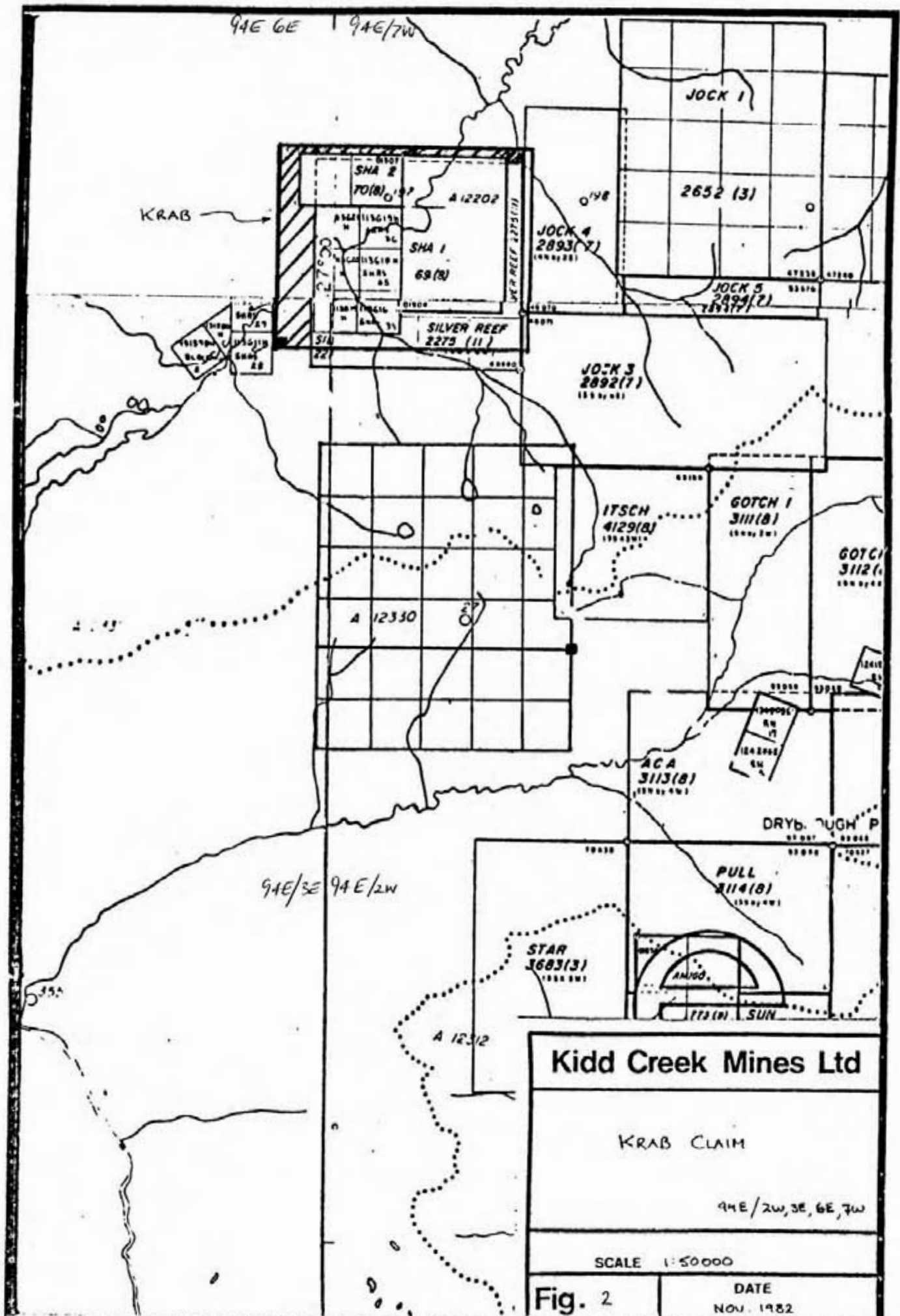
The property is situated east of the Spatsizi Plateau approximately 2 km NE of Black Lake and covers moderate to steep slopes of a previously burned area. Shrubs and grasses are now the dominant vegetation. The southern part of the property is covered by swampy vegetation situated in a valley.

