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Geochemical and Geophysical Report

- on the -

Tia Group

Kamloops Mining Division, British Columbia

N.T.S. 82M/12W

- for -

Nu Crown Resources Inc.

#200 - 121 St. Paul Street

Kamloops, B. C.

Prepared by:

G. Belik and Associates Ltd.

664 Sunvalley Drive

Kamloops, B. C.

Gary D. Belik, M.Sc.

August 31, 1985

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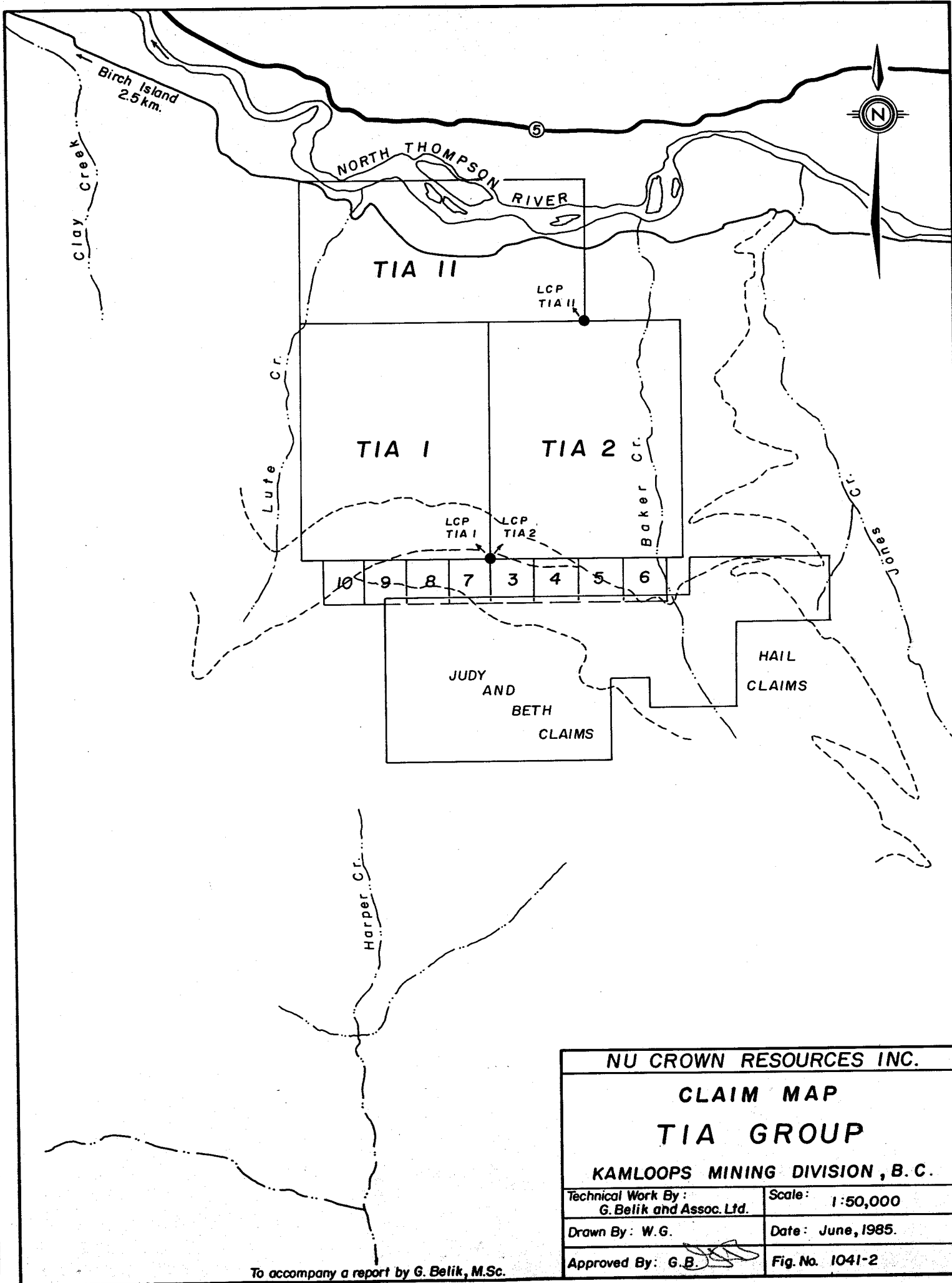
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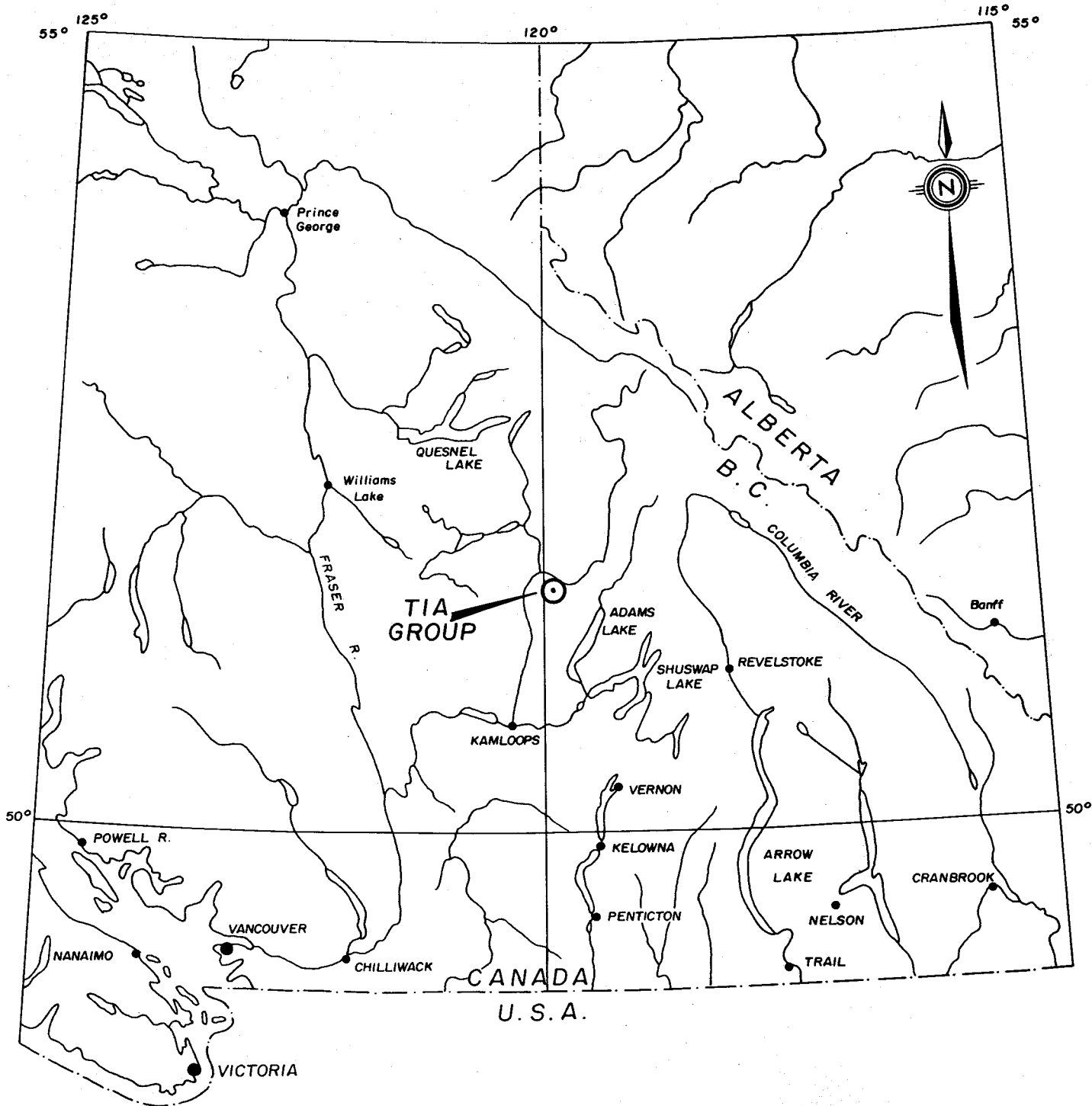
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G. D. Belik



<b>NU CROWN RESOURCES INC.</b>	
<b>CLAIM MAP</b>	
<b>TIA GROUP</b>	
<b>KAMLOOPS MINING DIVISION, B. C.</b>	
Technical Work By: G. Belik and Assoc. Ltd.	Scale: 1:50,000
Drawn By: W.G.	Date: June, 1985.
Approved By: G.B.	Fig. No. 1041-2

To accompany a report by G. Belik, M.Sc.



<b>NU CROWN RESOURCES INC.</b>	
<b>LOCATION MAP</b>	
<b>TIA GROUP</b>	
<b>KAMLOOPS MINING DIVISION, B.C.</b>	
Technical Work By: G. Belik and Assoc. Ltd.	Scale: 1:2,500,000 (1cm=25km)
Date: June, 1985.	Drawn By: W.G. Fig. No. 1041-1

## Introduction

The Tia claims are underlain by strongly deformed, felsic to intermediate volcanic rocks of probable Paleozoic age. Along the southern boundary of the Tia 1 and Tia 2 claims this sequence includes a coarse pyroclastic member composed of 80% sub-angular to well rounded, felsic 'bombs' a few cm to 40 cm in size. Most fragments, which commonly contain quartz eyes, are dacitic to rhyolitic in composition.

The area of the Tia claims was formerly held by Union Oil Company of Canada Limited. Between 1979 and 1983 Union Oil carried out preliminary exploration programs in order to evaluate the massive sulphide potential within and peripheral to the felsic fragmental unit. This work, which included airborne E.M./Mag, ground V.L.F.-E.M., an Induced Polarization/Resistivity survey, soil and silt geochemistry, prospecting and geological mapping identified numerous potentially significant target area.

The 1985 program, which included soil sampling (83 sites), 2.8 km of V.L.F.-E.M. and 1.2 km of detailed I.P./Resistivity, was carried out in order to refine

and further evaluate several geochemical and geophysical targets previously identified by Union Oil within the north half of the Tia 1 claim. Field work was carried out during the period June 3 - 10, 1985, by G. Belik & Associates Ltd., Kamloops, under the supervision of G. D. Belik, M.Sc.

