E.L. 48/70

JOINT VENTURE

REPORT ON FIELD WORK
COMPLETED ON PIEMAN HEADS GRID
AUGUST-SEPTEMBER 1972

by

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RENISON LIMITED

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SUMMARY

A regional geochemical sampling programme completed during the 1971-72 field season over E.L. 48/70 located anomalous copper values on Violet Rivulet, and anomalous tin values on Websters Creek. These anomalies occur on the south bank of the Pieman River, and in the north of the area called the South Pieman Head Tin Prospect.

During August and September 1972, a grid was cut over the area of interest, and was auger soil sampled, geologically mapped, and covered by ground magnetic traverses.

RECOMMENDATIONS

Results of the geochemical and geophysical surveys were not encouraging; it is recommended that no further work be conducted, and that E.L. 48/70 be relinquished. As far as can be ascertained from this work, the source of the anomalous tin values is from the thin cover of Tertiary Gravels, which cover most of the ridges in the area. The anomalous copper values are probably due to the presence of minor amounts of copper mineralisation associated with quartz veining in the Schistose Precambrian sediments. This type of vein copper mineralisation is common in Pre-Cambrian rocks of the West Coast of Tasmania.

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N.B. TRANS. HELD IN VERTIPLAN I ~~42/3~~ 72-899 (1-8)

INTRODUCTION:

The aim of this exploration programme was to follow up copper and tin anomalies located during the 1971-72 regional geochemical sampling programme over E.L. 48/70. The anomalies were located on Websters Creek and Violet Rivulet - about ½ kilometer south of the mouth of the Pieman River.

PREVIOUS WORK:

All the work completed to the end of the 1971-72 field season is discussed in detail in the unpublished Company Reports (i) 1971-72 Annual Report E.L. 48/70 and 49/70 by D.H. Bell, (ii) Interim Report on E.L. 48/70 // Pieman River, August 1972 by L.A. Newnham.

Field work in this area consisted of gridding, soil sampling, geological mapping, and pit sampling over the southern portion of the South Pieman Heads in Anomaly.

It showed that most of the tin was coming from thin Tertiary Gravels which cover much of the area, with some of the tin being shed from thin veins in the Granite. No field work other than stream sediment sampling, was undertaken in the area north of the South Pieman Heads Granite.

REGIONAL GEOLOGY:

In the area under investigation Precambrian Surprise Creek Beds have been intruded by Devonian Granite, and are overlain by a thin cover of Tertiary Gravels, and Recent Alluvium.

The Surprise Creek Beds consists of siltstones, micaceous sandstones, shales, thin pebble bands, and quartzites. The sediments have been regionally metamorphosed, with the development of chloritic-type minerals and have developed a cleavage at variable angles to the original bedding.

During the Devonian, these sediments were intruded by the South Pieman Heads Granite - a coarsely crystalline biotite granodiorite. Contact metamorphism of the intruded sediments is not extensive, and is confined to the contact zone with the granodiorite.

Tertiary Gravels covered most of the area, and consist of rounded pebbles of schists, quartzite, quartz; with some angular vein quartz, set in a matrix of fine quartz sand and brown clay.

Recent erosion has removed much of the Tertiary gravels, and they are now mainly confined to the ridges.

GEOMORPHOLOGY:

Two main geomorphological units occur in the area under investigation - Coastal Plain and Remnant Peneplain.

The coastal plain is a low undulating plain. Precambrian schists and quartzites form the basement rocks and are overlain by windblown sand. Near the beach low sand dunes have formed. The plain slopes gently seawards, and ranges in height from sealevel to 30 metres.

The remnant peneplain (Tertiary age) varies in height from 60-90 metres and forms a gently undulating surface. The drainage system is linear with a NE-SW trend - this trend is parallel to the strike of the underlying Pre-Cambrian sediments. The streams have wide, open valleys. Near the coastal plain, streams have eroded into the peneplain forming steep sided valleys, with many small waterfalls.

Vegetation in the area consists of extensive button grass plains on the ridges, and eucalyptus and dense tee-tree scrub along the water courses.

FIELD WORK-AUGUST-SEPTEMBER 1972:

A Grid was cut over the area between Violet Rivulet and Websters Creek. The main base line was 2.8 kilometers long, and cross lines, up to 1 kilometer long, were cut at 400 metre intervals. The cross lines were geologically mapped, soil sampled at 50 metre intervals, and magnetic readings taken every 25 metres with a McPhar M700 flux gate magnetometer.

GEOLOGY:

Mapping of the area showed a sequence of Surprise Creek schists, which have been cut by thin irregular quartz veins, and then overlain by a thin veneer of Tertiary gravels.

The Surprise Creek Beds consist of a monotonous grey-grey brown chloritic schists, striking NE-SW and dipping from 20° - 90° to the NW and SE. The schists weather to a brown clay. Near 12,050mN 10,000mE floaters of a weathered intermediate igneous rock, and chloritic rich rock were found. These floaters suggest the presence of a dolerite dyke in the area.

The schists have also been intruded by numerous irregular milky quartz veins. This vein quartz forms a scree which covers most of the ridges. There is little sign of mineralisation associated with the vein quartz except near 10,100mN 10,020mE on the track across the Violet Rivulet. Here vughy quartz with limonitic staining is exposed. This type of mineralisation could explain the copper anomaly along Violet Rivulet.

Tertiary gravels, which occur over much of the area contain rounded pebbles of schist, quartzite and quartz in a fine sand and clay matrix. The gravels form a thin cover, generally less than 1 metre thick. Near 10,000mN 10,000mE the gravels are cemented in part by pyrite. This may indicate acid ground water at the time of deposition of the gravels. Angular quartz scree occurs on many of the ridges and is derived from thin quartz veins in the Surprise Creek Beds. This scree is distinguished from the Tertiary Gravels by a lack of rounded pebbles.

Recent alluvium and gravels occur along the river valleys.

RESULTS OF GEOCHEMICAL SAMPLING:

One hundred and ninety eight auger soil samples were taken over and the Pieman Heads Grid. Samples were taken of the humic horizon, and at the bottom of the auger hole, with some intermediate samples, where practicable. The depth of the auger holes generally averaged less than 1 metre.

Several samples were sieved using 85# 72# 56# 36# screens. The various fractions were then assayed separately. Due to the lack of sample in the +85# -36# fraction, it was decided to sieve the remainder of the samples through 85# and 10# sieves giving two fractions -85# and +85# -10#. The samples were assayed for Cu, Pb, and Zn, using Atomic Absorption methods and for Sn. and As. using X.R.F. methods. Results are plotted on the maps accompanying this report.

TIN:

From the assays, it was noticed that in general, the higher tin assays, were associated with the coarser fractions. Anomalous tin values were found in the north west corner of the grid. Anomalous assays in this area were generally in the order of 100ppm Sn. Tertiary Gravels cover the ridges, and stream sediments samples showed high tin values along Webster Creek in this general area.

Another anomalous area was located on the ridge between Websters Creek and Violet Rivulet. Tin values of up to 705ppm were located close to the surface, suggesting a Tertiary gravel source for the tin.

COPPER:

Isolated values of up to 300ppm Cu were obtained. The original Cu. stream anomaly was located near the Base Station (10,000mN 10,000mE). Sampling in this area generally gave low copper values. From the information available, it appears that the copper anomaly is due to minor copper mineralisation associated with quartz veining. Limonitic quartz was found on the track over Violet Rivulet, which suggests leaching of sulphides from the quartz veins. No corelation was established between the high tin and copper values.

