

80-1452.

Cleveland Tin Limited

071001

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OPEN FILE

PROGRESS REPORT

EXPLORATION LICENCE 1/63

FOR

SIX MONTHS ENDING

FEBRUARY 11, 1980.

MICROFILMED

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CLEVELAND TIN LIMITED.

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071004

1. SUMMARY

Preparation for large scale exploration was the main feature of the six months ended February 11, 1980. Work completed included the compilation of all existing data for the Washington Hay area for an exploration drilling programme.

Mapping of the new exposures in the Eastern Sediments sequence confirmed work previously done in the 1978/79 season.

Geophysical surveys of the eastern edges of EL 1/63 by an airborne technique (DIGHEM) showed preliminary minor anomalies.

Compilation of all previous data onto a set of 1 : 1000 base sheets was commenced.

2. INTRODUCTION

The area in which exploration licence E.L. 1/63 is situated is in the northwest of Tasmania, 98 km from Burnie at latitude $41^{\circ} 28' S$, and longitude $145^{\circ} 24' E$.

This exploration licence, surrounding the Cleveland Tin Mining Lease, (M.L. 27M), 71, was granted to Aberfoyle Tin N.L. in August, 1963. It has been held by subsidiaries of the Aberfoyle Group of companies since 1963 and is presently held by Cleveland Tin Limited.

A. PREVIOUS EXPLORATION

Initial exploration included geological mapping, soil, bedrock, stream sediment and water geochemistry with limited ground and airborne magnometer, self potential and induced polarization surveys. This work has been covered by McWatt (1971), Sale (1972), Ransom and Hunt (1972), Ransom (1972), Ransom and Simpson (1973), Ransom (1973), Sale (1974), Stuart-Smith (1974), Palmer (1975a and 1975b), Ransom (1976a and 1976b) and Gentle (1976).

During this work no outcropping orebodies were found in E.L. 1/63 outside the Cleveland Mine area.

Statistical analysis of the geochemical data was carried out in 1977 (Ransom 1977a and 1977b). This work showed that the Mine/Falls Creek sequence was the most prospective rock unit for further exploration in the licence area.

No exploration work within E.L. 1/63 occurred between January 1978 and November/December 1978. This allowed an escalation of exploration within the mining lease.

Exploration on E.L. 1/63 recommenced in late 1978. This exploration work included surface mapping to the south of the Mine (Hall's Formation and Eastern Sediments extensions), diamond drilling 500 metres to the north of the Mine (Hall's Formation extensions), and a U.T.E.M. survey (deep sensing E.M. technique) in selected areas to the north and south of the Mine. The results of this work (Eadie, 1979), showed that Hall's

Formation continued to the north and south of the Mine area. The UTEM survey failed to recognise the B-South mineralization but did delineate several weak electrical conductors in Hall's formation and the Eastern Sediment sequence.

B. EXPLORATION OBJECTIVES (This Programme)

The previous exploration delineated several areas which required follow-up exploration in varying degrees of detail. The areas and the work proposed on these areas were as follows:

(a) Washington Hay Area

The mapped stratigraphy may represent a faulted equivalent of Hall's Formation (similar to the Cleveland Mine sequence). If this is the case then the mineralization of the Washington Hay, Washington and Confidence Mines and the anomalous soil geochemistry (Sn, Pb, Cu, Zn) located to the west of the mapped basalt sequence could represent an equivalent to the B-South mineralization stratigraphic position.

The exploration objective in this area was to determine the causes of the geochemical and geophysical (very weak) anomalies and to determine the local stratigraphy.

(b) Eastern Sediment Sequence

Previous work showed the sedimentary and volcanic sequence to the east of the Mine stratigraphy sequence contained several limestone units. These limestone units had co-incident minor UTEM anomalies.

The exploration objective in this area was to further investigate the sequence of sediments east of Hall's Formation.

(c) "W" Prospect and Whyte Hill Areas

Barren limestones stratigraphy equivalent to the Mine sequence of Hall's Formation occur on section line Z500, north of the Mine. Anomalous Zn values in the soil geochemistry from this area may represent either the volcanics or the Zn halo associated with the Cleveland style of mineralisation.

The exploration objective in this area was to locate and investigate the northern continuation of Hall's Formation.

(d) Granite Contact Zones (Eastern Areas)

Anomalous Pb, Zn and Sn soil geochemistry results adjacent to the Meredith Granite contact zones suggest a possible skarn mineralisation zone.

The exploration objective in these contact areas was to further investigate the anomalous geochemical results adjacent to the granite contact zones.

(e) General Work on Exploration Licence 1/63.

All existing data will be compiled onto sets of common base plans.

3. EXPLORATION AND DEVELOPMENT

The exploration programme outlined above was planned for the 1979-80 season. Thus the exploration was commenced in the six month period ending on the 11th February, 1980 (this report) and will continue into the following six month period until the 11th August, 1980. The work completed in the six month period ending on the 11th February, 1980, is outlined below.

(a) Washington Hay Area

The available geological, geochemical and geophysical data from the area adjacent to the Washington Hay, Washington and Confidence Mines was compiled onto a series of 1 : 1000 base plans of the area (see Washington Hay area plans WH-A, WH-B, WH-C, WH-D, WH-E, WH-F, WH-G, WH-H, WH-J). In an attempt to interpret the available geological information a chert unit, marking the ridge top to the east of the Washington Hay Mine, was followed in outcrop along strike. The mapping of the strike length of this chert exposed some marked inconsistencies in the mapped geology of this area.

An attempt to resolve the mapping inconsistencies was made by a survey traverse along the Godkin Tram and then via RA8 to the chert outcrop. The ridge top was traversed to complete the survey.

The compilation of the available geological, geochemical and geophysical data and the resolution of the mapping problems allowed the defining of a target for a diamond drilling programme.

Apart from defining a drilling target the compilation of the available data indicated that a geochemical and geophysical anomaly could possibly exist to the west of the region covered by geochemistry and geophysical surveys. Thus selected lines on the old RA Grid were recut. Because of the forestry activity on the eastern side of the Whyte River a new RA Grid baseline was cut on the western bank of the Whyte River. This re-opening of the RA Grid was in preparation for the extension of magnetometer, I.P. and geochemical surveys and to provide access for further mapping. In all 13.4 km of grid lines were cut or re-cut. Of this 1.4 km was resurveyed by chain and compass.

The compilation of the available data and the recut RA Grid lines allowed

the drill sites to be selected and marked. Access track positions to these drill sites were then marked. A dozer commenced dozing these access tracks into the proposed drill sites.

The access tracks to drill sites will be completed in the following six month period. Also in the next period a drilling programme will be undertaken.

(b) Eastern Sediment Sequence

In the past twelve months Associated Forest Holdings have extended their logging access roads and skidways to the east and southeast of the previously mapped areas. Of these, 1.9 km of gravelled roadways were surveyed using a chain and compass. The geological outcrop along these roads, tracks and skidways were then mapped. This mapping will be compiled onto the revised surface fact base sheets being compiled during the following six month period.

The mapping of these tracks showed a sequence of volcanics and chocolate shales continuing to the east of those mapped by Eadie (1979). Samples from these rocks have been despatched for petrological examinations. The results of the petrological studies will be included (with maps of sample locations) in the report for the period ending 11th August, 1980.

(c) "W" Prospect and Whyte Hill Areas

In the six months up until 11th February, 1980, no further work was done in these areas. More work will be done in the following twelve months.

(d) Granite Contact Zones

In conjunction with the Aberfoyle Exploration Department's exploration of E.L. 1/63 the granite zones on the eastern side of E.L. 1/63-1 and within the eastern extension E.L. 1/63-2 were investigated. This investigation was by means of an airborne DIGHEM geophysical survey.

The DIGHEM survey attributable to E.L. 1/63 was five lines of 2 km survey lengths and two km of alignment and turning length in E.L. 1/63³-2, and 13 lines of 3 km survey lengths and 2 km of turning and alignment lengths on the eastern edge of E.L. 1/63-1.