#### CLAIMS

The Tia Group is comprised of 3 contiguous metric claims totalling 58 units plus 8 two-post claims as detailed below:

<u>Mining Division</u>	<u>Claim Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Date Recorded</u>
Kamloops	Tia 1	20	5879	Sept. 11/84
Kamloops	Tia 2	20	5880	Sept. 11/84
Kamloops	Tia 3	2-post	5881	Sept. 11/84
Kamloops	Tia 4	2-post	5882	Sept. 11/84
Kamloops	Tia 5	2-post	5883	Sept. 11/84
Kamloops	Tia 6	2-post	5884	Sept. 11/84
Kamloops	Tia 7	2-post	5885	Sept. 11/84
Kamloops	Tia 8	2-post	5886	Sept. 11/84
Kamloops	Tia 9	2-post	5887	Sept. 11/84
Kamloops	Tia 10	2-post	5888	Sept. 11/84
Kamloops	Tia 11	16	6258	June 18/85

## LOCATION AND ACCESSIBILITY

The Tia Group is located along the south side of the North Thompson Valley in the Kamloops Mining Division, B. C. (N.T.S. 82M/12W). The center of the property is centered about 100 km north-northeast of Kamloops at geographic co-ordinates  $51^{\circ} 33'$  North Latitude and  $119^{\circ} 50'$  West Longitude. The southern part of the claim area is traversed by logging roads which are accessible via good gravel road from Birch Island.

## GENERAL GEOLOGICAL SETTING

The Tia 1-11 claims predominantly are underlain by a tilted, strongly deformed, low-grade regionally metamorphosed sequence of volcanic and sedimentary strata of probable paleozoic age. Campbell (1962) mapped these rocks as part of the Eagle Bay Formation - a group of similarly deformed and metamorphosed rocks which are flanked on the east by the higher metamorphic grade Shuswap Metamorphic Complex and on the west by relatively undeformed and unmetamorphosed rocks of the Fennel Formation, Nicola Group and Cache Creek Group.



Within the subject claim area the Eagle Bay Formation is represented by a predominantly volcanic succession of rocks of felsic to intermediate composition. This succession includes a coarse fragmental volcanic unit which is flanked by quartz-feldspar lapilli and crystal tuffs. Throughout the volcanics small lenses of volcanoclastic sediment and graphitic phyllite occur.

#### SOIL GEOCHEMISTRY

Extensive soil sampling was carried out over most of the claim area in 1979 by Union Oil Company of Canada Limited. This survey identified several area anomalous in copper, zinc and locally, lead.

Samples collected by Union Oil were mainly from the "B" horizon or zone of active surface oxidization. Although soil anomalies identified locally correlate well with geophysical targets, the survey was hampered in many areas by the presence of a thick till unit; till often acts like an impervious blanket which severely restricts the hydromorphic transfer of metals from a bedrock source through the overburden column. In this situation the "A" horizon is often a better medium to

sample. Roots from the vegetation can penetrate deep into the overburden, tapping metals which eventually accumulate and become concentrated in the organic "A" horizon through the natural decay of the forest cover.

In order to determine if the "A" horizon is a more effective sampling medium in the Tia claim area, three lines were surveyed during the 1985 program. In total 83 "A" horizon samples were collected at 25 meter intervals along segments of lines 4+00E (10+00N - 18+00N), 7+50E (14+50N - 17+00N; 19+00N - 22+00N) and 10+00E (12+75N - 14+25N; 17+00N - 18+50N; 22+00N - 24+00N). Intervals sampled evaluated segments of soil anomalies identified by the previous survey as well as several conductors which gave no previous geochemical response.

All samples collected during the 1985 program were analysed for copper, lead, zinc and silver by Kamloops Research & Assay Laboratory Limited, 912 Laval Crescent, Kamloops, B. C.

#### Sampling Procedure

In order to obtain a representative sample, "A" horizon material was collected from several sites at

each station location. Sample sites, each measuring about one square meter, were first cleared of recent forest litter exposing the black "A" horizon layer. The material was then carefully collected and placed into a waterproof kraft envelope marked with the line number and station location. In total about 500 grams of material was collected at each station.

#### Laboratory Determination Method

All samples were first dried, chopped and screened to -20 mesh. The material was then ashed and digested in hot nitric acid. Concentrations of copper, lead, zinc and silver, in parts per million, were then determined by Atomic Absorption.

#### Presentation of Results

Results of the soil analyses are listed in Appendix I and shown on plan map 1041-3 at a scale of 1:5,000. Appendix II includes figures showing the cumulative percent distribution for the various elements plotted on log probability paper.

### Discussion of Results

The results of the "A" horizon samples collected in 1985 were found to be similar to the "B" horizon samples collected by Union Oil in 1979. Although the same anomalous zones were identified, the "A" horizon samples were found to be weaker and less distinct.

#### Copper

Copper content of the "A" horizon samples ranges from 5 ppm to 414 ppm with 95% of the samples containing 50 ppm or less. The cumulative percent diagram suggests the presence of a single population with a lognormal distribution.

Only one sample (414 ppm) appears to be truly anomalous. This anomaly occurs along the south flank of a coincident mag/I.P. anomaly.

#### Zinc

The frequency distribution plot for zinc suggests the possible presence of three populations. The higher population with an apparent threshold of 130 ppm with values ranging up to 418 ppm is considered anomalous. Interestingly the anomalous values generally form clusters which correlate well with the trace of known

V.L.F.-E.M. conductors and/or I.P. anomalies.

#### Lead

Lead has a normal, narrow distribution of values ranging between 12 ppm and 47 ppm. There are no anomalous samples.

#### Silver

Silver values range between 0.1 ppm and 2.0 ppm. The frequency distribution plot suggests a single population with no truly anomalous values.

### V.L.F. ELECTROMAGNETIC SURVEY

During the 1985 program a V.L.F.-Electromagnetic survey was carried out along lines 10+00E and 12+50E. These lines were surveyed in order to provide fill-in data to supplement a more comprehensive V.L.F. survey carried out by Union Oil in 1979.

The electromagnetic survey was carried out utilizing a Sabre Model 27 V.L.F.-E.M. receiver manufactured by Sabre Electronic Instruments Limited, 4245 East Hastings Street, Vancouver, B. C. This instrument measures the relative strength and dip of electromagnetic fields

transmitted by radio stations in the 15-25  $\text{KH}_z$  range. These 'primary fields' are horizontal but can be disrupted by the presence of electrical conductors and by local topographic relief. Disruptions caused by conductors are actually caused by 'secondary fields' which are induced by the primary field. The tilt of the secondary field can be obtained by measuring the angle of null (minimum signal) in a vertical plane, normal to the wave front of the primary field.

For this survey the transmitting station utilized is located at Annapolis, Maryland (21.4  $\text{KH}_z$ ). Readings were taken at 25 - meter intervals along line 10+00E; 6+25N - 20+25N and line 12+50E; 6+00N - 19+50N. In total 2.8 line-kilometers of grid was surveyed.

#### Presentation of Results

The dip angles and relative field strength values obtained during the survey are plotted in profile form on Figures 1041-4 (line 10+00E) and 1041-5 (line 12+50E).

### Discussion of Results

The areas surveyed are relatively flat with only a few weakly anomalous inflections. A possible weak bedrock conductor was identified on line 10+00E, centered at about 12+25N. The crossover occurs along the south edge of a coincident mag/I.P. anomaly and is associated with an area of soils moderate to strongly anomalous in copper.

A possible weakly conductive zone is present on line 12+50E, between 14+50N and 15+50N. This zone occurs along the projected strike of an I.P. anomaly traced between lines 4+00E and 10+00E.

### INDUCED POLARIZATION/RESISTIVITY SURVEY

A detailed Induced Polarization/Resistivity survey was carried out in order to refine several I.P. anomalies identified by surveys carried out by Union Oil in 1982. In total 5 set-ups were completed covering segments of lines 6+25E, 7+50E and 10+00E.

The survey was carried out utilizing variable fre-

quency I.P. equipment manufactured by Sabre Electronic Instruments Limited, 4245 East Hastings Street, Vancouver, B. C.

The theory of Induced Polarization as applied in mining exploration is fully described in the literature. Briefly summarized, this phenomenon refers to the blocking action or capacitive-like effect of electronic conducting minerals\* in rock through which an electrical current is being passed. This blocking action creates a resistance to current flow which increases with the length of time that a d.c. current is allowed to flow. Thus, assuming that appreciable conducting minerals are present, it can be seen that by varying the frequency of the transmitted current (ie. varying the length of time that current is allowed to flow in any one direction) the apparent resistivity of the rock mass being tested will change. The percent change in apparent resistivity when measured at two frequencies is recorded as Percent Frequency Effect or P.F.E. For this survey frequencies of  $10\text{H}_z$  and  $0.3\text{H}_z$  were utilized.

\*includes most metallic sulphides, graphite, magnetite and some varieties of hematite.



### Method

A dipole-dipole electrode configuration was employed with an electrode separation of 25 meters. Readings were taken every 25 meters to  $n=4$  (ie. 25m, 50m, 75m and 100 meter separation between current electrodes and potential electrodes).

### Presentation of Results

In this report the results of the Induced Polarization and Resistivity Survey are presented and contoured in profile form (Figures 1041-6 to 1041-9) at a scale of 1:1,250.

On the section maps, percent frequency effect values are plotted on the top line of the data profile above resistivity values. On the third line, below the resistivity values are plotted metal factors (Metal Factor =  $\frac{\text{F.E.} \times 1000}{\text{Resistivity}}$ ). Values are plotted midpoint between the locations of current and potential electrodes.

In some situations the measured voltage at the low frequency setting ( $0.3H_z$ ) is too noisy to render a re-

liable F.E. reading. In this situation the symbol N/R is recorded on the data plot. A data plot followed by the symbol (N) indicates that the reading was noisy but considered reliable. Occasionally negative F.E. values are recorded (indicated in brackets () on the Data Plot). Small negative F.E. values fall within the range of instrument and/or operator error when little polarizable material is present within the groundmass being tested. Larger negative values may be a result of spurious electrical effects or unusual geological conditions.

#### Discussion of Results

Apparent resistivities within the area surveyed range from a high of 362 ohm-meters to a low of 31 ohm-meters. Background frequency effects are low and range from less than 1 P.F.E. to about 2 P.F.E.

#### Line 6+25E

On line 6+25E a broad, weak to moderately anomalous zone is present between 13+50N and 15+50N. The anomaly is open to the north and south.