LEAD:

Isolated values of up to 350ppm Pb. were located and background values were less than 40ppm Pb.

No anomalous areas were located, and no correlation between high lead, copper and tin values was established.

ZINC:

No anomalous areas were found. Background values were less than 20 ppm.

ARSENIC:

In general only low arsenic values were found (less than 20 ppm) except in the south east corner of the grid. Here values of up to 185 ppm As. were located, and are associated with the Tertiary Gravels. During the sampling of the southern area of the South Pieman Heads Granite, in 1971-72 sulphides were located in the gravels. Thus this arsenic anomaly could be due to the presence of minor amounts of arsenopyrite in the gravels.

GEOPHYSICAL RESULTS:

Results of the ground Magnetometer Survey gave several low order anomalies (± 200γ to 300γ) over the Violet Rivulet area. Two highs and one low were located, trending NE-SE and parallel to the strike of the Surprise Creek Beds. The magnetic anomalies had little correlation with the geochemical results.

The results of the aeromagnetic survey over E.L. 48/70 and 49/70 showed that a magnetic discontinuity was located between Websters Creek and Violet Rivulet, also trending NE-SW.

CONCLUSIONS:

(1) Field work indicated the chances of finding any significant mineral deposits in the area are small.

(2) Auger sampling and geological mapping showed the Tertiary gravels to be more extensive than thought. Sampling of the gravels over the Southern Pieman Heads Granite indicated the deposits to be too thin, and low grade to be economic. The same would apply to the northern area (Pieman Heads Grid).

(3) There was little correlation between Cu., Sn., Pb., Zn., As., and magnetic results.

(4) Lead and Zinc were of little use as pathfinder elements for Cu. and Sn. mineralization.

(5) Anomalous tin values were found associated with Tertiary Gravels.

(6) Anomalous copper values could be attributed to vein mineralisation near the Base Station.

(7) No sulphides were located, other than as a cement in Tertiary quartz sands and in a small prospecting pit.

APPENDIX 1

GEOCHEMICAL RESULTS

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AUGER SAMPLING - PIEMAN HEADS GRID

	-85#					+85 -10#						
Sample	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As	Depth	Grid Position
P1	15	50	40	10	<10	75	38	34	10	10	0.0	12000N 9450E
P2	90	10	30	10	15	40	10	30	10	<10	0.25m	
P3	40	10	30	10	<10	65	6	30	10	10	0.0	12000N 9500E
P4	35	10	30	6	10	60	10	30	6	<10	0.2	
P5	60	10	30	6	<10	42	26	30	6	<10	0.4	
P6	50	20	38	10	<10	35	10	38	10	<10	0.6	
P7	<10	48	38	6	10	70	10	38	6	10	0.8	12000N 9500E
P8	25	15	30	6	10	45	10	34	6	<10	0.0	12000N 9550E
P9	50	34	26	6	<10	60	15	34	6	<10	0.65m	
P10	65	38	38	6	<10	75	15	16	6	<10	0.0	9600E
P11	50	26	46	10	<10	50	10	38	6	<10	0.85	
P12	40	38	38	6	<10	60	10	30	6	<10	0.0	96500E
P13	15	20	30	6	<10	30	10	38	6	<10	1.05	
P14	45	24	20	10	<10	75	15	30	6	15	0.8	9700E
P15	<10	28	48	6	<10	30	15	20	6	<10	0.0	9750E
P16	<10	20	20	6	<10	20	10	46	10	15	0.7	
P17	35	15	26	6	10	50	6	34	6	<10	0.0	9800E
P18	<10	20	30	6	<10	45	10	30	6	<10	1.25	
P19	10	15	20	6	<10	<10	10	34	6	<10	1.4	9850
P20	80	15	34	10	<10	35	15	14	6	15	0.0	9900
P21	<10	15	34	10	<10	25	15	30	10	<10	1.05m	
P22	40	28	34	6	<10	40	15	34	6	<10	0.0	9950E
P23	<10	28	56	10	<10	<10	15	40	6	10	0.8	
P24	45	34	38	10	<10	40	10	26	12	<10	0.0	12000N 10000E
P25	30	20	34	6	<10	30	10	30	10	<10	1.05	
P26	50	52	38	6	<10	110	20	22	6	15	0.0	11600N 10000E
P27	<10	15	90	6	<10	70	20	46	6	15	1.00	
P28	65	58	30	6	<10	85	20	20	10	15	0.0	9950E
P29	25	34	14	10	15	75	20	10	6	<10	0.65	
P30	160	38	20	6	<10	35	15	14	6	<10	0.05	9900E
P31	35	28	26	10	<10	65	15	20	6	<10	0.25	9850
P32	55	28	18	10	<10	55	20	18	10	15	0.0	9800
P33	60	20	16	6	<10	70	10	12	6	<10	0.8	
P34	95	64	32	10	15	45	10	16	6	<10	0.4	9750
P35	40	24	24	6	<10	70	10	16	6	12	0.0	11600N 9700E
P36	45	20	18	10	<10	80	10	14	10	<10	0.6	
P37	50	15	20	10	10	55	5	14	10	15	0.0	11600N 9650E
P38	50	34	44	6	15	50	10	46	6	15	1.0	
P39	<10	5	40	10	<10	<10	70	28	6	30	0.0	9600
P40	<10	100	30	6	125	<10	48	32	10	55	0.5	

	-85#					+85-10#						
Sample	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As	Depth	Grid Position
P41	<10	38	12	6	30	I.S.	72	12	6	I.S.	1.0m	
P42	160	28	32	6	10	140	5	12	10	10	0.0	9550
P43	130	48	24	6	10	140	5	16	6	10	0.65	
P44	130	5	16	6	<10	100	5	24	6	<10	0.40	9500E
P45	70	20	30	6	20	130	5	16	6	<10	0.2	9450
P46	<10	20	32	6	<10	605	5	14	6	<10	0.25	9400
P47	134	34	20	6	<10	150	5	20	10	15	0.0	9350
P48	110	10	20	6	<10	90	10	76	6	10	0.65	
P49	145	24	26	6	15	150	5	16	10	15	0.0	11600N 9300E
P50	<10	5	10	6	<10	110	5	12	6	10	0.6	
P51	140	15	20	10	15	110	5	14	10	15	0.0	11200N 9000E
P52	120	24	20	6	20	135	10	20	10	<10	1.05	
P53	110	38	44	6	20	135	10	50	6	<10	0.0	9050
P54	160	24	28	10	20	160	10	20	10	15	1.4	
P55	80	34	170	6	<10	45	5	12	6	<10	0.0	9100E
P56	260	34	14	7	<10	70	10	12	10	15	0.4	
P57	80	68	30	4	40	50	10	10	6	<10	0.8	
P58	45	44	36	6	10	15	10	8	3	10	0.0	9150
P59	45	38	10	12	30	65	14	10	6	15	0.4	
P60	95	38	18	6	15	60	10	6	6	10	0.0	9200E
P61	70	23	8	6	20	45	8	8	2	10	0.4	
P62	20	58	18	4	15	40	14	6	6	10	0.0	9250E
P63	80	28	10	6	<10	50	14	8	6	<10	0.8	
P64	<10	38	8	4	<10	<10	11	6	9	<10	0.5	9300E
P65	<10	56	18	6	<10	25	16	10	4	<10	0.6	9350
P66	80	38	14	6	<10	90	11	6	6	<10	0.8	9400
P67	20	48	10	4	<10	50	20	6	4	<10	0.2	9450
P68	15	36	16	6	<10	35	7	8	4	15	0.0	9500E
P69	<10	8	20	9	<10	40	4	8	6	<10	0.45	
P70	40	44	20	6	<10	<10	15	8	6	<10	0.0	9550
P71	40	36	16	4	<10	40	14	8	6	<10	0.4	
P72	85	20	12	6	<10	50	14	8	6	<10	0.0	11200N 9600E
P73	95	26	14	3	<10	90	10	6	2	10	0.5	
P74	60	8	6	9	20	40	4	6	10	<10	1.0	
P75	35	10	6	6	15	60	10	4	4	10	1.5	
P76	60	38	10	4	<10	20	14	4	12	10	0.0	11200N 9650E
P77	10	24	2	6	<10	35	10	8	4	<10	0.5	
P78	45	8	6	3	<10	45	8	4	3	<10	1.0	
P79	15	54	22	6	<10	135	6	TR	6	<10	0.0	9700E
P80	20	20	6	6	<10	25	10	4	6	<10	0.6	
P81	15	38	4	6	<10	45	12	8	6	<10	0.0	9750
P81A	<10	36	6	6	10	<10	10	4	6	<10	0.4	