In the initial preliminary examination of the DIGHEM traces only a weak minor anomaly was apparent in E.L. 1/63-2. The traces are being analysed in detail at present.

(e) General Work on Exploration Licence 1/63

During the six month period ending 11th February, 1980, only preliminary work for the compilation of all existing data onto common base sheets was carried out. This work will be continued (in detail) in the six month period ending on 11th August, 1980.

Preliminary work on the obtaining and compilation of a set of accurate topographic plans by aerial photographic means was started in the six month period ending 11th February, 1980. This work will be continued in the six month period ending 11th August, 1980.

4. EXPENDITURE

Expenditure for the period August 12, 1979 to February 11, 1980 was as follows:

Geology	\$ 9,400.33
Survey	283.08
Geophysics	461.25
Geochemistry	565.82
Miscellaneous	1,552.45
Tenure	339.25
Total	<u>\$ 12,602.18</u>

5. CONCLUSIONS

Most of the work done within E.L. 1/63 during the six month period ending on 11th February, 1980 consisted of compilation of pre-existing data (Washington Hay area), field mapping of new exposures (Eastern Sediments area), and the field work of a DIGHEM survey (eastern areas of E.L. 1/63).

The evaluation of this work (including the results of the planned exploration drilling) will be done in the six month period ending on 11th August, 1980. Also planned for the six month period to the 11th August 1980 is the compilation of all available data for the entire lease on to 1 : 1000 base sheets.

The total expenditure for the six months period ending on 11th February 1980 was \$12,600.

6. REFERENCES

- Eadie A., 1979 Progress report on Exploration Licence 1/63 for period February 1979 to August 1979.
- Gentle L.V., 1976 Review of Exploration at Cleveland Tin N.L. C.E.P.L. unpublished report.
- McWatt R.M., 1971 Reconnaissance Exploration Geochemical, Magnetometer and Geological Data of E.L. 1/63 area 1. Cleveland Tin N.L. unpublished report.
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- Ransom D.M., 1973 Regional geology of the Luina-Waratah area and its relationship to the Precambrian/Early Cambrian stratigraphy of the West Coast, Tasmania. C.E.P.L. unpublished report.
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- Ransom D.M., & Hunt F., 1972 Cleveland Tin Limited year-end report. C.E.P.L. unpublished report to Tasmanian Mines Department.
- Ransom D.M., & Simpson D.C., 1973. Progress report - Cleveland Tin Limited for six months ending June 30, 1973. C.E.P.L. unpublished report to Tasmanian Mines Department.

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Geochemistry progress report, Cleveland Tin N.L. E.L. 1/63. C.E.P.L. unpublished report to the Tasmanian Mines Department.

Sale R.V., 1974

Progress report - Cleveland Tin N.L. - six months ending December 31, 1973. C.E.P.L. unpublished report to Tasmanian Mines Department.

Stuart-Smith P.G., 1974

Progress report - Cleveland Tin N.L. - six months ending June 30, 1974. C.E.P.L. unpublished report to Tasmanian Mines Department.

