83-#354-11605

COMINCO LTD.

EXPLORATION
NTS:92H/9,16

WESTERN DISTRICT
August 3, 1983

ASSESSMENT REPORT

ON A SOIL GEOCHEMICAL SURVEY OF THE

TOBA SEVEN MINERAL CLAIM, TOBA PROPERTY

Dillard Creek Area, Similkameen M.D., B.C.

(work performed June 7 - 9, 1983)

LATITUDE:49°45'N

LONGITUDE:120°25'W

REPORT BY: D.T. MEHNER

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SUMMARY

The Toba property covers an alkaline porphyry copper prospect in quartz deficient, Nicola volcanics approximately 32 km north of Princeton, B.C. The Toba Seven Mineral claim covers part of the favorable stratigraphy within the property. A wide spaced soil geochemical survey was conducted over the claim, yielding anomalous copper values over 1500 m by up to 600 m of up to 1380 ppm. The anomaly is an eastward extension of a partially define zone identified in an earlier survey on the Toba claim and is thought to reflect copper mineralization in underlying Nicola volcanics. Weak Pb and/or Zn soil anomalies were also identified, and likely reflect minor mineralization in underlying rocks.

INTRODUCTION

The Toba property was staked in 1980 to cover an alkaline porphyry copper prospect situated in the Princeton-Merritt copper belt of southern B.C. In August 1981, the Toba Seven claim was staked to cover favorable stratigraphy adjacent to the rest of the property.

From June 7 to 9, 1983 a wide spaced soil geochem survey was conducted over the entire claim as a means of doing preliminary evaluation of the ground. One hundred forty-five soil samples were collected from 14.3 km of flagged grid lines by D. Pauls and D. Mehner.

LOCATION AND ACCESS

The Toba property is located approximately 32 km due north of Princeton B.C. and 6 km south east from the southern end of Missezula Lake(Plate 1). The centre of the Toba Seven claim is situated at about $120^{o}25'$ west longitude and $49^{o}45'$ north latitude.

Access to the property is easily obtained by turning off Highway 5 approximately 48 km north of Princeton, and heading east along the "Dillard Main" gravel logging road to the 28 km mark.

TOPOGRAPHY AND VEGETATION

The property is situated along the top and north face of a gently sloped hill south east of Missezula Lake near the headwaters of Dillard Creek. Elevations vary from 5350 ft at the south end of the claim to 4850 ft at the north end along Dillard Creek.

Vegetation coverage is dense with spruce and pine covering the entire claim. Alder and willow are common along the creek valleys. Dillard Creek and numerous swamps and ponds provide abundant water sources for drilling.

PROPERTY AND OWNERSHIP

The Toba Seven claim is located in the Similkameen Mining Division and is 100% owned by Cominco Ltd.

CLAIM NAME	RECORD NO.	UNITS	DATE RECORDED	DATE DUE
Toba Seven	1502	12	Aug. 19/81	Aug. 19/83

PREVIOUS WORK

The area covered by the Toba Seven claim has been staked by various people over the years however Noranda Exploration is the only group known to have carried out work in the immediate area. In 1972 they conducted both soil and bio-geochemical surveys along with geological mapping on the Lorry and Sp claims (assessment report 4341) and soil sampling on the Becki claims(assessment report 4342).

GRID PREPARATION

All grid lines were located with the use of compass and topochains and tied in to the grid established on the rest of the Toba property in 1981. All lines were marked with flagging.

GEOLOGY

Regional

The Toba property occurs along the eastern edge of the Aspen Grove copper belt in an area underlain by Upper Triassic Nicola volcanics that Preto(1979) has referred to as Eastern Belt rocks. These are characterized by a lack of intrusive rocks and a predominance of well bedded volcanic sediments, coarse volcanic conglomerates, tuffs, lahar breccias and trachyandesite and trachybasalt flows. Separating the Eastern Belt rocks from those of the Central Belt to the west is the north-south trending Summers Creek fault while to the east, granitic rocks of the Jurassic, Pennask Batholith are found.