Property History and Definition

Mineral exploration in the area began in the 1930's when programs searching for placer deposits were carried out near the junction of the Toadoggone River and McClair creek. In the 1950's exploration for skarn deposits commenced. During the 1960's there was an interest in Cu-Mo porphyry deposits and in the 1970's exploration for precious metals was initiated by Dupont and SEREM. At present a gold mine (Baker Mine) is being operated by Dupont.

Kidd Creek Mines' involvement with the Krab claim began in the summer of 1982 when this claim was





staked over a previously recognized Au-Ag occurrence (Shas prospect; International Shasta Resources, Ltd.). However, it was later discovered that the original owners, International Shasta Resources, had not forfeited their claims as originally believed. Newmont Exploration of Canada Ltd. optioned the Shas property in early 1983 and have staked considerable additional ground around the Krab claim. Thus, only a small portion of ground is owned by Kidd Creek Mines Ltd.

The property consists of 1 claim which accounts for a total of 20 units within the Omineca Mining Division (Figure 2).

Work described in this report was carried out by Kidd Creek Mines Ltd., the current owners of the claim.

SUMMARY OF WORK COMPLETED

Geochem Surveys

A total of 81 soil and 9 rock samples were collected on Aug. 23 and 24, 1983 and were analysed for some or all of Cu, Zn, Pb, Ag, Au and Hg. Sampling was done by D. Coolidge and under the supervision of I. G. Sutherland. Soil and rock samples were collected in the area east of Jock Creek along the western margin of the claim. A grid was constructed with a 1500 m baseline bearing directly N-S and 200 m crosslines trending to the east. A regular soil sample interval of 50 m was used along all lines. Rock samples of float and outcrops were taken at irregular intervals along the grid between lines 8+00N and 1+00 N. All geochemical analyses were carried out by Acme Analytical Laboratories Ltd. of Vancouver; results and analytical information are tabulated in Appendix C.

WORK DISTRIBUTION

All work was done on the Krab claim.

GEOLOGY

Regional Setting

The Krab claim lies within a Mesozoic volcanic arc assemblage flanked to the east by the Omineca Crystalline Belt, and to the west and south by the Sustut and Bowser Basin assemblages.

The oldest rocks exposed in the Toodoggone area are blocks of Permian limestone of the Asitka group which are overlain by the Triassic Takla group. This group consists of basaltic to andesitic flows and pyroclastic rocks. These rocks are unconformably overlain by the Toodoggone volcanic sequence which consists of pyroclastic andesitic to dacitic tuffs, felsic to intermediate porphyries and volcanic-sedimentary unit (Schroeter, 1982). These rocks are cut by Jurassic to Cretaceous granodiorite to quartz monzonite intrusions of the Omineca Crystalline Belt. Upper Cretaceous to Tertiary conglomerates and sandstones of the Sustut group locally overlie Toodoggone and Takla rocks.

This entire area has been repeatedly block faulted with a dominant NW trending structural component. Metamorphism is very low-grade, ranging up to greenschist facies.

Local Geology and Mineralization

Local geology, as defined by C. Kowall 1980, divides the area into two major rock types. One is a green tuff with dominant phenocrysts of pink feldspars. These may be either Fe-stained plagioclase or orthoclase.

The second type is a "rhyolite" ranging in colour from pale pink to a reddish pink. Local small quartz grains and orthoclase phenocrysts are usually present.

Fragmental volcanic rocks are also present and are composed of green, porphyritic, subrounded fragments.

Precious metal mineralization is associated with pyrite according to R.E. Gale (1978) and C. Kowall (1980). However, no visible precious or base metal mineralization was noted on the property.

The main alteration type is silicification consisting of quartz veins, stockworks and large, lens-like replacements. This structurally controlled alteration appears to strike in a general northerly direction (R. E. Gale, 1980). Locally pyrite accompanies silicification in varying amounts as well as finely disseminated tetrahedrite (C. Kowall, 1980; R. E. Gale, 1978).

GEOCHEMISTRY

Survey Procedures

The 1983 program on the Krab property was entirely a geochemical one involving soil and rock sampling.