Resistivities within the area surveyed are relatively uniform and low (31-83 ohm-meters).

A significant increase in F.E. values with depth suggests that the anomalous zone may be covered by thick overburden (+10 meters).

#### Line 7+50E

A strong I.P. anomaly, associated with a distinct zone of lower resistivities was identified on line 7+50E, centered at 15+15N. The source of the anomaly appears to be steeply dipping, less than 25 meters wide and projects close to surface.

A second, moderate to strong I.P. anomaly, which appears to be associated with a subtle resistivity low, occurs on line 7+50E, centered at about 16+00N. The I.P./Resistivity profiles suggest that the source of the anomaly may have a moderate northerly dip.

A third, apparently deep, flat-lying I.P. anomaly was traced between about 17+00N and about 18+25N. Topography is considerably steeper along this section and it may be that this anomaly is associated with the down dip extension of the northerly dipping polarizable zone which is inferred to project to surface at about 16+00N.

#### Line 10+00E

Two set-ups were completed on line 10+00E; one centered

at 13+00N and another at 18+00N.

On the southerly set-up a very distinct, moderate to strong I.P. anomaly occurs centered at about 13+50N. The I.P. profile suggests that the source dips to the north.

On the northerly set-up a weak to moderate I.P. anomaly was identified which appears to project to surface at about 17+35N. The anomalous zone, which appears to have a northerly dip, occurs along a major resistivity contact between a zone of low resistivities to the north (hanging wall) and a zone of moderate to high resistivities to the south (footwall).

#### CONCLUSIONS AND RECOMMENDATIONS

The general geological setting within the area of the Tia claims suggests a good potential for polymetallic, volcanogenic massive sulphide deposits. Detailed work within the northern half of the Tia 1 claim has identified several potentially significant geochemical and geophysical targets which warrant follow up. In order to evaluate these targets a program of trenching followed by drilling

is recommended.

Respectfully Submitted,



Gary D. Belik, M.Sc.

Kamloops, B. C.  
August 31, 1985

APPENDIX I

Geochemical Data

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 LAVAL CRESCENT — KAMLOOPS, B.C.  
V2C 5P5  
PHONE: (604) 372-2784 — TELEX: 048-8320

**GEOCHEMICAL LAB REPORT**

G. Belik & Assoc.  
664 Sun Valley Dr.,  
Kamloops, B.C.  
V2B 6S4

DATE June 14, 1985.

ANALYST \_\_\_\_\_

FILE NO. \_\_\_\_\_

FILE NO. G 1307

KRAL NO.	IDENTIFICATION	ppm Cu	ppm Pb	ppm Zn	ppm Ag				
1	L4+00E 10+00N	5	15	38	0.5				
2	10+25N	6	23	56	0.9				
3	10+50N	10	24	69	1.0				
4	10+75N	10	26	159	↑.↑				
5	11+00N	12	33	160	0.5				
6	11+25N	7	33	158	0.4				
7	11+50N	20	27	121	0.7				
8	11+75N	14	32	142	0.4				
9	12+00N	15	39	209	0.4				
10	12+25N	13	28	187	0.4				
11	12+50N	18	29	60	0.2				
12	12+75N	13	19	29	0.3				
13	13+00N	14	30	55	0.2				
14	13+25N	16	32	43	0.2				
15	13+50N	37	34	47	0.3				
16	13+75N	13	40	95	0.3				
17	14+00N	8	28	32	0.2				
18	14+25N	8	21	87	0.3				
19	14+50N	12	28	78	0.3				
20	14+75N	9	35	170	0.4				
21	15+00N	7	28	88	0.2				
22	15+25N	12	28	64	0.5				
23	15+50N	21	39	125	0.4				
24	15+75N	14	36	173	0.3				
25	16+00N	12	36	173	0.4				
26	16+25N	10	30	201	0.1				
27	16+50N	11	23	105	0.3				
28	16+75N	10	37	138	0.2				
29	17+00N	7	32	78	0.1				
30	17+25N	7	23	97	0.1				

**KAMLOOPS  
RESEARCH & ASSAY  
LABORATORY LTD.**

**GEOCHEMICAL LAB REPORT**

FILE NO. G 1307

PAGE 2

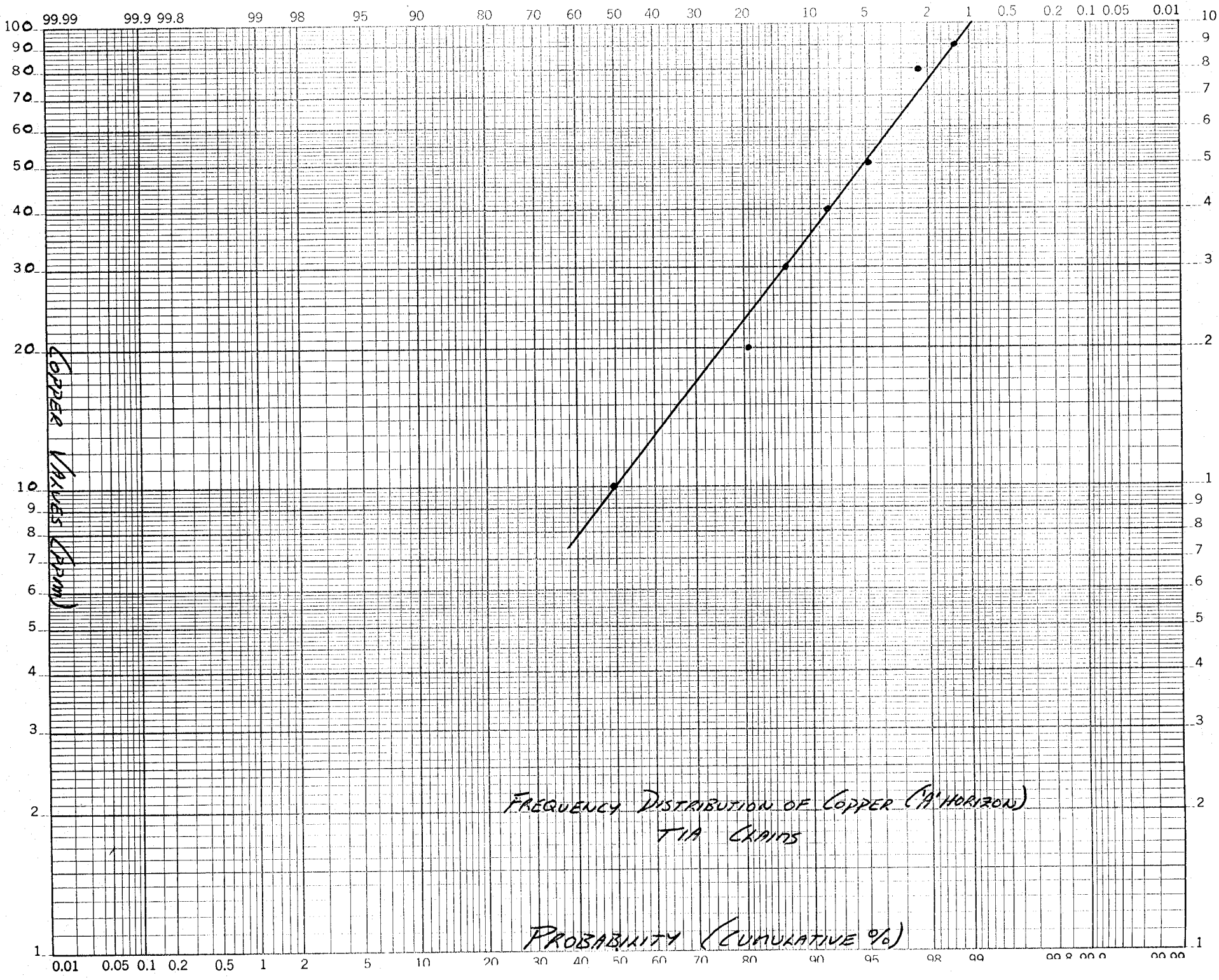
KRAL NO.	IDENTIFICATION	ppm Cu	ppm Pb	ppm Zn	ppm Ag				
31	L4+00E 17+50N	6	29	112	0.2				
32	17+75N	11	41	99	0.1				
33	18+00N	17	47	68	0.2				
34	L7+50E 14+50N	5	19	56	0.2				
35	14+75N	4	16	35	0.1				
36	15+00N	5	19	34	0.1				
37	15+25N	5	21	47	0.2				
38	15+50N	46	23	57	0.4				
39	15+75N	10	17	44	0.2				
40	16+00N	13	30	123	0.4				
41	16+25N	7	16	60	0.1				
42	16+50N	10	21	148	0.2				
43	16+75N	8	22	61	0.2				
44	17+00N	7	27	87	2.0				
45	19+00N	29	28	74	0.4				
46	19+25N	9	26	131	0.1				
47	19+50N	24	21	122	0.1				
48	19+75N	16	23	97	0.1				
49	20+00N	12	27	142	LO.1				
50	20+25N	9	12	46	LO.1				
51	20+50N	8	12	57	0.2				
52	20+75N	14	22	89	0.4				
53	21+00N	78	31	418	LO.1				
54	21+25N	8	23	119	0.2				
55	21+50N	14	41	235	LO.1				
56	21+75N	11	23	123	0.1				
57	22+00N	37	21	62	0.1				
58	L10+00E 12+00N	414	23	45	1.3				
59	12+25N	22	15	20	0.2				
60	12+50N	9	25	46	0.2				