Property

The geology in the immediate vicinity of the Toba claims including Toba Seven consists of a volcanic pile made up of well bedded volcaniclastics, mafic to intermediate volcanic flows and coarse andesite volcanic fragementals of the Nicola Group intruded by coeval, altered and mineralized diorites, monzonites and syenites(Mehner, 1981). These rocks are in turn intruded by Jurassic quartz monzonites of the Pennask Batholith about 500 meters east of the Toba claims. Disseminated and fracture controlled pyrite, often in epidote-calcite veins occurs throughout the property. Chalcopyrite is found sporadically throughout as disseminated grains with pyrite or as grains in calcite veins.

GEOCHEMISTRY

A wide spaced soil geochem survey was conducted over the Toba Seven claim in order to do an initial evaluation of the ground.

A total of 145 samples were collected at 100 meter intervals from grid lines spaced 200 meters apart. All samples collected were analyzed for Cu-Pb-Zn by Cominco's laboratory in Vancouver.

The samples were collected from the "B" soil horizon whenever present. In cases where none was obtainable an analysis was made of the available materal. All samples were air dried and then sieved through 80 mesh screens. Cu, Pb and Zn analysis were made using nitric acid(20% HNO_3) digestion followed by atomic absorption. Coefficients of variation are 10-15%. Soil samples were medium brown to yellow-brown in colour and often consisted of angular rock fragements with poorly developed, sandy soil between pieces. Overburden coverage averaged ≤ 3 ft for most of the grid.

The results of the survey are listed in Appendix "A" and shown on Plates 2(copper) and 3(lead and zinc).

If 80 ppm is taken as anomalous, the survey outlines a large, irregular anomalous zone extending 1.5 km long by up to 600 meters wide with values ranging up to 1380 ppm Cu(Plate 2). The anomaly appears to be an eastward extension of an anomalous zone partially outlined on the Toba claim in 1981(Mehner, 1981) and likely reflects copper mineralization in underlying Nicola volcanic rocks.

Using values of $\geq$10 ppm Pb and $\geq$100 ppm Zn the survey has indicated a number of very small irregular weakly anomalous zones with values ranging up to 108 ppm Pb and 1300 ppm Zn(Plate 3). The low values and scattered nature of the anomalies likely reflects minor mineralization in underlying Nicola volcanic rocks.

CONCLUSIONS

The wide spaced soil geochemical survey conducted over the Toba Seven mineral calim indicates the presence of a relatively large(1500 x 600 meters) anomalous copper zone with values ranging up to 1380 ppm Cu.

REFERENCES

Heim, R.C. and Knauer, J.D. 1972. Geochemical Survey on the Becki 1-27, 29, 31 and 33-40 Mineral Claims(Similkameen Mining Division, 92H/9W) B.C. Dept. of Mines and Petroleum Resources Assessment Report 4342.

Heim, R.C., Knauer, J.D. and Walker, J.T., 1972. Combined Geochemical and Geophysical Report on the Lorry 1-9, 11, 13, 15, 17-32; Sp 1-20 and Sp 1-7 Fractional Mineral Claims(Similkameen Mining Division, 92H/9W). B.C. Dept. of Mines and Petroleum Resources Assessment Report 4341.

Mehner, D.T., 1981. Assessment Report on a Soil Geochemical, Ground Magnetic, V.L.F. and Geological Mapping Survey of the Toba Property, Dillard Creek Area, Similkameen M.D., B.C.; B.C. Dept. of Mines and Petroleum Resources Assessment Report

Preto, V.A., 1979. Geology of the Nicola Group between Merritt and Princeton. B.C. Ministry of Energy, Mines and Petroleum Resources Bulletin 69, p. 90.