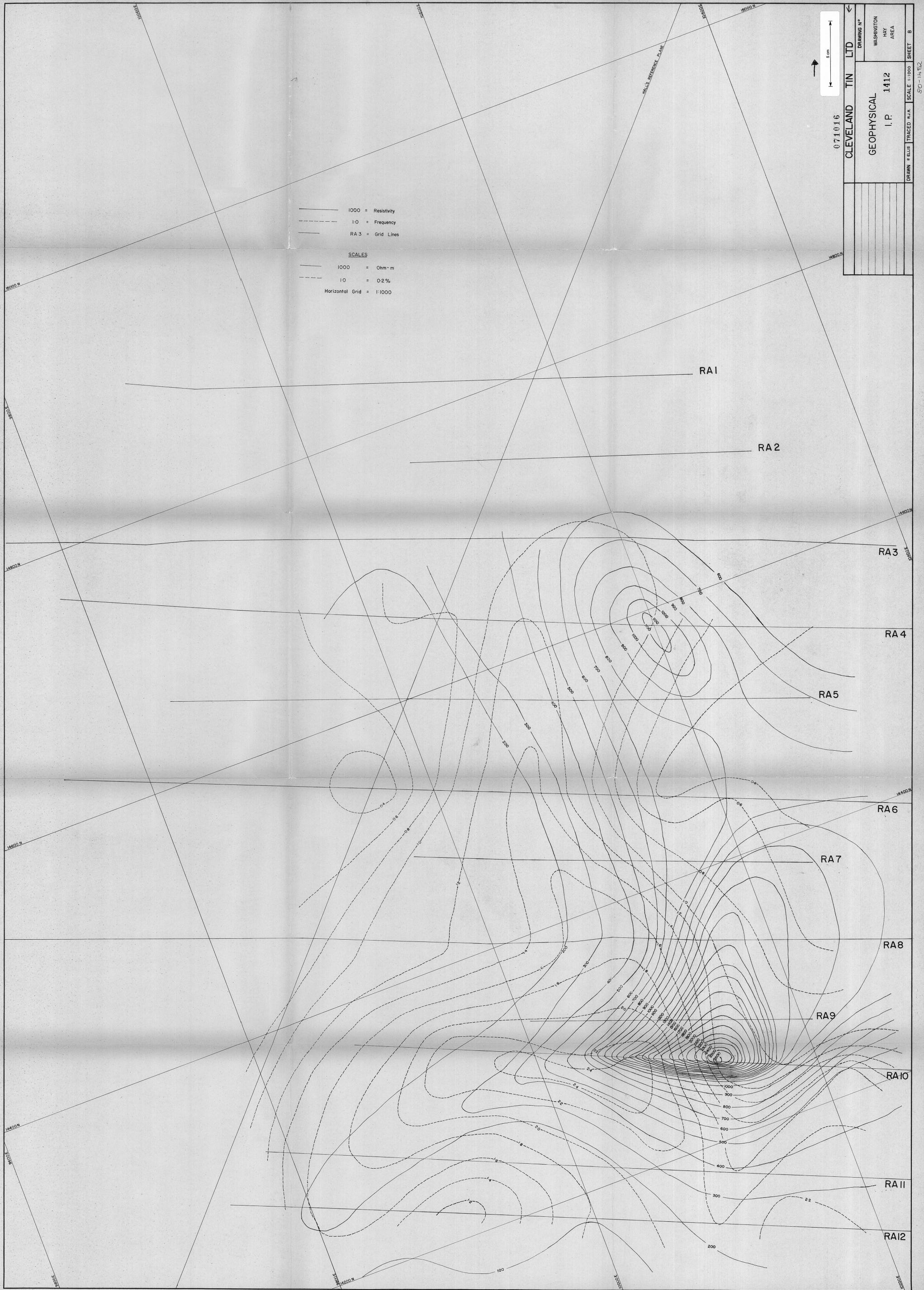


071016

CLEVELAND	TIN LTD	DRAWING N°	WASHINGTON HAY AREA
		I.P.	1412
		SCALE	1:1000
		TRACED	RAJ
		DRAWN	# 6115
		SHEET	B

———— 1000 = Resistivity
 - - - - - 1.0 = Frequency
 ———— RA 3 = Grid Lines

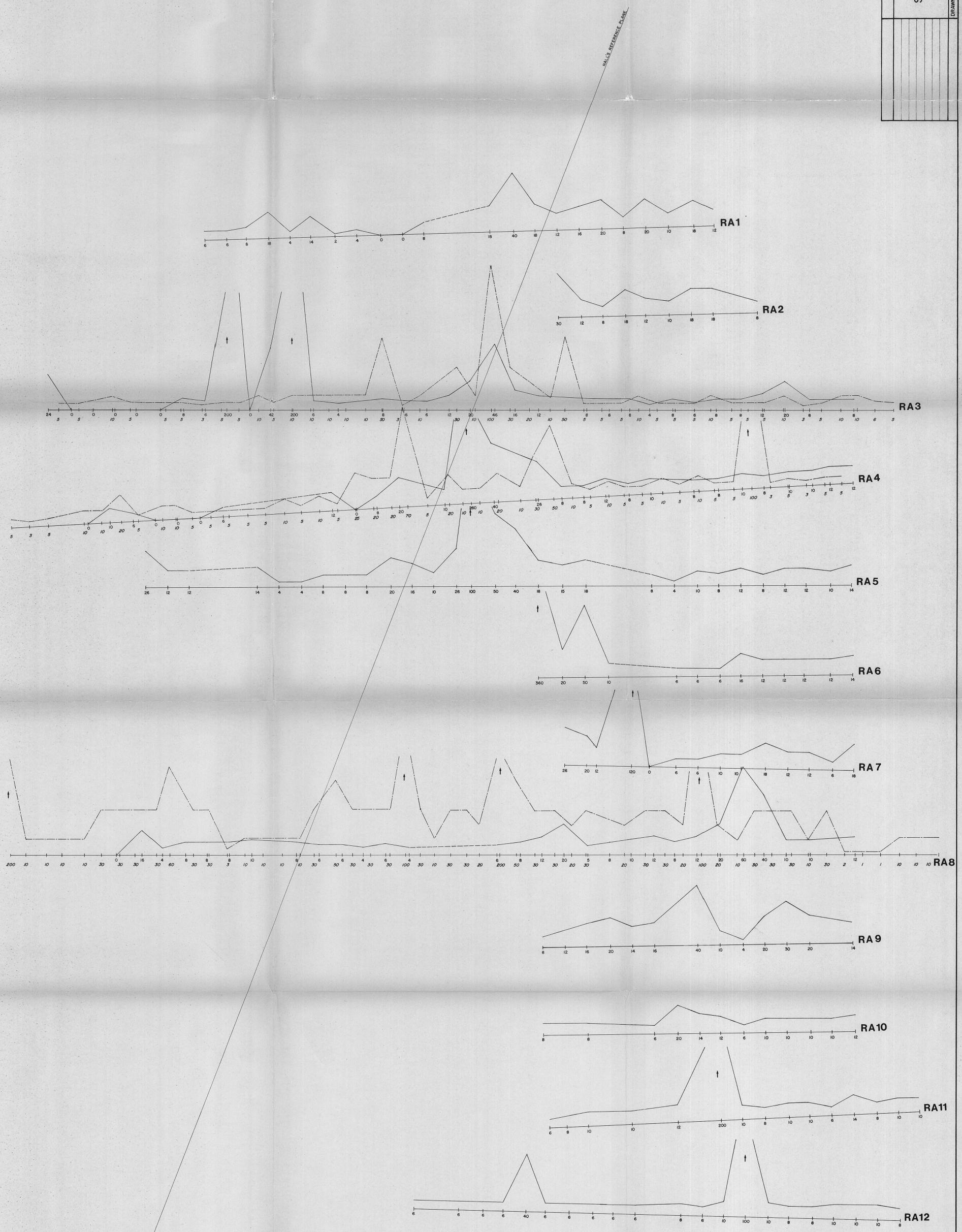
SCALES
 ———— 1000 = Ohm-m
 - - - - - 1.0 = 0.2%
 Horizontal Grid = 1:1000



— 4 = Pre 1973 Analyses
- - - 4 = 1973-74 Analyses

SCALES
Horizontal = 1:1000
Vertical = cm=10ppm.

071017
CLEVELAND TIN LTD
DRAWING N° WASHINGTON HAY AREA
Sn
SOIL GEOCHEMISTRY
(ASSAY VALUES and PROFILES) 1413
DRAWN BY J.B. TRACED BY J.B. SCALE 1:1000 SHEET C

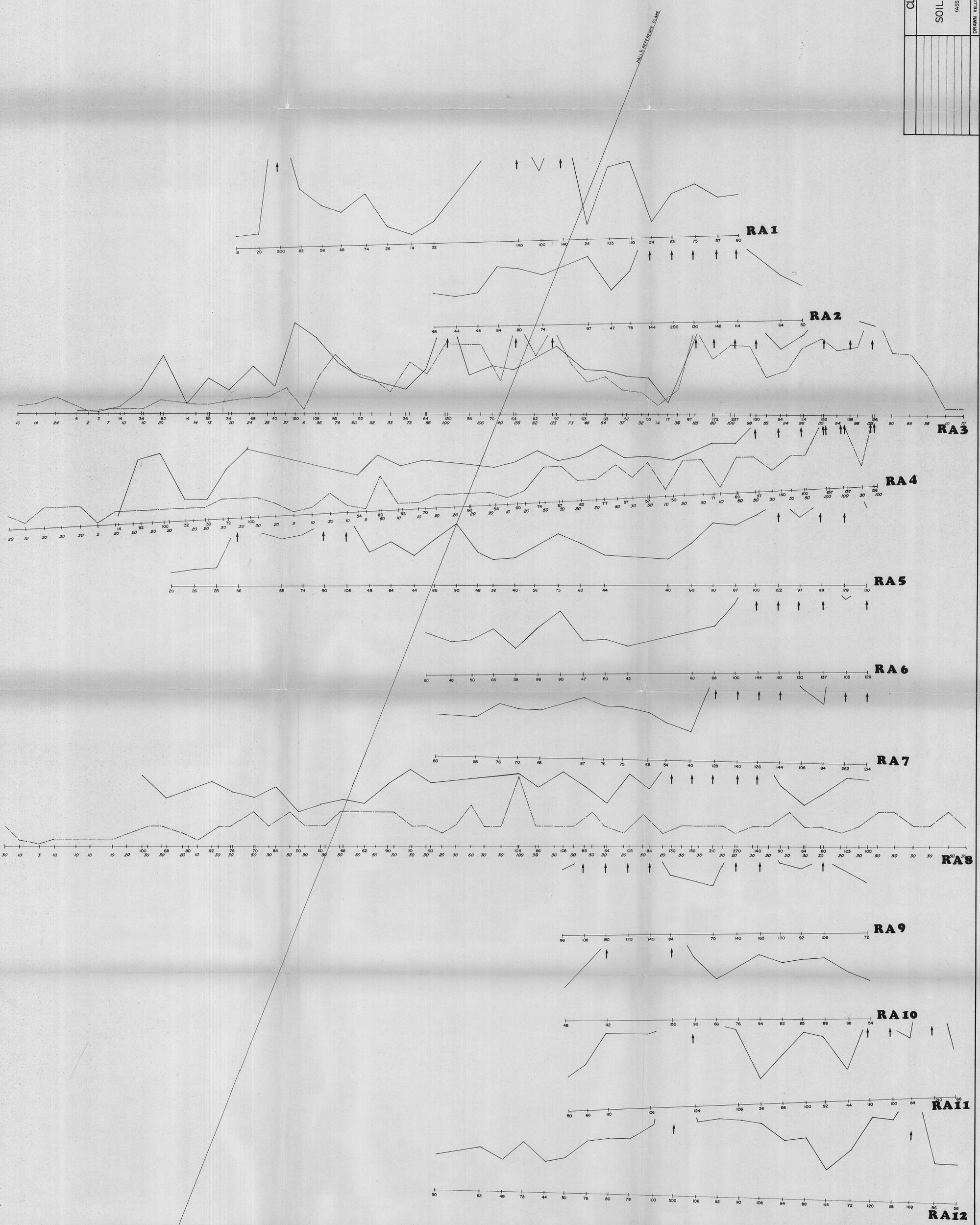


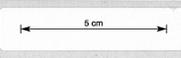
5 cm

— 4 = Pre 1973 Analyses
- - - 4 = 1973-74 Analyses

SCALES
Horizontal = 1:1000
Vertical = 1cm = 20ppm

071018	CLEVELAND TIN LTD	DRAWING N°	WASHINGTON HAY AREA	SHEET D
		1414	Cu	
		SOIL GEOCHEMISTRY		
		(ASSAY VALUES AND PROFILES)		
		TRACED P.L.S.	SCALE	