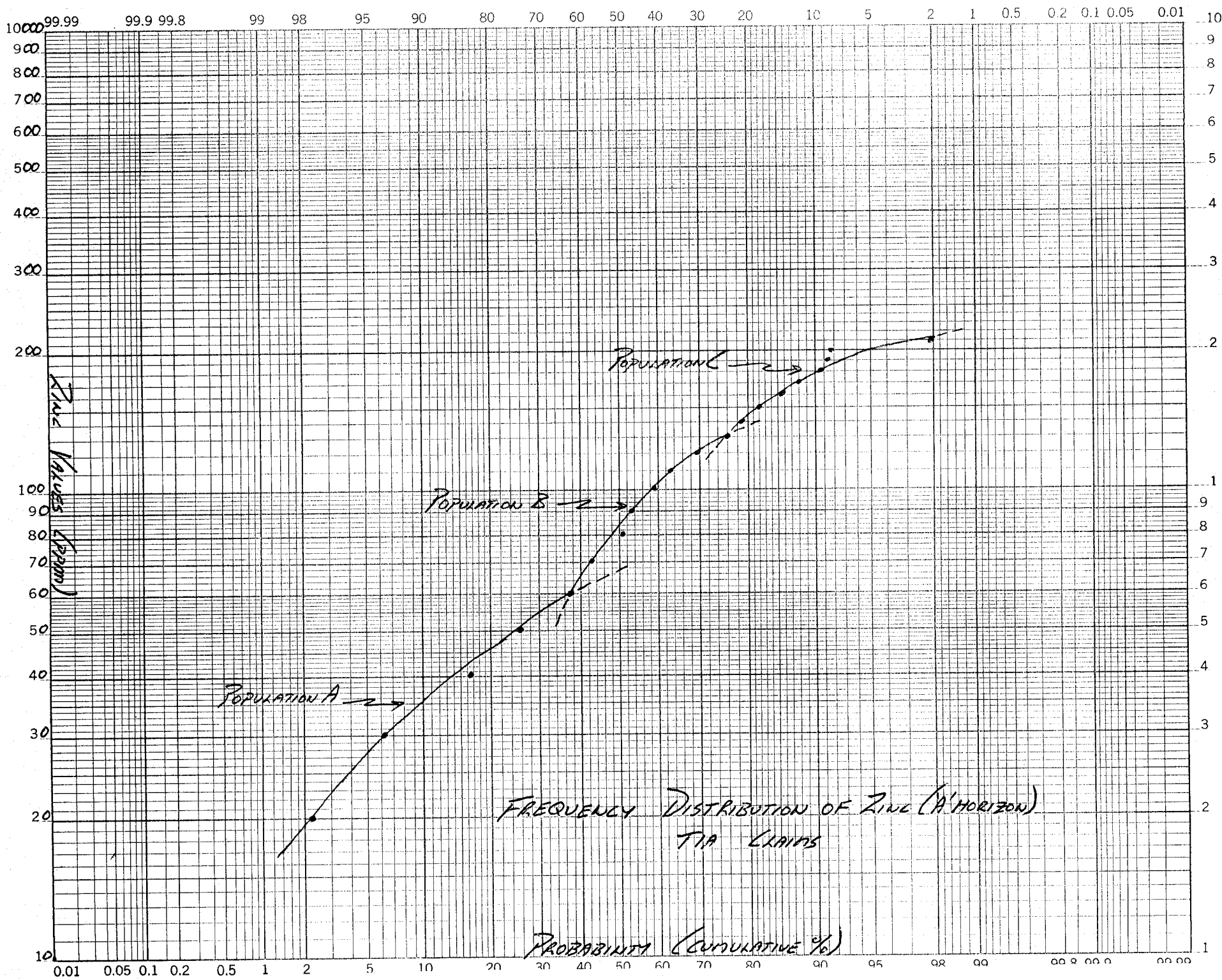


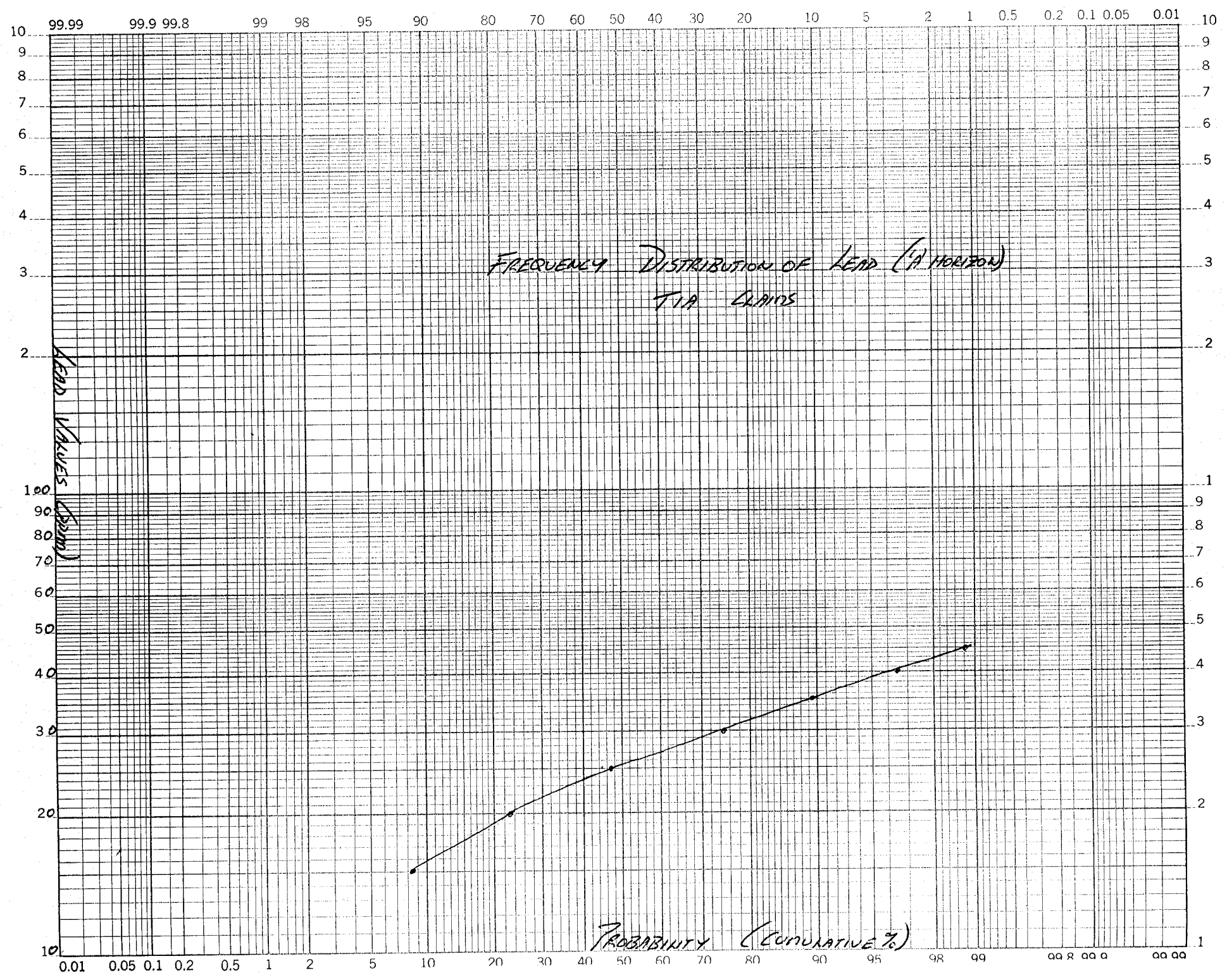


APPENDIX II

Frequency Distribution Graphs  
for Cu, Pb, Zn & Ag in soils



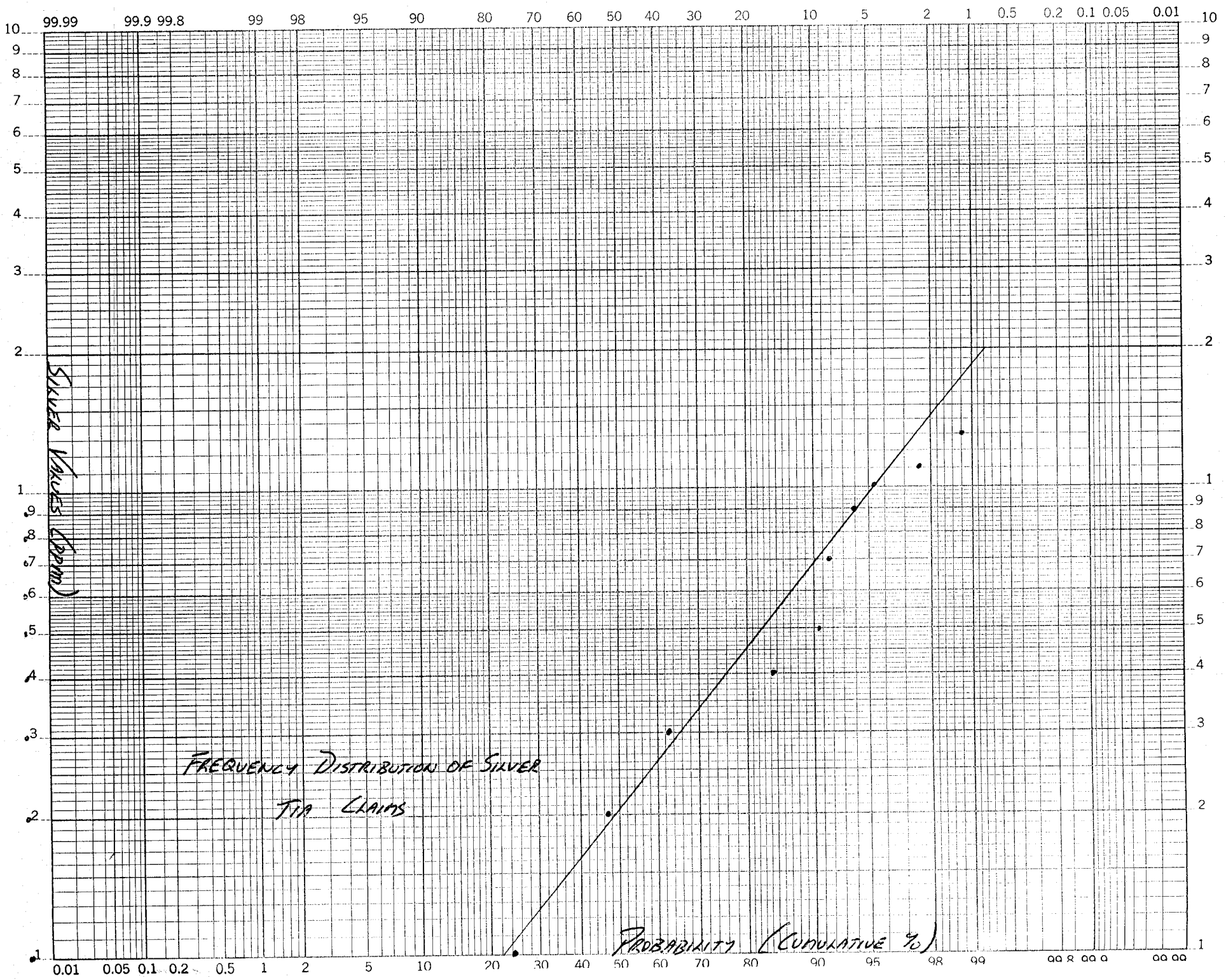




FREQUENCY DISTRIBUTION OF LEAD (1/4 HORIZON)  
TIA CLAIRS

LEAD VALUES (ft)