Reported by: D. Mehner
D.T. Mehner
Geologist

Endorsed by:
F.L. Wynne
Senior Geologist

Approved for Release by:
G. Harden, Manager
Western District, Exploration

Distribution:
Minister of Mines(2)
W.D. File(1)
Vernon File(1)

APPENDIX "A"

SOIL GEOCHEM VALUES FROM TOBA SEVEN MINERAL CLAIM

TOBA

REPORTING DATE 4 JUN 1983

SAMPLE NUMBER	FIELD NUMBER	TYPE	MAP	E/W	N/S	Cu PPM	Pb PPM	Zn PPM
S83 01952		S		+300	+100	138	5	91
S83 01953		S		+300	+200	86	6	83
S83 01954		S		+300	+300	408	<4	98
S83 01955		S		+300	+400	179	<4	78
S83 01956		S		+300	+500	34	<4	31
S83 01957		S		+300	+600	26	<4	26
S83 01958		S		+300	+700	35	<4	24
S83 01959		S		+300	+800	27	<4	28
S83 01960		S		+300	+900	21	<4	24
S83 01961		S		+300	+1000	81	<4	29
S83 01962		S		+300	+1100	1380	4	32
S83 01963		S		+300	+1200	197	<4	56
S83 01964		S		+300	+1300	57	<4	34
S83 01965		S		+300	+1400	44	<4	52
S83 01966		S		+300	+1500	352	<4	36
S83 01967		S		+500	+100	125	15	198
S83 01968		S		+500	+200	41	<4	40
S83 01969		S		+500	+300	61	<4	61
S83 01970		S		+500	+400	65	<4	34
S83 01971		S		+500	+500	185	<4	32
S83 01972		S		+500	+600	302	4	26
S83 01973		S		+500	+700	815	<4	28
S83 01974		S		+500	+800	125	4	25
S83 01975		S		+500	+900	233	<4	38
S83 01976		S		+500	+1000	406	<4	31
S83 01977		S		+500	+1100	44	<4	58
S83 01978		S		+500	+1200	466	<4	51
S83 01979		S		+500	+1300	930	<4	33
S83 01980		S		+500	+1400	269	<4	120
S83 01981		S		+500	+1500	46	<4	42
S83 01982		S		+700	+100	71	4	129
S83 01983		S		+700	+200	149	108	1190
S83 01984		S		+700	+300	52	4	88
S83 01985		S		+700	+400	50	<4	56
S83 01986		S		+700	+500	154	<4	37
S83 01987		S		+700	+600	134	<4	36
S83 01988		S		+700	+700	58	<4	36
S83 01989		S		+700	+800	179	<4	30

TOBA

REPORTING DATE 4 JUN 1983

SAMPLE NUMBER	FIELD NUMBER	TYPE	MAP	E/W	N/S	Cu PPM	Pb PPM	Zn PPM
S83 01990		S		+700	+900	79	<4	43
S83 01991		S		+700	+1000	65	<4	43
S83 01992		S		+700	+1100	199	<4	41
S83 01993		S		+700	+1200	494	<4	387
S83 01994		S		+700	+1300	83	<4	41
S83 01995		S		+700	+1400	561	<4	70
S83 01996		S		+700	+1500	58	<4	62
S83 01997		S		+900	+100	50	5	106
S83 01998		S		+900	+200	44	<4	44
S83 01999		S		+900	+300	79	<4	43
S83 02000		S		+900	+400	174	<4	56
S83 02001		S		+900	+500	444	<4	22
S83 02002		S		+900	+600	37	4	33
S83 02003		S		+900	+700	38	4	36
S83 02004		S		+900	+800	33	<4	37
S83 02005		S		+900	+900	36	<4	23
S83 02006		S		+900	+1000	53	4	40
S83 02007		S		+900	+1100	41	<4	24
S83 02008		S		+900	+1200	216	5	49
S83 02009		S		+900	+1300	95	4	53
S83 02010		S		+900	+1400	156	<4	54
S83 02011		S		+900	+1500	51	<4	38
S83 02012		S		+1100	+100	36	<4	42
S83 02013		S		+1100	+200	43	4	47
S83 02014		S		+1100	+300	73	<4	38
S83 02015		S		+1100	+400	121	<4	38
S83 02016		S		+1100	+500	266	<4	41
S83 02017		S		+1100	+600	43	<4	31
S83 02018		S		+1100	+700	32	<4	56
S83 02019		S		+1100	+800	22	<4	27
S83 02020		S		+1100	+900	68	<4	40
S83 02021		S		+1100	+1000	49	<4	42
S83 02022		S		+1100	+1100	44	<4	35
S83 02023		S		+1100	+1200	110	<4	62
S83 02024		S		+1100	+1300	58	<4	62
S83 02025		S		+1100	+1400	51	<4	126
S83 02026		S		+1100	+1500	41	<4	65
S83 02027		S		+1300	+100	60	<4	33