A total of 81 soil samples were collected on an area of burnt forest on moderate to steep slopes. A sample interval of 50 m was employed (Figure 3) and, in general, most material sampled was from the B to C horizons at a depth of 0.20 m. Soil development was notably poor making differentiation of B and C horizons difficult.

Rock samples (9 in total) of altered country rock were collected selectively across the grid. The majority of samples were of float material.

All soil samples were oven dried and shipped to Acme Analytical Labs Ltd. in Vancouver.

A summary of extraction and analytical technique is as follows:

<u>Elements</u>	<u>Extraction</u>	<u>Method</u>
Ag, Cu, Pb, Zn	Hot aqua regia	A.A.
Au	Hot aqua regia: MIBK	A.A.
Hg	Aqua regia: 20% HCl dil.	Cold Vapour A.A

The results of soil analyses are plotted on Figures 4 and 5 and tabulated in Appendix C.

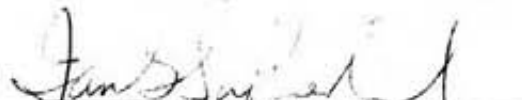
Rock samples were also analysed geochemically by Acme Analytical Labs Ltd. for Au, Ag, Cu, Pb and Zn, using the same procedures as soils. Results are plotted on Figures 6 and 7.

Discussion of Results

Analytical results of the soil and rock samples are shown in Figures 4 and 5. Overall results are poor with random and weak anomalous soils in Zn, Ag and Au. Most "anomalies" are only one station except for a two station Zn anomaly in the middle of the grid. However, it should be noted that the one Au anomaly obtained occurs at the top end of the grid, i.e., L15+00N, 0+50E. Thus, an extension of the grid and soil geochemistry should be considered for next year.

Rock sample analyses are also tabulated in Appendix C and indicate similar overall discouragement in this immediate area. The sample density is low, however, and perhaps a better evaluation of this property could be determined by geological mapping of the claim area with more systematic rock sampling.

The recently reported results obtained by Newmont on the adjacent (and overlapping) Shas property are very encouraging and support the proposed continuation of work on this claim in 1984.



Ian G. Sutherland

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APPENDIX A

STATEMENT OF QUALIFICATIONS

APPENDIX A

STATEMENT OF QUALIFICATIONS

I.G. Sutherland - Geologist

I.G. Sutherland holds a BSc (Hons) degree in Geology from the University of Western Ontario, granted in 1976. Since that time he has held several positions in Industry and Government, and has been employed by Kidd Creek Mines Ltd. in Vancouver since March 1981.

APPENDIX B

STATEMENT OF EXPENDITURES

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SALARIES AND FRINGE BENEFITS, KIDD CREEK MINES LTD.

K. Norris, Assistant		
Period: Aug 23-24	2 days @ \$ 58	\$116.00

D. Coolidge, Assistant		
Period: Aug 23-24	2 days @ \$ 65	130.00

ROOM AND BOARD

Kidd Creek Mines Personnel	4 man-days @ \$80	320.00
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HELICOPTER SUPPORT

ALC Hughes 500D	2.7 hours @ \$510/hr	1,377.00
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ANALYTICAL COSTS

9 rock sample preparations @ \$2.50		22.50
81 Soil sample preparations @ \$0.50		40.50
9 Au, Ag, Cu, Pb ad Zn geochemical analyses @ \$5.40		48.60
81 Au, Ag, Cu, Pb, Zn, Hg geochemical analyses @ \$7.40		599.40

REPORT PREPARATION

I.G. Sutherland	1 1/2 days @ \$167.00 (incl. drafting)	204.00
Typing		<u>48.00</u>

TOTAL		\$2,906.00
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APPENDIX C
ANALYTICAL DATA

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS, VANCOUVER B.C.
PH: 253-3158 TELEX: 04-53124