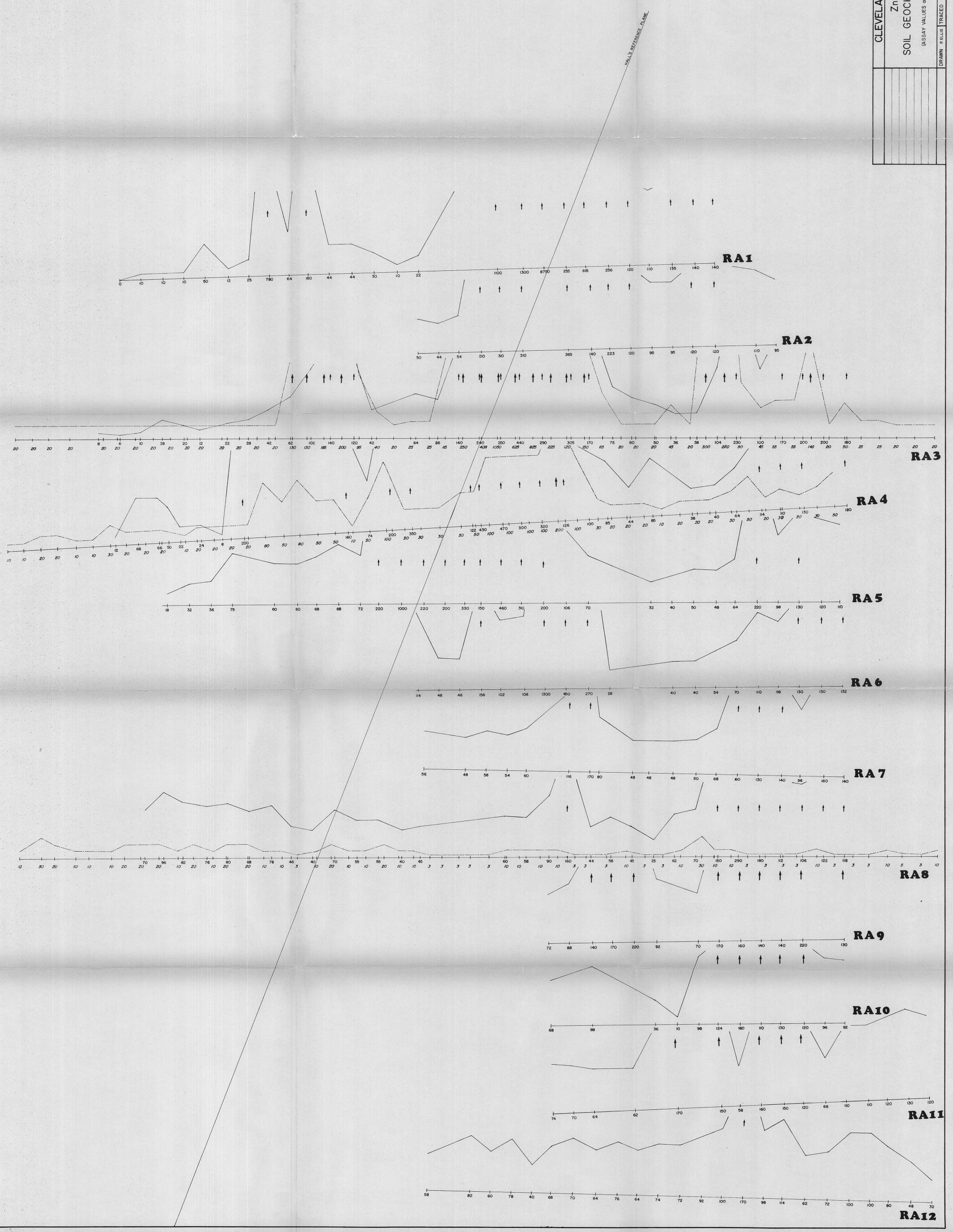




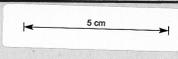
— 4 = Pre 1973 Analyses
 - - - 4 = 1973-74 Analyses

SCALES
 Horizontal = 1:1000
 Vertical = 1cm = 20ppm

071019	CLEVELAND TIN LTD	DRAWING NO	WASHINGTON HAY AREA	SHEET E
	Zn 1415			
	SOIL GEOCHEMISTRY			
	(ASSAY VALUES and PROFILES)			
	SCALE	TRACED R.U.R.		



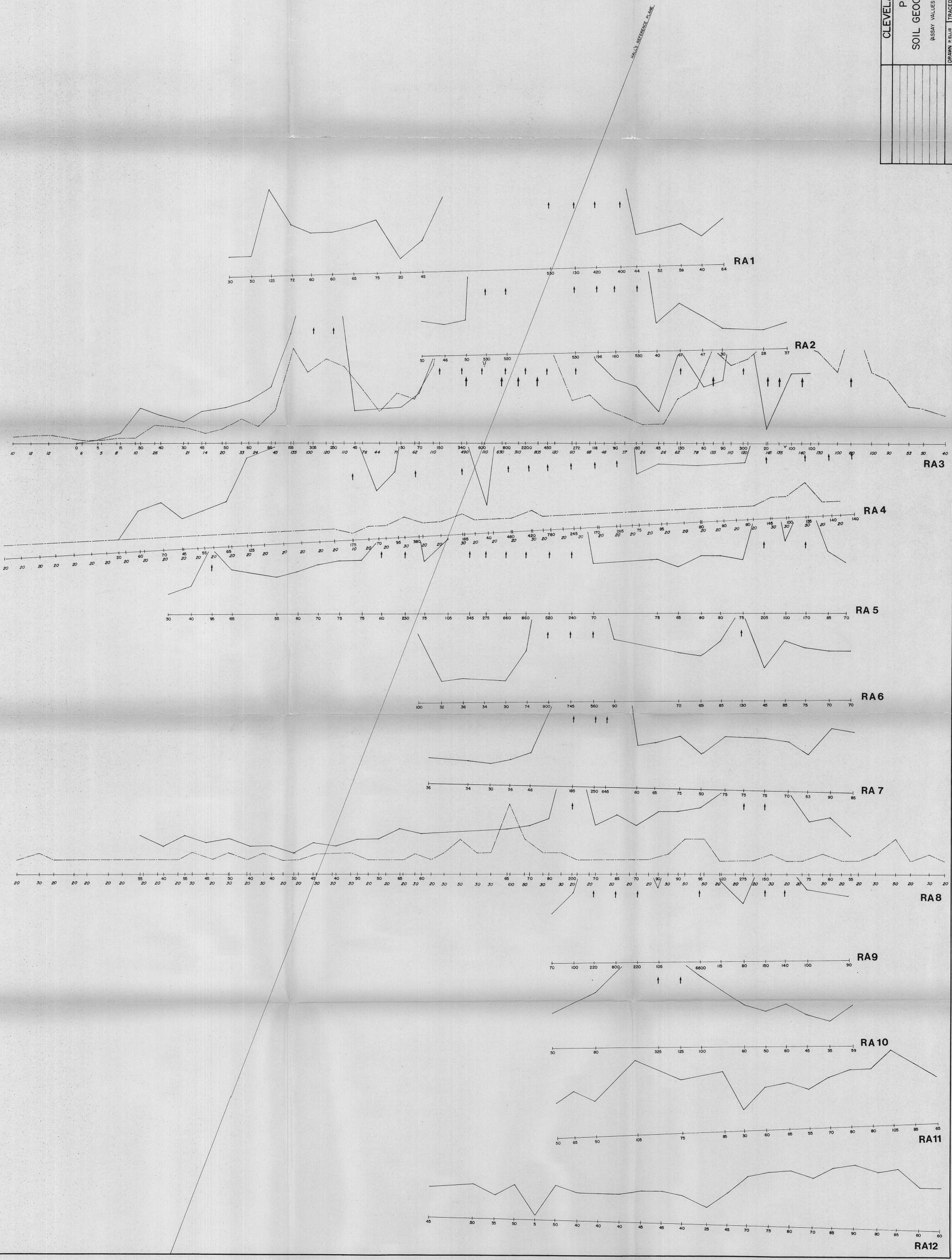
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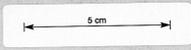