TORA

REPORTING DATE 4 JUN 1983

SAMPLE NUMBER	FIELD NUMBER	TYPE	MAP	E/W	N/S	Cu PPM	Pb PPM	Zn PPM
S83 02028		S		+1300	+200	44	<4	45
S83 02029		S		+1300	+300	82	<4	60
S83 02030		S		+1300	+400	60	<4	29
S83 02031		S		+1300	+500	73	<4	32
S83 02032		S		+1300	+600	126	<4	61
S83 02033		S		+1300	+700	50	<4	31
S83 02034		S		+1300	+800	39	5	42
S83 02035		S		+1300	+900	40	<4	49
S83 02036		S		+1300	+1000	49	<4	42
S83 02037		S		+1300	+1100	21	<4	37
S83 02038		S		+1300	+1200	56	<4	70
S83 02039		S		+1300	+1300	59	5	102
S83 02040		S		+1300	+1400	46	16	329
S83 02041		S		+1300	+1500	41	4	112
S83 02042		S		+1500	+100	33	69	523
S83 02043		S		+1500	+200	26	14	94
S83 02044		S		+1500	+300	105	4	63
S83 02045		S		+1500	+400	71	<4	55
S83 02046		S		+1500	+500	83	<4	81
S83 02047		S		+1500	+600	103	13	101
S83 02048		S		+1500	+700	50	<4	58
S83 02049		S		+1500	+800	43	5	93
S83 02050		S		+1500	+900	48	<4	41
S83 02051		S		+1500	+1000	41	<4	48
S83 02052		S		+1500	+1100	30	<4	30
S83 02053		S		+1500	+1200	29	<4	34
S83 02054		S		+1500	+1300	45	5	53
S83 02055		S		+1500	+1400	36	4	36
S83 02056		S		+1500	+1500	27	<4	41
S83 02057		S		+1700	+100	26	12	120
S83 02058		S		+1700	+200	23	50	143
S83 02059		S		+1700	+300	38	25	1300
S83 02060		S		+1700	+400	52	<4	50
S83 02061		S		+1700	+500	33	<4	46
S83 02062		S		+1700	+600	25	4	52
S83 02063		S		+1700	+700	34	<4	39
S83 02064		S		+1700	+800	42	4	46
S83 02065		S		+1700	+900	55	4	51

TOBA

REPORTING DATE 4 JUN 1983

SAMPLE NUMBER	FIELD NUMBER	TYPE	MAP	E/W	N/S	Cu PPM	Pb PPM	Zn PPM
S83 02066		S		+1700	+1000	30	<4	41
S83 02067		S		+1700	+1100	42	5	60
S83 02068		S		+1700	+1200	70	16	138
S83 02069		S		+1700	+1300	30	21	114
S83 02070		S		+1700	+1400	83	54	191
S83 02071		S		+1700	+1500	92	<4	47
S83 02072		S		+1900	+100	35	12	110
S83 02073		S		+1900	+200	31	17	110
S83 02074		S		+1900	+300	86	<4	22
S83 02075		S		+1900	+400	28	<4	41
S83 02076		S		+1900	+500	39	4	39
S83 02077		S		+1900	+600	28	<4	45
S83 02078		S		+1900	+700	31	<4	34
S83 02079		S		+1900	+800	31	4	84
S83 02080		S		+1900	+900	45	<4	57
S83 02081		S		+1900	+1000	35	<4	51
S83 02082		S		+1900	+1100	45	4	115
S83 02083		S		+1900	+1200	90	5	116
S83 02084		S		+1900	+1300	73	<4	104
S83 02085		S		+1900	+1400	21	6	85
S83 02086		S		+1900	+1500	50	13	88
S83 02087		S		+1000	+0	26	18	718
S83 02088		S		+1100	+0	32	5	70
S83 02089		S		+1200	+0	35	<4	37
S83 02090		S		+1300	+0	69	<4	34
S83 02091		S		+1400	+0	38	<4	75
S83 02092		S		+1500	+0	29	5	55
S83 02093		S		+1600	+0	26	15	150
S83 02094		S		+1700	+0	22	22	119
S83 02095		S		+1800	+0	42	16	129
S83 02096		S		+1900	+0	25	16	98