DATE RECEIVED OCT 27 1983

DATE REPORTS MAILED Nov 4/83

ICP GEOCHEMICAL ANALYSIS

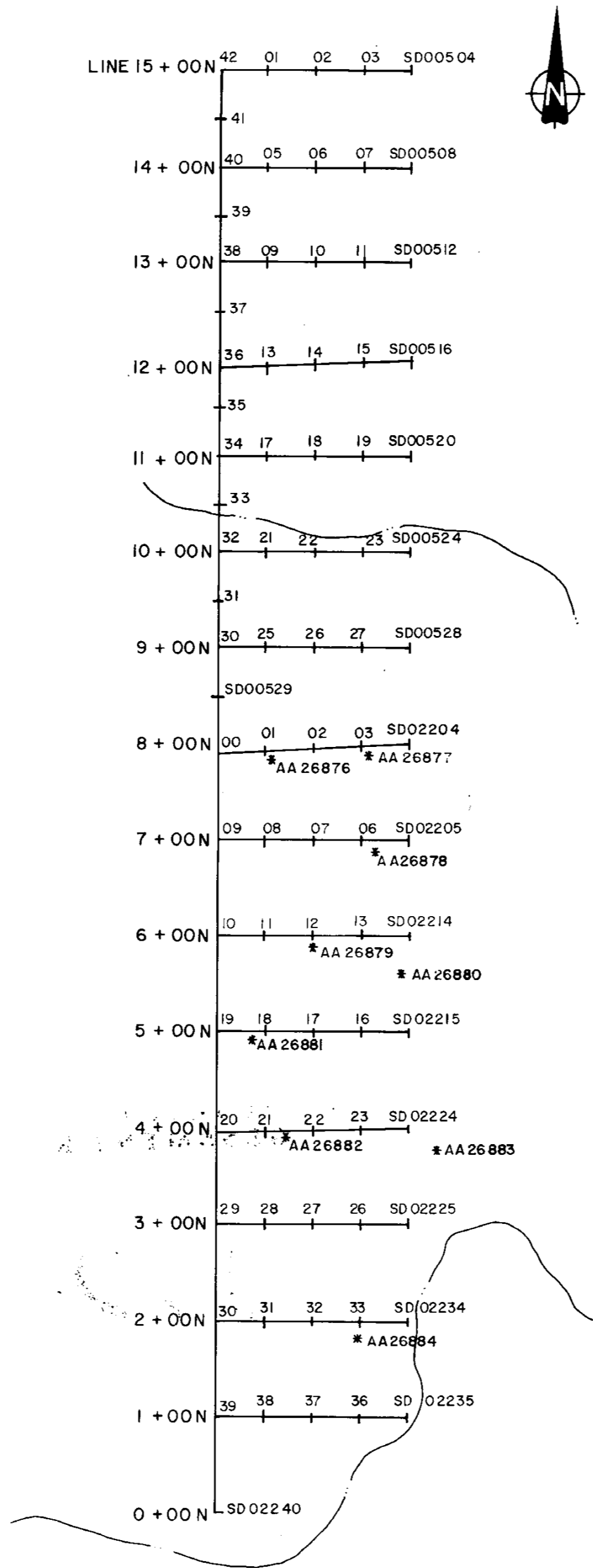
A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR.
THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca, P, Mg, Al, Ti, La, Na, K, W, Ba, Si, Sr, Cr AND B. Au DETECTION 3 ppm.
Au ANALYSIS BY AA FROM 10 GRAM SAMPLE.
SAMPLE TYPE - ROCK CHIPS

ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

KIDD CREEK MINES FILE # 83-2721

PAGE# 1

SAMPLE	CU ppm	PB ppm	ZN ppm	AG ppm	Au* ppb
AA-26876	3	3	61	.4	5
AA-26877	1	7	58	.5	5
AA-26878	6	7	33	.4	5
AA-26879	2	3	50	.3	5
AA-26880	13	10	43	.2	5
AA-26881	6	5	77	.2	5
AA-26882	4	9	72	.2	5
AA-26883	1	7	35	.1	5
AA-26884	6	6	42	.3	5
STD A-1	31	39	179	.3	5