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	-85#					+85-10#						
Sample	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As	Depth	Grid Position
P82	45	20	12	5	<10	25	7	12	3	<10	0.0	9800E
P83	25	14	16	5	<10	45	4	30	5	<10	0.4	
P84	45	34	34	5	<10	35	7	18	5	<10	0.0	9850E
P85	<10	26	24	6	<10	30	8	350	6	<10	0.9	
P86	100	14	18	5	<10	85	10	12	9	25	0.0	9900E
P87	110	16	14	3	<10	35	7	10	5	<10	0.9	
P88	20	28	18	6	<10	90	5	12	5	<10	0.2	9950
P89	50	34	14	6	<10	105	4	16	6	<10	0.6	11600N 10000E
P90	60	46	20	6	<10	60	10	10	6	<10	0.4	10800E 11000E
P91	40	8	16	6	<10	70	8	14	6	<10	0.0	10950
P92	<10	8	18	6	15	25	4	14	6	<10	0.6	
P93	45	46	26	2	10	15	8	14	6	<10	0.0	10900E
P94	30	32	12	5	<10	90	8	12	4	<10	0.3	
P95	30	38	20	4	<10	90	11	6	4	<10	0.0	10850E
P96	<10	46	38	6	10	<10	4	14	4	<10	0.5	
P97	<10	10	24	7	<10	60	4	24	8	<10	1.0	
P98	25	38	16	5	<10	50	7	10	6	<10	0.0	10800E
P99	40	38	20	6	<10	10	6	12	7	<10	0.5	
P100	30	10	32	5	<10	<10	2	20	6	<10	0.8	
P101	20	26	18	4	<10	35	6	18	6	<10	0.0	10750E
P102	25	34	24	12	<10	35	4	22	5	<10	0.5	
P103	<10	20	20	8	<10	20	5	16	7	<10	1.0	
P104	40	36	24	6	<10	35	5	12	6	<10	0.5	10700E
P105	85	21	18	6	<10	85	4	6	5	20	0.0	10650E
P106	75	14	16	4	<10	85	10	16	6	<10	0.6	
P107	65	14	24	6	<10	50	8	18	6	<10	1.2	
P108	55	28	16	6	<10	105	2	12	7	15	0.0	10800N 10600E
P109	65	24	14	6	<10	35	4	10	7	<10	0.6	
P110	70	15	20	4	15	117	4	14	6	25	0.1	10550E
P111	62	18	20	8	25	71	6	18	6	25	0.0	10500E
P112	16	8	16	9	25	36	8	10	6	20	0.5	
P113	25	24	16	5	10	70	10	12	9	15	0.05	10450E
P114	<10	18	36	6	15	<10	4	12	3	<10	0.0	10400E
P115	70	21	38	8	<10	80	6	24	6	<10	0.7	
P116	70	38	18	6	<10	35	4	12	6	<10	0.7	10350E
P117	60	20	8	2	<10	75	6	10	4	<10	0.5	10300E
P118	<10	114	20	6	<10	<10	155	14	4	<10	0.0	10250E
P119	<10	126	18	5	<10	<10	15	18	7	<10	0.8	
P120	<10	64	14	2	<10	<10	18	38	12	<10	0.8	
P121	60	18	8	3	<10	65	6	6	3	<10	0.0	10200
P122	85	18	6	4	10	35	8	8	4	<10	0.4	

	-85#					+85-10#						
Sample	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As	Depth	Grid Position
P123	<10	14	12	4	<10	30	8	10	4	<10	0.9	
P124	65	18	6	3	15	75	10	6	4	<10	0.0	10150E
P125	655	20	14	4	<10	35	8	6	4	<10	0.55	
P126	55	26	14	6	<10	90	6	6	10	<10	0.3	10100E
P127	130	23	12	6	10	80	11	6	6	10	0.0	10050E
P128	50	16	10	2	<10	<10	8	8	4	<10	1.0	
P129	160	20	6	6	<10	25	8	2	4	<10	0.9	10800N 10000E
P130	55	27	14	6	45	90	10	4	8	40	0.3	10400N 11000E
P131	50	24	8	6	35	55	8	10	6	20	0.4	10950E
P132	45	28	16	10	35	105	18	20	8	20	0.0	10900E
P133	125	34	30	8	45	70	14	14	8	30	0.6	
P134	165	16	18	7	10	<10	8	14	5	15	0.0	10850E
P135	50	24	36	6	15	35	10	14	6	20	0.8	
P136	25	20	16	6	<10	50	6	20	8	10	0.0	10800
P137	45	19	25	10	<10	45	8	13	12	15	0.5	
P138	60	10	15	8	<10	50	TR	20	10	20	0.0	10750E
P139	70	19	10	10	<10	40	TR	10	11	20	0.5	
P140	(35	8	21	9	<10	20	TR	12	8	<10		
	(50	16	13	10	<10	45	8	16	10	<10	1.00	
P141	70	18	13	9	<10	35	6	12	9	<10	0.0	10700E
P142	45	36	10	4	<10	60	6	15	TR	<10	0.3	
P143	45	24	15	TR	<10	40	8	12	5	<10	0.6	
P144	55	6	8	6	<10	45	TR	10	4	10	1.0	10400N 10700E
P145	15	TR	7	5	<10	60	TR	8	4	<10	0.0	10650E
P146	265	48	17	4	40	40	10	12	5	<10	0.6	
P147	50	26	5	4	<10	55	8	7	6	<10	0.0	10600E
P148	55	20	9	4	<10	30	6	5	7	<10	0.6	
P149											0.0	10550E
P150	55	10	30	7	<10	50	TR	10	4	<10	0.95	
P151	60	20	12	7	<10	<10	8	8	5	<10	0.3	10500E
P152	35	10	15	7	<10	<10	8	10	11	<10	0.50	10450E
P153	85	24	12	11	<10	30	16	10	6	<10	0.15	10400E
P154	65	8	10	12	<10	25	10	8	9	<10	0.0	10350
P155	25	4	22	11	<10	50	TR	10	9	<10	0.8	
P156	35	10	9	11	<10	25	4	8	7	<10	0.0	10300
P157	45	10	15	12	20	30	TR	5	10	<10	0.6	
P158	40	4	22	21	<10	35	TR	10	11	<10	0.6	10250E
P159	280	28	17	13	20	60	4	12	6	<10	0.15	10200
P160	170	6	20	7	<10	50	4	20	13	<10	0.9	10150E
P161	705	10	28	7	<10	45	4	33	11	<10	0.15	10100E
P162	75	330	15	6	<10	60	6	27	7	<10	0.5	10050E
P163	85	39	30	7	<10	25	16	25	9	35	0.0	10400N 10000E
P164	290	14	20	7	<10	10	10	30	12	30	0.6	
P165	30	46	27	14	85	40	16	25	17	35	0.0	10000N 10700E