ANALYTICAL METHODS

Cu Pb Zn 20% HNO3 DECOMPOSITION / AAS

JOB V83 — 02225

APPENDIX "B"

STATEMENT OF EXPENDITURE

FOR WORK ON THE TOBA SEVEN MINERAL CLAIM

SALARIES		
Doug Pauls - 3 days @ $104/day June 7-9/83	$	312.00
David Mehner - 5 days @ $145/day June 7-9, Aug 2,3/83		725.00
GEOCHEMISTRY		
145 soil samples analyzed for Cu,Pb,Zn @ $4.15 ea.		602.00
TRANSPORTATION		
1 truck plus gas @ $35/day for 3 days		105.00
DOMICILE		
6 man days @ $25/man day		150.00
MISCELLANEOUS		
flagging, sample bags, topo-thread,shipping, drafting etc.		56.00
TOTAL		1,950.00

APPENDIX "C"

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

I, DAVID T. MEHNER, OF THE CITY OF VERNON BRITISH COLUMBIA, HEREBY CERTIFY:

1. THAT I AM a Geologist residing at 1715 - 41st Avenue, Vernon, British Columbia, with a business address at 4405 - 28th Street, Vernon, British Columbia.

2. THAT I GRADUATED with a B.Sc. Hon. Degree in Geology in 1976 and an M.Sc. Degree in 1982 from the University of Manitoba.

3. THAT I HAVE practised geology with Cominco Ltd. from October 1979 to present and as such have a personal knowledge of the facts which I hereinafter depose.

DATED THIS 3rd DAY OF AUGUST, 1983 AT VERNON, BRITISH COLUMBIA.