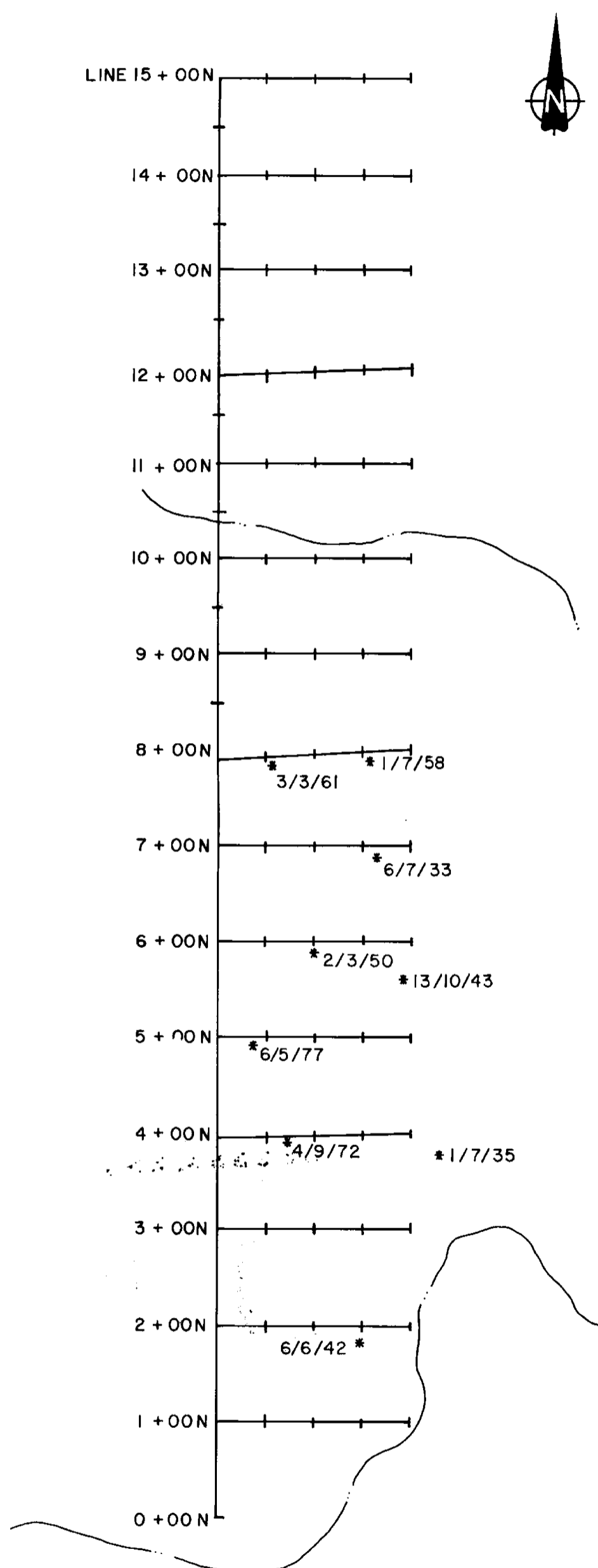


+ Soil sample
* Rock sample

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,547

Kidd Creek Mines Ltd.		
TOODOGGONE RECCE PROPERTIES KRAB CLAIM FRACTION		
SOIL & ROCK SAMPLE LOCATIONS		
PROJ. 910		
WORK BY	DRAWN BY	DATE
K.N., D.C.	E. R.	SEPT. 14, 1983
Fig. 3	 SCALE 1 : 5,000	



+ Soil sample
* Rock sample

Cu / Pb / Zn
(ppm)