— 4 = Pre-1973 Analyses
 - - - 4 = 1973-74 Analyses

SCALES
 Horizontal = 1:1000
 Vertical = 1cm = 20ppm

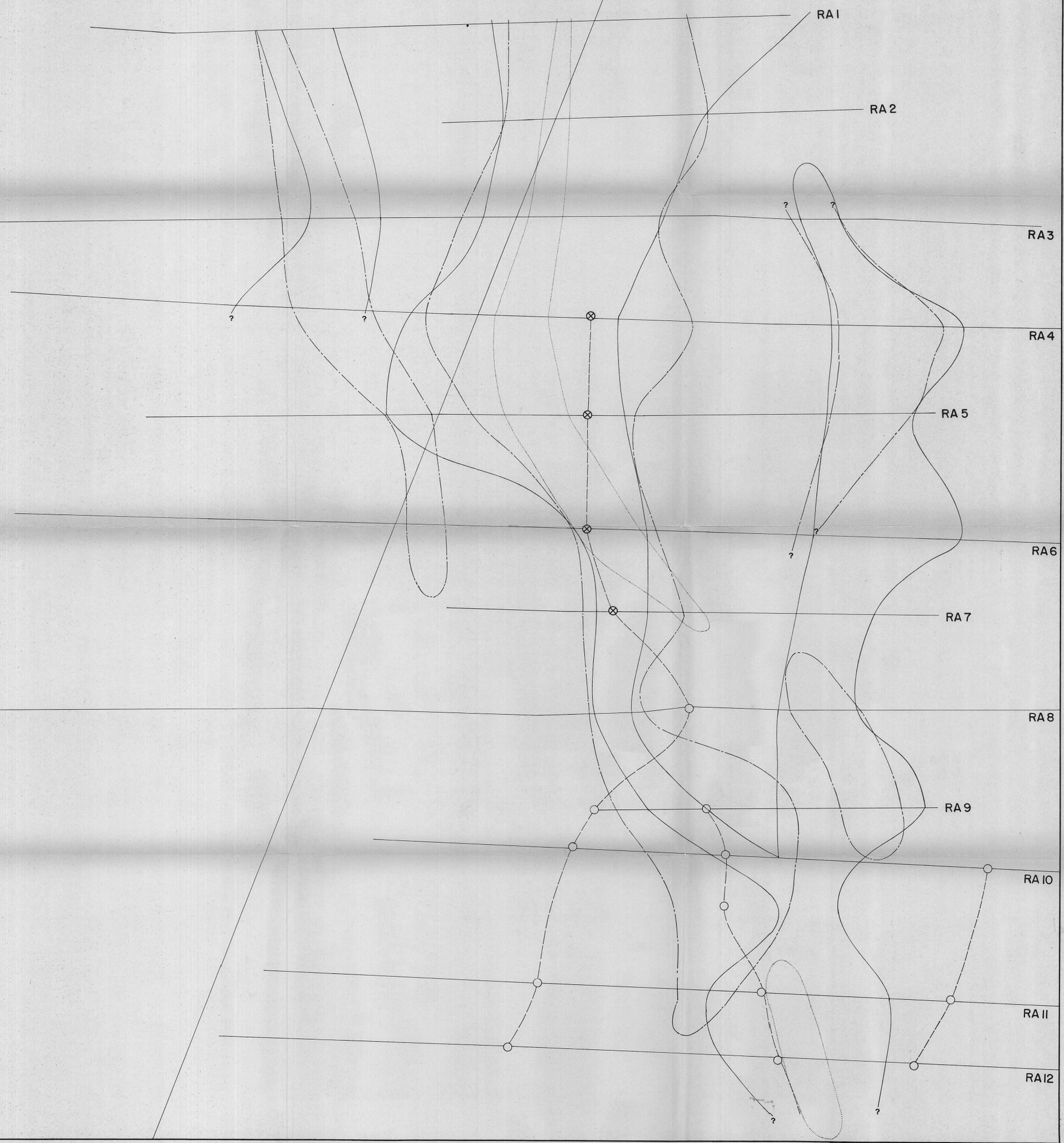
071020		CLEVELAND TIN LTD	DRAWING N°	WASHINGTON HAY AREA	SHEET F
Pb		SOIL GEOCHEMISTRY	ASSAY VALUES and PROFILES	410	SCALE
DRAWN P.E.L.J.		TRACED R.J.R.	SCALE		

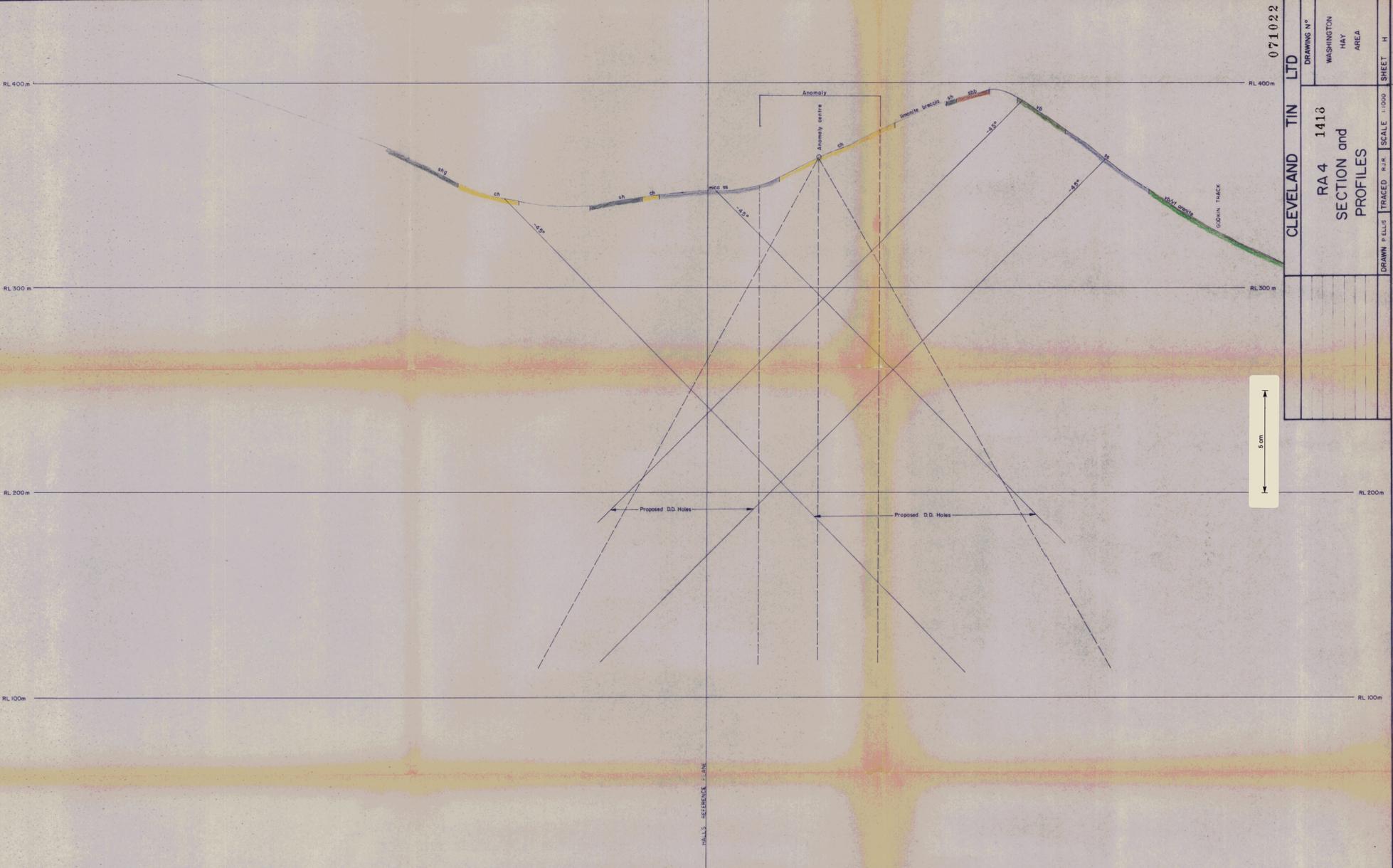




- = Sn
- = Zn
- = Pb
- - - = Line of Anomalies
- ⊗ = Strong Anomaly
- = Weak Anomaly