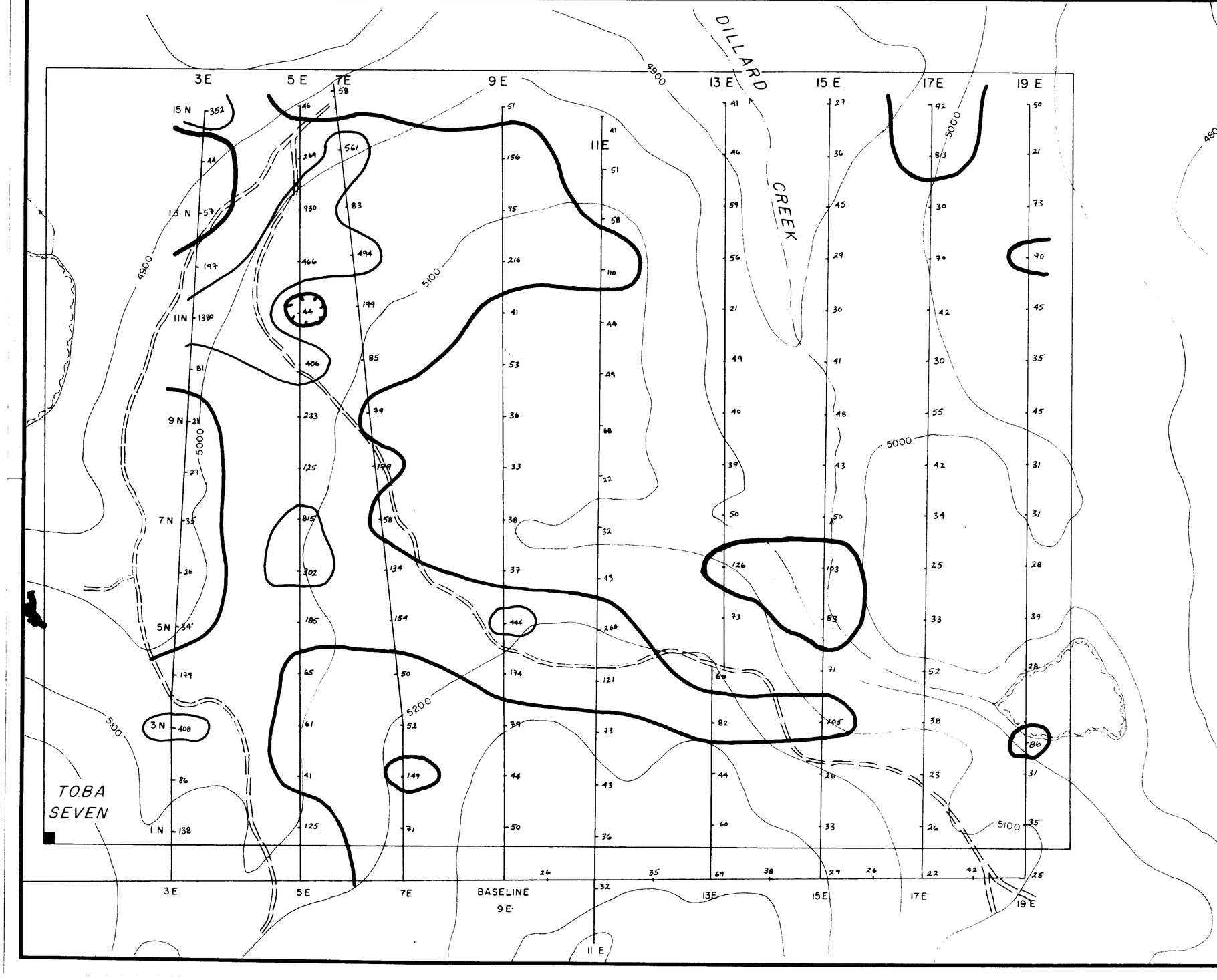
SIGNED D Mehner

David T. Mehner, Geologist

Drawn by:		Traced by: DTM		92 H
Revised by	Date	Revised by	Date	
DTM	DEC 16/81			TOBA PROPERTY LOCATION MAP
DTM	AUG 3/83			
				Scale: 1:250,000 Date: DEC. 16, 1981 Plate: 1