Sample	-85# Sn	Cu	Pb	Zn	As	+85-10# Sn	Cu	Pb	Zn	As	Depth	Grid Position	
P166	20	58	35	18	135	25	22	30	14	35	1.0		
P167	30	30	15	16	20	30	14	22	14	35	0.0		10650E
P168	50	20	15	13	20	25	10	17	14	30	0.6		
P169	45	10	7	11	25	50	10	15	11	35	1.2		
P170	65	6	16	9	10	45	8	12	12	30	0.0		10600E
P171	40	10	TR	14	25	50	16	20	16	35	0.6		
P172	35	20	70	7	15	35	8	20	14	30	1.3		
P173	90	44	26	6	15	55	12	18	10	30	0.0		10550E
P174	65	26	16	7	15	45	13	17	7	30	0.5		
P175	55	15	10	4	15	30	18	20	8	35	1.0		
P176	40	18	4	3	<10	45	9	3	22	<10	1.5		
P177	50	8	TR	TR	<10	40	10	6	10	10	0.0		10500E
P178	<10	8	20	8	<10	55	4	25	6	<10	0.8		
P179	20	7	3	3	<10	70	TR	15	6	<10	0.0		10450E
P180	80	10	5	4	<10	55	TR	TR	5	<10	0.65		
P181	30	18	23	4	<10	15	3	15	12	<10	0.2		10400E
P182	35	15	27	6	<10	30	2	13	10	<10	0.0		10350E
P183	50	10	20	6	<10	10	TR	10	8	<10	0.6		
P184	<10	66	30	80	<10	I.S.	I.S.	I.S.	I.S.	I.S.	0.0		10300E
P185	<10	96	25	10	<10	I.S.	I.S.	I.S.	I.S.	I.S.	0.6		
P186	<10	108	45	4	<10	<10	128	45	11	<10	1.2		
P187	35	10	15	3	<10	35	4	15	2	<10	0.0		10250E
P188	15	24	15	6	<10	35	30	5	4	<10	0.6		
P189	50	20	15	3	<10	35	4	20	5	<10	1.25		
P190	35	16	20	4	10	<10	18	15	8	<10	0.4		10200E
P191	235	14	20	4	15	50	4	10	6	<10	0.0		10150E
P192	40	7	25	5	<10	25	4	12	5	<10	0.8		
P193	35	10	10	6	<10	30	TR	10	5	<10	0.0		10100E
P194	90	TR	TR	5	<10	30	TR	8	3	<10	1.5		
P195	45	14	TR	3	10	46	8	2	10	<10	0.0		10050E
P196	55	9	TR	5	<10	50	6	TR	5	10	0.6		
P197	145	8	TR	TR	<10	15	6	TR	TR	<10	0.0	10000N	10000E
P198	10	8	2	TR	<10	50	TR	2	6	10	0.5		

KEY

I.S. Insufficient Sample

TR Trace

730016

AUGER SAMPLING - PIEMAN HEADS GRID
ASSAYS AND WEIGHT PERCENTAGE OF SIEVED FRACTIONS

Sample No.	-85#						+85# - 72#						+72# - 52#						+52# - 36#						+36# - 10#					
	Sn	Cu	Pb	Zn	As	Wt%	Sn	Cu	Pb	Zn	As	Wt%	Sn	Cu	Pb	Zn	As	Wt%	Sn	Cu	Pb	Zn	As	Wt%	Sn	Cu	Pb	Zn	As	Wt%
P39	<10	5	40	10	<10	91.1	I.S.					0	<10	5	22	10	<10	0.1	I.S.					0	<10	70	28	6	30	8.8
P40	<10	100	30	6	30	70.1	I.S.					0	I.S.					0	I.S.					0	<10	48	32	10	55	29.9
P41	<10	38	12	6	30	99.2	I.S.					0	I.S.					0	I.S.					0	I.S.	72	12	12	6	0.8
P118	<10	114	20	6	<10	99.7	I.S.					0	<10	114	10	6	<10	0.1	<10	170	12	6	40	0.1	<10	153	14	4	<10	0.1
P119	<10	126	18	5	<10	52.9	I.S.					0	<10	184	16	12	<10	1.2	I.S.					0	<10	15	18	7	<10	45.9
P120	<10	64	14	12	<10	61.3	<10	150	16	6	85	0.7	<10	136	18	6	<10	0.7	<10	113	18	8	<10	0.7	<10	18	38	12	<10	36.6
P184	<10	66	30	80	<10	100.0	I.S.					0	I.S.					0	I.S.					0	I.S.					0
P185	<10	96	25	10	<10	100.0	I.S.					0	I.S.					0	I.S.					0	I.S.					0
P186	<10	108	45	14	<10	97.7	I.S.					0	I.S.					0	I.S.					0	<10	128	45	11	<10	2.3