PROBABILITY (CUMULATIVE %)



APPENDIX III

I.P./Resistivity Data

---

G. Belik and Associates Ltd., - I.P. Data Sheets

CLIENT: Nu Crown Resources Inc.  
 PROPERTY: Tia  
 OPERATOR: G. Belik  
 FREQ'S USED:  $10H_z / 0.3H_z$   
 DATE: June, 1985

Line 6+25E

Tx Location: 14+25N  
 Calibration: 13+50 - 13+75N +0.6  
 13+75 - 14+00N +0.9  
 14+00 - 14+25N +0.9  
 14+25 - 14+50N +0.8  
 14+50 - 14+75N +1.4  
 14+75 - 15+00N +0.8

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
12+25-12+50N	13+50-13+75N	848	10	200	7.5	6.9	64
12+50-12+75N	13+50-13+75N	143	100	200	7.0	6.4	54
	13+75-14+00N	642	10	200	7.0	6.1	48
12+75-13+00N	13+50-13+75N	400	100	200	3.8	3.2	60
	13+75-14+00N	157	100	200	6.0	5.1	59
	14+00-14+25N	690	10	160	5.0	4.1	65
13+00N-13+25N	13+50-13+75N	128	1000	200	2.4	1.8	48
	13+75-14+00N	394	100	200	3.5	2.6	59
	14+00N-14+25N	142	100	160	4.0	3.1	67
	14+25-14+50N	548	10	130	5.0	4.2	63



13+25-13+50N							
13+75-14+00N	819	100	200	2.7	1.8	31	
14+00-14+25N	238	100	160	3.3	2.4	45	
14+25-14+50N	077	100	130	7.0	6.2	44	
14+50-14+75N	413	10	140	6.2	4.8	44	
13+50-13+75N							
14+00-14+25N	813	100	160	2.7	1.8	38	
14+25-14+50N	203	100	130	5.7	4.9	47	
14+50-14+75N	974	10	140	5.5	4.4	52	
13+75-14+00N							
14+25-14+50N	108	1000	130	4.3	3.5	62	
14+50-14+75N	349	100	140	4.5	3.1	75	
14+00-14+25N							
14+50-14+75N	118	1000	140	3.6	2.1	63	
14+75-15+00N							
14+25-14+50N	935	100	130	3.3	2.5	54	
14+00-14+25N	328	100	160	4.0	3.1	62	
13+75-14+00N	176	100	200	6.5	5.5	66	
13+50-13+75N	080	100	200	7.0	6.4	60	
15+00-15+25N							
14+50-14+75N	935	100	140	3.7	2.3	50	
14+25-14+50N	235	100	130	4.8	4.0	54	
14+00-14+25N	124	100	160	7.0	6.1	58	
13+75-14+00N	800	10	200	6.0	5.1	60	
15+25-15+50N							
14+75-15+00N	128	1000	195	2.7	1.9	49	
14+50-14+75N	285	100	140	4.0	2.6	61	
14+25-14+50N	115	100	130	4.8	4.0	66	
14+00-14+25N	772	10	160	4.0	3.1	72	
15+50-15+75N							
14+75-15+00N	418	100	190	3.5	2.7	66	
14+50-14+75N	144	100	140	3.7	2.3	77	
14+25-14+50N	720	10	130	3.8	3.0	83	
15+75-16+00N							
14+75-15+00N	170	100	195	4.0	3.2	65	
14+50-14+75N	717	10	140	4.0	2.6	77	
16+00-16+25N							
14+75-15+00N	965	10	195	5.0	4.2	74	

Line 7+50E

Tx Location:	15+50N	
Calibration:	14+75 - 15+00N	+1.5
	15+00 - 15+25N	+2.5
	15+25 - 15+50N	+3.0
	15+50 - 15+75N	+3.9
	15+75 - 16+00N	+3.8
	16+00 - 16+25N	+2.1

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
13+50-13+75N	14+75-15+00N	126	100	150	3.0	1.5	126
13+75-14+00N	14+75-15+00N	239	100	150	3.0	1.5	119
	15+00-15+25N	105	100	155	6.0(N)	3.5	102
14+00N-14+25N	14+75-15+00N	567	100	150	1.5	0	113
	15+00-15+25N	207	100	155	2.0	(.5)	100
	15+25-15+50N	722	10	150	10.0(N)	7.0	72
14+25-14+50N	14+75-15+00N	321	1000	150	1.4	(.1)	161
	15+00-15+25N	791	100	155	5.8	3.3	153
	15+25-15+50N	206	100	150	12.5	9.5	103
	15+50-15+75N	100	100	140	15.0	11.1(N)	107
14+50-14+75N	15+00-15+25N	199	1000	155	4.7	2.2	96
	15+25-15+50N	369	100	150	12.0	9.0	74
	15+50-15+75N	140	100	135	14.5	10.6	78
	15+75-16+00N	712	10	115	11.0	7.2(N)	93
14+75-15+00N	15+25-15+50N	126	1000	135	12.5	9.5	70
	15+50-15+75N	366	100	130	12.0	8.1	84
	15+75-16+00N	123	100	105	12.0	8.2	88
15+00-15+25N	15+50-15+75N	614	1000	130	8.2	4.3	354
	15+75-16+00N	720	100	105	7.5	3.7	206

15+25N-15+50N							
15+75-16+00N	402	1000	105	6.5	2.7	287	
16+00-16+25N							
15+50-15+75N	168	1000	130	8.0	4.1	97	
15+25-15+50N	563	100	135	6.3	3.3	125	
15+00-15+25N	297	100	140	4.5	2.0	159	
14+75-15+00N	086	100	135	4.5	3.0	96	
16+25-16+50N							
15+75-16+00N	254	1000	105	7.0	3.2	181	
15+50-15+75N	666	100	130	12.0	8.1	154	
15+25-15+50N	356	100	135	8.5	5.5	198	
15+00-15+25N	244	100	145	4.5	2.0	252	
16+50-16+75N							
16+00-16+25N	284	1000	180	4.2	2.1	118	
15+75-16+00N	584	100	105	7.5	3.7	167	
15+50-15+75N	218	100	130	12.0	8.1	126	
15+25-15+50N	148	100	140	7.5	4.5	159	
16+75N-17+00N							
16+00-16+25N	612	100	180	6.5	4.4	102	
15+75-16+00N	184	100	105	9.5	5.7	131	
15+50-15+75N	098	100	130	11.5	7.7	113	
17+00-17+25N							
16+00-16+25N	347	100	180	4.5	2.4	145	
15+75-16+00N	120	100	105	10.5	6.7	171	
17+25-17+50N							
16+00-16+25N	160	100	180	4.5	2.4	133	

Line 7+50E

Tx Location:	17+50N	
Calibration:	16+75 - 17+00N	+0.5
	17+00 - 17+25N	+1.8
	17+25 - 17+50N	+2.4
	17+50 - 17+75N	+0.4
	17+75 - 18+00N	+0.1
	18+00 - 18+25N	+1.8

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
16+25-16+50N							
	16+75-17+00N	330	1000	150	4.4	3.9	165
	17+00-17+25N	83.4	100	150	5.1	3.3	167
	17+25-17+50N	30.0	100	150	5.3	2.9	150
	17+50-17+75N	22.0	100	210	4.8	4.4	157
16+50-16+75N							
	17+00-17+25N	420	1000	150	3.3	1.5	210
	17+25-17+50N	18.0	1000	140	3.5	1.1	386
	17+50-17+75N	51.2	100	200	3.0	2.6	192
	17+75-18+00N	18.0	100	205	5.8	5.7	132
16+75-17+00N							
	17+25-17+50N	312	1000	140	2.9	0.5	167
	17+50-17+75N	136	1000	200	3.8	3.4	204
	17+75-18+00N	37.0	100	200	2.1	0	139
17+00-17+25N							
	17+50-17+75N	516	1000	200	1.5	1.1	194
	17+75-18+00N	108	1000	205	4.3	2.2	158
17+25-17+50N							
	17+75-18+00N	158	1000	110	3.4	1.3	108
18+00N-18+25N							
	17+50-17+75N	304	1000	195	3.0	2.6	117
	17+25-17+50N	63.0	100	140	4.0	1.6	135
	17+00-17+25N	40.0	100	155	6.0	4.2	194
	16+75-17+00N	17.0	100	150	7.0	6.5	170

18+25-18+50N							
17+75-18+00N	93.4	100	120	3.0	0.9	58.4	
17+50-17+75N	104	1000	200	6.0	5.6	156	
17+25-17+50N	29.2	100	150	5.0	2.6	146	
17+00-17+25N	20.8	100	165	5.0	3.2	189	
18+50-18+75N							
18+00-18+25N	210	1000	145	5.0	3.2	109	
17+75-18+00N	40.0	100	120	4.0	1.9	100	
17+50-17+75N	58.8	100	200	5.0	4.6	221	
17+25-17+50N	16.6	100	135	4.0	1.6	184	
18+75-19+00N							
18+00-18+25N	67.2	100	145	4.0	2.2	139	
17+75-18+00N	17.6	100	125	6.0	3.9	106	
17+50-17+75N	27.8	100	200	6.0	5.4	208	
19+00-19+25N							
18+00-18+25N	27.8	100	145	4.0	2.2	144	
17+75-18+00N	86	100	125	5.0	2.9	103	
19+25-19+50N							
18+00-18+25N	12.2	100	145	NR	NR	126	

Line 10+00E

Tx Location:	13+00N	
Calibration:	12+25 - 12+50N	+1.0
	12+50 - 12+75N	+1.2
	12+75 - 13+00N	+1.8
	13+00 - 13+25N	+2.1
	13+25 - 13+50N	+3.3
	13+50 - 13+75N	+4.2