NCI -412A - CL

210-0610



N

LEGEND

Cu
Cu — GRID LINE & GEOCHEM VALUE

⟩⟩ 80 ppm Cu SOIL CONTOUR

⟩⟩ 300 ppm Cu SOIL CONTOUR

GRAVEL ROAD

5100 — ELEVATION CONTOURS
feet above sealevel

LAKES / PONDS

Survey conducted with Brunton and compass

0 100 200 400 600
meters

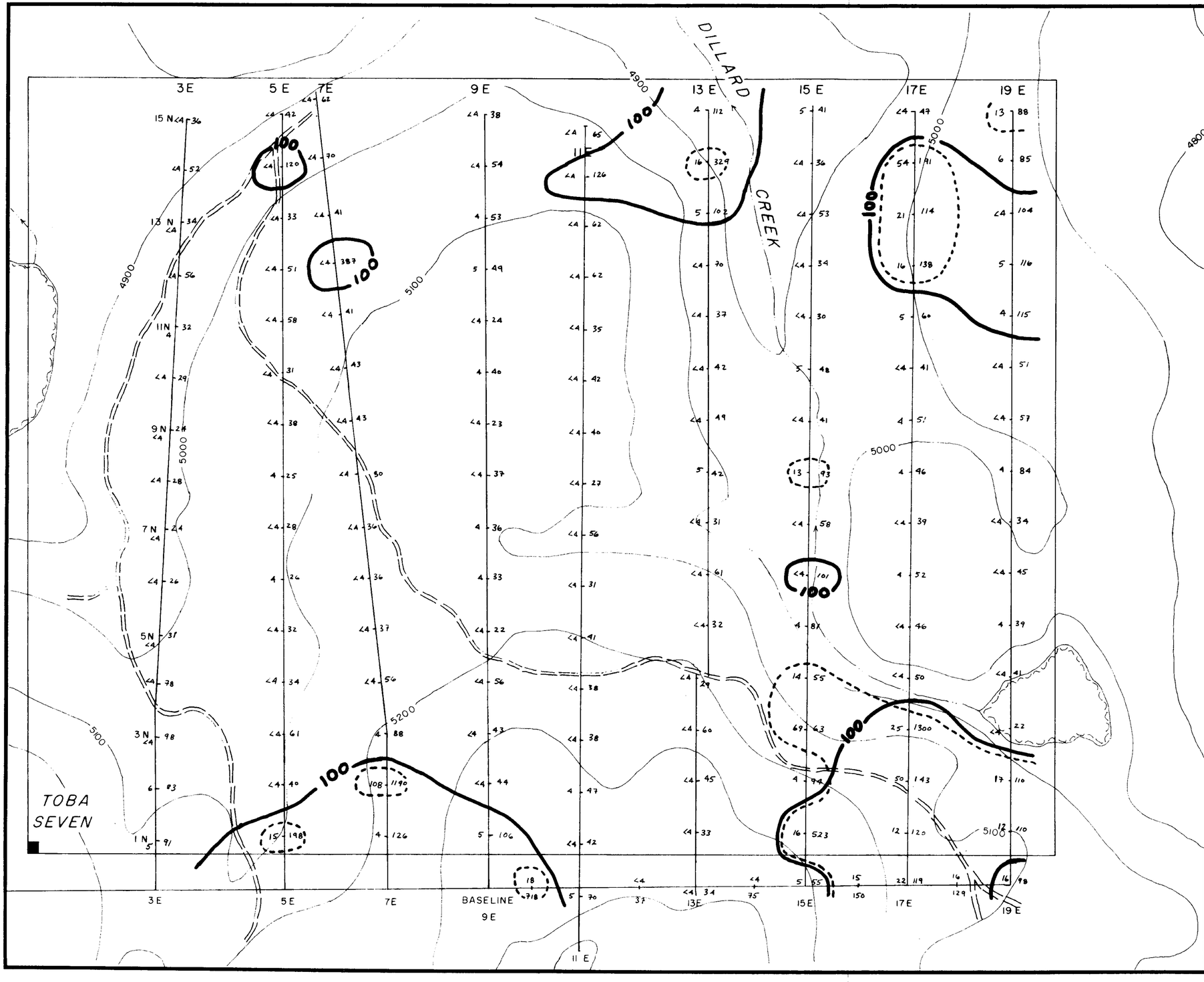
TOBA PROPERTY

92H/16

Drawn by: DTM		Traced by:	
Revised by	Date	Revised by	Date

SOIL GEOCHEM SURVEY (Cu)
TOBA SEVEN CLAIM

Scale: 1:5000 Date: AUG 2, 1983 Plate 2



LEGEND

Pb / Zn — GRID LINE & GEOCHEM VALUE

Pb | Zn

⟩⟩ 10 ppm. Pb SOIL CONTOUR

⟩⟩ 100 ppm. Zn SOIL CONTOUR

GRAVEL ROAD

5100 — ELEVATION CONTOURS feet above sealevel

LAKE / POND

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,605

Survey conducted with topochain and compass

0 100 200 400 600
meters

TOBA PROPERTY

92H/16

Drawn by: DTM | Traced by:

Revised by	Date	Revised by	Date

SOIL GEOCHEM SURVEY (Pb & Zn)
TOBA SEVEN CLAIM

Scale: 1 5000 | Date: AUG 2, 1983 | Plate: 3