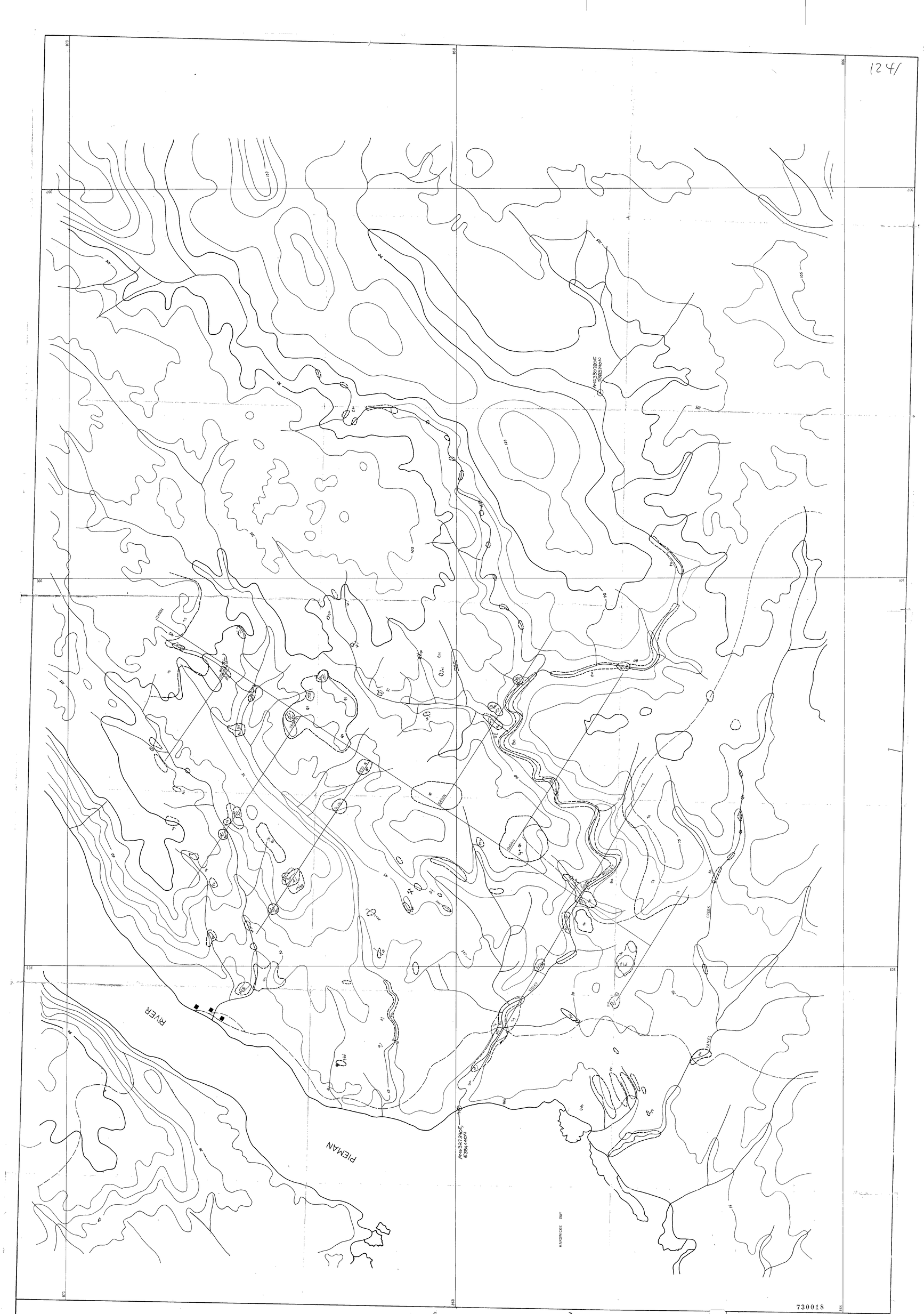
015

730017

AUGER SAMPLING PIEMAN HEADS GRID - ASSAYS OF SIEVED FRACTIONS -85# to +36#

SAMPLE No.	-85#					+85# - 72#					+72# - 52#					+52# - 36#					+36#				
	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As	Sn	Cu	Pb	Zn	As
P.7.	<10	48	38	6	10	<10	20	26	6	<10	<10	15	38	6	<10	<10	20	38	10	<10	70	10	38	6	10
P.23.	<10	28	56	10	<10	<10	38	86	6	<10	<10	20	30	6	<10	<10	15	36	10	<10	<10	15	46	6	10
P.46.	<10	20	32	6	<10			I.S.			<10	5	20	6	<10	<10	5	12	6	<10	605	5	14	6	<10
P.64.	<10	38	8	4	<10	<10	18	6	6	<10	<10	11	6	4	<10	<10	20	6	3	<10	<10	11	6	9	<10
P.81A	<10	36	6	6	10	<10	10	16	2	<10	<10	10	10	6	<10	<10	2	6	6	<10	<10	10	4	6	<10
P.96.	<10	46	38	6	10	<10	20	38	8	<10	<10	26	50	5	<10	<10	18	20	6	<10	<10	4	14	4	<10
P.114.	<10	18	36	6	15			I.S.			<10	18	300	4	<10	<10	6	14	7	<10	<10	4	12	3	<10

910



730018

A.C.I. & CONSOLIDATED SYNDICATE JOINT VENTURE

E.L. 48/70. 72-899

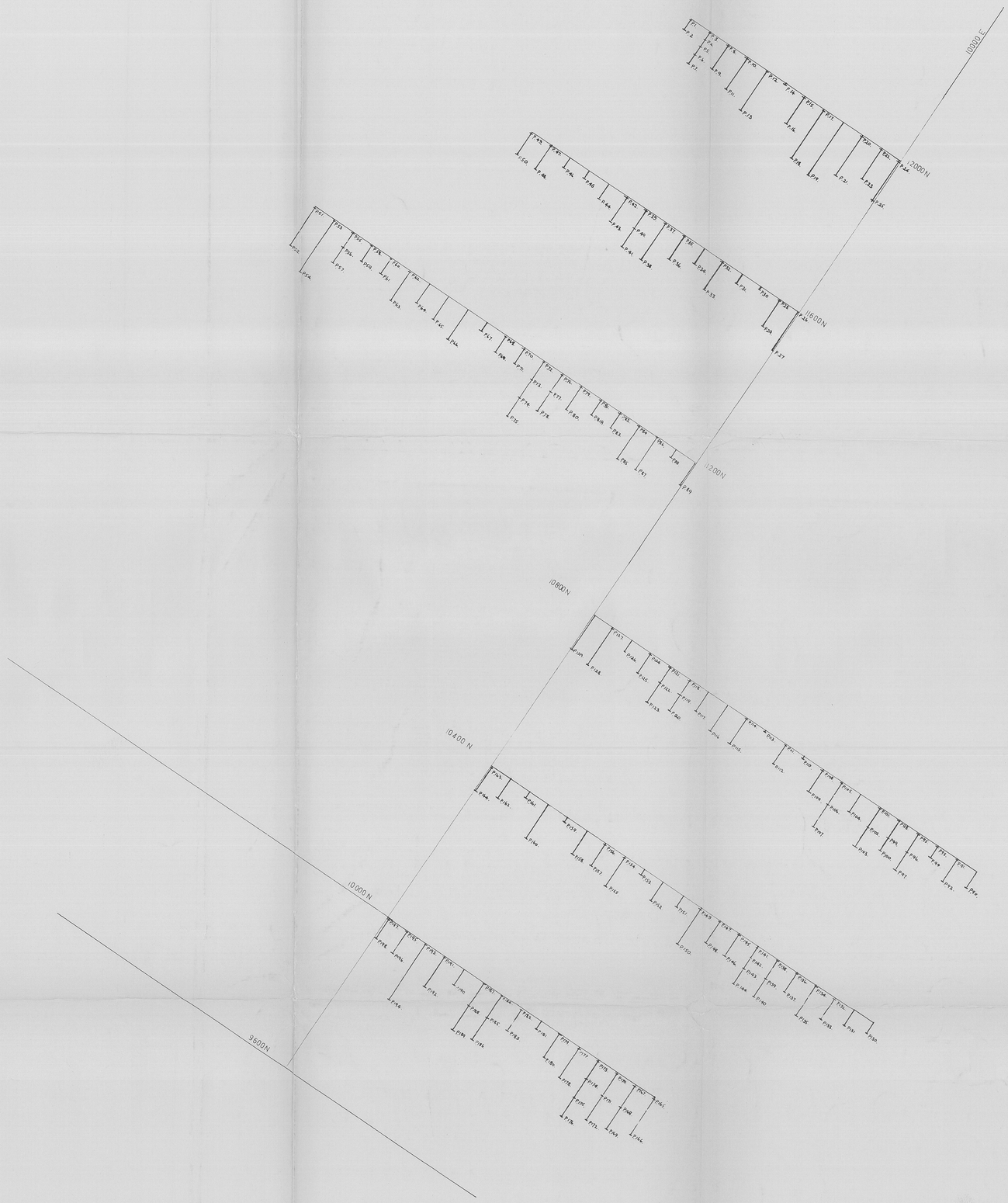
PIEMAN PROJECT.

SCALE 1:5000 METRES

MAP 1

DRAWN	
TRACED	
DATE	
SCALE	5003
DRAWING No.	

1241



730019

Key. Grid Line

Soil sample Auger hole.