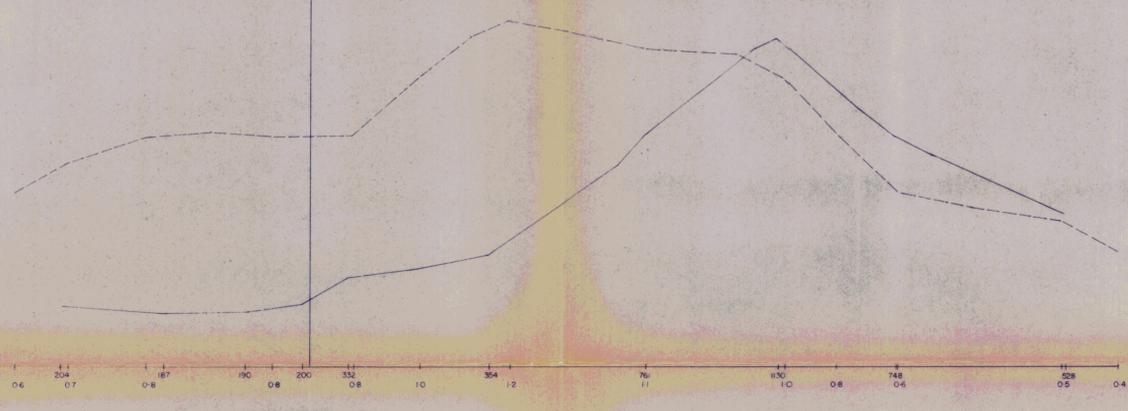
MULL'S REFERENCE PLANE





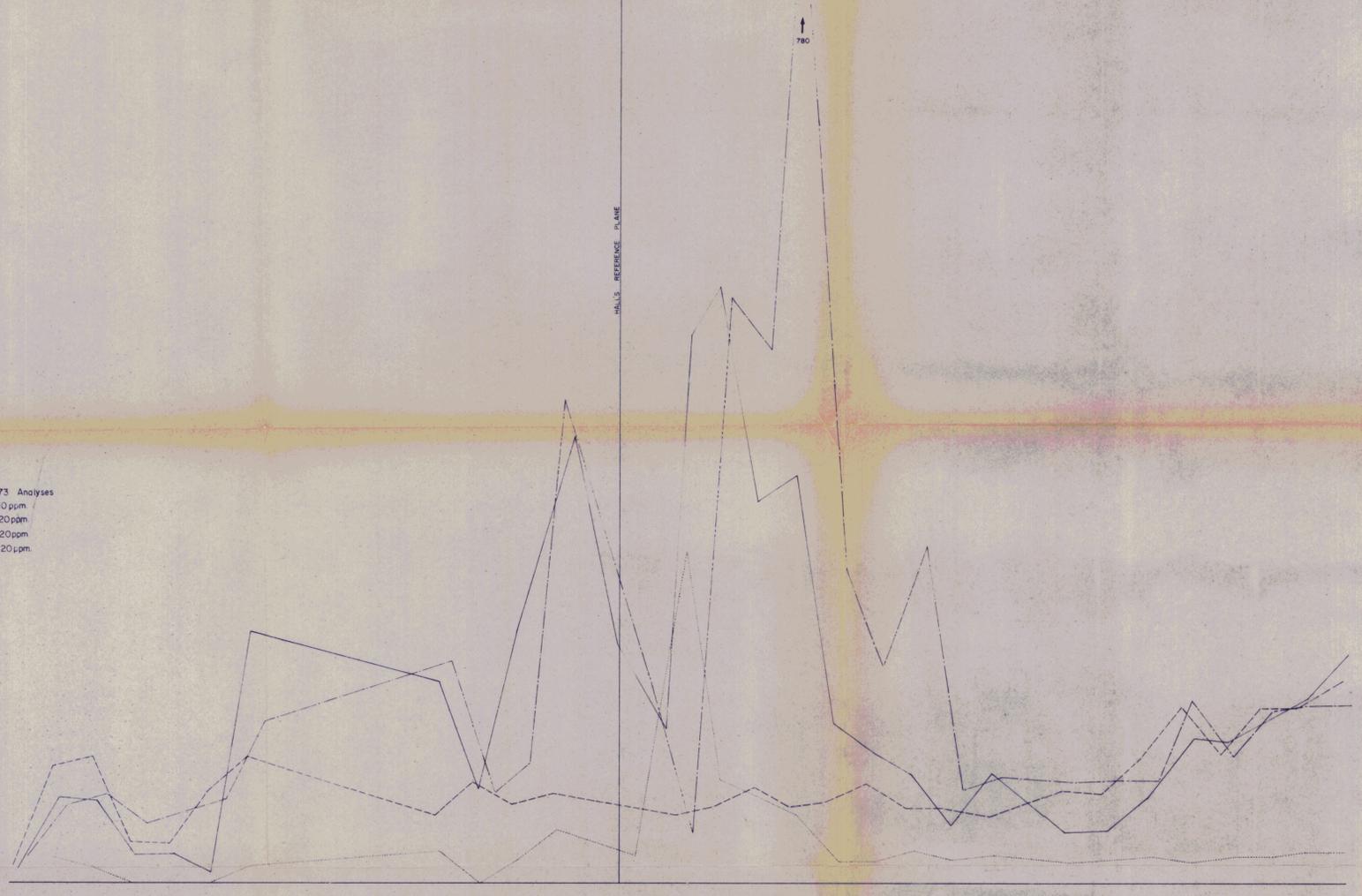
TOPOGRAPHY

— 204 - Apparent Resistivity - 1cm = 100 Ohm-m.
 - - - 0.2 - Frequency Effect - 1cm = 0.1%