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

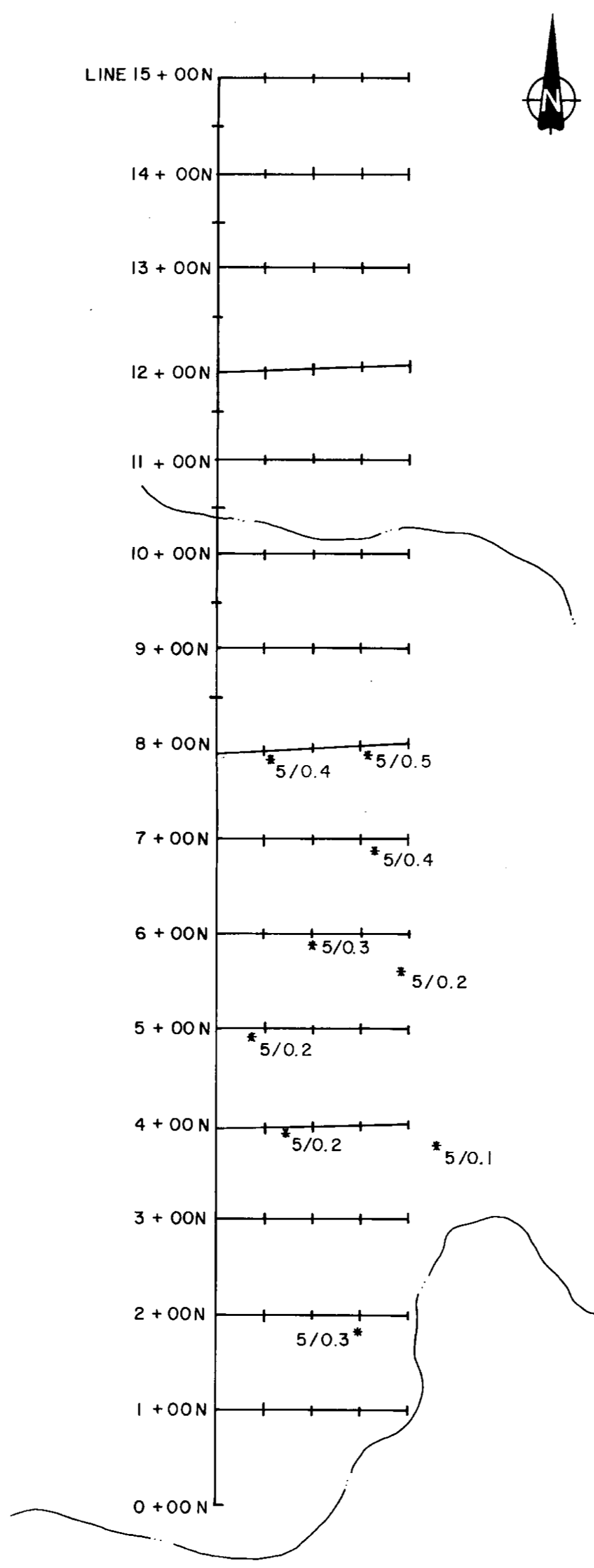
11,547

Kidd Creek Mines Ltd.
TOODOGGONE RECCE PROPERTIES
KRAB CLAIM FRACTION
ROCK GEOCHEMISTRY
Cu/Pb/Zn
PROJ. 910

WORK BY	DRAWN BY	DATE
K.N., D.C.	E. R.	SEPT. 14, 1983

Fig. 5

0 100 200 M
SCALE 1 : 5,000



+ Soil sample
 * Rock sample

Au (ppb) / Ag (ppm)

**GEOLOGICAL BRANCH
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11,547

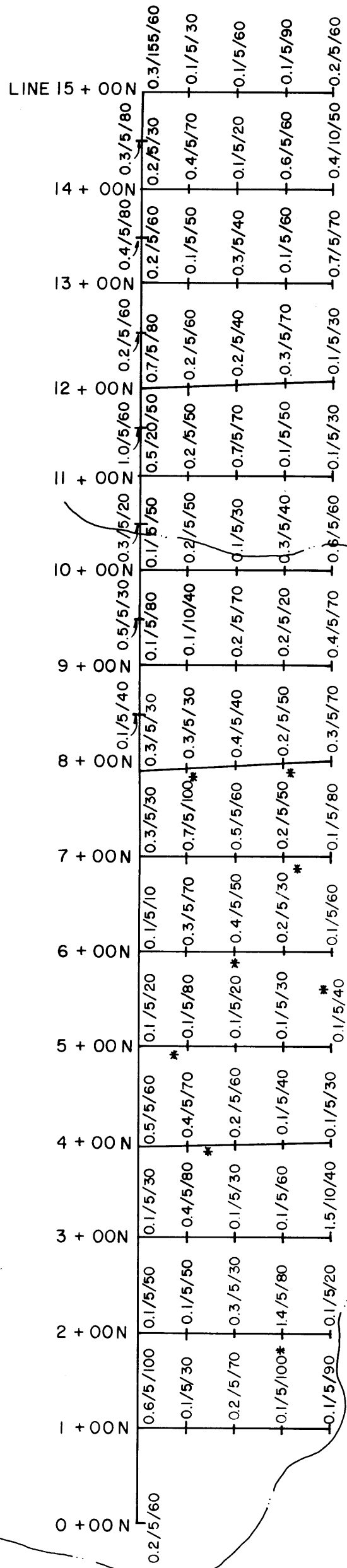
Kidd Creek Mines Ltd.
 TOODOGGONE RECCE PROPERTIES
 KRAB CLAIM FRACTION
 ROCK GEOCHEMISTRY
 Au/Ag