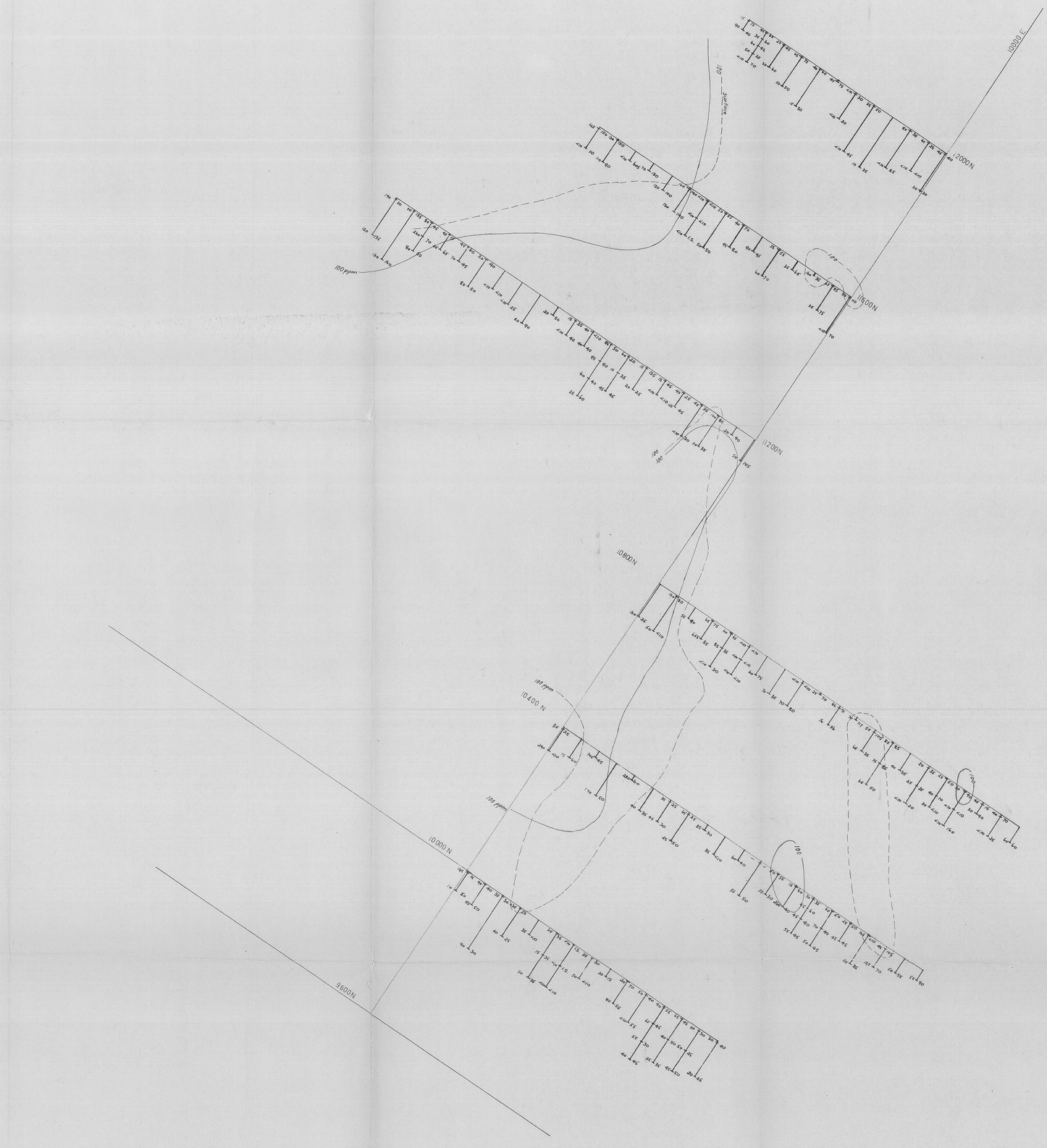
Note: Vertical scale on auger holes — 1:50.

True N
Mag. N
Grid N

RENISON LIMITED 72-899	
PIEMAN HEADS GRID.	
SOIL SAMPLING - SAMPLE NO.	
SCALE. 1: 5000. METRES	
DRAWN	R.R.S.
TRACED	
DATE	
SCALE	1: 5000.
DRAWING No.	7-2121 MAP 2

5 cm

1242



730020

Key:
- Grid Line
- Soil sample Auger hole. Showing $85^{\#(-FE)}$ & $85^{\#-10}$ Tin values.
- Contours — humic horizon
- Contours — B & C horizon.

Note: Vertical scale on auger holes — 1:50.

True N. Mag. N. Grid N.

RENISON LIMITED 72-899

PIEMAN HEADS GRID.

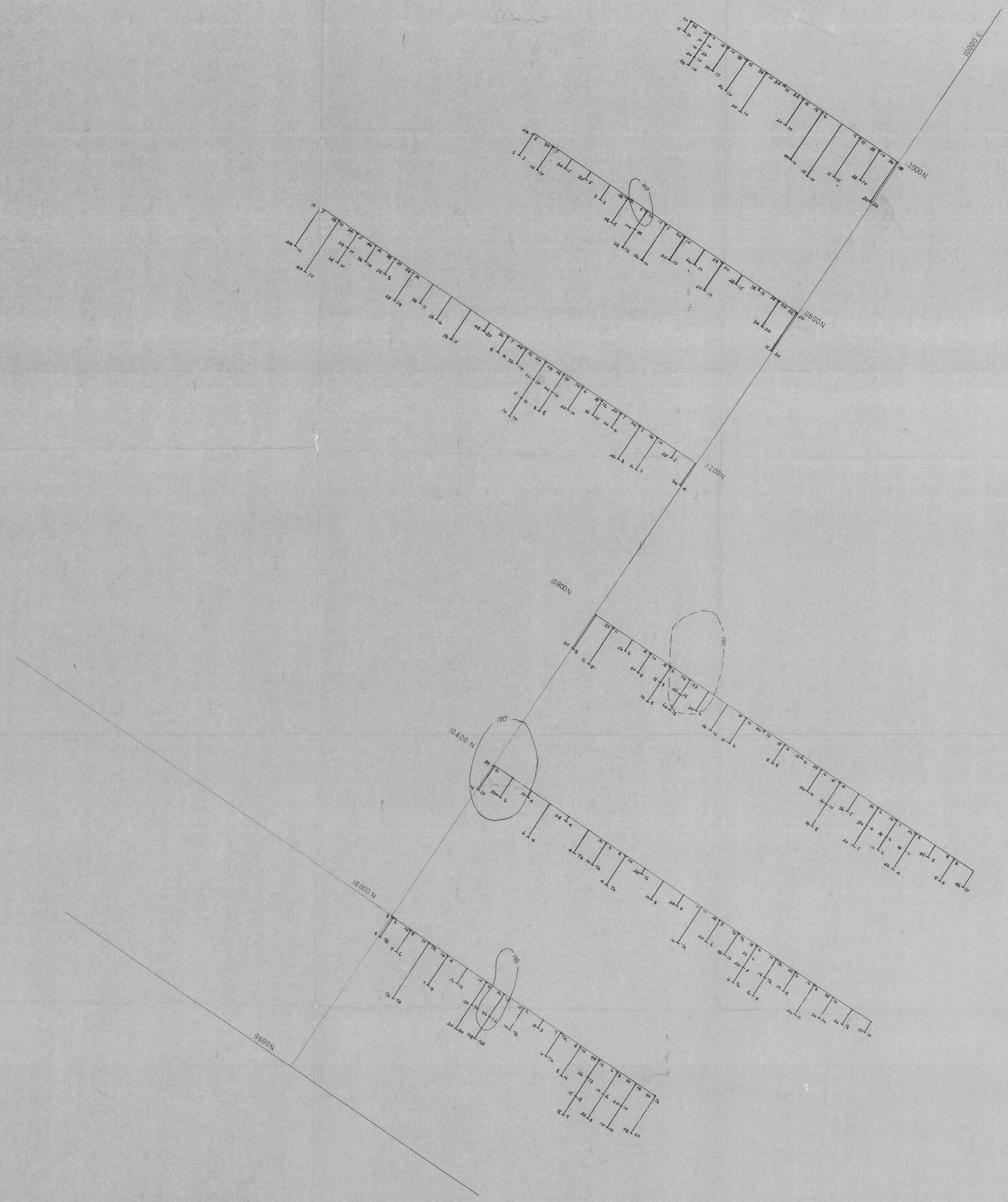
SOIL SAMPLING - Sn, (P.P.M.)