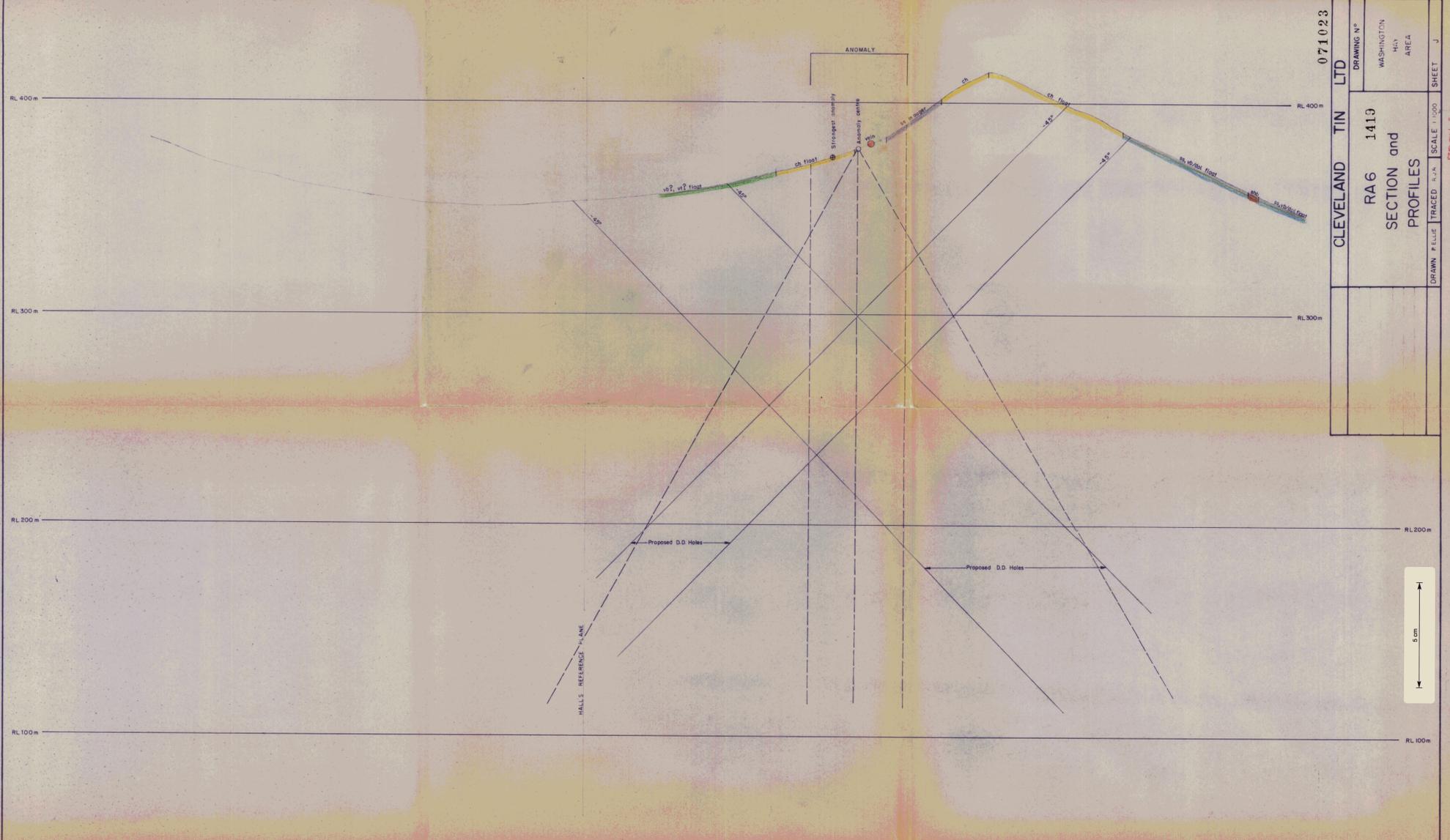


GEOPHYSICAL I.P.

Data = Pre 1973 Analyses
 Sn = 1cm - 10 ppm
 Cu = 1cm - 20 ppm
 Zn = 1cm - 20 ppm
 Pb = 1cm - 20 ppm

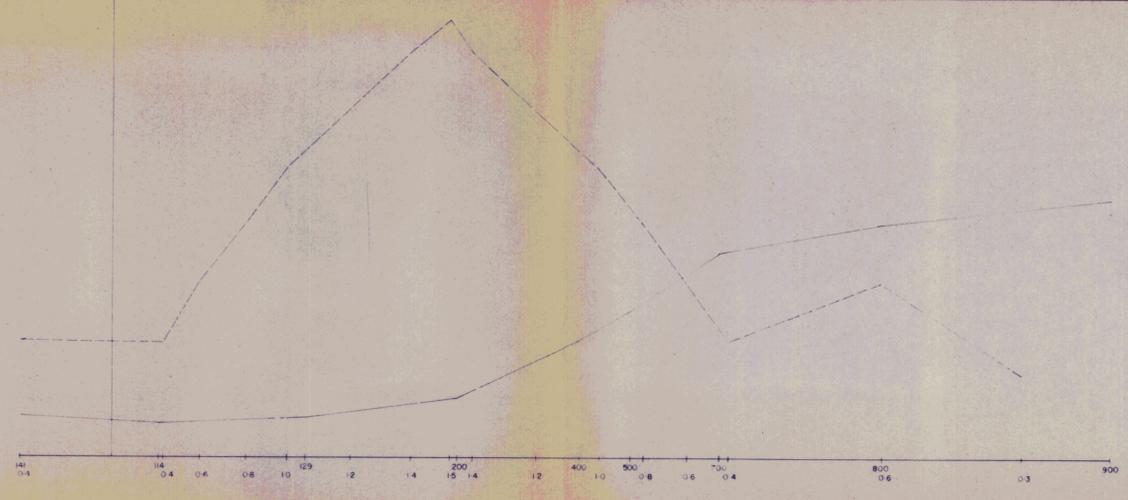


SOIL GEOCHEMISTRY



TOPOGRAPHY

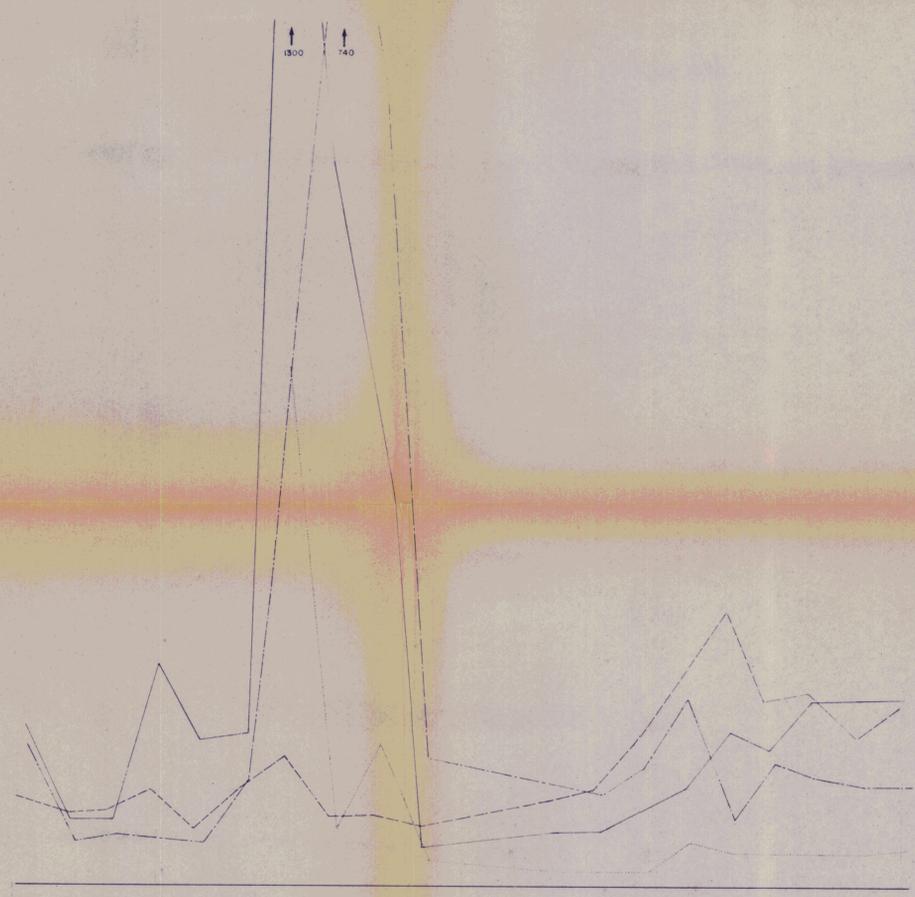
— 200 Apparent Resistivity - 1cm = 100 Ohm-m
 - - - Frequency Effect - 1cm = 0.1%



GEOPHYSICAL I P

Data = Pre 1973 Analyses
 — Sn = 1cm = 10ppm
 - - - Cu = 1cm = 20ppm
 — Zn = 1cm = 20ppm
 - - - Pb = 1cm = 20ppm