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
11+00-11+25N							
	12+25-12+50N	386	100	300	2.5	1.5	193
11+25-11+50N							
	12+25-12+50N	992	100	300	1.0	0	248
	12+50-12+75N	323	100	210	1.4	0.2	231
11+50-11+75N							
	12+25-12+50N	254	1000	300	2.7	1.7	254
	12+50-12+75N	716	100	215	2.6	1.4	250
	12+75-13+00N	408	100	220	2.7	0.9	278
11+75-12+00N							
	12+25-12+50N	701	1000	300	2.5	1.5	175
	12+50-12+75N	139	1000	210	4.2	3.2	198
	12+75-13+00N	667	100	220	3.3	2.1	227
	13+00-13+25N	450	100	240	3.6	1.8	281
12+00-12+25N							
	12+50-12+75N	504	1000	210	1.9	0.7	180
	12+75-13+00N	138	1000	220	3.9	2.1	188
	13+00-13+25N	756	100	240	2.3	0.2	236
	13+25-13+50N	286	100	130	4.7	1.4	330
12+25-12+50N							
	12+75-13+00N	534	1000	220	2.8	1.0	182
	13+00-13+25N	121	1000	240	3.9	1.8	151
	13+25-13+50N	362	100	135	3.9	0.6	201
12+50-12+75N							
	13+00-13+25N	537	1000	240	2.4	0.3	168
	13+25-13+50N	120	1000	135	4.5	1.2	267

12+75-13+00N							
13+25-13+50N	564	1000	135	5.1	1.8	313	
13+50-13+75N							
13+00-13+25N	398	1000	240	7.7	5.6	124	
12+75-13+00N	148	1000	215	9.0	7.2	206	
12+50-12+75N	515	100	200	7.6	6.4	193	
12+25-12+50N	362	100	300	5.3	4.3	181	
13+75-14+00N							
13+25-13+50N	328	1000	135	8.1	4.8	182	
13+00-13+25N	120	1000	240	8.0	5.9	150	
12+75-13+00N	564	100	215	6.6	4.8	197	
12+50-12+75N	240	100	200	6.3	5.1	180	
14+00-14+25N							
13+50-13+75N	259	1000	82	6.0	1.8	237	
13+25-13+50N	118	1000	130	9.0	5.7	272	
13+00-13+25N	752	100	230	6.0	3.9	245	
12+75-13+00N	395	100	220	6.0	4.2	269	
14+25-14+50N							
13+50-13+75N	616	100	82	7.8	3.6	225	
13+25-13+50N	450	100	130	9.0	5.7	260	
13+00-13+25N	365	100	230	7.5	5.4	238	
14+50-14+75N							
13+50-13+75N	304	100	82	11	6.8	278	
13+25-13+50N	270	100	130	13	9.7	312	
14+75-15+00N							
13+50-13+75N	136	100	82	12	7.8	249	

Line 10+00E

Tx Location:	18+00N	
Calibration:	17+25-17+50N	+3.5
	17+50-17+75N	+1.8
	17+75-18+00N	+3.0
	18+00-18+25N	+1.0
	18+25-18+50N	+1.5
	18+50-18+75N	+1.8

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
16+00-16+25N							
	17+25-17+50N	170	100	175	4.0	0.5	146
16+25-16+50N							
	17+25-17+50N	492	100	175	4.5	1.0	211
	17+50-17+75N	592	100	245	4.0	2.2	362
16+50-16+75N							
	17+25-17+50N	100	1000	180	5.7	2.2	167
	17+50-17+75N	998	100	250	5.5	3.2	299
	17+75-18+00N	462	100	360	4.5	1.5	192
16+75-17+00N							
	17+25-17+50N	286	1000	180	5.4	1.9	119
	17+50-17+75N	200	1000	250	5.0	3.2	240
	17+75-18+00N	790	100	350	5.5	2.5	169
	18+00-18+25N	413	100	340	3.4	2.4	182
17+00-17+25N							
	17+50-17+75N	434	1000	250	5.4	3.6	130
	17+75-18+00N	136	1000	360	6.7	3.7	113
	18+00-18+25N	590	100	340	4.8	3.8	130
	18+25-18+50N	318	100	280	6.0	4.5	170
17+25-17+50N							
	17+75-18+00N	390	1000	350	4.5	1.5	84
	18+00-18+25N	126	1000	340	4.5	3.5	111
	18+25-18+50N	577	100	280	5.1	3.6	154
17+50-17+75N							
	18+00-18+25N	416	1000	340	3.0	2.0	92
	18+25-18+50N	142	1000	280	4.2	2.7	152



17+75-18+00N							
18+25-18+50N	270	1000	280	3.0	1.5	72	
18+50-18+75N							
18+00-18+25N	130	1000	155	2.5	1.5	63	
17+75-18+00N	535	100	160	4.2	1.2	100	
17+50-17+75N	323	100	115	5.0	3.2	210	
17+25-17+50N	092	100	82	6.0(N)	2.5	168	
18+75-19+00N							
18+25-18+50N	106	1000	135	3.6	2.1	59	
18+00-18+25N	473	100	160	2.3	1.3	89	
17+75-18+00N	253	100	160	4.5	1.5	119	
17+50-17+75N	177	100	115	5.0	3.2	231	
19+00-19+25N							
18+50-18+75N	102	1000	140	3.3	1.5	55	
18+25-18+50N	424	100	135	2.7	1.2	94	
18+00-18+25N	253	100	165	4.5	3.5	115	
17+75-18+00N	157	100	170	6.0	3.0	138	
19+25-19+50N							
18+50-18+75N	852	100	270	4.0	2.4	95	
18+25-18+50N	232	100	270	3.6	2.1	64	
18+00-18+25N	208	100	310	3.0	2.0	100	
19+50-19+75N							
18+50-18+75N	472	100	280	5.0	3.2	126	
18+25-18+50N	NR						
19+75-20+00N							
18+50-18+75N	NR						

APPENDIX IV

Statement of Expenditures

Statement of Expenditures

Tia Project

1. LABOUR:

G. Belik, M.Sc. (June 3-11, 1985) -8.25 days at \$250/day	\$2,062.50	
D. Arens, Assistant (June 3-10, 1985) -7.5 days at \$150/day	1,125.00	
B. Ferguson, Assistant (June 4-10, 1985) -7.0 days at \$150/day	<u>1,050.00</u>	\$4,237.50

2. TRUCK RENTAL:

June 3-10, 1985 8.0 days at \$40/day 978 km at \$.15/km	\$320.00 <u>146.70</u>	466.70
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3. EQUIPMENT RENTAL:

I.P./Resistivity Unit	\$360.00	
V.L.F.-E.M. Unit	<u>40.00</u>	400.00

4. EXPENSES:

Food & Accommodation	\$599.38	
Gas	116.00	
Field Supplies	23.00	
Telephone & Mis. Items	<u>28.00</u>	766.38

5. GEOCHEMICAL ANALYSES:

713.80

6. REPORT PREPARATION:

Professional Fees, Drafting, Secretarial, Map Prints, Xerox and Binding		<u>1,314.00</u>
		<u>\$7,898.38</u>

APPENDIX V

Statement of Qualifications:  
G. D. Belik

**GARY D. BELIK, M.Sc.**

Consulting Geologist  
Mineral Exploration

664 Sunvalley Drive  
Kamloops, B. C. V2B 6S4

B.C. V2C 2P5 • PHONE (604) 374-4247

CERTIFICATE

I, GARY D. BELIK, OF THE CITY OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY CERTIFY THAT:

- (1). I am a member of the Canadian Institute of Mining and Metallurgy, and a fellow of the Geological Association of Canada.
- (2). I am employed by G. Belik and Associates Limited with my office at 664 Sunvalley Drive, Kamloops, B. C.
- (3). I am a graduate of the University of British Columbia with a B.Sc. in Honors Geology and a M.Sc. in Geology.
- (4). I have practised continuously as a geologist since May, 1970.
- (5). I have gained considerable geophysical experience over the past 11 years including extensive use of Induced Polarization and V.L.F.-E.M. systems.
- (6). This report is based on the results of work carried out on the Tia claims under my direct supervision during June 3-10, 1985.



Gary D. Belik, M.Sc.  
GEOLOGIST

August 31, 1985



**- LEGEND -**

- CLAIM BOUNDARY
- ROAD
- GRID LINE AND STATION MARKER
- VALUES FOR Cu, Pb, Zn, Ag EXPRESSED IN PARTS PER MILLION (PPM)
- SAMPLE WITH ANOMALOUS ZINC VALUE
- SAMPLE WITH ANOMALOUS COPPER VALUE

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**13,862**

NU CROWN RESOURCES INC.

**GEOCHEMICAL PLAN  
( 'A' HORIZON )**

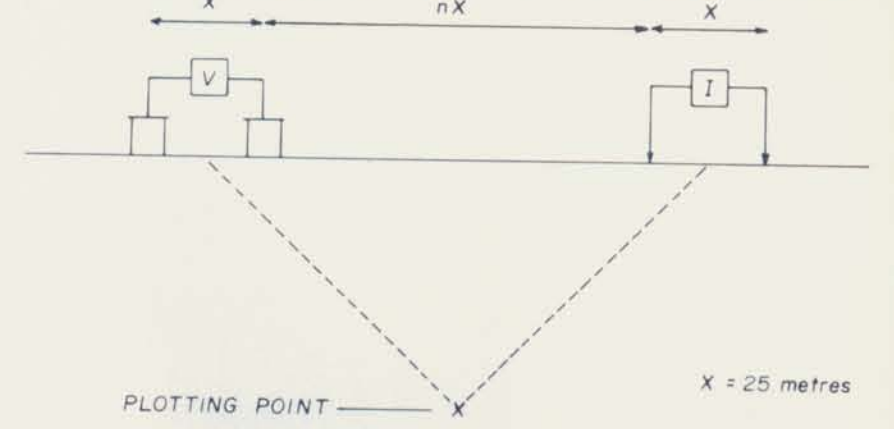
**TIA #1 CLAIM**

KAMLOOPS MINING DIVISION, B. C.

Technical Work By: G. Belik and Associates Ltd. Scale: 1:5,000 0 25 50 100m 200  
 Drawn By: W.S. Date: June, 1985  
 Approved By: G. Belik, M.Sc. Fig. No. 1041-3



**13,862**



**SURFACE PROJECTION OF ANOMALOUS ZONE**

- DEFINITE
- PROBABLE
- POSSIBLE

CONTOUR INTERVALS

- PFE - 3.0, 5.0, 7.5, 10, 15
- RESISTIVITY - 1, 15, 3, 5, 7.5...
- METAL FACTOR - 10, 15, 20, 30, 50, 75, 100...