SCALE. 1: 5000. METRES

DRAWN	R.R.S.
TRACED	
DATE	
SCALE	1:5000.
DRAWING No.	7-2126 MAP 3

5 cm

1243



730021

Key: Grid Line.

Soil sample, Auger hole with −85# and +85#−10# Copper values.

Contours- humic horizon.

Contours- B & C horizons.

Note: Vertical scale on auger holes — 1:50.

True N
Mag. N
Grid N

RENISON LIMITED 72-399

PIEMAN HEADS GRID.

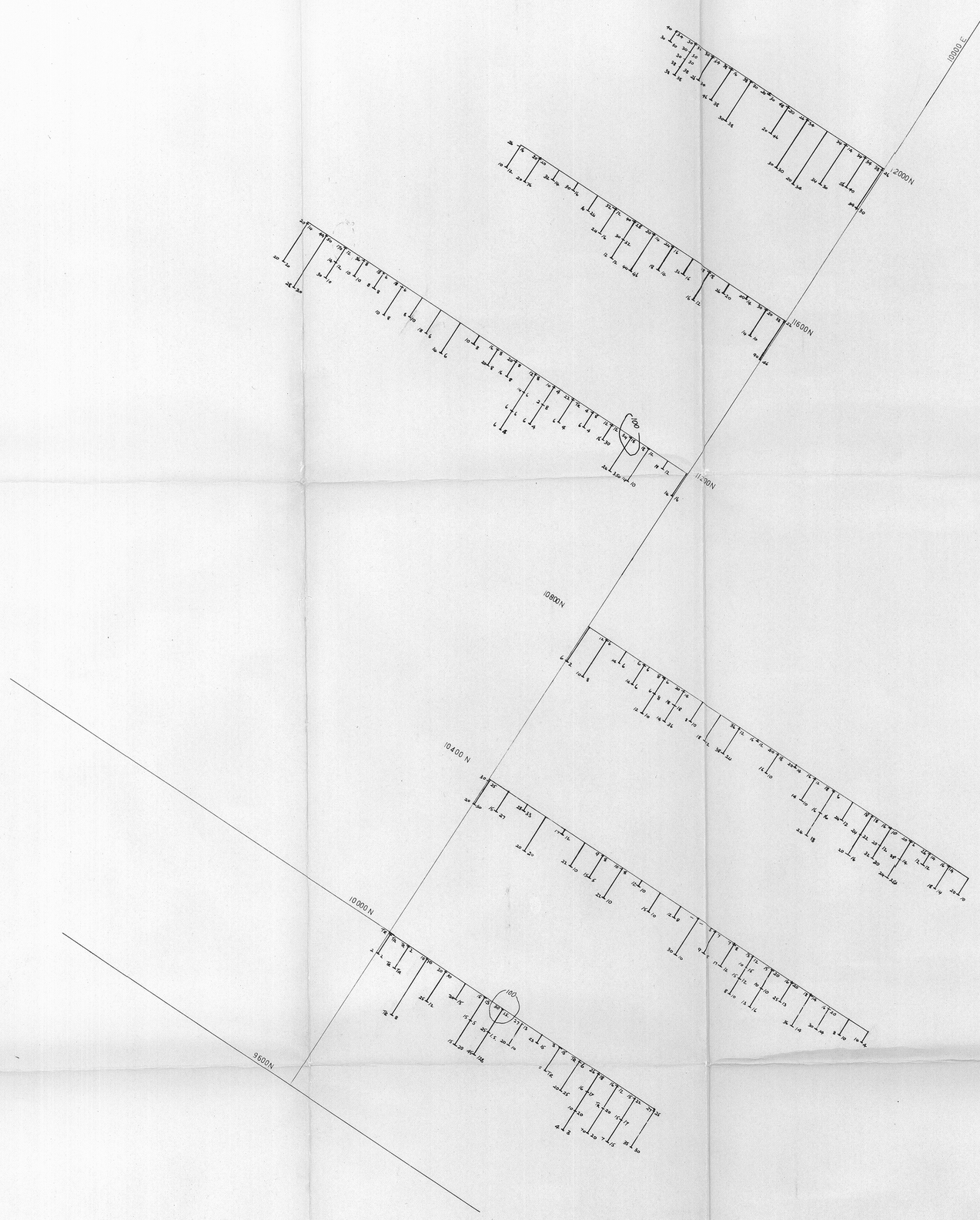
SOIL SAMPLING — Cu. (P.P.M.)

SCALE. 1: 5000. METRES

DRAWN	R.R.S.
TRACED	
DATE	
SCALE	1:5000.
DRAWING No.	7-2122 MAP 4

5 cm

1244



730022

Key:
- Grid Line.
- Soil sample Auger hole. with -85# (ref) & +85# -10# Lead values
- Contours - humic horizon.
- Contours B&C horizons.

Note: Vertical scale on auger holes — 1:50.

True N. Mag. N. Grid N.

RENISON LIMITED 72-894

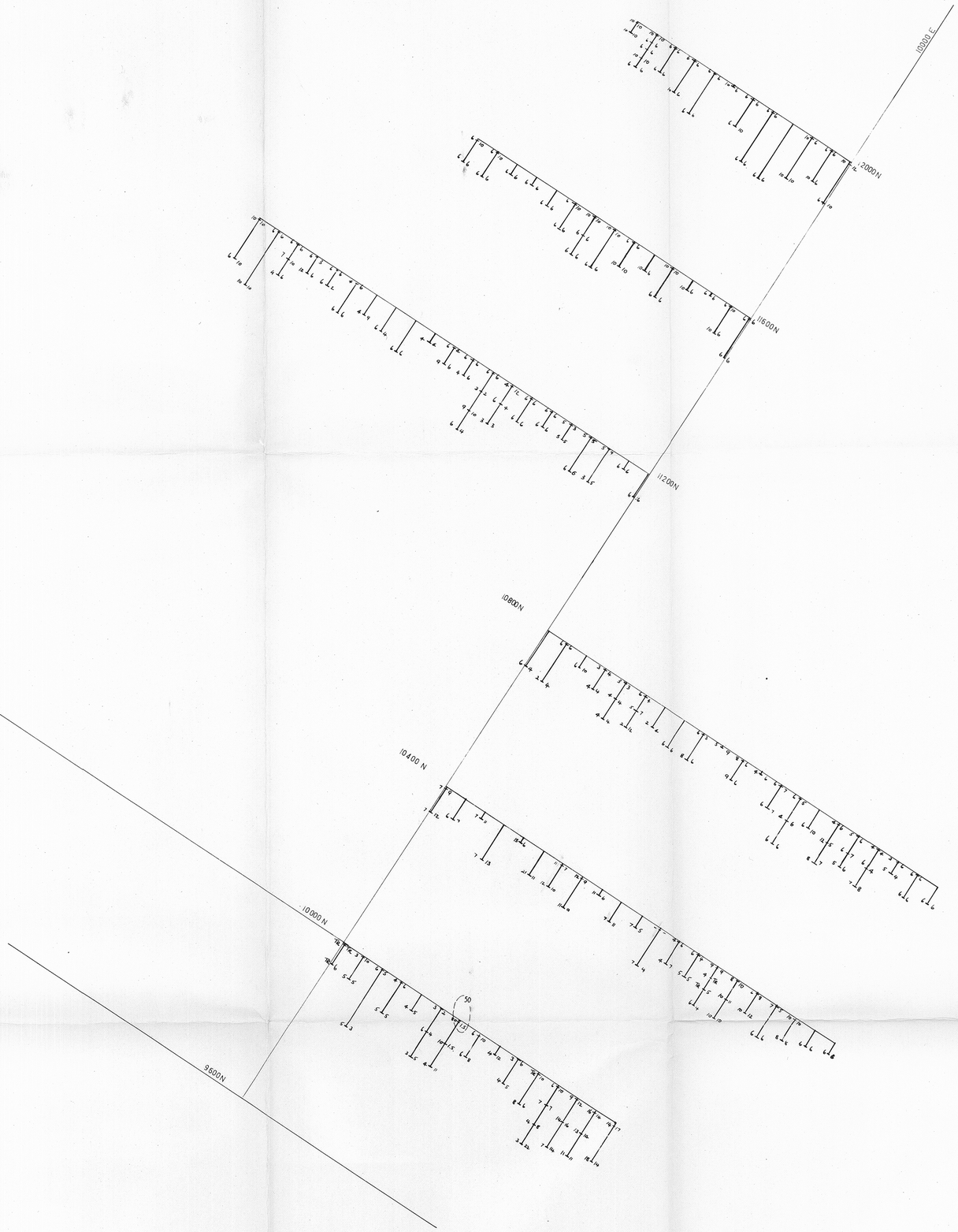
PIEMAN HEADS GRID.
SOIL SAMPLING - Pb, (P.P.M.)