HALL'S REFERENCE PLANE



SOIL GEOCHEMISTRY



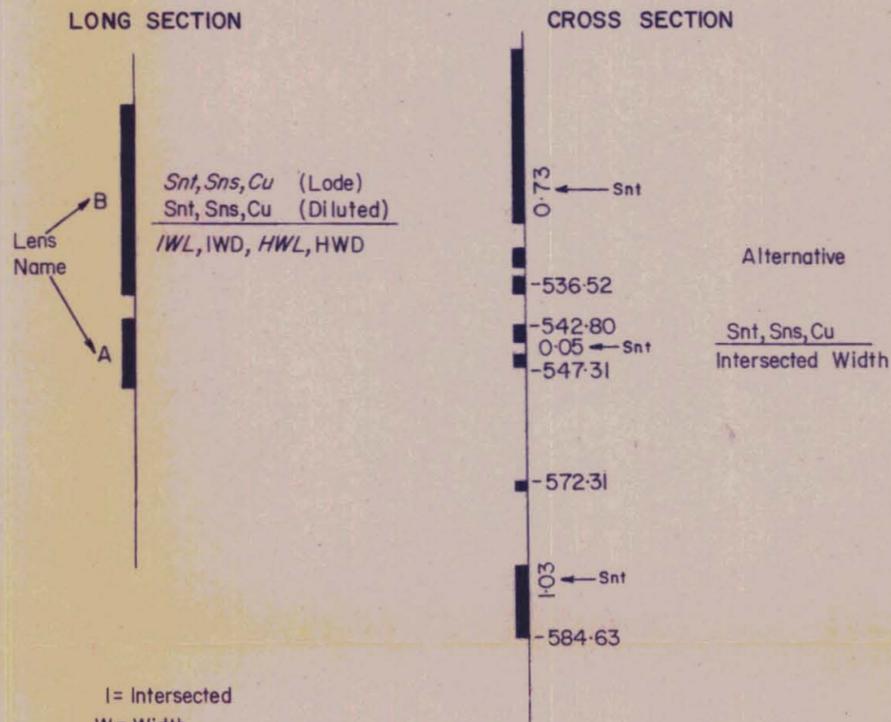
ROCK TYPES

NAME	ABBREVIATIONS	N°	COLOUR
Sandstone	ss	27	
Shale	sh	68	
Shale, grey	shg	68	
Shale, brown	shb	63	
Shale, purple	shp		
Siltstone	slt	68	
Black Argillite	ba		
Lode	L	12	
Chert	ch	06	
Limestone	Lst	33	
Basalt	vb	49	
Tuff	vt	46	
Lithic Tuff	lvt	46	
Serpentinite	Serp	48	
Ultrabasic	Ub	48	

COMPOUND ROCK TYPES

Sandstone - Shale	ss/sh	27-68	
Chert - Lode	ch/L	06-12	
Chert - Shale	ch/sh	06-68	
Shale - Tuff	sh/vt	68-46	

D.D.H. ASSAYS



I = Intersected
 W = Width
 L = Lode
 H = Horizontal
 D = Diluted

MINERAL ABBREVIATIONS

Quartz	Qtz	Lead	Pb
Chlorite	Chl	Zinc	Zn
Carbonate	Crb	Silver	Ag
Calcite	Ca	Copper	Cu
Siderite	St		
Doimite	Do	Coarse Grained	cg
Flourite	Fl	Medium Grained	mg
Tourmaline	Tm	Fine Grained	fg
Amphibole	Am		
Feldspar	Fsp	Weathered	weath.
Sericite	Sc	Undifferentiated	undiff.
		Brecciated	bxed
Cassiterite	Sn	Recrystallized	rxll
Wolframite	W	Interbedded	intbd
Molybdenite	Mo	With	c
Magnetite	Mt		
Bismuthinite	Bi		
Pyrrhotite	Po		
Pyrite	Py		
Chalcopyrite	Cpy		
Marcasite	Ma		
Arsenopyrite	Ar		
Sphalerite	Sp		
Galena	Gn		

STRUCTURES

FAULTS	D.D.H. SYMBOLS	PLAN SYMBOLS
Known		
Interpreted		
Inferred		
Not Orientated		
Orientated		
Crush Zone		
Brecciation		
Joint		
Vein		
Bedding - Banding		
Minor Anticline		
Minor Syncline		
Major Anticline		
Major Syncline		
Drag Fold		
CONTACTS		
Known		
Interpreted		
Inferred		

ALTERATION

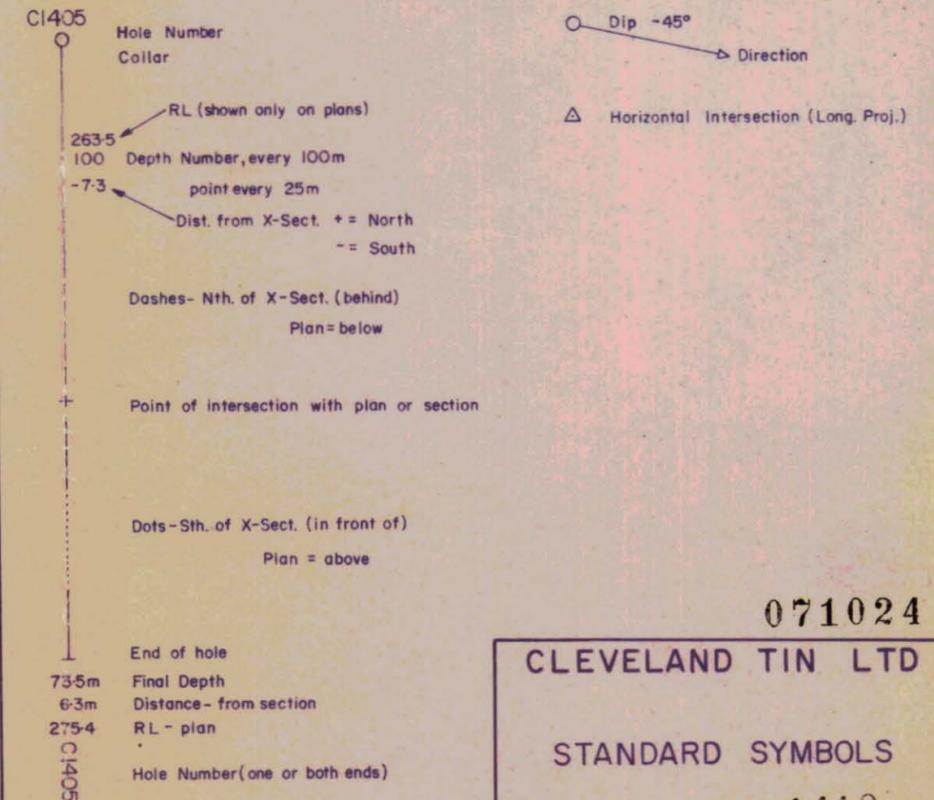
Bleaching	B
Carbonates	C
Tourmalization	T
Chloritization	H
Silicification	Q
Sulphide (per abbrev.)	Po

FRACTURE CLASSIFICATION

Code	Brecciation		Slickensides		Thickness			
	minor	major	weak	strong	5mm	5-10mm	10-50mm	50mm
Fault	f	F	f	F	1	2	3	4
Vein					V1	V2	V3	V4
Joint					j			

Faulting - combine letter with thickness. e.g. f2, F4.

D.D.H. TRACES



GENERAL SYMBOLS

Survey Grid Lines		Petrological Sample	183635
U/G Survey Station		Geochemical Sample with assays	10 = Sn 280 = Cu 100 = Zn
Station Number	1/17	Rock Outcrop - with name	
RL. (may be written outside development).	Roof Floor	Distribution of float on grid lines	

071024
CLEVELAND TIN LTD

STANDARD SYMBOLS

1410

19-5-'80 T. TULP 80-1452-