PROJ. 910

WORK BY	DRAWN BY	DATE
K.N., D.C.	E.R.	SEPT. 14, 1983

Fig. 4

0 100 200 M
 SCALE 1 : 5,000



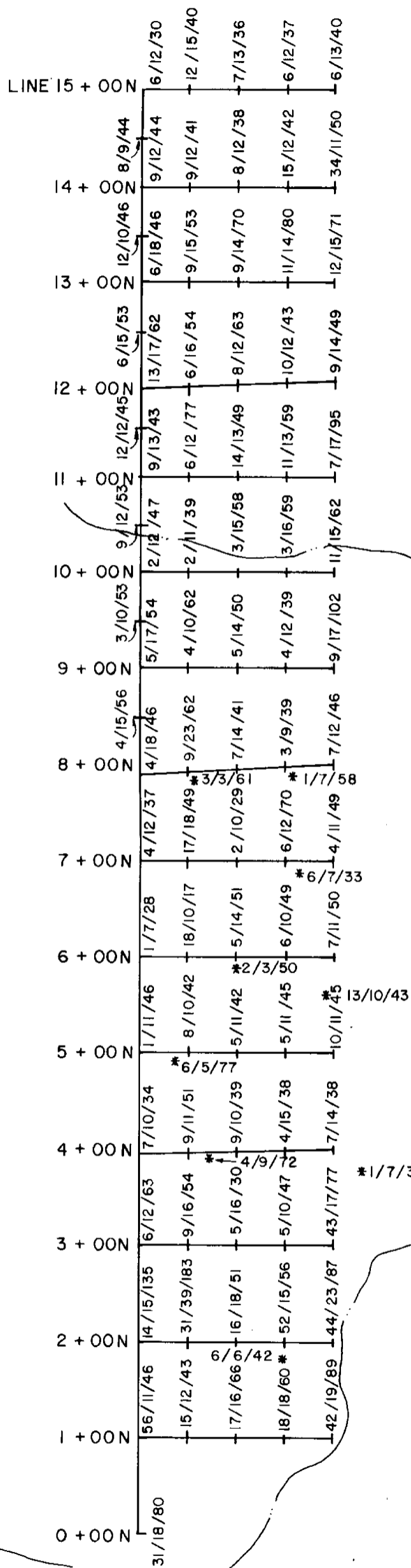
+ Soil sample
* Rock sample

Ag (ppm) / Au (ppb) / Hg (ppb)

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,547

Kidd Creek Mines Ltd.		
TOODOGGONE RECCE PROPERTIES KRAB CLAIM FRACTION		
SOIL GEOCHEMISTRY Ag/Au/Hg		
PROJ. 910		
WORK BY K.N., D.C.	DRAWN BY E.R.	DATE SEPT. 14, 1983
Fig. 6	<p>SCALE 1 : 5,000</p>	



+ Soil sample
* Rock sample

Cu (ppm) / Pb (ppm) / Zn (ppm)

11,547

Kidd Creek Mines Ltd.

TOODOGGONE RECCE PROPERTIES
KRAB CLAIM FRACTION

SOIL GEOCHEMISTRY
Cu/Pb/Zn

PROJ. 910

WORK BY	DRAWN BY	DATE
K.N., D.C.	E. R.	SEPT. 14, 1983

Fig. 7

0 100 200 M
SCALE 1 : 5,000