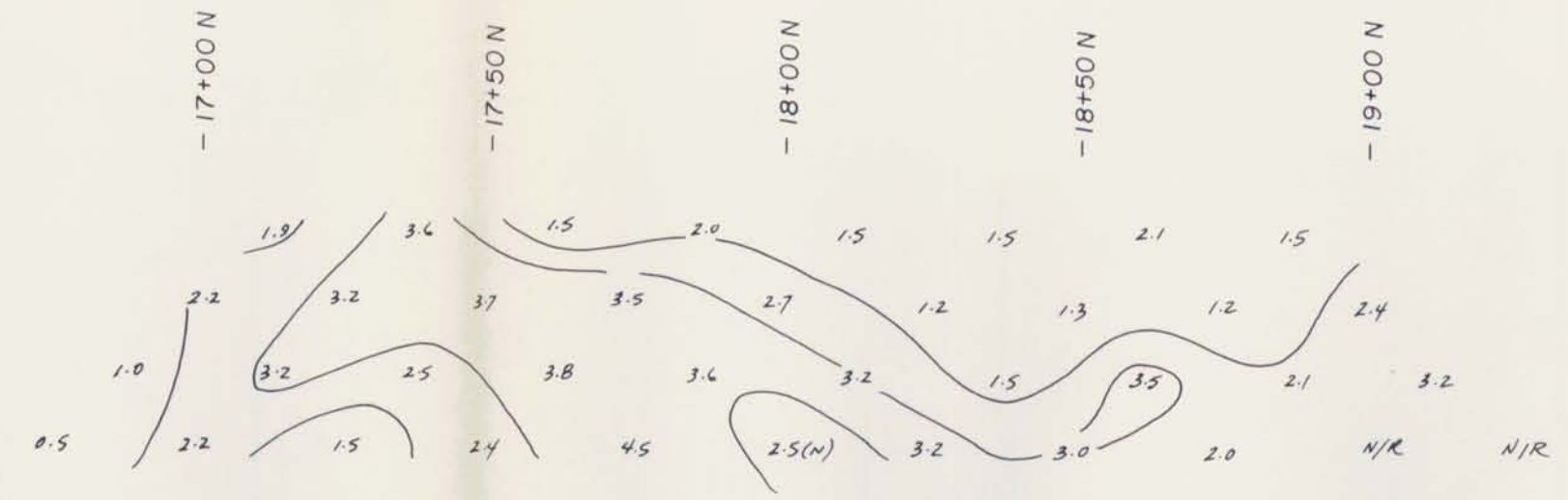
**NU CROWN RESOURCES INC.**  
**INDUCED POLARIZATION**  
**RESISTIVITY SURVEY**  
 LINE NO. 10+00 E  
**TIA GROUP**  
 KAMLOOPS MINING DIVISION, B.C.

TECHNICAL WORK BY G. BELIK AND ASSOCIATES LTD.	DATE SURVEYED JUNE 1985
APPROVED BY: G. BELIK, M.Sc.	FIG NO. 1041-B

CO-ORDINATE

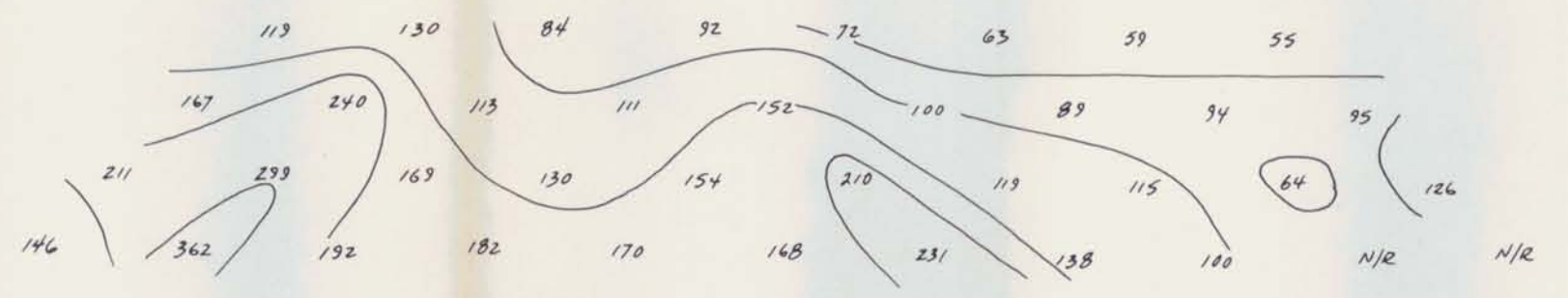
P. F. E.

(X = 25 m)



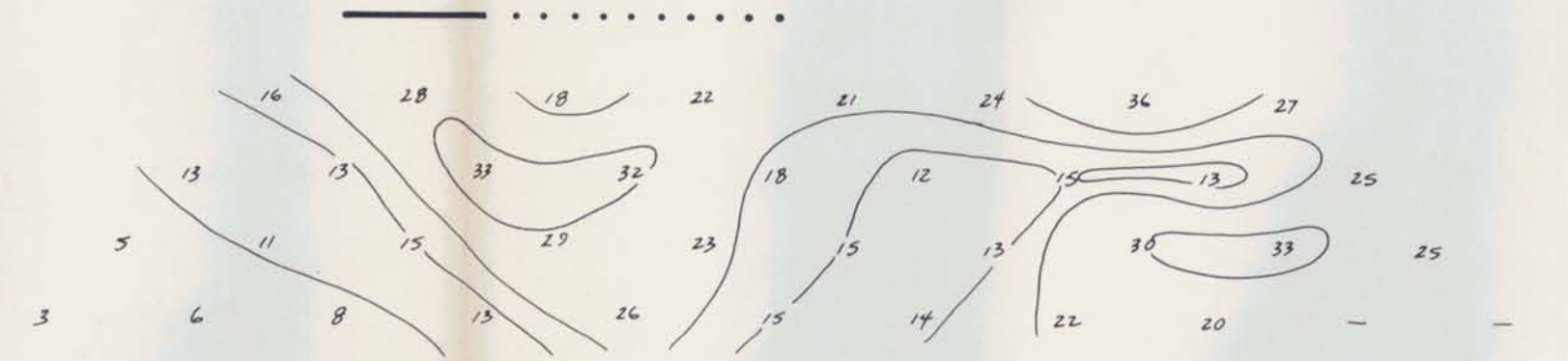
RESISTIVITY

(X = 25 m)



METAL FACTOR

(X = 25 m)





**13,862**

CO-ORDINATE

P. F. E.

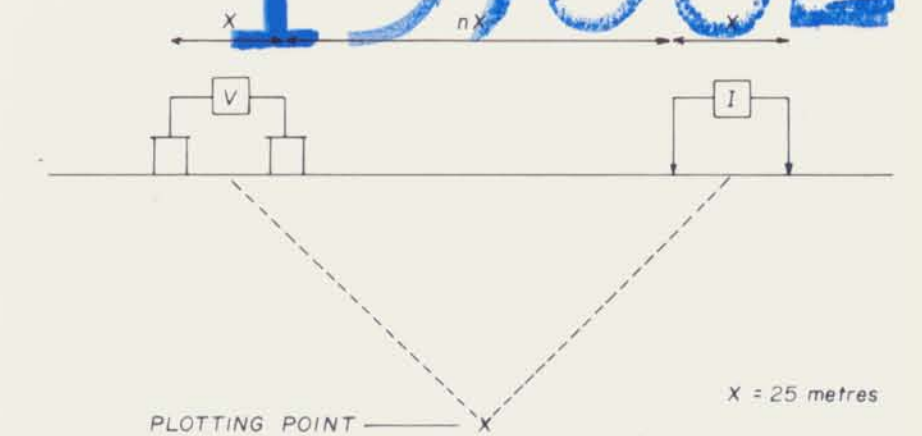
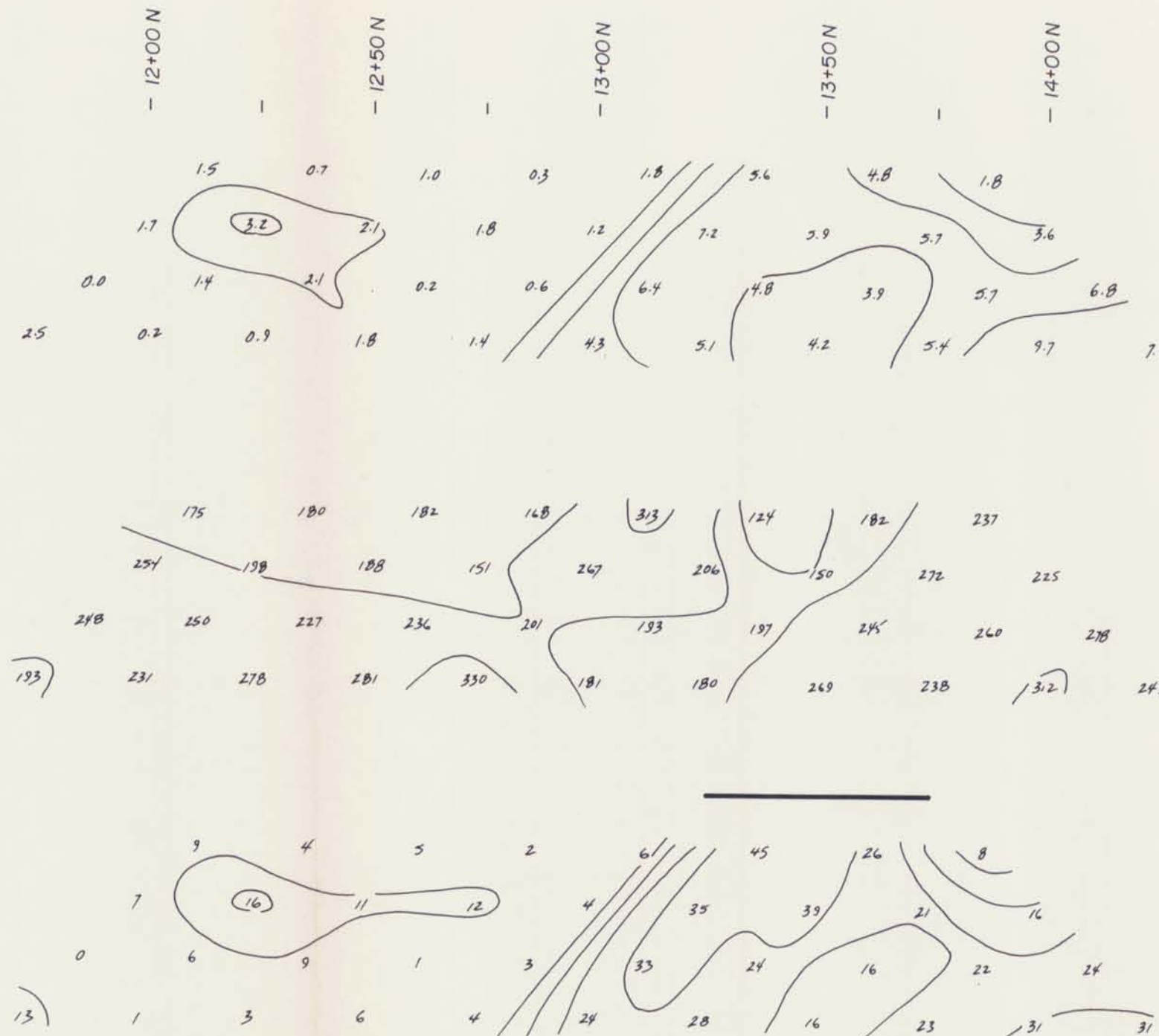
(X = 25 m)