SCALE. 1: 5000. METRES

DRAWN	R.R.S.
TRACED	
DATE	
SCALE	1:5000.
DRAWING No.	7-2123 MAP 5

5 cm

1245



730023

Key:
- Grid Line.
- Soil sample Auger hole. With −85° (left) & +85° − 10°
- Zinc values.
- Contours - humic horizon.
- Contours - B & C Horizon.

Note: Vertical scale on auger holes — 1:50.

RENISON LIMITED 72-499

PIEMAN HEADS GRID.
SOIL SAMPLING - Zn, (P.P.M.)

SCALE. 1: 5000. METRES

DRAWN	R.R.S.
TRACED	
DATE	
SCALE	1:5000.
DRAWING No.	7-2124 MAP 6

5 cm

1246

10000 E

12000N

11600N

11200N

10800N

10400 N

10000 N

9600N

730024

Key.

Grid Line.

Soil sample Auger hole.
With -85° (left) & +85° - 10°

Arsenic values.

Contours - humic horizon.

Contours - B & C Horizon.

Note: Vertical scale on auger holes - 1:50.

True N
Mag. N
Grid N

RENISON LIMITED 72-899

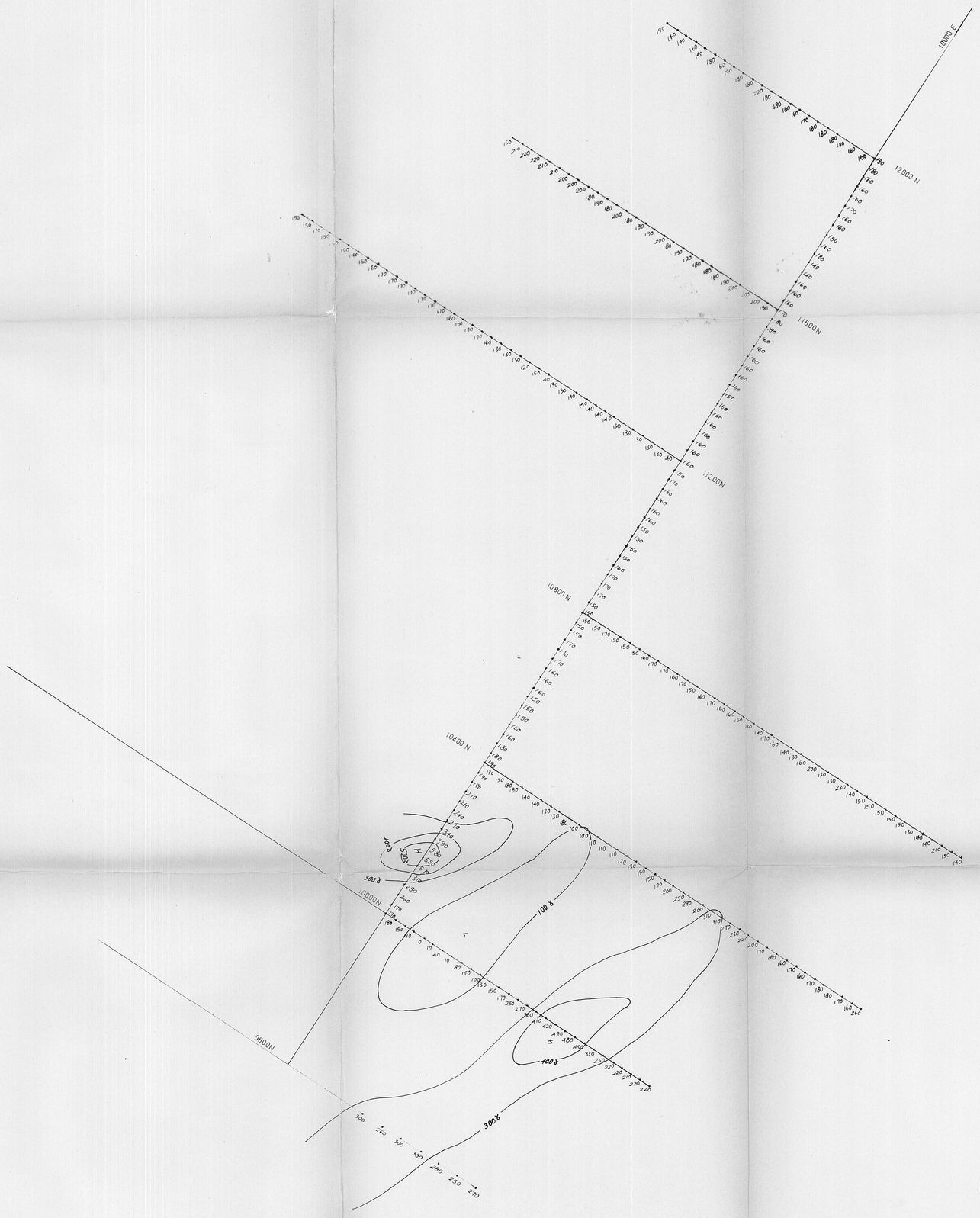
PIEMAN HEADS GRID.
SOIL SAMPLING - As, (P.P.M.)

SCALE. 1: 5000. METRES

DRAWN	R.R.S.
TRACED	
DATE	
SCALE	1:5000.
DRAWING No.	7-2125 MAP 7

5 cm

1247



730025

Key: Grid Lines with station & readings.

Contour interval – 100 γ above & below background (200 γ).

Base Station 10,000mN, 10,000mE, value – 180 γ.

RENISON LIMITED 72-899

PIEMAN HEADS GRID.

VERTICAL GROUND MAGNETICS.

SCALE. 1: 5000 METRES

DRAWN	
TRACED	
DATE	
SCALE	1:5000
DRAWING No.	7-3064 MAP 8

5 cm

1248