RESISTIVITY

(X = 25 m)

METAL FACTOR

(X = 25 m)



**SURFACE PROJECTION OF ANOMALOUS ZONE**

- DEFINITE
- PROBABLE
- POSSIBLE

**CONTOUR INTERVALS**

- PFE - 3.0, 5.0, 7.5, 10, 15
- RESISTIVITY - 1, 1.5, 3, 5, 7.5, ...
- METAL FACTOR - 10, 15, 20, 30, 50, 75, 100, ...

NU CROWN RESOURCES INC.

**INDUCED POLARIZATION**

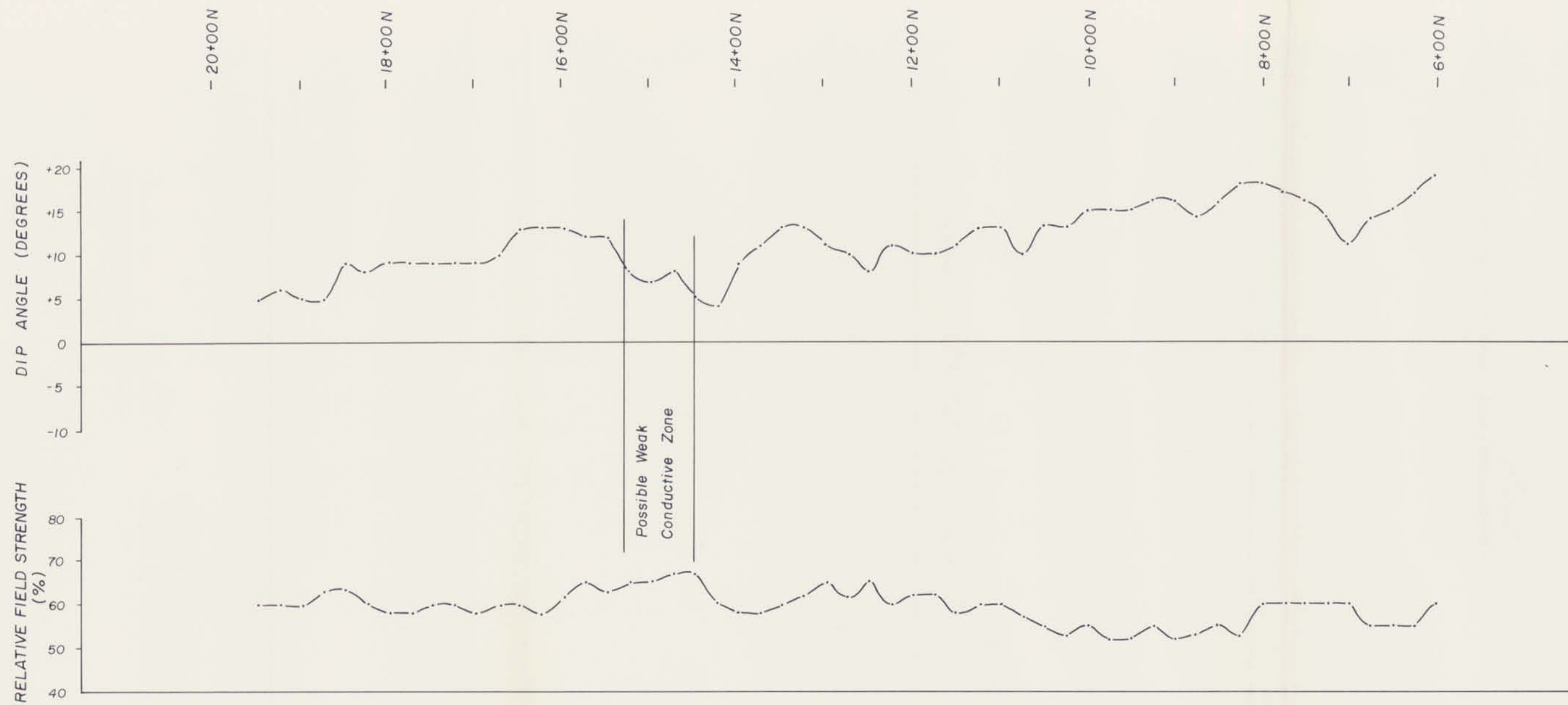
**RESISTIVITY SURVEY**

LINE NO. 10+00 E  
(FLAT) - DIP NORTH

**TIA GROUP**

KAMLOOPS MINING DIVISION, B.C.

TECHNICAL WORK BY G. BELIK AND ASSOCIATES LTD.	DATE SURVEYED JUNE, 1985.
APPROVED BY: G. BELIK, M.Sc.	FIG NO. 1041-9



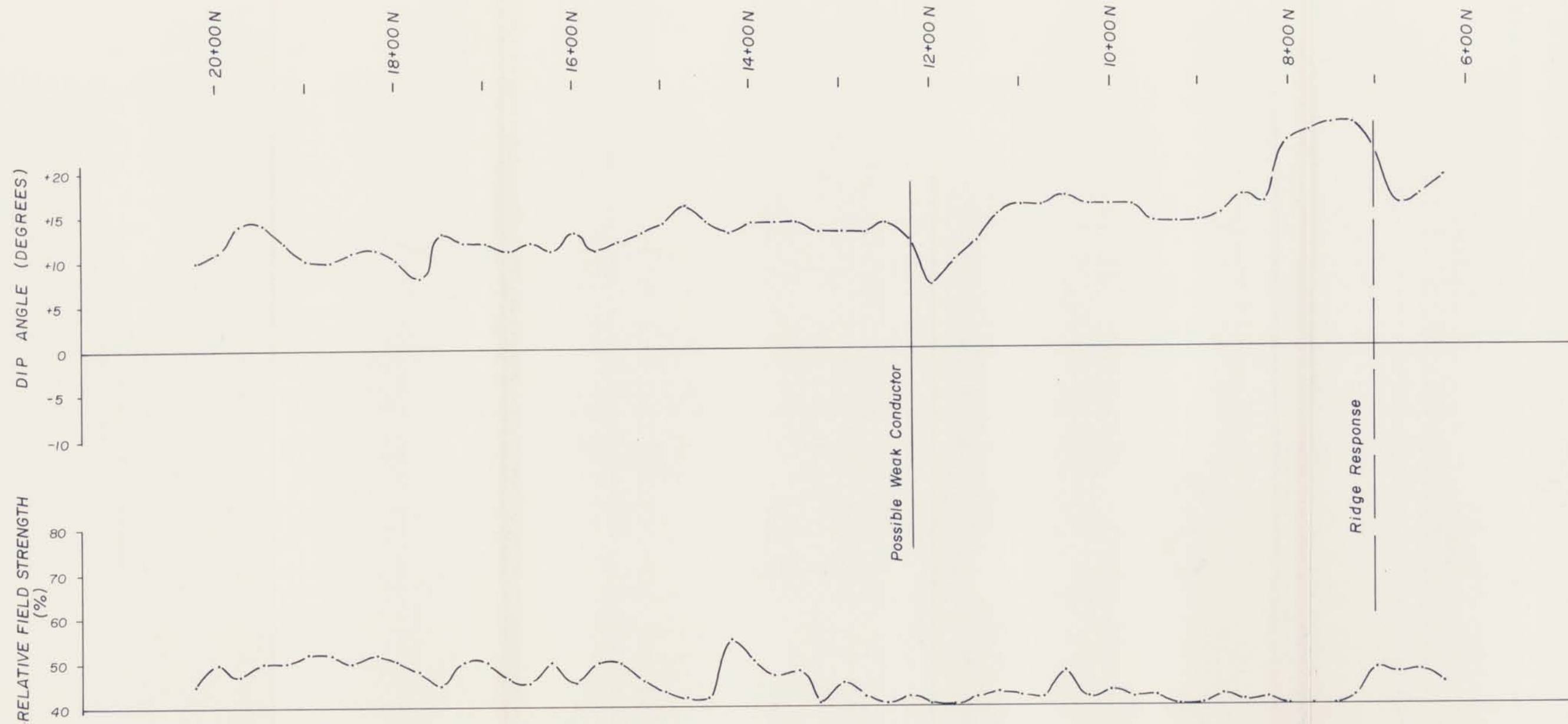
NU CROWN RESOURCES INC.  
 VLF-EM PROFILE  
 LINE 12+50 E  
 TRANSMITTER: ANNAPOLIS, MARYLAND, U.S.A.  
**TIA GROUP**  
 SCALE 1:5,000  
 0 50 100m 200

FIG. NO. 1041-5



NU CROWN RESOURCES INC.  
 VLF-E M PROFILE  
 LINE 12+50 E  
 TRANSMITTER: ANNAPOLIS, MARYLAND, U.S.A.  
**TIA GROUP**  
*[Signature]*  
 SCALE 1:5,000

FIG. NO. 1041-5



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**13,862**

<p>NU CROWN RESOURCES INC.  VLF-EM PROFILE  LINE 10+00 E  TRANSMITTER: ANNAPOLIS, MARYLAND, U.S.A.  <b>TIA GROUP</b>  <i>[Signature]</i>  SCALE 1:5,000 </p>
--

FIG NO. 1041-4

